Deliverable 26

2.4.3 Good Practice Review in civic engagement

Ref :

Del. Rel. No : D2.7
WP 2

Description: Undertake a review of Good Practice internationally in relation to HEI civic and industry engagement

Comments :

- This deliverable is split in three parts :
  - Good Practice Review in civic engagement
  - Good Practice Review of Industry and Employer Engagement
  - Good Practice Review on Innovation and Technology Transfer

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Livrable 26

2.4.3 Revue des bonnes pratiques des partenaires dans l'engagement civique

Réf :

Del. Rel. No : 2.7
WP 2

Description : Realisation d'une revue des bonnes pratiques d'engagement civique et de partenariat avec le secteur industriel, des institutions d'enseignement superieur d'EUt+

Commentaires :

- Ce Livrable est compose de trois parties :
  - Revue des bonnes pratiques en engagement civique
  - Revue des bonnes pratiques sur les relations avec l'industrie et les employeurs
  - Revue des bonnes pratiques sur l'innovation et le transfert de technologie

EUROPEAN UNIVERSITY OF TECHNOLOGY

EUt+ Project

WORK PACKAGE 2:

Deliverable 2.4.3a

Deliverable title:

Good Practice Review on Civic Engagement

Contents

Chapter 1: Introduction

The Good Practice Review of Civic and Industry engagement deliverable falls under Work Package 2, Task 2.4 of the EUt+ Initiative. Task 2.4 aims to deepen the connections of EUt+ with its ecosystems and link its diverse territories for inter- and intra-regional knowledge exchange and collaboration with stakeholders, including industry, government, civic and community organisations. As universities of technology, each partner is already at the interface within its region. Through EUt+, we will share these networks for increased impact.

Across all actions, engagement with civic society will be fully embedded into the teaching and research of EUt+. The nature of this engagement will reflect the diversity of the settings of the campuses and will lead to integration of their host communities across Europe, along with the development of proactive local and global citizenship in our students. The bid document sets out the objectives connected to EUt+ civic engagement (Table 1).

Table 1: Objectives and Indicators for the EUt+ network

Objectives	**Indicators**
Establish and pilot a shared, networked and coordinated approach to civic and community engagement	Number of new pilot networks created based on civic and community engagement Number of staff, students and community participants in pilot networks Number of engaged research outputs Uptake and output of social entrepreneurship among students, staff and community Uptake and output of staff and student engagement in volunteering, outreach and social and cultural development

The deliverables under Task 2.4 to achieve our objectives are closely connected and support each other. This first deliverable under Task 2.4 was the Core Network deliverable where we illustrated the network of EUt+ partners for civic engagement. We also identified active and planned engagement on our shared civic can community network.

In the first months of our work together in EUt+ we took time to get to know and understand our different people, structures and practices. We learned about the rich histories and successes at a local level that individual partners have in civic engagement. During Covid lockdowns we shared this through meetings and seminars and partner presentations. Since September 2021 we have been fortunate to begin travelling to our partner locations to see good practices on community engagement

in action. All of our partners have good practices to share that can be piloted, shared and replicated across EUt+, augmenting our civic networks through proven and effective good practices and frameworks for developing civic engagement.

The EUt+ Initiative cites particular tasks under Work Package 2.4 in terms of how it engages its network for civic engagement. The bid document explicitly states the intention to:

- Establish a network of campus civic engagement teams with city, regional, local authorities across EUt+.
- Explore how such networks will support and influence the development of regional economic and social policies and strategies.
- Plan, monitor and evaluate EUt+ societal engagement in each region.
- Promote, support and embed civic engagement in the curriculum and co-curriculum.
- Promote, support and embed civic engagement in overall student experience.
- Promote, support and embed civic engagement in research planning and execution.
- Promote, support and embed civic engagement in campus strategic and physical planning.

The Mission Statement of EUt+ is clear in its first sentence that as a University of Technology, the EUt+ mission is first and foremost to serve society. Community engagement is what fuels our initiative. We are all civic universities that see diversity as an opportunity and place inclusiveness at the core. How we develop our shared approach and practices to civic engagement is fundamental to realising our ambitious Vision and to living our Mission Statement.

We have adopted the United Nations approach (2015) to defining a good practice as "*not only a practice that is good, but a practice that has been proven to work well and produce good results, and is therefore recommended as a model. It is a successful experience, which has been tested and validated, in the broad sense, which has been repeated and deserves to be shared so that a greater number of people can adopt it*."

With this definition we recognise that collecting good practices is a cornerstone of our approach to augmenting our EUt+ networks. It is the opportunity to present in a transparent and responsible way our individual successes in civic engagement so that we can properly plan to pilot, replicate and scale up civic engagement in EUt+.

The next section presents our Methodology followed by Chapter 2 showing how we identified the good practices in a rigorous and transparent way. Chapter 3 follows with an outline of the key features of each partner good practice. Chapter 4 shines a spotlight on our shared global scanning efforts, identifying some best practices that exist globally. This highlights that we are not only looking towards each other, but also collectively always looking outward for new ideas and approaches. Our final Chapter 5 presents the next steps for action in terms of piloting, replicating, scaling up, and combining good practices to leverage off our shared experience and knowledge.

Methodology

All of the partners in EUt+ have good practices in civic engagement to share. All partners also have global networks and knowledge of global best practices that they recognise for their excellence and

potential to benchmark against. The methodology has 3 data collection tactics, together with the development of a standard template and a piloting approach to progress our work to the next step after data collection. The research design is a six step methodology.

1. Development, sharing and training on a Template and Guide Document on Good Practice
2. Identification of good practices in partners.
3. Describing the features of good practice in partners.
4. Global scanning to spotlight best practices
5. Development of guide on how to pilot and framework for implementation in consideration in next steps.
6. Agreement on next steps to pilot, replicate and scale up good practices in civic engagement.

1. *Development of a Template and Guide Document on Good Practice*

In identifying and mapping the features of good practices we developed and adapted instruments drawing on the approaches of others through researching widely and including approaches of the European Commission and the United Nations. We found in particular that the Food and Agriculture Organization of the United Nations has some very good templates that could guide us in working out how to identify good practices and how to describe good practices. From various sources we developed a Template and Guide Document on Good Practices that was contributed to and signed off by WP2 Liaisons. This document was then shared with all participants with some examples for review. We ran two workshops explaining and instructing on using this guide and templates so that all participants felt comfortable using it within their own organisations, and so that they had the chance to feedback and ask questions before introducing to their own colleagues. The Template and Guide Document on Good Practice that we developed can be found in Whaller Sphere 2.0: https://agora.univ-tech.eu/sphere/1h819g/box/175229. This includes guidance and templates that assist users in defining good practice, identifying good practice, reviewing good practice, and replicating-scaling up good practices.

2. *Identification of good practices in partners*

The following set of criteria helped partners to determine whether a practice is a “good practice” according to our objectives in EUt+.

A three point Likert scale was developed for each item. Items are not weighted and start at the mid-level because it is assumed that practices weak on any of these criteria will not be ‘good practices’ as defined. Partners had the flexibility to determine for themselves how these rankings informed the selection of one good practice over another. They showed rather transparency in the identification and selection process to help guide decision making about which good practices to report, and ultimately which good practices can be piloted, scaled up or replicated in EUt+.

Effective and successful: A “good practice” has proven its strategic relevance as the

most effective way in achieving a specific objective; it has been successfully adopted and has had a positive impact on individuals and/or communities.

Somewhat effective	Very effective	Extremely effective
O	O	O
Somewhat successful	Very successful	Extremely successful
O	O	O

Environmentally, economically, and socially sustainable: A "good practice" meets current needs and is inclusive, without compromising the ability to address future needs. The aspects of a sustainability practice are environmental, economic and social.

High on one aspect	High on two aspects	High on three aspects
O	O	O

Gender sensitive: A description of the practice must show how actors, men and women, involved in the process, were able to improve their experience, wellbeing, objectives.

Improvements by gender are unknown	Improvement shows for men and women	Improvement shows for men, women and other underrepresented groups
O	O	O

Technically feasible: Technical feasibility is the basis of a "good practice". It is easy to learn and to implement.

Somewhat difficult to learn and implement	Easy to learn and implement	Very easy to learn and implement
O	O	O

Technologically ambitious: Influencing technology is at the heart of EUt+ and good practices should be ambitious in the consideration of technology and innovation.

Good technological	Very good technological	Excellent technological

ambitions in this practice	ambitions in this practice	ambitions in this practice
O	O	O

Inherently participatory: Participatory approaches are essential as they support a joint sense of ownership of decisions and actions.

Practice is implemented by one or two people	Practice is implemented by a small group of people	Wide participation in practice by broad range of internal and external stakeholders
O	O	O

Replicable and adaptable: A “good practice” should have the potential for replication and should therefore be adaptable to similar objectives in varying situations. It needs to be methodologically transparent to successfully scale up or replicate

Practice is contextual to local environment	Practice can adapt to a number of situations	Practice is widely adaptable to similar objective across varying situations
O	O	O

Compliant with data protection and privacy: The good practice must adhere to legislative and university standards on data protection and privacy. In particular it would need to be understood how such issues are addressed in the replication or scale up of a practice.

Data protection and privacy issues would need to be investigated to share this practice	Data protection issues and privacy issues are understood but might take time to address if this practice is shared	Data protection and privacy issues can easily be addressed for sharing this practice
O	O	O

Accessible data and/or dissemination record: It must be able to provide evidence of results and impact by accessible data or other types of dissemination.

Small amount of data and/or other dissemination on this practice concerning results and impact	Concentration on one source of data and/or dissemination but benefits on results and impact can easily be understood from this	Multiple sources of accessible data and/or dissemination show the results and impact of this practice
o	o	o

Reducing risk, if applicable: A "good practice" contributes to risk reduction for resilience.

Unclear how this practice contributes to risk reduction and resilience	Some evidence that this practice contributes to risk reduction and resilience	Lots of evidence that this practice contributes to risk reduction and resilience
o	o	o

3. *Describing the features of good practice in partners*

The Template and Guideline for Good Practice Review provided a template identifying key features and guiding questions that helped partners to report on their good practice in a rigorous and transparent way.

Title and subtitle of Good Practice Review

Title should preferably include name of practice and for what type of purpose /aim /objective /context this practice is implemented. The region or country of where the practice was implemented should also be indicated in either title or subtitle.

Subtitle should be practical and indicate key achievement to [whatever theme the good practice guide is covering – e.g. internationalization and optimizing mobility experiences, industry engagement, etc..].

Key features of good practice

University or Institution where good	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point

practice identified				
This could be a partner university or an international good/best practice identified by a partner.	**According to Definition, state promising or good practice**	Month and yearof the practice implementation	- A - B - C Or category: gender, civic engagement. etc.	Name(s), organisation, email

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful)
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)?
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) • How many are they? (provide disaggregated data by student numbers, etc. where available)
	Context	• What was the initial situation/ specific context?
	Challenge	• What are the specific challenges the practice is trying to address?
	Objective and key resillience dimension	• Brief description of the practice • What are the specific objectives of the practice? • What are the main factors of the practice which contribute to strengthening the [theme of the document]?
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. • How is information gathered within the practice? • How are data compliance and protection issues addressed?

		• Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? • Specify time frame and implementation cost, if available • What resources were used in the implementation?
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice?
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? • Provide a brief description of the good practice validation process.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice?
	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? • How have beneficiaries' experience been improved economically, socially and environmentally? • How is this practice impactful on underrepresented groups – especially underrepresented student groups? • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies?
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice?
	Constraints	• What were the constraints and challenges encountered during the implementing of the practice? How were they addressed?
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable?

		• What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? • How does the practice contribute to risk reduction and resilience in your institution?
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. • What is technologically ambitious or innovative within this practice?
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? • What is your vision for replicating or upscaling this practice across EUt+?
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.)
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? • How does such dissemination show the success and effectiveness of the practice? • What sort of data is accessible that can help to review this practice?
	Contact details	• Emails to contact for more information on the practice.

4. Global scanning to spotlight best practices

In addition to identifying and describing good practices in Civic Engagement within their own institutions, each partner was also asked to provide cases that from other HEIs that they were aware of globally that could be considered global good practice. Asking each partner to share this information ensured that a global scanning process happened of the knowledge and networks of individual partners. Partners used to the extent possible the features template provided above, but in practice it was not expected that the same level of information would be available at a non-experiential level. Flexibility in the format of how global good practices were provided was assumed.

5. *Development of guides and supports on how to pilot and framework to implement good practices in consideration in next steps*

To ensure that the time and effort put into gathering data and reporting on good practice deliverables for civic engagement was optimised towards the ambitions of EUt+, templates and guides on piloting and implementing were developed. The standardisation of such approaches was deemed fundamental to management and reflecting on successes and learning from our civic engagement activities. Having a common understanding of what a pilot is and how to reflect on it is a critical aspect of understanding progress. Similarly supporting partners with tools and frameworks for implementation of good practices can only be of benefit where they are needed. The How to Pilot guideline is in Whaller Sphere 2.0: https://agora.univ-tech.eu/sphere/1h819g/box/172174. The Templates for Starting a Pilot Initiative and for Reporting on a Pilot Initiative after completion are included in this document under Appendix A and Appendix B. A framework for supporting partners involved in Scaling up and Replicating Good Practices is included under Appendix C.

6. *Agreement on next steps to pilot, replicate and scale up good practices in civic engagement*

Analysis on the good practices reported gave all partners a deep insight into the underlying features and activities involved. This allowed individual partners to consider how to use this information to progress civic engagement at the EUt+ level. Next steps are identified in the final phase of data analysis with an action plan included.

Summary of recommendations

Our collection of good practices and analysis guides us in the next steps for EUt+ in terms of developing our EUt+ civic engagement network whether this be through piloting initiatives, replicating initiatives or scaling up initiatives from local partner institutions to EUt+ level. We identify actions under five main headings in our recommendations and next steps chapter:

1. Good practices that address multiculturalism and diversity
2. Good practices in civic engagement with research orientation
3. Good practices in civic engagement to influence policy and dialogue
4. EUt+ level frameworks and approaches to civic engagement
5. Physical campus, staff level and community level initiatives

Chapter 2: Identifying good practices in civic engagement across EUt+

According to the guideline and the template for identifying good practices, each partner was asked to identify up to two good practices within their institution that could be piloted, shared, replicated, combined at EUt+ level. It is of course recognised that lines can be blurred when categorising a practice as civic engagement, industry and employer engagement and technology transfer, but since all are reported across different documents there is no need for duplication. It is also notable in particular concerning good practices in civic engagement that not all partners recognised good practices that were suitable to pilot, share, replicate. Some have dedicated teams to civic engagement whereas others are much more convoluted with industry and employer engagement and tech transfer (see. D2.4.3b and D2.4.3c reports).

Table 1: List of good practices in civic engagement identified across EUt+ partners

Partner	Code	Name
CUT	CECUT1	Virtual Exchange: Youth Entrepreneurship for Society
CUT	CECUT2	Baby Buddy Forward partnership
CUT	CECUT3	PROLEPSIS breast cancer prevention training for caregivers
RTU	CERTU1	LAMPA: Latvian Conversation Festival
TU Dublin	CETUD1	European Framework for Community Engagement in Higher Education (TEFCE)
TU Dublin	CETUD2	Programme for Students Learning With Communities (CERL)
UPCT	CEUPCT1	UPCTCOLE
UPCT	CEUPCT2	University program aimed at the elderly (UMAY)
UPCT	CEUPCT3	Campus de la Ingeniería
UTCN	CEUTCN1	OSUT Recrutează – Letter of Good News

Table 2 below summarises the rankings that partners attributed to the identification of their good practices in civic engagement. We categorise these by letter with A being the highest ranking and C being the lowest reflecting a moderate score. As noted in the methodology, the identification only includes descriptions from moderate to strong as it is assumed no weak scores would be considered when identifying good practices in civic engagement.

Table 2: Ranking of characteristics contributing to identification of partner good practices

	CECU T1	CECU T2	CECU T3	CERT U1	CETU D1	CETU D2	CEUP CT1	CEUP CT2	CEUP CT3	CEUT CN1
Effective	-	A	A	A	A	A	A	A	A	A
Successful	-	A	A	A	A	A	A	A	A	B
Sustainable	-	A	B	B	A	A	B	B	B	B
Gender sensitive	-	A	C	B	A	A	B	B	B	A
Technically feasible	-	B	B	B	B	B	A	A	A	A
Technologically ambitious	-	B	B	C	C	B	C	C	C	A
Inherently participatory	-	A	A	A	A	A	A	A	A	C
Replicable & adaptable	-	A	A	B	A	A	A	A	A	B
Data protection & GDPR compliant	-	A	C	B	A	A	A	A	A	B
Accessible dissemination record	-	A	A	B	A	A	B	B	B	B
Risk reduction and resilience	-	A	C	C	A	A	A	B	B	C

Not all partners that reported descriptions and features of good practices within their own institutions chose to use or report the output from their identification process. What is very evident from the civic engagement practices reported is the relatively moderate scores on technology aspects. This in itself is very interesting because as we are learning and collecting data from each other, we are realising important issues connected to civic engagement.

Civic engagement is about working with communities and community organisations. This work when practiced in a participatory way involves human interactions. Students learning with communities (CERL) for example is a good practice reported from TU Dublin. It concerns going out into communities and working together to learn and solve problems. It may only be moderate on technological ambition because it is the human interactions that stand out. This is not to suggest that individual pieces of work cannot have very high levels of technological ambition. Many successful projects under CERL are partnerships with TU Dublin's school of computing that would have high technological component in problem solving. The identification process also points to the often local nature of civic engagement. Charities and community organisations are established often to address particular local needs in communities. It is the approaches to civic engagement and the frameworks and ideas that provide the fuel for piloting, replication or scale up across EUt+. This is where civic engagement may be different to industry and enterprise engagement, because internationalisation is perceived as an innovation capability for industry and enterprise but not necessarily for civic organisations.

On the other hand, scores on the participatory nature, dissemination and effectiveness of civic engagement practices tend to be predominantly 'A' level highlighting objectives built into civic engagement practices along these dimensions.

Chapter 3: Features of good practices in civic engagement across EUt+

This chapter presents the features of each civic engagement practice reported from our partner organisations in EUt+. We show the dimensions here that reflect the key features of each practice. In our methodology section you can see the specific sets of questions asked under each dimension to guide the practitioners and writers. By embedding these sets of questions to guide reporting we are able to evaluate, compare and contrast practices both to each other and to current practices within our own organisations. The questions also ensure that a shared understanding and level of depth is communicated under each dimension to aid good decision making. The ten good practices in civic engagement identified across EUt+ partners follows below.

CECUT1: Virtual Exchange: Youth Entrepreneurship for Society (CUT)

Title: Virtual Exchange: Youth Entrepreneurship for Society

The aim of this practice was to provide Internationalisation at Home (IaH) and civic engagement opportunities to students. The practice has been applied in many educational contexts with well documented success in enhancing students' intercultural, linguistic, as well as a number of transversal skills. Three virtual exchange projects were implemented at the Cyprus University of Technology between 2015-2018. The projects engaged first-year students of CUT in sustainable interaction over the period of one semester in each project with students at the university of Valencia in Spain studying similar degrees. Within the framework of the exchanges which were facilitated by academic staff, the students interacted in computer-mediated environments using English as a lingua franca, engaged in intercultural dialogue, and co-constructed digital artefacts relevant to current social challenges while receiving mentorship from local NGOs.

Subtitle

Key achievements of the virtual exchange projects implemented for three consecutive years include the enhancement of students' cultural awareness, particularly of the CUT students who study at a highly monolingual and monocultural educational institution. The projects contributed towards the internationalisation at home of the students who might lack the opportunities to become mobile across Europe or elsewhere for various reasons. The virtual exchange projects optimised virtual mobility through computer-mediated sustained rich interaction and constructive collaboration, embedded in students' regular academic curricula. As virtual exchange involved stakeholders from the society (NGOs, volunteer groups) in both contexts apart from the students, it also optimised students' civic engagement through the collaborative pursuit of solutions to current social problems relevant to the Sustainable Development Goals (SDGs).

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point

Cyprus University of Technology	Definition here * also include *Results* and *Impacts* of the practice Promising	September 2015-December 2015 September 2016-December 2016 September 2017-December 2017	• A • B • C Or category: Internationalisation and optimizing mobility experiences and civic engagement	Anna Nicolaou, Cyprus University of Technology anna.nicolaou@cut.ac.cy

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) Cyprus University of Technology (CUT) in Limassol Cyprus and University of Valencia (UV) in Valencia, Spain.
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders (academic/ industry/ technical/implementing/financial/etc.)? Academic staff from CUT and UV & NGO representatives from Limassol and Valencia
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) Students at CUT and UV NGOs in Limassol and Valencia • How many are they? (provide disaggregated data by student numbers, etc. where available) 273 students at CUT and UV 22 NGOs in Limassol and Valencia
	Context	• What was the initial situation/ specific context? CUT students studying in a highly monolingual and monocultural institution with limited opportunities for intercultural interaction and civic engagement.

	Challenge	• What are the specific challenges the practice is trying to address? **Limited mobility and internationalisation opportunities for university students.** **Limited opportunities for civic engagement.**
	Objective and key resilience dimension	• Brief description of the practice **Students at geographically dispersed universities are engaged in sustained, computer-mediated interaction and collaboration, moderated by academic staff over the period of one semester using a shared language and working on common goals relevant to local community social problems while receiving mentoring by NGO representatives at each context.** • What are the specific objectives of the practice? **To enhance students' intercultural competence and to provide internationalisation at home opportunities to students who might lack mobility opportunities.** **To involve students in active citizenship activities.** • What are the main factors of the practice which contribute to strengthening the internationalization and optimizing mobility experiences? **The cultural diversity that dominates the virtual exchanges and the internationalisation of the curriculum (IoC).** **The mentoring by local NGOs.** **Also the affordances of technology tools that facilitate distant interaction and constructive collaboration.**
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points.

		The virtual exchange project was set up by the academic staff at the two universities. The goals of the project were defined and mutually agreed. The project was designed (tasks, activities, technological tools, evaluation tools). The virtual exchange was implemented and evaluated regularly. • How is information gathered within the practice? Through pre- and post-exchange surveys, reflective journals, interviews, and focus groups. • How are data compliance and protection issues addressed? • All data is anonymised and safely stored. • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? All students had equal opportunities for participation regardless of gender or disability. • Specify time frame and implementation cost, if available Each project lasted for 13 weeks (a semester). No direct costs were involved as all platforms and software used were free. • What resources were used in the implementation? Academic faculty's time for preparation and running of virtual exchanges. Self-created content such as handouts, videos, websites, social media platforms, video conferencing tools, document co-authoring tools.
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? Continuous monitoring and evaluation through surveys, focus groups, reflections and interviews.
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly.

		Has the good practice been validated with the stakeholders/final users? Students' and NGO representatives' validation in focus groups, reflections and interviews. • Provide a brief description of the good practice validation process. A pre-exchange and post-exchange survey was administered to students to determine any observable differences in the development of their cultural awareness levels. Reflective papers were required at three phases of the project (initial, interim, final). Focus groups were conducted with students upon completion of the project. Interviews were carried out with NGO stakeholders upon completion of the exchange.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice? Development of students' cultural awareness. Development of linguistic and discipline-specific skills. Enhancement of transversal skills (collaboration, team work, problem-solving, creativity). Development of (critical) digital literacies. Enhancement of civic engagement.
	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? 273 students and 22 NGOs benefited from the virtual exchanges. Impact was monitored and evaluated through surveys, focus groups, reflections and interviews • How have beneficiaries' experience been

		improved economically, socially and environmentally? Students developed their intercultural skills and were guided to the implementation of social praxis through the virtual exchange social entrepreneurship project which involved NGOs. **NGOs received possible solutions to current community problems by students participating in the virtual exchange.** • How is this practice impactful on underrepresented groups – especially underrepresented student groups? **Non-mobile students, who may lack the financial resources to study abroad or participate in physical mobility programs, experienced internationalisation while at home.** • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? **See previous points.** • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? **No direct costs were involved in the implementation.** **The university expanded its internationalisation practices through the application of virtual exchange projects.** **Local communities were benefited through creative solutions generated by students.**

	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? **Need for the dissemination of the project's positive results through presentations, students' testimonials, etc.** **Need for training academic staff in setting up, designing and implementing virtual exchange projects in different academic curricula.** **Need for funding such training.**
	Constraints	• What were the constraints and challenges encountered during the implementation of the practice? How were they addressed? **Time invested in setting up, designing, running, monitoring, and evaluating the virtual exchange projects.** **Knowledge needed to implement the projects. This was addressed through attending relevant conferences in Europe and through navigating relevant websites such as https://www.unicollaboration.org/.**
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? **The practice was economically sustainable as no direct costs were involved. Participation in relevant conferences was supported by the university's research funds.** • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? **Enhanced funding opportunities for participation in training activities.** • How does the practice contribute to risk reduction and resilience in your institution?

	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. **Virtual exchange projects are inherently technologically mediated so the role of technology is highly important. Technological practices include: synchronous and asynchronous communication and interaction (using email, instant messaging, discussion forums, web conferencing tools or VR environments), collaborative production of artefacts (word-processing tools, such as google docs/slides, multimedia production tools),monitoring and evaluation (online survey tools, interview software).** • What is technologically ambitious or innovative within this practice? **The multilayered use of technological tools to serve different purposes, needs and project goals.**
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? **This practice has been implemented in different higher institution contexts with similar configurations and modalities.** • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? **Awareness of the benefits of the practice and sufficient training of the academic staff involved.** • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? **Awareness of the benefits of the practice and sufficient training of the academic staff involved.** • What is your vision for replicating or upscaling this

		practice across EUt+? To implement the project in a virtual reality environment so as to provide an immersive experience. To widen participation of academic staff through dissemination and training activities.
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). • Two testimonials from CUT students, Fall 2016: ***Finally, this telecollaboration project has been useful to improve my knowledge and skills related to International Business, as I have had the chance to think like a businesswoman and do some reports about developing a product, which will certainly be helpful in the next years of university. Also, as my degree is oriented towards internationalization, this project has helped me improve my communication skills, not only with my partners from my degree but also with other students from Cyprus.*** ***Working with this project has been the best idea that teachers could ever have due to the meaning of my objective with International Business. As the name of the degree shows, we have to take information from different countries to get a general view of International life, Especially about businesses, which is the topic that we have worked on as a whole.*** One testimonial from a CUT students, Fall 2017: ***I'm very happy that I've shared all these thoughts and opinions with my partner and we agreed to keep in touch in order to exchange more information***

		about our countries, but most of all to share more information and find better solutions about my NGO which may help other NGOs in the future. One testimonial from a Cypriot NGO dealing with migrant issues, Fall 2017: ***One positive aspect of this program was the opportunity was given to students to get in touch with a migrant center and to discuss with the people who work there for their experiences.*** • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) Sevilla-Pavón, A., & Nicolaou, A. (2019). *Business English 3.0: Hands-on Online and Virtual Collaboration Tasks*. Editorial Comares: Granada, Spain.
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? The practice has been disseminated in international conferences and workshops, in in-house training seminars, and in academic journal papers, books, and book chapters. • How does such dissemination show the success and effectiveness of the practice? The dissemination activities present the positive results of the projects supported by statistical evidence. • What sort of data is accessible that can help to review this practice? See list of relevant publications:

		Nicolaou, A. (2021). Technological mediation in a global competence virtual exchange project: a critical digital literacies perspective. *Tertiary education language learning: a collection of research*, 111. Nicolaou, A. (2020, July). Designing a Virtual Exchange Intervention for the Development of Global Competence: An Exploratory Study. In *International Conference on Human-Computer Interaction* (pp. 512-529). Springer, Cham. Sevilla-Pavón, A., & Nicolaou, A. (2020). Artefact co-construction in virtual exchange:'Youth Entrepreneurship for Society'. *Computer Assisted Language Learning*, 1-26. Sevilla-Pavón, A., & Nicolaou, A. (2017). Online intercultural exchanges through digital storytelling. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT)*, *7*(4), 44-58. Nicolaou, A., & Sevilla-Pavón, A. (2016, November). Exploring telecollaboration through the lens of university students: a Spanish-Cypriot telecollaborative exchange. In *New directions in telecollaborative research and practice: selected papers from the second conference on telecollaboration in higher education* (p. 113). Research-publishing. net.
	Contact details	• Emails to contact for more information on the practice. anna.nicolaou@cut.ac.cy

CECUT2: Baby Buddy Forward partnership (CUT)

Title

Cross-national innovation exchange of a digital perinatal health intervention and fostering local community partnerships to provide informational and emotional support during the transition to parenthood – the Baby Buddy Forward partnership

Subtitle

Baby Buddy Forward partnership

"Baby Buddy Forward" is a research-project coordinated by the Department of Nursing, School of Health Sciences, Cyprus University of Technology. It was funded by Erasmus + under Key Action 2: Cooperation for innovation and the exchange of good practices. Strategic partnership for Adult Education (September 2017-November 2020). Its full title is "Baby Buddy Forward: Building health literacy around pregnancy, birth and early life of the infant by developing a unified, research-informed and socially-inclusive prenatal and postnatal web-based education programme for parents-to-be and new parents".

In a medicalized and decentralized birth environment with physician dominance in communication, low participation in antenatal classes and suboptimal mother-child health indicators (>60% caesareans, <20% exclusive breastfeeding at 48 hours, etc), the aim of this project was to adopt technological innovation to widen the reach of antenatal education, build health literacy around childbirth and drive "bottom-up" change by better-informed and empowered healthcare users who can participate in shared decision-making. Digital innovation can support access to timely and valid information for all, a key component of WHO's Respectful Maternity Care. Baby Buddy webapp, the main deliverable of this project, is a unified (*from early pregnancy through the first six months of the infants life*), research-informed (*tailored to local needs and priorities*) and socially-inclusive (*currently available in five languages*) online trusted resource for parents-to-be and new parents.

The project formed a strategic partnership with international and local partners with the aim of developing a "*proof of concept*" for cross-national digital innovation exchange. The project brought Baby Buddy, an innovative and award-winning UK-based app developed by partner Best Beginnings, *Forward* to shape Baby Buddy Cyprus, which is enhanced (multilingual) and expanded (with socio-culturally relevant material). More importantly, the Participatory Action Research (PAR) framework employed in the process allowed us to engage with the professional and parent community in order to deliver a locally relevant resource for future parents and a valuable tool for assisting healthcare providers in their educational role.

Beyond the main deliverable (the Cypriot version of Baby Buddy), the structured iterative research process adopted is an example of good practice for fostering community partnerships. Both method and lessons learned are highly transferrable to other contexts. All local mother-child scientific bodies participated in the process, and as such, the project achieved to break down silos, cross traditional divisions and fostered synergies towards a common goal. More importantly, it provided an academia-led platform for local NGO, Birth Forward, to be an equal partner in the conversation and further their advocacy work.

Aim and Objectives: Baby Buddy is a policy-oriented Action research project because it takes action in re-thinking current practices in antenatal education and designing a "complimentary" model of care. Baby Buddy functions as an educational resource for future parents as well as a valuable tool for healthcare providers to make "every contact count". The various research activities included in the project were of a formative nature, meaning they aimed at helping shape the content and ensuring its relevance and suitability for both parents and healthcare providers in Cyprus. It is a participatory project as it employed through its various stages processes of co-creation with the health professional community (Midwives, Gynaecologists, and Paediatricians) and parents-to-be/ new parents themselves.

Specifically, the project:
(a) engaged in priority-setting and consensus-building with health professionals and parents-to-be/new parents to shape the content of Baby Buddy.
(b) performed a series of focus groups with a socio-culturally diverse set of mums-to-be, including 'seldom heard groups' to gain an in-depth understanding of their experiences regarding participation in decision-making and, thus, providing healthcare providers with a heightened awareness of the system gaps and challenges from the parents perspective.
(c) co-created with parents-to-be/new parents and health professionals a series of short educational videos, while the process functioned as a participatory leaning exercise in the principles of effective health communication
(d) developed the multilingual (Greek, Turkish, Arabic, Russian, English) webapp featuring daily messages and/or video material based on evidence-based and best practices for every day in the journey to parenthood
(e) assessed the factors that currently hinder health professionals from actively engaging in their educational role to make "every contact count" and proposed a system-change intervention, based on behavioural change theory, while embedding Baby Buddy in clinical and community practice.

Interdisciplinary collaboration is not common in this sector in Cyprus. This academia-NGO-led project broke down silos and created a dialogue platform. Crossing traditional divisions of professional boundaries and roles, the project created a safe and fertile ground for fostering synergies and reach agreement on "best advice" for topics perceived as more controversial such as VBAC, induction, episiotomy and going over the due date. The continuing support of professional associations throughout the project is considered a natural step forward in their commitment for the improvement of perinatal education and care in Cyprus. They will also continue to support all future content development through participating with a representative in the Editorial Board.

The development of a transferable methodology for cross-national digital innovation exchange from a national context to another informed by original research was at the core of the project. The process was based on a firm quantitative and qualitative evidence base underlying the selection of content and actions needed to affect change in current "traditional" arrangements in antenatal care and education that create and retain inequalities in learning opportunities. The successful engagement with stakeholders throughout the project was important both for the successful implementation of the project and the wider adoption of Baby Buddy in clinical practice.

While Cyprus was a "stepping stone" in this project, the aims and methods are relevant across many European healthcare systems in need of strengthening and re-orientating their perinatal education service provision towards a parent-centred adult learner-based approach for all. Lessons learned have been already integrated in BB's development of Baby Buddy 2.0 in the UK which will have a functionality to globally franchise. Furthermore, Baby Buddy Australia is already in development, while project partners from Greece and Germany are planning to adapt the process to their contexts.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
Cyprus University of Technology (in collaboration with (a) local and European academic and NGO partners and (b) local professional associations and other stakeholders	Good Practice	01/09/2017 - 30/11/2020 (as part of funded project), continuing as part of University-NGO partnership. Plans to expand community educational activities by establishing University Maternity Care Centre in collaboration with Municipality of Limassol	• Low access, problematic pedagogical methods and socio-cultural inequalities in 'traditional' antenatal education • Limited collaboration across community stakeholders • Capitalizing on cross-national innovation exchange	Department of Nursing, School of Health Sciences, Cyprus University of Technology. Nicos Middleton Nicos.middleton@cut.ac.cy Eleni Hadjigeorgiou Eleni.hadjigeorgiou@cut.ac.cy

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation
Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? Baby Buddy (UK) is a multi award-winning app developed by partner Best Beginnings (Registered Charity) in the UK. It has been vetted by all relevant Royal Colleges in the UK and embedded in clinical practice in several sites by the NHS. Baby Buddy Forward is the process by which we assessed the cross-national transferability and ensured the cross-national adaptability of Baby Buddy in Cyprus, led locally by • Cyprus University of Technology and • Birth Forward (NGO) and • supported by all local mother-child scientific bodies and associations. Three more partners participated in the project in order to learn from the process, namely • University of West Attica **(Greece)** • Cosmoanelixis (Greece) and • Berlin Protestant University of Applied Science (Germany) Cyprus was the 'stepping stone' for this project as a 'proof of concept' for cross-national exchange of innovation and first step to internationalization Lessons learned from the process have been integrated in Best Beginnings' development of Baby Buddy 2.0 in the UK which will have a functionality to globally franchise.
Actors and stakeholders	• Who are the key actors, partners, other stakeholders. Academic staff and future healthcare providers (midwifery students) in the participating academic institutions who participated in research-related and/or user-testing activities. Inter-disciplinary team of practicing health professionals and health sciences academics representing Midwifery, Obstetrics, Paediatrics, Community Nursing, Mental Health Care etc participating in content assessment and/or content creation (N>35). Professional Associations and Scientific bodies (N=5), participating with Chairman/ Chairwoman or other

	nominated representative in working group meetings, officially endorsed Baby Buddy and are members of Editorial Board . Wider set of practicing healthcare providers in Cyprus and Greece who participated in the priority-setting exercises (N=193). Local new parents and parents-to-be who participated in priority-setting and/or other research-related activities and/or featured in new videos(N>350). Also, in Greece and Germany in select research activities. Other community stakeholders, such as NGOs active in the field of maternal-child health (e.g. Cyprus Breastfeeding Association and Mora Thaumata (Miracle Babies) NGO for premature babies, etc), who participated in content creation, project activities and/or dissemination events. Women's organisations and NGOs dealing with migrant issues and/or representing the different language communities and seldom-heard groups .
 Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? New parents and parents to be, students in clinical study programmes (Medicine, Nursing, Midwifery etc), practicing healthcare providers, professional associations, policy makers • How many are they? Over 800 individuals (parents and health professionals) directly involved in at least one of the activities during the timeline of the project . At the dissemination phase, over 400 parents participated in online workshops, during a time that all antenatal classes were cancelled due to the progressions COVID pandemic (and many have still not re-started) . By September 2021, the platform has exceeded 2500 registered users, the majority from Cyprus, a significant number in a county of 10000 birth cohort annually. Other than the platform, Baby Buddy videos on YouTube have gathered over 562K views, originating from Greece, Turkey, Arabic-speaking countries, and more .
 Context	• What was the initial situation/ specific context? 'Traditional' antenatal education arrangements do not address the learning needs of expectant parents both in terms of content as well as pedagogical approaches, while at the same time they are sustaining socio-cultural inequalities in access. Antenatal educators perceive their educational role as a highly structured formal activity in physical space (the "antenatal class") and healthcare providers do not

	engage in an educational role during routine appointments to make "*every contact count*". Generally medicalized and decentralized birth environment with physician dominance in communication, low participation in antenatal classes, problematic participation in decision-making, suboptimal mother-child health indicators (>60% caesareans, <20% exclusive breastfeeding at 48 hours, etc).
 Challenge	• What are the specific challenges the practice is trying to address? To shape the content of the webapp to address the real needs and priorities of parent-to-be which are not addressed, or not addressed systematically and uniformly. To improve general health literacy around pregnancy, childbirth and parenthood by providing informational based on evidence-based and best practice ('bottom-up' approach of better-informed healthcare users) To provide emotional support to parents-to-be and encourage their participation in decision-making (empowered healthcare users). To understand healthcare providers' perceptions around their educational role and barriers they face in engaging effectively in an educational capacity during routine appointments ('top-down' approach of better-equipped healthcare providers). To break silos and create a dialogue-platform between professional associations to reach agreement on "best advice" for topics perceived as more controversial such as VBAC, induction, episiotomy and going over the due date. To provide an academia-led platform for local NGO, Birth Forward, to be an equal partner in the conversation and further their advocacy work.
 Objective and key resilience dimension	• Brief description of the practice A strategic partnership with international and local partners with the aim of developing a "*proof of concept*" for cross-national digital innovation exchange. The project brought Baby Buddy, an innovative and award-winning UK-based app, developed by partner Best Beginnings, Forward by shaping Baby Buddy Cyprus, an enhanced (multilingual) and expanded (with socio-culturally relevant material) digital trusted webapp. The Participatory Action Research (PAR) framework employed in the process allowed to engage with the professional, NGO and parent community in order to

	deliver a locally relevant resource for future parents and a valuable tool for assisting healthcare providers in their educational role. • What are the specific objectives of the practice? To adapt the technological tool and customize the content to the needs of the local community. To provide a trusted digital source of informational and emotional support for local parents during the transition to parenthood and make every moment in the journey to parenthood a "teachable moment" while in parallel widening the reach to couples who would not normally benefit equally from current 'traditional' arrangements. To provide the local maternal-child healthcare provider community a 'complimentary' tool to assist their educational role. To promote communication with healthcare providers and participation in decision-making by assisting parents-to-be structure their conversations with healthcare providers. • What are the main factors of the practice which contribute to strengthening of cross-national exchange of innovation and fostering local community partnerships? Collaboration with international partner who has successfully developed an award-winning digital innovation. Successful engagement with local professional and community stakeholders throughout the project . Employment of priority-setting methods and other transparent consensus-building methods, involving large number of people in the process and promoting sense of common purpose and co-ownership among all involved. Co-creation of new materials with health professionals and parents and parents to be, providing opportunities for participatory learning of effective health communication. Identification of 'gap' and willingness to healthcare providers to adopt Baby Buddy in clinical and community practice. A key resilient dimension is that processes were put in place for reviewing and updating the current content in line with best evidence and best practices as well as assessing requests for new content by parents and health professionals to be assessed by Editorial Board.
Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points.

The project unfolded in an iterative fashion over 36 months and it was structured in a way that five distinct but related work packages were developed during its course. In all cases, we actively engaged with the local parent and/or healthcare provider community depending on the goal at hand.

(a) During the project, we engaged in priority-setting and consensus-building with health professionals and parents-to-be/new parents to shape the content of Baby Buddy. This process involved both rating the existing UK content for relevance and suitability and identifying priorities that may not be covered in the existing content through Delphi surveys with health professionals and parents.

(b) we performed a series of focus groups with a socio-culturally diverse set of mums-to-be, including 'seldom heard groups' to gain an in-death understanding of their experiences regarding participation in decision-making and, thus, providing healthcare providers with a heightened awareness of the system gaps and challenges from the parents' perspective. The main themes (i.e. critical appraisal of internet sources of information, quality of communication with healthcare providers, shared-decision making) informed the research questions for a larger quantitative survey (exploratory mixed-method design)

(c) we co-created with parents-to-be/new parents and health professionals a series of short educational videos, while the process also functioned as a participatory leaning exercise in the principles of effective health communication for healthcare providers

(d) we developed the multilingual (Greek, Turkish, Arabic, Russian, English) webapp featuring daily messages and/or video material for every day in the journey to parenthood bringing together existing material from the UK and new material developed in Cyprus, which was user-tested the webaapp with parents and health professionals before launching

(e) we assessed the factors that currently hinder health professionals from actively engaging in their educational role during routine appointments (and hence from potentially using Baby Buddy) and proposed a system-change intervention, based on behavioural change theory,

- How is information gathered within the practice?
  The project is informed by Participatory Action Research, and consists of a series of studies with qualitative, quantitative or mixed-method design, most with a formative research question. Formative research (e.g. content of the Baby Buddy curriculum, component of a complex intervention to enhance the educational role of healthcare providers, etc) tends to be the most

neglected part of healthcare/ Public Health intervention/educational research. The information was gathered using different methods depending on the research question, namely

- Delphi survey
- Nominal Group Technique
- Focus groups
- Questionnaire Surveys
- User-testing scenario-based tasks
- Think-aloud sessions
- Written documents

- How are data compliance and protection issues addressed?

  For research studies: All research protocols, which involve data collection, have been approved by the Cyprus National Bioethics Committee data and all data protection requirements have been observed during and after the study (anonymized, safely stored, etc).
  For video content: Participants in video material have provided a signed informed consent form for the participation and the copyrights for future use in the Baby Buddy platform and other related educational activities
  For registered users: Registered users declare that they have read the "Terms and Conditions" and "Privacy Policy" before creating an account. Only basic demographic data are provided upon registration and these are only available to the administrators of the site for the purpose of tracking aggregate-level statistics. Users may also opt-in to receive weekly reminders and other important notifications in their email accounts, and they can opt-out at any time through their Account/Settings

- Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)?

  During the project: we explicitly reached out to the seldom-heard groups (Arabic, Turkish, Russian and other non-Greek speakers) to understand their perspectives, include their needs as well as directly disseminate material to them.
  Unfortunately, though there was a gender bias, while not intentional, with dads not equally represented in the research studies.
  The material in Baby Buddy is currently available in 5 languages (Greek, English, Turkish, Russia and Arabic), which represents at least of the spoken languages among the majority of non-Greek speakers in maternity

	wards, while French has been identified as an additional useful language to expand to. In a short period, Baby Buddy has reached over 2500 registered users. While numbers of non-Greek and non-English users on the platform are still low by comparison, Google Analytics suggests that the Arabic and Turkish material is extensively used on the YouTube channel instead. • Specify time frame and implementation cost, if available **This was a three-year (2017-2020) funded Erasmus+ project with a total budget of ¬350,000 euro, involving six partners.** **Post-project, the long-term sustainability of the Baby Buddy platform has been estimated at a minimum of ¬4000 euro (in terms of technical requirements, updates and technical staff cost only, not including any other staff cost).** **This is currently shared between Cyprus University of Technology, Birth Forward and Best Beginnings for a period of two years, with plans to seek for sponsorships as well as further research grants to expand the platform, embed in clinical practice and/or assess its effectiveness in influencing outcomes.** • What resources were used in the implementation? Research studies, evidence-based practice guidelines, protocols and best practice, health communication guidelines, video, seminars, workshops, focus groups, etc
 Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? As this was a participatory project, there have been many opportunities to engage with both health professionals and parents through the various stages of the co-creation process. The most important quality indicator was the success in including the professional community and parents in the process in large numbers. The health professionals we collaborated closely have highlighted the importance of this work and expressed their excitement about the prospect of using Baby Buddy in their practice. In fact, all relevant professional associations have officially endorsed the platform, which is a quality indicator both for the participatory approach (process) and the high standard of the material (output). The project created a positive movement of change and a sense of a Baby Buddy Family, a title with pride. A process of continuous improvement was the formation of an Editorial Board, which has the role to develop,

	review requests and approve new content with the participation of representatives of all Professional Associations.
 Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? Since the main beneficiaries are the parents-to-be, the most important validation is the reach and uptake of Baby Buddy as evident by the in-built registration statistics. In a short period of time since the official launch (19th March 2019), registrations have exceeded 2500. There are approximately 150 new registrations per month, while there are over 17 000 monthly views on YouTube for the video material, mainly through search terms, plus several thousands views on FB. • Provide a brief description of the good practice validation process. The webapp is used on a daily basis by expectant parents is Cyprus and healthcare providers are recommending it to more parents, as evident by the rising numbers of registrations. While the Baby Buddy webapp is not replacing antenatal classes, during the last months all antenatal classes were cancelled due to the pandemic. The Baby Buddy team offered a series of antenatal classes online which were attended by over 400 people. The societal contribution of Baby Buddy has been recognized in recently receiving two awards: Gold Award for "Prevention and Health" by Cyprus Responsible Business Awards and Bronze for "Contribution to Health By an NGO" by Cyprus HealthCare Business Awards.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)	
 Results	• What results have been achieved through the implementation of the practice? The project developed a high-quality online learning environment (Baby buddy webapp), based on guidelines, research evidence and best practice, covering the journey from early pregnancy to birth and the first six months of the child's life. This is delivered as "daily messages" tailored to the stage in the journey as well as over 400 FAQs, Glossary and 220 short videos featuring health professionals providing advice, parents offering support or role modelling the interaction between professionals-parents. Through a participatory process involving over 800 parents and health professionals, the project customised

	the material to priorities of the Cyprus healthcare system and fine-tuned to the socio-cultural setting. It is particularly suited to the needs of low skilled parents-to-be, in five languages to transcend language/ cultural barriers supporting social inclusion. In addition to topics of universal importance, several issues of local importance were addressed all according to the "collective intelligence" gathered by parents and health professionals. This naturally included topics which are perceived as more controversial by the local healthcare community, such as VBAC, induction, episiotomy and going over the due date, for which the project created a safe and fertile ground for fostering synergies and reaching agreement on "best advice". All material is presented in a friendly tone, at a reading level suited to everyone, avoiding medical terminology. Information is gathered in one place, increasing accessibility especially for people with low digital and health literacy skills, presented in small-bites and purposefully placed along the timeline of pregnancy/age of baby when the topic is more relevant. The platform is free to register while all video material is also available on a YouTube channel, providing a continuous supply of high-quality material, which in some of the Baby Buddy languages was entirely lacking. Other than a source of valid information, Baby Buddy supports and encourages ("*You can do it*"), promotes communication ("*Talk to you doctor or midwife*") and assists users to structure the conversation with providers by suggesting specific questions ("*You may want to ask about …*"). With friendly suggestions about topics to discuss with HP or partners, Baby Buddy normalises a culture where the ownership of care belongs to the person, increasing the likelihood that parents will actively participate in decisions about their health.
Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? The impact of Baby Buddy is best attested by the high level of uptake and reach as indicated by in-built user stats and web analytics. There are currently >2500 users on the platform with a growth of 150 monthly. In a country of ~10000 annual birth cohort, this is impressive in a short period since launch. The distribution covers the whole island and 73% are first-time mums. However, mums with lower educational attainment and non-Greek/non-English-speakers are under-represented, suggesting more effort is needed for universal

proportionalism. Nevertheless, web analytics of the youtube channel are suggestive that video material is reaching far more people.
The impact is also best evident in the fact that all professional associations officially endorsed Baby Buddy Cyprus. In the medicalized and decentralized setting of Cyprus, the different professional groups often work in silos. Furthermore, the users' perspective is seldom heard. Thus, the project achieved to bring all associations together to work collaboratively while integrating the parents' voice in this process.
Adopting a research-informed and evidence-based approach, coming to a consensus on how to use the evidence and turn the evidence into communication are vital skills that are transferable beyond the project and very much needed in this part of Europe where there is a weak tradition of developing medical guidelines. This partnership spanning academia, NGOs and scientific bodies/ professional associations modelled a new way of working collaboratively and hence created a good starting point to adopt this as normal practice.
An added value of the work is also that it raised consciousness through reflection among maternal-child care professionals. Understanding the context from the perspective of the parents, and the extent to which they currently feel supported, offers much-lacking insights for practicing and future health professionals and can impact the process of improving the quality of antenatal care provision.

- How was the impact monitored and evaluated?

The impact of Baby Buddy in terms of reach is systematically monitored by in-built user stats and web analytics.
With friendly suggestions about topics to discuss with healthcare providers, Baby Buddy normalises a culture where the ownership of care belongs to the person, increasing the likelihood that parents will actively participate in decisions that affect their health. While this is not systematically monitored within the clinical setting, a shift in self-confidence was observed during the online dissemination workshops. A survey on communication with healthcare provider and participation in decision-making was performed pre-launch of Baby Buddy and can be repeated to assess change across time among Baby Buddy users and non-users.

Several more achievements should be noted, in particular in terms of raising awareness on pregnancy rights and visibility of several options. For example, VBAC was until recently a controversial topic even among the professional community. This was brought to the surface and normalized. Caesarean sections were on the decline after rising for more than a decade; a trend that unfortunately reversed due to the pandemic. Mode of birth can be monitored in official statistics

- How have beneficiaries' experience been improved economically, socially and environmentally?
  Evaluating the long-term impact on better-informed parents was not an objective within the timeline of the project. Participation itself in the focus groups and other activities (e.g. workshops, seminars), acted therapeutically for the parents, by sharing their stories, for their own wellbeing.
  Moreover, an increase of parents' requests for support from the NGO regarding their rights and other issues is an indicator of a positive impact on empowerment of women.
  Furthermore, a survey on the quality of communication with providers and participation in decision-making is underway. Even though data collection ceased, since COVID significantly impacted maternity ward practices, there are plans to continue once conditions permit by inviting all Baby Buddy users to participate.
- How is this practice impactful on underrepresented groups – especially underrepresented student groups?
  All Baby Buddy material is available in five languages. Locally, there are very few or no interpreters in clinics/ hospitals and the use of printed informational material is rare even in Greek, let alone in other languages. The fact that material was made available in four additional languages increases the capacity of providers to engage with non-Greek speakers, with whom communication was otherwise challenging.
  The particular languages were originally chosen to reflect both the bi-communal characters of the island and the changing demographic composition of the maternity ward in Cyprus. While the project was underway, it became apparent that there has been an increasing trend of French-speaking service users in Cypriot hospitals, raising the need to expand the languages in Baby Buddy further.
  The project also allowed midwifery students across three countries to participate in a group project and reflect on the professional identify of the midwife in different

	socio-cultural contexts. • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? The project focused on the formative part of shaping Baby Buddy and ensuring the support of the professional community. Embedding Baby Buddy within clinical and community practice, and evaluating a set of measures, was beyond the scope and timeline of the original project. Nevertheless, a series of studies were also performed with the aim to understand the factors that currently hinder health professionals from actively engaging in their educational role to make "every contact count". Understanding these factors was important for the effective implementation of a multi-component system-level intervention to affect change. • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? This was a three-year ERASMUS + funded project with a total budget of 350K distributed along the partners and various tasks. Staff cost to support the research and technological aspects of the implementation represented the biggest proportion of the budget (63%). Replication of the project in different settings would be more cost-efficient as only the research-related part of adaptation, and not the technological aspects, would need to be implemented. With Baby Buddy up and running, sustainability of the practice is cost-effective, even though this includes substantial in-kind contribution from the academic and NGO staff for updating the material and promotion activities. Staff and other costs for technical updates and maintenance was estimated at 4000 euro.
Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? One of the main factors of success was the key position and reputation the University holds in the field of mother-child health nationally, both in terms of academic programmes being the only state-funded academic institution with a midwifery programme, as well as in terms of research. Achieving the participation of the

	professional associations and other stakeholders (e.g. National Breastfeeding Committee, Cyprus Breastfeeding Association etc) in the partnership was also a key factor for the success of Baby Budd to appeal to the community. The endorsement of Baby Buddy UK by the equivalent professional associations in the UK played an important role in securing the support of the local associations. The continuing support of the professional associations throughout the project, and the official endorsement of Baby Buddy, was an important factor in achieving large numbers of health professionals supporting the project's activities and for parents trusting Baby Buddy as a reliable source of information. For the participants, directly involved in the project, achieving an academia-NGO-professional associations partnership created conditions of optimism and a sense of a Baby Buddy Family, working towards a common purpose.
Constraints	• What were the constraints and challenges encountered during the implementing of the practice? How were they addressed? Recruitment of parents for project activities (focus groups, user-testing, etc) was challenging. This was expected since motherhood is challenging and unpredictable, with many last-minute drop-outs due to difficulty in planning ahead with a newborn child. Higher participation of midwives compared to physicians both in research studies and dissemination events, even though their professional associations were endorsing the projects' activities.
Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? **Long-term sustainability of the actual Baby Buddy platform has been estimated at a minimum of ¬4000 euro (in terms of technical requirements, updates and technical staff cost only, not including any other staff cost). This is currently shared between Cyprus University of Technology, Birth Forward and Best Beginnings for a period of two years.** **There plans to seek sponsorships and we believe that the topic of motherhood and digital innovation would be appealing for a range of companies (e.g. telecommunication companies, mother and baby products etc) to take on as part of their corporate social responsibility.** **We will seek further research grants to expand the platform, embed in clinical practice and/or assess its**

	effectiveness in influencing outcomes. • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? **Institutionally, Baby Buddy has been embedded in the Midwifery study programme, thus future midwives are trained in the advantages of using digital technology to aid their educational role. Furthermore, they act as agents promoting Baby Buddy in as part of their clinical practice.** **While substantial in-kind contribution is needed from the academic and NGO staff in terms of updating the material to be in line with current evidence and best practice, this is part of professional development.** • How does the practice contribute to risk reduction and resilience in your institution? • As an academic institution, outreach activities are high on the agenda. Baby Buddy laid the groundwork for coming closer to the community. There are plans to expand community educational activities by establishing University Maternity Care Centre in collaboration with Municipality of Limassol.
Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. Baby Buddy is a high-quality online learning environment which delivers "daily messages" to the user. Based on estimated date of delivery or day of baby's birth, the messages are tailored to the stage of the parenthood journey. They cover the period from early pregnancy to birth and the first six months of the child's life. The material is based on guidelines, research evidence and best practice, and delivered in friendly and encouraging tone, avoiding medical jargon. Other features include: over searchable 400 FAQs with key words, a Glossary and 220 short videos classified by theme featuring health professionals providing advice, parents offering support or role modelling the interaction between professionals-parents. With the use of technology, it taps on the self-efficacy of the user, an important behavioural-change component, by providing encouragement, promoting provider-user communication and assisting In structuring the conversation by suggesting possible questions. The use of video in Baby Bubby is powerful in normalizing situations (e.g. other mums talking about mental health and role-modelling interaction with healthcare providers. Baby Buddy currently offers material in 5 languages

	(Greek, English, Turkish, Russia and Arabic), hence widening the reach and reducing the inequality in access. Maternal-child healthcare provider community are provided with a 'complimentary' trusted tool to assist their educational role, especially in conditions of time-pressure and staff-shortages. More importantly, in the absence of translators, they are provided with good quality material to use with non-Greek speakers. • What is technologically ambitious or innovative within this practice? Due to budget limitations, Baby buddy Cyprus was developed as a webapp rather than a mobile app such as Baby Buddy UK. Nevertheless, there is much room for further development. Baby Buddy UK 2.0 is technologically advanced providing a range of innovative elements, such as chat feature to allow interaction with other mums or specialists, linking with medical files etc. With further funding, Baby Buddy Cyprus can introduce these features.
Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? Baby Buddy UK, developed by partner Best Beginnings, Registered Charity, has been available since 2015 and had been embedded in clinical and community practice in several NHS settings in the UK. Baby Buddy 2.0 is planned to be launched within 2021. Baby Buddy Australia will be launched with a focus on prevention of prematurity and support of parents with preterm babies. Partners from Greece and Germany have participated in the project to learn from the implementation of the method. As Greece participated in the original priority-setting exercise, Baby Buddy Cyprus was subsequently expanded to refer include locally-relevant information from the Athens area as well as wider Greece (such as community support hotlines, etc) and was also released as babybuddy.gr . German was not one of the original languages so a German version was not released. However, the Turkish and Arabic versions have been pilot used with these communities in the Berlin area. • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? Additional funding to implement both the technological requirements (expanding the platform to include other

	languages) and the preparatory formative stage of ensuring the material is locally relevant. Establishing a collaboration with the local professional associations in mother-child health who will endorse the material and participate in filming a series of new videos to increase familiarization of the local population. • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? Effort was made so that the material is Baby Buddy are relevant to the need and priorities of the Cypriot population/ context. Of course, several topics are of universal importance. For instance, as many as 60% of the Baby Buddy UK videos were rated as both relevant as well as suitable, and were used with captions in Baby Buddy Cyprus. The main condition would be to strike a balance between the material that is transferrable to a different context and the topics or issues that need to be addressed with that socio-cultural setting, which often includes different healthcare practices (e.g. no home births in Cyprus, no milk banks for preterm babies etc). • What is your vision for replicating or upscaling this practice across EUt+? Through collaborating with Departments/Schools across EUt+ with clinical programme of studies (Midwifery, Medicine, Nursing) Baby Buddy can expand to other cultural/language settings, or user-tested for minority groups (Turkish, Arabic, Russian) speakers in that country. A different aspect is effective health communication during consultation. As the Baby Buddy experience suggested there is much need to train future health professionals in communication skills e.g. during consultation. Baby Buddy offers the opportunity through filming situational videos for the platform to introduce innovative ways in communication skills curricula e.g. inverse and experiential learning (learning by doing and re-doing to align with theory and best practice), peer-to-peer feedback from peers (learning through social interaction) and self-reflection (learning by identifying areas for improvement).
Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). A qualitative indicator of impact was the actual process

of sharing experiences during the focus groups. This created a sense of community and participation had a positive psychological impact. By being asked and heard, women felt they had a voice (often silenced by the system). "Confident voice" was in fact one the main themes of the qualitative analysis.
For some, it created a sense of closure and empowerment: Mother quote: "it feels like wound has been opened but closed properly, I feel positive, ... it's really encouraging to hear about birthing stories..., so it gives me confidence that my next pregnancy hopefully if I am blessed with another child, I can, you know, I will be more motivated to fight for what I want...".
The role modeling in Baby Buddy encouraged parents to "own their care" and NGO Birth Forward observed an increase in women reaching out for support. Besides, Baby Buddy impacts not only knowledge and skills but self-care and mental well-being awareness.
Feedback from professionals was very positive and the experience rewarding. The project provided plenty of Participatory Learning experiences for professionals and showcased the importance of inter-professional collaboration through the process of co-creation, which enriched their perspectives since this kind of exchange is not supported by the system. Quotes:

- Midwife 3: "…I really enjoyed meeting everybody, that we were asked, that we were heard, we shared experiences, it makes us all better…".
- Paediatrician 1: "..it is through teamwork we can achieve much more. We are all different pieces of the same puzzle".

By role modelling best practices in Baby Buddy, in-training health professionals learned about the increased responsibility and accountability as providers of health education and support in a way that is empathetic, non-judgemental and empowering. The project was inspirational, raising their confidence and pride (several video testimonials from the launch conference). Midwifery students, in particular, gained a raised awareness of their professional identity and role.

- Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.

  "I ran into the online educational platform through a friend – a young mother who was already a member of

		the Baby Buddy family. During pregnancy I would often visit the page, curious of the new information that would be revealed on that day. I would often search for information on labour and breastfeeding to relieve the stress and insecurity around this new life situation. Baby Buddy is still my "buddy" today, someone I go to for advice on how to raise my child. I'm more than happy to recommend Baby Buddy to all pregnant and new mums. I know, because I believe that everyone – whether they are first time mums or experienced mums- have something to gain from the wealth of information available within the platform" F.S, age 37. "During pregnancy, it is not only the feeling of excitement that occurs but also confusion! Baby Buddy is a true buddy for new mothers who want to find reliable information about pregnancy. Each week new information is sent via email which is very helpful. There is a wide variety of videos included that also help gain insight with parents sharing their own experiences and professionals giving their advice! I can truly say that Baby Buddy is a pregnant woman's best friend". A.P., age 33.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) Info about the project: **www.babybuddyforward.com** Access to platform (by registration): **www.babybuddy.co.cy** Intellectual outputs in Erasmus+ platform: **LINK**
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? **Live & Recorded Broadcast of Innovation & Transformation session at International Maternity Expo, 2019: LINK** Leaflets in maternity clinics and other promotional material Newspaper articles TV and Radio broadcasts Local conferences and seminars of professional associations Academic manuscripts: In progress PhD thesis (Ioanna Koliandri, PhDc): In progress Conference papers: • **Middleton N, et al. A digital resource for enhancing parental health literacy during the transition to parenthood. Presented at the World Congress of Epidemiology. Virtual**

	Edition. September, Melbourne, Australia. Abstract in Journal Supplement. International Journal of Epidemiology 2021 Sep; 50(Supplement_1): dyab168-438. • **Middleton N, et al. Shaping Baby Buddy Cyprus: eHealth literacy for the transition to parenthood. Presented at World Congress of Public Health. Virtual Edition, Rome, Italy. Abstract in Journal Supplement. European Journal of Public Health. 2020; 30 (Supplement_5): ckaa165-908.** • **Kolokotroni O, et al. eDelphi survey to shape the content of a digital resource to enhance parental health literacy. Presented at European Congress of Public Health, 2019. bstract in Journal Supplement. European Journal of Public Health. 2019;29 (Supplement_4): ckz186-123.** • **Middleton N, et al. Cross-national transferability of online app for the transition to parenthood: Baby Buddy Forward. Presented at European Congress of Public Health, 2018. Abstract in Journal Supplement. European Journal of Public Health. 2018; 28(suppl_4) :cky214-183.** • How does such dissemination show the success and effectiveness of the practice? Dissemination activities was wide and targeted according to the audience of interest per task. For example, the local clinical/ professional community was approached through conferences and seminars, while the parent community was approached through leaflets in maternity clinics and TV/Radio broadcasts. The methodological process was presented to the academic community is European and International conferences, and manuscripts are currently in progress. The international professional community of midwives (as agents of Baby Buddy) was approached through a live and recorded broadcast during the International Maternity Expo. • What sort of data is accessible that can help to review this practice? Conference abstracts in Journal supplements Video recordings Intellectual Output material on th Erasmus+ platform
Contact details	• Emails to contact for more information on the practice. nicos.middleton@cut.ac.cy eleni.hadjigeorgiou@cut.ac.cy

CECUT3: Prolepsis Breast Cancer prevention training for caregivers (CUT)

Title: PROLEPSIS BREAST CANCER PREVENTION TRAINING FOR CAREGIVERS

Subtitle:
The project aims to develop a mobile phone-based health intervention, as a mean to enhance preventive health care behavior among informal carers population with tailored individual messages, covering broad content areas while also overcoming restrictions to place and time of delivery.
The specific objectives of the project are:
(1)to create a methodology and relevant contents extending informal carers' knowledge regarding the impact of their prevention avoidance behavior on BC development
(2) to educate and enhancing them to assume control over this disease through adopting and maintaining changes in their lifestyle and living practices. These include modifications of their lifestyle habits, self-monitoring, self-assessment and reinforcement of positive behaviors as well as encouragement of use of preventive BC services.
(3)To develop a personalized mobile application (i.e. personal characteristics, needs and preferences),which will support informal carers to better manage self-care and behaviour change in illness prevention.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
Cyprus University of Technology	Definition here * also include *Results* and *Impacts* of the practice GOOD PRACTICE	Month and year of the practice implementation 1st October2019-1st September 2021	Civic engagement	Department of Nursing, School of Health Sciences, Cyprus University of Technology. Dr Andreas Charalambous, Cyprus University of Technology, Email: andreas.charalambous@cut

				.ac.cy

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) In Cyprus, Italy and Portugal
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)? Academic Staff from CUT and Nurses from public hospital. Health professionals from Italy (ANS) and Portugal (Porticarers)
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) **The main target group will be female informal carers.** • How many are they? (provide disaggregated data by student numbers, etc. where available) **A total of 30 informal carers**
	Context	• What was the initial situation/ specific context? **One piloting of the training and the mobile App involving a minimum of 10 carers (for a total of 30) was organized.**
	Challenge	• What are the specific challenges the practice is trying to address? **The app will enhance the connection among people in common situations, through a specific forum and a limited group of friends that will empower the self-examination.**
	Objective and key resilience dimension	• Brief description of the practice **Through appropriate education and support of Informal carers will facilitate to gain and maintain active control over breast cancer by implementing modifications of their lifestyle**

		habits(manage self-care),by self-monitoring(e.g.minutes of physical activity, Breast-self Examination (BSE) every month),self-assessment(e.g.caloric intake, BSE) and reinforcement of positive behaviors as well as encouragement for the regular utilization of preventive services for early detection of BC (e.g.Clinical Breast Examination-CBE and Mammography). • What are the specific objectives of the practice? (1)to create a methodology and relevant contents extending informal carers' knowledge regarding the impact of their prevention avoidance behavior on BC development, (2) to educate and enhancing them in order to assume control over this disease through adopting and maintaining changes in their lifestyle and living practices,(3)to develop a personalized mobile application(i.e. personal characteristics, needs and preferences),which will support informal carers to better manage self-care and behaviour change in disease prevention, and (4) to develop a handbook for educators, how to use the app in health-literacy reinforcement programs. • What are the main factors of the practice which contribute to strengthening informal carers to manage self-care and behaviour change in disease prevention. [theme of the document]? Through appropriate education to extend informal carers' knowledge regarding the impact of their prevention avoidance behavior on BC development and promoting their preparedness to engage in such behaviors. And the development of a mobile app based on person's specific personal characteristics and preferences will help informal to manage self-care and behaviour change in disease prevention.
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points.

		The project was designed by the academic staff of the CUT. The goals and methodology of the project were defined and mutually agreed by all partners involved. The program is implemented and evaluated regularly. • How is information gathered within the practice? Through a literature review and focus groups with informal carers and experts. • How are data compliance and protection issues addressed? All data is anonymized with consent form that was filled in from participants and safety stored. • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? The prolepsis project is focuses on women's informal carers health. • Specify time frame and implementation cost, if available Each focus groups (two) lasted for one hour. No direct costs were involved as FG was done online due to pandemic and the piloting was done in a school with all the facilities. • What resources were used in the implementation? Self-created content such as handouts, videos, mobile app and websites.
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? Continues monitoring and evaluation through the focus groups and the piloting.
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? Through informal carers piloting and reflections through the pre and post satisfaction questionnaires. • Provide a brief description of the good practice validation process. A pre- and post-satisfaction questionnaire was administered to the participants during the piloting of the training and the mobile app.

These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)	
Results	• What results have been achieved through the implementation of the practice? The development of an educational program extending informal carers' knowledge regarding the impact of their prevention avoidance behavior on BC development. To educate and enhancing them in order to assume control over this disease through adopting and maintaining changes in their lifestyle and living practices and the development of a personalized mobile application(i.e. personal characteristics, needs and preferences),which will support informal carers to better manage self-care and behaviour change in disease prevention, And the development of a handbook for educators, how to use the app in health-literacy reinforcement programs.
Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? 30 Informal Carers benefited from the training program and the mobile app. • How have beneficiaries' experience been improved economically, socially and environmentally? The training program educate, empower and promote active engagement to breast cancer prevention through improved knowledge and health literacy – raise consciousness of the possibilities offered by ICT to behavior change and prevention of Breast cancer. • How is this practice impactful on underrepresented groups – especially underrepresented student groups? The development of the high-quality e-health educational program and the mobile app transcended the socioeconomic, geographical, language, cultural and other access barriers, in order to educate, empower and promote active engagement to breast cancer prevention through improved knowledge and health

		literacy – raise consciousness of the possibilities offered by ICT to behavior change and prevention of BC • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections) See previous points • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? No direct costs were involved in the implementation.
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? The innovative methodology developed in the project is expected to increase the audience that could potentially be involved, thus allowing partner organizations to have access to more funding resources at local and national level, for example those dedicated to health promotion (i.e. health lifestyle programs), cancer prevention and screening and the integration of technological advancements in clinical and everyday living. The availability of the outputs in several languages makes them potentially useful for a great number of organizations that can and will be encouraged to integrate them to their services. The tools will remain available from the project's website that the partnership will keep active with own resources for at least 2 years after the end of the project
	Constraints	• What were the constraints and challenges encountered during the implementing of the practice? How were they addressed? A constraint was Informal Carers restriction of time to be involved in the project activities! And a challenge was their need to participate in

	the project, to be educated and empowered themselves!
 Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? The practice was economically sustainable as no direct costs were involved. Participation in relevant conferences was supported by the university's research funds • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? Once the methodology developed and trainers from partners organizations will be able to offer the training, the project could be sustained with their current source of financing, such as funding from local and national governments; inter-professional funds; funds from private service providers for their employees • How does the practice contribute to risk reduction and resilience in your institution? Strengthens research in the field and CUTs reputation as a leader in this area.
 Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. The role of technology is in high importance, as the mobile application is technologically meditated. The mobile app will be paired with a simple administration console. • What is technologically ambitious or innovative within this practice? Within this project, mobile learning is utilized as a learning model that incorporates information and communication technology that aims to inform,teach,motivate and empower informal carers by extending their knowledge,health literacy and competences on BC prevention behavior.While there is no lack of digital sources of information,these are of varied quality in terms of their comprehensiveness and content accuracy.The proposal builds on the shortcomings of the available Apps in relevant people's groups but it also builds on informal carers' experiences and the experiences of healthcare professionals in this

		field by adopting a participation-based method which will be employed in order to co-create this programme with the relevant stakeholders and prospective users.The app is unique in its focus on informal carers for promoting healthy behaviours including BC screening.
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? PROLEPSIS can make learning affordable anywhere and applied to all women's everyday life, not only to informal cares. What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? A very good condition to replicate the practice is the development of a handbook for educators and how to use the app in health-literacy reinforcement programs. • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? As above • What is your vision for replicating or upscaling this practice across EUt+?
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. During the piloting testing of the training program and the testing of the mobile app, 81.3% of the participants in the pre-evaluation questionnaire were satisfied with the App. At the post-evaluation questionnaire, the percentage increased to 90.9%, that refers to

		participants who were very much satisfied from the App. Sixteen participants completed the pre-assessment questionnaire and eleven participants completed the post assessment questionnaire. The data showed an overall increase in the carers' knowledge and skills after the training. Specifically, their knowledge about the risk factors for breast cancer (i.e. smoking, stress and anxiety, alcohol) increased in double in the post-assessment, compared with the pre-assessment. Furthermore, during the post assessment all the participants knew which are the preventing screening exams for breast cancer. In contrast, with the pre- assessment that it shows that the women underestimated the Clinical Breast examination (45.2%) and Breast self-examination (58.8%).
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) A full report of the outcomes from the focus groups with informal carers and experts. Erasmus+ Platform
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? Disseminated through national and international conferences (ESMO), in academic journals. • How does such dissemination show the success and effectiveness of the practice? • What sort of data is accessible that can help to review this practice? Through the Erasmus + platform and an academic journal that is under review.
	Contact details	• Emails to contact for more information on the practice. andreas.charalambous@cut.ac.cy

CERTU1: LAMPA: Latvian Conversation Festival (RTU)

Title:
LAMPA conversation festival is originated in Latvia, the festival aims to support open dialogue in a wide range of fields, for example, in terms of science, innovation as well as topics addressing the local and global problems. Festival invite annually more than 40 NGOs and institutions to represents their specialty and participate in the open dialogue. As one of the largest HEIs in Latvia, RTU has been one of the key organizations participating the LAMPA festival. This has given RTU a great opportunity to cooperate with the local organizations and at the same increase impact in terms of civil society activities.

Key features of good practice

University or Institution where good practice identified	**Promising or good practice**	**Implementation date or period**	**Type of problem / needs addressed**	**Contact point**
Riga Technical University & LAMPA	Definition here * also include *Results* and *Impacts* of the practice Good Practice	Month and year of the practice implementation Annually (Usually during summer time)	• A • B • C **Or category:** gender, civic engagement. etc. Civil engagement, Globalization, Climate change, Clean drinking water, Impact of COVID-19 etc.	Name(s), organisation, email https://festivalslampa.lv/en

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation

Geographical Coverage	• Latvia and online
Actors and stakeholders	• NGOs, Enterprises/private field, HEI and academic field, Policy makers and political influencers, Civil society
Beneficiaries	• Whole society including the above mentioned participants • Annually LAMPA has +-20k participants
Context	• Open dialogue used to address topics, which are topical. Educate people and give them possibility to join the conversation.
Challenge	• Make the society more transparent, offer "third" parties possibility to participate and bring out their voice
Objective and key resilience dimension	• Open discussion, which is led by the specialists allowing the audience to have discussion with the specialist and learn • To support open diology, increase people's knowledge introduce them into new topics and maybe even find new solutions to solve the problems • Open diology between different parties
Methodological approach	• Program was designed and people were invited to speak based on the program. • Information is collected by LAMPA and uploaded on the website: https://festivalslampa.lv/en • The data protection follows the local and EU legislation. • The representatives are invited based on their specialty, moreover the event is open for all • Annually around end of the year. Cost N/A • Mainly human resources were used
Evaluation and continuous improvement	• LAMPA collects feedback, moreover participants are able to give feedback on the spot
Validation process	• LAMPA has been an important role as part of the Latvian society generating open diology and thus supporting democratic society. The number of visitors are a good indicator how well the festival has been organized.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data	

(with sources and dates)	
Results	• Wider cooperation with other LAMPA partners, stronger visibility and connection with the civil society.
Impact	• Participating in the LAMPA festival has only positive impacts. The small investment of human resources manages to increase RTU's impact, allows build stronger networks and build relationship with the civil society. • Increased awareness about social and environmental problems. • RTU represents public education, thus allowing also for vulnerable groups access to higher education. • No collected data, N/A • The good practice is extremely cost effective. Participants can donate money to support the festival, but generally human resource investment is really cost effective solution.
Success factors	• A high number of listeners can be achieved by offering interesting topics and specialist who are well aware of the topic.
Constraints	• Limited time was the main downside of the event.
Sustainability	• The LAMPA festival is an essential part of Latvian society and democratic and thus naturally supporting sustainability of the good practice. • The participant/institution should focus on topics, which are topical and providing solutions for current/future problems. • The good practice doesn't generate risks
Technology	• During Corona time, festival aims to advance more technical solutions like YouTube. • As representative of HEI, RTU aims to involve developed solutions and researches as part of the festival topics.
Replicating and upscaling	• There are similar global events, but locally there are only one. • There should be a local organization to push this initiative. Also the local society should be willing to help to establish the event. • I believe that the event is already large in Latvian scale. However, the size could be

		• increased by improving online access (Streaming services) • There is no plan to upscale
	Testimony	• N/A
	Related resources	• https://festivalslampa.lv/en/speakers/1330
	**Dissemination**	• RTU website, Youtube, social media etc. • Increased number of participants • N/A
	Contact details	• LAMPA contact details and RTU representatives

CETUD1: European Framework for Community Engagement in Higher Education (TEFCE) (TU Dublin)

Title European Framework for Community Engagement in Higher Education (TEFCE)

Subtitle The TEFCE Toolbox is an institutional self-reflection framework that centres on seven thematic dimensions of community engagement. The TEFCE Toolbox facilitates context-specific application in different types of universities and socioeconomic environments. Incorporating insights from engagement practitioners, students, and community representatives the TEFCE Toolbox has been successfully applied in universities with diverse profiles and missions. The process recognises community engagement achievements and the identification of potential areas for improvement. Overall, the TEFCE Toolbox represents an innovative, robust, and holistic European framework with the potential to support universities in reflecting upon their pursuit of addressing grand societal challenges, while promoting community engagement.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
TU Dublin (and partners)	Good practice	Ongoing approach	Community Engagement practice	Emma O'Brien

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation
Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) Ireland, Croatia, Netherlands, Germany. In process of using Spain, Belgium and others that have done it independently.
Actors and stakeholders	• Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)? Academic staff, senior management, community engagement offices, community reps, students
Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) Academic staff and community engagement practitioners, students, service users of community organisations, community activists • How many are they? (provide disaggregated data by student numbers, etc. where available) Feedback from 160 users across all existing partners.
Context	• What was the initial situation/ specific context? Absence of community engagement frameworks within European HE area.
Challenge	• What are the specific challenges the practice is trying to address? Absence of qualitative data and tools to assist in experience and learning processes.
Objective and key resilience dimension	• Brief description of the practice Concerned with how universities address societal needs in partnership with their communities. Organised around seven recognised thematic dimensions of community engagement in higher education (Teaching and learning; Research; Service and knowledge exchange; Students; Staff; Management policies and Management engagement), the TEFCE Toolbox guides users through a process to identify community engagement practices at their institution and then encourages participative discussions with multiple stakeholders that results in an 'institutional community-engagement heatmap' for the university as a whole indicating: • the level of authenticity of community engagement practices • the range of societal needs addressed through community engagement • the diversity of communities engaged with

	• the extent to which community engagement is spread across the university • and the extent to which the engagement practices are sustainable The Toolbox incorporates a customised analytical framework "SLIPDOT analysis" (referring to Strengths, Areas of Lower Intensity, Areas with Potential for Development, Opportunities and Threats). • What are the specific objectives of the practice? Enable HEIs to understand CE. Need for more qualitative tools focusing on learning journey. Need for more participation of stakeholders. Enables HEIs to identify good practice in CE and areas for future development. • What are the main factors of the practice which contribute to strengthening the of Community Engagement? Qualitative tool focusing on the learning journey Stakeholder approach to participation
Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. In paper. The process takes 4-5 months to implement. Following the collection of community engagement practices from around the university, the TEFCE Toolbox encourages participative discussions that result in a heatmap indicating how developed is each dimension community engagement according to five criteria (authenticity of engagement; range of societal needs addressed; diversity of communities engaged with; extent of institutional spread of community engagement; institutional sustainability of community engagement). • How is information gathered within the practice? In paper. There is a comprehensive website developed for TEFCE: www.tefce.eu. This details the different gathering techniques. It is an institutional self reflection framewok. • How are data compliance and protection issues addressed? Goes through ethics clearance in terms of good research practice in each university when project being developed. Learning tool in practice – doesn't need ethics clearance in operation • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)?

	Framework adopts broad definition of community engagement that is very inclusive. Recognizes that community and university may benefit in different ways but are still valid. Other definitions might not be as inclusive. • Specify time frame and implementation cost, if available What university puts into it is what they get out of it. They can focus on area. Could be 6 month process to implement fully. Needs buy in from senior management, etc.. • What resources were used in the implementation? Needs to have a coordinator as it is a coordinated activity. Needs buy in from senior management. Labour intensive – very paper based process. First report 90 pages – interviews, etc. need to be gathered. Relies on good practices being identified or else they need to be gathered.
Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? Lots of feedback from end users. Focus group. Regular meetings. Pilot study completed at the outset. Peer learning – all partners visited different sites and learned from each other during pilot. Cross case analysis (each university case study). Slip dot analysis (modified SWOT) is where institutional learning comes and opportunities for improvement built into the tool. This is completed by all stakeholders.
Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? Yes. Good practices came across stakeholders (HEI and community). • Provide a brief description of the good practice validation process. The stakeholder approach is fundamental. Lots of written feedback from users. The tools allows for feedback throughout the process.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)	
Results	• What results have been achieved through the implementation of the practice? Across 4 institutions over 200 examples of good community engagement practice – all documented online. Check out tefce.eu website for reports. Each report from pilot universities there documenting evidence.

 Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? Case studies online in www.tefce.eu. • How have beneficiaries' experience been improved economically, socially and environmentally? Evident in case studies. Great example is Twente – sleeping bags for homeless exemplar. Has gone on as amazing exemplar across Europe of CE. • How is this practice impactful on underrepresented groups – especially underrepresented student groups? Case studies show this. It is impactful on underrepresented groups by its design as particicipatory, community engaged and inclusive. • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? Case studies. Testimonials. Approach is qualitative – argument is that CE should not be just focused on metrics. Some figures but qual is key underpinning of practice. • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? Most universities have received funding to support this initiative. Hosting costs and event costs. Travel costs. Flexibility within tool for level of implementation of tool depending on resources (different dimensions in frameworks).
 Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? High level buy in from senior management. Support for introductions. Coordinating resource. Community involvement is key as well (some partners didn't have this in early stage of pilot). Knowledge of community engagement. Rector communication is shown to have very beneficial impact.
 Constraints	• What were the constraints and challenges encountered during the implementing of the practice? How were they addressed? Some partners were not very community engaged early on. Can be very time consuming – relies on gathering a lot of data (institutional self reflective learning journey (constrained by amount of practices that HEI has). Definitely important to include students – needs buy in from all stakeholders early on to avoid later criticism.

 Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? Link to CE and SDGs. Focus on EU policy in this area. New Bologna process. European Universities initiative has focus on CE. Tool supports this. • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? Learning from each other – partners. Growing network in this area of partners using tool. • How does the practice contribute to risk reduction and resilience in your institution? Tool allows for replication and common framework involving best / good practice. Without being about numbers.
 Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. Website. Tool available under creative commons license – open access rosouce. Full media guides on how to utilize tool. Webinars, online coaching, etc.. part of network. • What is technologically ambitious or innovative within this practice? Consideration to developing online like HEInnovate but may loose narrative elements. This is open discussion.
 Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? Yes lots of examples. Allows for context specific application in different contexts. • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? Using online resources. Webinars. Examples of universities that successfully impleted on their own using online stuff. Some HEIs had mentoring support but maybe not critical. • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? Tool allows for broad definition of CE so should be very scalable across different contexts. A lot of policy work underway around prioritizing CE. Language may be issue but tool is being translated at the moment. Scaling across locations might have language challenge for joining together. Need for travel – can't replicate the onsite learning and physical engagement – peer learning. • What is your vision for replicating or upscaling this practice across EUt+? There is possibility and should be good model. Would need coordinating resource to support this.

	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). Lots of testimonies from partners. Each of the four reports has testimony from rectors of involved institutions – see: TEFCE Toolbox piloting reports (https://www.tefce.eu/publications) • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice. In the case studies online on website
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) www.tefce.eu everything there.
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? Academic papers, seminars, conferences, media, book chapters, policy directives and meetings, webinars, social media twitter linkedin etc, podcasts • How does such dissemination show the success and effectiveness of the practice? Positive feedbacks, impression analysis of online engagement tracked, interest from new HEIs in EU and beyond EU (Americas) • What sort of data is accessible that can help to review this practice? Online in website.
	Contact details	• Emails to contact for more information on the practice. emma.obrien@tudublin.ie

CETUD2: Programme for Students Learning With Communities (CERL) (TU Dublin)

Title Programme for Students Learning With Communities (Community Engaged Research and Learning (CERL)

Subtitle The award-winning Programme for Students Learning With Communities supports staff, students and community partners to engage in community-engaged learning and research (also known as service-learning, community-based research, or Science Shop) across TU Dublin City Centre campus.

Students Learning With Communities involves TU Dublin City Campus staff and/or students collaborating with underserved community partners (local groups, not-for-profit organisations, charities

etc) to develop real-life projects for mutual benefit. Learning comes alive for the students as they work on these projects with community partners, developing professional transferable skills, and enhancing their understanding of their specialist subject skills and of the community they work with. Students receive course credits for their work, as these projects are embedded into their studies.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
TU Dublin	Good practice Definition here * also include *Results* and *Impacts* of the practice	Ongoing since 2008	Community Engagement	Catherine Bates, catherine.bates@tudublin.ie

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation
Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) **Ireland – in particular Dublin region**
Actors and stakeholders	• Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)? **Students, academic staff, civic organisations and communities**
Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) **Benefits students, staff, and underserved community partners by supporting the integration of Community Engaged Research and Learning (CERL) into the curriculum across the University**

	How many are they? (provide disaggregated data by student numbers, etc. where available) More than 1,000 students per year are involved in CERL projects. 1 in 3 full time UG programmes offer students this opportunity. Dozens of academic staff and community partners collaborate each year. Over 11,000 students in collaboration with over 110 Community Partners, since it started in 2008.
 Context	• What was the initial situation/ specific context? To address TU Dublin mission to be a vibrant, professional hub connecting TU Dublin students and staff to local, national and international communities, by linking learning with real life application, for mutual benefit
 Challenge	• What are the specific challenges the practice is trying to address? Supporting the integration of Community Engaged Research and Learning (CERL) into the curriculum across the University
 Objective and key resilience dimension	• Brief description of the practice The programme for Students Learning With Communities provides a 1-to-1 tailored service for lecturers and community partners who would like to collaborate on projects with students. • What are the specific objectives of the practice? To encourage, support and develop the practice of community engaged research and learning within programmes across TU Dublin. To produce socially conscious graduates with applied and transferable professional skills. To build sustainable relationships with community and voluntary organisations. To create appropriate links with industry in support of community-based learning and community-based research. To collaborate with national and international educational institutions to advance best practice in the area. • What are the main factors of the practice which contribute to strengthening the CE? Community partners become part of the teaching process through the collaboration, contributing their knowledge and expertise, and increasing the relevance of TU Dublin research and programmes of study. The processes and outcomes of the collaborative projects are designed to further the community's goals. These projects give all participants the opportunity to engage in critical thinking, and ultimately aim to energise participants to work for social change.

- How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points.

Lecturers may not know of community organisations interested in collaborating with them, so staff on the Programme for Students Learning With Communities meet a range of community organisations individually. They brainstorm with them to generate ideas for student projects in various subjects, and share these project ideas from communities with interested lecturers. Once a lecturer finds an idea from a community partner that could fit their module, programme staff set up a meeting to introduce them, and support the partners to collaboratively design the projects that the students will work on. The programme also supports lecturers and community partners with any challenges they encounter during the projects.

- How is information gathered within the practice?

There are currently designated staff to support these partnerships only on City Campus.

CERL projects are largely supported through existing QA processes, as all projects are built into modules on new or existing programmes. These projects are generally very well received by School and Programme review panels, due to the authentic learning opportunities they provide for students at all levels. The broader partnership and community engagement work required to support CERL projects does not currently fall clearly under any QA path or process

Methodological approach

- How are data compliance and protection issues addressed?

TU Dublin ethics committee establishes the guidance and approval of research ethics where appropriate. The range of work involves different issues. A set of principles to guide students and principles to guide staff are publicly available.

- Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)?

The programme specially targets underserved communities (e.g. charities, NGOs, social enterprises). The principles ensure that students reflect on, question, and challenge, the causes and effects of inequality and disadvantage in society.

CERL also increase diversity and inclusion in the curriculum and the classroom by bringing in a range of community partners.

- Specify time frame and implementation cost, if

	available Varies depending on the project but as it is integrated into the curriculum projects usually of a short term either over one or two semesters. • What resources were used in the implementation? There are designated staff that support the partnerships on our City Campus. The projects themselves however are part of the curriculum and co-designed by lecturers in collaboration with underserved communities.
 Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? The programme was recently developed into a case study for TU Dublin's Cinnte review (QQI from independent stage agency). TU Dublin collaborates with national and international partners on research and other projects to support and enhance CERL (e.g. coordinating the University's involvement in three EU-funded projects: FP7 project PERARES (2010-14), Horizon 2020 project EnRRICH (2015-18) and Erasmus+ Strategic Partnership CIRCLET (2019-22)).
 Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? Programme staff coordinate formal recognition of CERL for students nad community partners. The programme team also oordinate formal recognition for CERL, for students and community partners (annual awards events, and previously, biennial DIT President's Community Fellowship conferrings). • Provide a brief description of the good practice validation process. The programme team collects feedback at the end of every project and also promotes the work for all stakeholders. Specifically with regards to QA processes, as CERL projects are built into modules on existing and new programmes, they fall under existing processes. In addition to supporting these, programme staff have developed, had validated, and delivered (or co-delivered) two new modules: - a non-discipline specific Postgraduate module in community engaged research, co-delivered for several years with the School of Media (funded through PERARES). - a 5 ECTS postgraduate online CPD module for academic staff on how to reimagine modules to include community engaged research and learning.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)	

Results	• What results have been achieved through the implementation of the practice? The Programme has supported projects involving over 11,000 students in collaboration with over 110 Community Partners, since it started in 2008. Approximately 1 in 3 TU Dublin City Centre undergraduate programmes offer students opportunities to become involved in collaborative projects with communities. Programme staff have developed, had validated, and delivered (or co-delivered) two new modules: - a non-discipline specific Postgraduate module in community engaged research, co-delivered for several years with the School of Media (funded through PERARES). - a 5 ECTS postgraduate online CPD module for academic staff on how to reimagine modules to include community engaged research and learning
Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? Community engaged learning is identified as a high-impact learning activity. Examples of projects and impacts can be found online on: https://arrow.tudublin.ie/civpostbk/ • How have beneficiaries' experience been improved economically, socially and environmentally? Projects focus on underserved communities and supports community goals. By their nature these projects always address the UN SDGs • How is this practice impactful on underrepresented groups – especially underrepresented student groups? The student principles make statements to this regard: We respect the prior learning and expertise of all those we work with. to ensure that students reflect on, question, and challenge, the causes and effects of inequality and disadvantage in society. allow students to make sense of their experiences and to learn about themselves as learners Staff principles suggest: We respect the prior learning and expertise of all those we work with. aim to ensure that all participants benefit equally from the experience align our goals, vision and mission with those of TU Dublin which places equality as fundamental. • Are these impacts validated by data and monitoring

		and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? CERL projects are largely supported through existing QA processes, as all projects are built into modules on new or existing programmes. These projects are generally very well received by School and Programme review panels, due to the authentic learning opportunities they provide for students at all levels. The broader partnership and community engagement work required to support CERL projects does not currently fall clearly under any QA path or process. A case study was written up for the Cinnte review (state independent agency) • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? Projects are co-designed curriculum based. A team of coordination staff are needed relative to the numbers of projects and students involved. A number of funded EU projects branch off this one – e.g. CIRCLET is an Erasmus+ Strategic Partnership project that supports evaluation and development of the work.
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? High level commitment to the approach is needed. A team of coordinators would also be needed to manage and develop partnerships and for other coordination. Leveraging other funding sources can help the work to develop. Engagement with academic staff and the engagement of students is critical as it is a curriculum based initiative.
	Constraints	• What were the constraints and challenges encountered during the implementing of the practice? How were they addressed? The project traditionally was a City Campus project of TU Dublin so resources tend to be housed there. Projects may constrained by the size of the programme support team.
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? Inherently aligned with SDGs

		• How does the practice contribute to risk reduction and resilience in your institution? Participatory features of the work and its embeddedness and co-design approach in the curriculum help to manage risks such as costs, etc.. Years of experience, evaluation and recognition contribute to positioning TU Dublin as being highly recognized for excellence in CE.
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. • What is technologically ambitious or innovative within this practice? Projects vary widely addressing community needs. Notwithstanding, there are many projects that are high tech and technologically ambitious. For example, - Third year Computer Science students partnered with adults with intellectual disabilities, and lived accessibility experience, supported by St John of God Liffey Services, to co-design accessible apps.
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? The CPD module is unique in Europe and had its first run in 2020/1 had participants from 4 universities across the EU involved in peer learning. Campus Engage https://www.campusengage.ie/about-us/about-campus-engage/ provides a tool kit and other supports for this approach and is dedicated to supporting Irish higher education institutions to embed, scale and promote civic and community engagement across staff and student teaching, learning and research. • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? This can be easily replicated with high level commitment and the development of a coordinating team to support and manage partnerships and projects. • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? • What is your vision for replicating or upscaling this practice across EUt+? A common CE framework / approach should be developed within EUt+ and this CERL is trialed and tested over many years. It is not necessarily a framework – a framework could sit on top of this for the actual engaging process.
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness

		of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice. There is a huge scale of projects over the years and testimony / narratives can be found on social media or directly from the coordinating team / lecturers. Links to twitter events and awards, etc.. https://www.tudublin.ie/connect/communities/slwc/.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) https://www.tudublin.ie/connect/communities/slwc/ https://www.campusengage.ie/ https://www.tudublin.ie/connect/communities/slwc/circlet/ https://www.tudublin.ie/connect/communities/slwc/annual-awards-2021/ https://arrow.tudublin.ie/civpostbk/
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? Posters in Arrow give some examples of projects. Also dissertation projects, lectures, recorded seminars and other multi media material. • How does such dissemination show the success and effectiveness of the practice? The approach has a proven track record and has developed over the years to also include: capacity-building workshops, webinars and other professional development for those involved in CERL, networking events formal recognition for CERL collaboration with national and international partners • What sort of data is accessible that can help to review this practice? A wide range of data is available including websites noted above.
	Contact details	• Emails to contact for more information on the practice. Dr Catherine Bates, Programme Coordinator for Students Learning With Communities

CEUPCT1: School of Summer (UPCTCOLE) (UPCT)

Title: *UPCTCOLE*

In 2007, the UPCT launched the School of Summer "UPCTCOLE". Since then, and without interruption, this initiative has taken place every summer coinciding with the school vacation period and with a basic objective:

To offer a service that allows all members of the University Community to reconcile their activity with comprehensive care for their children. This service is also open to external people.

With a wide schedule, from 7:45 a.m. to 3:15 p.m. including lunch service, children from 2 to 16 years old can register, who are distributed in groups according to their ages, allowing, in this way, that activities can be carried out in the most homogeneous way possible.

At UPCTCOLE the children find a safe place in the company of instructors/and peers of the same age at the same time they carry out a program that makes them fully enjoy their vacation through attractive recreational, sports, cultural and STEM activities. UPCTCOLE is focused on the transversal themes of the educational curriculum. Each week a different transversal theme is worked on to develop skills related to communication linguistics, maths, science and technology, digitalization, social and civic competencies, sense of initiative and entrepreneurial spirit or awareness and cultural expressions. These activities are combined with IT, Sports, Language, Swimming Pool, outdoor activities. Since the summer of 2014, it has been betting on a bilingual edition.

In order to extend this activity to the rest of the vacation periods, in 2018 UPCTCOLE was also open for Christmas and Eastern time. These workshops are planned with the goal of reconciling family life with work, but also as family activity. Every day and during a part of the schedule, those fathers or mothers who wish can participate in the activity together with their sons and daughters (for example: "Art in wood" or “Tree of life”).

Subtitle: Key Achievements

> 14+ years editions.

> 1000+ academic staff and non-academic staff.

> 1+ incoming professor.

> 3101 children, 1049 internal users (family of academic and non-academic staff).

>81 internal and 158 external children per year

> 64% Academic Staff and 36% Non-academic staff

> 6+ weeks in summer, Christmas and Easter workshops

> Social skills, language skills, computer and new technologies skills, STEM skills

> Sports, excursions, leisure and free time activities

> Open activity for all Citizens of Cartagena 2052 external users

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
UPCT	**Good practice**	**June-September since 2007**	**Community engagement**	**Francisco Martínez Mendoza** Paco.martinez@upct.es

Good Practice Elements

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) Spain, Murcia, Cartagena (implemented) Replicated by Murcia University
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders (academic/ industry/ technical/implementing/financial/etc.)? Academic staff, non-academic staff, children, citizens in general and company devoted to leisure and free time activities

	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) • University staff and Cartagena citizens who need to balance family-work life • University staff and Cartagena citizens who want to introduce their children to STEM activities • Children between 2 and 16 years • How many are they? (provide disaggregated data by student numbers, etc. where available) **> 1000+ academic staff and non-academic staff.** **> 1+ incoming professor.** **> 3101 children, 1049 internal users (family of academic and non-academic staff).** **>81 internal and 158 external children per year** **> 64% Academic Staff and 36% Non-academic staff** **> Open activity for all Citizens of Cartagena 2052 external users**
	Context	• What was the initial situation/ specific Problems related to family-work balance during school vacations (summer and Christmas and Easter time). When this activity was initiated in Cartagena city there was not a service that combined children care and education.
	Challenge	• What are the specific challenges the practice is trying to address? To offer a service to facilitate family-work life balance considering as a key feature the supply of an educational programme based on soft skills, creativity, sports and STEM initial acknowledgement. Children are encouraged to develop social skills by means of the network linked to the activity.
	Objective and key resilience dimension	• Brief description of the practice • The activity is developed in the university facilities (computer lab, scientific labs, classroom, SALON ACTOS, swimming pool, sport facilities, cafeteria…) • Children are grouped by age considering an interval of three years, motivating smaller one learning from the elders. At the same time responsibility is enhanced in the older children. • The week activity (computer, science, language, sports, team work, creativity…) is organised around a common

		theme. The output of these activities is shown and shared with the community at the end of the week. In this event, communication skills are crucial. • A wide range of timetable and flexibility is offered including lunch service. • Both academic and non-academic staff collaborate with activities related to their job. The aim here is to facilitate that the children value/know their parents` job. • An external company specialized in leisure and free time. • UPCT Cole is partially funded by the university for university staff. • What are the specific objectives of the practice? To achieve family-work balance To offer an alternative activity that goes beyond just filling the free time of the children, holistic overview To partially involve parents in the activity To open the university to Cartagena citizens • What are the main factors of the practice which contribute to strengthening the internationalization and optimizing mobility experiences? Researchers from other universities can also use this service in case they need while they develop their stay at UPCT.
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. • A first analysis about the target group was done. At the beginning, as a young university a high percentage of the staff was starting their family. This analysis showed a key need presented in both academic and non-academic staff. • University staff was asked to say at what extend they would use the service. • The university developed the list of activities needed, classifying those that should be developed by the university and those assigned to the specialized company in leisure and free time. • Activity is assessed regularly in order to identify those activities that are working well and those that need to

		improve or abandon. • It was offered by the first time in summer holidays (most demanded period), and the rest of the years it was also offered at Christmas and Eastern. • The activity is in first place offered to the university community and if there are more vacancies, external people can apply. This process is done by means of a website where all the information is uploaded. • Permanent coordination between the company and the responsible person at the UPCT. • How is information gathered within the practice? • **https://www.extracole.es/upctcole/21/** • https://www.upct.es/recursos_humanos/secciones2.php?id_categoria=6&ambito=0&op=3 • https://www.extracole.es • How are data compliance and protection issues addressed? - Data is processed according to the law. This point is crucial as we are talking about minors. • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? Everybody has equal opportunities for participation regardless of gender or disability. In case there is a child with disabilities all the activities are adapted and special support are planned. • Specify time frame and implementation cost, if available Holidays COST From 16% save for 1 week to 25% save for 6 weeks activity UPCT fund Cost of COVID-19 adaptation of activities (1350,15€) • What resources were used in the implementation? • University Facilities • Central services
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? • Parents evaluate the programme upon completion (surveys).

		• Continuous feed-back from children. • Open communication channels. Everyday parents give their feedback, and any problem is solved immediately. • At the end of the activity period a final meeting between the specialised company and the UPCT takes place in order to achieve a continuing-improvement
☑	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? Parents, and monitors evaluate the programme. • Provide a brief description of the good practice validation process. UPCT Cole has been recently awarded with Fundación Alares 2021.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
✳	Results	• What results have been achieved through the implementation of the practice? > 14+ years editions. > 1000+ academic staff and non-academic staff. > 1+ incoming professor. > 3101 children, 1049 internal users (family of academic and non-academic staff). >81 internal and 158 external children per year > 64% Academic Staff and 36% Non-academic staff > Open activity for all Citizens of Cartagena, 2052 external users
✳	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? Economic impact in university staff Up to 25% savings Increase in children the knowledge about STEM Grandparents are released from their grandchildren care. Impact was monitored and evaluated using different tools (including surveys and interviews). • How have beneficiaries' experience been improved economically, socially and environmentally?

		Children improve their soft skills and STEM knowledge whilst university staff is engaged in the programme enhancing the bond with the university. SDG are transversally included in the activities. This project has had a relevant impact in grandparent's life and health, as in Spain they play a key role when it comes to grandchildren care. • How is this practice impactful on underrepresented groups – especially underrepresented student groups? This project is available for everybody who needs it • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? See previous points. • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? The project is partially funded by the university, assuming part of the cost linked to the service that university staff enjoy.
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? Need for this service at the university Need for the university facilities where to develop the project Need for university staff implication
	Constraints	• What were the constraints and challenges encountered during the implementation of the practice? How were they addressed? Planification is fundamental in order to avoid any collision between UPCTCOLE and the university activity (classes, research, exams etc…) Having minors at the university requires special attention to factor such as security etc… in this point prevention risk services at the university play a key role as well as technical and maintenance services.
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? The practice is economically, socially, environmentally and institutionally sustainable. • What are the key elements to put in place for the practice

		to be institutionally, socially, economically and environmentally sustainable? **Institutional commitment, university staff involvement, central services (technical and maintenance services among others).** • How does the practice contribute to risk reduction and resilience in your institution? **This project contributes a lot to the institution resilience as it makes easy for the employees their children care at the same time that they create bonds by means of their children.**
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. **Some of the activities developed at UPCTCOLE are technologically oriented, such as:** **Computing/Informatics workshops** **Robotics workshop** **Science and experimental activities workshop** **Mathematical logic** • What is technologically ambitious or innovative within this practice? **The access to labs and technological campuses favours the integration of innovation in the children mindset.**
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? **This practice has been implemented in different higher institution contexts with similar configurations and modalities.** • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? **Budget, facilities, size of the target group and scarce of substitutive services.** • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? **N.A.** • What is your vision for replicating or upscaling this practice across EUt+? **The availability of this service in EUt+ partners could increase staff mobility during vacation period specially during summer.**
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with

		names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). 2021 "The activities are fun and my children are very happy with the teachers. Furthermore, there is a familiar relationship with the teacher as they are the same year after year" "It has been a very good experience; teachers are very devoted to their job! Children really enjoyed" "Outdoor locations should be improved" 2019 "Price is too high, it should be reduced even further for UPCT community, specially when more than one child belongs to the same family" "Summer timetable is great. I would like to highlight this year theme and the organization of the activities" "Robotics, reading, English and swimming pool" "Building devoted to this activity should be only use for UPCTCOLE" 2018 "The best summer school ever" "The attention and care devoted to the children" "Equality should be included in the activities" • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) **https://www.extracole.es/upctcole/21/** https://www.upct.es/recursos_humanos/secciones2.php?id_categoria=6&ambito=0&op=3 https://www.extracole.es

	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? **Web** **Emails to UPCT community** • How does such dissemination show the success and effectiveness of the practice? **Demand for the activity and testimony.** • What sort of data is accessible that can help to review this practice? **Parents have to authorised the distribution of pictures and other material that involve children image. See resources ate web page.**
	Contact details	• Emails to contact for more information on the practice. paco.martinez@upct.es

CEUPCT2: University program aimed at the elderly (UMAY) (UPCT)

Title: *UMAY (Universidad de mayores)*

The "UPCT university program aimed at the elderly" is an ambitious scientific and cultural development project, aimed at promoting science and culture within this collective, while making it a useful instrument to promote inter-generational relationships.

The program was developed from the perspective of serving as a school of life, where consideration of the ideas of others, the broad vision of diversity, respect, tolerance and cooperation are contemplated.

This activity started in 2005 with a program based on three-year course. It has generated other two programs demanded by the participants. This is a key evidence about the success of UMAY. The first one was “Aula permante” (Permanent classroom) and recently the “Curso Senior de Especialización” (Senior specialization course).

Subtitle: Key Achievements

> 15+ years editions.

> 100+ academic staff and non-academic staff involved as teachers.

> 30+ subjects offered.

> 5000+ elder students since the beginning.

> Collaboration in teaching with relevant people in the society (Keynote speakers)

> Sports, excursions, leisure and free time activities.

> Open activity.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
UPCT	Good practice	October-June-since 2005	Community engagement	Sergio Amat Plata sergio.amat@upct.es

Good Practice Elements

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) Spain, Murcia, Cartagena (implemented) Replicated by Murcia University
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders (academic/ industry/ technical/implementing/financial/etc.)? Academic staff, non-academic staff, elders, university students

	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) Main beneficiaries • Aimed at people over 50 years of age, regardless of their academic training. It may also be taken by those who, without having reached this age, can prove that they are retired, early retired, as long as the places initially offered have not been filled. Others • University staff and ordinary students as they benefit from the relations that UMAY provides. • How many are they? (provide disaggregated data by student numbers, etc. where available) **> 100+ academic staff and non-academic staff involved as teachers.** **> 5000+ elder students.** **> All the ordinary students**
	Context	• What was the initial situation/ specific The UMAY project is similar to other developed in other universities. When UPCT was founded in 2000, this age group show high expectation. Expectation that had to be fill with the UMAY program. When this activity was initiated in Cartagena city there was not activities addressed to this age group.
	Challenge	• What are the specific challenges the practice is trying to address? To integrate this age group in the cultural activities constituting an intersectionality vision of reality. Problems associated with this age group, such as loneliness, isolation, loss of cognitive abilities are fought with this initiative. Relationships between these people and young people are fostered and new help scenarios are created in both directions.
	Objective and key resilience dimension	• Brief description of the practice • The activity is developed in the university facilities (computer lab, scientific labs, classroom, SALON ACTOS, swimming pool, sport facilities, cafeteria…) • The UMAY is structured in three academic courses, divided into two semesters per course, with four subjects being carried out in each semester. All subjects have a study load of 25 hours.

		• The subjects are taught by university professors, emeritus and other qualified professionals. • https://servicioestudiantes.upct.es/downloadFile/8zy84aXyqV • The program is complemented with extracurricular activites by means of: Permanent classroom, senior specialization courses and other cultural activities such as excursions, sports and a study trip (last year). • UMAY is partially funded by the university and the students fee is around 100 € per year. • What are the specific objectives of the practice? To achieve healthy live of elders To offer an alternative activity that goes beyond just filling the free time of the elders, holistic overview To partially involve academic staff and non-academic staff in the activity To promote the relationships between university students and UMAY students To open the university to Cartagena citizens • What are the main factors of the practice which contribute to strengthening the internationalization and optimizing mobility experiences? N.A.
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. • A first analysis about the target group was done. At the beginning, benchmarking analysis based on other universities showed us the appropriate approach and methodology especially in relation to the number of credits and years. Most of the programs were based mainly on arts and humanistic subjects, but at UPCT UMAY program also included since the very beginning technological subjects. • University staff was asked to say at what extend they would like to be involved in UMAY identifying the subjects more suitable, doing the curricular adaptation for the age group. This adaptation is an ongoing process. In this sense, the offer of subjects is updated thanks to new proposals from academic and non-academic staff.

- Teachers assess student progress considering both concepts, attendance and participation. Being attendance the most valued item. Students elaborate a final UMAY project that is presented to the rest of students at the end of the program.
- Quality assessment is designed based on the principal of the regular programs at the UPCT (surveys to UMAY students and teachers at the end of the semester).
- UMAY is such as demanded program that at UPCT that there is staff only devoted to this program.
- Since UMAY is organised in the university facilities, an assurance similar to the one benefited by regular students is issued.
- How is information gathered within the practice?
  - Anonymous surveys
  - https://www.upct.es/contenido/umay/04_universidadmayores.php
  - https://servicioestudiantes.upct.es/umay
  - http://umayasociacion.blogspot.com/
  -

- How are data compliance and protection issues addressed?

- Data is processed according to the law. UMAY students belong to the university community in this sense the law and procedures developed for regular students are also applicable to them.

- Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)?

Everybody has equal opportunities for participation regardless of gender or disability. In case there is an UMAY student with disabilities all the activities are adapted and special support are planned. In fact, activities are organised in the locations that better fits with inclusion.

- Specify time frame and implementation cost, if available

October-June

Due to the work load that UMAY involves, two full time non-academic staff are hired.

COST 70.000 euros

- What resources were used in the implementation?
  - University Facilities
  - Central services

		• Specific classroom devoted to UMAY • Virtual room • Academic software
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? • UMAY students and teachers evaluate the programme upon completion. • Open communication channels between UMAY students and the two non-academic staff linked to administrative issues. • UMAY activities (program plus others) are approved by the student commission from the Governing Board.
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? See previous section. • Provide a brief description of the good practice validation process. The demand for this activity has increased year by year. This fact shows that UMAY fulfil the main objective and satisfy the main beneficiaries. Surveys for each subjects are also evidence used to validate the appropriateness of the activity.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice? > 15+ years editions. > 100+ academic staff and non-academic staff involved as teachers. > 30+ subjects offered. > 2300+ elder students since the beginning. Creation of UMAY student association http://umayasociacion.blogspot.com/ Handbook for PBL/VET methodology.
	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? Increase in UMAY students the knowledge about STEM, arts and humanity discipline. This impact is monitored by means of the grade/marks they get in each subject.

		Increase in UMAY student relationships. Evidence about this is the UMAY student association. This association organises extra-curriculum activities. Impact is not monitored directly but we do it indirectly by means of the open communication channels. Regular students' awareness about the importance of this group age in society increases. The same can be considered when it comes to academic and non-academic staff involved in UMAY. This impact is not monitored or measured. • How have beneficiaries' experience been improved economically, socially and environmentally? See previous section. • How is this practice impactful on underrepresented groups – especially underrepresented student groups? UMAY is available for everybody who needs it and who accomplishes with the selection criteria. • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? See previous points. • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? UMAY is mostly funded by the university. The total cost is 70.000 euros The social benefits have to do with community integration and university openness to the society, looking at an age group especially vulnerable. Economics benefits can be found in the increase of UPCT reputation.
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? Budget Need for the university facilities where to develop the project Need for university staff's implication
	Constraints	• What were the constraints and challenges encountered during the implementation of the practice? How were they addressed? Planification is fundamental in order to avoid any collision between UMAY and the university activity (classes, research, exams etc…)

		Having elders at the university requires special attention to factor such as universal design etc…
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? The practice is socially, environmentally and institutionally sustainable. • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? Institutional commitment, university staff involvement, central services (technical and maintenance services among others). • How does the practice contribute to risk reduction and resilience in your institution? See previous sections.
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. Some of the activities developed at UMAY are technologically oriented INTR. HISTORY OF TECHNOLOGY ANALYSIS TECHNIQUES. FOOD AND PRODUCT COMPONENTS COMPUTER AND INTERNET APPLICATIONS. ELECTRONIC TECHNOLOGY HISTORY OF SCIENCE AND TECHNIQUE COMPUTER SCIENCE: PRESENT, PAST AND FUTURE. The Online Platform was used during covid 19 pandemic. In this sense, UMAY students were training in the use of these technologies. • What is technologically ambitious or innovative within this practice? Due to the age group considered in UMAY, introducing and progressing in new technologies is an ambitious approach.
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? This practice has been implemented in different higher institution contexts with similar configurations and modalities. • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? Budget and institutional commitment. • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)?

		N.A. • What is your vision for replicating or upscaling this practice across EUt+? To implement UMAY with participants from the EUT+ consortium can be a factor that promotes international mobility and relationships among their participants. Wealth in cities involved in EUT+ can be increased.
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). ***http://umayasociacion.blogspot.com/*** ***https://servicioestudiantes.upct.es/downloadFile/d2ydwxBO10*** ***https://www.upct.es/saladeprensa/imagenes_detalle.php?id=319*** • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) **https://servicioestudiantes.upct.es/downloadFile/8zy84aXyqV** **https://www.upct.es/contenido/umay/04_universidaddemayores.php** **https://www.upct.es/contenido/umay/docs_umay/2019/INSTRUCCIONES_PROGRAMA_MAYORES_UPCT%202019-2020.pdf** https://www.upct.es/contenido/umay/04_universidaddemayores.php https://servicioestudiantes.upct.es/umay http://umayasociacion.blogspot.com/
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? Web Radio, press etc… • How does such dissemination show the success and effectiveness of the practice?

		The increase in the demand and people interested in UMAY. • What sort of data is accessible that can help to review this practice? See previous section (resources)
	Contact details	• Emails to contact for more information on the practice. sergio.amat@upct.es pedro.lujan@upct.es vicalum@upct.es

CEUPCT3: Campus de la Ingeniería (UPCT)

Title: *Campus de la Ingeniería UPCT*

The Campus de la Ingeniería UPCT is an educational and cultural project organized by the Polytechnic University of Cartagena (UPCT). This Campus has the collaboration of the Spanish Foundation for Science and Technology - Ministry of Science, Innovation and Universities and with the Seneca Foundation dependent on the Ministry of Employment, Universities and Business. Its purpose is to present science and technology in an attractive and motivating way.

The Campus de la Ingeniería is an activity for the dissemination, communication and promotion of scientific and technological knowledge. Due to the current health situation, the Campus adapts to a blended format in order to reach the largest possible number of students.

Subtitle: Key Achievements

> 4500+ students were reached through our dissemination and communication activities

> 13+ science and technology-related companies took part in the last edition

> 50+ university students participate as volunteers

> 55+ science and technology workshops developed by UPCT staff and university students

> 100+ academic and non-academic staff (professors, administrative and service staff and university students) participate with workshops

> Annual course for teachers responsible for primary and secondary school workshops that involve working with their students in the classroom on science and technology topics. This course is developed by the 'Centro de Profesorado y Recursos de la Región de Murcia'

> Publish an annual report

Key features of good practice

University or Institution	Promising or	Implementation date or period	Type of problem /	Contact point

where good practice identified	good practice		needs addressed	
UPCT	Good practice	February-May since 2012	Community engagement	José Luis Serrano Martínez (jose.serrano@upct.es)

Good Practice Elements

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) **Spain, Murcia, Cartagena (implemented)**
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders (academic/ industry/ technical/implementing/financial/etc.)? **Academic staff, non-academic staff, university students, primary and high school students from the Region of Murcia and their teachers, Science and technology-related companies and institutions**
		•
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) • **University staff, university students, primary and high school students and teachers from the Region of Murcia, companies, and institutions.** • **Children between 3 and 17 years** • How many are they? (provide disaggregated data by student numbers, etc. where available) **> Children (primary students)** **> Pre-university students** **> University students** **> Academic staff** **> Non-academic staff** **> Teachers**

	Context	• What was the initial situation/ specific This activity was created with the idea of encouraging vocations in engineering, science and technology, and a taste for knowledge among young people. In the same way, it was also intended to stimulate the teaching of science, incorporating active and investigative methodologies in classroom programmes and thus improve skills.
	Challenge	• What are the specific challenges the practice is trying to address? To promote the dissemination and social communication of engineering, science, and technology as an integral part of our cultural heritage. To encourage the development of an entrepreneurial spirit and innovative capacity among the participating students. To create a meeting place between the world of research, educational centres, companies, the university and with the public.
	Objective and key resilience dimension	• Brief description of the practice • The activity is developed in the university facilities (computer labs, scientific labs, classrooms, conference halls, outdoor courtyard…). • The main protagonists are the primary and high school students' workshops, which are in stands in the outdoors, also with Technological Workshops of the UPCT and collaborating companies. • Participating students are grouped by school and school year. • A series of science and technology workshops are offered over three consecutive days, as well as talks and exhibitions. In this event, communication skills are crucial. • Academic and non-academic staff and university students collaborate with different activities. • What are the specific objectives of the practice? To encourage vocations in Engineering, Science and Technology, and the interest in scientific and technological knowledge among young people. To bring the professional world closer to students and to highlight the attractiveness of the professions to which Engineering, Business and Architecture studies at the UPCT lead. To promote scientific and technological culture among the non-

		specialist public. To open the university. What are the main factors of the practice which contribute to strengthening the internationalization and optimizing mobility experiences? Encouraging Erasmus students to participate as volunteers. Could be expanded including EUt+ students and staff.
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. • A first analysis about the target group was done. The original objective was to present science and technology in an attractive and motivating way and to attract future students. • The University invites its staff to participate by developing workshops. • Contacting companies that may be interested in collaborating and educational institutions that would like to participate with their own workshops. • The university draws up the list of workshops, talks and exhibitions offered, classifying those to be developed by the university and those carried out by companies and educational centres. • To invite educational institutions to register their students and to select which activities are they interested in. • To select participants and send all the information about the activities in which they will participate. Buses are hired by the University for those centres that need them to reach the facilities. Renting stands, tables, chairs and other material necessary for the workshops. • Activity is assessed regularly in order to identify those activities that are working well and those that need to improve or abandon. • How is information gathered within the practice? **Website:** campusdelaingenieria.upct.es/ **Email:** campus.ingeniería@upct.es **Videos:**

		https://youtube.com/playlist?list=PLKkmVNzl6WQ2a7Um_4q_EwFaEwKjzvbHR https://youtube.com/playlist?list=PLKkmVNzl6WQ0qsyl39pWw9bEyX9YjYrY3 https://youtube.com/playlist?list=PLKkmVNzl6WQ0WYndlvEbNpKt84xCwSjo2 **Newsletter:** https://www.upct.es/saladeprensa/ver_boletin.php?n=330 • How are data compliance and protection issues addressed? - Data is processed according to the law. This point is crucial as we are talking about minors. • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? Everybody has equal opportunities for participation regardless of gender or disability. In case there is a child with disabilities all the activities are adapted, and special support are planned. • Specify time frame and implementation cost, if available October: contacting the 'Centro de Profesorado y Recursos de la Región de Murcia' for the implementation of the course for school and high school teachers. January: internal university call for proposals for workshops, lectures and exhibitions. February: contact with companies and institutions for their participation in the event. March: updating the contents of the website and sending a mass mailing to schools and high schools to invite them to register. April: Close the registration and make the selection of participating centres, making an individualised visit to each one. Hiring the buses and material necessary for the event (tents, material for workshops, stands, etc.), Meeting with student volunteers to explain their roles during the event. May: date of the event. After the event, compile the surveys and meet internally to assess and decide what could be improved for future editions. COST 35.000 € + 46.000 € from the internal call for workshops, lectures, seminars, etc.

		What resources were used in the implementation? University Facilities and co-funders
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? • Participating students evaluated the activity through surveys upon completion. • Open communication channels. Teachers and students could give their feedback, and any problem is solved immediately. • At the end of the activity period there is a final meeting between the UPCT staff in charge of developing the event to evaluate what has been achieved and to propose ideas for continuous improvement.
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? Yes, it has been validated. • Provide a brief description of the good practice validation process. Satisfaction surveys are conducted during and after the event.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice? > 4500+ students were reached through our dissemination and communication activities > 13+ science and technology-related companies took part in the last edition > 50+ university students participate as volunteers > 55+ science and technology workshops developed by UPCT staff and university students > 100+ academic and non-academic staff (professors, administrative and service staff and university students) participate with workshops > Annual course for teachers responsible for primary and secondary school workshops that involve working with their students in the classroom on science and technology topics. This course is developed by the 'Centro de Profesorado y Recursos de la Región de Murcia' > An annual report is published

	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? Increase in children the knowledge about STEM Impact was monitored and evaluated using different tools (including surveys and interviews). Dissemination have helped to increase student numbers in recent years Improving staff engagement with the university • How have beneficiaries' experience been improved economically, socially and environmentally? Children improve their STEM knowledge whilst university staff is engaged in the programme enhancing the bond with the university. • How is this practice impactful on underrepresented groups – especially underrepresented student groups? There is a wide participation of the university students (associations, competition teams) in this activity, so their work is fundamental in motivating and bringing science and technology closer to those who take part in the Campus de la Ingeniería. • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? See previous points. • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? The project is partly funded by the university, by FECYT (Spanish Foundation for Science and Technology, Ministry of Science and Innovation) and other collaborating companies (Banco Santander, Bankia, Sabic, Asamblea Regional).
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? University staff's implication (students, professors, administration and services staff) Interest from schools in getting to know the university and learning more about science and technology. Attract major companies to co-finance and give prestige to the event.

	Constraints	• What were the constraints and challenges encountered during the implementation of the practice? How were they addressed? Planification is fundamental in order to avoid any collision between *Campus de la Ingeniería UPCT* and the university activity (classes, research, exams etc…) Having minors at the university requires special attention to factor such as security etc… in this point prevention risk services at the university play a key role as well as technical and maintenance services.
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? The practice is economically, socially, environmentally and institutionally sustainable. • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? Institutional commitment, university staff involvement, central services (technical and maintenance services among others). • How does the practice contribute to risk reduction and resilience in your institution?
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. The activities developed at *Campus de la Ingeniería UPCT* are technologically oriented University workshops: https://campusdelaingenieria.upct.es/upct-lab https://campusdelaingenieria.upct.es/centros-2019 Companies' workshops: https://campusdelaingenieria.upct.es/empresas-2019 School and high school students' workshops: https://campusdelaingenieria.upct.es/colegios-institutos-2019 • What is technologically ambitious or innovative within this practice? The participation of university, high school and school students with their own workshops and activities, putting acquired knowledge into practice.
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? This practice has been implemented in different higher institution

		contexts with similar configurations and modalities (Science week in Murcia). • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? Awareness of the benefits of the practice and sufficient involvement of the academic staff. Funds from companies and institutions out of UPCT. • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? Involvement of UPCT community and awareness of the benefits of the practices in schools. Funds! • What is your vision for replicating or upscaling this practice across EUt+? We believe it can be done and it can be replicated in other universities at the local level.
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). • Testimonials: Video example: http://tv.upct.es/?vim=335087749&jwsource=cl Newsletter example: https://media.upct.es/portfolio/?id=538 News example: https://www.upct.es/destacados/cdestacados.php?c=6&ubicacion=general&id_buscar=10689 • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice. https://media.upct.es/portfolio/?id=538
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) • **Website: https://campusdelaingenieria.upct.es/** • Annual report: **https://www.upct.es/saladeprensa/docs/boletines/28101.Campus_Ingenieria_19_Memoria_Interactiva_web.pdf** • **Newsletter: https://www.upct.es/saladeprensa/ver_boleti**

		n.php?n=330 https://www.upct.es/saladeprensa/ver_boletin.php?n=298 • **Videos**: https://youtube.com/playlist?list=PLKkmVNzl6WQ2a7Um_4q_EwFaEwKjzvbHR https://youtube.com/playlist?list=PLKkmVNzl6WQ0qsyl39pWw9bEyX9YjYrY3 https://youtube.com/playlist?list=PLKkmVNzl6WQ0WYndIvEbNpKt84xCwSjo2
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? The practice has been disseminated in workshops, talks and exhibitions. • How does such dissemination show the success and effectiveness of the practice? The dissemination activities present the positive results of the projects supported by statistical evidence. • What sort of data is accessible that can help to review this practice? • **Website:** https://campusdelaingenieria.upct.es/ • Annual report: https://www.upct.es/saladeprensa/docs/boletines/28101.Campus_Ingenieria_19_Memoria_Interactiva_web.pdf
	Contact details	• Emails to contact for more information on the practice. jose.serrano@upct.es

CEUTCN1: OSUT Recrutează – Letter of Good News (UTCN)

Implementing the OSUT Cluj recruitment campaign

In order for OSUT Cluj to maintain a well-developed activity, new volunteers are required. Hence, the context for organizing the recruitment campaign OSUT Recrutează – Letter of

Good News is one in which we must present our work to new UTCN students and motivate them towards becoming a volunteer in the organization.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
Technical University of Cluj-Napoca (UTCN) OSUT Cluj – Technical University of Cluj-Napoca Students' Organization	Good practice Results: great recruitment experience within the new UTCN students, while also achieving a great organic reach via social media, thus increasing our popularity over online platforms.	September 23rd – October 3rd	1. Shortage of human resource within the organization	osutcluj@gmail.com

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation
Geographical Coverage	• Romania, Cluj-Napoca, UTCN

Actors and stakeholders	• UTCN local students, OSUT Cluj volunteers, UTCN international students, UTCN university staff
Beneficiaries	• UTCN students (direct, circa. 20000) • OSUT Cluj (indirect, circa. 300 volunteers)
Context	• OSUT Cluj is the only representative student organization that spans across all faculties of the UTCN. • Each year, OSUT Cluj organizes a recruitment campaign, welcoming all UTCN students to join their effort to fight for student rights and create projects that help building a better future for all students in the university.
Challenge	• Create a recruitment campaign appealing enough to attract enough students in order to satisfy the organization's demand
Objective and key resillience dimension	• Present OSUT Cluj's activity in an attractive manner and appeal to potential recruits • Recruit a certain number of students in the organization (2021's threshold was 250 students) • Transparency, valuable insights on the flow of the organization, student-friendly marketing campaign
Methodological approach	• A marketing campaign implemented on social media platforms that encouraged UTCN students to fill in a form and sign up for the recruitment interviews • The information is gathered via the form mentioned above. • All data collected from the students is confidential, disclosed only to the Human Resources department of OSUT Cluj, and used with the purpose of customizing the recruitment experience for each student • In the recruitment process we make no discrimination between students, regardless of race, ethnicity, gender or sexual orientation. Also, within our marketing campaign, testimonials

	from former volunteers that enforce our inclusive visions further strengthen our progressive perspective. • September 23rd – October 3rd; free of charge, the effort being supported entirely by volunteering • Human resource (volunteers promoting our organization within the university), social media marketing (Facebook, Instagram, LinkedIn), promotional materials (posters, stickers, T-Shirts), the cost being funded by OSUT Cluj.
Evaluation and continuous improvement	• Frankly, we believe that the campaign went well, although there is room for improvement when it comes to the data processing and interviews. However, we believe this has been one of the most successful recruitment campaigns in the last 5 years, especially judging by the results of the social media marketing performance and the effect it had on the students.
Validation process	• The performance of the practice has been validated by the recruits (interviewed and welcomed in the OSUT Cluj family. • Post-recruitment interviews of the recruits, in which they claim that the process has been a great one. • The volunteer attendance at the work-meetings hosted by OSUT Cluj, from which we may draw the conclusion that the recruits have become attached to the mission and activity of the organization through this practice.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)	
Results	• 459 students signed up, 292 accepted after the interviews (292 new OSUT Cluj members).

 Impact	• We have noticed a positive impact on our beneficiaries, motivating them to pursue new ambitions and contribute towards improving the academic medium in UTCN. • Economically and environmentally speaking, it has not improved, but socially it has improved greatly, being exposed to a new circle of people that are passionate about volunteering and creating projects for the students. • Because of our greatly inclusive policy of recruitment, the impact on the underrepresented communities has not been so great in the direct way. However, indirectly, the fact that they have the occasion to work together with other students towards implementing various projects comes with a positive indirect impact. • The impact can't be easily quantified through sheer data, since the activity itself is based around humans, and the impact itself is hard to pinpoint via measurements.
 Success factors	• Permission from UTCN to process students' personal data • Great interest from the students for the targeted-audience Facebook groups in which we share our recruitment campaign.
 Constraints	• Students that came up with unreliable information regarding availability for the interview, leading to great delays and disruptions during the interviewing process.
 Sustainability	• In all domains except economical (which is not relevant for this practice) the project is highly sustainable, since there will always be a demand in OSUT Cluj for new volunteers, and every year new students will join, potentially satisfying said demand.
 Technology	• Technology is crucial, since a vast majority of the recruitment campaign depends on efficient social media marketing and interaction with the students.

Replicating and upscaling	• Every semester, a recruitment campaign is organized. Replicating this practice is a crucial step for ensuring continuity in maintaining the human resource within the organization. • There is no need to replicate this practice in another socio-geographic area. • Across EUt+, replicating a similar practice would involve recruiting students from all the member universities of EUt+ and create a board of students that either make decisions relevant to the activity of EUt+ or implement projects that promote the values of EUt+
Testimony	• Testimonies from former beneficiaries of this practice have been taken throughout the years, with each recruitment session, this campaign being called #peopleOfOSUT. Here, a great number of OSUT current or former members describe the process of joining the organization and the impact that it represented for their professional and personal development.
Related resources	• https://osut.org • OSUT Cluj Facebook page: Organizația Studenților din Universitatea Tehnică din Cluj-Napoca (https://www.facebook.com/OSUTCJ) • OSUT Cluj Instagram profile (https://www.instagram.com/osutcluj)
Dissemination	• Social media, official website and through interpersonal interaction • This dissemination is highly relevant for this practice, since the results are pretty much proportional to the success rate of the social media marketing campaign • Social media marketing insights (represented within a PR report at the end of the project)
Contact details	• osutcluj@gmail.com

Chapter 4: Global scanning of good practices in civic engagement

In addition to looking inside our partner organisations to draw out good practices in civic engagement suitable for piloting, replication or scale-up, we also undertook a global scanning process to spotlight globally where best practices might exist in civic engagement that can support our ambitions. This is a continuous work in progress and we spotlight two global cases of interest.

CEGLOBAL1: Learning Through Civic Engagement: Limerick Inside Out

Title: Learning Through Civic Engagement

Subtitle: Limerick Inside Out

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
University of Limerick	Definition here * also include *Results* and *Impacts* of the practice **Promising**	Spring 2019	• A • B • C Or category: civic engagement	Antigoni Parmaxi (antigoni.parmaxi@cut.ac.cy)

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) University of Limerick
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders (academic/ industry/ technical/implementing/financial/etc.)? Tracey Gleeson, Senior Co-ordinator, Limerick Inside Out Practicum, Kerstin Mey, University of Limerick Vice President of Academic Affairs and Student Engagement and Anne Warren-Perkinson, Implementation Advisor, Limerick Inside Out Programme, University of Limerick, Ireland
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) Students at Limerick University and wider community • How many are they? (provide disaggregated data by student numbers, etc. where available) 34 students
	Context	• What was the initial situation/ specific context? Civil and civic engagement has been at the heart of the University of Limerick (UL) and its predecessor since its inception in 1972. Exchange, sharing and collaborations with communities in the city and the region have been developed in and across disciplines, from health and sports to law and languages, from entrepreneurship to the sciences and the creative and performing arts. The interactions with communities are founded on a partnership model that seeks to foster mutuality and sustainability, co-creation and empowerment.
	Challenge	• What are the specific challenges the practice is trying to address? Building on recognised expertise in engaged learning and research and making fruitful existing community networks, UL first developed a Practicum for international students in spring 2017. This experiential learning module encompassed a range of practice-based projects codesigned with local community partners and was offered to a limited number of international students at UL as part of their credited Study Abroad programme. The planning, preparation and realisation of projects—within a 12-week teaching term—offered mutual benefits to both the students and the community partners and placed a disproportionate burden on a single academic lead. The one-of interactions created significant complexity and challenges in terms of their underlying logistics and support processes, which rendered the module unviable. In addition, the initial module concept and design was not easily replicable across different faculties and disciplines. Therefore, in response to growing interest from international students and their home institutions, it was necessary to consider alternative methods and sustainable approaches

		for delivering the UL International Practicum.
	Objective and key resilience dimension	• Brief description of the practice Following a period of organisational change and internal reflection, a pilot of a restructured UL International Practicum was undertaken in Spring semester 2019. The so-called Limerick Inside Out (LIO) Practicum took on 34 students. While LIO retained key concepts of the original practicum—real world experience, active learning, mutual benefit and empowerment—it tested a revised approach to aid its viability, replicability and transferability to different disciplinary and community contexts. The pilot module promoted transdisciplinary, cross-cultural and intergenerational awareness development. Learning was facilitated off-campus within three distinct but nevertheless complementary strands: creative, political, interculturalism—which, not least, reduced the dependency on a single academic lead. Pragmatically, less emphasis was placed on singular and one-off co-created projects with community partners. Instead LIO sought to highlight the richness of Limerick City and its diverse community groups. The deliberate shift in focus from 'depth' to 'breadth' of community engaged learning in this pilot was supplemented by the establishment of a strategic partnership with the Limerick City and County Council (LCCC). • What are the specific objectives of the practice? To enable real world experience whilst supporting cross-cultural awareness and civic engagement • What are the main factors of the practice which contribute to strengthening the internationalization and optimizing mobility experiences? Students coming from abroad engaging in intercultural projects
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. The students are welcomed into Limerick City with an opening session held in a central landmark. To support a broader experience and promote real world learning, each LIO student was issued with a travel pass for local public transport and invited to become a social media ambassador for LIO, with their contribution recognised as part of UL's VPA scheme. This served to empower students to decide for themselves how often they wanted to be in Limerick working with community partners and seeking permission to speak openly on social media about their experiences both in the module and in the wider community. The three module strands, with distinct academic perspectives from the Faculty of Arts, Humanities and Social Sciences (AHSS), demonstrated the value of diversity in LIO as many students (such as those majoring in engineering or business) would not otherwise have had an opportunity to explore concepts of empathy, civil and civic engagement, or interculturalism in a real community setting. The LIO pilot concluded with a high-profile public

		exhibition of student work in a historic Limerick industrial development site, in conjunction with the premier of a local theatre production. The display was opened by the Mayor and attended by Council officials, community partners, university staff and media. It demonstrated that the students' work had covered a multitude of topics and learning experiences and served to facilitate not only a further exchange of ideas but acknowledged the evolving mutuality of the broader university-community-relationship • How is information gathered within the practice? Not available • How are data compliance and protection issues addressed? Not available • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? Not available • Specify time frame and implementation cost, if available Not available • What resources were used in the implementation? Not available
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? Student module feedback confirmed the strong initial interest in a module that focused on real world experience as a central learning objective and highlighted ethical practice, added value and 'giving back' as central motives for them to seek out this academic offering. While the different LIO pilot strands delivered an overview of the local context and stimulated a diversity of experiences, most students felt that the direct interaction with community representatives and the teamwork were most empowering. The students were exposed to novel methods of formative and summative assessment and feedback. The latter included the creation of posters and reflective postcards. Addressing individual challenges, students developed soft skills in support of their future employability. They also gained an understanding of the value of diversity in working with others to generate positive social change in and with their own communities.

	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? **Through the LIO pilot, community partners recognised how the different backgrounds and experience of international students can contribute to addressing local issues, and that community voices in Limerick can have global audiences augmented through social media. Te LIO pilot created opportunities to involve individuals who would otherwise not have a relationship with the university. It thus catalysed a great sense of pride in both themselves and their community.** • Provide a brief description of the good practice validation process. **Not available**
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice? • **Real world experience** • **Teamwork** • **Understanding of the value of diversity in working with others**
	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? **Both students and the community benefited from this practice.** • How have beneficiaries' experience been improved economically, socially and environmentally? Students developed their intercultural skills and were guided to the implementation of social praxis through the virtual exchange social entrepreneurship project which involved NGOs. **Not available** • How is this practice impactful on underrepresented groups – especially underrepresented student groups? **Students get real work experience while studying abroad** • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? **See previous points.** • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? **Not available**

	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? Need for available community partners
	Constraints	• What were the constraints and challenges encountered during the implementation of the practice? How were they addressed? Not available
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? Not available • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? Not available • How does the practice contribute to risk reduction and resilience in your institution? NA
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. Not available • What is technologically ambitious or innovative within this practice? Not available
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? Not available • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? Not available • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? Not available • What is your vision for replicating or upscaling this practice across EUt+? To implement the project at a European level involving community partners from all Universities.
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). The aforementioned practice is available here: https://library.oapen.org/bitstream/handle/20.500.12657/42924/2021_Book_AppliedPedagogiesForHigherEduc.pdf?sequence=1#page=108 • Narratives should be collected that ensures thick descriptions of

		the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) The aforementioned practice is available here: https://library.oapen.org/bitstream/handle/20.500.12657/42924/2021_Book_AppliedPedagogiesForHigherEduc.pdf?sequence=1#page=108
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? The aforementioned practice is available here: https://library.oapen.org/bitstream/handle/20.500.12657/42924/2021_Book_AppliedPedagogiesForHigherEduc.pdf?sequence=1#page=108 • How does such dissemination show the success and effectiveness of the practice? The aforementioned practice is available here: https://library.oapen.org/bitstream/handle/20.500.12657/42924/2021_Book_AppliedPedagogiesForHigherEduc.pdf?sequence=1#page=108 • What sort of data is accessible that can help to review this practice? The aforementioned practice is available here: https://library.oapen.org/bitstream/handle/20.500.12657/42924/2021_Book_AppliedPedagogiesForHigherEduc.pdf?sequence=1#page=108
	Contact details	• Emails to contact for more information on the practice. antigoni.parmaxi@cut.ac.cy

CEGLOBAL2: Energía Sostenible en las Universidades #EUSEW2020

Title: ENERGÍA SOSTENIBLE EN LAS UNIVERSIDADES #EUSEW2020

The aim is to promote clean, safe and efficient energy in campuses aligned with European policies, to achieve the EU's energy sustainability goals. In order to achieve this aim a network of six universities is in contact during all the year. They share good practices during the EU sustainable energy week that was created in 2006 through the European Commission. During the week energy initiatives and / or activities are encouraged involving not only universities but all the stakeholders (citizens, energy experts, agencies, legislators, companies, NGOs, associations and media communication, whether European or not, who wants to collaborate with Europe).

Subtitle: Key Achievements

> 6+ Spanish Universities partners

> 10+ initiatives developed

> 5+ types of renewable energies applied

> University students participate as volunteers

> Non-academic staff participation

> Annual contest

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
UPCT	Good practice	A week in June to share good practices but the network works during all the year	Community engagement	Isidro Ibarra

Good Practice Elements

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) Spain, Valladolid, Cantabria, Zaragoza, La Rioja, Salamanca, Oviedo (implemented)
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders (academic/ industry/ technical/implementing/financial/etc.)? Academic staff, non-academic staff, university students, citizens, energy experts, agencies, legislators, private companies, NGOs, associations and media communication
		•

	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) • University staff, university students, students, companies, and institutions. TFG and TFM students • How many are they? (provide disaggregated data by student numbers, etc. where available) **> 6+ Spanish Universities partners** **> 10+ initiatives developed** **> 5+ types of renewable energies applied** **> University students participate as volunteers** **> Non-academic staff participation**
	Context	• What was the initial situation/ specific European Commission promote the sustainable week to try to foster sustainable energy policies. In the Spanish Rectors' conference there is an specific group devoted to sustainability at the university. These two points led to the creation of the practice.
	Challenge	• What are the specific challenges the practice is trying to address? To promote clean, safe and efficient energy in campuses To co-create new sustainable measures by means of benchmarking among universities. To create not only safe, green but also autonomous campuses. To support research about sustainable energy (contest). This activity is included in the Corporate Social Responsibility policy of each institution.
	Objective and key	• Brief description of the practice The activity in the network is developed during the whole year. During

	resilience dimension	the European Sustainable Energy Week the universities organize a meeting where experiences and projects are presented. • CONFERENCES • COMPETITION The competition recognizes outstanding projects in the fields of renewable energies and energy efficiency. Topics: • Leadership • Innovation • Commitment • Youth • What are the specific objectives of the practice? See previous section. • What are the main factors of the practice which contribute to strengthening the internationalization and optimizing mobility experiences? This activity would promote the grades related to sustainable energy, leading to a high internationalization of the university, as foreign students are attracted.
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. The starting point was the meetings hold during Rectors' conferences. From that moment, a group boosted the network. Mot of these projects have been funded by FEDER funds. (Little information is available) • How is information gathered within the practice? **Website:** https://www.uva.es/export/sites/uva/6.vidauniversitaria/6.12.sostenibilidadarquitectonica/index.html https://www.uva.es/export/sites/uva/6.vidauniversitaria/6.12.sostenibilidadarquitectonica/_documentos/SEMANA-DE-LA-ENERGIA-SOSTENIBLE-EUROPEA.pdf • How are data compliance and protection issues addressed? Not available information.

		• Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? **Everybody has equal opportunities for participation regardless of gender or disability.** • Specify time frame and implementation cost, if available **All year, in June the sustainable week takes place. Information about Cost is not available** What resources were used in the implementation? **University Facilities and co-funders**
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? • **Not available information**
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? **Not available information.** • Provide a brief description of the good practice validation process. **Not available information.**
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice? **> 6+ Spanish Universities partners** **> 10+ initiatives developed** **> 5+ types of renewable energies applied** **> University students participate as volunteers** **> Non-academic staff participation** **> Annual contest**

	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? **Impact is positive as all the universities learn about how to implement sustainable energy technologies. Furthermore, stakeholders are involved promoting a university close to the society that care about environment. These values also impact on the students showing the need of promoting policies and technologies that are aligned with sustainability.** • How have beneficiaries' experience been improved economically, socially and environmentally? **See previous question.** • How is this practice impactful on underrepresented groups – especially underrepresented student groups? **We think that the participation of NGOs contribute to the impact on this group.** • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? **One evidence about the impact is the fact that projects on removable energy and sustainable energy are funded with European funds. https://www.youtube.com/watch?v=NRsH6UTUXew** • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? **We think that the cost is related to the different meetings they hold during the year, and the costs related to the organization of the sustainable week. These costs should be very high.**
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? **Awareness about the need of taking care of the environment from an institutional point of view.** **Awareness about the need of sharing good practices, involving all the stakeholders.**

	Constraints	• What were the constraints and challenges encountered during the implementation of the practice? How were they addressed? **Not all the removable energies can be implemented in all the territories. Measures need to be adapted.**
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? **The practice is economically, socially, environmentally and institutionally sustainable.** • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? **Institutional commitment.** • How does the practice contribute to risk reduction and resilience in your institution? **As with this practice university becomes more autonomous in terms of energy, its resilience increases as the impact from external shocks decrease.**
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. **All the activity is based on TECHNOLOGY, RESEARCH and IMPLEMENTATION** • What is technologically ambitious or innovative within this practice? **Very ambitious because this activity look into the latest advances in technology.**
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? **We do not know. The number of universities involved in the practice can increase by means of the Rector's Conference, it is an open group.** • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? **Awareness of the benefits of the practice and sufficient non-academic staff involved.** • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? **Awareness of the benefits of the practice and sufficient non-academic staff involved.** • What is your vision for replicating or upscaling this practice across EUt+? **We believe that in the framework of EUT+ a similar network specialized in the theme can be created.**

	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). https://www.uva.es/export/sites/uva/6.vidauniversitaria/6.12.sostenibilidadarquitectonica/index.html https://www.uva.es/export/sites/uva/6.vidauniversitaria/6.12.sostenibilidadarquitectonica/_documentos/SEMANA-DE-LA-ENERGIA-SOSTENIBLE-EUROPEA.pdf • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) https://www.uva.es/export/sites/uva/6.vidauniversitaria/6.12.sostenibilidadarquitectonica/index.html
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? The practice has been disseminated in workshops, talks and exhibitions. • How does such dissemination show the success and effectiveness of the practice? We do not know. • What sort of data is accessible that can help to review this practice? https://www.uva.es/export/sites/uva/6.vidauniversitaria/6.12.sostenibilidadarquitectonica/index.html
	Contact details	• Emails to contact for more information on the practice. Isidro.ibarra@upct.es

Chapter 5: Recommendations and next steps for EUt+ civic engagement

Our recommendations and next steps below result from our analysis of good practices provided and our understanding at this point of time of each other. Based on data provided we suggest next steps in terms of development of civic engagement across EUt+ according to five key areas.

Good practices that address multiculturalism and diversity

CECUT1 and CEGLOBAL1 are mostly concerned with giving students and immersive experience within a community setting in a way that teaches students about other cultures and diversity. CECUT1 in particular focuses on giving students an international experience in a virtual setting and although this is not a replacement for physical mobility, it is provide for equal opportunities for participation regardless of socio economic background or disability. These practices might act as an example of international community engagement whereby EUt+ could work with international NGOs and volunteer groups to solve problems.

In addition the experience from CECUT1 can definitely contribute to our XR VR project focussing on providing a social space for students to learn about cultures and languages in preparation for physical mobility.

CEUPCT2 brings a new dimension to diversity and inclusiveness in promoting intergenerational learning and engagement. Having elders at the university requires special attention to factors such as universal design. EUt+ can bring international mobility to the experience and this group could be considered in the universal design of the XR VR platform. In addition, the experience of UPCT with this cohort can be shared and built on.

Next steps:

1. Identify one international NGO as pilot that wants to work with EUt+ on European problem and use experience of CECUT1 and CETUD2 to create student project. (ca. one year)
2. Draw on expertise from CECUT1 and CEUPCT2 for XR VR project (ongoing)
3. Consider CEGLOBAL1 module and TU Dublin's Global citizenship module as basis for developing EUt+ focus European module for inclusion in international programmes. This is particularly attractive given the experiential learning approach underpinning both initiatives that ensure active external engagement by students (ca. one year)
4. Explore opportunity to develop programmes and inclusivity for older people across partners – maybe piloting one initiative from UPCT (one year).

Good practices in civic engagement with research orientation

CECUT2 and CECUT3 demonstrate important civic engagement in research work from the Department of Nursing, School of Health Sciences in CUT. The opportunity for other partners to participate in next

stage funding opportunities in this field can be explored. Through collaborating with Departments/Schools across EUt+ with clinical programme of studies (Midwifery, Medicine, Nursing) Baby Buddy for example can expand to other cultural/language settings, or user-tested for minority groups (Turkish, Arabic, Russian) speakers in that country. A different aspect is effective health communication during consultation.

Next steps:

1. Create links with heads of Departments/Schools across EUt+ with clinical programme of studies (Midwifery, Medicine, Nursing) to showcase research collaboration potential. (one month)
2. Create head of school / department / programme forum in related areas (3 months)
3. See out funding calls and explore potential to partner (3 months)

Good practices in civic engagement to influence policy and dialogue

RTU describes CERTU1 as a great opportunity to cooperate with the local organizations and at the same increase impact in terms of civil society activities. The popular festival has an important role as part of Latvian society generating open dialogue and thus supporting democratic society. RTU participation in LAMPA as a partner of EUt+ opens up opportunities for this level of dialogue. It can create visibility for EUt+ and the European Universities Initiative.

Similarly CEUPCT3 has a strong emphasis on helping governments to promote science and technology in an interesting way to young people.

These pubic initiatives are a great opportunity to ensure that EUt+ work is visible and spoken about in the context of the local partners. All partners will be involved in events with government departments and agencies to promote science and technology to public groups.

Next steps:

1. Draw on collaborative science and technology of EUt+ to create more visibility with government departments on showcase events. Ensure EUt+ 'table´ (real and metaphorical) at all such events to showcase lab work and value of collaborative activities.
    a. Identify such events across partners and create calendar.
    b. Set directive that EUt+ should have at least some visibility at each event
    c. Work with communications team to establish same.

Frameworks and approaches to civic engagement at EUt+ level

While recognising the inherently local nature of much civic engagement, CETUD1 and CETUD2 both offer approaches and tools the can ensure good practice approaches and methodologies are involved. CETUD1 offers a European validated toolkit to enable HEIs to identify good practice in CE and areas for future development. CETUD2 is a proven approach to participatory civic engagement that makes learning come alive for the students as they work on real life projects with community partners, developing professional transferable skills, and enhancing their understanding of their specialist subject skills and of the community they work with. Both are models of excellence, but they require

high level commitment and people resourcing to adapt. CETUD2 has a team that works with community organisations to identify projects involving real life problems. It takes the pressure off lecturers in tutors to create rich experiential learning opportunities.

Next steps:

1. Embedding CETUD1 and CETUD2 as a standardised approach to civic engagement needs high level commitment and resourcing. It is for the EUt+ steering committee to make the case strategically within their own institutions to pilot CERL or TEFCE as a sign of commitment to civic engagement. (6 months to start pilot with agreeable partners). Ideas for pilot might involve:
    - Small scale local pilot projects on theme ? and reflecting and learning across partners.
    - Participation in European funding to support piloting
    - Pilot based on international NGO project –could have European theme – but with 'community' emphasis?
    - Investing in approach. Maybe debate and short term Erasmus exchanges

Physical campus, staff level, and community level civic engagement initiatives

CEGLOBAL2, CEUPCT1 and CEUTCN1 are lovely initiatives that should have good potential for piloting, replication or scale up. CEGLOBAL2 is concerned with sustainable Campus and physical infrastructure that is a concern of all partners. National focus and language would likely be a limitation of scaling up CEGLOBAL2 but it is very attractive to replicate across other partners.

CEUPCT1 links in with inclusive universities for staff and also local engagement. It is strongly complementary to h_da reputation as a 'family friendly' institution. Could EUt+ be a family friendly alliance? Children's summer schools exist across other partners – so this is a good basis to explore and share information to build quality and efficiencies . Could EUt+ even contribute to the richness of the experience for children and families though integrating language provision and mobility opportunities into the summer schools?

Student engagement in campus life is central to CEUTCN1 and aligns to the central role that we want student participation to play in EUt+.

Next steps:

1. Engage locally in each partner about opportunity to pilot replication of CEGLOBAL1 and CEUTCN1 (3 months)
2. Organise presentation from h_da of what 'family friendly' institution means. (3 months)
3. Draw in on EUt+ language pool to consider language provision (6 months)
4. Explore other children summer schools existing across other partners and explore potential for sharing good practice but also providing family mobility opportunities in the summer months. (one year)

Appendix A – Template for Starting Pilot Initiative

Name of Pilot Lead:	
Institution:	
Date:	
Name of Pilot:	

Brief Description of Pilot: (100 words max)

…

1. Goals

CHECKLIST

❑ Define what success looks like for your rollout

(3-4 bullet points)

❑ Set goals that you can measure over time through the duration of the initiative

(1-2 goals with 3-4 objectives)

❑ Include measurements across all stakeholders and areas of the initiative (e.g. students, teachers, staff, technology, learning outcomes, etc.)

(aim for at least two measurements under each of the four measures of success where possible)

Measures of Success and impact

Implementation success metrics	Educational Outcomes for teachers / students / others	Measures on Inclusivity – gender and other underrepresented groups	Measures on Government / industry / civic engagement

2. Timeline/Milestones

CHECKLIST

❏ Review all steps involved in rolling out the pilot initiative and set a realistic launch date

- *Planning phase (50 words)*
- *Launch Phase (50 words)*
- *Train Phase (including drafting guidance material) (50 words)*
- *Conclude Phase (50 words)*

❏ Based on the launch date, create a detailed timeline (including critical milestones) to ensure your project stays on track

(*provide Gantt chart and identify milestones)*

3. Selection

CHECKLIST

❏ Define how big your Pilot will be and who will be included in it (which schools, groups of teachers, students, etc.)

(50 words)

❏ Draft criteria to guide each group of pilot participants

(List documents needed to guide each pilot participant – who will draft these documents?)

4. *Measurement*

CHECKLIST

❏ Define how you will measure the success of your rollout and ensure there are methods in place (surveys, reports, observations, etc.) to collect the data to do so

(Link in with table of measurements under Goals – specify each measure under the headings of Implementation success, Educational outcomes, Inclusiveness outcomes, Industry and civic engagement outcomes as per Table 1 of the guideline document and method for measurement)

Appendix B – Reporting on Pilot

Name of Pilot Lead:	
Institution:	
Date:	
Name of Pilot:	
Pilot Completion Date:	

Results on Measures of Success and impact

Implementation success metrics	Educational Outcomes for teachers / students / others	Measures on Inclusivity – gender and other underrepresented groups	Measures on Government / industry / civic engagement

Products and supports required for project (50 words)

Lessons learned, risks and issues (50 words)

Benefits assessment (50 words)

Viability report and recommendation (50 words)

Route map for implementation (50 words – or graphic)

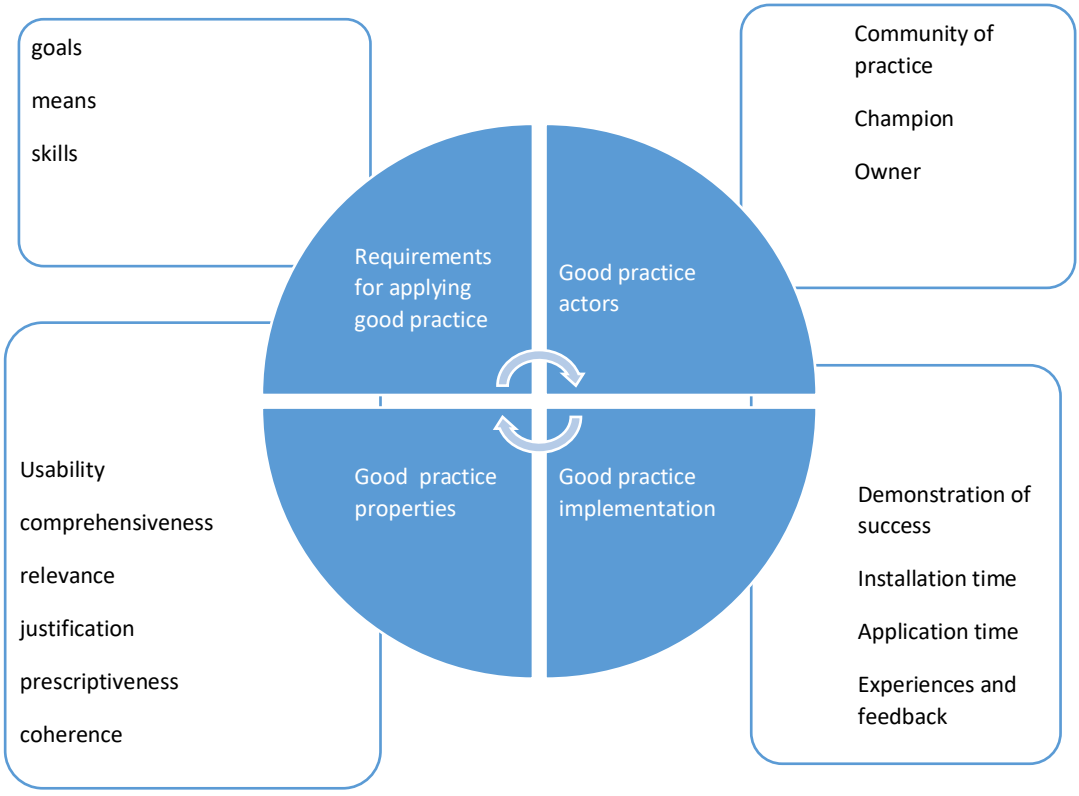
Resourcing appraisal and project plan (50 words)

Appendix C – Replicating and Scaling up Good Practices across EUt+

This is a support framework for partners involved in scaling up and replicating good practice across EUt+.

As good practices are identified and reflected on, the aim ultimately is to share good practices and to create participation opportunities across EUt+ partners. Figure 1 presents a framework to aid replication and upscaling of institutional good practices across EUt+ partners. Although it is recognized that this framework maybe quite technology focused, the framework and underlying questions can be adapted to suit different types and elements of practices. The important aspect is that it helps partners embed a methodological approach to good practice adaptation that may be needed for knowledge sharing and successful implementation.

Figure 1: framework to aid replication and upscaling of good practices in EUt+



Source: adapted from Meshari Alwazae et al. (2015)

Alwazae, Perjons, Johannsen (2015) developed a template on best practice collection that emphasizes the transfer of practices. Categories within the framework covering knowledge transfer can help partners wanting to adopt or collaborate in good practice approaches within EUt+.

Questionnaire for replicating and scaling up good practices

It is anticipated that where good practices are adopted by a partner a framework will help to promote and assist in the process. All partners should consider these questions when building a case to implement a good practice initiative. This will help provide a sound basis for decision making and will assist in monitoring and managing the process as it evolves.

Requirements for applying good practice:

1. Goal: The intended effect of applying the good practice.
2. Means: The means that are needed for applying the good practice, including people and technology.
3. Skills: The skills and competence required of the end-user for applying the good practice.
4. Cost: An estimation of the costs for applying the good practice.
5. Barriers: Obstacles or problems that may occur before, during, and after applying the good practice.
6. Barrier Management: Procedures to follow if certain obstacles or problems are encountered.

Good practice actors

1. Community of Practice: Community of practice that may be interested in using the good practice.
2. Champion: The need and role of a champion for the good practice.
3. Owner: The good practice owner or responsible who might be an individual, role, department or organization.
4. Training Needs: The degree to which a person has to be trained in order to use the good practice.
5. Acceptability: The degree of good practice acceptance by domain experts - in general and/or in the organization - for resolving the problem addressed by the good practice.

Good practice properties

1. Usability: The degree to which the good practice is easy to use or enact.
2. Comprehensiveness: The degree to which the good practice offers a comprehensive and complete view of the problem and solution under consideration.
3. Relevance: The degree to which the problem addressed by the good practice is experienced as significant by practitioners.
4. Justification: The degree to which evidence shows that the good practice solves the problem.
5. Prescriptiveness: The degree to which the good practice offers a concrete proposal for solving the problem.
6. Coherence: The degree to which the good practice constitutes a coherent unit, i.e., all parts are clearly related .
7. Consistency: The degree to which the good practice is consistent with existing knowledge and vocabulary used in the target industry sector or knowledge domain.
8. Granularity: The degree to which the good practice is appropriately detailed.
9. Adaptability: The degree to which the good practice can be easily modified and adapted to other situations.
10. Activity: The tasks to be carried out in the good practice.
11. Integration: The degree to which the good practice is integrated with other good practices.

Good practice implementation

1. Demonstration of Success: A case where the good practice is successfully demonstrated Implementation.
2. Installation Time: The time it takes to introduce and implement the good practice in an organization.
3. Application Time: The time it takes to apply the good practice in an organization.
4. Experiences and feedback: Users' opinions, advices and experiences of the good practice.
5. Measurement: Indicators for measuring the quality and performance of the good practice.

Reference:

Alwazae, M., Perjons, E, Johannsen, P. (2015) Applying a Template for Best Practice Documentation. Procedia Computer Science 72 (2015) 252 – 260.

EUROPEAN UNIVERSITY OF TECHNOLOGY

EUt+ Initiative

WORK PACKAGE 2:

Deliverable 2.4.3b

Deliverable title:

Good Practice Review on Industry and Employer Engagement

Contents

Chapter 1: Introduction

The Good Practice Review of Civic and Industry engagement deliverable falls under Work Package 2, Task 2.4 of the EUt+ Initiative. Task 2.4 aims to deepen the connections of EUt+ with its ecosystems and link its diverse territories for inter- and intra-regional knowledge exchange and collaboration with stakeholders, including industry, government, civic and community organisations. As universities of technology, each partner is already at the interface within its region. Through EUt+, we will share these networks for increased impact.

Across all actions, engagement with industry and enterprise will be fully embedded into the teaching and research of EUt+. The nature of this engagement will reflect the diversity of the settings of the campuses and will lead to integration of their host communities across Europe, along with the development of proactive local and global citizenship in our students. The bid document sets out the objectives connected to EUt+ industry and employer engagement (Table 1).

Table 1: Objectives and Indicators for the EUt+ network

Objectives	**Indicators**
Establish and pilot a shared, networked and coordinated community for industry engagement	Number of networks created Participation rates in access routes created by EUt+
Develop a European dimension to industrial support and to business creation	Numbers of new business start-ups based on a European business model

The deliverables under Task 2.4 to achieve our objectives are closely connected and support each other. This first deliverable under Task 2.4 was the Core Network deliverable where we illustrated the network of EUt+ partners for industry and employer engagement. We also identified active and planned engagement on our shared industry and employer network.

In the first months of our work together in EUt+ we took time to get to know and understand our different people, structures and practices. We learned about the rich histories and successes at a local level that individual partners have in industry and employer engagement. During Covid lockdowns we shared this through meetings and seminars and partner presentations. Since September 2021 we have been fortunate to begin travelling to our partner locations to see good practices on industry and employer engagement in action. All of our partners have good practices to share that can be piloted, shared and replicated across EUt+, augmenting our industry networks through proven and effective good practices and frameworks for developing industry and employer engagement.

The EUt+ Initiative cites particular tasks under Work Package 2.4 in terms of how it engages its network for industry and employer engagement. The bid document explicitly states the intention to:

- Establish a network of campus industry and employer engagement teams with city, regional, local authorities across EUt+.
- Explore how such networks will support and influence the development of regional economic and social policies and strategies.
- Plan, monitor and evaluate EUt+ societal engagement in each region.
- Promote, support and embed industry and employer engagement in the curriculum and co-curriculum.
- Promote, support and embed industry and employer engagement in overall student experience.
- Promote, support and embed industry and employer engagement in research planning and execution.
- Promote, support and embed industry and employer engagement in campus strategic and physical planning.

In the implementation of the EUt+ Mission Statement we state that we want to project onto a European scale what we do best - ensuring rapid, sustainable and quality employment for almost all our students and supplying industry and services with expertise. We want to deepen the connections of EUt+ with its ecosystems and link its diverse territories for inter- and intra-regional knowledge exchange and collaboration with industry and employers. How we develop our shared approach and practices towards industry and employer engagement is fundamental to realising our ambitious Vision and to living our Mission Statement.

We have adopted the United Nations approach (2015) to defining a good practice as "*not only a practice that is good, but a practice that has been proven to work well and produce good results, and is therefore recommended as a model. It is a successful experience, which has been tested and validated, in the broad sense, which has been repeated and deserves to be shared so that a greater number of people can adopt it*."

With this definition we recognise that collecting good practices is a cornerstone of our approach to augmenting our EUt+ networks. It is the opportunity to present in a transparent and responsible way our individual successes in industry and employer engagement so that we can properly plan to pilot, replicate and scale up industry and employer engagement in EUt+.

The next section presents our Methodology followed by Chapter 2 showing how we identified the good practices in a rigorous and transparent way. Chapter 3 follows with an outline of the key features of each partner good practice. Chapter 4 shines a spotlight on our shared global scanning efforts, identifying some best practices that exist globally. This highlights that we are not only looking towards each other, but also collectively always looking outward for new ideas and open to new approaches. Our final Chapter 5 presents the next steps for action in terms of piloting, replicating, scaling up, and combining good practices to leverage off our shared experience and knowledge.

Methodology

All of the partners in EUt+ have good practices in industry and employer engagement to share. All partners also have global networks and knowledge of global best practices that they recognise for their excellence and potential to benchmark against. The methodology has 3 data collection tactics, together with the development of a standard template and a piloting approach to progress our work to the next step after data collection. Our research design is a six step methodology.

1. Development, sharing and training on a Template and Guide Document on Good Practice
2. Identification of good practices in partners.
3. Describing the features of good practice in partners.
4. Global scanning to spotlight best practices
5. Development of guide on how to pilot and framework for implementation in consideration in next steps.
6. Agreement on next steps to pilot, replicate and scale up good practices in industry and employer engagement.

1. *Development of a Template and Guide Document on Good Practice*

In identifying and mapping the features of good practices we developed and adapted instruments drawing on the approaches of others through researching widely and including approaches of the European Commission and the United Nations. We found in particular that the Food and Agriculture Organization of the United Nations has some very good templates that could guide us in working out how to identify good practices and how to describe good practices. From various sources we developed a Template and Guide Document on Good Practices that was contributed to and signed off by WP2 Liaisons. This document was then shared with all participants with some examples for review. We ran two workshops explaining and instructing on using this guide and templates so that all participants felt comfortable using it within their own organisations, and so that they had the chance to feedback and ask questions before introducing to their own colleagues. The Template and Guide Document on Good Practice that we developed can be found in Whaller Sphere 2.0: https://agora.univ-tech.eu/sphere/1h819g/box/175229. This includes guidance and templates that assist users in defining good practice, identifying good practice, reviewing good practice, and replicating-scaling up good practices.

2. *Identification of good practices in partners*

The following set of criteria helped partners to determine whether a practice is a “good practice” according to our objectives in EUt+.

A three point Likert scale was developed for each item. Items are not weighted and start at the mid-level because it is assumed that practices weak on any of these criteria will

not be 'good practices' as defined. Partners had the flexibility to determine for themselves how these rankings informed the selection of one good practice over another. They showed rather transparency in the identification and selection process to help guide decision making about which good practices to report, and ultimately which good practices can be piloted, scaled up or replicated in EUt+.

Effective and successful: A "good practice" has proven its strategic relevance as the most effective way in achieving a specific objective; it has been successfully adopted and has had a positive impact on individuals and/or communities.

Somewhat effective	Very effective	Extremely effective
O	O	O
Somewhat successful	Very successful	Extremely successful
O	O	O

Environmentally, economically, and socially sustainable: A "good practice" meets current needs and is inclusive, without compromising the ability to address future needs. The aspects of a sustainability practice are environmental, economic and social.

High on one aspect	High on two aspects	High on three aspects
O	O	O

Gender sensitive: A description of the practice must show how actors, men and women, involved in the process, were able to improve their experience, wellbeing, objectives.

Improvements by gender are unknown	Improvement shows for men and women	Improvement shows for men, women and other underrepresented groups
O	O	O

Technically feasible: Technical feasibility is the basis of a "good practice". It is easy to learn and to implement.

Somewhat difficult to learn and implement	Easy to learn and implement	Very easy to learn and implement
o	o	o

Technologically ambitious: Influencing technology is at the heart of EUt+ and good practices should be ambitious in the consideration of technology and innovation.

Good technological ambitions in this practice	Very good technological ambitions in this practice	Excellent technological ambitions in this practice
o	o	o

Inherently participatory: Participatory approaches are essential as they support a joint sense of ownership of decisions and actions.

Practice is implemented by one or two people	Practice is implemented by a small group of people	Wide participation in practice by broad range of internal and external stakeholders
o	o	o

Replicable and adaptable: A “good practice” should have the potential for replication and should therefore be adaptable to similar objectives in varying situations. It needs to be methodologically transparent to successfully scale up or replicate

Practice is contextual to local environment	Practice can adapt to a number of situations	Practice is widely adaptable to similar objective across varying situations
o	o	o

Compliant with data protection and privacy: The good practice must adhere to

legislative and university standards on data protection and privacy. In particular it would need to be understood how such issues are addressed in the replication or scale up of a practice.

Data protection and privacy issues would need to be investigated to share this practice	Data protection issues and privacy issues are understood but might take time to address if this practice is shared	Data protection and privacy issues can easily be addressed for sharing this practice
o	o	o

Accessible data and/or dissemination record: It must be able to provide evidence of results and impact by accessible data or other types of dissemination.

Small amount of data and/or other dissemination on this practice concerning results and impact	Concentration on one source of data and/or dissemination but benefits on results and impact can easily be understood from this	Multiple sources of accessible data and/or dissemination show the results and impact of this practice
o	o	o

Reducing risk, if applicable: A “good practice” contributes to risk reduction for resilience.

Unclear how this practice contributes to risk reduction and resilience	Some evidence that this practice contributes to risk reduction and resilience	Lots of evidence that this practice contributes to risk reduction and resilience
o	o	o

3. *Describing the features of good practice in partners*

The Template and Guideline for Good Practice Review provided a template identifying key features and guiding questions that helped partners to report on their good practice in a rigorous and transparent way.

Title and subtitle of Good Practice Review

Title should preferably include name of practice and for what type of purpose /aim /objective /context this practice is implemented. The region or country of where the practice was implemented should also be indicated in either title or subtitle.

Subtitle should be practical and indicate key achievement to [whatever theme the good practice guide is covering – e.g. internationalization and optimizing mobility experiences, industry engagement, etc..].

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
This could be a partner university or an international good/best practice identified by a partner.	According to Definition, state promising or good practice	Month and yearof the practice implementation	- A - B - C Or category: gender, industry and employer engagement. etc.	Name(s), organisation, email

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation
Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented

		and replicated? (include map if useful)
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)?
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) • How many are they? (provide disaggregated data by student numbers, etc. where available)
	Context	• What was the initial situation/ specific context?
	Challenge	• What are the specific challenges the practice is trying to address?
	Objective and key resillience dimension	• Brief description of the practice • What are the specific objectives of the practice? • What are the main factors of the practice which contribute to strengthening the [theme of the document]?
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. • How is information gathered within the practice? • How are data compliance and protection issues addressed? • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? • Specify time frame and implementation cost, if available • What resources were used in the implementation?
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice?
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? • Provide a brief description of the good practice validation process.

These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be

presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice?
	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? • How have beneficiaries' experience been improved economically, socially and environmentally? • How is this practice impactful on underrepresented groups – especially underrepresented student groups? • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies?
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice?
	Constraints	• What were the constraints and challenges encountered during the implementing of the practice? How were they addressed?
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? • How does the practice contribute to risk reduction and resilience in your institution?
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. • What is technologically ambitious or innovative within this practice?
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area?

		• What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? • What is your vision for replicating or upscaling this practice across EUt+?
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.)
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? • How does such dissemination show the success and effectiveness of the practice? • What sort of data is accessible that can help to review this practice?
	Contact details	• Emails to contact for more information on the practice.

4. Global scanning to spotlight best practices

In addition to identifying and describing good practices in Industry and employer engagement within their own institutions, each partner was also asked to provide cases that from other HEIs that they were aware of globally that could be considered global good practice. Asking each partner to share this information ensured that a global scanning process happened of the knowledge and networks of individual partners. Partners used to the extent possible the features template provided above, but in practice it was not expected that the same level of information would be available at a non-experiential level. Flexibility in the format of how global good practices were provided was assumed.

5. Development of guides and supports on how to pilot and framework to implement good practices in consideration in next steps

To ensure that the time and effort put into gathering data and reporting on good practice deliverables for industry and employer engagement was optimised towards the ambitions of EUt+, templates and guides on piloting and implementing were developed. The standardisation of such approaches was deemed fundamental to management and reflecting on successes and learning from our industry and employer engagement activities. Having a common understanding of what a pilot is and how to reflect on it is a critical aspect of understanding progress. Similarly supporting partners with tools and frameworks for implementation of good practices can only be of benefit where they are needed. The How to Pilot guideline is in Whaller Sphere 2.0: https://agora.univ-tech.eu/sphere/1h819g/box/172174. The Templates for Starting a Pilot Initiative and for Reporting on a Pilot Initiative after completion are included in this document under Appendix A and Appendix B. A framework for supporting partners involved in Scaling up and Replicating Good Practices is included under Appendix C.

6. *Agreement on next steps to pilot, replicate and scale up good practices in industry and employer engagement*

Analysis on the good practices reported gave all partners a deep insight into the underlying features and activities involved. This allowed individual partners to consider how to use this information to progress industry and employer engagement at the EUt+ level. Next steps are identified in the final phase of data analysis with an action plan included.

Summary of recommendations

Our collection of good practices and analysis guides us in the next steps for EUt+ in terms of developing our EUt+ industry and employer engagement whether this be through piloting initiatives, replicating initiatives or scaling up initiatives from local partner institutions to EUt+ level. We identify actions under eight main headings in our recommendations and next steps chapter:

1. Sharing and leveraging good practices on Career and Open days / jobs fair
2. Enhancing employability of graduates through advanced vocational and professional training
3. Industry projects
4. True industry cooperation and novel models of research collaboration
5. Access and widening participation
6. high level commitment to national an European industry and enterprise representative bodies
7. Internship experiences
8. internationalising practices – mobilities / internships / research

Chapter 2: Identifying good practices in industry and employer engagement across EUt+

According to the guideline and the template for identifying good practices, each partner was asked to identify up to two good practices within their institution that could be piloted, shared, replicated, combined at EUt+ level. It is of course recognised that lines can be blurred when categorising a practice as industry and employer engagement, civic engagement and technology transfer, but since all are reported across different documents there is no need for duplication. It is also notable in particular concerning good practices in industry and employer engagement that not all partners recognised good practices that were suitable to pilot, share, replicate. Some have dedicated teams to industry and employer engagement whereas others are more convoluted with civic engagement and tech transfer (see. D2.4.3a and D2.4.3c reports).

Table 1: List of good practices in industry and employer engagement identified across EUt+ partners

Partner	Code	Name
CUT	IECUT1	ENGINITE: ENGineering and INdustry Innovative Training for Engineers via PBL
CUT	IECUT2	Industry Exchange Network
h_da	IEHDA1	Hessen Technikum – Opening doors to engineering studies
RTU	IERTU1	Ambline Ltd. Good practice
RTU	IERTU2	Career Days
RTU	IERTU3	Peikko Group
TU Dublin	IETUD1	Managing Strategic Corporate Partnerships at TU Dublin
TU Dublin	IETUD2	Knowledge exchange and collaboration at Tallaght Campus
TUS	IETUS1	Business participation in conferences and seminars organized by TU-Sofia
TUS	IETUS2	Career Days and Open Days
UPCT	IEUPCT1	UPCT Internship programme (UPCTINTERSHIP)
UPCT	IEUPCT2	UPCT Network of Chairs
UTT	IEUTT1	Industry Job Fairs

Table 2 below summarises the rankings that partners attributed to the identification of their good practices in industry and employer engagement. We categorise these by letter with A being the highest ranking and C being the lowest reflecting a moderate score. As noted in the methodology, the identification only includes descriptions from moderate to strong as it is assumed no weak scores would be considered when identifying good practices in industry and employer engagement.

Table 2: Ranking of characteristics contributing to identification of partner good practices

	IECU T1	IECU T2	IEHD A1	IERT U1	IERT U2	IERT U3	IETU D1	IETU D2	IETU S1	IETU S2	IEUP CT1	IEUP CT2	IEUT T1
Effective	A	A	B	A	A	B	B	A	A	B	B	A	-
Successful	A	A	B	A	A	B	B	A	A	B	A	A	-
Sustainable	C	C	C	A	B	A	A	B	A	B	A	A	-
Gender sensitive	B	A	A	C	C	C	C	A	A	A	C	C	-
Technically feasible	B	A	A	B	A	B	A	C	A	A	A	A	-
Technologically ambitious	B	C	C	A	C	A	C	B	A	B	A	A	-
Inherently participatory	A	B	B	B	A	B	A	A	A	A	B	A	-
Replicable & adaptable	A	B	B	B	B	C	A	B	A	A	A	A	-
Data protection & GDPR compliant	A	A	A	B	B	B	B	A	A	A	A	A	-
Accessible dissemination record	A	B	B	A	B	C	B	A	A	A	C	C	-
Risk reduction and resilience	A	C	C	B	B	B	B	B	B	B	A	A	-

Not all partners that reported descriptions and features of good practices within their own institutions chose to use or report the output from their identification process. What is evident from the industry and employer engagement practices reported is the relatively moderate scores on gender sensitivity and technological ambition, and very mixed scores on sustainability. These are different issues but they reflect the emphasis on personal engagement rather than technological sophistication. They also reflect that gender sensitivity is not necessarily front and foremost in industry engagement practices. The scores are moderate, but not necessarily with a vision for inclusivity as yet. Given the mission and vision of EUt+ we will build this into our recommendations. Indeed it is an inherent feature of our template for piloting to include measures for success on inclusivity.

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Chapter 3: Features of good practices in industry and employer engagement across EUt+

This chapter presents the features of each industry and employer engagement practice reported from our partner organisations in EUt+. We show the dimensions here that reflect the key features of each practice. In our methodology section you can see the specific sets of questions asked under each dimension to guide the practitioners and writers. By embedding these sets of questions to guide reporting we are able to evaluate, compare and contrast practices both to each other and to current practices within our own organisations. The questions also ensure that a shared understanding and level of depth is communicated under each dimension to aid good decision making. The thirteen good practices in industry and employer engagement identified across EUt+ partners follows below.

IECUT1: ENGINITE: ENGineering and INdustry Innovative Training for Engineers (CUT)

Title: ENGINITE: ENGineering and INdustry Innovative Training for Engineers via PBL

ENGINITE aimed to design and promote a postgraduate Vocational Education and Training (VET) programme based on a Problem Based Learning (PBL) pedagogy. ENGINITE combined advanced applied academic topics with hands-on aspects, in order to endorse the knowledge and skills of graduate engineers, preparing them for the industry of the 21st century. Via a PBL approach to training, ENGINITE captivated the career and employability skills of the new engineers (innovation, entrepreneurial skills, efficient quality, health and safety management, problem-solving, communication and presentation skills), while it enhanced technical knowledge in critical fields of engineering. Upon the completion of the postgraduate VET programme, participants entered the labor market.

ENGINITE was addressed to graduate engineers with a degree in biochemical, chemical, electrical, electronic, environmental, food, industrial, mechanical, petroleum, safety engineering and/or of a relevant field. Eligible will also be Chemists and Food Technicians graduates. In particular the target group includes: (a) Graduate Engineers, who seek for a job and/or who wish to follow a post graduate/VET programme; (b) Junior Engineers, who are partly-employed and/or working in a different field and wish to follow a post-graduate/VET programme.

Subtitle: Key Achievements

> 35+ students benefited from the ENGINITE pilots; Most of them were unemployed or part-time engineers, who earned a position in the company of their placement thanks to ENGINITE.
> 20+ companies in Cyprus and Greece took part in the ENGINITE training programme and reinforced their staff with trained young engineers.
> Educational content for eight unique courses (technical and soft skills) typically missing from engineering programmes.
> A Handbook for PBL/VET methodology.
> Specifications of a complete programme for successful training and placement in the industry.
> 400+ unique users interacted with the ENGINITE online platform during the project.
> 3000+ engineers and other relevant stakeholders were reached through our dissemination and communication activities.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
Cyprus University of Technology	Definition here * also include *Results* and *Impacts* of the practice Promising	November 2017-November 2019	• A • B • C Or category: industry and employer engagement	Anna Nicolaou, anna.nicolaou@cut.ac.cy

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation

	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) **Cyprus University of Technology (Cyprus), Think UP (UK), CUBEiE (Cyprus), GrantXpert Consulting (Cyprus), Aalborg University (Denmark), Technical University of Crete (Greece)**
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders (academic/ industry/ technical/implementing/financial/etc.)? **Academic staff, industrial partners, and collaborating companies**
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) • **Graduate Engineers, who seek for a job and/or who wish to follow a post graduate/vocational training programme;** • **Junior Engineers, who are partly-employed and/or working in a different field and wish to follow a post graduate/vocational training programme.** • **Companies in Cyprus and Greece** • How many are they? (provide disaggregated data by student numbers, etc. where available) > 35+ students benefited from the ENGINITE pilots; Most of them were unemployed or part-time engineers, who earned a position in the company of their placement thanks to ENGINITE. > 20+ companies in Cyprus and Greece took part in the ENGINITE training programme and reinforced their staff with our trained young engineers.
	Context	• What was the initial situation/ specific **Limited hands-on experience and industry engagement for postgraduate students**
	Challenge	• What are the specific challenges the practice is trying to address?

		Industry engagement and acquisition of practical knowledge in a short amount of time Improvement of employability skills
	Objective and key resillience dimension	• Brief description of the practice The postgraduate vocational training programme was based on Problem Based Learning (PBL) pedagogy and combined advanced applied academic topics with hands-on aspects, to endorse the needs of graduate engineers, preparing them for the industry of the 21st century. Upon the completion of the ENGINITE training programme, the young engineers gained practical knowledge and experience which is expected to boost significantly their employability skills • What are the specific objectives of the practice? To design and promote a postgraduate Vocational Education Training (VET) programme based on a Problem Based Learning (PBL) pedagogy and will combine advanced applied academic topics with hands-on aspects, in order to endorse the knowledge and skills of graduate engineers, preparing them for the industry of the 21st century. • What are the main factors of the practice which contribute to strengthening the internationalization and optimizing mobility experiences? The ENGINITE placements incorporated internationalised perspectives in their design and implementation through the participation of an international consortium.
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. Part A (3 months): Eight training courses were provided aiming at the development of (a) employability enhancement & managerial (soft) skills [4 courses], and (b) technical knowledge enhancement [4 courses]. The courses were based on the model of Problem-Based Learning. Part B (3 months):

		Structured internship via the placement of the graduate engineers in Industrial Partners/Companies for accelerating their hands-on experiences in the industry and consolidating the technical knowledge/soft skills, which were gained during the first part of the program. During the internship, the engineering graduates had the opportunity (a) to become familiar with the operations, equipment, process of the companies/industrial units which will be placed in, (b) to work on small scale projects as indicated by their mentors and company representatives, and (c) to work on self-initiated projects/proposals in collaboration with their mentors and company representatives. • How is information gathered within the practice? Various resources were employed related to PBL methodology. Indicative resources: • https://www.enginite.eu/wp-content/uploads/2018/11/AAU-PBL-presentation.pdf • **https://www.enginite.eu/wp-content/uploads/2018/11/ENGINITE-PBL-cut.pdf** • How are data compliance and protection issues addressed? - All data is anonymised and safely stored. • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? All students had equal opportunities for participation regardless of gender or disability. • Specify time frame and implementation cost, if available Two parts - 3 months each. • What resources were used in the implementation? Various resources were employed related to PBL methodology. Indicative resources: • https://www.enginite.eu/wp-content/uploads/2018/11/AAU-PBL-presentation.pdf • **https://www.enginite.eu/wp-content/uploads/2018/11/ENGINITE-PBL-cut.pdf**

	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? • **Students were able to earn placements thanks to ENGINITE whilst industries reinforced their staff with the ENGINITE training programme. Students and trainers evaluated the programme upon completion.**
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? **Students' and trainers evaluated the programme.** • Provide a brief description of the good practice validation process. **NA**
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice? **> 35+ students benefited from the ENGINITE pilots; Most of them were unemployed or part-time engineers, who earned a position in the company of their placement thanks to ENGINITE.** **> 20+ companies in Cyprus and Greece took part in the ENGINITE training programme and reinforced their staff with trained young engineers.** **> Educational content for eight unique courses (technical and soft skills) typically missing from engineering programmes.** **> A Handbook for PBL/VET methodology.** **> Specifications of a complete programme for successful training and placement in the industry.** **> 400+ unique users interacted with the ENGINITE online platform during the project.** **> 3000+ engineers and other relevant stakeholders were reached through our dissemination and communication activities.**

	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? 35+ students benefited from the ENGINITE pilots. 20+ companies in Cyprus and Greece reinforced their staff with trained young engineers. Impact was monitored and evaluated using different tools (including surveys and interviews) with both students and trainers. • How have beneficiaries' experience been improved economically, socially and environmentally? Students improved their employability skills whilst trainers were engaged in PBL. • How is this practice impactful on underrepresented groups – especially underrepresented student groups? Young graduates who may lack the financial resources to study abroad or participate in training programs could join ENGINITE training. Moreover, young graduates with limited employability potential could enhance their employability potential. • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? See previous points. • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? Costs were covered through Erasmus+ funding
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice?

		Need for the dissemination of the project's positive results through presentations, students' testimonials and training academic staff in setting up, designing and implementing future ENGINITE pilots.
	Constraints	• What were the constraints and challenges encountered during the implementation of the practice? How were they addressed? Time invested in setting up the training.
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? The practice was economically sustainable as no direct costs were involved. Participation in relevant conferences was supported by the university's and Erasmus+ research funds. • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? Enhanced funding opportunities for participation in training activities. • How does the practice contribute to risk reduction and resilience in your institution?
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. ENGINITE training was facilitated through technology. The Online Training Platform was used for the face-to-face and online training purposes of the project. • What is technologically ambitious or innovative within this practice? Not available.
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? This practice has been implemented in different higher institution contexts with similar configurations and modalities. • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? Awareness of the benefits of the practice and sufficient training of the academic staff involved. • What are the required conditions to be able to replicate this practice on a larger scale

		(national, regional, international)? Awareness of the benefits of the practice and sufficient training of the academic staff involved. • What is your vision for replicating or upscaling this practice across EUt+? To implement ENGINITE training with participants from the EUT+ consortium
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). • Testimonials from trainees: ***"The experience I have gained is very constructive and meets my expectations as a mechanical engineer. The company has helped me develop practical knowledge through the various projects and tasks assigned to me. Also basic skills that I have developed through work are "problem-solving" and "teamwork" where they have been achieved through the various challenges and cooperation of the staff. Finally I want to thank the Enginite program that has given me the opportunity to gain similar experience on the subject I have studied by collecting useful knowledge for my future career."*** ***"Through my internship, I was given the opportunity to get involved in designing and setting up a pilot waste treatment plant. The skills I acquired during the 1st phase of the #ENGINITE program, which focus on problem solving in a limited time, and organization and critical thinking, helped me a lot to cope with the tasks I undertook during my internship. I think that the program has prepared me significantly so that I can cope with real problems of the industry (real-life projects)."*** ***"Participating in the ENGINITE internship provided me the opportunity to develop both at a professional as well as at individual level. As an intern, your thoughts and contributions are valued at a daily basis, as you work alongside respectful and experienced researchers and industrial experts. The mission of the ENGINITE project was inspiring and useful for anyone interested in acquiring hard and soft skills, an extended professional network and a***

		great life experience. ENGINITE has been an excellent internship for me and, as such I highly recommend the ENGINITE to all the young engineers." • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) https://www.enginite.eu/newsletters/ https://www.enginite.eu/brochures/
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? The practice has been disseminated in international conferences and workshops, in in-house training seminars, and in academic journal papers, books, and book chapters. • How does such dissemination show the success and effectiveness of the practice? The dissemination activities present the positive results of the projects supported by statistical evidence. • What sort of data is accessible that can help to review this practice? See list of relevant publications: Engineering education through PBL and industry-academia collaboration: Attitudes and perceptions of participants in the ENGINITE vocational education and training programme (under consideration for publication in a scientific journal)
	Contact details	• Emails to contact for more information on the practice. anna.nicolaou@cut.ac.cy

Title: Industry Exchange Network (IXN) model

The aim of this practice is to support industry engagement during the development of University projects. The practice concerns the fields of Informatics and New Media and Technology, focusing on the two-way opportunity for CUT students to participate in and develop projects for the industry and other sectors. Specifically, undergraduate and postgraduate students are able to take an active role in technology-driven projects which are within the scope of interest of the CUT. The model aims to develop students' understanding and authentic experience gained through external collaborations and real interdisciplinary applications, combined with a robust and well-structured program of studies. In effect, undergraduate and postgraduate students are given a significant opportunity to acquire a tailored experience in various industry areas, while enhancing their future career prospects. The model will be applied as part of an initial pilot implementation in specific study programs at CUT as of September 2021.

Subtitle

IXN programme enables students to apply their degree training to a wide variety of projects with industrial organisations.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
Cyprus University of Technology (in collaboration with UCL)	Definition here * also include *Results* and *Impacts* of the practice Promising	September 2021	• A • B • C Or category: industry engagement	Antigoni Parmaxi, Cyprus University of Technology antigoni.parmaxi@cut.ac.cy

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) Cyprus University of Technology (CUT) in Limassol Cyprus and UCL in the UK.
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders (academic/ industry/ technical/implementing/financial/etc.)? Academic staff and industrial stakeholders
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) Students at CUT and industrial organisations. • How many are they? (provide disaggregated data by student numbers, etc. where available) Approximately 30 students (already involved in projects in collaboration with industry in previous semesters from the Department of Multimedia and Graphic Arts)
	Context	• What was the initial situation/ specific context? CUT students need to have understanding and authentic experience gains through external collaborations and real interdisciplinary applications
	Challenge	• What are the specific challenges the practice is trying to address? Enable students to apply their degree training to a wide variety of projects with external organisations.
	Objective and key resillience dimension	• Brief description of the practice The programme is founded on the understanding that experience of real-world interdisciplinary applications, in conjunction with a rigorous programme of taught modules, is vital to a modern scientific education.

		Students are therefore involved with the IXN programme to work on several experiences with industry during their degree study. • What are the specific objectives of the practice? To enable students to apply their degree training to a wide variety of projects with external organisations. • What are the main factors of the practice which contribute to strengthening the internationalization and optimizing mobility experiences? NA
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. The undergraduates students of CUT have the unique opportunity to work on several experiences with industry during their degree study. They also have a tailored experience with industry that looks at the fields that they may want to study in, based on the IXN teaching methodology. Projects are set up following the IXN approach, which takes into account both the students interests and motivations, and the skills required to successfully complete the project. The CUT team is available to discuss proposals and suggest ways to appropriately scope the projects. The CUT team also examines timescales and complexity. Each project has a named industry technical mentor from the company, and a supervisor allocated from CUT. The projects are formally marked by the CUT. supervisor. There are three progressive levels of complexity to IXN projects (Mohamedally, 2011). These are known as the SDI levels, namely: 1. Scaffolding: level for early first-principles development and experience of industry methods.

		2. Discovery: level for Proof of Concept (PoC) development and demonstration of industry methods. 3. Innovation: level for delivery of close-to-production systems and dissemination of the results back to the industry, in an open source format where possible, and the publishing of results • How is information gathered within the practice? Call for industrial scenarios/projects and several cycles of discussions between students and industrial stakeholders. • How are data compliance and protection issues addressed? All data is anonymised and safely stored. • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? All students had equal opportunities for participation regardless of gender or disability. • Specify time frame and implementation cost, if available Each project lasts for 13 weeks (a semester). No direct costs were involved as all platforms and software used were provided by the University. • What resources were used in the implementation? Academic faculty's time and industrial stakeholders for preparation and running of projects.
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? Continuous monitoring and evaluation through surveys, focus groups, reflections and interviews.

☑	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? **Students' and industrial representatives' engagement has been validated through focus groups, reflections, surveys and interviews.** • Provide a brief description of the good practice validation process. **Reflective journals and surveys have been administered to students, whilst interviews were carried out with industrial stakeholders upon completion of the semester.**
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
✳	Results	• What results have been achieved through the implementation of the practice? • **Development of students' understanding of the wide ranging applications of media and technology;** • **Master core disciplinary concepts delivered in the context of departmental and interdisciplinary research;** • **Engage in practical, applicable learning from the start.** • **Acquire design and professional practice skills** • **Have the opportunity for personalised learning.**
✳	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? **Both students and industrial stakeholders benefited from this practice. Impact was monitored and evaluated through surveys,**

		focus groups, reflections and interviews • How have beneficiaries' experience been improved economically, socially and environmentally? Students developed their intercultural skills and were guided to the implementation of social praxis through the virtual exchange social entrepreneurship project which involved NGOs. **Students received continuous feedback by their supervisor and industrial mentor.** • How is this practice impactful on underrepresented groups – especially underrepresented student groups? **Students get authentic work experience while at the University.** • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? **See previous points.** • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? **No direct costs were involved in the implementation.** **The university expanded its collaborations through the IXN model.**
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? **Need for industrial projects and mentors. Need for mentor's time investment.**
	Constraints	• What were the constraints and challenges encountered during the implementation of the practice? How were they addressed? **Time invested in setting up, designing, running, monitoring, and evaluating the industrial**

		projects. Knowledge needed to implement the projects.
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? The practice was economically sustainable as no direct costs were involved (in previous rounds of industrial projects at the Multimedia and Graphic Arts Department of the University). Participation in relevant conferences was supported by the university's research funds. • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? Enhanced funding opportunities for participation in training activities. • How does the practice contribute to risk reduction and resilience in your institution? NA
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. All projects are technology-related and students need to complete a task/scenario proposed by an industrial stakeholder. A project proposal (provided by the industry) should identify a task with clear requirements and goals, in a specific technology area (e.g., machine learning, mobile app, or IoT) suitable for a specific student cohort. • What is technologically ambitious or innovative within this practice? The multilayered use of technological tools to serve different authentic, industrial project goals.
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? This practice has been implemented in different higher institution contexts with similar configurations and modalities. • What are the required conditions to successfully replicate and adapt the

		practice in another context/geographical area? **Awareness of the benefits of the practice and sufficient training of the academic staff involved.** • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? **Awareness of the benefits of the practice and sufficient training of the academic staff involved.** • What is your vision for replicating or upscaling this practice across EUt+? **To implement the project at a European level involving industrial partners from all Universities.**
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). • **Two testimonials from CUT students:** ***[P5: I believe this is important (managing CoP communication) especially for some who were in the periphery. They could develop their leadership skills, which are characteristic of project managers […] especially people who are introverts would benefit.]*** ***[P15: It (feedback) helped us, we did the prototypes and we were stuck […] working on them again and again, non-stop […] they (alumni mentors) gave us a clear perspective (of our work), seen from a different lens.]*** • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries,

		designers, governors (those with institutional responsibility) of the practice.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) Academic publications: **Mavri, A., Ioannou, A., & Loizides, F. (2021). Value creation and identity in cross-organizational communities of practice: A learner's perspective. *The Internet and Higher Education*, 100822.** **Mavri, A., Ioannou, A., & Loizides, F. (2020). Design students meet industry players: Feedback and creativity in communities of practice. *Thinking Skills and Creativity*, *37*, 100684.** **Mavri, A., Ioannou, A., & Loizides, F. (2021). Cross-organisational Communities of Practice: enhancing creativity and epistemic cognition in higher education. *The Internet and Higher Education*, *49*, 100792.** **Mavri, A., Ioannou, A., & Loizides, F. (2020). A Cross-organizational Ecology for Virtual Communities of Practice in Higher Education. *International Journal of Human–Computer Interaction*, *36*(6), 553-567.**
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? The practice has been disseminated in international conferences and workshops, in, and in academic journal papers, books, and book chapters. • How does such dissemination show the success and effectiveness of the practice? The dissemination activities present the positive results of the projects supported by statistical evidence. • What sort of data is accessible that can help to review this practice? See list of relevant publications: **Mavri, A., Ioannou, A., & Loizides, F. (2021).**

		Value creation and identity in cross-organizational communities of practice: A learner's perspective. *The Internet and Higher Education*, 100822. **Mavri, A., Ioannou, A., & Loizides, F. (2020). Design students meet industry players: Feedback and creativity in communities of practice. *Thinking Skills and Creativity*, *37*, 100684.** **Mavri, A., Ioannou, A., & Loizides, F. (2021). Cross-organisational Communities of Practice: enhancing creativity and epistemic cognition in higher education. *The Internet and Higher Education*, *49*, 100792.** **Mavri, A., Ioannou, A., & Loizides, F. (2020). A Cross-organizational Ecology for Virtual Communities of Practice in Higher Education. *International Journal of Human–Computer Interaction*, *36*(6), 553-567.**
	Contact details	• Emails to contact for more information on the practice. antigoni.parmaxi@gmail.com

IEHDA1: Hessen Technikum – Opening doors to engineering studies (h_da)

Title: Hessen Technikum – Opening doors to engineering studies

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
• h_da als Main Coordinator • Frankfurt University of	Good practice already IN PLACE	Start of the first trial period: 04.2018 – 08.2021 Second period: Start 01.01.2022	Gender inequality in engineering studies	Anne Bentrup, Prof Yvonne Schaffner

Applied Sciences • Hochschule Fuda, • Hochschule RheinMain, • Technische Hochschule Mittelhessen				

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation
Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) In the Land of Hessen – 5 universities of applied sciences are involved
Actors and stakeholders	• Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)? Key actors/ Stakeholders: Engineering programs Directors Program Coordinators female Baccalaureate students Industry partners
Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) female Baccalaureate students • How many are they? (provide disaggregated data by student numbers, etc. where available)

		2015_2020: 103 participants who successfully completed the program 2015- 2021 133 participants
	Context	• What was the initial situation/ specific context? Simply the fact that only few female baccalaureate students are choosing to study in an engineering field. The Universities of applied Sciences in Hessen wanted to attract more female students by giving them the chance to discover the academic programs as well as the industry in which they could work.
	Challenge	• What are the specific challenges the practice is trying to address? Generally female baccalaureate tend to choose “humanities” as a study fields – quite often because of the lack of information / knowledge about career opportunities in MINT fields. We needed to raise awareness about the study and work opportunities in those fields before the start of the studies.
	Objective and key resillience dimension	• Brief description of the practice The Hessen Technikum is offering the opportunity 6 months long to discover the engineering fields and the career linked with them. 4 days a week in an industry placement (paid!)to “see” what kind of job can be done after graduation 1 day a week at the university to “try” classes Regularly meetings of the groups / Workshop or guest lectures on specific topics. • What are the specific objectives of the practice? To convince female baccalaureate to enroll in an engineering program by giving them a “taste” of it beforehand and letting them getting an insider view in the related industry. • What are the main factors of the practice which contribute to strengthening the [theme of the document]? Hands on view on the study program as well as an insider view of the work placement related to the study program.
	Methodological approach	• How was the practice implemented? Briefly describe the methodological

		approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. Concept Development Funding Bid for the European Social Fonds and the Hessian Ministry of Education Agreement with Industry partners Launch of the program – Call for application • How is information gathered within the practice? Evaluation of the program each year, from all stakeholders. Plus survey one year after the end of the program • How are data compliance and protection issues addressed? Personal Data of participants collected under strict EU data protection rules • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? This program's goal is to recruit more female students. Our approach is clear: change the vision and clichés linked to the "Techies" in order to empower female students to choose this career path • Specify time frame and implementation cost, if available Implementation of the program , around one year Personal Cost from the Coordination Office • What resources were used in the implementation? New Staff hired – Plus Study Program director involvement
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? Qualitative Survey for all stakeholders at the end of the program. Alumni Survey afterwards
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users?

Quantitative Survey about expectation and satisfaction show the fulfillment of the goals (empowerment for women in Engineering)

- Provide a brief description of the good practice validation process.

These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)	
Results	• What results have been achieved through the implementation of the practice? 92 % of the participants are ready to study in one of the MINT related study fields.
Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? The impact was monitored with surveys at the beginning, during and at the end of the program. The survey explored first the reasons of the participation, the expectation of the candidates and compared them with the survey done at the end of the program. They show a clear improvement in all different fields targeted : better information about what is an engineering programs and what is needed to be successful in this fields and better view on the career opportunities • How have beneficiaries' experience been improved economically, socially and environmentally? • How is this practice impactful on underrepresented groups – especially underrepresented student groups? It helps the women to secure their choices and to start their career with the conviction that this is the right choice for them and that they will be successful. • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? See above

		• Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? No direct financial benefits as studying in our universities is tuition free. However as Germany is facing a demographic change that leads to a drop in students number in the near future it is from upmost importance to open and facilitate access to our institutions, especially in underrepresented population
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? Condition: recruitment of staff for the coordination and the management of the program
	Constraints	• What were the constraints and challenges encountered during the implementing of the practice? How were they addressed? Need for funding – search for a suitable call & submission of a proposal Need of commitment from industry partners for work placement: contacts from dual studies office as a start
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? • How does the practice contribute to risk reduction and resilience in your institution?
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. Not directly – however the whole program is dedicated to remove barriers between girls and technology • What is technologically ambitious or innovative within this practice?

	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? The program run in 5 different universities already – so it is replicable • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? Apart from the funding the key success factors is to have excellent contacts with the relevant industries • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? • What is your vision for replicating or upscaling this practice across EUt+? Supposing that all EUt+ are facing the same imbalance, we could provide our baccalaureate students this opportunity to "sneak" inside in order to increase our number of female students
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) https://www.hessen-technikum.de/
	**Dissemination**	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-

		creation of innovation, student debate, etc..)? Yearly report Online Communication incl. Social Media • How does such dissemination show the success and effectiveness of the practice? • What sort of data is accessible that can help to review this practice? All statistics data / surveys/ analysis are available online https://www.hessen-technikum.de/service/evaluation/
	Contact details	• Emails to contact for more information on the practice. <anne.bentrup@h-da.de>

IERTU1: Ambline Ltd. (RTU)

Title and subtitle of Good Practice Review

Ambline Ltd.

Latvia has always has a special location, which offers Latvia special natural resources, like amber. Riga Technical University researcher Dr. Inga Lyashenko has been developing innovation solutions to advance these unique resources to produce new innovations. In this specific good practice example Dr. Lyashenko cooperated with the industrial partner to generate a product, which advanced the amber composite yarns innovation.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point

Riga Technical University and JLU Technologies Ltd.	Definition here Good practice	2013 (5 years project)	• A • B • C Or category: Commercialization and industrial cooperation, Tech Transfer	Dr.sc.ing., Inga Lyashenko Inga.Lasenko(at)rtu.lv.

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation
Geographical Coverage	• Latvia
Actors and stakeholders	• **Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)?** Riga Technical University (Bio-textile research department) and JLU Technology Ltd
Beneficiaries	• **Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.)** Researchers and Industry • **How many are they? (provide disaggregated data by student numbers, etc. where available)** Department and ltd workers.
Context	• **What was the initial situation/ specific context?** Industrial engagement to support development of new innovations and work on research topics
Challenge	• **What are the specific challenges the practice is trying to address?** To commercialize the innovation and develop new use cases for the innovation (Amber yarn)

	• **Brief description of the practice** Riga Technical University researchers established industrial cooperation with the local industry representative. The aim was to develop the innovations and commercialize the innovations. After all Real products were developed.
Objective and key resillience dimension	• **What are the specific objectives of the practice?** To develop a product that would use the amber yarns with all its beneficial qualities. • **What are the main factors of the practice which contribute to strengthening the [theme of the document]?** The actions were happening mainly locally, but the scientific actions were supporting the internationalization of the good practices
Methodological approach	• **How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points.** Riga Technical University incorporation with JLU Technologies Ltd. were first who get support from EU projects and made technology of amber yarns and manufacture first pilot party of amber yarns, therefore the support from the bio-textile department was quite active while performing technology transfer process and early hosting of JLU Technology Ltd. The processes of licensing and commercialization in JLU Technology Ltd. were in their early phase and a lot of activities had to be done in order to accelerate similar initiatives. https://bit.ly/3uoJKMF • **How is information gathered within the practice?** Project reports, scientific publications/seminars, website/social media

		and final projects. • **How are data compliance and protection issues addressed?** By following project rules and local/EU law • **Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)?** The project was following local legislation and thus did not discriminate any participants. • **Specify time frame and implementation cost, if available** Time frame was five years • **What resources were used in the implementation?** Human resources, public and private funds (EU, University and ltd.)
	Evaluation and continuous improvement	• **What is the evaluation and continuous improvement process attached to the practice?** Partners were successful with Commercialization actions https://bit.ly/3uoJKMF
	Validation process	• **Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users?** The good practice valuation process has followed internal, scientific and legal/project validation process. (Also see the previous link) • **Provide a brief description of the good practice validation process.** See the previous point
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• **What results have been achieved through the implementation of the practice?** As result, partners have successfully implemented the Commercialization process,

		generated new products and publication, enhanced knowledge etc.
	Impact	• **What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated?** As a result of the cooperation, a research finding has been turned into real products that are marketed and sold in Latvia and to the export markets. The creation a new type of product - amber yarn was oriented to these main characteristics from client's perspective: amber composite yarns with a significant advantage compared to other known polymer composite yarns, composite yarns with a smooth surface that does not cause allergic reactions, stimulates the activity of the skin, promotes normal skin area regeneration, reflects ultraviolet rays, prevents the formation of clots in contact with platelets and which have biocompatibility with living tissue, in addition technologically processed succinite activity lasted longer than one year. • **How have beneficiaries' experience been improved economically, socially and environmentally?** Ambline Ltd. is much more attractive service provider compared to the Riga Technical University, which might be related to speed and efficiency in processing the orders. The long term experience in certain research of combi-nation amber yarns with natural yarns finally can lead to successful commercialization and lead to export markets with fabrics and textile production, as well luxuary hand-made production. Establishment of new start-up company is never easy and only close cooperation between Riga Technical University and researchers who are establishing Ambline Ltd. can lead to business success.

Ambline Ltd. is providing a good feedback for Riga Technical University bio-textile department regarding the future needs of R&D activities.

- **How is this practice impactful on underrepresented groups – especially underrepresented student groups?**

The developed amber solutions and innovations can be advanced by disabled and ill people.

- **Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)?**

See the previous sections. Also:
2006.-2007. RTU „Knitted fibers with antitrombogenic properties".

2007 RTU „Woven vascular implant with anti-thrombogenic biological properties for practical implementation in manufacturing"

01.03.2012. – 31.05.2013. Riga Technical University "Biomaterial research and optimization into production" ESF
2013.28.10.-2014.28.03 RTU "Yarn containing the Baltic amber for manufacturing and research". ERAF project

- **Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies?**

N/A

Success factors

- **What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice?**

		Have existing innovation/research, product or idea. Find a finding source and partners to support the Commercialistion
	Constraints	• **What were the constraints and challenges encountered during the implementing of the practice? How were they addressed?** N/A
	Sustainability	• **To what extent has the practice been institutionally, socially, economically and environmentally sustainable?** After end of the project, both parties have been continuing development of the products and research articles. https://bit.ly/3uoJKMF • **What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable?** Find the correct field, partners and funding opportunities • **How does the practice contribute to risk reduction and resilience in your institution?** The Project has improved industrial cooperation with the University and thus allowing wider number of cooperation options.
	Technology	• **What role does technology play in this practice? Please provide descriptions of technological practices.** All the activities were leaning on the new innovations and research results, which were generated by advancing different technical solutions. • **What is technologically ambitious or innovative within this practice?** The new amber yarn and solutions developed around this innovation.
	Replicating and upscaling	• **Has this practice been replicated in similar and/or different contexts?** N/A • **What are the required conditions to successfully replicate and adapt the practice in another context/geographical area?** Proper partnership between HEI and private

		field, funding to kick start the process, open communication. • **What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)?** See the previous question • **What is your vision for replicating or upscaling this practice across EUt+?** It is possible
	Testimony	• **Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns).** • https://bit.ly/3uoJKMF **Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.** https://bit.ly/3oiWL9S https://bit.ly/3uoJKMF
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) https://bit.ly/3oiWL9S https://bit.ly/3uoJKMF
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? Company and University websites, as well as: https://bit.ly/3uoJKMF • How does such dissemination show the success and effectiveness of the practice?

		N/A • What sort of data is accessible that can help to review this practice? Project report: https://bit.ly/3uoJKMF
	Contact details	• Emails to contact for more information on the practice. Inga.Lasenko(at)rtu.lv.

IERTU2: Career Day (RTU)

Title and subtitle of Good Practice Review

RTU Career Day is an annual event organized by RTU in cooperation with the RTU career center, student services, and faculties. The main function of the day is to assist students and enterprises to find each other, thus RTU invites especially those local and global companies who are looking for RTU students. Although the day is organized by RTU it is still an open event and thus can be seen as community engagement activities.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
RTU & RTU industrial partners	Definition here Good practice	Annually	• A • B • C Or category: Civic and community engagement, industrial and employer engagement.	ssc@rtu.lv

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• Locally in Latvia, but during the corona career day has been implemented also online (Globally)
	Actors and stakeholders	• **Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)?** The career day is implemented among RTU industrial partners https://bit.ly/3l0BLCN
	Beneficiaries	• **Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.)** Latvian students (Not just RTU students) • **How many are they? (provide disaggregated data by student numbers, etc. where available)** Around 2000 visitors annually
	Context	• **What was the initial situation/ specific context?** Engage youths and students with the employers and to get know the different scientific and career options.
	Challenge	• **What are the specific challenges the practice is trying to address?** Employment
	Objective and key resillience dimension	• **Brief description of the practice** Together with industrial partners RTU organizes a career day. The event is organized a seminar hall owned by RTU. Students and Latvian youths are informed about the incoming days, also social media and other marketing channels are advanced to promote the RTU career day. • **What are the specific objectives of the practice?** The main objective is to promote different scientifically and career paths for Latvian

	students and youths (Also for international students). • **What are the main factors of the practice which contribute to strengthening the [theme of the document]?** The current global situation support more global approach, since the career day was implemented also online.
 Methodological approach	• **How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points.** The preparation process follows annually pretty similar process. The internal discussions are implemented among different bodies, career days are agreed and participants (Enterprises) invited to attend. Also dissemination activities are divided among RTU employees. The preparation process is really communication heavy process. • **How is information gathered within the practice?** The data is collected by RTU representatives and published on https://bit.ly/2Y6sZdq • **How are data compliance and protection issues addressed?** RTU follows the local and EU legislation • **Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)?** The implemented action follows local and internal regulation and thus it doesn't discriminate any genders or groups. • **Specify time frame and implementation cost, if available** Organized annually • **What resources were used in the implementation?** Internal and external resources. Also industrial partners were providing needed resources

Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? RTU has implemented internal evaluations, also feedback from participants have been listened.
Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? Career day has requested participants to implement survey. • Provide a brief description of the good practice validation process. The survey was implemented, the survey was collecting inter alia info about the most interesting stand and company.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)	
Results	• What results have been achieved through the implementation of the practice? To connect local and international youths with the employers. Also helping the local youths to finds their educational and employment path.
Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? To connect local and international youths with the employers. Also helping the local youths to finds their educational and employment path. During and after the career day RTU has implemented questionnaires to collect the data. • How have beneficiaries' experience been improved economically, socially and environmentally? Based on the feedback career center improves the career day by involving new companies and partners. • How is this practice impactful on underrepresented groups – especially

		underrepresented student groups? The career day gives all the youth and student groups' possibility to meet the employers face to face (Some youth groups might have difficulty to meet the employers without event like the career day) • **Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)?** Career day does the internal evaluation and improves the event based on the results. So far the improvements have bee in line with the RTU strategy • **Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies?** Organizing such a large event is relatively expensive and thus the fees have been divided among organizers and participants. However, the results are such important for the Latvian society and youths that the investment done towards career days are essential. The career day assists students to be employed and find the right field for them.
	Success factors	• **What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice?** Have a unit who is able to organize and implement the event. Open and sustainable communication/relationship with the local and global company.
	Constraints	• **What were the constraints and challenges encountered during the implementing of the practice? How were they addressed?** N/A

	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? RTU provides annual career day data since 2004, which is a clear evidence of sustainability. Even COVID-19 didn't stop career days. https://bit.ly/2Y24rSw • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? Have an institutional strategy and a unit/department to take in charge of the event. Moreover, ensure that event is also offered for external groups (Support the local community) • How does the practice contribute to risk reduction and resilience in your institution? The event ensures that more and more Latvian and foreign youths/students are employed. Making sure that students are employed after graduation.
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. The 2021 career day was implemented online • What is technologically ambitious or innovative within this practice? The current pandemic forces career day to advance technical innovations and find ways to organize the event safe way.
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? Yes, career day is relatively global concept • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? Career days are following pretty similar structures. Thus it is important to have an internal approach to support such event. Have Unit who is implementing the event and have strong connection with local companies. • What are the required conditions to be

		able to replicate this practice on a larger scale (national, regional, international)? See the previous question • What is your vision for replicating or upscaling this practice across EUt+? See the previous question
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). Links for the previous events and interviews: https://bit.ly/3kTTH1B • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice. https://bit.ly/3kTTH1B
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) https://bit.ly/3kTTH1B https://bit.ly/39RuMWg
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? https://bit.ly/3kTTH1B https://bit.ly/39RuMWg • How does such dissemination show the success and effectiveness of the practice? Increased number of participants and partners joining the event annually • What sort of data is accessible that can

		help to review this practice? https://bit.ly/3kTTH1B https://bit.ly/39RuMWg
	Contact details	• Emails to contact for more information on the practice. ssc@rtu.lv

IERTU3: Peikko Group (RTU)

Title: Peikko group

The cooperation with the Peikko group was implemented in such a way that both parties will benefit from the cooperation, this is why PG was selected as good practice example. In the example, the cooperation was kick-started while RTU was building a new Lab house for research purposes, Peikko Group was one of the suppliers and provided floor structures for the new research lab. After finalizing the new RTU buildings, partners decided to expand the cooperation and establish a cooperation agreement. RTU invited the head of Peikko Group to visit RTU representatives and in the meeting, parties agreed to implement following cooperation activities: Peikko Group and RTU will implement joint research activities as well as assisting Peikko Group to develop new innovations. The cooperation allows RTU students to implement their diploma works at Peikko Group, which will support students'/researchers' educational development and growth. Moreover, Peikko group will support RTU also in terms of teaching activities by providing guest lectures and key speakers. In addition, to get the field experience, RTU researchers are allowed to visit ongoing construction sites. Peikko Group hopes that the cooperation allows them to offer job opportunities for the local specialist and thus support their career path.

High level identifiers of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
Riga Technical University, Peikko Group	Both Promising and Good practice	Since 2019-	Industry engagement and Tech Transfer	Tālis Juhna Riga Technical University

LIAA				talis.juhna@rtu.lv

Good Practice Identification, Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• **In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful)** The good practice has been implemented between Latvia and Finland (Peikko group has also several other branches all over Europe)
	Actors and stakeholders	• **Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)?** Academic: RTU students and researcher staff Industry: Peikko Group, employees and R&D unit(s) Governmental: LIAA policy making and supporting cooperation between FI-LV
	Beneficiaries	• **Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.)** Students and researchers • **How many are they? (provide disaggregated data by student numbers, etc. where available)** Not available
	Context	• **What was the initial situation/ specific context?** Industrial engagement in local and global level. Support educational and career growth of students and staff members
	Challenge	• **What are the specific challenges the practice is trying to address?** Industrial engagement (At the Global and local level), support internal and external R&D,

	Support employment of students and local specialist
Objective and key resillience dimension	• **Brief description of the practice** Partners established cooperation to support scientific development, generate new innovations, offer students and staff members to gain applied knowledge by working with industrial partner. This cooperation was also supported by Latvian Investment and Development agency (LIAA) • **What are the specific objectives of the practice?** Strengthening industrial cooperation at the international level • **What are the main factors of the practice which contribute to strengthening the [theme of the document]?** Educational and research related actions, applied learning at the construction side, employing factors.
Methodological approach	• **How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points.** The practices based on the mutual agreement done during the face-to-face meeting. Afterwards the agreed actions, institutional contact person and units were nominated to take over the actions. • **How is information gathered within the practice?** Faculty members were collecting the most important points, which were published on the RTU website. • **How are data compliance and protection issues addressed?** RTU follows the local and EU privacy regulations. Moreover, partners follow the mutual cooperation agreement.

	• **Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)?** The both parties are respecting gender equality plan, thus these opportunities will not discriminate any genders. • **Specify time frame and implementation cost, if available** Partners haven't set any specific deadline. • **What resources were used in the implementation?** Human resources
 Evaluation and continuous improvement	• **What is the evaluation and continuous improvement process attached to the practice?** The evaluation process is implemented at the faculty level. The well working practices will continue and if needed partners will add new actions to improve the cooperation.
 Validation process	• **Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users?** Yes, faculty members implement the validation. • **Provide a brief description of the good practice validation process.** Faculty members and University administration evaluates how well the cooperation has been implement. The process is done internally by following University regulations.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)	
 Results	• **What results have been achieved through the implementation of the practice?** Partners are currently achieving the planned outcomes.
 Impact	• **What is the impact (positive and negative) of this practice on the**

	• **beneficiaries? How was the impact monitored and evaluated?** Both parties were able to increase the international cooperation, improve research actions and gain new knowledge. Monitoring has been implemented by both parties. • **How have beneficiaries' experience been improved economically, socially and environmentally?** Student and staff members have given a great opportunity to expand their social network and learn new skills. • **How is this practice impactful on underrepresented groups – especially underrepresented student groups?** Students might have hard time to find places to implement their final thesis works. The cooperation gives them the needed opportunity to build industrial connections and gain place to implement the thesis project. • **Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)?** Validated internally. • **Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies?** The costs and financial support has been agreed during the cooperation meeting and the final details were mentioned as part of the final agreement.
Success factors	• **What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice?** In order to success with this good practice, both partners have to have willingness to implement the planned activities. An active

		cooperation and communication channels are assisting with the implementation process.
	Constraints	• **What were the constraints and challenges encountered during the implementing of the practice? How were they addressed?** Pandemic has slowed down the implementation process. Also the current global situation can be seen as challenge.
	Sustainability	• **To what extent has the practice been institutionally, socially, economically and environmentally sustainable?** Altough, Peikko group is a Finnish company, they have a local branch in Latvia, which makes the cooperation more sustainable and environmentally friendly. Both parties are offering their own knowledge and resources to support the action, which is also supporting the sustainability of the cooperation. • **What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable?** Location and mutual understanding. It is important that partners are aware what is expected from the cooperation. • **How does the practice contribute to risk reduction and resilience in your institution?** Private investments and support from the private fields are reducing the risk level.
	Technology	• **What role does technology play in this practice? Please provide descriptions of technological practices.** The whole cooperation bases on new engineering/industry solutions. • **What is technologically ambitious or innovative within this practice?** Partners are seeking to cooperate in terms of construction innovations.
	Replicating and upscaling	• **Has this practice been replicated in similar and/or different contexts?** Yes, several other cooperation are following the same structure. • **What are the required conditions to**

		successfully replicate and adapt the practice in another context/geographical area? The right and trustful connections with the local and global industries. Open and sustainable communication channels. • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? In order to expand the cooperation, partners need mutual willingness to expand the cooperation • What is your vision for replicating or upscaling this practice across EUt+? The good practice can be replicated, however partner needs a local company to process this.
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). N/A • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice. N/A
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) https://www.peikko.es/news/peikko-to-extend-its-cooperation-with-riga-technical-university-in-latvia/ https://www.peikko.es/reference/rtu-laboratory-and-scientific/ https://www.rtu.lv/lv/universitate/masu-

		medijiem/zinas/atvert/rtu-sadarbosies-ar-somijas-uznemumu-peikko-group-corporation
	Dissemination	• **How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)?** On partners' websites • **How does such dissemination show the success and effectiveness of the practice?** The dissemination follow the normal procedure. However, the impact could be increased by using more social media. • **What sort of data is accessible that can help to review this practice?** N/A
	Contact details	• **Emails to contact for more information on the practice.** email: talis.juhna@rtu.lv

IETUD1: Managing Strategic Corporate Partnerships (TU Dublin)

Title and subtitle of Good Practice Review

Communities of Engagement: Managing Strategic Corporate Partnerships at Technological University Dublin

Subtitle:

Partnership with external organisations is a core pillar of the University's strategy and is underpinned by a dedicated action plan. Central to the overall approach is a better understanding of the nature of enterprise engagement and consideration of both strategic and operational aspects. Through adopting a joint strategic and operational approach to enterprise engagement, TU Dublin is positioning itself to contribute significantly to the creation, development and growth of enterprises both locally and nationally and to establish

itself as an important contributor to the economic and social development of the Dublin region and Ireland as a whole.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
Technological University Dublin	A Strategic Approach to Managing Corporate Partnerships	2019	• Introducing a strategic approach to managing corporate engagement to complement transactional management • B Developing mulit dimensional, cross disciplinary engagement with companies • C Supporting the development of an engagement culture in theUniversity	David Kirk David.kirk@tudublin.ie

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) **Ireland**
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)? **Researchers, academics, professional staff from across University, Multinationals and large indigenous companies**
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) • How many are they? (provide disaggregated data by student numbers, etc. where available **Organizations – University and industry partners** **Students** **University research and academic staff**
	Context	• What was the initial situation/ specific context?
	Challenge	• What are the specific challenges the practice is trying to address? **Engagement practice was typically only locally driven resulting in challenges of visibility and coordination across the University leading to missed opportunities for stakeholders challenges the practice is trying to address?**
	Objective and key resillience dimension	• See case study
	Methodological approach	• Brief description of the practice **Over the last few years and building on it's established record of multifaceted engagement across a range of activities, disciplines and functions, TU Dublin has developed and**

integrated a proactive strategic approach to developing enterprise partnerships. This approach complements the ongoing transactionally driven engagements across the University but places an emphasis on long term, sustainable relationship development (figure 1). This integration of a strategic and operational perspective is central to positioning the University at the heart of economic, social and innovation ecosystems at both regional and national level creating an inclusive and collaborative environment from which all stakeholders can benefit.

Central to the approach is the establishment of a Community of Strategic Engagement (CSE) for each partnership, which brings together relevant stakeholders from the University and enterprise partner. The CSE creates a committed and likeminded group of cross-disciplinary, multifunction individuals to drive collaborative activity and develop the strategic relationship at organisational level. It has a number of key characteristics (figure 2) and is designed to support the development of a team approach to collaboration and foster a shared understanding, trust and commitment.

The CSE spans both internal and external boundaries being cross-disciplinary and cross functional in nature. This recognises the complex nature of the engagement process and seeks to navigate this complexity through the combination of relevant contacts, skillsets, experience and knowledge. As a shared space, it seeks to create sense of joint ambition where aspirations on both sides can be articulated, discussed and refined into a shared understanding that can encourage an alignment of the University, individual academic/ researcher and industry partner objectives.

While the CSE has a strong focus on providing a co-owned space to build shared understanding and alignment of objectives, it is also a vehicle to drive the conversion of the identified opportunity into a tangible project delivering impact to all parties. It provides an important monitoring function, which helps encourage

		project progress and facilitates relationship information management. **(See also Figure 1 and Figure 2 below).** • What are the specific objectives of the practice? **a) Ensuring a strong strategic alignment with strategy** **b) Maintaining a focussed momentum to convert collaborative opportunities into engagement projects of mutual benefit to all stakeholders** **c) Demonstrating an organisational commitment to industry partner and internal stakeholders** **d) Providing a validation of enterprise engagement at organisational level** **e) Supporting development of an integrated and networked relationship with the industry partner at organisational and academic/researcher level** **f) Supporting relationship coordination and collaboration data management** • What are the main factors of the practice which contribute to strengthening the [theme of the document]? **Implemented through Corporate Partnerships building on signed MoUs.** **Approach requires co creation of partnership agenda.** **Data compliance and protection issues addressed in close collaboration with the company.** **Each CSE is dynamic in nature encouraging participation of academics and researchers interested in engaging with partner organization.** **Each CSE is underpinned by an MoU typically of 2/3 years duration.** **Currently, CSEs are resourced through Corporate Partnerships.**
	Evaluation and continuous improvement	What is the evaluation and continuous improvement process attached to the practice? • **The approach is relatively new and a formal review process is yet to agreed**

		and implemented
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? • Provide a brief description of the good practice validation process. **See detailed description below. However, ongoing dialogue with the stakeholder has confirmed the value of the approach and evidenced by growing commitment to the process**
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	What results have been achieved through the implementation of the practice? **Have this information but will need to collate across each partnership incls supporting Interpersonal connections and trust , Building internal networks and sharing enterprise engagement experience and building a sense of belonging to a team** **Postdoctoral and postgraduate support, Equipment, student development, training/development opportunities, research support, philanthropic donations, researcher support and communit5y outreach.**
	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? How have beneficiaries' experience been improved economically, socially and environmentally? • How is this practice impactful on underrepresented groups – especially underrepresented student groups? **The CSE approach is designed to support longer term, sustainable partnerships that are multi-dimensional in nature. With a strong focus on relationship development as well as transactional engagement, a more coordinated, interaction is fostered that offers continuity builds trust and commitment and**

shared understanding. In discussion with participants involved in one particular strategic partnership with the a large utility company, a number of advantages over the usual transactional based engagement approach were highlighted

a) It provides an organisationally coordinated, structured and shared collaborative space to support relationship development and collaborative activity

There was a strong belief that the creation of the CSE had provided a structured, shared organisational space that facilitated the analysis of differing research and industry objectives with a view to building an alignment that offered mutual benefit. This consistency and regularity of contact was seen to create a sense of team or community and a sense of organisational value associated with engagement practice within the University

b) Supporting the Management of Multiple Objectives

The challenge of managing contradictory objectives and associated practices and aspirations and the resultant internal tensions is a common challenge for organisations. The CSE approach was recognised as addressing this challenge by providing a space within which a multi-functional group from cross the University can address differing objectives and seek to find a mutually beneficial alignment that can result in a collaborative activity.

However, apart from building up an awareness of each other's objectives, the CSE helps identify and signal the constraints that both organisations face which can act as a catalyst to changes to practice.

c) Strategic Relevance of the Community of Strategic Engagement

Furthermore, a key objective of the CSE, as with similar organisational forms, is to build a shared commitment to convert ideas into action and provide an overseeing function to help drive the process (Murray, 2010; Perkmann, McKelvey and Phillips, 2019) . The

development of trust between the partners is essential in this regard (Audet and Roy, 2016). Unsurprisingly, the role of the CSE in building this trust was particularly noted at during participant discussions.

- Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)?

This is quite a recent initiative but case evidence would suggest success. E.g. Having signed a Memorandum of Understanding in 2019, TU Dublin and a large Irish utility company entered into a strategic alliance focussed on talent development, research and diversity and inclusion. Using the *Community of Strategic Engagement* approach, a strategic relationship management group was formed which brought together key representatives of each organisation on a regular basis. Through this group, a pipeline of engagement is created, existing initiatives guided and supported, new ideas for collaboration are presented and discussed and multi-dimensional interactive fostered.

To date, the partnership has nurtured the continuing company support for and collaboration on TU Dublin's Access to Apprentice Programme, ESTeEM (Equality in Science and Technology by Engaged Engineering Mentoring) Programme and power plant technology programme development and accreditation. Furthermore, within the last year, the partnership has resulted in the financial and data support for PhD students and postdoctoral researchers, company staff undertaking postgraduate studies, student development opportunities, active participation in postgraduate seminars and the ongoing identification of new research collaboration opportunities.

- Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional,

		social, economic and/or environmental benefits compared to total costs? Are there ROI studies? **This has a longer term perspective and is quite a new approach.**
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? **This strong strategic framing of the CSE was particularly singled out during discussions along with its role in reshaping enterprise engagement as a longer term and sustainable activity rather that a short term ,transactional based activity.** **Interpersonal connections.** **Trust .** **Shared Understanding and Empathy.** **Facilitating mentoring and supporting researchers in engaging with industry.** **Enterprise Engagement valued as an activity within the Institute.** **Building internal networks and sharing enterprise engagement experience.** **A sense of belonging to a team.** **Recognized Brand and Reputation.** **Relevant to Enterprise.** **From the University's perspective, an important element of the CSE approach is that it is directly managed at an organisational level. While designed as a shared, collaborative group, there is always a risk that momentum might slip in the absence of someone taking the responsibility for group management and administration. This role has been noted as vital component of the success of similar groupings in literature. Each CSE is directly managed by the University, which helps deliver on key partnership objectives.**
	Constraints	• What were the constraints and challenges encountered during the implementing of the practice? How were they addressed? **Limited administration resources** **Management time constraints.** **Delivering on its engagement strategy, the**

		University recognises the complexity of enterprise engagement, the diverse nature of the actors' involved and multifaceted nature of the interactions. This complexity can often imply that more traditional hierarchical management approaches to enterprise engagement can be unsuitable.
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? • How does the practice contribute to risk reduction and resilience in your institution? **Specifically designed to develop longer term, sustainable partnerships which are relationship driven.** **Ongoing dialogue, regular interaction, focus on trust building.** **The practice contributes to risk reduction and resilience by adopting a cross organizational team approach and organizational learning.**
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. • What is technologically ambitious or innovative within this practice? **Each CSE is supported by an MS Teams Partnership site facilitating shared information , video calls and meeting arrangements**
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? **Yes, this practice been used to manage both overall partnerships and specific areas of interest within partnerships.** • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? **Required conditions to successfully replicate and adapt the practice in another context/geographical area incl identified management lead, identifying the appropriate CSE participants and defining and agreeing overall terms of reference.**

		• What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? **Can be considered.** • What is your vision for replicating or upscaling this practice across EUt+? **Can be considered.**
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice. **Fairly new initiative. Very little collected to date.**
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) **Fairly new initiative. Very little collected to date. Plan developed and integrated into this document. https://www.tudublin.ie/connect/partnering-with-us/industry-and-business-collaboration/corporate-partnerships/**
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? Internally to date • How does such dissemination show the success and effectiveness of the practice? • What sort of data is accessible that can help to review this practice? **Fairly new initiative. Very little collected to**

		date.
	Contact details	• **David.kirk@tudublin.ie**

IETUD2: Knowledge exchange and collaboration at Tallaght Campus (TU Dublin)

Title and subtitle of Good Practice Review

Title Knowledge Exchange and Collaboration at Tallaght Campus

Subtitle TU Dublin's Tallaght campus has established itself as a 'highly performing institution' in respect of knowledge exchange and collaboration with internal staff and students and external commercial and non-commercial stakeholders. Within the context of strategic dialogue, institutional compacts and performance frameworks developed by the Higher Education Authority of the government Department of Education and Skills, Tallaght campus developed its knowledge exchange and collaboration capacity as a national model of good practice. Tallaght campus is recognised as a leader in supporting research and commercial innovation, and assisting in the advancement of the economic, social and cultural life of the South Dublin and its wider region.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
TU Dublin	Good practice	Since 2009	Or category: Industry and	Jack McDonnell (jack.mcdonnell@tudublin.ie)

			Employer Engagement	

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) **Ireland / Tallaght Campus – South Dublin and its environs.**
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)? **Students, staff, industry-enterprise partners.**
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) Staff and students **Students and industry.** • How many are they? (provide disaggregated data by student numbers, etc. where available) **Tallaght campus has been a national leader in its sector on collaborative research agreements and contracts with companies for institute based equipment and facilities. Its sight suggest 231 Synergy residents and 508 programme participants.**
	Context	• What was the initial situation/ specific context? **TU Dublin's Tallaght Campus is nationally recognized for its deep industry and enterprise collaboration.**
	Challenge	• What are the specific challenges the practice is trying to address? **Knowledge exchange and collaboration, for the higher education system is a national**

		priority in Ireland. National funding is tied to objectives on this with greater use of use of performance metrics, measurement of impact and benchmarking.
	Objective and key resillience dimension	• Brief description of the practice Tallaght campus has established a wide range of collaborative activities with public and private organisations in south and west Dublin. The Institute has also established a very successful on campus research and incubation centre – the Synergy Centre – and an off-campus 'step out' incubation centre – Synergy Global. • What are the specific objectives of the practice? Ensure collaboration is at the very heart of its work. Maintain high value on developing mutually beneficial relationships with all stakeholders. Adopt a proactive and progressive approach to building an ongoing dialogue with its partners. Building a better understanding of the local environment with a view to working with stakeholders to co-create innovative solutions to organisational and societal challenges. . • What are the main factors of the practice which contribute to strengthening access and widening participation? Maintaining strong strategic link between research, innovation and enterprise. High profile industry events and innovation awards. Demonstrable high level industry involvement and local industry engagement. Leading in local industry representative bodies.
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by

others. The steps can be in narrative form or as bullet points.

Tallaght campus has established a wide range of collaborative activities with public and private organisations in south and west Dublin. The campus has also established a very successful on campus research and incubation centre – the Synergy Centre – and an off-campus 'step out' incubation centre – Synergy Global.

It has developed visible senior management activities on industry engagement.

Holds a series of high profile business development events throughout the year.

Involves industry in academic accreditation and examination to ensure courses remained professionally oriented.

Is a corporate member of South Dublin Chamber of Commerce holding past presidency of same.

Established a robust network of relationships with public and private organisations that mutually support and reinforces each other's efforts at developing business within the South Dublin region.

Supports a number of student and business awards actively seeking actively seeks external input to this process, including the use of local government and other external agency staff, to help select participants.

Established a strong applied research track record in applied health sciences and biodiagnostics. In each of these areas the Institute has applied research facilities dedicated to near-to and market research.

Comprehensive programme of enterprise support workshops, entrepreneur development and an enterprise competition are promoted to encourage students with business ideas. Additionally, the development of relevant social and personal skills is available through participation in volunteering and active citizenship modules.

		The Office for Business and Industry (OBI) provides a single point for contact with TU Dublin Tallaght for our external stakeholders, regardless of size, who may have a query relating to industry based research projects, industry training and consultancy, or equipment we have available for use. How is information gathered within the practice? Through both qualitative and quantitative methods. Qualitative through independent review and strategic dialogue. Quantitate through own data and state agency data... • How are data compliance and protection issues addressed? Wide ranging practices with different approaches to compliance and protection. IP expertise within Synergy Centre and TTO. • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? Tallaght campus has a strong track record in participatory and inclusive practices. The campus has always prided itself on engaging with the community and has an established network of supports for schools and other organizations in our region. Emphasis on developing relevant social and personal skills is through participation in volunteering and active citizenship modules. • Specify time frame and implementation cost, if available Ongoing good practices . • What resources were used in the implementation? Government funding for New Frontiers programme. Industry research collaborations €46 mil funding raised in Synergy Centre..
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice?

	The knowledge exchange and collaboration activities have undergone independent review, self reflection and strategic dialogue processes.
Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? Stakeholder involvement in review and dialogue evaluations and review. .. • Provide a brief description of the good practice validation process. .
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)	
Results	• What results have been achieved through the implementation of the practice? In evaluation it is noted that Tallaght campus exceeded its three targets with sizeable increases and growth in the number of innovation vouchers, active engagement channels with schools and community groups..
Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? The Institute actively demonstrates 4 of the 5 statements in the HEInnovate 'Knowledge Exchange and Collaboration' dimension and one statement in the 'Preparing and Supporting Entrepreneurs' dimension.. two principal sources of qualitative information. First, the Institute, as part of the national academic quality control system undergoes regular, independent, Institutional Reviews that consist of self evaluation reports, and published independent panel visit reports. In the second round of strategic dialogue a self reflection and review was undertaken and in this process performance against the agreed targets was commented upon.

a commendation was received '…on the excellent working relationships that it has with external stakeholders, including industries, schools, communities and business organisations.
Quantitative data on impacts come from two sources; those gathered by Tallaght itself and those published by a state agency following a formal collection process

The impact that the Student Enterprise Awards has in the Tallaght area is significant.
In the most recent award process 35 second level schools were visited and provided with materials, 643 students from 18 schools took part, 30 workshops took place in the 18 schools and 160 student entrepreneurs participated in the County Final

Tallaght Campus was selected as a HEInnovate case study and at this time was recognized as one of the highest industry funded research funding ratios in the sector in Ireland and boasting the largest number of collaborative research agreements in the secto and highest number of contracts with companies for the use Institute based equipment and facilities

- How have beneficiaries' experience been improved economically, socially and environmentally?

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- How is this practice impactful on underrepresented groups – especially underrepresented student groups?

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- Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)?

The impacts have undergone independent reviews. Lessons learned identified in the

HEInnovate case study on Tallaght Campus are that:
instead of a large number of small initiatives that could be difficult to manage and integrate, a relatively small number of high profile activities, facilities and programmes provide a 'cradle to grave', and
thus comprehensive, approach to enterprise development.
The network of relationships with agencies, businesses and public and private sector organisations that the Institute has built up over a long time is resilient. It is clear that. time has been spent in building open and trusting relationships as evidenced by the
extent that the different stakeholders understand each other's roles and are thus able to
refer groups and individuals, seamlessly, to the stakeholder that can best meet their needs.
• Recent physical developments such as the removal of a wall around the college and the construction of roads through the campus, thus joining up different parts of Tallaght
have opened up the campus. This has led to much greater numbers of people encountering the college who might otherwise have so done with obvious benefits.
• The success of Synergy Global has given rise to thoughts about the further development of 'step out' facilities. In particular, off-campus facilities that might be used to help
assist the further development and off-campus expansion of incubator clients – for example engineering and manufacturing companies - requiring access to microindustrial units and accommodation.

- Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies?

		..
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? **Visible and high level leadership in industry bodies at the most senior level.** **Close alignment to the HE metrics in strategic development.**
	Constraints	• What were the constraints and challenges encountered during the implementing of the practice? How were they addressed? **See lessons learned in HEInnovate case study**.
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? **TU Dublin's objective on knowledge transfer and innovation is to build a better understanding of the local environment with a view to working with stakeholders to co-create innovative solutions to organisational and societal challenges.** • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? . • How does the practice contribute to risk reduction and resilience in your institution? ..
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. ... • What is technologically ambitious or innovative within this practice? .
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? **The creation of a HEInnovate case study on this**

	practice would imply that the practices are replicated and adapted in entrepreneurial HEIs using the HEInnovate supports and case studies to improve their entrepreneurial culture and mindset. . • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? . • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? .. • What is your vision for replicating or upscaling this practice across EUt+? This is a broad campus based approach ienditfying how an entrepreneruail culture and mindset towards industry and enterprise engagement becomes embedded into an institution. It could be expected that some of the practices can help EUt+ on its journey towards better and stronger industry engagement. .
 Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). Quotes from Independent Institutional Review: a commendation was received '…on the excellent working relationships that it has with external stakeholders, including industries, schools, communities and business organisations.' '…the ongoing work of Tallaght in integrating real world business problems of its industry partners into student project work,…' . • Narratives should be collected that ensures thick descriptions of the

		practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice. . .
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) https://www.synergycentre.ie/. https://www.tudublin.ie/research/innovation-and-enterprise/ https://heinnovate.eu (case study available here)
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? HEInnovate case study. News and media. Awards and showcase events. . • How does such dissemination show the success and effectiveness of the practice? Measurement on the HEInnovate dimensions and showcasing as an example of good practice demonstrates the success and effectiveness of the practice. • What sort of data is accessible that can help to review this practice? Government data. HEInnovate Case study.
	Contact details	• Emails to contact for more information on the practice. Jack McDonnell / jack.mcdonnell@tudublin.ie

IETUS1: Business participation in conferences and seminars (TUS)

Title and subtitle of Good Practice Review

Title Business participation in conferences and seminars organised by TU Sophia

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
Technical University of Sofia.	Lectures of the industry at seminars. Several specialty at TUS which are made together with business This practice are very positive for beneficiaries. This impact are monitoring by meeting and feedback from beneficiaries Beneficiaries have significantly improved their economic and social effects.	N/A	Industry engagement	Rositsa Velichkova, TUS, rvelichkova@tu-sofia.bg

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation
Geographical Coverage	• Bulgaria
Actors and stakeholders	• academic/ industry/
Beneficiaries	• students /government • 1000
Context	• Better communication with business and future realization of students
Challenge	• Easier realization of students in the industry, knowledge related to the needs of the industry
Objective and key resillience dimension	• Curriculum together with industry, invitation on industry and their participation in lectures, seminars and conference • good communication with the industry, which will lead to a good realization of the students, which will satisfy the needs of the industry as well • Good communication between the university and industry and feedback from students
Methodological approach	• Meetings were held with industry to discuss future tasks that may be useful. It was decided to give lectures by the industry at seminars and conferences and for joint curricula in which the industry took a significant part in the selection of disciplines that are needed as knowledge for them. • Meeting with industry and student and collecting feedback • Data compliance and protection issues are protecting according to the law in Bulgaria • No restrictions are imposed on gender or other disadvantaged groups. Anyone can enroll in these seminars or specialties • N/A • All the necessary resources for good performance of the tasks have been used
Evaluation and continuous improvement	• There is a constant connection with students and the industry in connection with the implementation of the internships and if something can be improved it is improved

Validation process	• There are several specialties created at the Technical University that already accept students and there are even graduates of these specialties. Ongoing industry participation in seminars and conferences
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)	
Results	• Lectures of the industry at seminars. Several specialty at TUS which are made together with business
Impact	• This practice are very positive for beneficiaries. This impact are monitoring by meeting and feedback from beneficiaries • Beneficiaries have significantly improved their economic and social effects. • It does not affect, everyone has access to these practices • There are already graduated students. Surveys among students for their opinion on this type of training • Cost/efficiency indications: N/A
Success factors	• The conditions necessary for successful implementation are work at the institutional level in order to improve the social and economic effect.
Constraints	• There were no restrictions. The challenge was to match the need of the business with the possibilities of the university
Sustainability	• The practice is socially and economically sustainable. The key element is to find the best solution for the right curricula to help both industry and university students.
Technology	• N/A
Replicating and upscaling	• This practice has been used for several specialties at TUS. The practice can be adapted for any university by simply looking for the right industry partner. This practice can also be replicated for EUt + partners
Testimony	• N/A
Related resources	• Tu-sofia.bg

	Dissemination	• The dissemination of practices takes place in several ways: • - conference reports • -media • -site of the university • All data on these practices are available on the official website of the Technical University of Sofia. This spread shows how useful the link between the university and industry
	Contact details	• Info@tu-sofia.bg

IETUS2: Career Days (TUS)

Title Career Days.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implement ation date or period	Type of problem / needs addressed	Contact point
Technical University of Sofia.	Contact with business Many students who find a job or internship Interested stakeholders who visit TUS on open days The impact of both practices is positive, as they are in the interest of students and society. This impact was assessed on the basis of surveys.	N/A	civic engagement	Rositsa Velichkova, TUS, rvelichkova @tu-sofia.bg

	The experience improved from a social and economic point of view, as the business could hire people to help it for its economic development. On the other hand, the employed people also had their economic development, and the two connections lead to a social one			

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• Bulgaria
	Actors and stakeholders	• Academic/ industry/ student
	Beneficiaries	• students /industry, society • 1000
	Context	• The initial situation was that there was no opportunity for students to get acquainted with the opportunities for career development and what are the opportunities for realization in different specialties.
	Challenge	• Expanding the opportunity for wider acquaintance of students with the opportunities for career development and what are the opportunities for realization in different specialties at TUS
	Objective and key resillience dimension	• In the days of the career, the companies are given the opportunity to come to the TUS and present their activities. On the other hand, students can find an internship or a job that is in their specialty. In open days at the TUS enter both prospective students and

		anyone interested to see what research laboratories there are at the Technical University and what is the implementation of each of the specialties at the TUS. Good communication and feedback contribute to the consolidation of practices
	Methodological approach	• The internships are controlled by the management of the Technical University and the department, whose goal is to strive for a very good relationship between students, society and business. These events are held twice a year, with the aim of reaching a larger number of stakeholders. Information on practices is collected electronically. • Data compliance and protection issues are protecting according to the law in Bulgaria • No restrictions are imposed on gender or other disadvantaged groups. Anyone can enroll in these seminars or specialties • N/A
	Evaluation and continuous improvement	• There is a constant connection with students ,society and buisness in connection with the implementation of the internships and if something can be improved it is improved
	Validation process	• Every year the number of people willing to participate in career days and open days increases, which leads to the idea that both practices work
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• Contact with business • Many students who find a job or internship • Interested stakeholders who visit TUS on open days
	Impact	• The impact of both practices is positive, as they are in the interest of students and society. This impact was assessed on the basis of surveys. • The experience improved from a social and economic point of view, as the business could hire people to help it for its economic development. On the other hand, the employed people also had their economic development, and the two connections lead to a social one • It does not affect, everyone has access to these practices

		• many students are employed for work or internships • Cost/efficiency indications: N/A
	Success factors	• The conditions necessary for successful implementation are work at the institutional level in order to improve the social and economic effect.
	Constraints	• There were no restrictions. The challenge was to match the need of the business with the possibilities of the university
	Sustainability	• The practice is socially and economically sustainable. The key element is to find the best solution for the right curricula to help both industry and university students.
	Technology	• N/A
	Replicating and upscaling	• The practice can be adapted for any university by simply looking for the right industry partner. This practice can also be replicated for EUt + partners
	Testimony	• N/A
	Related resources	• Tu-sofia.bg
	Dissemination	• The dissemination of practices takes place in several ways: • - conference reports • -media • -site of the university • All data on these practices are available on the official website of the Technical University of Sofia. This spread shows how useful the link between the university and industry
	Contact details	• Info@tu-sofia.bg

IEUPCT1: UPCT Internship programme (UPCT)

Title: UPCT INTERNSHIPS PROGRAM

The aim of this practice is to promote a more practical education for our students at undergraduate and postgraduate levels, developing their theoretical studies within the industry. Another outcome of this practice is the students´ chance to apply for a job in the firm that has offered the internship. On the other hand, industries may study and analyse a specific problem within their organization. As a result of this best practice, students are adequately trained for their incorporation to the labour market.

Subtitle: Key Achievements

> 3,219 internships have been offered since 2016

> 2,984 students have been benefited from these internships since 2016

> 392 enterprises were involved

High likelihood of being hired after the internship

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
UPCT	Good practice	During the academic year	Practical Education Training students for labour market Employment Chance to get a job	Eloy Hontoria Technical University of Cartagena eloy.hontoria@upct.es

Good Practice Elements

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) **Spain, Murcia, Cartagena (implemented)** **Replicated by Murcia University**
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders (academic/ industry/ technical/implementing/financial/etc.)? **Students from UPCT, as well as Industries. In a lower level, academic staff who are involved as internships´ mentors.**
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) • **Students** • **Industries** • How many are they? (provide disaggregated data by student numbers, etc. where available) **2,984 Students at UPCT since 2016 (not included previous years since data are not available)** **392 Industries**
	Context	• What was the initial situation/ specific **Students had no relationships with industrial sector and most of the times they finished their education without having any contact with industries.** **There was a scarcity of practical applications of students´ teaching to industries.** **Industries were needed of students with technical knowledge to develop not sophisticated projects inside the enterprise.** **Industries needed to know students´ skills and behaviour before to be hired.** **Limited initiatives for Industrial engagement.**

	Challenge	• What are the specific challenges the practice is trying to address? Although when an internship is set up, an industrial mentor and an academic mentor are theoretically established to jointly monitor it, there is a low interaction between both mentors. Higher levels of interaction could have a stronger impact in knowledge transfer and industrial engagement.
	Objective and key resilience dimension	• Brief description of the practice • In order to analyse and/or give solution to a specific issue within the industry, an internship is offered to students, who are mentored by both academic and industrial staff and make a stay at the firm´s location to apply their teaching to solve the problem. • International internships, designing an exchange of students among EUt members with the objective than any EUt´s students could apply to any internship call. • What are the specific objectives of the practice? To enhance students´ practical education, involving them in the finding of solutions to a specific problem within the industry. To give chances to industries for ascertaining students´ skills in case these firms had interest in hiring some of them. • What are the main factors of the practice which contribute to strengthening the internationalization and optimizing mobility experiences? An international program of Internships will have a deep impact in the international exchange of students and academic staff towards others members´ facilities.
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. • First step is to make internships´

		agreements with industries, informing them then that any internship must have a rigorous "Education program" which will be evaluated by the academic mentor in order to accept or reject it in case it´s not worthy for the students´ education. • Academic´s mentors training. • Students information through the UPCT webpage and meetings. • A webpage called EMFOCA (https://emfoca.upct.es/) and an app called PEM (https://pem.upct.es/) were implemented. • Internships must contain a clear information about the achievements to be obtained, duration, timetable, whether a salary is present or not and other requirements. • At the end of the internship, an extensive report written by students must be done and some enquires must be fulfilled by students and industrial mentor. The report showing the internship activities is evaluated by the academic mentor. Enquires through the PEM app depict both student and industry mentor satisfaction with the outcome of the internship and also about mutual relationships. • How is information gathered within the practice? Various resources were employed like the app developed for that aim, a webpage (https://emfoca.upct.es/) and an app called PEM (https://pem.upct.es/) • How are data compliance and protection issues addressed? - Data is processed according to the law. • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? Everybody has equal opportunities for

		participation regardless of gender or disability. In case there is a student with disabilities the activity at the job position is adapted. • Specify time frame and implementation cost, if available Designed Apps and webpage have a low cost and do not required a long time for their implementation (4-5 months). The longest time must be spent in explaining and convincing industries about the benefits obtained with this best practice • What resources were used in the implementation? Academic and staff faculty's time, apps, self-created content, a webpage, and some minor resources.
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? • Students are supported by academic mentors in case something is going wrong during the internship time. They are also backed up by the industry mentor. At the end of the internship, academic mentor must read satisfaction enquiries to ascertain internships shortcomings with the aim of their improvement or avoidance
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? Explained in previous section how the practice is validated through final enquiries. • Provide a brief description of the good practice validation process. See previous sections
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice?

		2,984 students since 2016 have been benefited with an internship, improving their practical education and some of them were hired at the end of the experience. There is always an academic mentor linked with any internship. 394 companies participated and realized about advantages of the project
	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? The impact is positive as the quality of the education increases. In fact, during the assessment process of the degrees a special attention is paid to the internship program, as it is considered a crucial element in the curricula. Impact was monitored and evaluated using different tools (including surveys and interviews). • How have beneficiaries' experience been improved economically, socially and environmentally? Students feel they are better prepared for the labour market. They get the chance to be exposure to this market and learn directly from the company. Companies both (international and local) benefit from well-prepared students who are able to apply theoretical concepts to solve practical problems without a cost or at a minimum cost. Academic staff get the opportunity to increase their relationship with companies while mentoring the students. • How is this practice impactful on underrepresented groups – especially underrepresented student groups? This project is available for everybody who needs it. • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? Annually the degrees go through an evaluation

		process. In this process graduates, undergraduates and stakeholder mainly industry and employer gather together to highlight weaknesses and strengths in each degree. One part of this report is devoted to internship, so data is available by means of those reports. • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? The costs are related to non-academic staff and academic staff devoted to contact companies and mentor the practice, along with the development and maintenance cost related to the software used to handle the internship.
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? Awareness of the benefits this practice offers to the industry. The most important one is to generate a disruptive change of mentality throughout academic staff, being aware of the importance of integrating industries in the day to day university activities at all levels (research, students, contracts, national and international calls, etc). Second one is to convince industries that our students who are supported by academic mentors may be useful for them in finding solutions to their problems. Also, industries have an easy way to know and select candidates for their future workforce.
	Constraints	• What were the constraints and challenges encountered during the implementation of the practice? How were they addressed? Time invested in setting up, designing, running, monitoring and evaluating the performance of an internship. Visiting some universities where similar initiatives had been implanted.

		Internal meetings to enhance and adopt external models to UPCT context etc…
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? The initiative is institutionally sustainable because it´s absolutely embedded in academic programs at different degrees. It´s economically sustainable for UPCT, due to the fact that internships are in somehow included in the student fees although some direct and fixed costs are involved. Indirect costs can be considered inexistent. Students´ salaries in case they exist, are supported by industries • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? See previous sections. • How does the practice contribute to risk reduction and resilience in your institution? This project contributes a lot to the institution resilience as it makes easy for the employees their children care at the same time that they create bonds by means of their children.
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. Technology supporting this best practice is not a key factor, however, activities carried out in each internship have an important degree of technology on its development • What is technologically ambitious or innovative within this practice? It would be an ambitious objective to go ahead with further technological developments through research works and collaborations with industries based on activities addressed in the internship.
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? This practice has been implemented in different higher institution contexts with similar

		configurations and modalities; and in the industry and public organizations. • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? Industry Sector and Academic staff must be aware of the benefits of the practice. It´s crucial to explain deeply to industries which are the objectives to be achieved and what requirements are needed for the internships approven. • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? N.A. • What is your vision for replicating or upscaling this practice across EUt+? Based on our experience, this best practice could be easily replicated and also upscaled considering international aspects of EUt project (international internships for EUt students).
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). As it was previously explained, students´ and stakeholders´ testimonies are collected in the PEM app. Based on our experience most of these inquiries show a high level of satisfaction. • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice. These narratives exist but they are protected because of privacy reasons

	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) This practice has been disseminated in conferences and workshops. Also, the webpage and UPCT Social Media have supported this dissemination
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc.)? Web Emails to UPCT community Emails from the EMFOCA app. • How does such dissemination show the success and effectiveness of the practice? Demand for the activity. Even when the subject related to internship is not compulsory, students choose it in more than 95% of the cases. • What sort of data is accessible that can help to review this practice? Some outputs may be found in the webpage (https://emfoca.upct.es/) and also In the app called PEM (https://pem.upct.es/).
	Contact details	• Emails to contact for more information on the practice. eloy.hontoria@upct.es

Title: UPCT NETWORK OF CHAIRS (NoC / RdC)

The aim of this practice is to integrate the university community inside the industrial sector and vice versa. The Network of Chairs (NoC) project started in 2014 with the goal of incorporating national and regional industries in this Network. Since then, almost 50 large and medium companies have joined the NoC which develops several activities throughout the year in a continuous way for transferring knowledge from university research groups to industries.

Several beneficiaries may be found with this initiative: Students who may be offered a scholarship by one Chair, Professors as researches and mentors of previous scholarships and finally industries belonging to the NoC as receptors of a transfer of knowledge from the university research groups.

Subtitle: Key Achievements

> 50 companies were recruited for the Network of Chairs

> 250 students have been benefited from a scholarship of a Chair, reinforcing their education in a more practical way and also becoming more trained to enter the labour market in the last 4 years. Upon the completion of the scholarship some of them were hired.

> 40 researchers and their research groups have participated in these scholarships, mentoring students and applying their knowledge in order to solve industrial problems. These researchers have also the choice to apply for a national or European Call together with the Industry belonging to the NoC.

> 50 industries engaged with the NoC have realized that our university is available for backing them up and transferring knowledge to face industrial problems they don´t know how to deal with or they do not have time enough to find a solution

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
UPCT	Good practice	From 2014-to now	Practical Education Training students for labour market Employment Chance to get a job	Eloy Hontoria eloy.hontoria@upct.es

Good Practice Elements

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) Spain, Murcia, Cartagena (implemented) Replicated by Murcia University
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders (academic/ industry/ technical/implementing/financial/etc.)? Academic staff, university students and industries.
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) **Students at UPCT** **Researchers** **Industries** • How many are they? (provide disaggregated data by student numbers, etc. where available) **253 students** **41 Researchers and research groups** **Around 50 organizations**
	Context	• What was the initial situation/ specific Industrial Sector and UPCT were almost two disconnected worlds with limited both interactions and transfer of knowledge. Students` complains about their little practical education and low contacts with the Industrial Sector.
	Challenge	• What are the specific challenges the practice is trying to address? Limited Industrial Thesis Low Success in European Calls.
	Objective and key resillience dimension	• Brief description of the practice This practice begins with the search of firms which

		are needed of a technical solution/s to their activities. To undertake it, a collaborative agreement is done for the creation of a Chair for that firm. The Chair is managed by a director who is specialized in the technical field through which an innovation may be carried out for the solving of the problem. This process is completed with the involvement of students as operative elements in analysing the problem, data collection, etc. The cooperation of students is addressed throughout Scholarships Calls and further selection of students. In some cases, other research groups are enrolled. For the maintenance of a Chair and related operating costs (including the 15% of total costs charged by UPCT), industries financing is required. This annual financing is a variable economic quantity depending of the amount of activities tackled by the Chair. In most of Chairs a salary for the Chair Manager is contemplated. Minimum once a year and with the aim of supervising the performance of a Chair, a committee composed by two members of the industry, the Chair Manager and someone belonging to the university board is called. Outputs of this monitoring may be the detection of objectives´ deviations, the behaviour of students benefited with a scholarship, financial situation, etc. • What are the specific objectives of the practice? To enhance students´ practical education, involving them in the finding of solutions to a specific problem within the industry. To increase knowledge transfer among academics and private sector / public administrations To integrate organizations (private and public sector) in the Network of Chairs in order to achieve a reinforcement of relationships among Industrial Sector and University (staff and students). • What are the main factors of the practice which contribute to strengthening the internationalization and optimizing mobility

		experiences? An international Network of Chairs will have a deep impact in the international exchange of students and academic staff towards others members´ facilities
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. Before the agreement to constitute a Chair among one industry and UPCT, the research guidelines and collaborative activities to be addressed have to be drawn. According to the objectives to be achieved, resources are set down and also their related costs that will be supported for the enterprise. These costs include the Chair manager cost, students´ scholarships, materials, apps, UPCT fees (15% of total costs), etc. To back up the NoC, some apps and a webpage need to be implemented. Once the Chair is created, it must be evaluated at least once a year. • How is information gathered within the practice? Various resources were employed like the app developed for that aim (https://emfoca.upct.es/red-catedras) • How are data compliance and protection issues addressed? - Data is processed according to law. • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? All researchers and students have equal opportunities for participation regardless of gender or disability. • Specify time frame and implementation cost, if available Designed Apps and webpage have a low cost and do not required a long time for their implementation (4-5 months). The longest time must be spent in

		explaining and convincing industries about the benefits in collaboration with UPCT creating and financing a Chair. • What resources were used in the implementation? Academic and staff faculty's time, apps, self-created content, a webpage, and some spaces for Chairs issues.
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? There is a continuous relationship and feedback between Industries and Chairs Managers. At the end of the academic year a commission debate about the results and next steps that need to be done.
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? See previous section. • Provide a brief description of the good practice validation process. At the end of each year from the creation of the Chair, a mutually agreed report must be done. With this aim 2 members of the company, the Chair manager and one member at the board of the UPCT are joined to write down activities developed throughout the last year and future ones for the next year.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice? 253 students in the last 4 years have been benefited with a scholarship, improving their practical education and some of them were hired at the end of the experience. Several researches work among Chair managers and companies were carried out.

		Enhancement of Industrial engagement. 50 companies realized about benefits of knowledge exchange with academics and students from the UPCT. Updating of the UPCT´s academic staff because off relationships with private sector.
	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? There is a positive impact of this initiative for all beneficiaries. Regarding students, the demand for this kind of scholarships has increased. Together with the Chair Manager as their academic mentor, they have their first contact with the company. In this sense, students increase their knowledge about research that is useful for the industry. Links between university research and industry are enhanced. Researchers are benefited because of closer relationships with the industrial sector and their needs for the solving of problems and innovation, which also supposes for academic staff a fresh air for their updating. Finally, industry get access to knowledge that only exist at the university, opening the doors of high-quality research groups. The impact is monitored by means of annual meetings (minimum once a year) and open communication channels. • How have beneficiaries' experience been improved economically, socially and environmentally? See previous section. • How is this practice impactful on underrepresented groups – especially underrepresented student groups? All the researchers and students have equal opportunities. • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? See previous points.

		• Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? Some clerical costs for UPCT have been integrated in existing labor force and do not entails additional costs for UPCT budget. However, it was needed to hired a full-time worker exclusively for the deployment of the Network of Chairs. Another labor cost is the role of the Coordinator of this Network which is a partial time work. Definitely, total costs are low in comparison with institutional benefits and they are covered by the 15% above mentioned.
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? The most important is to generate a disruptive change of mentality throughout academic staff, being aware of the importance of integrating industries in the day to day university activities at all levels (research, students, contracts, national and international calls, etc). Second one is to convince industries that university may support them in finding solutions to their problems through the creation of an industry Chair.
	Constraints	• What were the constraints and challenges encountered during the implementation of the practice? How were they addressed? Time invested in setting up, designing, running, monitoring, and evaluating the Net of Chairs. Visiting some universities where similar initiatives had been implanted. Internal meetings to enhance and adopt external models to UPCT context.
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? The initiative is economically sustainable for UPCT,

		due to the fact that few direct costs are involved and 15% of the annual amount of money financed by industries for the Chair are direct incomes for UPCT to support the practice. • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? Institutional commitment, industry awareness of the benefits. • How does the practice contribute to risk reduction and resilience in your institution? It´s supposed it will reduce risks and resilience, however it hasn´t been quantified already.
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. Most of the activities undertaken within a Chair have a technological factor for their solving, due to the fact that most of the Chairs are involved in technology. Currently, Chairs in the field of Agricultura are developing technologies for the reduction of CO2 emissions, pig slurries and other contaminants like nitrates. In the field of Artificial Intelligence, many applications in the field of submarine acoustics or medicine have been developed. • What is technologically ambitious or innovative within this practice? It would be technologically ambitious the development of research lines which outcomes were patents or industrial thesis in this field.
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? This practice has also been replicated not only for the industrial sector, but also for public organizations. • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area?

		Industry Sector and Academic staff must be aware of the benefits of the practice. It´s crucial to explain deeply to industries which are the objectives to be achieved and what concepts are included or not when financing the Chair. • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? See previous points. • What is your vision for replicating or upscaling this practice across EUt+? Our model could be easy replicated following our guidelines. For its implementation and maintenance, low costs are needed. This best practice is economically sustainable considering Chairs incomes (15% of the Chairs total costs). For its upscaling across EUt, a common international Network of Chairs had to be designed. With that aim, international agreements with industries belonging to different EUt universities must be signed. In this international context, students from different EUt universities must be allowed to participate in the Scholarships Calls of any Chair.
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). Several students´ testimonies may be found in NoC`s Social Networks. They are referred to their experience as scholarship holders and how they further got their first job. Regarding industries, some success cases are highlighted, but other ones are not available for privacy policies reasons • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those

		with institutional responsibility) of the practice.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) Some outputs may be found via the Network of Chairs´ webpage (https://emfoca.upct.es/red-catedras) and also Network of Chairs´ Social Network: https://www.linkedin.com/company/redcatedrasupct/ https://twitter.com/RedCatedrasUpct
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? This practice has been disseminated in conferences and workshops. Also, the webpage and the Social Media of the NoC have supported this dissemination. • How does such dissemination show the success and effectiveness of the practice? • What sort of data is accessible that can help to review this practice? See previous section (resources)
	Contact details	• Emails to contact for more information on the practice. eloy.hontoria@upct.es

IEUTT1: Industry Jobs Fair (UTT)

Title: Annual Industry Job Fair

The annual Industry Job Fair is one the key event of our university which allows students and industrials to meet and create opportunities for their future – whether for internships / apprenticeship or even their first jobs.

This recruitment event is a stepping stone in the curriculum of all UTT students and is an event that our industrial partners enjoy and come back to every year for the vast majority of them. It is

a dedicated day in the university's calendar where over 700 students come to meet 125 companies that come all the way to our campus to find their new talents. In the past two years, we have also opened this event to all our alumni as more and more companies highlighted their interest for young as well as more experienced profiles.

This event is the best opportunity for all UTT students to get to know and meet many companies in a single day.

Our university helps students prepare ahead of this fair – with workshops on how to create their CV, how to prepare a job interview and how to organize their day during the fair. This is a great opportunity for students to start building a network of contacts within companies that are interested in their profiles which they will be able to use throughout their whole career. The event is also appreciated by companies who take the time to send their staff (and often alumni working for them) on campus to meet our students.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Category	Contact point
UTT	Good practice	Annual event happening in October	• Industry Engagement • Internationalization as we do have companies coming from Europe (Luxembourg, Switzerland, UK) but we also have French companies offering job or internship	Marion Quillery (UTT) Marion.quillery@utt.fr

			opportunities abroad.	

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation
Geographical Coverage	• This has been implemented at UTT in Troyes, France (both on-site and in a virtual format). Industrial partners who participated were from the whole of France and some from outside of France (UK, Canada, Luxembourg, Switzerland...)
Actors and stakeholders	• Key actors are staff from university / students / Industrial Partners
Beneficiaries	• Students (approx. 700 per event) • Alumni (approx. 100 per event) • Industrial partners (max 125 when the event is on-site). Could be more for a virtual event.
Context	• Our role is to help students find their next professional opportunity whether it is as part of an internship, an apprenticeship or a job. In addition to all the offers we provides students with, their access to our career center, we realise how important it is for these two publics to meet face to face and have an actual dialog. For this reason, 15 years ago, UTT decided to host an annual job fair to mobilize all interested industrial partners and all students.
Challenge	• This practice aims to facilitate networking opportunities to ensure our students can easily find their next work placement. • It is also a great way for companies to raise their profile and therefore increase the number of applications they will receive from the students.
Objective and key resillience dimension	• Allow dialogue and direct communication between students and companies • Help students better define their professional goals and aspirations • Accompany students in the recruitment process of our industrial partners • Help companies find their next talents more easily • Keep very high professional insertion numbers for

		the university • Raise the university's profile with a very professional and quality event
		• How was the practice implemented? 1. Reach out to industrial partners to explain the event 2. Gather their interest and collect their registration to the event 3. Help companies organize their day (help them understand the different students' profile, the type of contracts they car offer…) 4. Realise a brochure of the event with a presentation of each registered company to help student prepare themselves to meeting them 5. Organise logistics of the event 6. Communicate to students to ensure a large attendance on the day 7. Organise workshops and training ahead of the day to ensure students have all the tools they need to be professional in front of the companies' representative. 8. Gather job offers from companies ahead of the event to share with students.
	Methodological approach	• A dedicated team is working together on the event but there is really one project manager on the overall event. • All data compliance and protection issues are addressed ahead of the event in collaboration with industrial partners and UTT's DPO. The registration site includes all information on how data will be used and companies can decide which data to provide. • The event brings together all UTT students regardless of their profile/gender... • The event typically takes 6 months to organize. In terms of cost structure, we need a budget of approx.. €50-60K per on-site event. However, participation to this event for companies is charged and their participation always allow a net benefice for the university. • Human ressources are the main component of this practice. COVID aside, this event is usually on-site. It requires a dedicated IT platform to enable companies' registration, the collection of their information for the brochure and their requirements for the logistics on the day

	(food/number of participants/station transfers…).
Evaluation and continuous improvement	• A satisfaction survey is given to all companies that are participating to the event and collected at the end of the event. It covers all aspects of the event: the organisation, the level of preparation of the students they have met, the quality of the services (food/transfers…). We also give them an opportunity to suggest improvements for the following year.
Validation process	• The survey is a great way to understand what worked and what did not for the companies. Grades given on the overall event are usually very good. • For companies, a good way to ensure this event is really an added value to them is to see whether they come back the following year. We typically have 80% who come back every year. • We also see staff who move to other companies come back to UTT to register their new company. • We also have many alumni who recommend this event to their companies.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)	
Results	• Increasing demand from industrial partners to participate (In 2017, we had 57 companies, 108 in 2018 and we reached the max capacity of 125 in 2019). • Every year, we have between 20-40 students who find their next professional opportunity directly during the Job Fair and for many others, the Fair is the first stage of their recruitment process. • Some younger students participate despite the fact that they may not need a professional opportunity for another 1-2 years. • Students often highlight the fact that these exchanges help them better define their professional projects.
Impact	• Industrial partners find their new talents in a very effective manner. • Students get the chance to meet with over 100 companies in one day and present their profiles to them. • Industrial partners also raise awareness about their

		business and students can build relationships with them in order to facilitate their insertion in the professional world later on. • For the university, this large scale event is a great way to create lasting relationships with companies. • It is also a profit generating event for the university.
	Success factors	• The conditions needed for the successful implementation of the practice are: - A market study to ensure the price/quality ratio is good. - A good industrial network - A dedicated CRM system to handle the logistics of the event - A sufficient number of students participating - A good preparation of the students to ensure the dialogues on the day are productive and interesting for both parties. - Financial ressources (grants / sponsors…) to book all logistical aspects ahead of the event
	Constraints	• The constraints and challenges encountered during the implementing of the practice were: - Building a strong network of industrial partners interested in the event - Communicating to students to get them to adhere to the project and understand the benefits. - Ensuring a good preparation of the students ahead of the day - Including the event as part of the academic calendar to ensure a strong participation of students on the day - Diversifying the type of companies attending to represent every student curriculum
	Sustainability	• To be more institutionally, socially, economically and environmentally sustainable, we could look at providers that are specializing in these areas for certain part of the event (ex: the food). However, the • We do have companies who attend the job fair whose activities are sustainable. Helping them recruit new talents is also a way to help these initiatives grow. • We are considering a specific section of the fair to host smaller sustainable companies/associations and associations for a much lower price.

Technology	• The technology part of the project is concentrated in the CRM solution we have built for the organization of the event (registration, data collection…)
Replicating and upscaling	• This practice has been replicated on an annual basis for the past 15 years. • The 2020 edition was in a different context (COVID) and the event was therefore organized virtually for the first time. We had to use a service provider specializing in this kind of virtual events. • Upscaling this event to other Eut+ partners could be quite easy now that we have a virtual provider we can use. This provider is already offering an interface in English and companies can students can be located anywhere in the world in order to participate.
Testimony	• Summary of 2019 survey is as follows (out of 74 companies that filled out the questionnaire): - 65 thought the students were well prepared - 70 were satisfied by the overall event / 4 were unsatisfied - 70 confirmed they would be coming back the following year / 1 wouldn't / 3 did not know - 72 confirmed they have identified good students profiles - 63 expressed an interest in having a closer relationship with UTT (participation to other events, partnerships…) • Here are a few qualitative appreciations from companies: *« Les étudiants étaient vraiment bien préparés ; c'était très agréable »* - Ariane Group *« Super idée ces gommettes de couleurs pour identifier les profils ! Bravo !»* - Groupe Atlantique *« Nous souhaitons développer un partenariat Ecole avec l'UTT. Salon très bien organisé »* - Innovateam *« Merci pour l'organisation de ce très bel évènement »* Dassault Systèmes *« Notre 1ere participation à cet évènement est une réussite ! »* 4CAD Group *« C'était vraiment un super Forum ! Quelle organisation ! »* Nexworld • Full satisfaction surveys can be made available but are currently in French.

	Related resources	• https://www.youtube.com/watch?v=lCLStMhzwxM • https://entreprises.utt.fr/recruter/presence-campus/forum-entreprises • https://www.youtube.com/watch?v=Vt_tKs7C8Dk
	Dissemination	• We use the satisfaction surveys we gather from the companies to try to always improve our event. • In addition, we now see our alumni who participated in the event as students and who are now leading the participation of their company to the event.
	Contact details	• Marion Quillery +33 3 51 59 13 52 Marion.quillery@utt.fr

Chapter 4: Global scanning of good practices in industry and employer engagement

In addition to looking inside our partner organisations to draw out good practices in industry and employer engagement suitable for piloting, replication or scale-up, we also undertook a global scanning process to spotlight globally where best practices might exist in industry and employer engagement that can support our ambitions. This is a continuous work in progress.

The Times Higher Education produced a report on university industry collaboration, highlighting the importance of tech companies for university industry research. This report looks a research participation by industry and presents a number of case studies from both universities and the tech sector. The University of Stuttgart, Caltech and McMaster University are highlighted as case studies together with tech companies Microsoft, Samsung, Alphabet and Huawei. For full report see: https://www.timeshighereducation.com/sites/default/files/the_consultancy_university_industry_collaboration_final_report_051120.pdf.

Some interesting insights on best practices on university industry collaborations are identified in the University Industry Innovation Magazine that focuses on strategic partnerships with industry. Two universities are highlighted here in terms of identifying global good practice – Rutgers University in New York and the University of Groningen in The Netherlands. The journal also delves into interesting topics such as unlocking the secrets of successful partnership. For full online reading see: https://uiin.org/wp-content/uploads/2021/03/UIIM-Strategic-Partnerships-March21.pdf.

Chapter 5: Recommendations and next steps for EUt+ industry and employer engagement

Our recommendations and next steps below result from our analysis of good practices provided and our understanding at this point of time of each other. Based on data provided we suggest next steps in terms of development of industry and employer engagement across EUt+ according to nine key areas.

1. Sharing and leveraging good practices on Career and Open days / jobs fair

Multiple partners highlighted their good practices in the development of career and open days and jobs fairs. Some very interesting features exist within individual partners that could be shared and integrated into the days across EUt+. Examples include RTU's socially engaged career day that not only invites RTU students but youth populations more widely.

Next steps:

- Workshops and site visits among organisers to share good practices on career days and to leverage expertise (6 months)
- Introduction of EUt+ industry partners to participate across EUt+ career days (one year)
- Explore opportunities for international internships. (6 months)
- Profiling EUt+ at such major events – e.g. having a stand or a dedicated representative present. (6 months)

2. Enhancing employability of graduates through advanced vocational and professional training

IECUT1 runs a very successful vocational programme to develop employability skills of graduates and to create employment opportunities with partners. Students were able to earn placements thanks to ENGINITE whilst industries reinforced their staff with the ENGINITE training programme.

Next steps:

- Explore potential to pilot across EUt+ partners (6 months)

3. Industry projects

IECUT2 is currently piloting industry based projects for their students in the fields of Informatics and New Media and Technology. There are other fields where these projects exist and sharing insights from the pilot can benefit other EUt+ partners in similar fields.

Next steps:

- Report on outcome of pilot to EUt+ with plan for replication or scale up (one year)

4. True industry cooperation and novel models of research collaboration

Some great examples of real cooperation between university and industry are evident in the good practices. IERTU3 cooperation with Piekko demonstrates how cooperation can exist across multiple work areas that has clear and recognised benefits for both parties. IEUPCT2 Network of Chairs is also a great model of real cooperation with industry emphasising (among other things) a good research and knowledge transfer model. Industry partners commit resources and benefit across multiple dimensions by mutual interactions and focus. The community of strategic engagement reported by TU Dublin enriches this approach to meaningful collaboration where universities and industry operates in true partnership and for mutual benefit.

Next steps:

- Explore potential to pilot these excellent models of collaboration from IERTU3, IEUPCT2, IETUD1. Is there scope to combine what works across locations into a best in class practice ? (3 months)

5. Access and widening participation

IEHDA1 draws on paid industry placement initiatives to improve female participation in engineering programmes. Similar to IECUT1, this initiative is good for underrepresented groups to improve balance. It is noted in the review that drawing in underrepresented groups onto programmes is not just desirable but it is necessary to combat changing demographics in some European countries that will see falling numbers of students in the coming years. In this instance it is a six month programme that gives students a hands on view of the study programme and the industry.

Next steps:

- Liaise with faculties and schools of engineering to start conversation about this programme and potential for it to be replicated for scaled up across partners. (3 months)

6. High level commitment to national and European industry and enterprise representative bodies.

A critical success factor for IETUD2 was direct participation in local industry chambers and networks as an equal member. This kind of participation ensures close and frequent communication with local enterprise and industry executives. It encourages conversations and promotes understanding. It also is a visible representation of the importance of industry partners to our institutions. At EUt+ level there are both national and European industry bodies that a deeply embedded alliance would need to work closely with. IEUPCT2 is also a practice of close industry collaboration and high level commitment.

Next steps:

- Map out and identify strategically where EUt+ needs to position itself at the highest level of local and European industry representative bodies. Rectors an executive level have a role in this in terms of strategically positioning themselves in positions that show commitment to industry. (1 year)

7. Internship experiences

Most partners report internship opportunities for student and the benefits of students engaging with internships is well recognised. Successful practices such as having an academic and an industry mentor as described in UEUPCT1 could be shared. EUt+ opens up the scope of much more international internships that maybe attractive options for students. A common protocol could be developed grounded in the best of our practices in terms of engaging with companies and supporting students.

Next steps:

- Create contact group of persons responsible for internships across EUt+ partners and facilitate discussion about international opportunities . (3 months)
- Pilot a small number of international internship placements (6 months)

8. Internationalising practices – mobilities / internships / research

An important advantage of the EUt+ alliance is our access to a European network of institutions that themselves have strong local networks and levels of industry engagement. Engaging industry at the EUt+ level means working across and with multiple partners to develop industry collaborations for research, placements, jobs, influence, cooperation and widening access.

Next steps:

- Targets exist already for mobility and research. Identify other targets for internationalising practices such as internships and opportunities for short term staff mobilities to work on these opportunities (3 months)

Appendix A – Template for Starting Pilot Initiative

Name of Pilot Lead:	
Institution:	
Date:	
Name of Pilot:	

Brief Description of Pilot: (100 words max)

…

1. Goals

CHECKLIST

❑ Define what success looks like for your rollout

(3-4 bullet points)

❑ Set goals that you can measure over time through the duration of the initiative

(1-2 goals with 3-4 objectives)

❑ Include measurements across all stakeholders and areas of the initiative (e.g. students, teachers, staff, technology, learning outcomes, etc.)

(aim for at least two measurements under each of the four measures of success where possible)

Measures of Success and impact

Implementation success metrics	Educational Outcomes for teachers / students / others	Measures on Inclusivity – gender and other underrepresented groups	Measures on Government / industry / industry and employer engagement

2. Timeline/Milestones

CHECKLIST

❏ Review all steps involved in rolling out the pilot initiative and set a realistic launch date

- *Planning phase (50 words)*
- *Launch Phase (50 words)*
- *Train Phase (including drafting guidance material) (50 words)*
- *Conclude Phase (50 words)*

❏ Based on the launch date, create a detailed timeline (including critical milestones) to ensure your project stays on track

(*provide Gantt chart and identify milestones)*

3. Selection

CHECKLIST

❑ Define how big your Pilot will be and who will be included in it (which schools, groups of teachers, students, etc.)

(50 words)

❑ Draft criteria to guide each group of pilot participants

(List documents needed to guide each pilot participant – who will draft these documents?)

4. *Measurement*

CHECKLIST

❑ Define how you will measure the success of your rollout and ensure there are methods in place (surveys, reports, observations, etc.) to collect the data to do so

(Link in with table of measurements under Goals – specify each measure under the headings of Implementation success, Educational outcomes, Inclusiveness outcomes, Industry and industry and employer engagement outcomes as per Table 1 of the guideline document and method for measurement)

Appendix B – Reporting on Pilot

Name of Pilot Lead:	
Institution:	
Date:	
Name of Pilot:	
Pilot Completion Date:	

Results on Measures of Success and impact

Implementation success metrics	Educational Outcomes for teachers / students / others	Measures on Inclusivity – gender and other underrepresented groups	Measures on Government / industry / industry and employer engagement

Products and supports required for project (50 words)

Lessons learned, risks and issues (50 words)

Benefits assessment (50 words)

Viability report and recommendation (50 words)

Route map for implementation (50 words – or graphic)

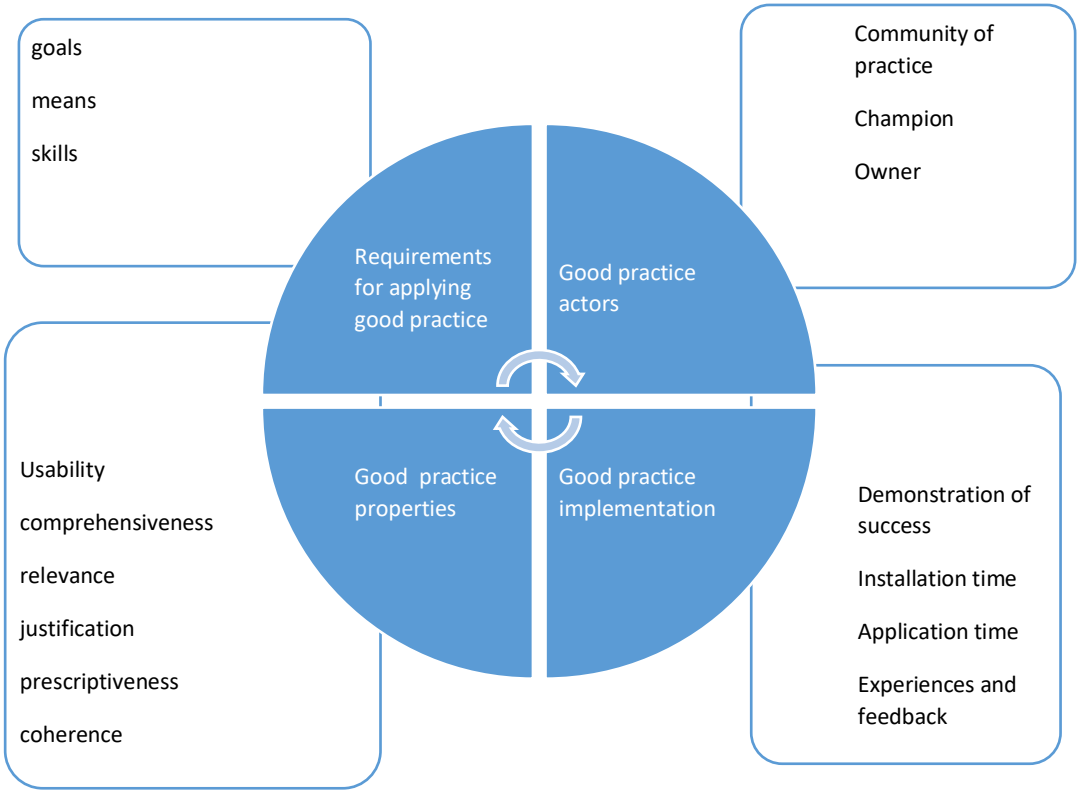
Resourcing appraisal and project plan (50 words)

Appendix C – Replicating and Scaling up Good Practices across EUt+

This is a support framework for partners involved in scaling up and replicating good practice across EUt+.

As good practices are identified and reflected on, the aim ultimately is to share good practices and to create participation opportunities across EUt+ partners. Figure 1 presents a framework to aid replication and upscaling of institutional good practices across EUt+ partners. Although it is recognized that this framework maybe quite technology focused, the framework and underlying questions can be adapted to suit different types and elements of practices. The important aspect is that it helps partners embed a methodological approach to good practice adaptation that may be needed for knowledge sharing and successful implementation.

Figure 1: framework to aid replication and upscaling of good practices in EUt+



Source: adapted from Meshari Alwazae et al. (2015)

Alwazae, Perjons, Johannsen (2015) developed a template on best practice collection that emphasizes the transfer of practices. Categories within the framework covering knowledge transfer can help partners wanting to adopt or collaborate in good practice approaches within EUt+.

Questionnaire for replicating and scaling up good practices

It is anticipated that where good practices are adopted by a partner a framework will help to promote and assist in the process. All partners should consider these questions when building a case to implement a good practice initiative. This will help provide a sound basis for decision making and will assist in monitoring and managing the process as it evolves.

Requirements for applying good practice:

1. Goal: The intended effect of applying the good practice.
2. Means: The means that are needed for applying the good practice, including people and technology.
3. Skills: The skills and competence required of the end-user for applying the good practice.
4. Cost: An estimation of the costs for applying the good practice.
5. Barriers: Obstacles or problems that may occur before, during, and after applying the good practice.
6. Barrier Management: Procedures to follow if certain obstacles or problems are encountered.

Good practice actors

1. Community of Practice: Community of practice that may be interested in using the good practice.
2. Champion: The need and role of a champion for the good practice.
3. Owner: The good practice owner or responsible who might be an individual, role, department or organization.
4. Training Needs: The degree to which a person has to be trained in order to use the good practice.
5. Acceptability: The degree of good practice acceptance by domain experts - in general and/or in the organization - for resolving the problem addressed by the good practice.

Good practice properties

1. Usability: The degree to which the good practice is easy to use or enact.
2. Comprehensiveness: The degree to which the good practice offers a comprehensive and complete view of the problem and solution under consideration.
3. Relevance: The degree to which the problem addressed by the good practice is experienced as significant by practitioners.
4. Justification: The degree to which evidence shows that the good practice solves the problem.
5. Prescriptiveness: The degree to which the good practice offers a concrete proposal for solving the problem.
6. Coherence: The degree to which the good practice constitutes a coherent unit, i.e., all parts are clearly related .
7. Consistency: The degree to which the good practice is consistent with existing knowledge and vocabulary used in the target industry sector or knowledge domain.

8. Granularity: The degree to which the good practice is appropriately detailed.
9. Adaptability: The degree to which the good practice can be easily modified and adapted to other situations.
10. Activity: The tasks to be carried out in the good practice.
11. Integration: The degree to which the good practice is integrated with other good practices.

Good practice implementation

1. Demonstration of Success: A case where the good practice is successfully demonstrated Implementation.
2. Installation Time: The time it takes to introduce and implement the good practice in an organization.
3. Application Time: The time it takes to apply the good practice in an organization.
4. Experiences and feedback: Users' opinions, advices and experiences of the good practice.
5. Measurement: Indicators for measuring the quality and performance of the good practice.

Reference:

Alwazae, M., Perjons, E, Johannsen, P. (2015) Applying a Template for Best Practice Documentation. Procedia Computer Science 72 (2015) 252 – 260.

EUROPEAN UNIVERSITY OF TECHNOLOGY

EUt+ Initiative

WORK PACKAGE 2:

Deliverable 2.4.3c

Deliverable title:

Good Practice Review on Innovation and Technology Transfer

Contents

Chapter 1: Introduction

The Good Practice Review of Civic and Industry engagement deliverable falls under Work Package 2, Task 2.4 of the EUt+ Initiative. Task 2.4 aims to deepen the connections of EUt+ with its ecosystems and link its diverse territories for inter- and intra-regional knowledge exchange and collaboration with stakeholders, including industry, government, civic and enterprise organisations. As universities of technology, each partner is already at the interface within its region. Through EUt+, we will share these networks for increased impact. Innovation and technology transfer from our technology transfer offices (TTO) can involve either civic and industry engagement or both. We report our good practices from TTO separately because of the wider reach of commercialisation, knowledge and technology transfer both within our institutions and our ecosystems. By collecting good practices specifically under TTO we can build specific capabilities in the place where business meets innovation.

Across all actions, engagement with industry and civic society will be fully embedded into the teaching and research of EUt+. The nature of this engagement will reflect the diversity of the settings of the campuses and will lead to integration of their host communities across Europe, along with the development of proactive local and global citizenship in our students. The bid document sets out the objectives connected to EUt+ civic and industry engagement (Table 1). It is notable here that one indicator of meeting our objectives is the number of new business start-ups based on a European model. Our European model can be developed through recognition and adaptation of our good practices evolving into a European approach.

Table 1: Objectives and Indicators for the EUt+ network

Objectives	**Indicators**
Establish and pilot a shared, networked and coordinated community for industry engagement Develop a European dimension to industrial support and to business creation	Number of networks created Participation rates in access routes created by EUt+ Numbers of new business start-ups based on a European business model
Establish and pilot a shared, networked and coordinated approach to civic and community engagement	Number of new pilot networks created based on civic and community engagement Number of staff, students and community participants in pilot networks Number of engaged research outputs Uptake and output of social

	entrepreneurship among students, staff and community Uptake and output of staff and student engagement in volunteering, outreach and social and cultural development

The deliverables under Task 2.4 to achieve our objectives are closely connected and support each other. This first deliverable under Task 2.4 was the Core Network deliverable where we illustrated the network of EUt+ partners on government, industry and civic engagement both active and planned.

In the first months of our work together in EUt+ we took time to get to know and understand our different people, structures and practices. We learned about the rich histories and successes at a local level that individual partners have in their TTOs. During Covid lockdowns we shared this through meetings and seminars and partner presentations. Since September 2021 we have been fortunate to begin travelling to our partner locations to see good practices on innovation and technology transfer in action. All of our partners have good practices to share that can be piloted, shared and replicated across EUt+, augmenting our industry and civic networks through proven and effective good practices in our TTO activities.

The EUt+ Initiative cites particular tasks under Work Package 2.4 in terms of how it engages its network for innovation and technology transfer. The bid document explicitly states the intention to:

- Establish a network of campus civic and industry and employer engagement teams with city, regional, local authorities across EUt+.
- Explore how such networks will support and influence the development of regional economic and social policies and strategies.
- Plan, monitor and evaluate societal engagement in each region.
- Promote, support and embed civic and industry engagement in the curriculum and co-curriculum.
- Promote, support and embed civic and industry engagement in overall student experience.
- Promote, support and embed civic and industry engagement in research planning and execution.
- Promote, support and embed civic and industry engagement in campus strategic and physical planning.

The Mission Statement of EUt+ is clear in its first sentence that as a University of Technology, the EUt+ mission is first and foremost to serve society. Enterprise engagement is what fuels our initiative. We are all civic universities that see diversity as an opportunity and place inclusiveness at the core. How we develop our shared approach and practices within our TTOs is fundamental to realising our ambitious Vision and to living our Mission Statement.

We have adopted the United Nations approach (2015) to defining a good practice as "*not only a practice that is good, but a practice that has been proven to work well and produce good results, and is therefore recommended as a model. It is a successful experience, which has been tested and validated, in the broad sense, which has been repeated and deserves to be shared so that a greater number of people can adopt it.*"

With this definition we recognise that collecting good practices is a cornerstone of our approach to augmenting our EUt+ networks. It is the opportunity to present in a transparent and responsible way our individual successes in our TTOs so that we can properly plan to pilot, replicate and scale up innovation and technology transfer in EUt+.

The next section presents our Methodology followed by Chapter 2 showing how we identified the good practices in a rigorous and transparent way. Chapter 3 follows with an outline of the key features of each partner good practice. Chapter 4 shines a spotlight on our shared global scanning efforts, identifying some best practices that exist globally. This highlights that we are not only looking towards each other, but also collectively always looking outward for new ideas and approaches. Our final Chapter 5 presents the next steps for action in terms of piloting, replicating, scaling up, and combining good practices to leverage off our shared experience and knowledge.

Methodology

All of the partners in EUt+ have good practices in their TTOs to share. All partners also have global networks and knowledge of global best practices that they recognise for their excellence and potential to benchmark against. The methodology has 3 data collection tactics, together with the development of a standard template and a piloting approach to progress our work to the next step after data collection. Our research design involves a six step methodology.

1. Development, sharing and training on a Template and Guide Document on Good Practice
2. Identification of good practices in partners.
3. Describing the features of good practice in partners.
4. Global scanning to spotlight best practices
5. Development of guide on how to pilot and framework for implementation in consideration in next steps.
6. Agreement on next steps to pilot, replicate and scale up good practices in our TTOs.

1. Development of a Template and Guide Document on Good Practice

In identifying and mapping the features of good practices we developed and adapted instruments drawing on the approaches of others through researching widely and including approaches of the European Commission and the United Nations. We found in particular that the Food and Agriculture Organization of the United Nations has some very good templates that could guide us in working out

how to identify good practices and how to describe good practices. From various sources we developed a Template and Guide Document on Good Practices that was contributed to and signed off by WP2 Liaisons. This document was then shared with all participants with some examples for review. We ran two workshops explaining and instructing on using this guide and templates so that all participants felt comfortable using it within their own organisations, and so that they had the chance to feedback and ask questions before introducing to their own colleagues. The Template and Guide Document on Good Practice that we developed can be found in Whaller Sphere 2.0: https://agora.univ-tech.eu/sphere/1h819g/box/175229. This includes guidance and templates that assist users in defining good practice, identifying good practice, reviewing good practice, and replicating-scaling up good practices.

2. *Identification of good practices in partners*

The following set of criteria helped partners to determine whether a practice is a "good practice" according to our objectives in EUt+.

A three point Likert scale was developed for each item. Items are not weighted and start at the mid-level because it is assumed that practices weak on any of these criteria will not be 'good practices' as defined. Partners had the flexibility to determine for themselves how these rankings informed the selection of one good practice over another. They showed rather transparency in the identification and selection process to help guide decision making about which good practices to report, and ultimately which good practices can be piloted, scaled up or replicated in EUt+.

Effective and successful: A "good practice" has proven its strategic relevance as the most effective way in achieving a specific objective; it has been successfully adopted and has had a positive impact on individuals and/or communities.

Somewhat effective	Very effective	Extremely effective
O	O	O
Somewhat successful	Very successful	Extremely successful
O	O	O

Environmentally, economically, and socially sustainable: A "good practice" meets current needs and is inclusive, without compromising the ability to address future needs. The aspects of a sustainability practice are environmental, economic and social.

High on one aspect	High on two aspects	High on three aspects
O	O	O

Gender sensitive: A description of the practice must show how actors, men and women, involved in the process, were able to improve their experience, wellbeing, objectives.

Improvements by gender are unknown	Improvement shows for men and women	Improvement shows for men, women and other underrepresented groups
O	O	O

Technically feasible: Technical feasibility is the basis of a “good practice”. It is easy to learn and to implement.

Somewhat difficult to learn and implement	Easy to learn and implement	Very easy to learn and implement
O	O	O

Technologically ambitious: Influencing technology is at the heart of EUt+ and good practices should be ambitious in the consideration of technology and innovation.

Good technological ambitions in this practice	Very good technological ambitions in this practice	Excellent technological ambitions in this practice
O	O	O

Inherently participatory: Participatory approaches are essential as they support a joint sense of ownership of decisions and actions.

Practice is implemented by one or two people	Practice is implemented by a small group of people	Wide participation in practice by broad range of internal and external stakeholders

o o o

Replicable and adaptable: A “good practice” should have the potential for replication and should therefore be adaptable to similar objectives in varying situations. It needs to be methodologically transparent to successfully scale up or replicate

Practice is contextual to local environment	Practice can adapt to a number of situations	Practice is widely adaptable to similar objective across varying situations
o	o	o

Compliant with data protection and privacy: The good practice must adhere to legislative and university standards on data protection and privacy. In particular it would need to be understood how such issues are addressed in the replication or scale up of a practice.

Data protection and privacy issues would need to be investigated to share this practice	Data protection issues and privacy issues are understood but might take time to address if this practice is shared	Data protection and privacy issues can easily be addressed for sharing this practice
o	o	o

Accessible data and/or dissemination record: It must be able to provide evidence of results and impact by accessible data or other types of dissemination.

Small amount of data and/or other dissemination on this practice concerning results and impact	Concentration on one source of data and/or dissemination but benefits on results and impact can easily be understood from this	Multiple sources of accessible data and/or dissemination show the results and impact of this practice
o	o	o

Reducing risk, if applicable: A “good practice” contributes to risk reduction for resilience.

Unclear how this practice contributes to risk reduction and resilience	Some evidence that this practice contributes to risk reduction and resilience	Lots of evidence that this practice contributes to risk reduction and resilience
O	O	O

3. *Describing the features of good practice in partners*

The Template and Guideline for Good Practice Review provided a template identifying key features and guiding questions that helped partners to report on their good practice in a rigorous and transparent way.

Title and subtitle of Good Practice Review

Title should preferably include name of practice and for what type of purpose /aim /objective /context this practice is implemented. The region or country of where the practice was implemented should also be indicated in either title or subtitle.

Subtitle should be practical and indicate key achievement to [whatever theme the good practice guide is covering – e.g. internationalization and optimizing mobility experiences, industry engagement, etc..].

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
This could be a partner university or an international	According to Definition, state promising or good practice	Month and yearof the practice implementation	- A - B - C	Name(s), organisation, email

good/best practice identified by a partner.			Or category: gender, civic engagement. etc.	

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful)
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)?
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) • How many are they? (provide disaggregated data by student numbers, etc. where available)
	Context	• What was the initial situation/ specific context?
	Challenge	• What are the specific challenges the practice is trying to address?
	Objective and key resillience dimension	• Brief description of the practice • What are the specific objectives of the practice? • What are the main factors of the practice which contribute to strengthening the [theme of the document]?
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. • How is information gathered within the practice? • How are data compliance and protection issues addressed? • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? • Specify time frame and implementation cost, if available

		• What resources were used in the implementation?
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice?
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? • Provide a brief description of the good practice validation process.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice?
	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? • How have beneficiaries' experience been improved economically, socially and environmentally? • How is this practice impactful on underrepresented groups – especially underrepresented student groups? • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies?
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice?
	Constraints	• What were the constraints and challenges encountered during the implementing of the practice? How were they addressed?
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? • What are the key elements to put in place for the practice to be institutionally, socially,

		economically and environmentally sustainable? • How does the practice contribute to risk reduction and resilience in your institution?
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. • What is technologically ambitious or innovative within this practice?
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? • What is your vision for replicating or upscaling this practice across EUt+?
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.)
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? • How does such dissemination show the success and effectiveness of the practice? • What sort of data is accessible that can help to review this practice?
	Contact details	• Emails to contact for more information on the practice.

4. Global scanning to spotlight best practices

In addition to identifying and describing good practices in TTOs within their own institutions, each partner was also asked to provide cases that from other HEIs that they were aware of globally that could be considered global good practice. Asking each partner to share this information ensured that a global scanning process happened of the knowledge and networks of individual partners. Partners used to the extent possible the features template provided above, but in practice it was not expected that the same level of information would be available at a non-experiential level. Flexibility in the format of how global good practices were provided was assumed.

5. *Development of guides and supports on how to pilot and framework to implement good practices in consideration in next steps*

To ensure that the time and effort put into gathering data and reporting on good practice deliverables from TTOs was optimised towards the ambitions of EUt+, templates and guides on piloting and implementing were developed. The standardisation of such approaches was deemed fundamental to management and reflecting on successes and learning from our TTO activities. Having a common understanding of what a pilot is and how to reflect on it is a critical aspect of understanding progress. Similarly supporting partners with tools and frameworks for implementation of good practices can only be of benefit where they are needed. The How to Pilot guideline is in Whaller Sphere 2.0: https://agora.univ-tech.eu/sphere/1h819g/box/172174. The Templates for Starting a Pilot Initiative and for Reporting on a Pilot Initiative after completion are included in this document under Appendix A and Appendix B. A framework for supporting partners involved in Scaling up and Replicating Good Practices is included under Appendix C.

6. *Agreement on next steps to pilot, replicate and scale up good practices in TTOs*

Analysis on the good practices reported gave all partners a deep insight into the underlying features and activities involved. This allowed individual partners to consider how to use this information to progress innovation and technology transfer at the EUt+ level. Next steps are identified in the final phase of data analysis with an action plan included.

Summary of recommendations

Our collection of good practices and analysis guides us in the next steps for EUt+ in terms of developing our EUt+ our innovation and technology transfer network whether this be through piloting initiatives, replicating initiatives or scaling up initiatives from local partner institutions to EUt+ level. We identify actions under seven main headings in our recommendations and next steps chapter:

1. Potential for EUt+ level pre-incubation initiative
2. Opportunity to create pan-European IP auction

3. Nationally funded Lab initiatives – share good practices maybe move closer to harmonising
4. Bring internationalisation aspect through Erasmus+ funding to nationally funded innovation hubs
5. Build on inclusive element – more female initiatives, children, underrepresented groups
6. Partner in innovation research funding
7. Models for closer engagement of industry in TTO at European level

Chapter 2: Identifying good practices in TTOs across EUt+

According to the guideline and the template for identifying good practices, each partner was asked to identify up to two good practices within their institution that could be piloted, shared, replicated, combined at EUt+ level. It is of course recognised that lines can be blurred when categorising a practice as industry and employer engagement, civic engagement or innovation/technology transfer, but since all are reported across the different documents, there is no need for duplication. It is also notable in particular concerning good practices in our TTOs that not all partners recognised good practices that were suitable to pilot, share, replicate. Some have dedicated teams working within a formal TTO structure whereas others have much more dispersed activities (see. D2.4.3a and D2.4.3b reports that should be read in conjunction with this to get full overview of civic and industry and employer engagement good practices).

Table 1: List of good practices in TTOs identified across EUt+ partners

Partner	Code	Name
RTU	TTRTU1	Student Business Incubator: Business idea pre-incubator (RTU IdeaLAB)
RTU	TTRTU2	Intellectual Property auction
TU Dublin	TTTUD1	ivenTUre student accelerator
TU Dublin	TTTUD2	Open Labs
TUS	TTTUS1	Student Innovation Hub
UPCT	TTUPCT1	Fostering disruptive industries through Universities Spin-off from entrepreneurial discovery (+Spin-off)
UPCT	TTUPCT2	University-Business Outreach (PRACER) and Attraction of European Projects Programs (CAPTURE)
UTCN	TTUTCN1	PoliHack: a hackathon and project bootcamp created for high school and university students (promoting STEM Education)
UTT	TTUTT1	Innovation CRUNCH Time

Table 2 below summarises the rankings that partners attributed to the identification of their good practices in TTOs. We categorise these by letter with A being the highest ranking and C being the lowest reflecting a moderate score. As noted in the methodology, the identification only includes descriptions from moderate to strong as it is assumed no weak scores would be considered when identifying good practices in TTOs.

Table 2: Ranking of characteristics contributing to identification of partner good practices

	TTRTU 1	TTRTU 2	TTTUD 1	TTTUD 2	TTTUS 1	TTUPC T1	TTUPC T2	TTUTC N1	TTUTT 1
Effective	A	A	B	A	A	-	-	A	-
Successful	A	A	B	A	A	-	-	B	-
Sustainable	A	A	B	A	A	-	-	A	-
Gender sensitive	B	C	B	B	A	-	-	A	-
Technically feasible	A	A	B	C	A	-	-	B	-
Technologically ambitious	A	A	C	B	A	-	-	C	-
Inherently participatory	A	B	B	A	A	-	-	A	-
Replicable & adaptable	A	B	A	C	A	-	-	A	-
Data protection & GDPR compliant	A	A	A	B	A	-	-	B	-
Accessible dissemination record	C	B	A	A	A	-	-	B	-
Risk reduction and resilience	A	B	B	A	B	-	-	C	-

Not all partners that reported descriptions and features of good practices within their own institutions chose to use or report the output from their identification process. What is very evident from the TTO practices reported is that they score very well on sustainability, highlighting close alliance between the practices and our institutional strategies aligned to SDGs. Many of them include a gender dimension but they don't tend to be sensitive to specific access challenges for other underrepresented groups. They generally score well on data compliance and replication ensuring that they are attractive to consider as pilots or for scaling.

Chapter 3: Features of good practices in TTOs across EUt+

This chapter presents the features of each TTO practice reported from our partner organisations in EUt+. We show the dimensions here that reflect the key features of each practice. In our methodology section you can see the specific sets of questions asked under each dimension to guide the practitioners and writers. By embedding these sets of questions to guide reporting we are able to evaluate, compare and contrast practices both to each other and to current practices within our own organisations. The questions also ensure that a shared understanding and level of depth is communicated under each dimension to aid good decision making. The nine good practices in TTOs identified across EUt+ partners follows below.

TTRTU1: Student business idea pre-incubator (IdeaLAB) (RTU)

Title: RTU IdeaLAB business idea pre-incubator unites motivated, talented people, mentors, creative enthusiasts, teachers and investors (all based in Latvia), providing an environment for creating new ideas and products.

Subtitle: RTU IdeaLAB promotes learning by doing, encourages reaching new heights, as well as providing support for the development and materialization of any business idea.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
RTU	Good practice	2019/2020 2018/2019 2017/2018 2016/2017	Industry and Employer Engagement (IEE) & Tech Transfer	Kristiāna Kārkliņa kristiana.karklina@rtu.lv

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) **Latvia**
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)? **Students, entrepreneurs/ coaches, mentors, academics and investors**
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) **Direct: Students** **Indirect: Latvian economy and society** How many are they? (provide disaggregated data by student numbers, etc. where available) • **71 students (25 teams) during last season**
	Context	What was the initial situation/ specific context? • **Lack/ very little industry and employer engagement at the University.** • **The poor incubation performance in the country in the last decade that requires early stage support initiatives.**
	Challenge	• What are the specific challenges the practice is trying to address? **The challenge of RTU is to provide the Latvian economy and society with internationally competitive high-quality scientific research, higher education, technology transfer, sustainable valorisation and innovation. One of the activities- supporting the creation of innovations, that would help students in formulating and developing their ideas in the**

		early stages is the pre-incubator for student business - RTU IdeaLAB.
	Objective and key resillience dimension	• Brief description of the practice **RTU Student Business Incubator has been operating since 2009, with the changing external environment and the rapid development of start-up culture in Latvia. In 2016, a new concept for the development of new ideas was developed. RTU IdeaLAB or idea laboratory, which provides a safe environment for testing ideas, creating, team building and other forms of support. IdeaLAB currently operates under the RTU Design Factory** • What are the specific objectives of the practice? **To promote and facilitate the implementation of new, perspective, creative, innovative, competitive business ideas in life, supporting RTU students and graduates - future entrepreneurs, thus promoting the development of the national economy.** • What are the main factors of the practice which contribute to strengthening the [theme of the document]? • **Development of ideas:** **Professional-led workshops that include the development, testing and development of ideas, as well as the development of participants' social and technical skills and abilities** **-Individual consultations, identification of needs, development of an action plan, attracting professionals in the relevant field** **- Networking: RTU IdeaLAB and RTU Design Factories unite like-minded people - specialists in various fields, creative enthusiasts and investors** **- Unique technical possibilities in the development of an idea prototype, receiving support and consultations that facilitate the materialization of the idea into a real product**

		Location and service **- Secured workplace:co-creation space, services of an accountant and lawyer as needed, for more successful business development**

	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. **RTU IdeaLAB business idea pre-incubator program is implemented for 5 months, including practical training, coach sessions, lectures on business model, financial and legal consultations, branding, presentation skills, networking events, technical support from RTU Design Factory. At the end of the program, the authors of ideas have every opportunity to continue the development of the idea in one of the next step programs of ERDF project No. 1.1.1.3/18/A/001 "RTU innovation grants for students" in project activities or other programs, thanks to cooperation with EIT Hub programs in Latvia**. • How is information gathered within the practice? **Information is being gathered through Individual consultations, identification of needs with help of mentors and professional coaches**. • How are data compliance and protection issues addressed? **N/A** • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? **All students have chance to participate in the programme and get professional support according to their needs.** • Specify time frame and implementation cost, if available **N/A** • What resources were used in the implementation? • **Teams were provided with support funds for the development of the idea in the**

		amount of approximately 2500 euros and RTU students the opportunity to apply for a monthly scholarship of 200-228 euros for 5 months. • **All participants have access to workshop allowing them testing and development of the ideas, as well as improving their social and technical skills and abilities** • **Participants are being offered unique technical possibilities in the development of an idea (prototype, receiving support and consultations that facilitate the materialization of the idea into a real product) and also secured workplace, co-creation space, services of an accountant and lawyer as needed, for more successful business development.**

	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? **This practice involves numerous evaluation schemes during all stages. Participants (students) by applying to be part of pre-incubator need to present their idea and being chosen based on the selection criteria. Through the programme and activities held, the progress is being individually measured.**
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? **N/A** • Provide a brief description of the good practice validation process. **N/A**
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice? • **56 applications received during the last season season** • **25 teams have been selected for the RTU IdeaLAB** • **71 students involved in 25 teams** • **21 mentors from various industries have been cooperating with the teams** • **4 certified coaches conducted a total number of 41 training sessions** • **17 different lectures and practical seminars took place during the season**

	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? **Formulation/ development of business idea, secured workplace, co-creation space, services of an accountant and lawyer as needed, for more successful business development, Unique technical possibilities in the development of an idea prototype, receiving support and consultations that facilitate the materialization of the idea into a real product.** • How have beneficiaries' experience been improved economically, socially and environmentally? **RTU IdeaLAB has been implementing ERDF project No. 1.1.1.3/18/A/001 "RTU Innovation Grants for Students", which provides 20 season teams with support funds for the development of the idea in the amount of approximately 2500 euros and RTU students the opportunity to apply for a monthly scholarship of 200-228 euros for 5 months.** • How is this practice impactful on underrepresented groups – especially underrepresented student groups? **RTU IdeaLAB is open to every students with a business ide, providing needed support and consultations.** • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? **N/A** • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? **N/A**

	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? • **Support with financial and legal consultations, branding, presentation skills, networking events, technical support, etc.** • **SME, Start-up environment and country-specific polices for young entrepreneurs.** • **Co-financing/ financing/ external investment possibilities.**
	Constraints	• What were the constraints and challenges encountered during the implementing of the practice? How were they addressed? • **lack of political attitude towards pre-incubation as the crucial aspect of incubation cycle.**
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? **Individual consultations, that are being offered to the participants are identifying of needs (not only individual consumer needs, but also current needs of society, global economy and environment). Development of action plans is being carried out with a help from professionals** • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? **Participants are networking with industry specialist, coaches, academics and each other. What is more, though professional workshop the needs of current economies and societies are being recognized.** • How does the practice contribute to risk reduction and resilience in your institution? **Pre-incubation allows getting support funds for the development of the idea.**

	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. **RTU IdeaLAB (business idea pre-incubator) has technology in the center of attention - promoting and facilitating the implementation of new, perspective, creative, innovative, competitive business ideas/ technologies in life.** • What is technologically ambitious or innovative within this practice? **Unique technical possibilities in the development of an idea prototype, receiving support and consultations that facilitate the materialization of the idea into a real product.**

	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts?
		There are a lot of examples of business Pre-incubation programmes/ initiatives in various contexts.
		• What are the required conditions to successfully replicate and adapt the practice in another context/geographical area?
		  • **Possibility of cooperation with local coaches/ mentors and entrepreneurs from various industries.**
		  • **External financing/ co-financing/ investor.**
		• What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)?
		  • **Possibility of cooperation with international coaches/ mentors and entrepreneurs from various industries.**
		  • **External financing/ co-financing/ investment possibilities.**
		• What is your vision for replicating or upscaling this practice across EUt+?
		This practice can be replicated on

		regional/country basis at each institution of EUt+ or be formed as joint pre incubation programme.
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). **Specific projects groups are mentioned on the website and social media:** **https://idealab.rtu.lv/** **https://www.instagram.com/rtuidealab/** • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice. **N/A**
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) **https://idealab.rtu.lv/** **https://www.instagram.com/rtuidealab/**
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? **Conferences, social media, meetings, workshops, consultations.** • How does such dissemination show the success and effectiveness of the practice? **Year-to-year ratio of students application and raising involvement of coaches/mentors - entrepreneurs** • What sort of data is accessible that can help to review this practice?

		Website and social media contents
	Contact details	• Emails to contact for more information on the practice. **Kristiāna Kārkliņa (kristiana.karklina@rtu.lv)**

TTRTU2: Intellectual Property auction (RTU)

Title and subtitle of Good Practice Review

Title: Intellectual Property auction

Annually Universities are producing innovations and patents, some of the patents are advanced internally/externally, while some of them are licensed/sold. The action follows Article 39.5 of the Law on Scientific Activity (Latvia).

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
RTU	Definition here Promising and good practice	2021	• A • B • C Or category: Tech Transfer and Industry and employer engagement	Lita Lazdiņa lita.lazdina@rtu.lv | inovacijas@rtu.lv

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) Latvia
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)? RTU faculties, researchers, Innovation and Technology Transfer Centre, industry partners
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) RTU faculties, researchers, Innovation and Technology Transfer Centre, industry partners • How many are they? (provide disaggregated data by student numbers, etc. where available) 3 implemented auction 2 ongoing https://bit.ly/3AVvo8Z
	Context	• What was the initial situation/ specific context? To provide industry innovations and patents.
	Challenge	• What are the specific challenges the practice is trying to address? Commercialization, access to innovations and patents, improving industry cooperation tech transfer
	Objective and key resillience dimension	• Brief description of the practice After generating scientific innovations and patents, the patent holder/RTU has decided to Commercialization the existing findings. Thus an open action has been announced on the RTU website. The process follows local law and RTU regulation. • What are the specific objectives of the practice? To find ideal buyer and partner to cooperate

		with • What are the main factors of the practice which contribute to strengthening the [theme of the document]? The process is open access and thus supports also international partners.
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. After generating scientific innovations and patents, the patent holder/RTU has decided to Commercialization the existing findings. Thus an open action has been announced on the RTU website. The process follows local law and RTU regulation. • How is information gathered within the practice? The information is collected on RTU website. Also the information collection follows the internal and local legislation • How are data compliance and protection issues addressed? By following the local and EU legislation • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? N/A • Specify time frame and implementation cost, if available The auction process lasts is open several weeks. Cost bases on the agreement • What resources were used in the implementation? Human and scientific resources
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? The internal evaluation and reporting is

		implemented.
	Validation process	• **Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users?** Only the final report of the action is available: https://bit.ly/3D03k57 **Provide a brief description of the good practice validation process.** Only the final report of the action is available: https://bit.ly/3D03k57
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• **What results have been achieved through the implementation of the practice?** Commercialization, Tech transfer, attract new partners and assets
	Impact	• **What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated?** Positive impact in terms of Commercialization, Tech transfer, attract new partners and assets • **How have beneficiaries' experience been improved economically, socially and environmentally?** The process allows the beneficiaries to generate new innovations and build new cooperation agreements. • **How is this practice impactful on underrepresented groups – especially underrepresented student groups?** N/A • **Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)?** https://bit.ly/3F5yN7S https://bit.ly/3ur4vY7

		• Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? The amounts and offers are available: https://bit.ly/3D0NPK8
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? Have an innovation/patent which support industry demand. Have an active marketing team to promote the auction.
	Constraints	• What were the constraints and challenges encountered during the implementing of the practice? How were they addressed? To find buyers and agree on the price.
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? On daily basis RTU researchers are working with innovations and patents, thus there will be a flow of auctions. • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? To support scientific development and offer support to implement auctions. • How does the practice contribute to risk reduction and resilience in your institution? N/A
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. The process happens online https://bit.ly/3ilChtc • What is technologically ambitious or innovative within this practice? To host action, University has to generate

		innovations, which can be licensed/sold. This gives researchers/projects an ambition to generate innovations.
	Replicating and upscaling	• **Has this practice been replicated in similar and/or different contexts?** Yes, also other Latvian Universities are implementing similar auctions. • **What are the required conditions to successfully replicate and adapt the practice in another context/geographical area?** Have department who is going take over the auction process. Monitor the process internally and externally. Ensure that local/EU laws are supporting the process. • **What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)?** See the previous section • **What is your vision for replicating or upscaling this practice across EUt+?** See the previous section
	Testimony	• **Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns).** N/A https://bit.ly/39UxElf • **Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.** N/A https://bit.ly/39UxElf
	Related resources	• **List of references about the practice (e.g. course content, training manuals,**

		guidelines, pictures, video, websites, etc.) https://bit.ly/39UxElf https://bit.ly/3zQcpvv
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? https://bit.ly/39UxElf https://bit.ly/3zQcpvv • How does such dissemination show the success and effectiveness of the practice? N/A • What sort of data is accessible that can help to review this practice? Auction announcements and auction reports
	Contact details	• Emails to contact for more information on the practice. lita.lazdina@rtu.lv | inovacijas@rtu.lv

TTTUD1: ivenTUre student accelerator (TU Dublin)

Title ivenTUre student accelerator

Subtitle should be practical and indicate key achievement to [whatever theme the good practice guide is covering – e.g. internationalization and optmising mobility experiences, industry engagement, etc..].

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
This could be a partner university or an international good/best practice identified by a partner.	Definition here * also include *Results* and *Impacts* of the practice	Month and year of the practice implementation	• A • B • C Or category: gender, civic engagement. etc.	Name(s), organisation, email

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation
Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) *Within TU Dublin (internal initiative)*
Actors and stakeholders	• Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)? *Actors:* *Innovation & Enterprise functions on the three (3) TU Dublin campus location (x3)* *New Frontiers Programme Managers (x3),*

Head of Marketing (Hothouse),

Partners:
TU Dublin Students
External service provider

- Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.)

TU Dublin undergraduate students;
TU Dublin Knowledge Transfer Office through the possible creation of TU Dublin spin-out companies

Beneficiaries

- How many are they? (provide disaggregated data by student numbers, etc. where available)

Aimed at total student cohort of 28,000 but ivenTUre student accelerator (Stage 1) can only support up to 30 participants each year, and the Stage 2 Student Spin-out Support Programme only has finance available to support 3-to-4 spin-out opportunities per year.

- What was the initial situation/ specific context?

Internally:
TU Dublin's Strategy is built upon 3 pillars – People, Planet and Partnership.

Under People, TU Dublin intends "to ignite the imagination of students, staff and partners, and support people to explore their abilities and reach their full potential" and to positively impact on, amongst others,:

- *Graduate employability; and*
- *Student success*

Context

The development and successful execution of the student accelerator ivenTUre supports the TU Dublin strategy.

The second stage of this initiative, Student Spin-out Support Programme, addresses the Planet pillar of the TU Dublin strategy, allowing TU Dublin to "address the challenges facing the world and impact positively on the planet and people" with clear objectives including: "Be known for the creation of new knowledge and timely and practical solutions that address the SDGs", with goal being to "Deliver an agreed TU Dublin portfolio of KT outcomes that deliver solutions for

SDGs".

The creation of knowledge-intensive start-ups and spin-outs that deliver solutions that address the SDGs supports the TU Dublin strategy.

Challenge

- What are the specific challenges the practice is trying to address?

Stage 1 – ivenTUre student accelerator:

- *Provide enterprise experience to TU Dublin students*

Stage 2 – Student Spin-out Support Programme

- *Increase the number and quality of TU Dublin affiliated start-ups and spin-out companies*

Objective and key resillience dimension

- Brief description of the practice

Two Stage Approach:

Stage 1 – ivenTUre student accelerator:

- *TU Dublin's student entrepreneur accelerator*
- *open to all students (F/T, P/T, UGrad, PGrad)*
- *run over 4 weeks during the early summer*
- *part-time consisting of 10 workshops and masterclasses:*
  - *Lean canvas & customer pain points*
  - *Value proposition*
  - *Addressable market*
  - *Market research – customer discovery approaches*
  - *Competitive Environment – identifying opportunities*
  - *Marketing, communications and PR*
  - *Sales – Planning, Negotiation & Execution*
  - *Finance & funding for start-ups*
  - *Building & leading a team*
  - *Planning, pitching & presenting your business*
- *at the end of the programme, get to pitch idea to panel of experts and win cash prizes (€3,000 in total prize money)*
- *all participants receive a certificate of completion*

- *access to Stage 2 follow-on supports from TU Dublin business incubators*

Stage 2 – Student Spin-out Support Programme
TU Dublin Hothouse Student Spin-out Support Programme is a structured set of supports to assist undergraduate and postgraduate students to create a spin-out company. A spin-out company must be formed to commercialise TU Dublin IP. It is administered by TU Dublin Hothouse and delivered by Hothouse staff and contracted experts.

- *Application is by invitation only*
- *Hothouse close monitors the progress of ivenTUre participant teams, and monitoring general student queries to the KTO and other TU Dublin entrepreneurship competition (e.g. Bolton Trust, Enterprise Ireland.....,)*

Eligibility
Each team will need:

- *At least one current or recent TU Dublin student;*
- *An outline business plan;*
- *A technical and/or IP need that can be matched against TU Dublin portfolio of IP and/or expertise.*

Assessment
Before being admitted to the programme each team will complete an application form. The application will be assessed by Hothouse against the following criteria:

- *Team – Is the right team in place? What are the gaps in expertise? Is it feasible to address these gaps through the programme?*
- *Technology – Can TU Dublin develop IP to help support the spin-out?*
- *Commercial – Is the business a potential for Enterprise Ireland High Potential Start-Up division (HPSU)?*

Process:

- *Once accepted onto the programme each team will be assigned a Hothouse mentor;*
- *A plan of supports get the team to spin-out will be put in place (phase 1);*
- *A plan of supports post spin-out will be identified and put in place a (phase 2)*

- What are the specific objectives of the practice?

- *provide students with entrepreneurial experience*
- *growth in TU Dublin student-entrepreneurial reputation*
- *growth in number and quality of TU Dublin student affiliated start-ups and spin-out companies*
- *growth in female/minority-led TU Dublin spin-out companies*

- What are the main factors of the practice which contribute to strengthening the [theme of the document]?

Instead of just providing a student accelerator, TU Dublin provides specific and targeted supports that can turn the output from a student accelerator (partially-validated student idea) into a viable student-led start-up or spin-out company, allowing the student to continue their entrepreneurial journey.

Methodological approach

- How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points.

- *Planning*
  - *Time agreed for ivenTUre programme to occur as soon as summer student examinations have been complete. Timing allowed for full student concentration on the programme without interference from other summer activity (travel, job hunting, college work…)*
  - *Agreed early on that ivenTUre would be delivered by an external partners to provide added credibility and impartiality to the programme*
- *Tendering*
  - *Put together tender seeking service provider*
- *Advertising*
  - *Identified local informal entrepreneurship leads throughout University, asking them to inform their students of the programme, encouraging applications*
- *Shortlisting*
  - *Originally intended on running 1 cohort of*

approximately 15 students. However, applications were strong enough to support a second cohort, so 30 participants were accepted to ivenTUre

- *Programme*
  - *Programme content closely resembles the Phase 1 of the New Frontiers programme, with workshops taking place during the morning, every second day of the week. This design allows principles to be put into practice, but also reflects the time commitment of an early-stage student idea - - didn't want to the timing of the programme to be a disincentive from applying for the programme ("sounds like too much hard work"!)*
- *Identification of scalable teams and opportunities*
  - *External service provider and internal lead worked closely with the Knowledge Transfer Office to identify applications of real potential and early decision of follow-on supports*
- *Agree plan with team*
- *Implement follow-on support*
  - *Lead by a case manager from the Knowledge Transfer Office*

  - How is information gathered within the practice?

Stage 1 – ivenTUre student accelerator:

- *Direct feedback from participants throughout the programme to ensure that expectation are being met and that there business idea's are being challenged.*

- *Follow-up survey with all participants upon conclusion of 4-week accelerator*

Stage 2 – Student Spin-out Support Programme

- *Agreed support plan*
- *Assigned mentor feedback*
- *Number of student start-ups and spin-out formed*
- *Quarterly progress reports on each spin-out formed*
- *Media watch alerts*

- How are data compliance and protection issues addressed?

No external sharing of information
All information held on a confidential basis

- Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)?

ivenTUre student accelerator held on-line, outside of teaching hours removing any mobility issues;

Preference to programme entry given to female-led teams

- Specify time frame and implementation cost, if available

ivenTUre student accelerator ran for 4 weeks, during the summer months, with workshops taking place in the morning time, every second morning of the week.

Student Spin-out Support Programme timeframe depend on the supports required, but minimum would be 3-month.

ivenTUre student accelerator provided by outsource partners (cost ca. €11k) with prize money of €3,000.

Student Spin-out Support Programme, typically are between €5,000 and €10,000 per business opportunity, with 3-to-4 supports on offer each year. Total budget, excluding mentorship costs, is €100,000 for 4 years.

Total annual cost, excluding staff time, is: €39,000

- What resources were used in the implementation?

Stage 1 - ivenTUre student accelerator:
- *provided by outsource partner*
- *Internal project team comprising of:*
  - *Head's of Innovation & Enterprise functions on the three (3) TU Dublin campus location (x3)*

- *New Frontiers Programme Managers (x3),*
- *Head of Marketing (Hothouse),*
- *TU Dublin Communications team*

Stage 2 - Student Spin-out Support Programme:

- *Internal project team comprising of:*
  - *TU Dublin Head of Innovation and Enterprise*
  - *Senior Licensing Executive, TU Dublin Hothouse*
  - *Head of Marketing (Hothouse),*
- *External service providers as required, including patent agents, product designers, mentors, merchandise providers;*

Evaluation and continuous improvement

- What is the evaluation and continuous improvement process attached to the practice?

Stage 1 - ivenTUre student accelerator:

- *Feedback from outsource partner on participant progress*
- *Post accelerator internal review meeting*

Stage 2 - Student Spin-out Support Programme:

- *Feedback from assigned mentor and quarterly progress reports*
- *Media watch alerts*

Validation process

- Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users?

  - *Participant surveys and quarterly spin-out process reports*
  - *Involvement of participants and start-up/spin-put student founders in joint talks and case studies to promote initiative to future student*
  - *Production of case studies and joint PR*

- Provide a brief description of the good practice validation process.

- *Constant review of internal processes & procedures as required*
- *All student spin-outs are:*
  - *Approved for formation by the internal IP committee, requiring senior management sign-off;*
  - *Registered as limited companies with the Irish Companies Registered Office, accompanied by necessary legal documentation;*
  - *Reported on a quarterly-basis with our national funding body*

These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)

Results

- What results have been achieved through the implementation of the practice?

Micron Agritech Case Study (https://micronagritech.com/about/)

- *Animal-testing spin-out*
- *April 2019 - Student spin-out formed in*
- *September 2019 – Winner, Best Innovation and National Ploughing Championship*
- *November 2019 – Secures €50k investment*
- *September 2020 - Incubator client*
- *December 2020 - Closely €500k investment round*
- *July 2021 – Headcount reaches 9 FTE*

https://www.tudublin.ie/explore/news/tu-dublin-hothouse-spin-out-micron-agritech-raises-500000-in-seed-investment-round.html

Impact

- What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated?

Primary:

- *Positive reputation boost amongst student cohort and external stakeholders that TU Dublin are positively supporting student entrepreneurship*

Secondary:

- *Creation of 4 student led spin-outs over the last 2 years.*

- How have beneficiaries' experience been improved economically, socially and environmentally?

Socially: student get a better understanding of the entrepreneurial journey and how to create viable start-up opportunities

Economically: creation of viable spin-outs, employing highly-skilled individually (as per Micron case study above).

- How is this practice impactful on underrepresented groups – especially underrepresented student groups?

Focus on supporting female-led, female-co-founder spin-out opportunities

- Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)?

All student-led spin-out companies are subject to quarterly review reporting by the Knowledge Transfer Office within TU Dublin.

- Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies?

As discussed above, the Total annual cost, excluding staff time, is: €39,000. By taking the example of Micron Agritech, they are currently employing 9 highly-skilled staff, generating a return to the economy in salary spend alone that is orders of magnitude greater that the annual costs of supporting student entrepreneurship.

Success factors

- What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice?

Economic – annual ivenTUre accelerator and follow-on supports need to be funded.

Constraints

- What were the constraints and challenges encountered during the implementing of the practice? How were they addressed?

Marketing & Promotional – need to ensure that the initiative is promoted across al discipline of the University, not just those that teach entrepreneurship. This can be particular challenging for traditional social science, arts & humanities disciplines.

Funding – student entrepreneurship will always be a cost centre, there is a need to supplement the costs of running the programme via other income generating sources (knowledge transfer activities, incubator income, sponsorship, State grants, etc.) or from core University budget.

Ambassadors – key element for success is to identify and engage with entrepreneurial ambassador, both at the student and staff level, to act as a first point of call and as a promoter.

Sustainability

- To what extent has the practice been institutionally, socially, economically and environmentally sustainable?

Not sure whether it will ever be sustainable without an external sponsor.

- What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable?

See "constraints" above

- How does the practice contribute to risk reduction and resilience in your institution?

N/A

Technology

- What role does technology play in this practice? Please provide descriptions of technological practices.

N/A

- What is technologically ambitious or innovative within this practice?

N/A

Replicating and upscaling

- Has this practice been replicated in similar and/or different contexts?

No

- What are the required conditions to successfully replicate and adapt the practice in another context/geographical area?

Resource availability (funding, personnel, etc.)

- What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)?

Identification of suitable programme leads and ambassadors

- What is your vision for replicating or upscaling this practice across EUt+?

EUt-wide student entrepreneurship activity, with team members from different partner institutions.

Testimony

- Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns).
- Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.

https://www.tudublin.ie/research/innovation-and-enterprise/studententerprise/

Related resources

- List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.)

Website:
https://www.tudublin.ie/research/innovation-and-enterprise/studententerprise/

https://www.tudublin.ie/explore/news/student-start-ups-battle-for-cash-prize-after-summer-iventure.html

https://micronagritech.com/

	Webinar: https://www.dit.ie/hothouse/news/webinars/webinarsitems/headline182469en.html
 Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? *Primarily website, and social media news stories* • What sort of data is accessible that can help to review this practice?
 Contact details	• Emails to contact for more information on the practice. Paul Maguire, Head of Innovation & Enterprise paul.maguire@tudublin.ie

TTTUD2: Open Labs (TU Dublin)

Title and subtitle of Good Practice Review

Title Open Labs.

Subtitle . Open Labs is TU Dublin Hothouse's market focused new initiative to lower the barrier for industry engagement, thereby opening up the world leading facilities and expertise to companies.Open Labs by TU Dublin Hothouse assists companies working in or interested in Food Innovation, Product Prototyping, Virtual Reality / Augmented Reality, Internet of Things, Data Analysis for Business & Artificial Intelligence, Innovative Surface Coatings and Sustainable Infrastructure.Open Labs provides excellent results delivered at the pace and quality expected by industry. Step into TU Dublin's cutting-edge facilities and expertise.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
This could be a partner university or an international good/best practice identified by a partner.	Definition here * also include *Results* and *Impacts* of the practice	Month and year of the practice implementation	• A • B • C Or category: gender, civic engagement. etc.	Name(s), organisation, email

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation
Geographical Coverage	In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) ***Primary target were enterprises located within the greater Dublin region (the city of Dublin and its hinterland) covering approximately 40% of the population of Ireland and generating approximately 50% of Ireland GDP***
Actors and stakeholders	Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)?

Actors:

Head of Innovation & Enterprise,

Head of Marketing (Hothouse),

Business Development Manager (Hothouse)

Partners:

TU Dublin Research Support Services

TU Dublin Finance

TU Dublin Researchers

Local Micro- and SMEs

Stakeholders:

Enterprise-development agencies (Enterprise Ireland, Local Enterprise Offices [LEOs], InterTradeIreland, InvestNI)

Beneficiaries

Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.)

TU Dublin

TU Dublin Directorate of Research, Enterprise and Innovation Services

TU Dublin Researchers

Micro- and SMEs

How many are they? (provide disaggregated data by student numbers, etc. where available)

TU Dublin

TU Dublin Directorate of Research, Enterprise and Innovation Services

TU Dublin Researchers – 600+

Micro- and SMEs – approx. 250,000, employing nearly 1m people, with approx.. 90% categorized as micro-enterprises employing less than 10 people.

What was the initial situation/ specific context?

Context

Internally:

TU Dublin's Strategy is built upon 3 pillars – People, Planet and Partnership.

Under Planet, TU Dublin intends "to address the challenges facing the world and impact positively on the planet and people" and have developed an action plan entitled "Tackling Global Challenges, with clear objectives including: "Be known for the creation of new knowledge and timely and practical solutions that address the SDGs", with goal being to "Deliver an agreed TU Dublin portfolio of KT outcomes that deliver solutions for SDGs – focusing knowledge transfer in areas of the greatest impact" that will:

Strengthen the reputation of TU Dublin for high quality research

Increase portfolio of research achieved

Enhance profile nationally and internationally through deepening of research collaborations

To become a leader of key national initiatives

The development and continued operation of TU Dublin Open Labs supports the TU Dublin strategy

Nationally:

Irish Government vision for Ireland is to become a "Global Innovation Leader" driving a strong sustainable economy and a better society. Research, development science and technology have been identified as key drivers that will all contribute to this goal. Given that the vast majority of business-based in Ireland are SMEs, TU Dublin Open Labs directly supports this National strategy.

What are the specific challenges the practice is trying to address?

Open Labs removes the perceived barriers facing SMEs and start-ups when participating in early-stage research and innovation by providing access to over 600 TU Dublin researchers and world-leading facilities in a number of critical high-tech sectors.

The barriers include:

Challenge

Early-stage research is often high risk and requires significant investment meaning many small businesses are effectively restrained from developing product ideas

Many SMEs don't know how to access a University equipment and expertise, and lack an understanding of the expectation to engaging with Universities

Many SMEs lack knowledge of the funding landscape

Brief description of the practice

Open Labs allows a company to develop a product idea using TU Dublin researchers expertise, labs and equipment – essentially creating an external R&D wing for the company. Open Labs supports a business through each product development phase from writing the technical brief, outlining what research skills and lab equipment are required, evaluating funding options, and finally timely delivery of a product that suits a business needs.

Objective and key resillience dimension

Initial launch focused on Product Prototyping, Virtual Reality, Internet of Things (IoT), Data Analytics for Business and Innovative Surface Coatings, and has seen expanded to include Food Innovation, Cybersecurity and Bio-diagnostics capabilities.

The Open Labs message is solving industry problems with DIT research capabilities, and is not about promoting groups, names, brands or logos as separate entities

What are the specific objectives of the practice?

To promote TU Dublin capabilities to industry through the use of TU Dublin's labs and research expertise

To grow research with industry

To improve SME research capabilities

To engage SME's through referrals, working to understand their challenges

What are the main factors of the practice which contribute to strengthening the [theme of the document]?

>> remove perceived through the use of

>> use of clear, business-friendly language and relevant case-studies, delivered through on-line social media channel

How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points.

About 3.5 years ago, Hothouse identified a provide better assistance to startups and SMEs to engage with us and allow us to demonstrate the talent and real-world problem-solving skills of our researchers.

Methodological approach

Planning

Culmination of 5 months planning, starting in October 2017, with launch on 14th February 2018

Weekly meetings of Open Labs Team

Research

Use the following tools to find out what pain points companies are trying to fix: Mintel, Google Trends, SEMRUSH, New Frontiers programme (Ireland's National entrepreneur training programme, pioneered in TU Dublin and

offered across Ireland through the Institutes of Technology and Technological Universities)

We engaged with a number of micro- and SMEs to better understand their needs and discovered that a number of perceived barriers existed in the mind of companies that stopped them engaging (see information provided under Challenge)

Internal Business Development

Approached TU Dublin Researchers with the capabilities to match what was trending

"Buy-in" received from these researchers to work on Open Labs

Companies

The following avenues are used to only invite companies in the 5 niche areas that Open Labs is targeting

Enterprise Ireland's Market Research Centre

Contacts from selected Researchers

DIT Hothouse database

Online research (for example Twitter Lists and other round up lists)

Event Launch

Industry showcase on campus

Full PR pack ready

Fully-supported by TU Dublin Communications Team

Follow Up Campaigns

Follow up campaign run each sector in 2018

These campaigns are linked to an external event in that particular sector (for example Data Analytics will be linked to the Predict Conference

Branding:

External Agency Third Mind Design employed to create Open Labs brand

All marketing collateral was designed to have a clear message with the following strict criteria:

All material produced was designed under the Open Labs brand

Research groups were discouraged from having their own marketing collateral.

Invitation list & look was managed by TU Dublin Hothouse only

How is information gathered within the practice?

Media Monitoring:

Media coverage & value (Kantar)

Social Media Follows

# of visits to website

# of queries rec'd

Project Analysis:

# of projects commenced

Total and individual value of projects undertaken

# of repeat business

Industry Partner Post-Project Development:

# of jobs created by companies engaged

# of new or improved products, processes or services supported by TU Dublin

# of respondents that were exporting / launching in new markets

How are data compliance and protection issues addressed?

Using external databases, all GDPR compliant

Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)?

N/A

Specify time frame and implementation cost, if available

Timeframe:

Five months of planning

Year-round promotion & campaigns

Implementation Costs:

1 x FTE business development manager (€45k) p.a.

0.25 x FTE Marketing Manager (€11k) p.a.

Ca. €40k – event management, marketing collateral, etc

Ca. €40k exhibition and conference costs

TOTAL - €259k for 3 years (est.)

What resources were used in the implementation?

Hothouse Team, in particular:

Business Development Manager

Marketing Manager

Head of Innovation and Enterprise

Researcher time commitment for industry engagement and attending industry-focused events

Indirect:

TU Dublin Communications Team

What is the evaluation and continuous improvement process attached to the practice?

Periodical review in line with development of Government policy

Competitive landscaping

Evaluation and continuous improvement

Social Media Analysis

Surveys:

Internal stakeholders

External stakeholders

Research / Knowledge Transfer metrics

# of projects commenced

Total and individual value of projects undertaken

# of repeat business

Industry case studies:

Key focus on industry journey and impact

Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users?

Surveys & Case studies

Provide a brief description of the good practice validation process.

Constant review of internal processes & procedures as required

Validation process

These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)

What results have been achieved through the implementation of the practice?

Results

Description	*Total*
Research Income Value (Assigned contract value - total)	*€1.5m*
No. of companies engaged - people visiting website, email query	*5025*
No. of industry projects	*154*
No. of first-time engagements	*49*
Repeat Open Labs business	*27%*

Impact

What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated?

Survey carried out for 3-year anniversary (job creation, product/process/service launch, export)

58% stated that they created new jobs between 2018 and 2020, with half of respondents looking to hire in 2021

A total of 91 new or improved products, processes or services were supported by TU Dublin

And 61% of respondents were exporting or launched in new markets

27% repeat rate (companies returning to carry out a subsequent project with TU Dublin)

How have beneficiaries' experience been improved economically, socially and environmentally?

Economically – see above.

Didn't include any survey questions on social or environment impact.

How is this practice impactful on underrepresented groups – especially underrepresented student groups?

N/A

Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)?

Yes – quarterly reporting of KT metrics to external funders, with impact case studies generated every year.

Company impacts are monitored every 2-to-3 years (see above)

Main Learnings:

need to follow-up and engage with industry partners more frequently (every 6-to-12 months) rather than every 2-to-3 years

need commitment/re-commitment from researchers that they can and will engage

need to target research areas that have capacity to take on industry projects

Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies?

Total costs over three (3) years = €259k (est.)

Total research income = €1.5m from micro and SMEs

Direct RoI approx. 5.7 to University

Excludes positive PR and reputation boost for University, enhanced research capability garnered from industry engagement, etc.

What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice?

Success factors

>> Internal:

: Institutional – strategic alignment and buy-in, commitment of resources

: Economic – National innovation strategy and companies leveraged State funding options available to fully-fund / part-fund the research collaboration

What were the constraints and challenges encountered during the implementing of the practice? How were they addressed?

Constraints

***Market Research** – need to understand what research capabilities local enterprises are looking for to clear understand their pain points and map these to the Universities research capabilities.*

***Internal research capacity** – limited research capabilities promoted, with focus on those capabilities that have the resources in place to engage, or could get the resources quickly to allow future engagement. Hothouse provide upfront capital*

***Internal administration capacity** – need to have a dedicated, single point-of-contact to deal with queries, explain process to companies engaged and researchers, and remove as much administration burden from researchers as possible, allowing them to concentrate on the research.*

***Unified branding** – need to remove the many "layers" that exists within the University (Faculty, School, Research Centre, Research Team), and focus on the capability that industry were looking for. All marketing collateral was designed by an external design company who understood the University environment and had a clear message with the following strict criteria:*

All material produced was designed under the Open Labs brand, and supplied to research teams as required

Research groups were discouraged from having their own marketing collateral.

Invitation list & look was managed by Hothouse only

<u>Research staff buy-in and commitment</u> – need to get "firm" commitment from research staff that they want to engage, have the bandwidth, are willing to attend meetings that may not lead to a project, willing to attend industry events and deliver talks, etc. Commitment needs to be re-visited every 6-to-12 months.

<u>Significant planning</u> – need to get commitment from staff as time and resource commitment to launch and maintain the initiative will be significant.

To what extent has the practice been institutionally, socially, economically and environmentally sustainable?

Even though the initiative cost €259k over the last 3-years, it has become self-sustaining financial.

Sustainability

What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable?

Sustainable cost structure, with research overheads directed towards funding initiative.

Need to ensure that the research capabilities offered are aligned and relevant to major societal challenges

How does the practice contribute to risk reduction and resilience in your institution?

Industry Funding - increases the level of industry funding for research, reducing dependency on exchequer funding.

Centralized administration and query handling increases operation efficiency and reduces potential for reputational damage and compliance infringements.

Technology

What role does technology play in this practice? Please provide descriptions of technological practices.

Extensive use of social media (LinkedIn, Twitter, google analytics) for promotion and market intelligence (Mintel, Google Trends, SEMRUSH, etc.)

What is technologically ambitious or innovative within this practice?

None

Replicating and upscaling

Has this practice been replicated in similar and/or different contexts?

No

What are the required conditions to successfully replicate and adapt the practice in another context/geographical area?

<u>Internal research capacity</u> – limited research capabilities promoted, with focus on those capabilities that have the resources in place to engage, or could get the resources quickly to allow future engagement.

<u>Internal administration capacity</u> – need to have a dedicated, single point-of-contact to deal with queries, explain process to companies engaged and researchers, and remove as much administration burden from researchers as possible, allowing them to concentrate on the research.

<u>Unified branding</u> – need to remove the many "layers" that exists within the University (Faculty, School, Research Centre, Research Team), and focus on the capability that industry were looking for. All marketing collateral was designed by an external design company who understood the University environment and had a clear message with the following strict criteria:

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<u>Significant planning</u> – need to get commitment from staff as time and resource commitment to launch and maintain the initiative will be significant.

What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)?

<u>See above</u>

What is your vision for replicating or upscaling this practice across EUt+?

1 – Localise the learning from Open Labs to each of the 8 EUt+ members, allowing local SMEs to effectively and efficiency engage with their local University

2 – Expand Open Labs across all EUt+, allowing local SMEs in each region of the 8 European Universities to avail of the research capabilities of each EUt+ member, providing a trans-Europe innovation eco-system, supporting the concept of "Europen for everyone", deepening the connections between each EUt+ member

Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns).

Testimony

See webinars below

Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice.

List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.)

Related resources

Initiative:

https://www.dit.ie/hothouse/openlabs/

Brochure:

https://www.dit.ie/hothouse/media/hothouse/documents/TU%20Dublin%20Hothouse%20Open%20Labs%20061020.pdf

Launch:

https://www.dit.ie/hothouse/news/newsarticles/headline157033en.html

Three-year Anniversary:

https://www.dit.ie/hothouse/news/newsarticles/headline183296en.html

Webinars:

https://www.dit.ie/hothouse/news/webinars/webinarsitems/headline183903en.html

https://www.dit.ie/hothouse/news/webinars/webinarsitems/headline183788en.html

https://www.dit.ie/hothouse/news/webinars/webinarsitems/headline183790en.html

https://www.dit.ie/hothouse/news/webinars/webinarsitems/headline183585en.html

https://www.dit.ie/hothouse/news/webinars/webinarsitems/headline182273en.html

https://www.dit.ie/hothouse/news/webinars/webinarsitems/headline181268en.html

https://www.dit.ie/hothouse/news/webinars/webinarsitems/headline180670en.html

How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)?

Dissemination

See above under "Related Resources"

How does such dissemination show the success and effectiveness of the practice?

What sort of data is accessible that can help to review this practice?

Emails to contact for more information on the practice.

Contact details

Paul Maguire, Head of Innovation & Enterprise

paul.maguire@tudublin.ie

Danielle Whelan, Head of Marketing Hothouse,

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TTTUS1: Student Innovation Hub (TUS)

Title and subtitle of Good Practice Review

Title Student Innovation Hub.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
Technical University of Sofia.	An initiative to encourage students to participate in research and develop innovative projects was launched at the	N/A	Student entrepreneurship	Lidiya Galabova, TUS, **lgalabova@tu-sofia.bg**

	Technical University of Sofia. Every student at the university can participate with a project in the competition "Student Innovation Hub of TU-Sofia" for scientific, methodological and technical support of their innovative development, conceptual design, construction, technology, software solution and more.			

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation
Geographical Coverage	• Bulgaria
Actors and stakeholders	• academic/ industry/
Beneficiaries	• students /government • 1000
Context	• Supports innovative and curious students from TU-Sofia.
Challenge	• This initiative helps students to develop their ideas in real projects. It helps their future realization in life.
Objective and key resillience dimension	• Helping students develop their ideas • Good communication between students and teachers in order to encourage student

	participation in projects • Good communication between the university and student and feedback from students
Methodological approach	• The student chooses a mentor - researcher on a basic contract at the university. The mentor submits the project proposal electronically on behalf of the student and after a positive evaluation of the project by the relevant committee becomes the head of the contract. If, as a result of the work on the project, intellectual property has to be protected, the development is defended on behalf of TU-Sofia, and the inventor is the student or students. • Meeting with student and collecting feedback • Data compliance and protection issues are protecting according to the law in Bulgaria • No restrictions are imposed on gender or other disadvantaged groups. Anyone can enroll in these seminars or specialties • N/A • All the necessary resources for good performance of the tasks have been used
Evaluation and continuous improvement	• TUS will continue to help its students and encourage them to take part in this type of project, but also any other.
Validation process	• So far, seven such projects have been completed at TUS. This provides a good basis for this idea to continue to support students' desire to work
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)	
Results	• Successfully completed projects and issued certificates for this
Impact	• This practice are very positive for beneficiaries. This impact are monitoring by meeting and feedback from beneficiaries • Beneficiaries have significantly improved their economic and social effects. • It does not affect, everyone has access to these practices • There are already students which finished

		• their project. Surveys among students for their opinion on this type of projects • Cost/efficiency indications: N/A
	Success factors	• The conditions necessary for successful implementation are work at the institutional level in order to improve the social and economic effect.
	Constraints	• There were no restrictions. The challenge was to match the need of the business with the possibilities of the university
	Sustainability	• The practice is socially and economically sustainable. The key element is to find the best solution for student's idea and to help its realization.
	Technology	• N/A
	Replicating and upscaling	• Practice already has successfully completed student projects. The practice can be adapted for any university by simply looking for innovative student idea. This practice can also be replicated for EUt + partners
	Testimony	• N/A
	Related resources	• Tu-sofia.bg
	**Dissemination**	• The dissemination of practices takes place in several ways: • - conference reports • -media • -site of the university • All data on these practices are available on the official website of the Technical University of Sofia. This spread shows how useful the link between student and university
	Contact details	• Info@tu-sofia.bg

TTUPCT1: Fostering disruptive industries through Spin-off (+Spin-off) (UPCT)

Title: Fostering disruptive industries through Universities Spin-off from entrepreneurial discovery (+Spin-off)

+Spin-off identifies the research results closer to the market, that is, more easily transformed into new products or services. Through this program it is also intended to promote its subsequent validation and placing on the market. As well as launching a set of actions that favor the success of a potential company based on knowledge and its success in the so-called “valley of death”, which goes from the idea to the company.

Through +Spin-off program, technological knowledge and research results are generated and identified. Once the entrepreneurial discovery phase is finished, the research results with the greatest potential are selected to accelerate the technology transfer processes from the University to the industry. Therefore, this program increases the support services for scientific innovation promoting creativity and entrepreneurship. The main aim is promoting the setting up of new spin-off companies. +Spin-off program is addressed to researchers and it works through four major blocks: (1) Valorization of the technology; (2) Consultancy about market fit and go-to-market strategy; (3) Proof of Concept to increase the TRL; (4) Traveling and benchmarking. This program was founded by the Government of Murcia Region in Spain.

Subtitle: Key Achievements

>13 technologies were presented by researchers from UPCT. These technologies were based on prior research results in its first edition.

>7 main researchers were selected in order to scale up their technological initiatives and to explore their project as potential spin-off companies.

> 90+ companies were contacted in order to validate the proposition values of the technologies, and to explore their commercial decks in the real market.

> 10+ valorisation reports were made in order to improve the tech transfer process. Among these reports there were business plans, market research, and legal or financial plannings.

> 5+ technologies increased their TRLs through several proof of concepts such as the creation and the scaling of their prototypes, implementing pilots, or making homologation and quality certificates.

> 3 Spin-off companies created where 5 researchers were involved.

> 1 Spin-off in early stage was accelerated. A new technological development was incorporated to the core of its business.

> 2 technological initiatives were in a very near go-to-market phase.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
Universidad Politécnica de Cartagena (UPCT)	Good Practice	February 2020 - June 2021	Tech Transfer engagement	Mario Rosique, mario.rosique@upct.es

Good Practice Elements

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) **Murcia Region: Universidad Politécnica de Cartagena (UPCT).**
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders (academic/ industry/ technical/implementing/financial/etc.)? **Researchers, industrial partners, and collaborating companies**

	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) Main beneficiaries target: • Researchers with relevant research results. Indirect beneficiaries target: • Students, PhD students, and junior PhD who collaborated with the main researchers as they could be part of the potential spin-off. • Junior Engineers, who could be partly-employed. • Companies who received the technology and other companies who could be stakeholder/shareholder of the spin-off. • How many are they? (provide disaggregated data by student numbers, etc. where available) **> 7 main researchers and their teams.** **> 90+ commercial contacts with companies.** **> 2 companies were shareholders of 2 spin-offs created in this program.**
	Context	• What was the initial situation/ specific To improve and to create disruptive industries in Murcia Region through tech transfer process and universities spin-off companies.
	Challenge	• What are the specific challenges the practice is trying to address? To increase the value of the industry in the Murcia Region To give support to researchers in order to bring their knowledge to the market. Improvement of the tech transfer process.
	Objective and key resilience dimension	• Brief description of the practice Research projects generate a great amount of knowledge inside the academic world. Institutions promote that these research must impact upon society, including companies and industry.

		However, tech transfer is a very complex process where several factors take part. Besides of the technical and scientific approach, researchers must understand the need of the industry in order to look for the market fit. The complexity of this process increases when the researchers promote the setting up of a spin-off. Here, a whole set of tools and skills must be promoted in order to achieve the entrepreneurial success. • What are the specific objectives of the practice? To accelerate tech transfer process encouraging the setting up of spin-off companies among researchers. • What are the main factors of the practice which contribute to strengthening the internationalization and optimizing mobility experiences? The +Spin-off program offered the opportunity to visit international events about entrepreneurship or commercialisation. Also, researchers were able to organise visits to national and international companies of reference with the aim to do benchmarking or to establish commercial relationships. Unfortunately, it was not possible to develop this line of activity in person due to covid-19 but numerous contacts were established remotely/virtually.
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. Part A (2 months): The UPCT published a call for proposals for researchers. In this phase, researchers had to explain the technology, current status, team work, action plan, budget, and expected results. In order to design the action plan, researchers were able to classify the activity in one of four major blocks: (1) Valorisation; (2) Market fit; (3) Proof of

		Concept; (4) Benchmarking. Part B (10 months): Those proposals which had been fully or partially accepted had 10 months to execute the action plan proposed. Block (1) included activities related with the valorisation of the technology from both economic and technical approaches. These activities were related with quality certificates, homologation process, protection of the technology, market reports or financial planning. Block (2) addressed consultancy tasks to setting up the spin-off company, to go to market, and to looking for the market fit. These tasks were related to consultancy to make business plans, to search commercial partnerships or for legal consultancy. Block (3) enabled researchers to increase the level of their TRLs technologies through some tasks such as creating or improving prototypes or establishing pilots. Finally, Block (4) was designed with the aim of the mobility. This block included tasks related to visiting reference companies in each tech sector or attending events referenced for these technologies. However, and unfortunately, the covid-19 pandemic blocked these activities and some of them were carried out virtually/remotely. • How is information gathered within the practice? Various resources were gathered. Indicative resources: https://emfoca.upct.es/downloadFile/vNOR7VLyrM https://emfoca.upct.es/spinoff/qartech https://emfoca.upct.es/spinoff/biodiverso https://emfoca.upct.es/spinoff/hydrogreen-energy https://emfoca.upct.es/spinoff/decision-habitat https://emfoca.upct.es/spinoff/flowgy https://emfoca.upct.es/spinoff/allocy-white-lynx

		• How are data compliance and protection issues addressed? - All data is anonymised and safely stored. • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? All researchers had equal opportunities for participation regardless of gender or disability. • Specify time frame and implementation cost, if available One year • What resources were used in the implementation? Prototyping, consultancy, and valorisation resources.
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? • Researchers were able to improve their previous research results thanks to +Spin-off. A technical commission of evaluators analysed the types of the needs and which block (1-4) was the most demanded in order to reinforce the next edition. Also, we interviewed to the researchers with the aim to evaluate their feelings while they were developing the project and also to assess their expectation for the next steps.
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? The government of Murcia Region evaluated the program in two phases: intermediate and final phases, both. • Provide a brief description of the good practice validation process. N/A
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The		

information must be presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice? >13 technologies were presented by researchers from UPCT. These technologies were based on prior research results in its first edition. >7 main researchers were selected in order to scale up their technological initiatives and to explore their project as potential spin-off companies. > 90+ companies were contacted in order to validate the proposition values of the technologies, and to explore their commercial decks in the real market. > 10+ valorisation reports were made in order to improve the tech transfer process. Among these reports were made business plans, market resorts, and legal or financial plannings. > 5+ technologies increased their TRLs through several proof of concepts such as the creating and the scaling their prototypes or making homologation and quality certificates. > 3 Spin-off companies were created where 5 researchers were involved.
	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? >7 main researchers were selected in order to scale up their technological initiatives and to explore their project as potential spin-off companies. > 90+ companies were contacted in order to validate the proposition values of the technologies, and to explore their commercial decks in the real market. Impact was monitored and evaluated through interviews with both researchers and consultancy companies which made the market fit between industry and technologies. • How have beneficiaries' experience been improved economically, socially and environmentally? Researchers improved and accelerated their

		technologies, it enabled them to improve their tech transfer possibilities. • How is this practice impactful on underrepresented groups – especially underrepresented student groups? Young researcher, PhD students, or those students who are developing their Master Thesis could engage on this program as team members of the main researcher. This experience would allow them to be involved in a spin-off company. • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? See previous points. • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? 107000€. Costs were covered through Government of Murcia Region funding.
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? Need for the founds to address expensive tasks, such as the proof of concepts, effectives researches market, or implementing the customer discovery phase.
	Constraints	• What were the constraints and challenges encountered during the implementation of the practice? How were they addressed? The need to involve partnerships.
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? The practice was economically sustainable as no direct costs were involved because it was supported

		by the Government of Murcia Region. • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? Enhanced funding opportunities. • How does the practice contribute to risk reduction and resilience in your institution? Externally funded initiative through Murcia Region
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. Technologies play a key role here. The seven technologies accelerated was about: • IoT with a specialisation on smarts sensors wireless. • Natural cosmetics based on fruits features. • Green Hydrogen. • Fluid mechanic to estimate the air flows for health sector, such as the diagnostic or to simulate surgeries. • Telecommunication applications. • Blockchain and artificial intelligence. • Parametric design in architecture. • What is technologically ambitious or innovative within this practice? Not available.
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? This practice has been replicated in the University of Murcia and in the Catholic University of Murcia. • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? The technician staff in tech transfer to manage the project that linked the legal framework with the

		need of the researchers. The funds to develop the tasks. • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? The technical staff in tech transfer to manage the project that linked the legal framework with the needed of the researchers. The funds to develop the tasks. • What is your vision for replicating or upscaling this practice across EUt+? To scale up a tech transfer network that could be an European referent in the accelerating of spin-off companies based on research results.
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). • Researchers ***"It is a project in which we have designed and developed a family of devices that allow us to measure such important characteristics as particulate matter in suspension or gases such as CO2, So2, ozone or oxenium X. In short, measurement of greenhouse gases that the WHO identifies as quite dangerous."*** ***"Thanks to you for giving this impulse to innovation. I am confident that in the future investment in R&D, innovation in Spain will catch up with that of other countries in the European Union"*** ***"Currently, there is a company that is interested in the development of this GDL and then the main contribution has been the contribution in this case of private financing in which this company wants to explore the possibility of commercializing this***

		GDL that we are developing at the UPCT." • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice. "This project was born from a concept of sustainability and circular economy, by using fruit pulps obtained from fruit and vegetable products that cannot be marketed as they do not meet the aesthetic standards imposed by supermarkets." "We have several avenues of work within this project. One of them is the part of the blockchain that would be related to cybersecurity. On the other hand, we work with smart awareness. The third way of working is intelligent transport systems or intelligent mobility. We have got several pilots. We are also working hard to set up pilots in Brazil where we have several companies that have been very interested in what we are doing and besides I would also like to say that we have a young talent at our spectacular University." "Basically, what we have done has been to allow a technology such as computational fluid mechanics and virtual surgery to be used by ENT specialists in their daily clinical practice. Until now it was reserved for very small research groups (group of mathematicians, physicists, engineers, etc.) where computational techniques are commonly used, allowing these techniques."
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) https://emfoca.upct.es/downloadFile/vNOR7VLyrM https://emfoca.upct.es/spinoff/qartech https://emfoca.upct.es/spinoff/biodiverso https://emfoca.upct.es/spinoff/hydrogreen-energy https://emfoca.upct.es/spinoff/decision-habitat https://emfoca.upct.es/spinoff/flowgy

		https://emfoca.upct.es/spinoff/allocy-white-lynx
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? **The practice has been disseminated in conferences, in the corporate website, in social media and in communication media such as radio or newspapers.** • How does such dissemination show the success and effectiveness of the practice? **Through several news that appeared on communication media.** • What sort of data is accessible that can help to review this practice? **Multimedia resources, as sort of video-interviews with the researchers.**
	Contact details	• Emails to contact for more information on the practice. **mario.rosique@upct.es**

TTUPCT2: PRACER and CAPTURE (UPCT)

Title: University-Business Outreach (PRACER) and Attraction of European Projects Programs (CAPTURE)

This internal good practice encompasses our experience carrying out two internal programs during the last years, namely, the University-Business Outreach Program (PRACER) and the Attraction of Europeans Projects Program (CAPTURE).

On the one hand, The "Spanish Strategy for Science and Technology and Innovation 2013-2020" was the framework instrument that established the general objectives to be achieved during the period 2013-2020 related to the promotion and development of R&D&I activities in Spain. The document stated in the point referring to "Business Leadership in R&D&I" that the Achilles heel of scientific and

technological development in Spain was still business participation, especially that of SMEs, both in their contribution to the financing and development of R&D&I activities, as well as in their capacity to incorporate innovations into their products and services. This deficiency undermines the competitiveness of Spanish companies in the international market, the generation of employment, and the transfer of advances to society. For this reason, UPCT thought of special interest to finance actions aimed at promoting technology transfer by fostering relationships of trust between companies and researchers through the PRACER program.

On the other hand, the European Commission launched every year a series of actions for the financing and promotion of research and other related activities through Horizon 2020, the LIFE program, the initiatives coming from the General Directorates, and the International Organizations. These programs had two fundamental objectives: to strengthen the scientific and technological bases of industry and to promote international competitiveness. The corresponding Spanish R&D&I Plan included among its priority actions the establishment of actions aimed at promoting the participation of Spanish researchers in Community research and technological development programs. Similarly, the internal R&D&I Plan of UPCT included among its objectives to encourage the participation of UPCT R&D groups in the calls for international research programs. Consequently, UPCT launched the CAPTURE Program to grant aid to R&D groups of the UPCT for the development and submission of proposals for research and innovation projects to the EU Framework Programme and other international programs of interest to our R&D groups.

Subtitle: Key Achievements

In last two years (2019 and 2020):

> 23 grants were awarded to UPCT researchers for a total amount of +15K €

> Out of which, 8 were within the PRACER program

> Out of which, 15 were within the CAPTURE program

> 2 researchers that participated in the PRACER program signed collaboration projects with companies (25% success ratio)

> 4 researchers that participated in the CAPTURE program were awarded European Projects (~26% success ratio)

Key features of good practice

University or Institution where good	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point

practice identified				
Universidad Politécnica de Cartagena	Good Practice	2019 - 2020	Tech Transfer engagement	Mario Rosique, mario.rosique@upct.es

Good Practice Elements

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) **Murcia Region: Universidad Politécnica de Cartagena (UPCT).**
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders (academic/ industry/ technical/implementing/financial/etc.)? **Researchers, industrial partners, and collaborating companies**

	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) Main beneficiaries target: • Researchers with relevant research results. Indirect beneficiaries target: • Junior Engineers, who could be partly-employed. • Companies who received the technology and other companies who could be stakeholder/shareholder of it. • How many are they? (provide disaggregated data by student numbers, etc. where available) **> 23 main researchers and their teams.** **> 2 researchers that participated in the PRACER program signed collaboration projects with companies (25% success ratio)** **> 4 researchers that participated in the CAPTURE program were awarded European Projects (~26% success ratio)**
	Context	• What was the initial situation/ specific PRACER - To create and/or strengthen relationships of trust between researchers and companies, as well as to establish synergies between researchers and companies in R&D&I, disseminating research results and detecting potential clients for their commercialization. CAPTURE - The purpose of this call is to provide grants to support UPCT R&D groups in the development and submission of proposals for research and innovation projects to the EU Framework Programme and to other international programs of interest. Initially, lack of collaboration and/or wide space of improvement in company-university R&D partnership and low international presence in terms of R&D projects.

	Challenge	• What are the specific challenges the practice is trying to address? To increase the value of the research and innovation developed at UPCT. To give support to researchers in order to bring their knowledge to the market. Improvement of the tech transfer process. Improvement of international relations in R&D.
	Objective and key resilience dimension	• Brief description of the practice Research projects generate a great amount of knowledge inside the academic world. Institutions promote that these research must impact upon society, including companies and industry. However, tech transfer is a very complex process where several factors take part. Besides of the technical and scientific approach, researchers must understand the need of the industry in order to look for the market fit. • What are the specific objectives of the practice? To accelerate tech transfer process encouraging serious collaborations company-university. • What are the main factors of the practice which contribute to strengthening the internationalization and optimizing mobility experiences? In the PRACER program, financial support was provided in order to attend tech transfer events (workshops, sectorial meetings, trade fairs, etc.), as well as visits to companies and other entities. In the CAPTURE program, financial aid was provided to cover travel, lodging, and living expenses, as well as for registration and attendance to specialized events, to established/create trust relations/partnerships with international research groups and entities.

		It also included registration and attendance to Workshops, conferences or Brokerage Events of special relevance and related to international financing programs.
	Methodological approach	• How was the practice implemented? Briefly describe the methodological approach step-by-step so that it can be easily understood and replicated by others. The steps can be in narrative form or as bullet points. Part A (1 month): The UPCT published a call for proposals for researchers. In this phase, researchers submitted their proposals indicating the financing requested and filling in the section on the activity, highlighting the objectives and expected results of the activity. Part B: After the evaluation period, accepted proposals were financed and, when required, support from the technical staff of the TTO was also provided. • How is information gathered within the practice? Our official web page and internal data. • How are data compliance and protection issues addressed? - GDPR compliance is applied. • Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)? All researchers had equal opportunities. UPCT has a Equal Opportunity Unit (https://www.upct.es/unidad-de-igualdad/es/inicio/), which has developed and implemented an Equality Plan for the UPCT. • Specify time frame and implementation cost, if available

		One year. Aprox. 15K € (please note that during 2020 just a few proposals were received, compared to 2019, due to the Covid19 situation) • What resources were used in the implementation? Meetings, conferences, and personal events in general.
	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? • After a positive response from the researchers, these two programs are incorporated annually to the R&D&i internal calls of UPCT.
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? Yes, in general the beneficiaries are satisfied. • Provide a brief description of the good practice validation process. N/A
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• What results have been achieved through the implementation of the practice? > 23 grants were awarded to UPCT researchers for a total amount of +15K € > Out of which, 8 were within the PRACER program > Out of which, 15 were within the CAPTURE program > 2 researchers that participated in the PRACER program signed collaboration projects with companies (25% success ratio)

		> 4 researchers that participated in the CAPTURE program were awarded European Projects (~26% success ratio)
	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? Researchers were able to set up new collaborations with companies or get involved in international (mainly EU) R&D&I projects. • How have beneficiaries' experience been improved economically, socially and environmentally? The researchers' professional career has improved. • How is this practice impactful on underrepresented groups – especially underrepresented student groups? Young researcher, PhD students, or those students who are developing their Master Thesis could engage on this program as team members of the main researcher. • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? See previous points. • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? 15k€. Internal UPCT funding.
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful

		implementation of the practice? **Financial aid is required. The researchers' involvement and motivation/interest are key for succeeding.**
	Constraints	• What were the constraints and challenges encountered during the implementation of the practice? How were they addressed? **None in previous years.**
	Sustainability	• To what extent has the practice been institutionally, socially, economically and environmentally sustainable? **N/A.** • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? **Enhanced funding opportunities. To increase the perceived value of tech transfer from university to companies at all levels (society, business, etc.).** • How does the practice contribute to risk reduction and resilience in your institution? **N/A.**
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. **Technologies play a key role here given that most research done at our university is related to the engineering. field** • What is technologically ambitious or innovative within this practice? **N/A.**
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? **This practice has been replicated in other Spanish universities.** • What are the required conditions to

		successfully replicate and adapt the practice in another context/geographical area? The local technician staff in tech transfer to manage the project that linked the legal framework with the need of the researchers. The funds to develop the tasks. • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? The local technical staff in tech transfer to manage the project that linked the legal framework with the needed of the researchers. The funds to develop the tasks. • What is your vision for replicating or upscaling this practice across EUt+? Same as above.
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns). Not available • Narratives should be collected that ensures thick descriptions of the practices from different points of view as participants and agents of the practice. These include beneficiaries, designers, governors (those with institutional responsibility) of the practice. Not available.

	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) Call for proposals available here: https://www.upct.es/uitt/es/ugi/programas-de-apoyo-a-la-idi-de-la-upct
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? Due the the characteristics of these programs no dissemination is carried out. • How does such dissemination show the success and effectiveness of the practice? N/A. • What sort of data is accessible that can help to review this practice? Internal data.
	Contact details	• Emails to contact for more information on the practice. mario.rosique@upct.es

TTUTCN1: PoliHack: promoting STEM Education (UTCN)

Title: PoliHack: a hackathon and project bootcamp created for high school and university students (promoting STEM Education)

The PoliHack Project is a competition about students, both from universities and highschools, that are interested in IT and entrepreneurship and are willing to develop their skills, as a team (2-5 people), in order to come out with an innovative business idea in the IT field. There are 4 categories where students can compete: Web, Mobile, Embedded and Junior. The PoliHack Project has 2 stages: the first one is a hackathon and the second one is a bootcamp where the winners can improve their ideas and go on the business field.

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Type of problem / needs addressed	Contact point
Technical University of Cluj-Napoca (UTCN)	Promising Results: better hard and soft skills that can result in innovative ideas able to change the community.	3-5 December 2021- Hackathon - 48 hours 10-24 February 2022- Bootcamp	• Optimizing the ideas after hackathon in a bootcamp in order to come out with a start-up • Better preparation of the activity schedule that the participants follow • Implementing social evenings in which participants communicate freely	Titus Maghiar, OSUT Cluj, maghiar07@gmail.com

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• Romania, UTCN
	Actors and stakeholders	• UTCN local students, OSUT Cluj (UTCN's students' main NGO), IRO, University staff, companies
	Beneficiaries	• UTCN students (direct, circa. 50) • Other universities and high school students (direct, circa. 150 participants) • OSUT Cluj (indirect, approx. 50 volunteers) • Companies that are involved in the project
	Context	• Each year, OSUT Cluj organizes PoliHack- a project made in 2 stages: hackathon and bootcamp. Here, students have the chance to develop their skills (both personal and as a team) in order to come out with a product on the IT business market. • Besides participants, there are more people involved in this project: from volunteers to companies that are helping with prizes, money or human resources. All of them have benefits and a huge role in the success of PoliHack.
	Challenge	• Both participants and volunteers have to go out from their comfort zone and learn from each other. • The main challenge is about finding problems in the society and solutions in the IT field in order to solve them. • A lot of students are very good in the IT field, but they have a lack of practice with interpersonal skills, or they do not know how to sell their idea. And this is what PoliHack is about.
	Objective and key resillience dimension	The specific objectives are: -building entrepreneurial skills for participants; -finding problems in the society and solutions for them in technology; -giving people a chance to do some practice and to use their knowledge from university and high school; - helping volunteers to understand what it takes to do a project like this.
	Methodological approach	• All participants and volunteers are set up under a coordinator.

		Usually, they are students that was involved in this project before and they want to coordinate it. • Students that want to participate in this competition have to complete an online form. • The volunteers are guided and trained by the coordinator. • Volunteers have legally binding contracts with the student organization for one academic year, or more if they wish to continue. They get a certificate of volunteer at the end of the academic year. • The whole process is based on feedback via surveys or testimonials. • All data collected complies to GDPR regulations. • All students can participate at PoliHack, without any restrictions. • The project was set in place in 2015 and is ongoing. • The resources needed are: human, financial and time resources.
	Evaluation and continuous improvement	• We try to learn every year from our mistakes in order to improve and develop the project.
	Validation process	• Participant's satisfaction surveys. • Discussions one to one. • Feedback from the companies involved.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)		
	Results	• A network of participants which is growing every year. • Students are hired after competing in this project. • Some participants tried to open a start up after PoliHack • Strengthening the innovation and solving problems mind
	Success factors	• Good communication and dissemination of PoliHack activities among local UTCN students and other students from different universities and high schools from Romania. • An adequate number of volunteers to match the number of participants.
	Constraints	• Sometimes students do not have all the equipment that they need in order to do and present their idea. • A restricted numbers of participants and teams. • The winners need a consistent amount of money or

		resources in order to come out in the business area. • Inadequate, constantly allocated financial resources and incentives for volunteer students
	Sustainability	• The practice is sustainable and can contribute to develop future skills and to fix problems in the society.
	Technology	• Technology is used in all communication with participants and stakeholders, in recruiting, training and keeping in contact with volunteers and beneficiaries.
	Replicating and upscaling	• This practice can be easily replicated at EUT+ level provided good communication is ensured among all stakeholders and students are interested in developing their technical, social and entrepreneurial skills.
	Testimony	• Surveys, student testimonials.
	Related resources	• MS Teams group • https://www.instagram.com/polihack.osut/ • https://www.facebook.com/groups/1716880508621822 • https://www.facebook.com/PoliHack.OSUT
	Dissemination	• The project is introduced and recommended to all students that are willing to build something in the IT and Entrepreneurial fields. • The project coordinator and the volunteers are spreading the competition in the meetings. • On social media (groups/webpages) • In the local and national press • Partner companies are informed and constantly updated about the progress of PoliHack every year.
	Contact details	• maghiartitus07@gmail.com

TTUTT1: Innovation CRUNCH Time

Title: Innovation CRUNCH Time – An annual innovation project-based event bringing students and industry partners together.

The innovation CRUNCH Time is a 3 days hackathon that brings together all engineering students of UTT. The aim is to create multidisciplinary teams (we mix for instance mechanical engineering

students with IT students…) and have them review an innovation project that is attributed to them and provided to the university by an industrial partner. Over the 3 days, each team needs to work together to provide the industrial partner with one or several suggestions/solutions to advance in their project.

An event helping students work on real innovation projects submitted by industrial partners (or by associations).

This learning experience enables students to work for the first time as a real team on a concrete project. Industrial partners take the time to come and coach the students throughout the event to ensure their requirements and limitations are understood by the students to ensure that the proposal made by students in the end will be compatible with the company's expectations.

In addition to the actual projects, it is also a key event to enable students to meet with companies and create an initial contact in order to help them build their networks and help them find internships, apprenticeships and jobs in the future.

Finally, throughout the 3 days of the event, we also have other industrial partners who provide conferences and workshops to help students in their organisation and in the methodologies they can use to advance on their project such as "How to organize a brainstorming sessions" / "How to manage a team" / "How to pitch an idea"…

Key features of good practice

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Category	Contact point
UTT – but this event is also in place in another French University partner.	Promising practice	Annual event usually happening in April/May	• Innovation • Industry Engagement • Potentially civic engagement for student working on a project submitted by an	Marion Quillery (UTT) Marion.quillery@utt.fr Loubna Echajari (UTT) Loubna.echajari@utt.fr

			association	

Good Practice Elements and Guiding Questions

Element	Guiding questions for documentation
Geographical Coverage	• This has been implemented at UTT in Troyes, France (both on-site and in a virtual format). Industrial partners who participated were from the whole of France and a few even from Luxembourg.
Actors and stakeholders	• Key actors are teachers / administrative staff from university / students / Industrial Partners / UTT Foundation
Beneficiaries	• Students (approx. 1100 per event) • Industrial partners who submit projects (approx. 60-80 per event) • Industrial partners who give conferences/workshop (approx. 15 per event)
Context	• Companies generally have projects which are on hold due to lack or taskforce. They also are in high demand to recruit engineering students and need to raise their brands in order to attract new talents. • Students wish to apply their skills to concrete projects and gain experience they will be able to highlight on their curriculum
Challenge	• This practice aims to enable students to apply the theoretical knowledge they learn in class to the real world and dealing with actual industrials with specifics needs and requirements
Objective and key resillience dimension	• Allow students to work full time on a real innovation project proposed by an industrial partner • Enable students to apply their skills in a real environment and help them get a first team work experience. • Students are working directly with the industrial partners over these 3 days which reinforces industry engagement

	• How was the practice implemented? 1. Reach out to industrial partners to explain the event 2. Gather their interest and accompany them in the definition of their projects 3. A team of teacher validates each subject to ensure they work with students curriculum 4. Communicate on the event to students to gain their adherence 5. Organise conferences/workshops with industrials throughout the 3 days 6. Look for financial ressources/find sponsorship 7. Organise logistics of the event 8. Review the work of students at the end of the event to provide them with a grade and ECTS credits • A dedicated team of students/teachers and admin is working together on the event. In the 2 months leading to the event, weekly meetings are organized to share information and ensure all issues are dealt with. • All data compliance and protection issues are addressed ahead of the event in collaboration with industrial partners and UTT's DPO. • The event brings together all UTT students regardless of their profile/gender... • The event typically takes 4 months to organize. It requires a dedicated team whose members need to set time aside to organize this event. In terms of cost structure, we need approx.. €50-70K per event. However, each project submitted by a company that is treated during the event requires payment from the industrial partner. Our Fondation also helps us with the budget and we have several grants from local agencies specifically for this event. Overall, the event should be cost-free to the university. • Human ressources are the main component of this practice. COVID aside, this event is usually on-site so there is no specific IT ressources needed.
Methodological approach	
Evaluation and continuous improvement	• Each students' team will be evaluated and graded on the project results they will provide. If their work is deemed of quality, the students will also acquire ECTS credits that will be added to their curriculum. • For continuous improvements, several surveys are being sent to industrial partners and students that

	will request views on all aspects of the event • The dedicated organization team also had a post-event debriefing to come back on issues faced and to discuss next year's improvements.
Validation process	• At the end of each event, we organize 2 satisfaction surveys. The first one goes to the industrial partners to understand if the event was positive for them in terms of the project itself but also in terms of organization / brand development / networking with students and UTT staff. The second is sent to students to understand if they enjoyed the event, if they have gained relevant experiences and to gather information as to what can be improved for the following editions. We also ask students to grade the different conferences/workshops they attended throughout the event. • For companies, a good way to ensure this event is really an added value to them is to see whether they come back the following years which is often the case.
These two sections (Results and Impacts and evaluations) provide guidance to identify the level of available evidence that qualifies the experience as a good practice or promising practice. The information must be presented clearly and supported by data (with sources and dates)	
Results	• Increasing demand from industrial partners to participate • New learning experiences for our students • Some students have decided to continue working on the projects post event • Some companies have implemented the solutions provided by the students as part of their project • Some students have found the company they did their internship with during this event
Impact	• Industrial partners have benefitted from the expertise of the students for a very low cost. Students have had a first tangible experience as working on a real project and within a team. • Industrial partners also raise awareness about their business and students can build relationships with them in order to facilitate their insertion in the professional world later on. • For the university, this large scale event is a great way to create relationships with companies in the area and throughout the whole country.
Success factors	• The conditions needed for the successful implementation of the practice are:

	- A dedicated team working together on the organization of the event - An effective selection of the projects submitted by industrial partners to ensure students are motivated by them - Financial ressources (grants / sponsors…)
Constraints	• The constraints and challenges encountered during the implementing of the practice were: - Time needed to explain the concept to industrial partners, to help them define their projects and manage their expectations - Finding staff to be part of the organization team (teachers and admin staff) - Communicating to students to get them to adhere to the project and understand the benefits. - Finding sponsors - Include the event as part of the curriculum and therefore block 3 days each year in the overall academic calendar
Sustainability	• Any project put forward by an association is free of charge • We also have a limited of projects available to startups that are also free of charge – therefore helping smaller entity advance on their issues. • We receive each year several projects linked to questions about sustainability and environment. • If we wanted to be fully institutionally, socially, economically and environmentally sustainable, we could only approve projects that fit these criteria.
Technology	• Technology is mainly present in the projects the students have to work on. They need to find innovative technological solutions to problems our industrial partners face.
Replicating and upscaling	• This practice has been replicated several years already. The 2021 edition was in a different context (COVID) and the event was therefore organized half on site and half with students working from home. Companies were also invited to participate virtually which has forced us to put new IT systems in place. • It would be quite easy to use the 2021 context of COVID to open the event to the other Eut+ universities virtually. • The main condition would be to ensure all is now done in English. We do not anticipate this being an issue for our industry partners through. Human

		ressources would also need to me found in the various institutions to lead the logistics of the event. • Having projects coming from each EUt+ members' industrial partners would be a great way to improve the existing event. We could even envisage to mix students from different universities as part of the same team.
	Testimony	• Satisfaction surveys can be made available but are currently in French.
	Related resources	• https://utt-crunch-time.geniusutt.fr/ • https://www.youtube.com/watch?v=jzltmvWEV0U • https://www.youtube.com/watch?v=gCey6ZEx-9o • https://www.youtube.com/watch?v=ZMycEeKCtHM • https://www.youtube.com/watch?v=RiTBDRubHqk • https://www.youtube.com/watch?v=Slc13pDOw1w
	Dissemination	• Post-event reports and brainstorming meetings have been conducted to ensure we keep track of the do's and don'ts of the previous events. • Surveys conducted with students and industrial partners are available to help review the effectiveness of this practice. The grades obtained by the students in their projects will also be a good indicator of the relevance of this event. • In addition, we now see our alumni who participated in the event as students and who are now leading the participation of their company to the event.
	Contact details	• Marion Quillery +33 3 51 59 13 52 Marion.quillery@utt.fr

Chapter 4: Global scanning of good practices in innovation and technology transfer

In addition to looking inside our partner organisations to draw out good practices in innovation and technology transfer suitable for piloting, replication or scale-up, we also undertook a global scanning process to spotlight globally where best practices might exist in innovation and technology transfer that can support our ambitions. This is a continuous work in progress by all the EUt+ partners. We spotlight one global case for this chapter.

TTGLOBAL1: Innovation Lab MoWiN

Title: Innovation Lab MoWiN

Subtitle:
The MoWiN innovation laboratory is aimed at SMEs in the field of mobility. The laboratory is to support joint development projects in northern Hesse. It takes place 4 times a year. SMEs in the region can present their own innovations in a workshop that is divided into two parts.

During the first part, the SME presents its idea in front of a university consultant and they will work together. University consultor gives solid feedback and advice from a technical, user, and business-oriented perspective. The methodological experience increases the maturity of the innovation and analyzes it in search of possible weaknesses. After conducting a workshop, the actions are designed with the benefit groups, where the market potential, business model or TRL is evaluated.

During the second part, SMEs have the opportunity to present their ideas to experts in business development, patent information center, technology transfer of the university and founding consultants of the Promotion Nordhessen network and the MoWiN.net cluster. The experts discuss the relevant financing programs and the utilization scenarios that are then developed in the cluster.

University or Institution where good practice identified	Promising or good practice	Implementation date or period	Category	Contact point
Regional management Nordhessen GmbH	Good practice	Annual event	TTO practice	

Good Practice Elements and Guiding Questions

Element		Guiding questions for documentation
	Geographical Coverage	• In which country, region, province and/or district has the good practice been implemented and replicated? (include map if useful) **Nordhessen Region in Germany**
	Actors and stakeholders	• Who are the key actors, partners, other stakeholders. (academic/ industry/ technical/implementing/financial/etc.)? **Key actors are researchers / SMEs / Investors / consultants / IP Offices / Scientific park**
	Beneficiaries	• Who are the beneficiaries (direct and indirect) targeted by the practice? (students /staff/government/etc.) **On the one hand SMEs who need technical solutions and on the other hand researchers who are able to transfer their knowledge to the industry**
	Context	• What was the initial situation/ specific context? **Experiences with regional SMEs show that, although there is a desire for innovation, only a few resources are available to continue developing these projects. First of all, researchers and research areas do not want to be inundated by inquiries about innovation projects. Second, there are too many interesting ideas that fail due to university barriers.**
	Challenge	• What are the specific challenges the practice is trying to address? **This practice aims at identifying cooperation projects in the field of R&D by establishing specific networks between companies and the university to increase R&D activities.**
	Objective and key resillience dimension	• Brief description of the practice **Allow researchers to be involved on a real innovation project proposed by an industrial partner** • What are the specific objectives of the

practice?

This practice aims to support the concentration and strength of SMEs in the renewed EU industrial policy framework

What are the main factors of the practice which contribute to strengthening Tech Transfer?

The MoWiN Innovation Lab provides a platform that, in addition to the actual learning gained by participating companies, contributes significantly to the development of well-functioning innovation systems by strengthening the link between university and industry.

How was the practice implemented?

Through two phases:

Phase 1. The link between SMEs and Universities

Step 1. The SME presents their own ideas to university consultor in order to receive feedback about technical and business approaches.

Step 2. Workshops are organized with the aim to work with the groups of beneficiaries to define the market fit or the TRL.

Phase 2. Pitch and searching funds

SMEs present these initiatives to investors, Tech Transfer Offices responsible, Patent Offices and Promotion Nordhessen and the cluster MoWiN.net in order to discuss the relevant financing programs to apply.

How is information gathered within the practice?

A dedicated team of students/teachers and admin is working together on the event. In the 2 months leading to the event, weekly meetings are organized to share information and ensure all issues are dealt with.

Methodological approach

- How are data compliance and protection issues addressed?

not available

- Explain how this approach is participatory for all and inclusive (inclusive of gender and other underrepresented groups)?

The event brings together all researchers and SMEs regardless of their profile/gender...

- Specify time frame and implementation cost, if available

not available

- What resources were used in the implementation?

not available

	Evaluation and continuous improvement	• What is the evaluation and continuous improvement process attached to the practice? To improve the practice, they would address the follow challenges: Providing innovation labs where SMEs can present their internal ideas to connect with other partners or receive funding assistance. A more workshop-oriented format that provides insight into the crucial elements and steps in the innovation process is as necessary as it has recently been implemented.
	Validation process	• Confirmation by the beneficiaries that the practice addresses the needs properly. Has the good practice been validated with the stakeholders/final users? All participants have been happy with the content. Especially the collaboration with the university's SME consultant was fruitful and the cooperation continues recently in terms of a funding program in relation to the topic of AI and data science that is perfectly suited to two SMEs. • Provide a brief description of the good practice validation process. Through interviews with SMEs, universities, researchers and consultors.
	Results	• What results have been achieved through the implementation of the practice? Increasing demand from industrial partners to participate Increasing the connection between SMEs and Universities. Promoting the transfer of patents from universities to industry. Improving the tech transfer process
	Impact	• What is the impact (positive and negative) of this practice on the beneficiaries? How was the impact monitored and evaluated? Industrial partners have benefitted from the expertise of the researchers in an innovative environment. Researchers and universities improve their tech transfer level. • How have beneficiaries' experience been improved economically, socially and environmentally? SMEs and researchers will be able to apply to financial

		programs together, as a consortium. • How is this practice impactful on underrepresented groups – especially underrepresented student groups? • Are these impacts validated by data and monitoring and evaluation studies? If so, what were the main learning points to remember (if these points have not already been indicated in the other sections)? • Cost/efficiency indications: If applicable, what are the total costs incurred for the implementation of the practice? What are the institutional, social, economic and/or environmental benefits compared to total costs? Are there ROI studies? The MoWiN Innovation Lab is funded by the Ministry of Hesse (European Regional Development Fund).
	Success factors	• What are the conditions (institutional, economic, social and environmental) needed for the successful implementation of the practice? The conditions needed for the successful implementation of the practice are: - A dedicated team working together on the organization of the event - An effective selection of the projects submitted by industrial partners to ensure researchers are motivated by them - Financial resources (grants / sponsors…)
	Constraints	• What were the constraints and challenges encountered during the implementing of the practice? How were they addressed? The constraints and challenges encountered during the implementing of the practice were: - Time needed to explain the concept to industrial partners, to help them define their projects and manage their expectations - Finding staff to be part of the organization team (teachers and admin staff) - Communicating to researchers to get them to adhere to the project and understand the benefits. - Finding sponsors
	Sustainability	• To what extent has the practice been institutionally, socially, economically

		and environmentally sustainable? • What are the key elements to put in place for the practice to be institutionally, socially, economically and environmentally sustainable? • How does the practice contribute to risk reduction and resilience in your institution? **If we wanted to be fully institutionally, socially, economically and environmentally sustainable, we could only approve projects that fit these criteria.**
	Technology	• What role does technology play in this practice? Please provide descriptions of technological practices. **Key role. Any technology susceptible to solve problems in SMEs.** • What is technologically ambitious or innovative within this practice? **Technology is mainly present in the projects the researchers and SMEs have to work on. They need to find innovative technological solutions to problems our industrial partners face.**
	Replicating and upscaling	• Has this practice been replicated in similar and/or different contexts? **Not available** • What are the required conditions to successfully replicate and adapt the practice in another context/geographical area? **The main condition would be to guarantee the fluid connection between the Lab and the SMEs. This relationship should be strong in order to create an effective climate of cooperation.** • What are the required conditions to be able to replicate this practice on a larger scale (national, regional, international)? • What is your vision for replicating or upscaling this practice across EUt+? **Creating a European lab where SMEs and EUT+ universities are able to work connected.**
	Testimony	• Collect stakeholders' testimony and use this anecdotal evidence of a beneficiary or a group of beneficiaries to show the success and effectiveness of the practice (with names and dates (these can be coded where necessary to comply with GDPR or other privacy concerns).

		https://www.mowin.net/portfolio/publications/?L=1
	Related resources	• List of references about the practice (e.g. course content, training manuals, guidelines, pictures, video, websites, etc.) https://www.mowin.net/start/
	Dissemination	• How has the practice been disseminated to date (e.g. conference papers, (multi) media, artefact, co-creation of innovation, student debate, etc..)? **Brochures were produced. All activities are documented through social media and the press releases.** • How does such dissemination show the success and effectiveness of the practice? **The management of the group talks with potential SMEs and members of MoWiN.net to find out the need for a theme special and acquire participants.** • What sort of data is accessible that can help to review this practice? **You can find here: https://www.mowin.net/portfolio/ .**
	Contact details	• Emails to contact for more information on the practice.

Chapter 5: Recommendations and next steps for EUt+ TTOs

Our recommendations and next steps below result from our analysis of good practices provided and our understanding at this point of time of each other. Based on data provided we suggest next steps in terms of development of TTOs across EUt+ according to seven key areas.

1. Potential for EUt+ level pre-incubation initiative

The pre-ideas lab described in TTRTU1 and other initiatives across partners such as TU Dublin and TTUTCN1 are more likely to be institutionally funded and therefore could benefit from joined up thinking to create an EUt+ hackathon or pre-ideas forum. Notwithstanding that they emerge out of a national agenda, whether to improve innovation (TTRTU1) or to attract children into STEM (TTUTCN1), the benefits of a European initiative can translate into local benefits. For example, opportunity to travel to showcase or competition.

Next steps:

- Start conversations among TTO managers about pre-incubation initiatives and benefits of an EUt+ level initiative as a pilot (3 months)
- Consider a form of EUt+ pilot on pre-incubation (1 year)

2. Opportunity to create European IP auction

This practice highlighted in TTRTU2 would seem to be common within Latvian universities but there could be amazing scope (if regulatory conditions allow) to scale this up. Making it a European initiative across EUt+ would attract more interested parties and would completely broaden the range of IP opportunities that companies can purchase. It could be that an IP developed for example in TUS would be hugely beneficial to a company in France.

Next steps:

- Start conversations with TTO managers about the conditions and interest of scaling this up on a pilot basis (3 months)
- Consider a form of EUt+ IP auction as a pilot (18 months)

3. Nationally funded Lab initiatives – share good practices maybe move closer to harmonising

Initiatives such as TTTUD2 rely heavily on national funding that makes them quite contextual and less suitable to scale up. However, such innovation lab programmes and initiatives exist across multiple partners (e.g. TTTUS1). There is good scope to learn from each other in terms of adopting good practices and ideas in consideration of moving somewhere close to EUt+ level good practice.

Next steps:

- This kind of recommendation would benefit from short term Erasmus+ Staff travel to see and understand practice in place. A programme of Erasmus+ short term staff travel of TTO officers and managers with the objective of learning from each other could be developed (3 months)
- Longer term exchanges might be feasible if funding structures permit. This could be explored (3 months)

4. Bring internationalisation aspect through Erasmus+ funding to nationally funded innovation hubs

Recognising that good practices that rely on national funding to meet local strategy and policy objectives are quite contextual (e.g. TTTUD2 or possible TTRTU1), it must be considered that funding is available through various European Erasmus+ / EIT calls for internationalisation and Europeanisation. Such features are well recognised as capability building for budding entrepreneurs/enterprises and SMEs. Facilitating this would allow EUt+ partners individually to better support their initiatives and make them more attractive and effective for participants.

Next steps:

- TTO managers to identify and work in partnership on an internationalisation call that will bring the international dimension to programmes (1 year).

5. Build on inclusive element – more female initiatives, children, underrepresented groups

What is evident from various good practices is the narrow focus on inclusiveness in the reporting. There is clear scope to widen and to give more focused consideration to what supporting more inclusive initiatives means. Some good practices did not address this question. Others suggested that initiatives were inclusive because they are open to all. Two initiatives (TTUTCN1 and to come extent TTTUD1) dedicate specific effort to target underrepresented groups but this is generally limited to women in STEM or women entrepreneurship. There are many other underrepresented groups that are given no consideration such as students with disability, older age groups, Roma or traveller communities, part time students, etc.. There is great scope to build on this shortfall.

Next steps:

- TTO managers to create pilot that extends underrepresented groups targeted. In this regard UPCT has specific experience in civic engagement with its senior's university which might be an interesting starting point to draw on knowledge. There is a pilot running in TU Dublin at the moment on self employment for people with disability that may also be a good starting point to consider access and widening participation in TTO initiatives. (6 months)

6. Partner in innovation research funding

TTUPCT2 would seem involve research funding and the opportunity here is to explore the avenues developing this with EUt+ partners.

Next steps:

- UPCT to advise where and if these opportunities would exist in PRACE and CAPTURE and start discussions with TTO managers. (3 months)

7. Models for closer engagement of industry in TTO at European level

Both TTUTT1 and TTGLOBAL1 are very interesting in their model of working closely with industry. Industry and employer engagement is fundamental to developing our EUt+ network. The extent to which the initiative is within context or could be scaled up would need to be explored more fully. In any case the industry collaboration aspects of these practices could be adapted into existing similar initiatives.

Next steps:

- UTT could comment on how TTUTT1 could be scaled up or replicated, either as a pilot or otherwise. (one month)
- TTO managers could consider based on this understanding whether a CRUNCH time event could be built into existing initiatives or whether the model of industry engagement could be integrated with some shared partners across EUt+ (one year).

Appendix A – Template for Starting Pilot Initiative

Name of Pilot Lead:	
Institution:	
Date:	
Name of Pilot:	

Brief Description of Pilot: (100 words max)

…

1. Goals

CHECKLIST

❑ Define what success looks like for your rollout

(3-4 bullet points)

❑ Set goals that you can measure over time through the duration of the initiative

(1-2 goals with 3-4 objectives)

❑ Include measurements across all stakeholders and areas of the initiative (e.g. students, teachers, staff, technology, learning outcomes, etc.)

(aim for at least two measurements under each of the four measures of success where possible)

Measures of Success and impact

Implementation success metrics	Educational Outcomes for teachers / students / others	Measures on Inclusivity – gender and other underrepresented groups	Measures on Government / industry / tech transfer

2. Timeline/Milestones

CHECKLIST

❏ Review all steps involved in rolling out the pilot initiative and set a realistic launch date

- *Planning phase (50 words)*
- *Launch Phase (50 words)*
- *Train Phase (including drafting guidance material) (50 words)*
- *Conclude Phase (50 words)*

❏ Based on the launch date, create a detailed timeline (including critical milestones) to ensure your project stays on track

(*provide Gantt chart and identify milestones)*

3. Selection

CHECKLIST

❑ Define how big your Pilot will be and who will be included in it (which schools, groups of teachers, students, etc.)

(50 words)

❑ Draft criteria to guide each group of pilot participants

(List documents needed to guide each pilot participant – who will draft these documents?)

4. *Measurement*

CHECKLIST

❑ Define how you will measure the success of your rollout and ensure there are methods in place (surveys, reports, observations, etc.) to collect the data to do so

(Link in with table of measurements under Goals – specify each measure under the headings of Implementation success, Educational outcomes, Inclusiveness outcomes, Industry and tech transfer outcomes as per Table 1 of the guideline document and method for measurement)

Appendix B – Reporting on Pilot

Name of Pilot Lead:	
Institution:	
Date:	
Name of Pilot:	
Pilot Completion Date:	

Results on Measures of Success and impact

Implementation success metrics	Educational Outcomes for teachers / students / others	Measures on Inclusivity – gender and other underrepresented groups	Measures on Government / industry / tech transfer

Products and supports required for project (50 words)

Lessons learned, risks and issues (50 words)

Benefits assessment (50 words)

Viability report and recommendation (50 words)

Route map for implementation (50 words – or graphic)

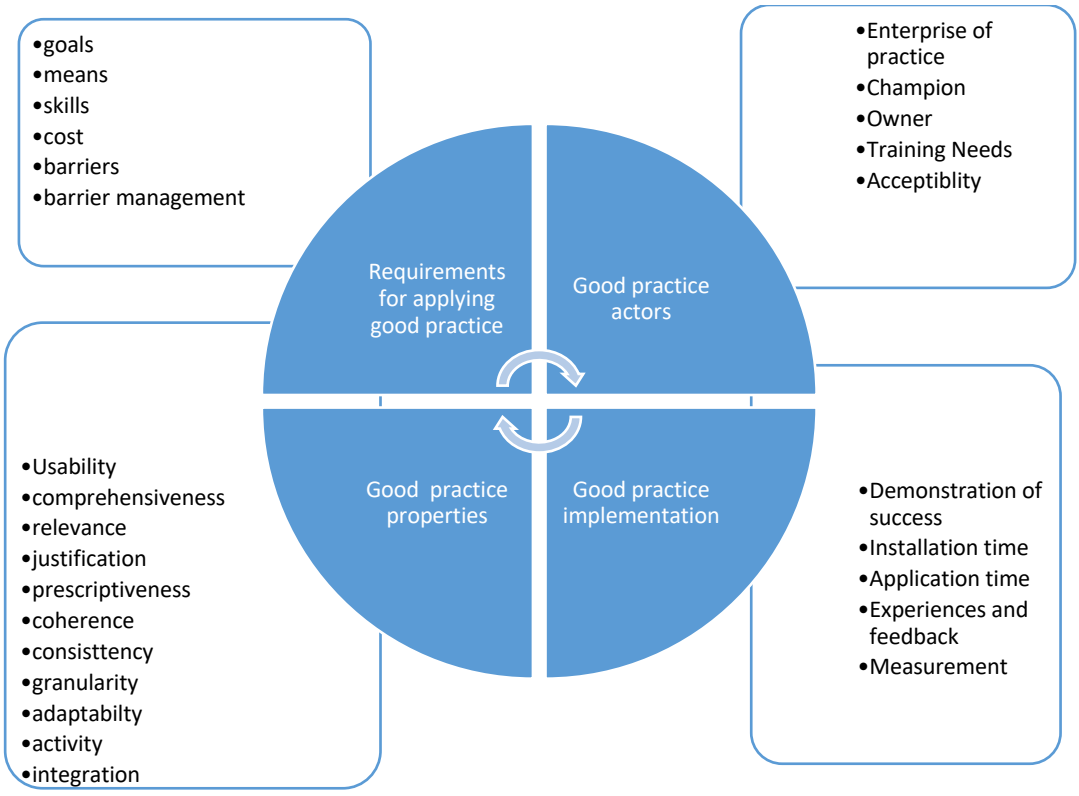
Resourcing appraisal and project plan (50 words)

Appendix C – Replicating and Scaling up Good Practices across EUt+

This is a support framework for partners involved in scaling up and replicating good practice across EUt+.

As good practices are identified and reflected on, the aim ultimately is to share good practices and to create participation opportunities across EUt+ partners. Figure 1 presents a framework to aid replication and upscaling of institutional good practices across EUt+ partners. Although it is recognized that this framework maybe quite technology focused, the framework and underlying questions can be adapted to suit different types and elements of practices. The important aspect is that it helps partners embed a methodological approach to good practice adaptation that may be needed for knowledge sharing and successful implementation.

Figure 1: framework to aid replication and upscaling of good practices in EUt+



Source: adapted from Meshari Alwazae et al. (2015)

Alwazae, Perjons, Johannsen (2015) developed a template on best practice collection that emphasizes the transfer of practices. Categories within the framework covering knowledge transfer can help partners wanting to adopt or collaborate in good practice approaches within EUt+.

Questionnaire for replicating and scaling up good practices

It is anticipated that where good practices are adopted by a partner a framework will help to promote and assist in the process. All partners should consider these questions when building a case to implement a good practice initiative. This will help provide a sound basis for decision making and will assist in monitoring and managing the process as it evolves.

Requirements for applying good practice:

1. Goal: The intended effect of applying the good practice.
2. Means: The means that are needed for applying the good practice, including people and technology.
3. Skills: The skills and competence required of the end-user for applying the good practice.
4. Cost: An estimation of the costs for applying the good practice.
5. Barriers: Obstacles or problems that may occur before, during, and after applying the good practice.
6. Barrier Management: Procedures to follow if certain obstacles or problems are encountered.

Good practice actors

1. Enterprise of Practice: Enterprise of practice that may be interested in using the good practice.
2. Champion: The need and role of a champion for the good practice.
3. Owner: The good practice owner or responsible who might be an individual, role, department or organization.
4. Training Needs: The degree to which a person has to be trained in order to use the good practice.
5. Acceptability: The degree of good practice acceptance by domain experts - in general and/or in the organization - for resolving the problem addressed by the good practice.

Good practice properties

1. Usability: The degree to which the good practice is easy to use or enact.
2. Comprehensiveness: The degree to which the good practice offers a comprehensive and complete view of the problem and solution under consideration.
3. Relevance: The degree to which the problem addressed by the good practice is experienced as significant by practitioners.
4. Justification: The degree to which evidence shows that the good practice solves the problem.
5. Prescriptiveness: The degree to which the good practice offers a concrete proposal for solving the problem.
6. Coherence: The degree to which the good practice constitutes a coherent unit, i.e., all parts are clearly related .
7. Consistency: The degree to which the good practice is consistent with existing knowledge and vocabulary used in the target industry sector or knowledge domain.

8. Granularity: The degree to which the good practice is appropriately detailed.
9. Adaptability: The degree to which the good practice can be easily modified and adapted to other situations.
10. Activity: The tasks to be carried out in the good practice.
11. Integration: The degree to which the good practice is integrated with other good practices.

Good practice implementation

1. Demonstration of Success: A case where the good practice is successfully demonstrated Implementation.
2. Installation Time: The time it takes to introduce and implement the good practice in an organization.
3. Application Time: The time it takes to apply the good practice in an organization.
4. Experiences and feedback: Users' opinions, advices and experiences of the good practice.
5. Measurement: Indicators for measuring the quality and performance of the good practice.

Reference:
Alwazae, M., Perjons, E, Johannsen, P. (2015) Applying a Template for Best Practice Documentation. Procedia Computer Science 72 (2015) 252 – 260.