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# EUROPEAN UNIVERSITY OF TECHNOLOGY

Deliverable 62

D4.5.4c Annual Activity Report and upgrading of the convergence plan

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WP 4

Description: Main research results and networking activities towards a convergence plan

Comments:

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## ACRONYMS

UTT: Universite de Technologie de Troyes

h_da: Hochschule Darmastadt

RTU: Rigas Tehniska Universitate

TU Dublin: Technological University Dublin

TUS: Technical University of Sofia

CUT: Cyprus University of Technology

UPCT: University Politecnica de Cartagena

UTCN: Universitatea Tehnica Cluj-Napoca

ERI: EUt+ Research Institute

ERO: EUt+ Research Office

EGRS: EUt+ Graduate Research School

MoA: Memorandum of Agreement

AHSS: Arts, Humanities, and Social Sciences

# 1 EXECUTIVE SUMMARY

Deliverable 4.5.4c is the third annual report regarding the joint activities undertaken, during the second year of the project, by EUt+ alliance towards the establishment of common research units and institutes. The most important step towards this direction is the official establishment of the first EUt+ Research Institute, namely the European Culture and Technology Laboratory (ECT Lab+), in March 2023. In addition, one of the existing thematic networks, the EUt+ Sustainability Lab, submitted their application to become ERI while a new thematic network, the POSTLab (People Oriented Smart Technology Lab), has been established and they also applied to become ERI. Thus, in total five ERI applications, submitted by the following thematic networks, are under consideration by the EUt+ Research Committee:

+ European University of Technology Institute of Nanomaterials and Nanotechnologies (EUTINN),
+ EUt+ Sustainability Lab,
+ EUt+ Data Science Research Institute,
+ European Laboratory for Pedagogical Action - Research and Student-Centred Learning (ELaRA)
+ People Oriented Smart Technology Lab (POSTLab)

These thematic networks, as well as the new ERI, continued their (research related) collective activities giving special emphasis to grant proposal applications since it has been recognised from the (successful) case of the European Culture and Technology Laboratory (ECT Lab+) that the financial sustainability of the institutes is of primary importance. In fact, the Board of Rectors of EUt+, following the recommendation of the EUt+ Research Committee, decided to postpone the decisions about the pending ERI applications until the beginning of the next EUt+ phase (EUt+ Accelerate, 2023-2027) and give the corresponding thematic networks the chance to prove, in addition to the research performance, their financial sustainability. Thus, new ERIs are expected to be established by the end of 2024.

Networking activities, in the framework of the above-mentioned thematic networks and the ERI, include common grant proposals submission, organization of workshops and seminars at the EUt+ level and beyond. Information on those activities is reported in the current deliverable.

In the reported period the EUt-EXTRAS project, funded through the SWAFS (Science With And For Society) initiative, delivered some important tools for research steering allowing among others automatic call for project proposals analysis and mapping to the EUt+ researchers. These tools are used in the framework of ERO and by individual researchers for finding collaborators for basic and applied research.

## 1.1   Work Package description

The purpose of WP4 is to organize and mutualize all research and transfer activities within the EUt+ consortium, in a structuring approach and in connection with research training aspects. A preliminary analysis of research activities across the EUt+ alliance has demonstrated the impressive potential of EUt+ for boosting the global growth of each region thanks to a macro-level approach. Indeed, whereas only 40% of individual campuses' priorities overlap with local regional priorities, a total of 93% match is achieved at the EUt+ alliance level. Nevertheless, organizing research activities at the EUt+ level, without limiting the academic freedom for researchers, in a coordinated fashion is expected to highly advance both applied and basic research in a measurable manner.

Pooling research strengths of EUt+ partners will reinforce the EUt+ alliance as a whole and create synergies, in an approach like the mutualization of S3 (Smart Specialization Strategy) strengths and general pooling of systems and activities. This aspect, purely centered on mutualizing quality research, has been taken care of in Task 4.5. All of EUt+ partners are technology driven institutions, some with an additional foundation in social sciences, arts and humanities, others with a closer orientation on engineering. Together, EUt+ partners capitalize on existing research labs, which open up synergies and in the next step new technical solutions by either complementing or extending existing expertise. Linking research activities and joining efforts provides the foundation for enabling European

technology thinking human first and enabling the activity of the work packages other tasks at the same time, and this vital in view of the new phase of EUt+.

## 1.2 Task Description

Task 4.5 takes care of:

+ completing the task of identifying the partners' specific research strengths and mapping out interlinking potential and opportunities for joining efforts to achieve mutual project creations;
+ ***conceiving and implementing a strategy to foster fruitful research collaborations at the EUt+ level and beyond;***
+ setting up a map of research competencies and developing means to display them to interested parties in our ecosystem in print and via the Internet;
+ establishment of strong thematic networks prefiguring research institutes;
+ creating common research institutes on identified research strengths and opportunities: one institute to be launched by the end of the first year (2021), for a total of three common research institutes at the end of the three-years funding period and seven by 2025;
+ organizing annual meetings of the engaged labs in the various research fields

## 1.3 Purpose

In simple words, the purpose of this document is to report the main research related results achieved during the third year of the project (1/11/2022 – 31/10/2023) along with the final modifications of the convergence plan (see Deliverables 4.5.1[1], 4.5.4a[2] and 4.5.4b[3]) towards the creation of common research units in the new phase of EUt+. In this context, it serves mainly the second goal of Task 4.5 stated above.

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[1]D4.18: Convergence Plan towards common research units and institutes

[2]D4.20: Annual Activity Report and upgrading of the convergence plan – M12.

[3]D4.21: Annual Activity Report and upgrading of the convergence plan – M24.

## 2 EUт+ RESEARCH RELATED AGREEMENTS

In this section we report the actions undertaken by the EUt+ decision making bodies aiming at conceiving and implementing a strategy to foster fruitful research collaborations at the EUt+ level and beyond. Following the signing of Memorandum of Agreement (MoA), governing the establishment of EUt+ European Research Institutes in January 2022, the Board of Rectors of the EUt+ alliance in March 2023 signed the agreement for the creation of the first EUt+ Research Institute, namely "The European Culture and Technology Laboratory". Details of this agreement are given below.

## 2.1 Agreement for the creation of the European Culture and Technology Laboratory

This agreement refers to the creation of the European Culture and Technology Laboratory (ECT Lab+), established based on the procedures mentioned in the MoA for the establishment of ERIs. For its creation, an application proposal has been submitted to the Research Committee. This includes a description of planned activities with a justification of the motivation and the lines of research that covered by the institute, together with a list of researchers as founding core members, including their CVs and associated researchers as well as a strategy, institutional sustainability plan and a process guideline for conflict management. The Research Committee examined the proposal and suggested the foundation of the institute to the Rectors' board.

### 2.1.1 Legal Status and Purpose

1. The institute acts as a platform for building research strengths of all involved partners.
2. The institute complements and is embedded into the existing structures of the partner universities. Infrastructure and the institutes' human resources can be distributed and shared between the partner universities.
3. The institute is a legally non-independent entity.

4. The members are employed by their home institutions.
5. The institute's business year is the calendar year.
6. The institute is initially founded for five years as per this agreement and may be continued after successful evaluation for a next period of five years or as seen fit according to the institute's strategy. In case a European assessment body may come into existence during this period of time, it will be considered for evaluation.
7. Until the creation of a legal entity for the EUt+ alliance, the institute is embedded into the existing research and organisational structures of each partner university of EUt+.
8. Potential changes in the context of evolving European regulations concerning the structural design and the legal status of the institute together with possibly newly arising legal possibilities such as the usage of a common PIC number will be monitored and potentially brought to attention as seen required for adapting this agreement.

### 2.1.2 Aims & Tasks

1. The institute is a platform for bundling research strengths in the areas of Arts, Humanities and Social Sciences (AHSS) related to questions of technē, technics, techniques and technology. The focus of research is on the philosophical and societal aspects inherent to technology. The ECT Lab+ will encourage reflections on the relationship between European Culture and Technology: its overall historical development, its present challenges and its future development appropriate to humanity.
2. Its purpose is to enable researchers to join forces and team up for joint research and technology transfer projects and applying for applicable third party funding.
3. It supports capacity building for its members and the implementation of best practices on the basis of sharing knowledge, resources and infrastructure. For this, the institute works together with the EUt+ European Research Office. It

supports early stage career researchers within the institute and creates an institute research school with the focus onto the designated field of research to facilitate and foster dedicated training and mobility programmes. For the realisation and execution of these programmes, in coordination with the Education Committee, the institute works together with the EUt+ European Graduate Research School for coordinating the activities.

4. The institute supports students and researchers mobility and exchanges in cooperation with the EUt+ Common Erasmus Office and EUt+ European Graduate Research School.

5. The ERI is placed under the authority of the Research Committee for its scientific activities.

6. The ERI will report to the corporate secretary for all matters that concern the compliance of internal rules and regulations.

### 2.1.3  Organizational Structure of ECT Lab+

Figure 1 shows the main bodies of the ECT Lab+, the type of interaction between them and the EUt+ Secretatriat.
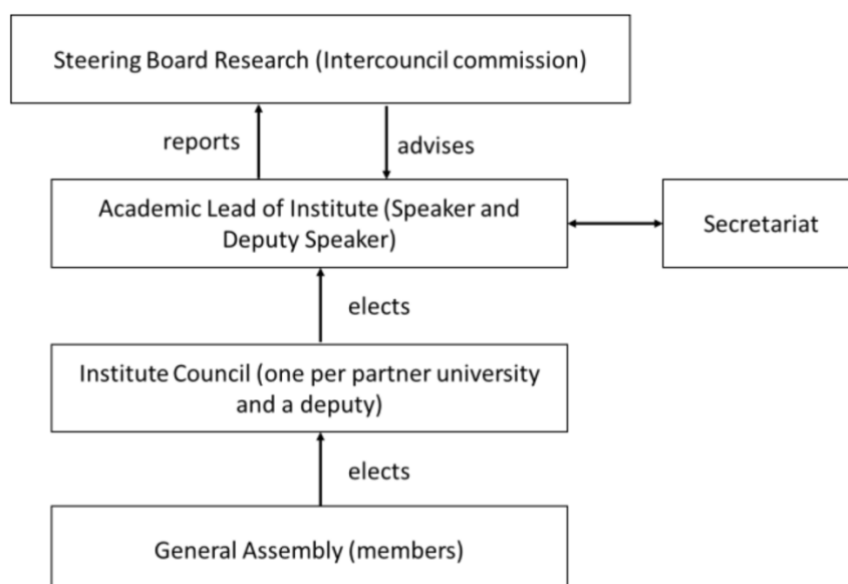
Figure 1: Organizational Structure of the ECT Lab+ Research Institute

### 2.1.3.1 General Assembly

1. The individual members, i.e. core and associated members, form the general assembly. Associate members have no voting rights but may participate in an advisory capacity.
2. The ordinary general meeting shall be held at least once a year. An extraordinary General Assembly may be convened by the academic lead of the institute or the board of EUt+ if necessary and must be convened at the written request of at least one third of the voting members.
3. The invitation to the general assembly meeting shall be sent to the members at least two weeks before, stating the place, time and agenda. In the case of extraordinary general assembly meetings, the period shall be reduced to one week. The Steering Board Research shall be informed of the dates of the meetings.
4. The academic institute lead shall chair the general assembly.
5. At the general assembly meeting minutes shall be taken and signed by the academic lead. The minutes shall be made available to the members at the latest one week after the meeting. It shall be deemed approved if no objections are received after three weeks after announcement.
6. The general assembly has a quorum if at least half of the core members are present. Resolutions shall be passed by a simple majority of the core members present.
7. As an exception to the quorum required for decision are resolutions on the continuation of the institute and/or an amendment to the agreement, for which a two-thirds majority of all those entitled to vote is required.
8. Resolutions of the members outside a general assembly meeting may be adopted by majority vote by written circulation and/or by virtual voting as per the motion of the academic lead for a resolution and by setting a sensible deadline. A resolution shall be deemed to have been passed if more than half of all voting members of the institute have voted and a simple majority is reached.
9. The tasks of the general assembly shall include the following items:

i. Receipt of the annual activity report of the council,

ii. Exoneration of the institute council,

iii. Election of the institute council members,

iv. Consultation on the strategic orientation and structural planning of the institute and the strategic and financial planning,

v. Approval on the exclusion of an individual member for good cause in accordance with this agreement,

vi. Recommendation changes to the agreement to be proposed on to the  Research Committee

vii. Recommendation on the continuation or dissolution of the institute to be passed on to the Research Committee.

### 2.1.3.2   Institute Council

1. The institute council ensures the strategic management of the institute.

2. The council members and a related deputy for each member are elected by the  general assembly for a term of five years, one for each of the institutes' partner  universities. Re-election is possible.

3. The elected council members will be delegated by the partner universities involved in  the institute.

4. The council shall define and adopt its own terms of reference in accordance with the  institute agreement and global EUt+ policies.

5. The council shall meet at least once a semester and shall be convened by the academic lead. Virtual meetings and/or voting are permissible. Resolutions shall be  passed by simple majority.

6. The tasks of the institute council shall include in particular the following items:

   a. The election of the spokesperson from among its members,

   b. Preparation of the content of the general assembly,

   c. Preparation of the content and implementation of resolutions of the general assembly,

d. Strategic development and annual updating of the research strategy based on the research topics of the members,

e. Development of an annual financing and institutional sustainability plan and its annual advancement,

f. Deciding on all fundamental matters of the including budgeting and allocation of resources and management of infrastructure;

g. Deciding on the admission or exclusion of members;

h. Development of a process guideline for conflict management based on the European Charter for Researchers and monitoring of compliance,

i. Coordination of the cooperation of the institute with other institutions of the EUt+ and with external partners,

j. Fulfilment of the annual reporting duties of the institute to the general assembly,

k. Reporting to the Research Committee as well as consultation with the board of EUt+ on questions of the strategic development of the institute or other questions of fundamental importance.

l. Cooperating with other ERI and units within EUt+.

### 2.1.4 Academic Lead of the Institute

1. The council members elect an academic lead as a speaker and a related deputy speaker as defined in the EUt+ memorandum of agreement on research from among themselves for a term of five years. Re-election is possible once.

2. The elected academic lead will be delegated by the partner universities involved in the institute.

3. The academic lead fulfils the function of a director for management and communication purposes and represents the institute in its academic affairs internally and externally.

4. The academic lead reports to the Research Committee, who in turn report to the board of EUt+.

5. In addition to performing the tasks of a member of the institute council, the tasks of the spokesperson include the following in particular:
    (1) Representation of the institute as per this agreement,
    (2) Convening and chairing the general meeting,
    (3) Conclusion of agreements and coordination with the Research Committee and board of EUt+ based on the strategic and financial planning of the institute.
6. The council and the academic lead are supported for their daily work by a secretariat.
7. The tasks of the secretariat include the following in particular:
    (1) Administrative and coordinative support of the council and academic lead,
    (2) Management of financial and other resources in cooperation with the council and academic lead,
    (3) Coordination of reporting and evaluation according to this agreement,
    (4) Implementation and monitoring of resolutions, decisions and instructions of the council.

# 3 PROPOSALS FOR THE ESTABLISHMENT OF ERIS

Following the MoA for the establishment of ERIs, the EUt+ Research Committee announced, in May 2022, an open call to the EUt+ researcher community to express their interest for the creation of ERIs. The call targeted, mainly, the already established thematic networks but, practically, there was no restriction to groups of EUt+ researchers to apply for the establishment of an ERI.

In addition to the proposals submitted by the end of the second reporting period (see Deliverable 4.5.4b[4]) the following applications were also submitted:

1. People Oriented Smart Technologies Lab (PostLab)

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[4] D4.21: Annual Activity Report and upgrading of the convergence plan – M24

2. European Sustainability Laboratory (ESL)

| Acronym | Lead | Submission Date | Partners | Status |
|---------|------|-----------------|----------|--------|
| ECT Lab+ | TUD | April 7th, 2022 | All | Approved (ERI has been established) |
| EUTINN | UTT | July 1st, 2022 | All | To be evaluated by the EUt+ Research Committee in the next EUt+ phase |
| DSI | UTT | July 7th, 2022 | All | To be evaluated by the EUt+ Research Committee in the next EUt+ phase |
| ELaRA | TUS | May 9th, 2022 | All | To be evaluated by the EUt+ Research Committee in the next EUt+ phase |
| POSTLab | TU Dublin | May 2nd, 2023 | TU Dublin, CUT, UPCT, UTCN | To be evaluated by the EUt+ Research Committee in the next EUt+ phase |
| ESL | H-DA | October, 2023 | All | To be evaluated by the EUt+ Research Committee in the next EUt+ phase |

Table 1: Submitted proposals for ERIs and their status

Table 1 summarizes the submitted proposals while in the following sections we provided a brief description of the new targeted ERIs (the last two proposals) as extracted from their applications.

## 3.1 European Sustainability Laboratory (ESL)

The ECL aims at satisfying the desire to serve human societies as expressed in the context of exceeding planetary boundaries and by taking this phenomenon into account. The overstepping of planetary boundaries, mainly due to the pressure of societies on ecosystems, calls into question the habitability of planet Earth. In this context, the development of a research institute on sustainability issues within the EUt+ seems essential in order to participate in the sustainable transition of European societies. This will enable the study of the "*pivotal role that technology plays in forging an inclusive and sustainable future*".

Exceeding planetary boundaries has profoundly altered the balance of the Earth system. As a result, the habitable conditions of the planet are under threat, to the point where certain areas of the world are becoming uninhabitable. The global and local consequences of these imbalances are such that scientists have proposed a new geological period to characterize the transformations underway: the Anthropocene. This observation suggests that human societies need to make an effort to move towards more sustainable lifestyles if we are to get back within planetary limits and learn to be resilient in the face of current and future changes.

This transition in socio-technical systems, although defined as necessary by scientists some forty years ago, is struggling to get off the ground. Indeed, the impact of societies on planetary limits continues to intensify, and the inequalities that structure societies have changed little, as evidenced by the increase in greenhouse gas concentration in the atmosphere, from 325 ppm in 1970 to 420 ppm in 2023, the drop of biodiversity, and the increasing rate of land artificialization – just to name a few. Socio-technical systems have to be redesigned to adapt to this new situation while decreasing the pressure on ecosystems. To enable those changes, sustainability scientists have identified several leverage points, the most relevant of which is the ability to transcend paradigms. Sustainability science is understood here as an interdisciplinary effort oriented towards practical action. This interdisciplinarity of scientists obliges researchers to be
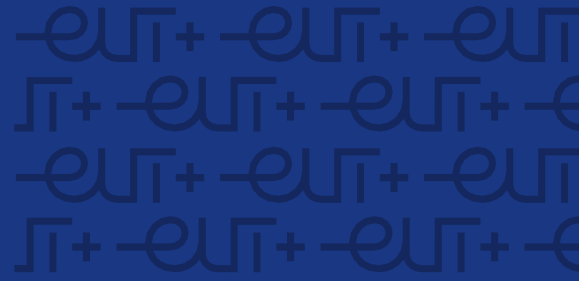
epistemologically agile and methodologically grounded in order to ensure the rigour of the knowledge produced. It is a real challenge for researchers as interdisciplinary requires more time to build common vocabularies among researchers and is a risk regarding disciplinary structure of science. It is thus evident that sustainability science challenges the status quo and target multi-level issues.

Developing sustainability science in Europe is a major challenge to enable European society to participate to the sustainability transformation of societies. As EUt+ has the ambition of being key player in the future, it is thus mandatory to tackle the complex issue of sustainability. Thus, ESL lab is not about the design of new technologies to fix environmental issues, but to better understand the paradigms behind current and new technologies, stepping back from regular productions, and explore new socio-technical paradigms.

ESL aims at fostering research helping understanding the evolution of our world, especially related to technological changes. "*It is our essential human ability to express, think and understand the world through artefacts.*" Therefore, the first mission is on the production of scientific knowledge aiming to better understand the role of technology in the sustainable transformation of our societies. It is because technology and humans co-evolve that it is crucial to explore technology in the frame of sustainable ways of life. Technology shapes human understanding of issues, as the same time as human design technical system. Sustainability transitions assume that technological production need to change of paradigm to decrease the pressure on the Earth System while insuring well-being to the majority of human societies - not only a minority. Sustainability issues are thus wicked problems, that must be tackled with multi-level perspectives.

ESL aims to go beyond the application of SDGs to bring an ambitious research plan embedded in strong sustainability perspective and trying to go away from anthropocentric view (for a more ecocentric view). This will allow ESL to have a critical perspective on the first moto of EUt+ "think human first", and to explore the (PhD) students' moto "*think human and all living beings first*".

Sustainability science is not easy to practice as it requires in-depth interdisciplinary competencies and is practice-based oriented. Thus, the research produced within ESL will come from various epistemological backgrounds which will have to be explicated (positivism, feminism, constructivism, interpretativism, …), while having deep methodological groundness. As stated by Nagatsu et al. (2020), *"sustainability scientists have recently started discussing a range of methodological issues, including the transferability of case-based transdisciplinary knowledge, the taxonomy of experimentation, evidence synthesis, and the synthesis of scientific and non-scientific knowledge such as indigeneous knowledge. These all revolve around the question of how to produce knowledge that is both epistemically reliable and practically usable."* This tackle several question: how to produce knowledge? Who produces knowledge? For what purpose? Should we have a purpose? It is related to the notion of dissemination and knowledge transfer which are the second main mission of ESL.
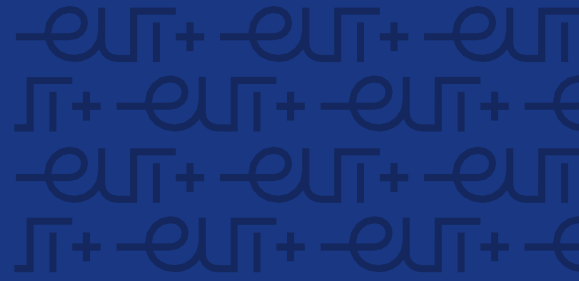
Figure 2: ESL's mission and key terms as a wordcloud

The summary of the key terms of ECL work and ambition is demonstrated in the wordcloud of Figure 2. Additional information can be found in Deliverable D4.52bc[5].

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[5] D4.19: Establishment of strong thematics network prefigurating research institutes

## 3.2 People Oriented Smart Technologies Lab (POSTLab)

POSTLab aims to leverage the expertise of its members in various areas such as telematics, Internet of Things (IoT), embedded systems, environmental monitoring, geospatial data, and standardization. Together, the proposed ERI members from UPCT, CUT, TUCN, and TU Dublin share the belief that these technologies are crucial for addressing Sustainable Development Goals (SDGs) and monitoring SDG indicators. They possess the necessary knowledge and capacity to develop and implement smart technology frameworks in diverse environments, both urban and remote, on land, in water, indoors, and outdoors.

Among the existing EUt+ ERIs, there is currently a lack of dedicated research programs and expertise in smart technologies, including frontier technologies like IoT and Digital Twin systems. By including POSTLab as an ERI, EUt+ will enhance its research capacity in emerging smart technologies, enabling cutting-edge and holistic socio-technical research and development in people-oriented smart technology areas.

Figure 3: POSTLab's mission and key terms as a wordcloud

Additionally, POSTLab will serve as a center for research training, offering scholarships for master-by-research and doctoral students. It will facilitate research training and teaching exchanges within EUt+ and engage with the wider EUt+ community through various activities such as training, mobility programs, and community engagement.

POSTLab's focus and aims are highlighted in the wordcloud of Figure 3.

# 4 RESEARCH ACTIVITIES

In this section we report the main research results achieved in the third year of the project in the context of EUt+ and by the EUt+ community. These results are further classified into two main activities: (1) Grant proposals submitted by the EUt+ consortium and (2) networking activities conducted in the framework of the established ERI and the thematic networks.

## 4.1 Grant Proposals

Building on the collaboration between members established within the EUt+ alliance, a total of 20 joint grant proposals have been submitted during the 3$^{rd}$ year of EUt+. Four of them were accepted while another eight are pending decision, highlighting areas of collaboration between the members and jointly led activity reinforcing networking within the Alliance. Summary information for the accepted grant proposals is given below:

It is important to note that during the last Twinning Call (HORIZON-WIDERA-2023-ACCESS-02-01 – deadline 28/9/2023) five grant proposals were submitted, three of them directly related to the EUt+ thematic networks (EUTINN => EUTINNMAX, POSTLab => POSTNet, DSI =>SECBLOCK)


*Proposal title*: Maximizing the Scientific Excellence and Innovative Capacity in the European University of Technology Institute for Nanomaterials and Nano / micro Technologies

*Acronym*: EUTINNMAX

*Call*: HORIZON-WIDERA-2023-ACCESS-02-01

*Programme*: Horizon Europe (WIDERA - Twinning (bottom up))

*Date submitted*: September 2023

*Status*: Pending decision

*Lead partner*: UTCN

EUt+ participants:

| UTT | H-DA | RTU | TU Dublin | TUS | CUT | UPCT | UTCN |
|-----|------|-----|-----------|-----|-----|------|------|
| √ | √ | √ | √ | √ | √ | √ | √ |

Table 2: EUt+ participants in the EUTINNMAX grant proposal

*Description*: EUTINNMAX wants to address the question 'think human first… using nanos' by creating a culture of high achievement, by promoting ethical conduct of research in nano-related research and by developing strong relationships with industry and sponsors in the fields of nanomaterials, nano/microtechnologies and sensors, nanotechnologies for communication and information technologies, quantum technologies and nanotechnologies, nanotechnologies for energy applications, nanomedicine & nanobiology, nanomaterials & nanotechnologies: toxicology, pollution, food and agriculture.


*Proposal title*: People Oriented Smart Technologies Network

*Acronym*: POSTNet

*Call*: HORIZON-WIDERA-2023-ACCESS-02-01

*Programme*: Horizon Europe (WIDERA - Twinning (bottom up))

*Date submitted*: September 2023

*Status*: Pending decision

*Lead partner*: CUT

EUt+ participants:

| UTT | H-DA | RTU | TU Dublin | TUS | CUT | UPCT | UTCN |
|-----|------|-----|-----------|-----|-----|------|------|

| | | | √ | | √ | √ | √ |
| --- | --- | --- | --- | --- | --- | --- | --- |

Table 3: EUt+ participants in the POSTNet grant proposal

*Description*: POSTNet seeks to further the development of key digital, enabling, and emerging technologies to accelerate and achieve numerous research objectives. Internet of Things and Digital Twin technologies are core frontier technologies that are critical enablers of many mission-driven research aims, all of which require the adoption of key digital, enabling, and emerging technologies. Among those aims are (a) Adaptation to climate change including societal transformation, (b) Cancer, (c) Climate-neutral and smart cities, (d) Healthy oceans, seas, coastal and inland waters, and (e) Soil health and food

*Proposal title*: Stepping Up Excellence and Innovation at the Energy Transition Research Center for the Integration of Renewable Energy and Energy Storage Solutions

*Acronym*: ENTREC-UP

*Call*: HORIZON-WIDERA-2023-ACCESS-02-02

*Programme*: Horizon Europe (WIDERA - Twinning (Green Deal))

*Date submitted*: September 2023

*Status*: Pending decision

*Lead partner*: UTCN

EUt+ participants:

| UTT | H-DA | RTU | TU Dublin | TUS | CUT | UPCT | UTCN |
| --- | --- | --- | --- | --- | --- | --- | --- |
| | | | √ | | | √ | √ |

Table 4: EUt+ participants in the ENTREC-UP grant proposal

*Description*: ENTREC-UP's mission is to significantly contribute through evidenced based research to the energy transition in the energy sector, industry, buildings and local communities, in a sustainable approach focused on development, testing and replication of innovative instruments, energy and digital technologies. Research center expertise and activities are concentrated on multidisciplinary research through the joint effort of research groups for RES integration, energy services and energy efficiency, power systems, thermotechnics, lightning, automation, applied electronics, mathematics and applied informatics in engineering.

*Proposal title*: Widening the Research on Smart DC Grids Technologies

*Acronym*: GRITECH

*Call*: HORIZON-WIDERA-2023-ACCESS-02-01

*Programme*: Horizon Europe (WIDERA - Twinning (bottom up))

*Date submitted*: September 2023

*Status*: Pending decision

*Lead partner*: RTU

EUt+ participants:

| UTT | H-DA | RTU | TU Dublin | TUS | CUT | UPCT | UTCN |
|-----|------|-----|-----------|-----|-----|------|------|
|     |      | √   |           |     |     | √    |      |

Table 5: EUt+ participants in the GRITECH grant proposal

*Description*: GRITECH delves into the cutting-edge advancements and research initiatives in the field of smart DC grids spanning a wide array of topics, including the integration of renewable energy sources, energy storage solutions, grid resilience, and intelligent control mechanisms. By examining the latest breakthroughs in DC grid infrastructure, GRITECH aims

to bridge the gap between theoretical knowledge and practical implementation in the context and expertise of the EUt+ alliance.

*Proposal title:* Scientific Excellence and innovation capacity building in cyber security and blockchain at Technical University of Sofia

*Acronym:* SECBLOCK

*Call:* HORIZON-WIDERA-2023-ACCESS-02-01

*Programme:* Horizon Europe (WIDERA - Twinning (bottom up))

*Date submitted:* September 2023

*Status:* Pending decision

*Lead partner:* TUS

*EUt+ participants:*

| UTT | H-DA | RTU | TU Dublin | TUS | CUT | UPCT | UTCN |
|-----|------|-----|-----------|-----|-----|------|------|
| √ |  |  | √ | √ |  | √ |  |

Table 6: EUt+ participants in the SECBLOCK grant proposal

*Description*: SECBLOCK aims to (a) foster cutting-edge research in cybersecurity and blockchain technology through collaborative projects, academic partnerships, and knowledge exchange programs, (b) support innovative startups and research initiatives by providing funding, mentorship, and access to state-of-the-art technology resources, (c) offer specialized training programs, workshops, and certifications to empower professionals and students with the skills required to excel in the fields of cybersecurity and blockchain, and (d) encourage collaboration between academia, research institutions, and industry players to drive real-world applications of cybersecurity and blockchain innovations.

*Proposal title*: Building educator awareness skills and action in widening access and participation through course design

*Acronym*: EUtAccess4all

*Call*: ERASMUS-2023-PCOOP-ENGO

*Programme*: Erasmus+

*Date submitted*: March 2023

*Status*: Pending decision

*Lead partner*: TU Dublin

EUt+ participants:

| UTT | H-DA | RTU | TU Dublin | TUS | CUT | UPCT | UTCN |
|-----|------|-----|-----------|-----|-----|------|------|
|     | √    | √   | √         | √   | √   | √    | √    |

Table 7: EUt+ participants in the EUtAccess4all grant proposal

Description: EUtAccess4all focuses on empowering educators with the knowledge and tools to create inclusive and accessible learning environments. By investing in this project, we aim to bridge educational disparities and create equal opportunities for all learners. Towards this direction it aims to (a) increase educator awareness of the barriers faced by underrepresented groups in higher education, (b) enhance educators' skills in designing courses that cater to diverse learning needs, and (c) encourage educators to take proactive steps in widening access and participation within their institutions.

*Proposal title*: Building a framework for international careers fairs across European University alliances

*Acronym*: EUt Eurojobs

*Call*: ESF-2023-EURES-CBC

*Programme*: EURES

*Date submitted*: May 2023

*Status*: Pending decision

*Lead partner*: One Terrene International Group

EUt+ participants:

| UTT | H-DA | RTU | TU Dublin | TUS | CUT | UPCT | UTCN |
|------|------|-----|-----------|-----|-----|------|------|
| √ | √ | √ | √ | √ | √ | √ | √ |

Table 8: EUt+ participants in the EUt Eurojobs grant proposal

*Description*: EUt Eurojobs aims at (a) creating a platform that encourages the EUt+ alliance universities to organize joint international career fairs, (b) provide the EUt+ alliance students with access to diverse career opportunities, internships, and mentorship programs, enhancing their skills and employability prospects, (c) attract a wide array of international employers, offering them a chance to connect with talented, multilingual graduates from diverse backgrounds, (d) foster cross-cultural understanding and global awareness among students and employers, promoting a more interconnected European workforce, and (e) establish a sustainable framework that can be replicated and scaled, ensuring the continuity of international careers fairs across the EUt+ alliance

*Proposal title*: European University of Technology Accelerate

*Acronym*: EUt+ Accelerate

*Call*: Erasmus –EDU-2023-EUR-UNIV

*Programme*: Erasmus+

*Date submitted*: January 2023

*Status*: Approved

*Lead partner*: UTT

EUt+ participants:

| UTT | H-DA | RTU | TU Dublin | TUS | CUT | UPCT | UTCN |
|-----|------|-----|-----------|-----|-----|------|------|
| √ | √ | √ | √ | √ | √ | √ | √ |

Table 9: EUt+ participants in the EUt+ Accelerate grant proposal

*Description*: The EUt+ Accelerate phase aims to deepen, extend, and accelerate our institutional integration. It is structured around astreamlined implementation plan, with 11 Work Packages coordinated in 37 tasks. EUt+ curricula will translate into free and seamless studentmobility in a multilingual space leading to joint European degrees, while European research institutes will mean a common signature. A full-fledgedEuropean University of Technology will play a more relevant role in the global scene and in the promotion of the European Values, and eachstakeholder, either internal or external, will live in or participate in a European environment first and foremost.

*Proposal title*: EUt+ Status and Structure Experience

*Acronym*: STYX

*Call*: ERASMUS-EDU-2022-POL-EXP

*Programme*: Erasmus+

*Date submitted*: October 2022

*Status*: Approved

*Lead partner*: UTT

EUt+ participants:

| UTT | H-DA | RTU | TU Dublin | TUS | CUT | UPCT | UTCN |
|------|------|------|-----------|------|------|------|------|
| √ | √ | √ | √ | √ | √ | √ | √ |

Table 10: EUt+ participants in the STYX grant proposal

*Description*: STYX investigates the European legal status of European University Alliances and tries to identify legal obstacles and inconsistencies across the EUt+ alliance universities so as to foster its unification.

*Proposal title*: Joint European Degree label in Engineering

*Acronym*: JEDI

*Call*: ERASMUS-EDU-2022-POL-EXP

*Programme*: Erasmus+

*Date submitted*: October 2022

*Status*: Approved

*Lead partner*: UPM (Universidad Politécnica de Madrid)

EUt+ participants:

| UTT | H-DA | RTU | TU Dublin | TUS | CUT | UPCT | UTCN |
|------|------|------|-----------|------|------|------|------|
| √ | √ | √ | √ | √ | √ | √ | √ |

Table 11: EUt+ participants in the JEDI grant proposal

*Description*: The JEDI project proposal has been submitted jointly with another Alliance (EELISA) and aims at establishing a Paneuropean framework for engineering education.

## 4.2  Networking Activities

For easy reference and to keep the relevance with Task 4.5 the research networking activities summarized next are classified per thematic network.

### 4.2.1  European University of Technology Institute of Nanomaterials and Nanotechnologies (EUTINN)

The aim of the European University of Technology Institute of Nanomaterials and Nanotechnologies (EUTINN) is to bring together the eight EUt+ partners focusing on nanomaterials and nanotechnologies. This thematic networks serves as a hub for consolidating the collective knowledge and capabilities of the EUt+ alliance, as well as fostering diverse perspectives and methodologies in addressing challenges and advancements within the realm of nanosciences and nanotechnologies.

In the framework of EUTINN the following research networking activities took place during the third year of the EUt+ project:


*Title*: EUTINN Seminars

*Event type*: Seminars

*URL:* https://www.univ-tech.eu/seminars

*Dates*: Monthly, at various dates

*Delivery mode*: Online

*Aim*: The EUTINN seminars are regular monthly on-line seminars with two talks per session delivered by EUTINN researchers.


*Title*: EUTINN Meetings

*Event type*: Meetings

*Dates*: Monthly online meetings and hybrid meetings during the EUt+ weeks at various EUt+ alliance campuses (Sofia - January 2022, Cluj - March 2023, Dublin - May 2023, Riga - June 2023, Troyes - July 2023)

*Delivery mode*: Mostly online

*Description*: The main aim of those meetings was to prepare the EUTINNMAX proposal (submitted in September 2023 to the HORIZON-WIDERA-2023-ACCESS-02-01 call) which, if goes through, will ensure the financial sustainability of EUTINN and help in becoming ERI. In addition to that, collaboration continued in terms of (a) grant proposal submission (the NANOEGYMSC proposal was submitted to the ERASMUS-EDU-2023-CBHE-STRAND-2 call in February 2023), (b) exchange visits at the EUTINN related research labs, (c) organize the seminar series of the network, and (d) prepare the 3rd EUTINN workshop on Nanomaterials and Nanotechnologies which is to be held in Darmstardt (Germany) at H-DA.

### 4.2.2 European Sustainability Laboratory (ESL)

In order to bring together expertise from all partner universities and enable joint working field of sustainability, the idea of an EUt+ Sustainability Lab has arisen. It envisions to offer a space for discussion and research in EUt+ in bringing together all colleagues interested in topics of sustainable development. It will for sure be a wide variety of topics, probably even similar as it can also been seen for example in the Sustainable Development Goals, the SGDs. To address individual problems from separate disciplinary perspectives, the sustainability sciences integrate several branches of science and research in order to gain insights into societal, socio-economic, engineering (or technical) and natural science challenges. The aim is to clarify the various effects and interactions on the one hand, but also the influences of involved and interested actors. This includes the complex interplay of environment and society as a whole. This common background is the starting point for predominantly applied and practice-oriented research on and for sustainable development.

In the framework of ESL the following research networking activities took place during the third year of the EUt+ project:

*Title*: ESL Meetings

*Event type*: Meetings

*Dates*: Monthly online meetings and hybrid meetings during the EUt+ weeks at various EUt+ alliance campuses (Sofia – January 2023, Cluj - March 2023, Darmstadt - May 2023, Riga - June 2023, Troyes - July 2023)

*Delivery mode*: Mostly online

*Description*: Meetings were mostly devoted to finalizing the focus and mission of the ESL lab and the membership application form. Online meetings aimed at developing collaboration in terms of (a) grant proposal submission (a grant proposal entitled "Hydropower Technology for Irrigation Canals and Tidal Reservoirs" was prepared and submitted to the Horizon Europe programme, Call: HORIZON-CL5-2023-D3-02), (b) define the main research topics or ESL, and (c) organize the 2nd EUt+ Sustainability Workshop (to be held in Spring 2024 at H-DA)

### 4.2.3 The European Culture and Technology Network (ECTN)

ECTN operates as a collaborative entity to conduct advanced research into technology's essence and function. Its core goal is to define and promote a distinct European model around technology while aiding the evolution of appropriate legal and regulatory frameworks.

Research Missions:

- Promote a transdisciplinary perspective on technology through the articulation of Philosophy, Social Sciences, Art & Humanities, and Engineering Sciences
- Integrate research on the humanities and social sciences into the overall research of the European University

- Create a critical mass in research in the arts, humanities and social sciences within the European university.

In the framework of ECTN the following research networking activities took place during the third year of the EUt+ project:

*Title*: 2nd Annual Conference of the European Culture and Technology Lab+

*Event type*: Workshop

*URL*: https://www.univ-tech.eu/2nd-european-culture-and-technology-lab-annual-conference-ect-lab-1

*Dates*: 18-20/1/2023

*Delivery mode*: Hybrid (at TUD and virtually)

*Venue*: Technological University Dublin

*Proceedings*: to appear at https://online.flippingbook.com/view/387715884/

*Aim:* Bring together experts from the Arts, Humanities, Social Sciences, Technology and other fields proposing ways of moving beyond the Anthropocene by negating the tendency which has led to its development.

*Wordcloud of the presentations*: In Figure 5 we see the wordcloud of the mission and main topics of the 2nd Annual Conference of the European Culture and Technology Lab+ while in Figure 6 we present some of the main topics [4] of the presentations that took place during the event.

Figure 4: Mission and main topics of the 2nd Annual Conference of the European Culture and Technology Lab+

Figure 5: The main keywords of the presentations that took place during the 1st Annual Conference of the European Culture and Technology Lab+

*Title*: EthiCo Multiplier Event

*Event type*: Workshop

*Date*: 28-31/8/2023

Venue:  Technological University of Sofia Campus

*Delivery mode*: Physical presence but shared to the online participants

*Aim:* The final results of the EthiCo project were showcased


*Title*: ECTN Meetings

*Event type*: Meetings

*URL*: Via the Whaller platform

*Dates*: Weekly / bi-weekly online meetings and hybrid meetings during the EUt+ weeks at various EUt+ alliance campuses (Sofia – January 2023, Cluj - March 2023, Dublin - May 2023, Riga - June 2023, Troyes - July 2023)

*Delivery mode*: Mostly online

*Description*: A major part of these meetings was devoted to the establishment of the ECT Lab+ ERI and to populating of the corresponding posts (elections for the Academic Lead) and bodies (Institute Council). Furthermore, ECTN researchers continued collaboration in terms of (a) grant proposal submission (a project proposal entitled "Better Integration of students using collaborative form of performing arts" was submitted to the Erasmus+ KA220 call, (b) exchange ideas about the combination of technology and ethics, (c) develop the support the "Human Think First" think tank, and (d) prepare the 3rd Annual Conference of the European Culture and Technology Lab+ (to be held in January / February 2024)

### 4.2.4 Data Science Institute (DSI)

Data Science is a rapidly expanding research field that spans various scientific disciplines, focusing on leveraging data to advance state-of-the-art technologies in academic, industrial, and societal contexts. Sharing diverse expertise among European research teams promises to create an exceptional ambitious project within the competitive European landscape.

In the framework of DSI the following research networking activities took place during the third year of the EUt+ project:

*-Title*: 3rd EUt+ Data Science Workshop

*Event type*: Workshop

*URL*: https://www.univ-tech.eu/second-data-science-institute-workshop-hybrid-form

*Date*: 12 - 13/7/2023

*Delivery mode*: Hybrid (Onsite at UTT during the Troyes week and virtually for the remote participants)

*Book of Abstracts*:

Contributions will be published in EUt+ Academic Press (see Deliverable D8.8a/b[6]).

*Aim:* Foster further the collaboration within the EUt+ Data Science Lab. Invite PhD students to contribute poster presentations of their research.

*Wordcloud of the presentations*: In Figure 6 we present the wordcloud of the topics covered in this workshop.

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[6] D8.15: EUt+ University Press Report

Figure 6: The wordcloud of the topics covered in the 3nd EUt+ Data Science Workshop

*Title*: DSI Meetings

*Event type*: Meetings

*URL*: Via the Whaller platform

*Dates*: Monthly meetings and a physical meeting during the Troyes week in July 2023

*Delivery mode*: Mostly online

*Description*: The main aim of those meetings was to allow the DSI researchers to develop collaboration possibilities in terms of (a) grant proposal submission (a project proposal entitled "Scientific Excellence and innovation capacity building in cyber security and blockchain at Technical University of Sofia" was submitted to the HORIZON-WIDERA-2023-ACCESS-02-01 call), (b) exchange ideas on how to keep up with the broad nature and scope of DSI, (c) define the main research topics or DSI, (d) prepare the 3rd EUt+ Data Science

Workshop, and (e) develop a collaboration framework for co-supervising PhD theses or / and participating in PhD theses' examination committees.

### 4.2.5 European Laboratory for Pedagogical Action - Research And Student-Centered Learning (ELaRa)

ELaRa focuses its efforts on several key research themes:

- Enhancing student-centered pedagogies for lifelong learning in technology education, promoting intellectual development, creativity, problem-solving skills, and cultural awareness.
- Investigating transformations in higher education, including changes in epistemologies, teaching practices, teacher development, and methods to facilitate educational change.
- Educating students about the societal implications of technology, encompassing ethical considerations and professional development.
- Promoting inclusivity in technology education by increasing participation among females and reaching a more diverse segment of society, including refugees.

In the framework of ELaRa the following research networking activities took place during the third year of the EUt+ project:


*Title*: 1st ELaRa Conference "Technologies and Techniques to Support Sustainable Education in the Academic Sphere"

*Event type*: Workshop

*URL*:https://www.univ-tech.eu/1-st-eut-elara-conference-%E2%80%9Ctechnologies-and-techniques-to-support-sustainable-education-in-the-academic-sphere%E2%80%9D

*Dates*: 14-15/12/2022

*Proceedings*: Video report at https://pod.utt.fr/video/5188-conference-elara-a-sofia/

*Delivery mode*: Hybrid (Onsite at TUS campus and virtually for the online participants)

*Aim*: Dscuss a wide range of contemporary methods, methodologies and teaching practices in higher education, the related information and communication technologies, as well as the pedagogical techniques employed by academics in higher education. The event is open to all educators from technical and humanities higher education institutions who are willing to share their scholarly work and experience arising out of the applied and theoretical research in the field of higher education pedagogy.

*Wordcloud of the presentations*: In Figure 7 we present the keywords of workshop's mission and topics while in Figure 8 we show the main topics covered in the presentations.

*Title*: International Workshop "Women talk about science - Science talks about women"

*Event type*: Workshop

*URL*: https://www.univ-tech.eu/international-workshop-"women-talk-about-science-science-talks-about-women"

*Dates*: 30/3/2023

*Delivery mode*: Hybrid (Onsite at TUS and virtually for the remote participants)

*AIM*: Provide a platform for women scientists to present their research and innovative developments in various fields of engineering and pedagogical sciences and present the position of the modern woman researcher and scientist in the dynamic field of technological progress.
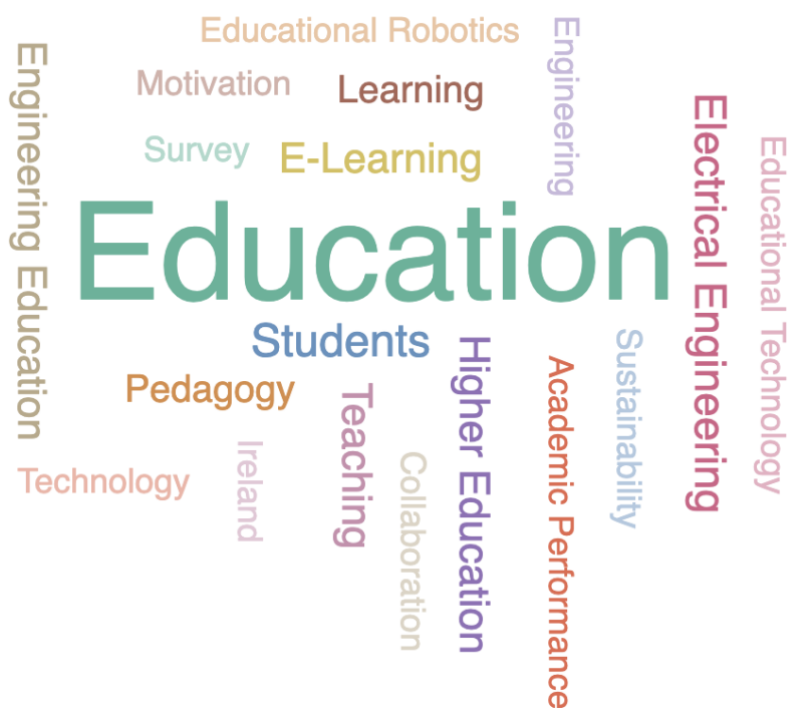
Figure 7: Mission and main topics of the 1st ELaRa Conference on "Technologies and Techniques to Support Sustainable Education in the Academic Sphere"

Figure 8: The wordcloud of the topics covered in the 1st ELaRa Conference on "Technologies and Techniques to Support Sustainable Education in the Academic Sphere"

*Title*: 1st ELaRa Summer School

*Event type*: Summer School

*URL*: https://www.univ-tech.eu/elara-to-host-third-annual-summer-school-on-tu-sofias-sozopol-campus-hybrid

*Dates*: 1-4/6/2023

*Venue*: Technical University of Sofia, Sozopol Campus

*Description*: Explore and discuss several key topics related to education, teaching practices, and student-centered learning. The core areas of focus include: A new educational model: in, between, and beyond disciplines in the light of student- centered learning, change in

teaching practice, and changing epistemology: Circular pedagogy for ESD student voice in teaching practice.

*Title*: ELaRA Meetings

*Event type*: Meetings

*URL*: Via the Whaller platform

*Dates*: Monthly meetings and hybrid meetings during the EUt+ weeks at various EUt+ alliance campuses (Sofia – January 2023, Cluj - March 2023, Dublin - May 2023, Riga - June 2023)

*Delivery mode*: Mostly online

*Description*: The aim of those meetings was to continue collaboration in terms of (a) grant proposal submission (one proposal entitled "Building educator awareness skills and action in widening access and participation through course design" was submitted to the ERASMUS-2023-PCOOP-ENGO call, while a proposal entitled "Development of an entrepreneurial mind-set and improve competencies and skills within the HEI institutions in context of the National Education Policy 2020 (Ent-HEI)" was submitted to the Erasmus+ KA220-HED call), (b) exchange ideas on how to enhance student-centered pedagogies, (c) define the main research topics or ELaRA, and (d) prepare the 1st ELaRa summer school.

### 4.2.6   People Smart Technologies Lab (POSTLab)

POSTLab aims to leverage the expertise of its members in various areas such as telematics, Internet of Things (IoT), embedded systems, environmental monitoring, geospatial data, and standardization. The POSTLab members share the belief that these technologies are crucial for addressing Sustainable Development Goals (SDGs) and monitoring SDG indicators. They possess the necessary knowledge and capacity to develop and implement smart technology frameworks in diverse environments, both urban and remote, on land, in water, indoors, and outdoors.

In the framework of POSTLab the following research networking activities took place during the third year of the EUt+ project:

*Title*: POSTLab Meetings

*Event type*: Meetings

*URL*: Via Zoom

*Dates*: Monthly meetings, and two hybrid meetings during the Dublin (May 2023) and Troyes (July 2023) weeks.

*Delivery mode*: Mostly online

*Description*: The aim of those meetings was to prepare the application to become an ERI (submitted in May 2023) and allow the POSTLab researchers develop collaboration in terms of (a) grant proposal submission (a proposal, with Acronym POSTNet was submitted in September 2023 to the twinning HORIZON-WIDERA-2023-ACCESS-02 call), (b) exchange ideas about the best use of smart technologies and the creation of new human-centered applications of those technologies, (c) define the main research topics or POSTLab, and (d) prepare the 1st POSTLab Conference.

# 5 UPGRADING OF THE CONVERGENCE PLAN

This part of the report refers to the final upgrading of the convergence plan and includes structural actions (such as the official establishment of the first EUt+ Research Institute, the ECT Lab+) undertaken by the EUt+ alliance as well as adaptation of the already planned convergence activities.

As explained in Deliverable 4.5.1[7], the EUt+ alliance followed two main strategies to develop an effective convergence plan regarding the research in general and the development of research units in particular:

- A top-down approach in which the priorities identified in the proposal and confirmed via the steering committee of the EUt+ will be adopted and actively promoted within the EUt+ community. S3 priorities could be another driving force which can guide the top-down approach.
- A bottom-up approach in which the strengths of the EUt+ community will be identified on the basis of some measurable metrics, such as existing (and complimentarity of) research infrastructure and research expertise of the EUt+ community, as identified via PhD programs, scientific publications and research interests.

As far as the first strategy is concerned, the establishment of the European Culture and Technology Laboratory (ECT Lab+) as the first EUt+ Research Institute (ERI) along with the founding, staffing and operation of the EUt+ Research Office and the founding of the EUt+ Graduate Research Schools are very specific steps towards effective convergence.

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[7] D4.18: Convergence Plan towards common research units and institutes
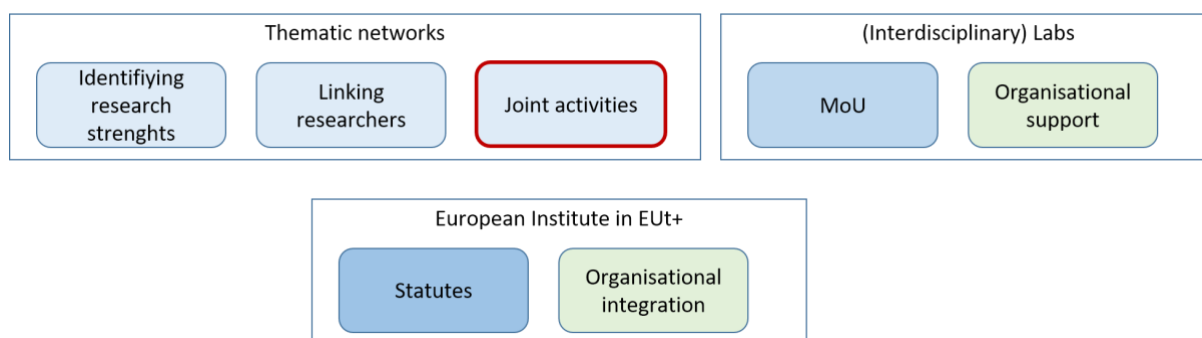
Figure 9: Interlinking between thematic networks, labs and Institutes and main activities within them

As far as the bottom-up strategy is concerned, the most fundamental step towards convergence is the submission of two more applications for the creation of ERIs in the fields of (a) Sustainability Sciences and (b) Smart Technologies, which are added to the proposals for the creation of ERIs in the fields of (c) Nanotechnology and Nanomaterials, (d) Data Science and (e) Pedagogy, Learning and Technology reported in the previous period (see Deliverable 4.5.4b[8]). As far as the research activities undertaken by the EUt+ community in the context of the thematic networks is concerned, the details given in the previous section provide tangible evidence that interlinking between thematic networks and existing labs within the EUt+ alliance can effectively lead to the establishment of additional ERIs during the second phase of EUt+, as shown in Figure 9 above. However, the financial sustainability of those ERIs is a point of concern for the decision makers in the individual EUt+ universities and this is the reason that the decision for their creation has been postponed to the next period of EUt+. Until then, the thematic networks that have submitted proposal to become ERIs will remain at the stage of "candidate ERIs" and are encouraged to prove (by securing grants via grant proposal applications) their financial sustainability and continue their research collaboration activities. Towards this direction it is encouraging that during the last Twinning Call (HORIZON-WIDERA-2023-ACCESS-02-01 – deadline 28/9/2023) five grant

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[8] D4.21: Annual Activity Report and upgrading of the convergence plan – M24

proposals were submitted, three of them directly related to the EUt+ thematic networks (EUTINN => EUTINNMAX, POSTLab => POSTNet, DSI =>SECBLOCK).

## 5.1   The EUt+ research strengths

The initial convergence plan was developed around three different axes, namely:

- Infrastructure
- PhD programs
- Research interests of the EUt+ researchers

The activities undertaken within the thematic networks, the submission of proposals for the creation of five ERIs and the establishment of the first EUt+ Research Institute (ERI) help in getting additional information regarding the existing infrastructure and the research interests of the EUt+ researchers. A significant addition to the effective identification of the EUt+ research strengths is facilitated by the successful completion (or ongoing versions) of the work described in the EUt-EXTRAS project[9], and especially the tools in WPX4.

These tools include:

1. Analysis via topic modelling of the EUt+ consortium strengths based on research publication indexed by OpenAire[10]
2. Mapping (and analysis of) the EUt+ consortium publications indexed by Scopus to the UN-SDGs [2, 1]. See Figure 10 for an example related to publications of the EUt+ consortium related to the topics of the European Sustainability Laboratory.
3. Automatic analysis of Call for Project Proposals and mapping to EUt+ researchers
4. Automatic analysis of Call for Project Proposals and mapping to running or finished project indexed by CORDIS

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[9] EUt-EXTRAS: European University of Technology - Experimentation to Transform Research Activities and Steering,

[10] https://www.openaire.eu/

Thus, as far as the EUt+ research strengths is concerned the final convergence plan includes now the following axes:

- Infrastructure
- PhD programs
- Research interests of the EUt+ researchers
- Applications for the creation of ERIs
- Effective use of the EUt-EXTRAS tools and results and especially those developed in WPX4
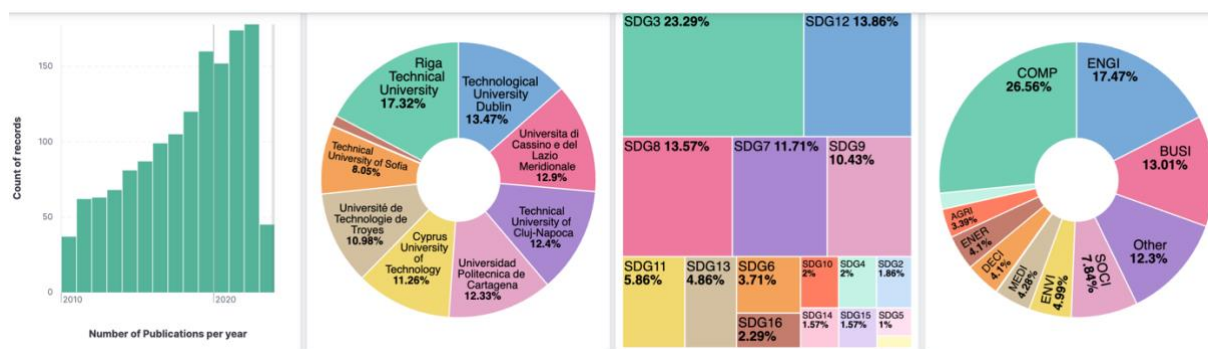
Figure 10: Publications (2010-…) by the EUt+ Consortium related to the ESL, indexed by Scopus, and their mapping to the UN-SDGs

## CONCLUSION

In this document an activity report regarding the actions taken form the EUt+ alliance towards the creation of common research institutes along with the main research results achieved during the third year of the EUt+ project (1/11/2022 – 31/10/2023) was presented. They are also reported the final modifications of the developed convergence plan (see Deliverable 4.5.1[11]) towards the creation of common research units.

Actions refer mainly to the foundation of the first EUt+ Research Institute (namely ECT Lab+) which followed the MoAs signed by the Board of Rectors regarding the (a) establishment of ERIs, (b) founding of ERO, and (c) creation of the EUt+ Graduate Research School. The activities refer mostly to grant proposal preparation and submission (which led to securing four research grants, including the EUt+ Accelerate which constitutes the second phase of EUt+) and research networking actions undertaken in the framework of bottom-up created thematic networks and the established ERI.

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[11]D4.18: Convergence Plan towards common research units and institutes

The Convergence Plan towards establishing common research units and institutes across EUt+ was updated considering top-down like the establishment and operation of the European Culture and Technology Laboratory (ECT Lab+), the first EUt+ Research Institute, which should be seen as a pilot of the convergence task. At the same time, bottom-up activities like the ones undertaken in the framework of the thematic networks and the established ERI provide the grounds to build on researcher-oriented convergence.

In addition, research steering tools [3] developed within the EUt-EXTRAS project have been used in practice as an additional axis for collecting information regarding the EUt+ research strengths and creating commons.

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