EUt+

European University of Technology

Deliverable 112

D8.7b Open Science Agenda

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WP 8

Description: Short annual report on the advancement of the Open Science Agenda

Comments: The versions in the other languages of the alliance are available on request.

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Foreword to deliverable D8.7.b

This document presents a second landscape for the status of open research within the EUt+ Alliance. It is based on the conclusions of the D.111 report, in which were numbered different areas that weren't being attended, as for example: a common training policy and an operational Institutional Repository. Regarding these ideas and based on the results of a survey undertaken in all alliance partners in May 2022 this report was accomplished. In keeping with last year there are several recommendations made which we believe will benefit the promotion and advocacy of open research. Two additional reports will enrich the conclusions of this report including several recommendations: one report regarding evaluation metrics for research (Appendix 3), and another report with the specification for a common research portal (Appendix 4). Much has been achieved in this area since the project started, with agreement on the definition of open research terms, the establishment of the EUt+ Institutional Repository and the EUt+ Academic Press. For the coming year, the work package will now shift emphasis to producing standardised training programmes for all researchers in the EUt+ Alliance.

This second report for the Landscape of Open Research Status in the EUt+ Alliance, analyses the results of two surveys made within the Alliance to evaluate the status of Open research (on each institution of the alliance) and, additionally, it includes an evaluation of Research metrics and the development of a common research portal.

The present document examines the status of the recommendation points (see below) in the different campuses of the alliance. The report also covers initial status and review of the local policies regarding Open research. Is complemented with several appendix regarding: An update of the report recommendations done in 2021; surveys results about institutional strategies for open research, Digital tools and plans, new policies, open access website, etc.; National presentations regarding the Open Access status in the different countries; Report of research evaluation and recommendations for an Eut+ Research evaluation policy; Report for Common Eut+ Research Portal.

The present report is relevant in setting the precedent of the developing of joint effort between the Eut+ universities to find out a common path in recognize and harmonize the different structures each one has to take further steps forward for merger in these aspects. The description of a common basic system of research portal and management is of high technical value.

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Several surveys were addressed to obtain the results reflected on this document. Additionally, a harmonization process was developed between the members of the Alliance to be coherent with the recommendation and analysis on each EUt+ university.

Overall, this project has facilitated a steady if slow movement towards open research in the alliance partners. EUt+ now has an Institutional Repository and an open access Academic Press. The Open Research Statement is shortly to be signed by the Rectors and will then become relevant for all alliance partners. However, Open Research requires a support ecosystem to inform, equip and empower researchers to work in this new and challenging environment. The global experience of the Covid pandemic has demonstrated how quickly openness and collaboration in research solves societal problems.

Researchers need to be provided with the tools and supports to practice open research. This will require resourcing in terms of infrastructure and support staff. While everyone agrees open research is good for scholarship and society it should be supported by humane evaluation systems that consider the effort and enterprise involved and recognise and value this activity. Ultimately, open research is good for scholarship, researchers and society in general facilitating the rapid dissemination of knowledge and solving problems in the real world that benefit the ultimate funders of research who are the taxpayers.

Several recommendations are done and explained alongside this document. Principal ideas of these are in the following points:

- Every partner in the Alliance is aware and promoting Open Research in their institutions.
- Open Research Eut+ Statement was signed by all the rectors and must be displayed on a public website of each university.
- Collective support to advocate and promote the Open Research, must be accomplished to balance investment through the members.
- Data management training must be increased in all the universities.
- Researchers need the appropriate skills to navigate the open research environment and their investment in this kind of training should be acknowledged.
- Metrics subgroup recommends that the EUt+ Alliance observe the work of the Coalition on reforming research assessment organised by the European Commission.

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- The cRIs (Common Research Information System) sub-group recommends the EUt+ Alliance produce a 'Proof of Concept' common cRIS for EUt+.

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Introduction

This is the second landscape report on the status of open research in the EUt+ Alliance produced by Work Package 8.6.7. It is based on the results of a survey undertaken in all alliance partners in May 2022. In keeping with last year there are several recommendations made which we believe will benefit the promotion and advocacy of open research. In addition, there are two specific reports; one on evaluation metrics for research (Appendix 3) and the second on the specification for a common research portal (Appendix 4) which are worthy of attention. Much has been achieved in this area since the project started, with agreement on the definition of open research terms, the establishment of the EUt+ Institutional Repository and the EUt+ Academic Press. For the coming year, the work package will now shift emphasis to producing standardised training programmes for all researchers in the EUt+ Alliance.

The present report belongs to a three-reports series being updated each 12 months from the beginning of the execution period of the project. Regarding the described objectives in the work package, this battery of deliverables involves the developing of a framework for establishing a practical and workable Eut+ method for: Open Research, management of IP, enterprise and innovation within our consortium. In the beginning, basis are structured and developed in an initial stage, and the update reports supposes an internal evaluation and readapting process to achieve the objectives.

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1 Eut+ Landscape Open Research Report 2022

Over this section an overview of the recommendations approached in the last report will be complemented with the following new.

Recommendation 1

Progress has been made in the last 12 months. More of the partners are aware and promoting open research in their institutions which is happening at the same time as many countries are producing national plans (please see Appendix 3: National Presentations). However, the payment of article processing charges[1] to publishers has become more standardised while the green route to open access[2] is less taken up by researchers. Plan S has robustly supported the immediate publication of publicly funded research in open access journals.

> "With effect from 2021, all scholarly publications on the results from research funded by public or private grants provided by national, regional and international research councils and funding bodies, must be published in Open Access Journals, on Open Access Platforms, or made immediately available through Open Access Repositories without embargo... Plan S does not support the 'hybrid' model of publishing. However, as a transitional pathway towards full Open Access within a clearly defined timeframe, and only as part of transformative arrangements, Funders may contribute to financially supporting such arrangements"[3]

The EUt+ Alliance should encourage researchers.

- not to engage with hybrid publishers (charging very expensive apcs)
- to publish in open access journals (with reasonable and transparent apcs)
- to follow the green route by supporting their institutional repositories.

[1] Open access means that material is free for everyone to read on the internet. If you publish with a commercial publisher and want to make your article open access, the publisher will charge you (the author) a fee known as an article processing charge (APC). For open access journals these charges are reasonable and enable publishers to stay in business. For hybrid journals ie. those where the library pays an annual subscription and who then charge for open access to individual articles, costs are much higher. In effect, the library pays the subscription to the journal and then authors pay to make their individual articles open access.

[2] Green open access - Green OA, also referred to as self-archiving, is the practice of placing a version of an author's manuscript into a repository, making it freely accessible for everyone. The version that can be deposited into a repository is dependent on the policy of the funder or publisher.

[3] Plan S Principles and Implementations

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Transformative agreements should not be seen as a long-term solution but only as a transition phase on the way to full open access. Moreover, self-archiving in the institutional repository is the only way to ensure full preservation of the scholarly record as publishers are under no obligation to do so. The EUt+ Alliance as an entity should sign up to European agreements such as Plan S or similar type agreements.

Recommendation 2

The EUt+ Statement on Open Research signed by the Rectors should be displayed on a public facing website in each university. This indicates institutional support for the statement while recognising that implementation may take some time to be achieved in its entirety.

Recommendation 3

Support for Open Research varies among the alliance partners. There needs to be a concerted push in advocating and promoting open research in general and the green route to open access in particular. This may be helped by the formulation of common training programmes and standardised templates for data management plans.

Recommendation 4

Data and data management training needs to be increased in all the universities. The production of Fair data needs to be considered as all the alliance partners are failing to produce this. There also needs to be a clear definition of the roles involved in data management e.g., Data Librarian, Data Manager, Data Steward. All the universities expressed a need for such staff, but it would be important that the right people are appointed to meet the specific needs of the individual university. A standardised EUt+ data management template has been produced and this should be used by all alliance partners. This template should be available online and it would also be beneficial to create a space on the EUt+ Institutional Repository to display these plans.

Recommendation 5

All partners expressed a need for training and the production of common training programmes is to be recommended. These programmes must provide some kind of certification which is recognised by the alliance partners for promotion and internal funding. Researchers need the appropriate skills to navigate the open research environment and their investment in this kind of training should be acknowledged.

Recommendation 6

The Metrics subgroup recommends that the EUt+ Alliance observe the work of the Coalition on reforming research assessment organised by the European

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Commission, tasked with drafting an agreement on reforming research assessment. Signatories agree to base actions on common principles, to implement commitments for change (including a given timeframe for implementation), to operate and organise the Coalition along some common principles. We recommend that the EUt+ and its members adopt its propositions regarding quantitative and qualitative research assessment.

On the specific topic of Open Access dissemination of publications, this group recommends the commonly used and accepted open access metric to monitor the institutions progress in this regard which is the percentage of research outputs (articles, books, chapters, proceedings, theses, research datasets, reports) published in the five last years under any form of Open Access (Gold, Green, Diamond, etc.).

Recommendation 7

The cRIs (Common Research Information System) sub-group recommends the EUt+ Alliance produce a 'Proof of Concept' common cRIS for EUt+. The proof of concept acknowledges that there are some issues which will not be possible to resolve in a proof of concept version but these may be resolved in a final version of the cRIS. A key consideration is that the pilot should exploit as much existing software and information as possible and that it must be compliant with relevant technical standards. There are several potential routes to delivery:

- Develop, inhouse, a harvesting process and software to support the project.
- Purchase a commercial cRIS software product.
- Develop the cRIS through existing systems such as Open Aire.

One commercial provider has offered us the opportunity to accomplish this project in a platform-agnostic 'community cRIS' portal that they have developed. Developing their platform to support international collaborative projects is one of their strategic objectives so they are willing to offer their product and services on a 'each covers their own costs' basis. This may be the most cost-effective way to produce a common research information system for the EUt+ Alliance.

1.1 Policies

Seven of the eight universities felt their institution had progressed in regard to open research in the last 12 months. The only exception was UTT who felt their situation had remained the same. National policies, transformative agreements with journal publishers and local initiatives are all facilitating this.

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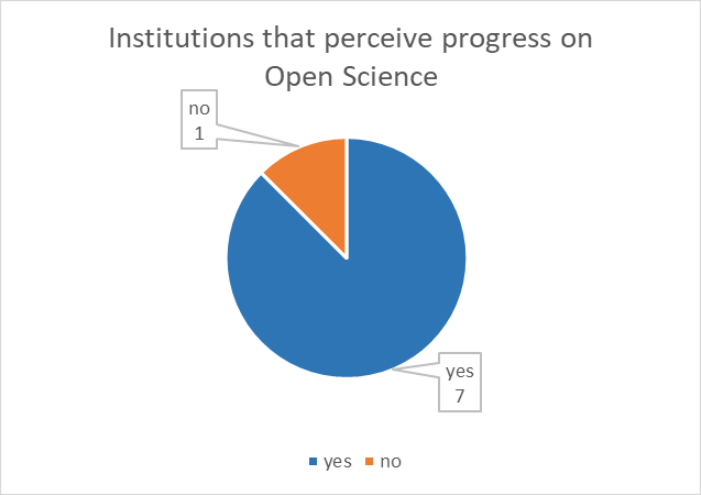

Figure 1. Institution within the EUt+ that experiments progress in Open Science.

National policies on Open Research are becoming more prevalent.

- Latvia: In early 2022 the Latvian Ministry of Education approved the National Open Science Strategy.
- France: The National Plan for Open Science has entered its second phase which will concentrate on open access to publications, sharing and structuring of data/source code and the transformation of research practices to make open research the default position.
- Romania: The National Policy on Open Science is currently being produced by the National Ministry of Education.
- Bulgaria: The Open Science Initiative was approved with a deadline for implementation from 2021-2025.
- Ireland: The National Open Research Forum has produced a number of reports and received funding from the Irish Government to support some national initiatives in Open Research.
- Spain has provided public funding for the deployment of open science across all universities and legislation is currently being debated that will adopt new selection criteria for the recruitment of researchers.

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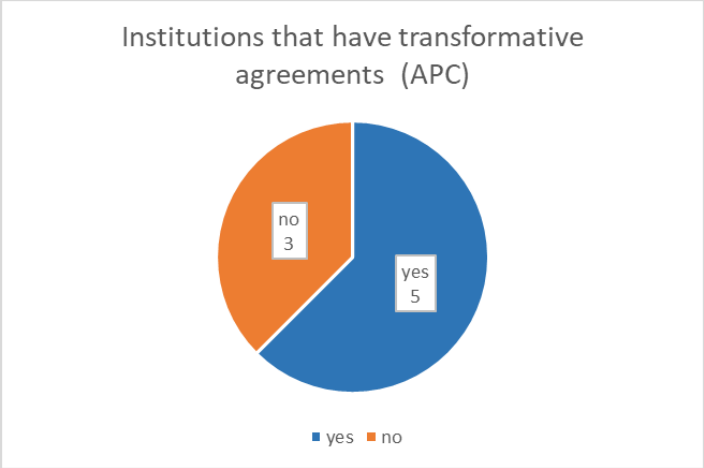

Figure 2. Institution within the EUt+ with transformative agreements.

Several transformative agreements with journal publishers are facilitating open access to publications. [4] TU Dublin, UPCT, UTT, h_da, CUT all have such deals. RTU has achieved a number of local deals while UTCN and TUS have no such arrangements.

TU Dublin, UPCT and UTT do not support the payment of article processing charges (apcs). These must be paid by researchers from their funding.

RTU, UTCN, h_da, TUS, CUT do support such payments.

- RTU has a fund for apcs and RTU Press helps authors to publish.
- UTCN pays for apcs for publications indexed in Web of Science, Scopus, ISI Arts and Humanities and Erih Plus.
- H_da has an open access publishing fund available to all researchers for journals and monographs.
- TUS provides an annual fund of 1,250€ to each researcher which can be used for conferences or the payments of apcs. The university also organises internal funding competitions for researchers and an amount can be claimed for apcs.

[4]Transformative agreements, also referred to as transitional or "read and publish" agreements, are contracts negotiated between institutions and publishers that transform the business model underlying scholarly publishing towards a fully open access model.

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- CUT has an open access fund to cover journals indexed by the Directory of Open Access Journals. Each researcher can apply for an annual grant of €3,000 by application to the fund.

Seven of the eight universities made no distinction between the Sciences and the Humanities when it came to the payment of apcs. TU Dublin has an Orphan APC Fund. In exceptional circumstances, a researcher can apply to the Orphan APC Committee for the payment of an apc. This can only happen when there is no other way to get the work published and usually, the applicant is a lone researcher who has no funding.

While transformative agreements are to be welcomed, the payment of apcs to hybrid publishers[5] are becoming more standardised and it must be emphasised that these payments are increasingly costly and are on top of annual subscriptions to journals. Researchers should be encouraged to go the green route to open access which is where the researcher lodges a version of their article in the institutional repository. It should also be noted that publishers are increasing the length of their embargoes which can last up to 3 years before an author can upload the accepted manuscript to the repository.

This must be seen as a measure to encourage the payment of apcs to publishers and should be resisted.

Institution	Policies 2021	Policy to be Reviewed in 2022	Enforced Policy 2021	Enforced Policy 2022
TU Dublin	Yes	No	No	No
UPCT	Yes	Yes	No	No

[5] Hybrid publishers produce traditional journals and charge a subscription for the journal and then a fee per article to make it open access. These are called article processing charges (apcs). Normally APCs in such journals can vary from €2,000 to €5,000 though Nature charges a flat €9,000 per article.

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RTU	Yes	Yes	No	Partially
CUT	Yes	No	Yes	yes
UTCN	Not yet	Yes	Not applicable	Yes
TUS	Not yet	Yes	Not applicable	Encouraged
UTT	Yes	Yes	No	No
h_da	Yes	No	No	No

Table 1. Local Policies summary table

Local policies remain the same for TU Dublin, RTU, UTT, h_da, CUT and UPCT but there are some important developments. UPCT is working on a new Digital Transformative Plan which has a specific action line for open research and open research has an important role in the TUS Technical University of Sofia Strategy 2021-2025. Most of the other alliance partners are working within the context of national plans and may, consequently, end up reviewing their own institutional policies. For example, UTT has established an Open Science Committee, UTCN is intending to change their policy from just covering open access to publications to be more inclusive of all aspects of open research and the TUS strategy has a specific section on creating, maintaining, and developing resources for the open science initiative. These developments and the experience of working within the EUt+ Alliance all helps to create an environment more conducive to open research.

The EUt+ Statement on Open Research has been discussed in some of the partner universities. It has not been discussed in UTT, h_da and CUT. The statement is publicly linked in TU Dublin and UPCT, is internally linked in RTU and is in the EUt+ newsletter circulated in UTCN. All of the alliance partners are urged to support the statement as it indicates institutional approval for open research. Implementation can happen slowly and in stages.

In some of the universities open research is the responsibility of the Research and Library Departments. In others it is the responsibility of the Research Directorate/Department alone. TU Dublin has an Open Research Advisory Group which produces policy, strategy and provides oversight of the Open Research Support Unit (ORSU). ORSU (with a public facing website) was established in 2021 to support, inform and educate researchers in all aspects of open research. UTT is

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setting up an Open Science Committee to devise a strategy for the university. A joint approach between the Library and the Research Directorate/Department seems to be the most operationally successful.

While policies are present in most of the universities, they are not enforced. RTU is starting to do this for data management plans which is a precedent all alliance members could usefully follow. However, the necessity for enforcing local policies is less important as more and more funders mandate open access to publications and data. At the very least, policies on open research are a very visible indication of institutional support and the formulation of such a policy can produce a strategy for implementation. It is to be hoped that the combination of national plans, funders support and local initiatives will see open research develop further within the EUt+ Alliance in the coming year.

1.2 Perceived Success in Open Research

1.2.1 Open Access to Publications

Open access to publications is the most developed aspect of open research in the EUt+. This should be considered as the first step in the institutional journey towards open research. Given that, five of the partners are below the European average for open access to publications while six of the alliance partners have engaged with transformative agreements (either local or national).

The percentage of peer reviewed scholarly output available as open access has increased in five of the universities while three universities have decreased slightly[6]. The European average is 47.4% of such material available as open access. TU Dublin, UPCT and RTU have met or surpassed the European average while CUT is slightly below it and TUS and UTCN are getting closer. UTT and Darmstadt are well below it.

[6] The figures are produced from Scival and is the peer reviewed literature indexed in Scopus 2016-2020. While it is not inclusive of all such material it is an indicator of progress or otherwise.

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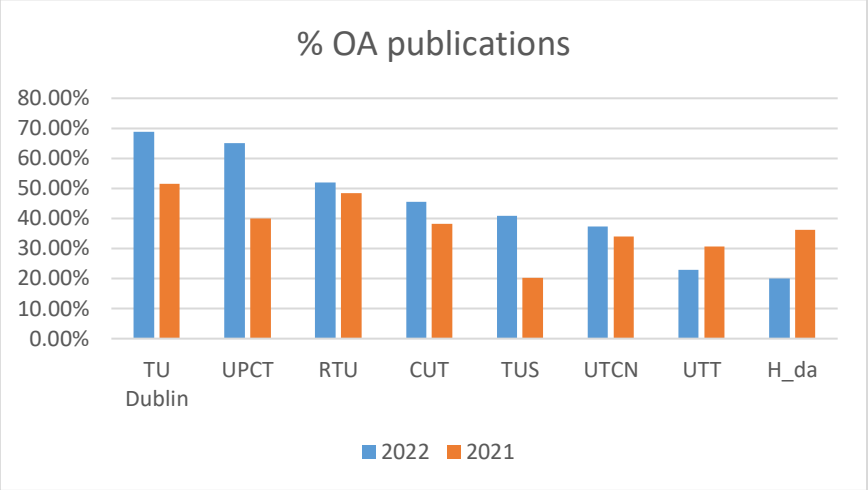

Figure 3. Percentage of OA publications per EUt+ partner.

Institution	2022	2021	% + or -	Policies 2021	Review Policy 2022	Enforced Pol. '21	Enforced Pol. '22
TU Dublin	68.9%	51.5%	+17.45	Yes	No	No	No
UPCT	65%	39.9%	+25.1%	Yes	Yes	No	No
RTU	52%	48.4%	+3.6%	Yes	Yes	No	Partially
CUT	45.6%	38.2%	+7.4%	Yes	No	Yes	Yes
TUS	40.9%	20.3%	+20%	Not yet	Yes	Not applic.	Encou
UTCN	37.3%	34%	+3.3%	Not yet	Yes	Not applic	Yes
UTT	23%	30.6%	-7.6%	Yes	Yes	No	No
h_da	20%	36.2%	-1.2%	Yes	No	No	No

Table 2. Summary detailed data for figure 3.

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The survey indicates that the institutional repositories in most of the universities host a variety of material other than peer reviewed literature representing the totality of their intellectual output.

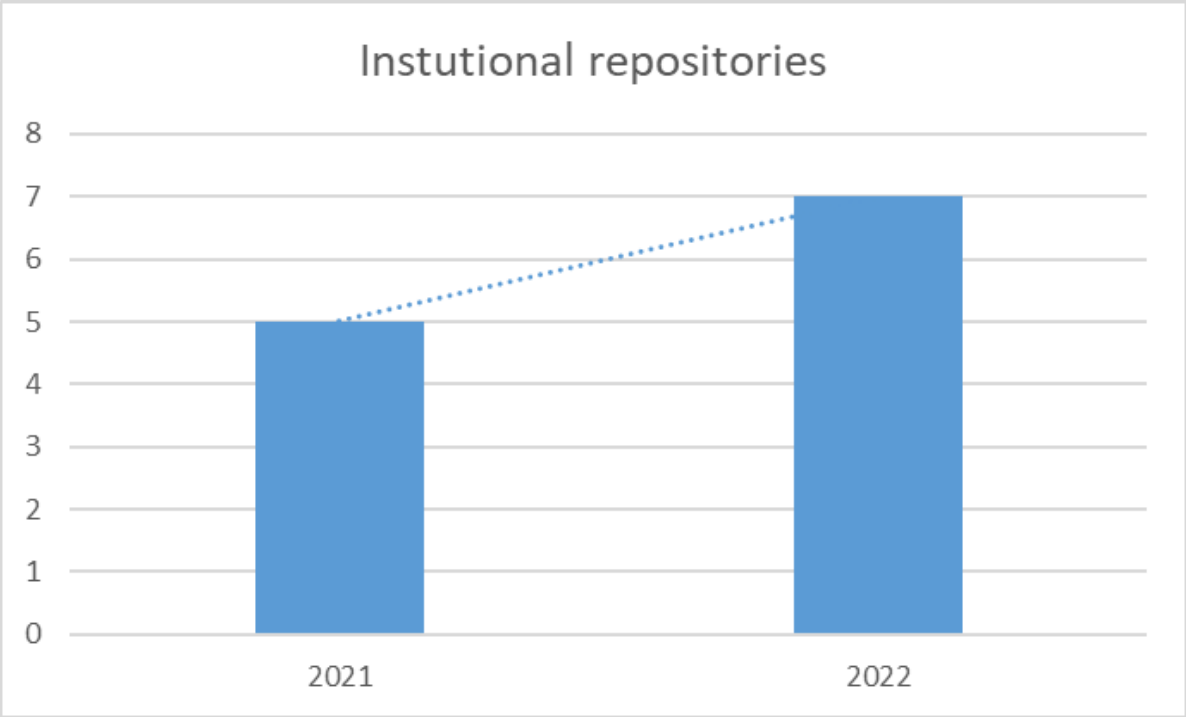

Figure 4. Amount of institutional repositories variability within the EUt+ partners, from 2021 to 2022.

UTCN does not currently have a repository[7] and TUS indicated they only publish peer reviewed literature. While all the partners have policies around this area, these are generally not enforced. Promotion, advocacy, and persuasion is the common strategy. However, it should be emphasised that not one alliance partner recognises

[7] UTCN is working on creating a Zenodo community which can then become part of the EUt+ Institutional Repository. Researchers can deposit directly into this community.

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and acknowledges work around open access or open research in general. It is accepted that part of the researcher's role is to disseminate their intellectual output. The extra effort required for open access should be acknowledged by research departments and proportionally rewarded as it displays and showcases the work of each university.

2 Research Data

The management of research data is a cooperative effort between the Library and Research Departments in most of the universities. RTU has a staff member working with research data and the institutional research data repository, but RTU does not have data stewards yet. They also intend to enforce their policy with regards to data management plans. H_da does not have data stewards or librarians but has data managers who assist projects with managing their data. TU Dublin is currently restructuring but intends to have new roles such as a data manager and a data librarian. UTCN and TUS rely on the library to train researchers in this area and UTT, UPCT and CUT have no staff working in this area.

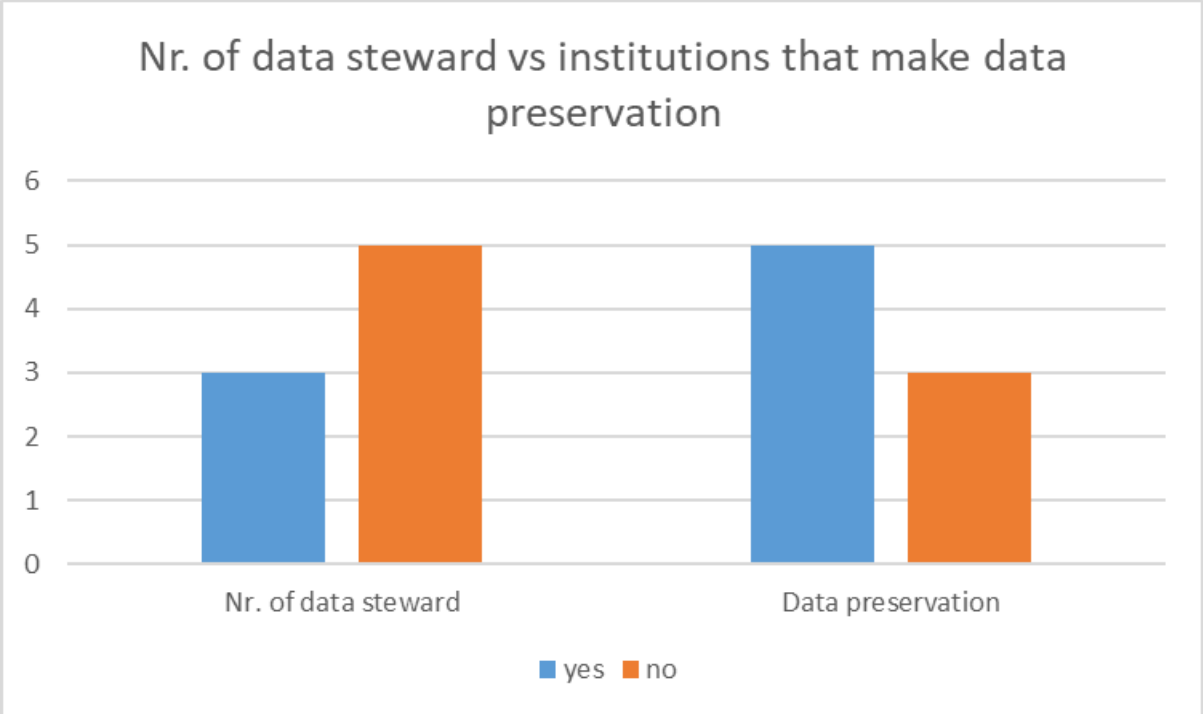

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Figure 5. Number of data steward against the institutions with data preservation management.

There seems to be distinct roles developing around research data: research data managers/data stewards who assist with the production and management of data and data librarians who assist with training and the production of data management plans. If the EUt+ moves into the creation of FAIR data (currently not happening in any of the alliance partners) such roles will, at a minimum, be a necessity in each university.

2.1 Data Management plans

RTU, TU Dublin and UPCT all have data management plan templates that are used by their researchers. UTT, UTCN, h_da, TUS and CUT do not but have indicated they would use the EUt+ data management plan template particularly if it was available online.

2.2 Open Research Infrastructure

UTT, TU Dublin, UPCT are implementing new or updated research information systems (CRIS). These should mean that all partners will have developed their infrastructure to a degree necessary to facilitate open research. For example, in negotiations with the vendor for the new cRIS in TU Dublin a given was that there had to be a link between the cRIS and the Institutional repository, so researchers only had to upload their information once. A subgroup of WP8.6.7 has been investigating the possibility of a common research portal for the EUt+, their report is available in Appendix 5.

2.3 Research Evaluation

Even though open research is becoming more mainstream, evaluation of research output is still heavily dependent on citations and awards. National policy dictates how this should happen in RTU, UTCN, TUS and UPCT. UTT, h_da, TU Dublin and CUT devise their own criteria for research evaluation. None of the alliance partners apply open research metrics. TU Dublin signs an agreement with the Higher Education Authority (national governance body) and the only metric for open research is the percentage of material that is made open access. Metrics used most widely are

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publications, data, supervised doctorates, and awards. While all the partners accept newer methods of evaluation need to be found, only RTU, TU Dublin and h_da are actively considering signing up to DORA or the Leiden Principles. It should be noted that this was the situation last year but so far no one institution has signed up. Obviously, there is no incentive to do this given the reliance on traditional metrics both nationally and locally. A second subgroup of WP 8.6.7 has been working on metrics applied in the EUt+. Their report is available in Appendix 4.

2.4 Training activities overview

No alliance partner has a specific comprehensive training programme in open research. Training is provided on specific aspects such as open access to publications, dissemination, data management plans, apcs, publisher's policy and so on. TU Dublin has established an Open Research Support Unit which provides training, support, and information to researchers. In all the universities training tends to be voluntary but may be mandatory for some projects. UTT, h_da, CUT, TU Dublin do not provide any certification for training undertaken. UPCT provides a certificate of attendance for each participant for research data. RTU provides training on multiple topics including open access, research data and repositories, research ethics etc. Some of those training sessions can be provided with certification of attendance. All alliance partners agreed it would be beneficial to have standardised training programmes across the EUt+ with a common method of certification. Such certification should be recognised for progression and internal funding purposes.

2.5 Citizen Science

There has been no real change in this area since the previous report. UTCN, TUS and RTU are actively thinking about developing such programmes. H_da has the Gruss und Kuss project but TU Dublin, UTT, TUS and CUT have no specific plans for developing citizen science programmes.

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Conclusion

Overall, this project has facilitated a steady if slow movement towards open research in the alliance partners. EUt+ now has an Institutional Repository and an open access Academic Press. The Open Research Statement is shortly to be signed by the Rectors and will then become relevant for all alliance partners. However, Open Research requires a support ecosystem to inform, equip and empower researchers to work in this new and challenging environment. The global experience of the Covid pandemic has demonstrated how quickly openness and collaboration in research solves societal problems.

Researchers need to be provided with the tools and supports to practice open research. This will require resourcing in terms of infrastructure and support staff. While everyone agrees open research is good for scholarship and society it should be supported by humane evaluation systems that consider the effort and enterprise involved and recognise and value this activity. Ultimately, open research is good for scholarship, researchers and society in general facilitating the rapid dissemination of knowledge and solving problems in the real world that benefit the ultimate funders of research who are the taxpayers.

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Annexes

Appendix 1: Update on recommendations from 2021

1. EUt+ should have a common statement on Open Research principles as a common framework around which we will build OR.

   This statement was drafted and signed by the Rectors in 2022.
2. As part of the same framework, EUt+ should adopt a common OR dictionary that provides a common OR language and is consistent with existing OR glossaries.

   A glossary of open research terms was created and agreed upon.
3. Given the well-developed state of the repository system in the EUt+ the repository sub-group should also look at a means of providing a EUt+ portal that would harvest the existing repositories and provide a space for the one institution that does not have a repository.

   In partnership with OpenAire the EUt+ Repository was created in November 2021 and currently has over 70,000 publications collected from the alliance partners.

   Establish an information and training programme to cover research data, FAIR data, intellectual property in the open environment and the use of citizen science. These are all areas that are underdeveloped in the EUt+. It is recommended that a common approach be taken to such training programmes and a suite of toolkits be produced to be used by those in the network.

   This recommendation was not dealt with in 2021/2022 but is a major objective for 2022/2023.
4. There are four developed academic presses in the EUt+. There is no need to build more within the system. A subgroup of press managers should be set up to see if an EUt+ Academic Press can be implemented using one or all of the existing presses.

   As a pilot project to provide proof of concept the EUt+ Academic Press is hosted with the permission of the vendor on the Institutional Repository of TU Dublin. Workflows and review procedures have been established and the first publication is expected towards the end of the summer 2022.

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5. A sub-group should be established to evaluate the most appropriate metrics for the humane and fair evaluation of researchers and to select either the Leiden Principles or DORA as an appropriate approach for the EUt+.

   This group was established mid-2021 and has produced a report with several recommendations (see Appendix 4). In tandem with this another subgroup was established to look at the possibility of creating a portal which would act as a research information system for the EUt+. Their report is available in Appendix 5.

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Appendix 2: Survey Responses

8	274:48	Active
Responses	Average time to complete	Status

View results | Open in Excel ...

1. Select your university

More Details

Cyprus University of Technology...	1
Darmstadt University of Applied...	1
Riga Technical University (RTU)	1
Technological University Dublin ...	1
Technical University Sofia (TUS)	1
Technical University of Cartagen...	1
Technical University of Cluj-Nap...	1

4. Please supply details

More Details

3
Responses

Latest Responses

"We have two fund/policies supporting Open Access. One from a private co...

"- New rules related to the University Repository; - Increased popularity of th...

"The university has signed new transformative agreements throug the Confe...

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UPCT	*The university has signed new transformative agreements through the Conference of Rectors of Spanish Universities CRUE and is also implementing a new cRIS system with a research portal. Finally, we received public funding from FECYT for a new project for Open Science deployment across all the university.*
TUS	*New rules related to the IR; Increased popularity of the IR; Connection between repository and EUt+ IR; EUt+ Academic Press; Better understanding of open access among academic staff*
CUT	*We have two funds/policies supporting Open Access. One from a private company and the second one from our own budget. https://library.cut.ac.cy/en/research-fund*
h_da	*The most significant detail in the progress of open research is the rollout of our institutional repository. We are currently working on a second repository especially for research data. More and more researchers at our university are publishing open access. We have some projects involving citizen science*

5. Does your university have personnel specifically managing research data for example data stewards or data librarians?

More Details

8
Responses

Latest Responses
"no"
"Yes, we have a large Library and Information Center (https://library.tu-sofia....
"NO"

RTU	We have one person at the University who works with research data (strategically). Early in 2022 the Ministry of Education and Science approved the National Open Science Strategy. The Ministry has provided funding to attract data stewards to universities.
TU Dublin	The university is undergoing restructuring now but when that is finished there will be new roles in this area

UTCN	The university has a dedicated research department under the vice-rectorate in charge of research.
h_da	No, we do not have data stewards or data librarians, but we have research data managers who assist with data management in project applications and help with questions regarding data management.
TUS	Yes, we have a large Library and Information Center (https://library.tu-sofia.bg/) with qualified staff (https://library.tu-sofia.bg/sections).

6. Has been any change in your national policies related to open research from last year?

More Details

Yes	3
No	5
I do not know	0

7. If yes, please, specify the changes.

More Details

5
Responses

Latest Responses

"Approved at the end of 2020 National Development Planthe open science i...

"There's a new Act (law) from February 2022 that's currently under discussio...

RTU	As the National Strategy was approved recently, the planning of RTU Strategy on Open Science will be implemented till 2023.
UTT	The French National Plan for Open Science entered its second phase. It has 4 goals:

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	- generalising open access to publications (promote bibliodiversity, support open access business models, promote experimentation with translation services) - structuring, sharing, and opening up research data (creation of a national data repository, of a network of data administrators, promotion of data reuse practices - opening up and promoting source code produced by research (development and dissemination of open-source tools) - transforming practices to make open science the default principle (adapt evaluation criteria)
UTCN	The national policy regarding open science in Romania is actually being defined under the supervision of an agency supervised by the National Ministry of Education.
UPCT	There's a new Act (law) from February 2022 that's currently under discussion. It will adopt new selection criteria for researchers according to the OTM-R (Open Transparent Merit based Recruitment of researchers working group of the steering group of human resources under the European Research Area), to promote fair data as well as those included in the San Francisco Statement about research evaluation. It will also consider the transfer of research results as new evaluation criteria.
TUS	Approved at the end of 2020 National Development Plan, the Open Science Initiative in the Republic of Bulgaria a deadline for implementation 2021-2025. The Recommendations to the concept for application of the principle of open access to scientific information in Bulgaria are followed. For 2022 there are no changes.

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8. Does your university formally report on open research in any important documents or is it mentioned in strategic vision documents?

More Details

8
Responses

Latest Responses
"no"
"Technical University of Sofia reports its achievements to Bulgarian Ministry ...
"Our university is working on a new Digital Transformative Plan which conta..

RTU	RTU was one of the members of the working group, developing a strategy at the national level. Based on our recommendations too, a National Strategy will be implemented.
UTT	Yes, the rules of the UTT Research Service include a mandatory deposit of articles in the institutional repository
TU Dublin	Is in the strategic vision and is reported on in the University's annual report
UTCN	No, reports on research but not specifically for open research
H_da	no
UPCT	Our university is working on a new Digital Transformative Plan which contains a specific action line for Open Science
TUS	The Technical University of Sofia reports its achievements to Bulgarian Ministry of Education several times a year. Open research has an important role in "TECHNICAL UNIVERSITY OF SOFIA STRATEGY 2021 – 2025" (https://tu-sofia.bg/kcfinder/upload/files/Strategy_TUS_EN.pdf): Objective 1, Task 2, Measure 4 and Objective 4, Task 1, Measure 2
CUT	no

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9. Has been any change on the institutional policy on open access, open research, or open data from last year?

More Details

Yes	2
No	6

10. If previous answer was yes, please, specify the changes and links to the new policies if any.

More Details

2
Responses

Latest Responses
"https://tu-sofia.bg/kcfinder/upload/files/Strategy_TUS_EN.pdf"

UTCN	Decision of the university board to support open access publications indexed in Web of Science, Scopus, ISI Arts & Humanities, Erih Plus dating from 2021 (https://research.utcluj.ro/tl_files/research/DMCDI/Proceduri/HCA/HCA_57_15.06.2021-plata%20taxa%20articole_site.pdf).
TUS	https://tu-sofia.bg/kcfinder/upload/files/Strategy_TUS_EN.pdf

11. Do you intend to review your institutional policies in 2021/2022

More Details

8
Responses

Latest Responses
"no"
"Yes, the TUS Strategy (https://tu-sofia.bg/kcfinder/upload/files/Strategy_TU...
"Yes, we pla to update and expand our policy to other pillars of Open Scienc...

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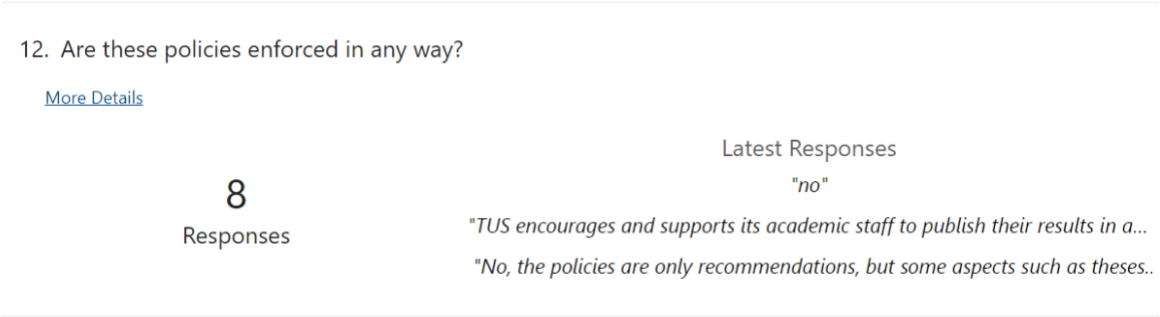
RTU	Yes
UTT	Yes, we began to build an Open Science Committee dedicated to all open science topics
TU Dublin	No
UTCN	Probably, institutional policies will be reviewed and updated also following the work in EUT+ and the participation of university representatives in national programs aiming to define the national policy.
h_da	No
UPCT	Yes, we plan to update and expand our policy to other pillars of Open Science beyond Open Access
TUS	Yes, the TUS Strategy (https://tu-sofia.bg/kcfinder/upload/files/Strategy_TUS_EN.pdf) was adopted in 2021.
CUT	No



RTU	They will be regarding Projects and DMPs

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UTT	No
TU Dublin	No
UTCN	Yes
h_da	No
UPCT	No, the policies are only recommendations, but some aspects such as theses must be open access, are mandatory by law, not by the university's own policy.
TUS	TUS encourages and supports its academic staff to publish their results in accordance with the principles of Open Research.
CUT	No

13. Is the EUT+ Open Research Statement and other related documents disseminated in your institution (i.e. on the website)?

More Details

8
Responses

Latest Responses
"i dont know"
"I don't know."
"We have a lint to statement in our Openaccess website: https://accesoabiert...

RTU	RTU Policy on OA (ortus.rtu.lv - internal webpage)
UTT	No
TU Dublin	Present on the Open Research Support Unit website

	https://www.tudublin.ie/research/support-for-researchers/orsu/open-research/policies-strategies/
UTCN	An EUT+ newsletter is maintained by TUC-N (https://www.utcluj.ro/news-letter-EUt+/?msclkid=8403bbfcc41011ec984514df799e0f03)
h_da	No
UPCT	We have a link to the statement in our Open Access website: https://accesoabierto.upct.es/acceso-abierto-upct.html
TUS	Not aware
CUT	Not aware

RTU	Yes. Discussion between EUt+ management, Office of Vice-Rector for Research and Departments related to EUt+ project (IT, Project Dept.). Mostly about implementation of EUt+
UTT	No
TU Dublin	Yes, discussed and accepted in the TU Dublin Open Research

	Advisory Group and with the VP for Research and Innovation
CUTN	Not aware
h_da	No
UPCT	It has been discussed by Rector and Vice Rector
TUS	Yes, such discussions are held regularly among the teams of the Vice-Rector for Research and the Director of the Library and Information Centre. We are preparing training on this topic, in which the Deputy Deans for Research will participate.
CUT	No

15. Is there a strategic group in your university that includes open research as part of its remit, i.e. departments or Vice Rectors?

More Details

8
Responses

Latest Responses
"No"
"Yes."
"NO"

RTU	Office of Vice-Rector for Research
UTT	Such a group is in discussion
TU Dublin	TU Dublin Open Research Advisory Group produces policy, strategy and provides oversight of the Open Research Support Unit

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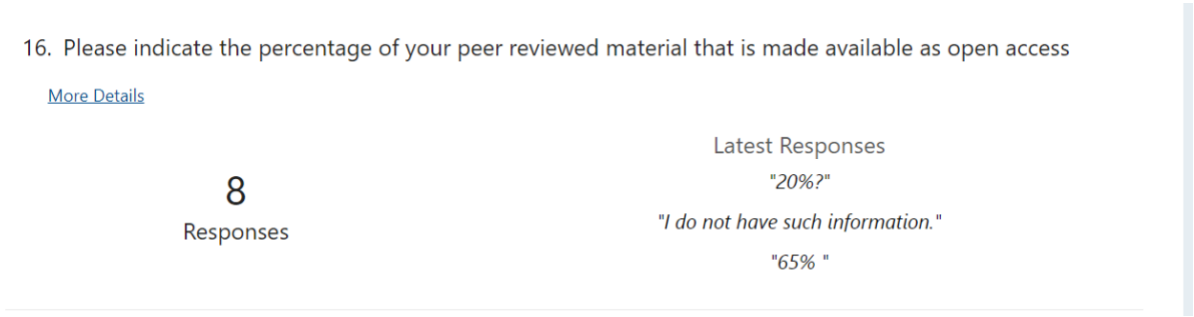
UTCN	The university's Prorectorate for research includes open research as part of its remit.
h_da	There is a cooperation between the Library and the Institute of Communication and Media working on open research and research data management
UPCT	No
TUS	Yes
CUT	No



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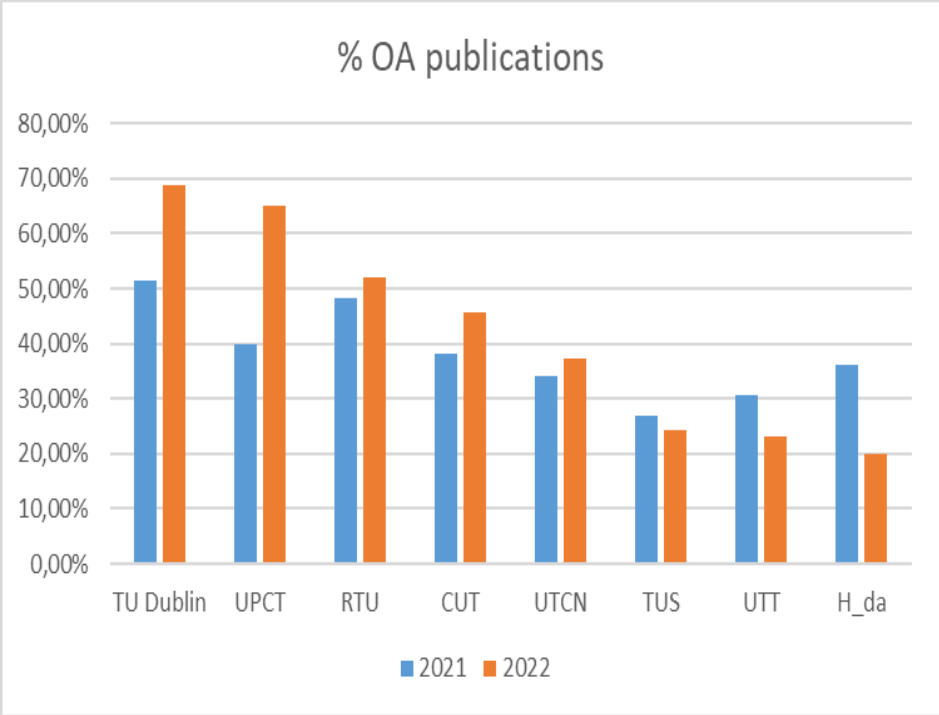

17. Has your university made any changes to the open research infrastructure such as implementing an institutional repository, CRIS system or new software? Please give details and an online link if appropriate.

More Details

8
Responses

Latest Responses

"Yes we are using Dspace-cris since 2016"

"Yes. http://digilib.nalis.bg/xmlui/handle/nls/29588?locale-attribute=en"

"A new CRIS and research portal is being implemented. The CRIS is develope..."

RTU	RTU has its own publication and research data repository.
UTT	The University has implemented a research information system in March 2022 (Syrius, from Quasar Conseil). It's currently unclear whether its content can be harvested
Tu Dublin	Currently implementing the PURE research information system.

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UTCN	The university continues to be a member of the Anelis Plus project allowing electronic access to scientific information and documentation resources for its researchers. Representatives participate in the elaboration of the CRIS system for EUT+.
h_da	Institutional Repository https://opus4.kobv.de/opus4-h-da/home CRIS system https://my.h-da.de/qisserver/pages/cs/sys/portal/subMenu.faces?navigationPosition=research
UPCT	A new CRIS and research portal is being implemented. The CRIS is developed by a Spanish company that works for all Spanish universities. This CRIS does not comply with the CERIF standard. The new research portal will comply with CERIF standards.
TUS	Yes.http://digilib.nalis.bg/xmlui/handle/nls/29588?locale-attribute=en
CUT	Yes, we are using Dspace-cRIS since 2016

18. Does your repository house materials that are not peer reviewed articles for example conference papers, presentations, video tutorials etc.? Please give details *

RTU	Yes (conference papers, PhD thesis, exhibitions details, info about seminars, workshops, and conferences).
UTT	It contains conference papers, posters, technical reports and unreviewed preprints
TU Dublin	Yes, all of the above. Conference papers, video and audio, working papers, tutorials, posters, artworks

UTCN	Up to my knowledge we do not house materials as the ones indicated on a central repository.
h_da	Yes - all works from h_da members
UPCT	Yes, we house academic works, book chapters, reports, bachelor thesis, etc. You can check the communities and collection here: https://repositorio.upct.es
TUS	No
CUT	Yes

19. Does your university make student work available? If you do, please check all that apply.

More Details

Master Thesis	3
Bachelor Thesis	3
Student work	1
Undergraduate work	1
Postgraduate Thesis	8

20. Please indicate what kind of material is made available as Open Access? Please check all that apply.

More Details

Master Thesis	2
Bachelor Thesis	3
Student Work	1
Undergratuate work	1
Postgraduate Thesis	8

21. Does your university pay APCs for your researchers or do researchers pay APCs from their funding? Please give as much detail as possible

More Details

8
Responses

Latest Responses

"Yes, we have a fund with a specific policy supporting OA https://library.cut....

"TUS annually provides funding in the amount of 1250 euros for participatio...

"The UPCT has signed transformative agreements with three publishers, so r...

RTU	Yes, we have a Research support fund and RTU Press is helping authors.
UTT	Researchers traditionally use part of their fundings to pay APCs. In 2020, the UTT had a budget of 15,681€ dedicated to APCs (vs 22457€ in 2019)
TU Dublin	No researchers pay apcs from their own funding.
UTCN	Since 2021 the university has paid the APCs for its researcher for open access publications indexed in Web of Science, Scopus, ISI Art& Humanities and Erih Plus. There is an institutional decision of the boards of directors and a procedure for the payment has been established. https://research.utcluj.ro/tl_files/research/DMCDI/Proceduri/HCA/HCA_57_15.06.2021-plata%20taxa%20articole_site.pdf
h_da	There is a publishing fund at the h_da from which money for open access publications can be applied for. All members of the university, i.e. professors, research assistants and doctoral students, can apply for money here. There are several requirements for funding Books or chapters in books have also been funded from this fund.
UPCT	The UPCT has signed transformative agreements with three

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	publishers, so researchers are free to publish in any of them. For the rest of the publishers, researchers have to pay the APC from their own funding.
TUS	TUS annually provides funding in the amount of 1250 euros for participation in scientific forums of each of its researchers. This funding can be used for paying APCs. TUS annually organises internal competitions for research projects. Funds for paying APCs can be set aside in their budgets.
CUT	Yes, we have a fund with a specific policy supporting OA https://library.cut.ac.cy/el/cut-openaccess-fund

22. Does your university make any provision to pay APCs for researchers who have no funding particularly in the Arts, Humanities and Social Sciences area?

More Details

8
Responses

Latest Responses
"No"
"Yes, TUS annually provides funding in the amount of 1250 euros for partici...
"No, there's no specific funding for any research area."

RTU	Yes
UTT	The question doesn't apply to the UTT (we do not make any difference between humanities and technical fields)
TU Dublin	In exceptional circumstances a researcher can make an application to the Orphan APC Committee. This can only happen when there is no other way to get the work published and usually, the applicant is a lone researcher without funding. After considering the application the committee may decide to pay the APC.
UTCN	Yes

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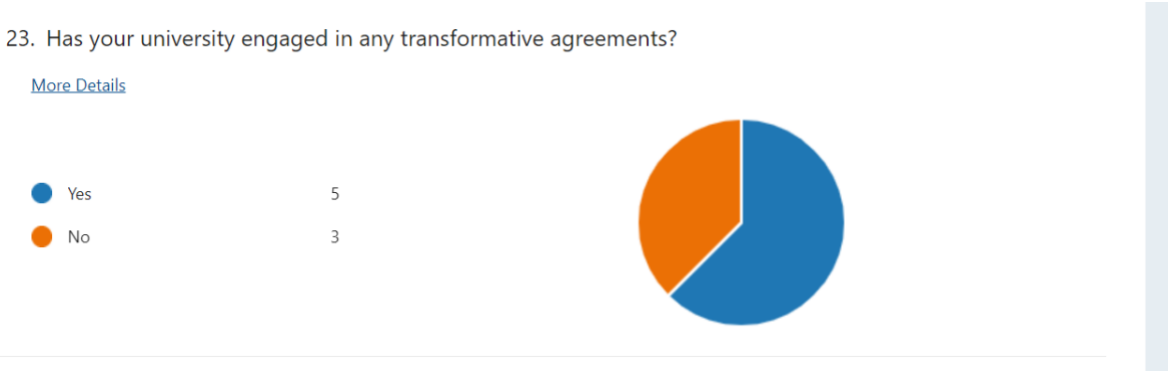
h_da	No, so far there is no distinction between the disciplines. First come, first served.
UPCT	No, there's no specific funding for any research area.
TUS	Yes, TUS annually provides funding in the amount of 1250 euros for participation in scientific forums of each of its researchers.
CUT	No



RTU	Local
UTT	The negotiations are national and managed by the COUPERIN consortium. It can negotiate transformative agreements on the condition that they fit the Plan S requirements :temporary and just for

	the duration of the subscription :Include 100% of the French publications in open access. The openness of these publications has to be instantaneous -CC-BY licence so that the author may keep their rights. Transparent and public cost and details regarding the transition. Contracts can be published in open access. Transformative transition cannot exceed subscription cost to hybrid journals of the publisher
TU Dublin	IRel is a national consortium which negotiates deals with publishers for online resources. Increasingly the provision of a number of negotiated apcs are part of the process
UTCN	No
h_da	We have transformative agreements with 4 publishers (Springer Nature, Wiley, DeGruyter and Hogrefe PsyJournals. They are all national.
UPCT	There are national agreements, signed through the Conference of the Rectors of the Spanish Universities (CRUE) and Elsevier, Springer Nature and Wiley. Researchers have a limited amount of "free-of-charge" APCs. A new agreement with IEEE is under negotiation.
TUS	no data
CUT	National agreement made by Cyprus Libraries Consortium https://clc.cut.ac.cy/openaccess_aggrements

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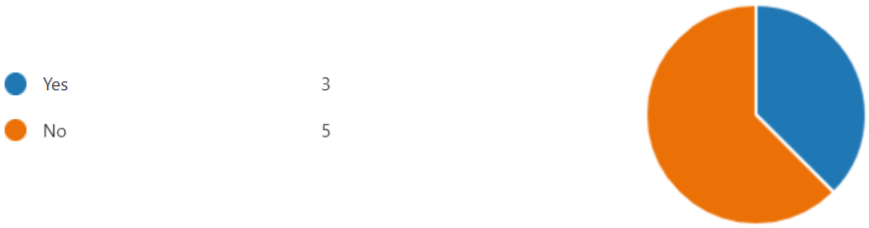
25. Does your university make any formal attempt to preserve its research data?

More Details



26. If yes, please indicate how this is done.

More Details

3
Responses

Latest Responses

"TUS has a committee on intellectual property and a budget for registration ...

RTU	We have a research data repository
UPCN	Intellectual property through patents (https://research.utcluj.ro/index.php/knowledge-and-technology-transfer.html) and technological transfer (https://research.utcluj.ro/index.php/knowledge-and-technology-transfer-258.html)
TUS	TUS has a committee on intellectual property and a budget for the registration of patents and utility models.

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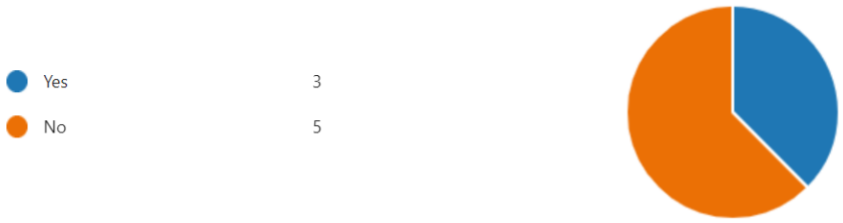
27. Does your university provide a data management plan template that is used by researchers?

More Details



28. If not, would you be interested in participating in a standardised EUT+ data management plan template?

More Details

7
Responses

Latest Responses
"Yes"
"Yes."
"Don't know details, but there is an EUT+ WP that's working on a DMP temp...

RTU	Yes
UTT	Yes, but there is a national template for the French funder ANR. It should be noted there was a EUt+ workgroup WP X3.3 which worked on such a template
TU Dublin	Even though we have our own, we would switch to a EUt+ standardised template
UPCN	Yes
h_da	Yes, especially if it is an online tool
UPCT	Don't know details, but there is an EUT+ WP that's working on a DMP

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	template. As a suggestion, EUT+ could use the ARGOS platform
TUS	Yes
CUT	Yes

29. Has your university made any progress with the preparation of FAIR data in the last 12 months?

More Details

8
Responses

Latest Responses
"No"
"I don't know."
"No, but tools used by UPCT meet FAIR."

RTU	Not yet
UTT	No
TU Dublin	No
UTCN	Not aware
h_da	No
UPCT	No but tools used by UPCT meet FAIR
TUS	Not aware
CUT	NO

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30. Does your university make any attempt to preserve and disseminate Open Educational Resources

More Details

8
Responses

Latest Responses
"No"
"I do not have such information."
"Yes, UPCT developed an OER portal where professors can publish their reso...

RTU	Not aware
UTT	No
TU Dublin	Yes, we have created an OER archive on the institutional repository https://arrow.tudublin.ie/totalarchive/
UTCN	Yes, dissemination of MOOC like activities
h_da	Yes, in a project called HessenHub https://www.hessenhub.de/
UPCT	Yes, UPCT developed an OER portal where professors can publish their resources. It's not only for students but for staff also. https://forma.upct.es
TUS	Not aware
CUT	No

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31. Do you think your university has made any progress with Citizen Science in the last 12 months?

More Details

yes	2
no	2
we do not engage with Citizen S...	1
we are thinking about it	3

32. If there was any progress, please provide details and indicate how you know.

More Details

4
Responses

Latest Responses
"-"

RTU	We are planning work in accordance with the national OR strategy
UTT	In the UTT, Citizen Science is understood as science made for citizens, not necessarily by citizens: conferences and other such Science popularisations are manifestations.
TU Dublin	We do not engage with citizen science to any great degree
h_da	Project "Gruss und Kuss" https://gruss-und-kuss.ulb.tu-darmstadt.de/

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33. Does your national policy dictate how researchers are evaluated in your university for example emphasis is placed on the journal impact factor, citations and numbers of awards?

More Details

8
Responses

Latest Responses
"no"
"No, in Bulgaria there is autonomy of higher education institutions."
"Yes, the National Agency for Quality Assesstment and Acreditation evaluate...

RTU	Yes
UTT	Although research teams are evaluated by a national committee (HCERES - High Council for Education and Research of Higher Education) with indicators embracing their contribution as a whole to the scientific community as well as the university, individuals are still evaluated using Impact Factor or h-index.
TU Dublin	We do not have a national policy. Each university signs an agreement with the Higher Education Authority. Metrics are citations and number of rewards are the traditional metrics used
UTCN	Yes, evaluation of researchers is done with respect to national policies and standards (number of publications, number of authors, journal impact factor, journal category Q1, Q2 etc, number of directed research grants) for occupying a specific position (professor, associate professor etc). The research component is evaluated also annually by the ministry of education for all public universities. The university also has an integrated system that is used annually to evaluate teaching staff.
h_da	no
UPCT	Yes, the National Agency for Quality Assessment and Accreditation evaluates our researchers through traditional metrics.
TUS	No, in Bulgaria there is autonomy of higher education institutions.

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CUT	No

34. If you do not have a national policy, who dictates how researchers are evaluated?

More Details

7
Responses

Latest Responses

"The internal research committee "

"The evaluation is based on the "RULES FOR CERTIFICATION OF SCIENTIFIC ...

RTU	no data
UTT	We have a national policy
TU Dublin	The university
UTCN	We have a national policy and also own criteria for teaching assistants and assistant lecturers.
TUS	The evaluation is based on the "RULES FOR CERTIFICATION OF SCIENTIFIC AND TEACHING STAFF IN TU - SOFIA", which is adopted by the Academic Council.
CUT	The internal research committee

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35. How does your university evaluate its own researchers? Does this include any metrics on open research

More Details

8
Responses

Latest Responses
"No"
"The evaluation is based on the "RULES FOR CERTIFICATION OF SCIENTIFIC ...
"There is no use of metrics reletad to Open Sicence"

RTU	We evaluate research work at faculties level (publications, data, allocated project money, number of PhD thesis defended)
UTT	Researchers' evaluation at the UTT does not include any open science metrics.
TU Dublin	University evaluates researchers on citations, supervised doctorates and number of awards
h_da	Third party funding, publications and supervised doctorates
UPCT	There is no use of metrics related to open science
TUS	The evaluation is based on the "RULES FOR CERTIFICATION OF SCIENTIFIC AND TEACHING STAFF IN TU - SOFIA". Open research is not mentioned in this document.
CUT	No

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RTU	As the research funding from the state is allocated based on indicators for example - citation, we are not thinking about signing DORA
UTT	There is no discussion on this subject: we currently don't have a structure to discuss OS matters. The creation of the Open Science committee may change things.
TU Dublin	Thinking about it seriously
UTCN	No
h_da	Thinking about it seriously
UPCT	There hasn't been any discussion about it, because it's being discussed at a national level.
TUS	Not aware

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CUT	Not aware

38. Does your university have a specific program of training for Open Research? This includes open access to publications, data, impact, dissemination. Please supply details

More Details

8
Responses

Latest Responses

"No"

"No, but we are planning one."

"Not at this moment, but but there will be some worksops and seminars."

RTU	No specific programme, but there are several workshops and seminars organised on open access to publications, data, impact, dissemination etc.
UTT	Training for PhD students: How to know the Open Access policy of a publisher, how to find the APC cost of a given journal, the French law protecting the author's right to publish in an open archive, how to publish in an open archive, FAIR Data and DMP, warning against predatory journals and publishers
TU Dublin	The library and research office provides training in these areas. Open access, open data, and impact. The university has set up an Open Research Support Unit which has a website which provides information and several online resources
UTCN	Not aware
h_da	Yes - https://www.uni-marburg.de/de/hefdi/hefdi-data-school
UPCT	Not at this moment, but there will be some workshops and seminars.
CUT	NO

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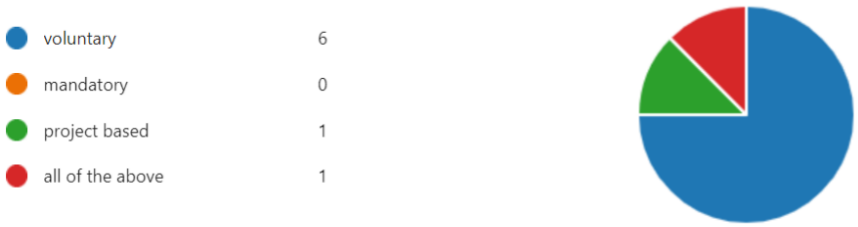
39. Is this training voluntary, mandatory or project based?

More Details



40. Does your university provide certification or badges for completed training programmes? Please supply details

More Details

8
Responses

Latest Responses
"No"
"It depends on the training program."
"Yes, any training attendee gets at least a certificate of attendance."

RTU	Certification is organised at faculty level and if some specific training is organised from outside (DCC for example)
UTT	No
TU Dublin	Not currently but thinking about it
UTCN	The university provides typically certifications for institutional postgraduate training programmes through a dedicated department addressing continuing education https://decidfr.utcluj.ro/.

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h_da	No
UPCT	Yes, any training attendee gets at least a certificate of attendance.
TUS	It depends on the training program.
CUT	No

41. Do you think it would be useful to have a common training programme on Open Research in the EUT+ with a standardised system of certification or badging?

More Details

8
Responses

Latest Responses
"Yes"
"Yes."
"Yes"

RTU	Yes
UTT	Yes
TU Dublin	Yes
UTCN	Yes
h_da	Yes
UPCT	Yes

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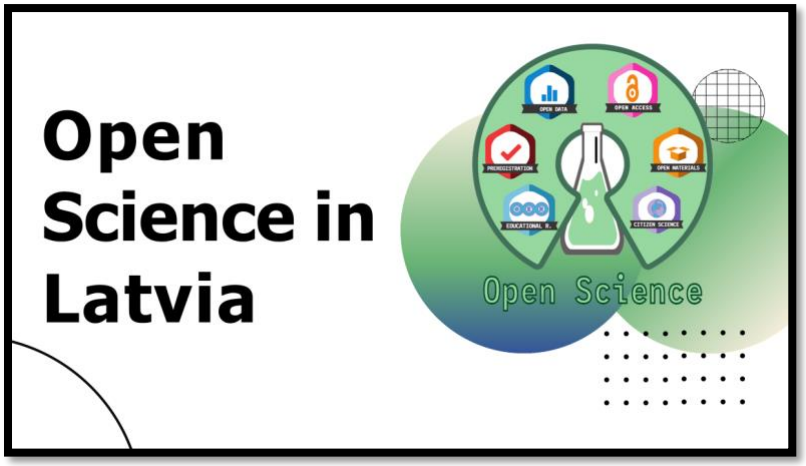
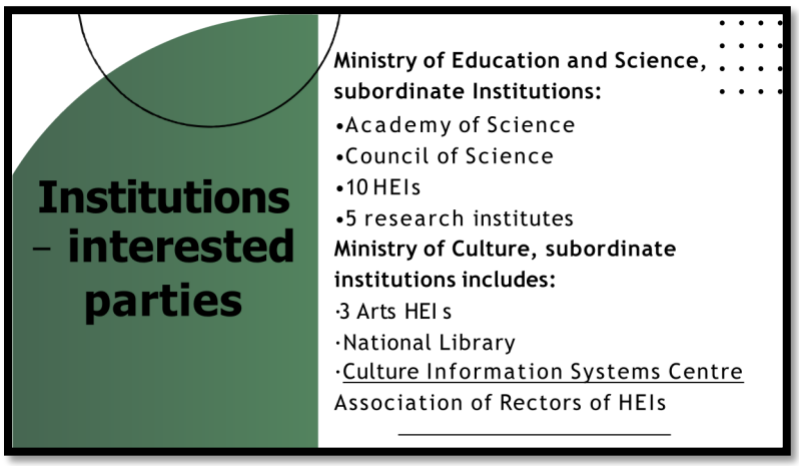
TUS	Yes
CUT	Yes

Appendix 3: National Presentations

Latvia





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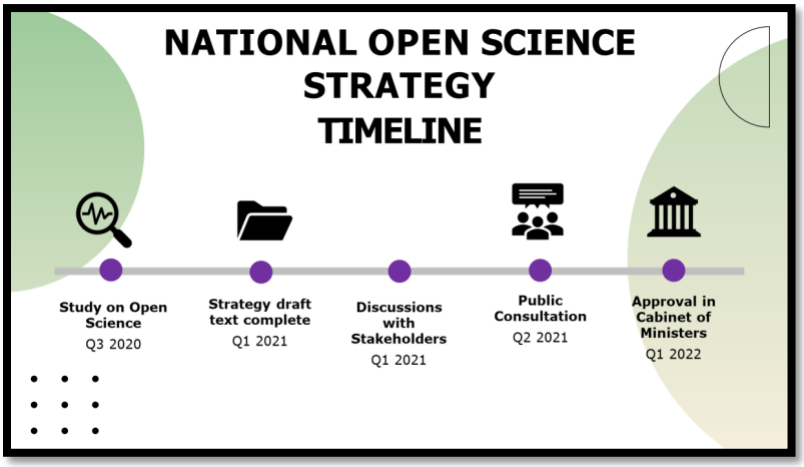
Key documents in developing the science policy of Latvia

- Law on Scientific Activity
- Guidelines for Scientific, Technological Development and Innovation in 2021-2027

Development of National Open Science Strategy and Roadmap

Ministry of Education and Science of the Republic of Latvia initiated the Open Science Latvia landscape research with the aim to develop a roadmap for implementing open science in Latvia, and to make recommendations for a national Latvian open science policy.

NATIONAL OPEN SCIENCE STRATEGY TIMELINE



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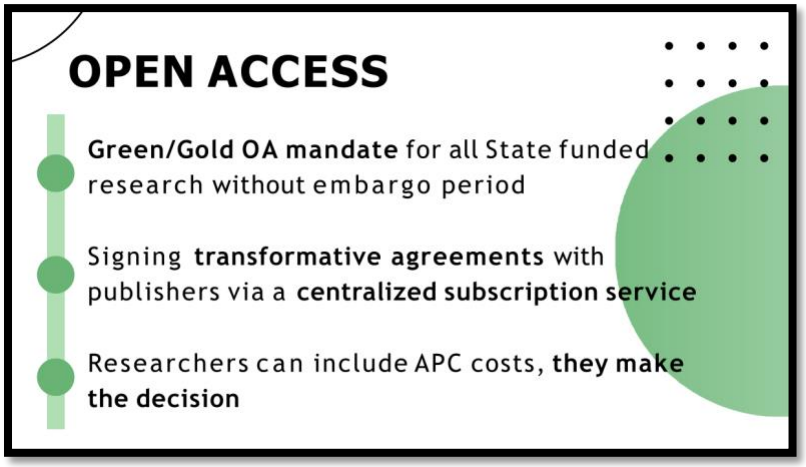
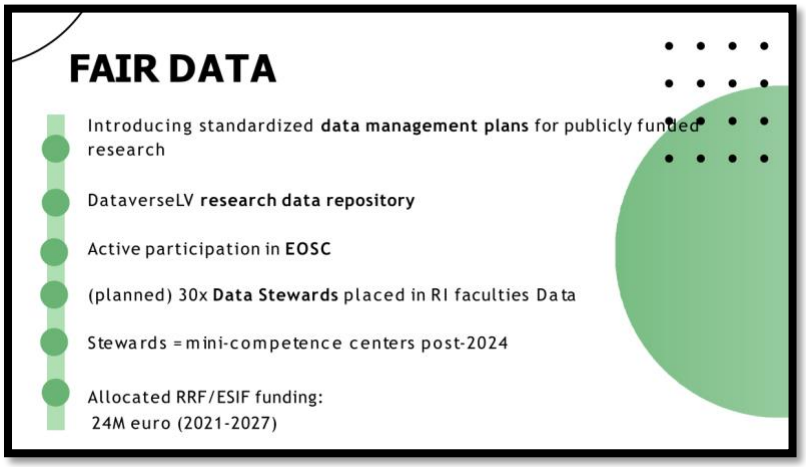
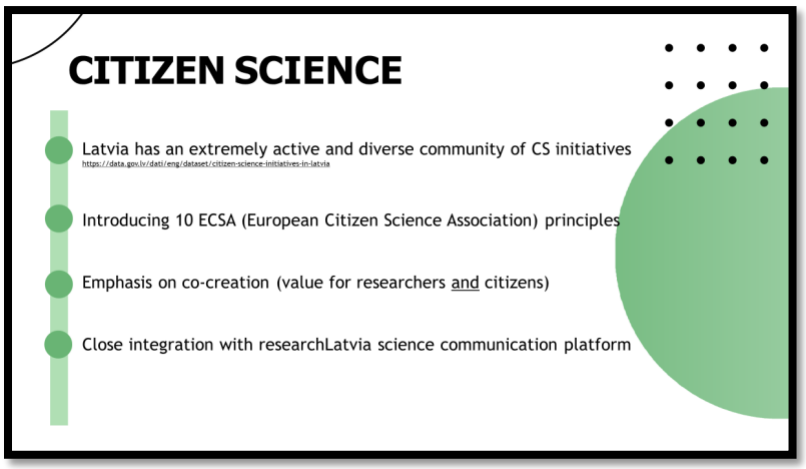






Co-funded by the European Union

Co-funded by the European Union

APC COVERAGE

EU Project budgets cover APCs for publications in OA peer reviewed journals

In partnership with countries' library consortia, EIFL has negotiated a number of agreements with publishers that secure waived or discounted Article Processing Charges (APCs) for corresponding authors, to publish articles in open access at a waived or reduced fee.

Research and education institution have internal policies on covering article processing costs (APCs)

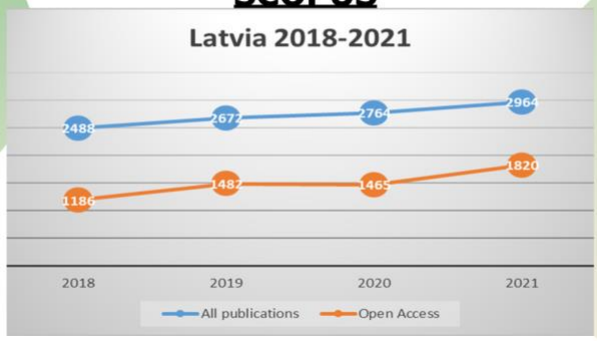
e.g. RTU researchers
1)can apply for financial support from RTU Research Support Fund towards APCs in Conference proceedings and OA journals indexed in SCOPUS or WOS (250EUR)
2)Publish in RTU scientific journals (diamond access). APC costs for articles by RTU and non-RTU authors are covered by RTU

The strategy of Latvian OS policy intend that the state funded projects will include APCs as attributable costs

RESEARCH EVALUATION

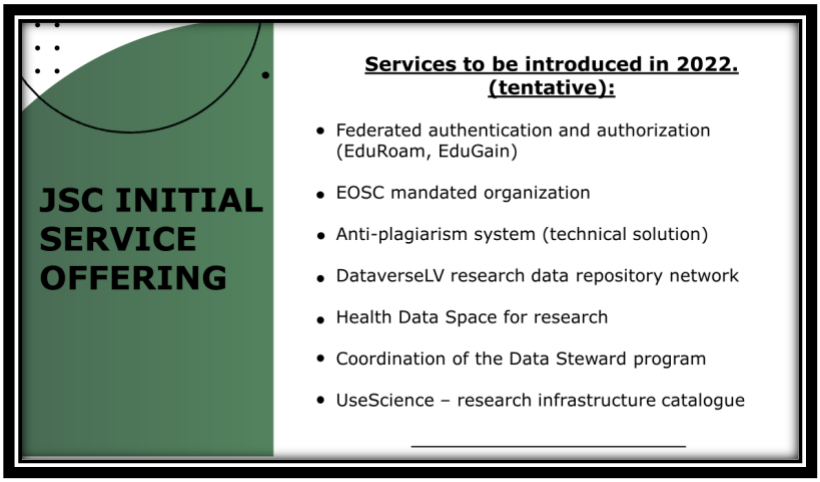
- All HEIs and Research Institutes are state funded. Ministry of Education and Science allocates funding on basis of evaluation. One of the most important research evaluation criteria is the number of publications indexed in SCI databases. Research data are not yet in the list of criteria
- Ministry of Education and Science pay great attention to the **world university rankings**. One of the criteria in ratings is data on number of citations in SCI databases
- Each institution has its **own system of internal evaluation** to further divide the allocation among its structural units
- **Open Access is still to be included in the evaluation criteria**

OA PUBLICATIONS IN SCOPUS



Co-funded by the European Union


JOINT HIGHER EDUCATION AND SCIENCE IT SERVICE CENTER
• New organization which will provide joint IT services for RIs
• Funded by universities, co-funded by Ministry
• Modelled on CSC in Finland
• Mandated organization in EOSC association
• Will organize stakeholder involvement (via stakeholder forum, etc.)
• Expected to open in 2022


JSC INITIAL SERVICE OFFERING
Services to be introduced in 2022. (tentative):
• Federated authentication and authorization (EduRoam, EduGain)
• EOSC mandated organization
• Anti-plagiarism system (technical solution)
• DataverseLV research data repository network
• Health Data Space for research
• Coordination of the Data Steward program
• UseScience – research infrastructure catalogue

Bulgaria


EUROPEAN UNIVERSITY OF TECHNOLOGY
EUt+ Work Package 8.6-7
Open Science* Initiative in Bulgaria
and
Institutional Repository of Technical university of Sofia
*The concept of Open Research in Bulgaria is equated to the concept of Open science; The term Open Research is most commonly referred to as "open access to research data")

EUt+ Work Package 8.6-7

The main document outlining the vision, goal, practice, planning and financial framework of the Open Science Initiative is the National Plan for the Development of the Open Science Initiative in the Republic of Bulgaria, approved by the Ministry of Education and Science (MES) in January 2021

According to this plan, "open science is a new approach to the scientific process based on collaboration and new ways of disseminating knowledge through the use of digital technologies and new tools for cooperation". The initiative are:

- improving the efficiency of science funding
- increasing the transparency and quality of research
- Accelerate knowledge transfer
- Facilitate the dissemination of knowledge and its reach to citizens and businesses

At European level, open, data-driven and networked research can maximize Europe's digital potential by stimulating faster and wider innovation.

EUt+ Work Package 8.6-7

The main objective is to provide access to scientific publications peer-reviewed by independent experts, reliable research data and results in an open and non-discriminatory manner at the earliest possible stage in the dissemination process, and to enable their use and re-use.

For its implementation it is envisaged to achieve unification and interoperability of the existing data infrastructures; clear and effective links between the various bodies that make up the framework of the European Open Science Cloud (EOSC); objective and transparent criteria for the selection and participation of representatives and stakeholders from Member States and Associated States; comprehensiveness and openness of the EOSC governance framework and development of EOSC scientific expertise.

EUt+ Work Package 8.6-7

In Bulgaria operate – „Bulgarian Open Science Cloud (BOSC)", which aims are to coordinate research organizations, universities and research infrastructures at the national level to create integration and compatibility with the principles, standards, technologies and architecture European Open Science Cloud. This Bulgarian Open Science Cloud is built from the National Center for Information and Documentation (NACID), through the Bulgarian Portal of Open Science (BPOS) - https://bpos.bg

(BPOS and its national repository have been developed and maintained by the Minister of Education and Science through NACID)

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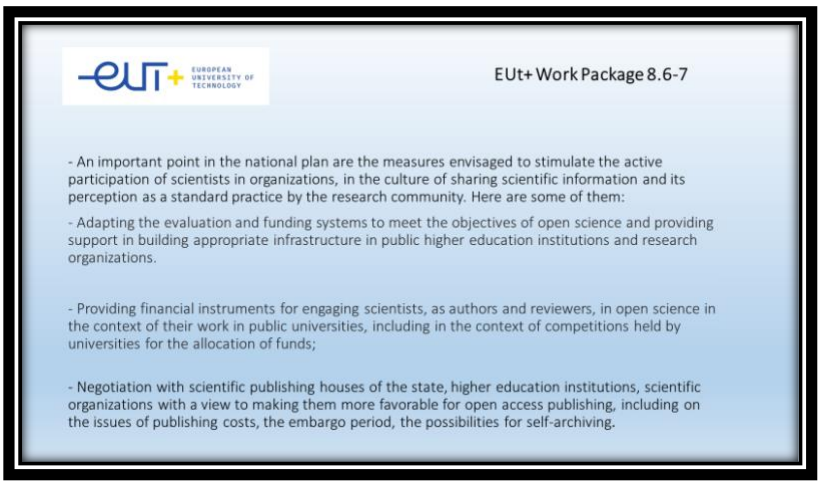
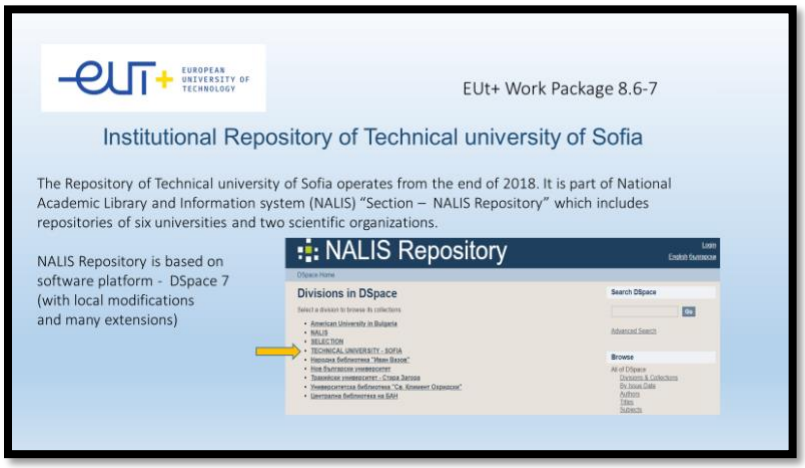
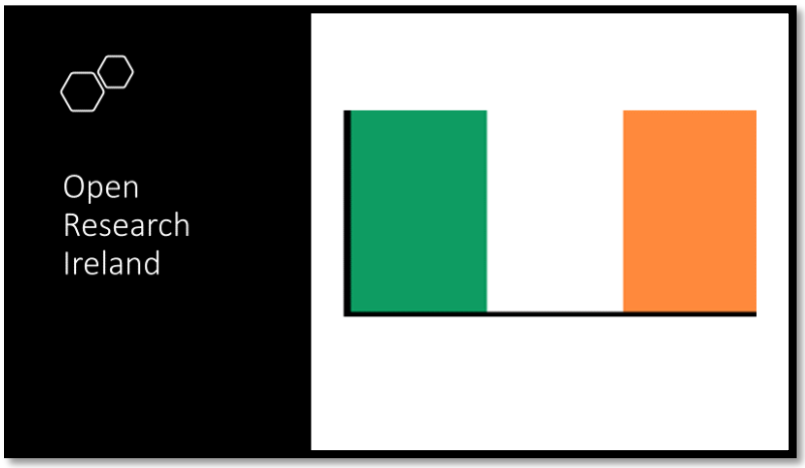


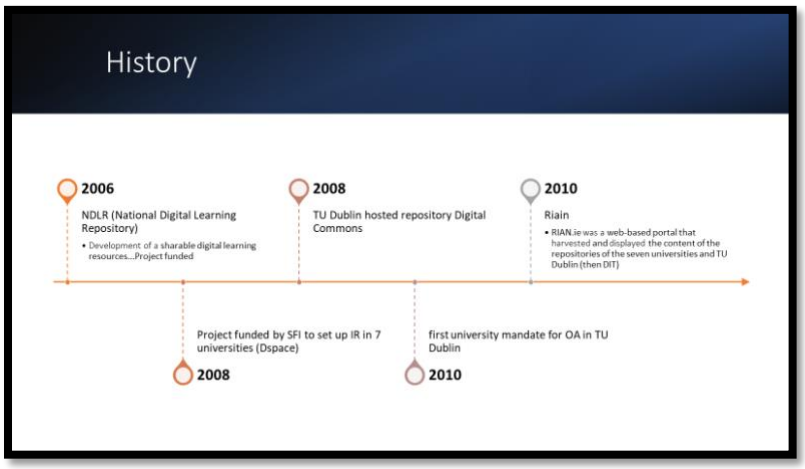
Co-funded by the European Union

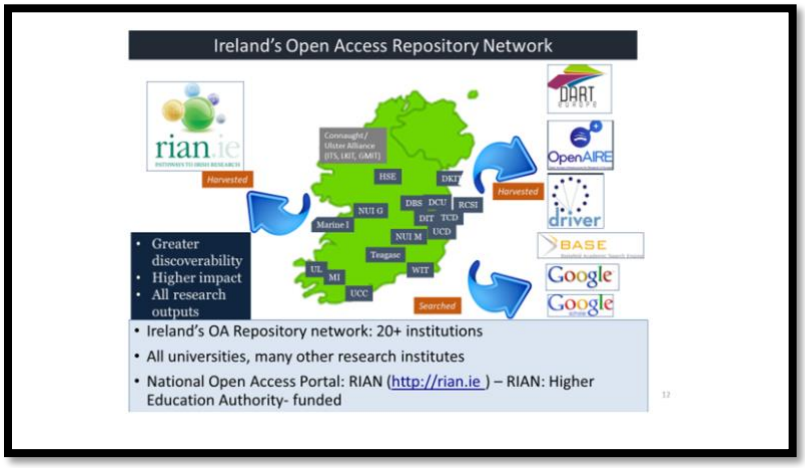


Ireland

Co-funded by the European Union


Open
Research
Ireland


History
2006
NDLR (National Digital Learning Repository)
• Development of a sharable digital learning resources...Project funded
2008
TU Dublin hosted repository Digital Commons
2010
Riain
• RIAN.ie was a web-based portal that harvested and displayed the content of the repositories of the seven universities and TU Dublin (then DIT)
Project funded by SFI to set up IR in 7 universities (Dspace)
2008
first university mandate for OA in TU Dublin
2010


Ireland's Open Access Repository Network
rian.ie
Harvested
Harvested
Searched
• Greater discoverability
• Higher impact
• All research outputs
• Ireland's OA Repository network: 20+ institutions
• All universities, many other research institutes
• National Open Access Portal: RIAN (http://rian.ie) – RIAN: Higher Education Authority- funded

https://www.dri.ie/sites/default/files/files/National%20Principles%20on%20Open%20Access%20Policy%20Statement%20(FINAL%2023%20Oct%202012%20).pdf


National Principles for Open Access Policy Statement

National Committee on Open Access policy statement 2012

- Academic Freedom
- Green Route
- Repository route
- Existing infrastructure
- Universities/Funders

Health Research Board

- Premier funder for health research in Ireland.
- Policy on Open Access 2014 https www.hrb.ie/funding/manage-a-grant/grant-policies/open-access/.

  "The HRB has a fundamental interest in ensuring that the availability and accessibility of this output is not adversely affected by the copyright, marketing and distribution strategies used by publishers (whether commercial, not-for-profit or academic)."
- Favours green route

  "The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited".

HRB Open Research Platform 2017

- Publishing platform for their funded research
- Fast immediate publishing
- Wide range of outputs
- Costs paid by the HRB

- Up to this point OR in Ireland work of individuals and some of the Universities
- Needed national approach/infrastructure
- Had to have the backing/involvement of government

Co-funded by the European Union

- Premier funder for health research in Ireland.
- Policy on Open Access 2014 https
  www.hrb.ie/funding/manage-a-grant/grant-policies/open-access/.
  "The HRB has a fundamental interest in ensuring that the availability and accessibility of this output is not adversely affected by the copyright, marketing and distribution strategies used by publishers (whether commercial, not-for-profit or academic)."
- Favours green route
  "The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited".

National Open Research Forum 2017

The role of NORF is to propose national actions to address the challenges of changing the Irish research system to strengthen, promote or better support open research practices as outlined in the National Framework. NORF was tasked with developing a National Action Plan for the transition to an open research environment.

NORF is co-chaired by the Higher Education Authority (HEA) and the Health Research Board (HRB) with secretariat from the Department of Further and Higher Education, Research, Innovation and Science (DFHERIS). It is coordinated by the National Open Research Coordinator Dr. Daniel Bangert

Structure

- Steering Group
- NORF Core Oversight Group
- Funders Forum
- Working Groups
  - Open Access
  - Fair Data
  - Infrastructures
  - Skills and Competencies
  - Incentives & Rewards

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Transition to OR

- NORF prepared Ireland's National Framework on the Transition to an Open Research Environment, launched by the Government of Ireland in July 2019.
- Stronger than the National Principles
- All publications to be available as open access
- Every researcher access to a repository
- Must carry CC license
  Authors/institutions retain copyright
- Transparency in deals with publishers
- Data "as open as possible, as closed as necessary"
- Data should be made FAIR

Work of NORF

- All interested parties
- Government Involvement
- Widescale consultation
- Number of briefing documents
- Final report
- National Open Research Landscape Report
  - **DOI:** https://doi.org/10.7486/DRI.5q485c938 (December 2021)
- Feb 2022 Government gives 1.725 million to "support the uptake and implementation of open research practices in Irish Education and the wider research system".

Next steps

- Working groups submits proposals
- Small initiatives/infrastructural
- Steering group evaluates
- Resources allocated
- National Plan

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Research Evaluation

- No national evaluation exercise
- Institutions do their own
- Each institution agrees targets with HEA
- Only kpi relevant to OR is % of OA material

Target the world with the right arrow

Arrow@TU Dublin

Institutional Repository of Technological University Dublin

Arrow@TU Dublin

- 2007 IRs established in 7 Irish universities with national funding
- 2008 TU Dublin (then DIT) funded establishment of its own IR
- Universities are Dspace
- Arrow is a hosted service by Digital Commons
- All repositories harvested by RIAN (National Research Portal)

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Strategy

- TU Dublin (then DIT) seeking University Status
- IR was integral part of that strategy
- Most of TU Dublin research is applied, not prominent in the literature
- Big campaign to encourage academics to engage
- Uploaded 1,000 items in the first year
- 2008 TU Dublin first university mandate for open access in Ireland

Contents

- Open to all staff and students
- Aims for variety of formats
- Includes non-peer reviewed
- Open Educational Resources
- All research theses digitised and available
- Publish 11 journals (difference audiences)
- Most downloaded items are theses and working papers
- Heavily used by Engineering and Computer Departments
- Working on providing metadata records for datasets

17,551 works posted
10,930,790 downloads
237 Countries
88,031 institutions

Top 10 Countries downloading
Ireland
United States
United Kingdom
India
Philippines
China
Malaysia
Germany
Canada
Australia

Arrow downloads 2008 –Feb 2022

All content available **Creative Commons Attribution Non-Commercial Share Alike 4.0 International Licence.**

Member of the Digital Commons Network: open access resources of 668 universities as one searchable resource

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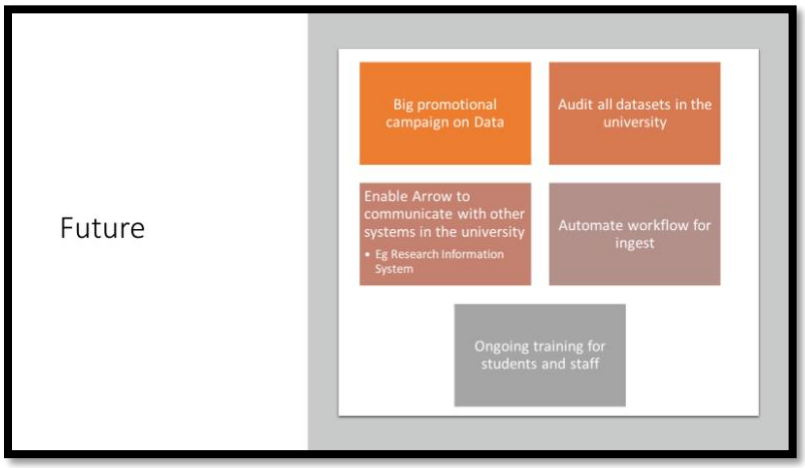
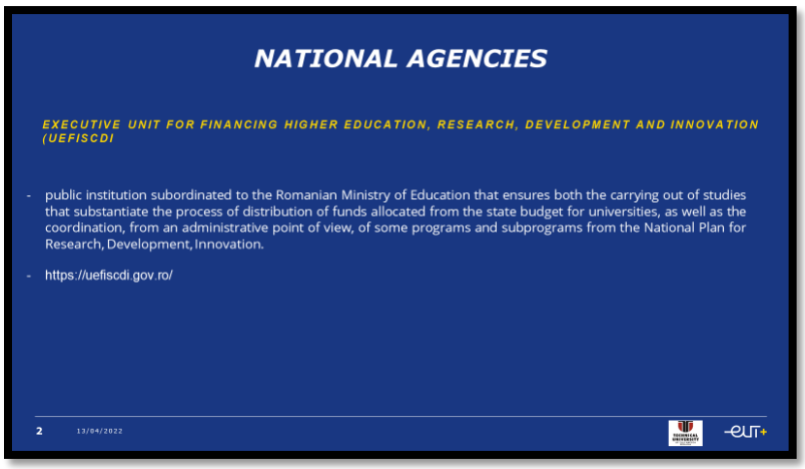


Romania



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NATIONAL INITIATIVES

OPEN SCIENCE KNOWLEDGE HUB ROMANIA

- coordinated by UEFISCDI
- https://uefiscdi.gov.ro/open-science-hub
- initiative created with the dual mission of providing national support and being the main connector with international initiatives in terms of open science, free access to publicly funded scientific results.
- through the hub, UEFISCDI aims to provide support to research and innovation communities, contribute to setting the national agenda towards an open system of research results and contribute to the EU Open Science Strategy by:
  - creating and maintaining a platform for dialogue at national level for disseminating relevant information and discussing the needs of the scientific community, decision-makers and other categories of actors interested in open science;
  - coordinating the process of developing the national open science strategy;
  - managing a portfolio of open science and innovation projects based on freely shared data;
  - facilitating alignment with European policies and initiatives by engaging in international networks, such as current collaborations as national representative of OpenAIRE, NI4OS (National Initiatives for Open Science), RDA (Research Data Alliance).

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OPEN SCIENCE KNOWLEDGE HUB ROMANIA - MAIN ACTIVITIES

- improving access to information and supporting actions related to open science, as an OpenAIRE National Open Access Desk NOAD in the OpenAIRE Advance (*OpenAIRE Advancing Open Scholarship)* project (H2020, January 2018 – December 2020). More details: https://uefiscdi.gov.ro/openaire-advance
- participation of the UEFISCDI a national representative in the pan-European RDA network with the role of "RDA Node Romania" in the RDA Europe 4.0 project, ensuring guided access to information on practices, methods, current technologies for sharing research data. More details:https://uefiscdi.gov.ro/research-data-alliance-rda.
- supporting national initiatives that can contribute to the development of the European Open Science Cloud as part of the NI4OS-Europe project ("National Initiatives for Open Science in Europe", H2020, September 2019 – August 2022). More details: https://uefiscdi.gov.ro/national-initiatives-for-open-science-ni4os
- development of the national strategic framework for open science, together with the Ministry of Education, within the project " Creșterea capacității sistemului CDI de a răspunde provocărilor globale. Consolidarea capacității anticipatorii de elaborare a politicilor publice bazate pe dovezi - SIPOCA 592" POCA 127557. More details: https://uefiscdi.gov.ro/open-science-in-romania

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TOOLS FOR SUPPORTING OPEN SCIENCE IN ROMANIA

BRAINMAP - THE ONLINE COMMUNITY OF RESEARCHERS, INNOVATORS, TECHNICIANS AND ENTREPRENEURS

- also an UEFISCDI initiative
- https://www.brainmap.ro/
- Initially used for research projects evaluation become a collaborative tool helping the create a community for the actors involved in research, innovation and entrepreneurial activities, providing reliable information related to publications, patents, projects, calls, institutions, specific expertise and skills, research infrastructures, easily filtered according to the users' needs and interests

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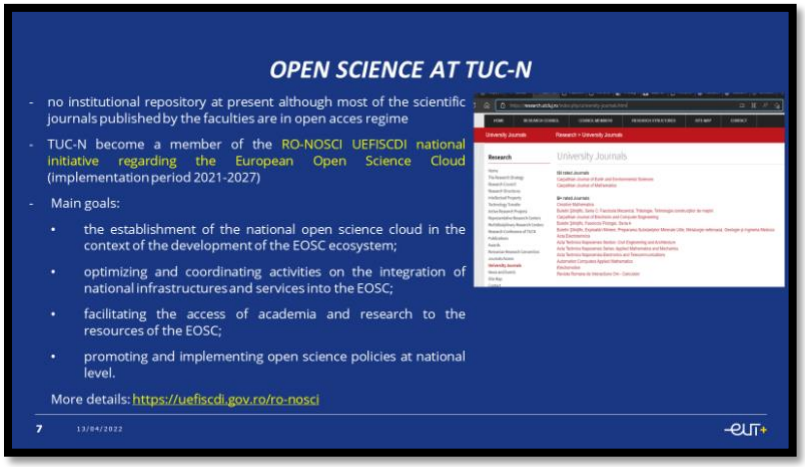
TOOLS FOR SUPPORTING OPEN SCIENCE IN ROMANIA
THE ENGAGE IN THE EUROPEAN RESEARCH INFRASTRUCTURE SYSTEM (ERRIS) PLATFORM
- "facebook of things" in which research infrastructures are "actors", having the opportunity to make their services known in a market as wide and diverse as possible.
- http://erris.gov.ro/
6
13/04/2022


OPEN SCIENCE AT TUC-N
- no institutional repository at present although most of the scientific journals published by the faculties are in open acces regime
- TUC-N become a member of the RO-NOSCI UEFISCDI national initiative regarding the European Open Science Cloud (implementation period 2021-2027)
- Main goals:
• the establishment of the national open science cloud in the context of the development of the EOSC ecosystem;
• optimizing and coordinating activities on the integration of national infrastructures and services into the EOSC;
• facilitating the access of academia and research to the resources of the EOSC;
• promoting and implementing open science policies at national level.
More details: https://uefiscdi.gov.ro/ro-nosci
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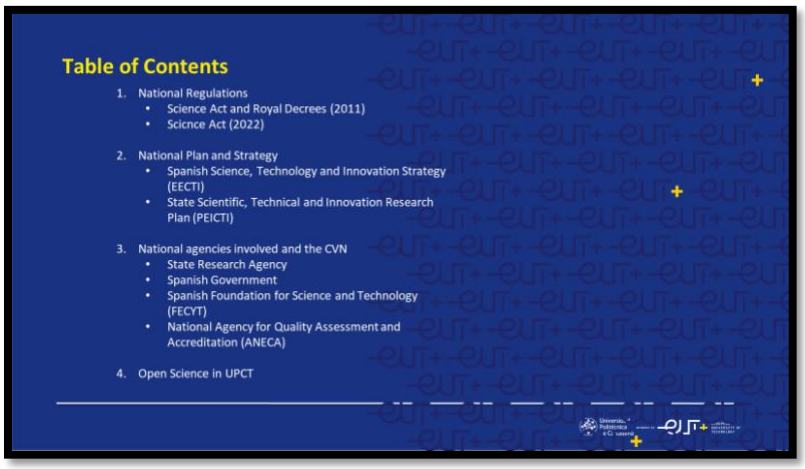
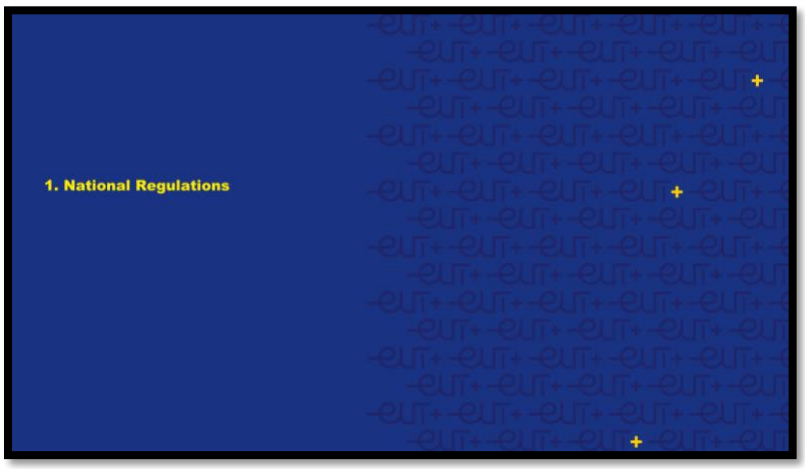
Spain





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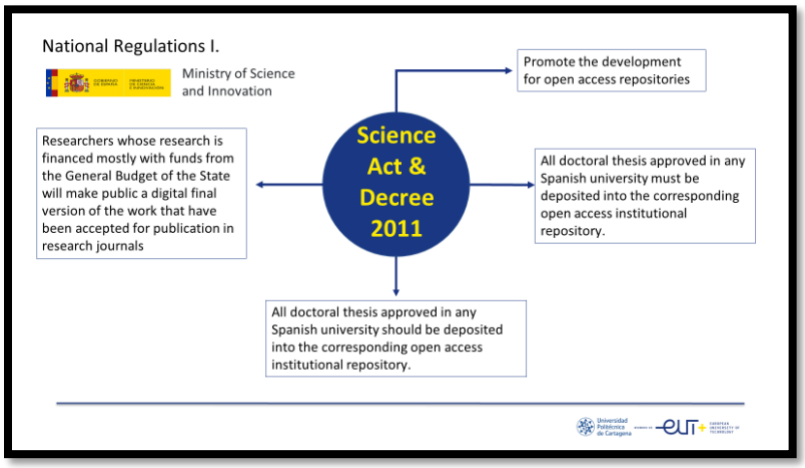

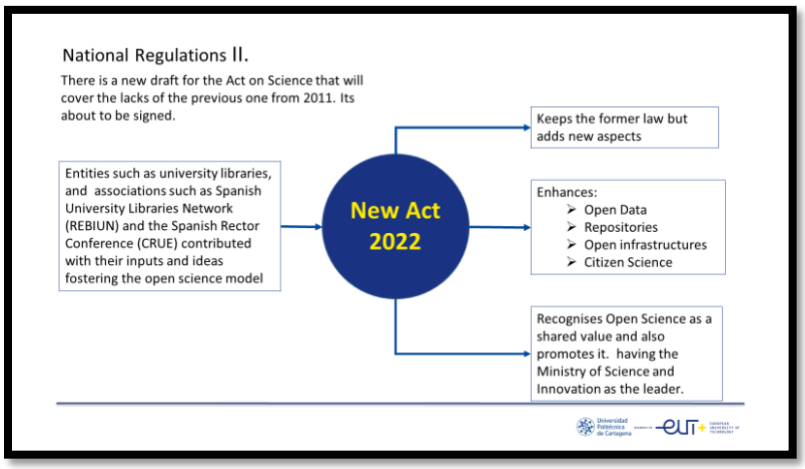

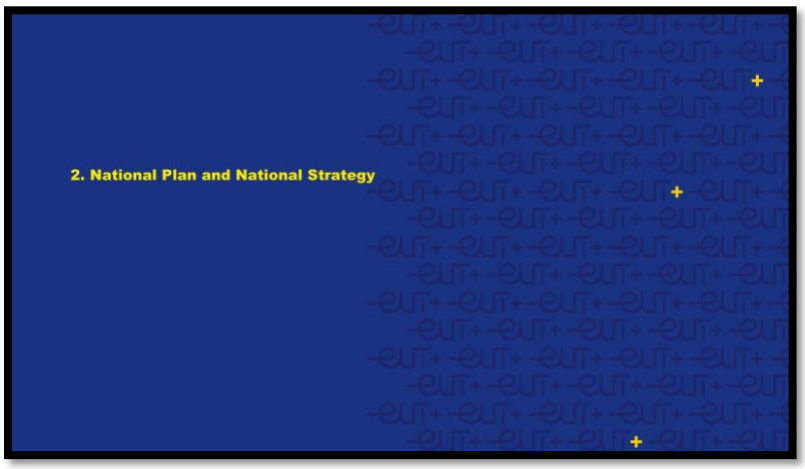

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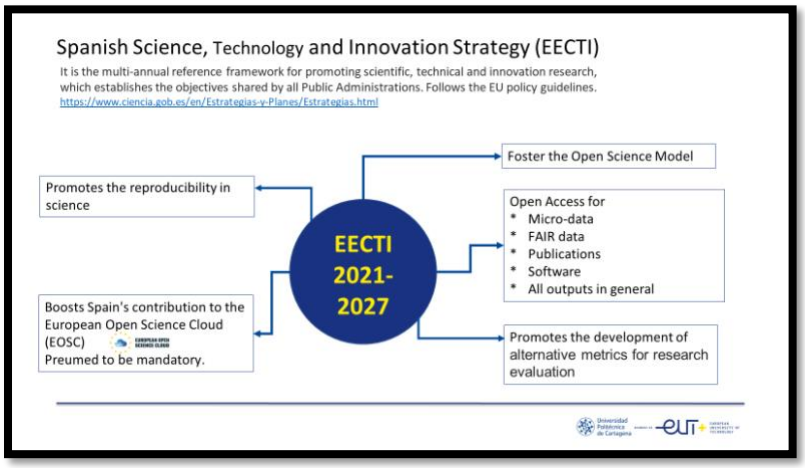

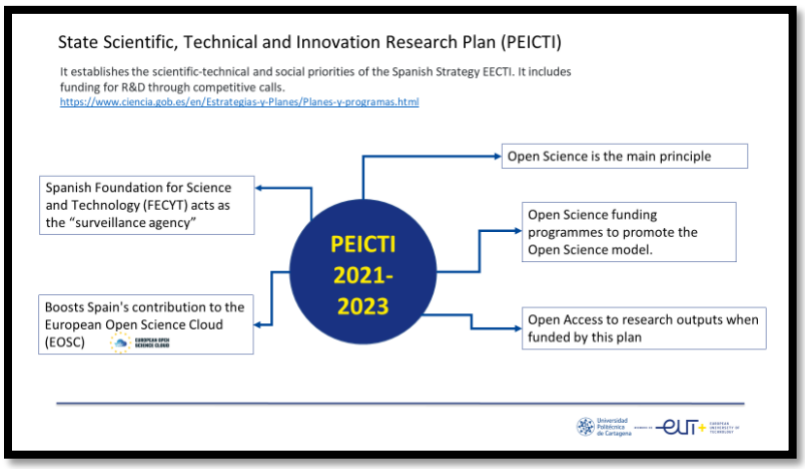

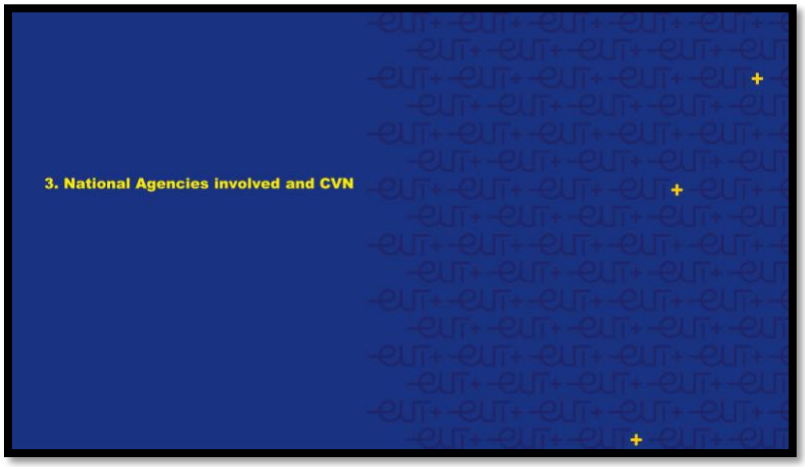

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Universities in Spain are free to establish any kind of indicators and metrics internally, but there are two entities that hold the research evaluation at a national level:

- ✓ The National Agency for Quality Assessment an Accreditation (ANECA in Spanish)
- ✓ The State Research Agency (AEI in Spanish).

The ANECA basically certifies high school institutions, careers and professors, whereas the second one (AEI) provides public funding to research projects.

Several aspects are taken into account when it comes to researcher evaluation. All of them are collected in the so call CVN (digital standardised curriculum), it provides a standard content and format for researchers' CVs and a link to a fully integrated registry of researchers.

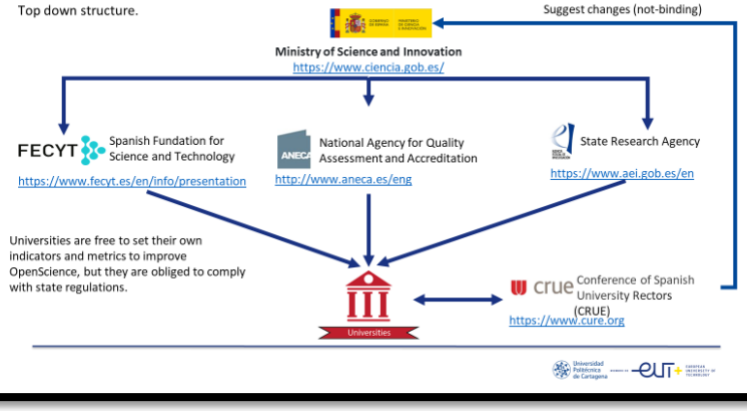
The CVN consist of :

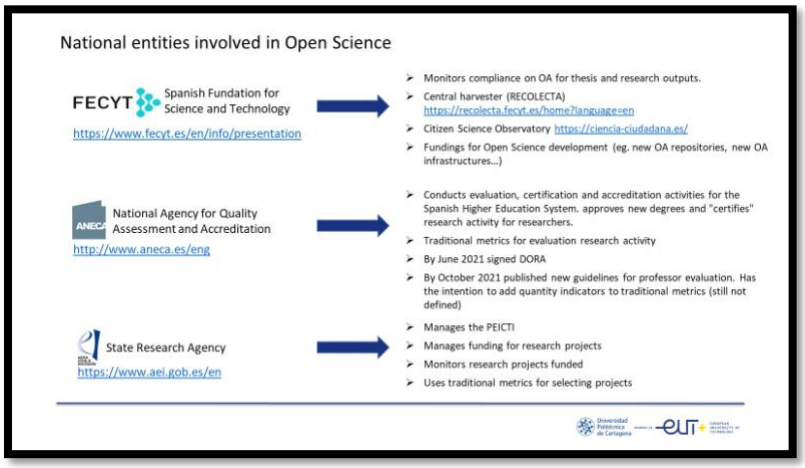
- ✓ Former and present professional situation including managing activities.
- ✓ Academic background.
- ✓ Academic activity (Supervised thesis, academic experience, academic publicatgions, educational innovation projects, etc.).
- ✓ Scientific and technological experience (research projects as leader or a researcher, contracts and agreements with companies).
- ✓ Scientific and technological activities (publications such as journal articles, congress participation and publication of proceedings, other technical publications, standards, activities as peer reviewer or scientific comitee member, stays at prestigious academic or research centres, research outreach activties).

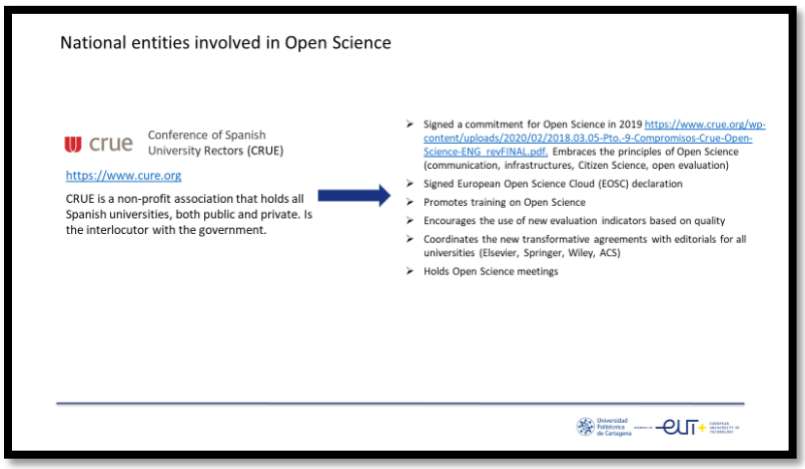
Quality levels of research publications are different depending on the kowledge area.

National entities involved in Open Science

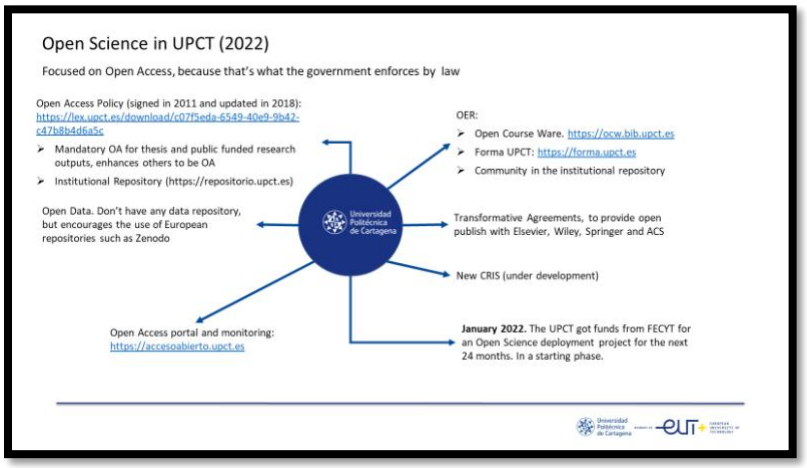
Top down structure.




National entities involved in Open Science
FECYT Spanish Fundation for Science and Technology
https://www.fecyt.es/en/info/presentation
Monitors compliance on OA for thesis and research outputs.
Central harvester (RECOLECTA) https://recolecta.fecyt.es/home?language=en
Citizen Science Observatory https://ciencia-ciudadana.es/
Fundings for Open Science development (eg. new OA repositories, new OA infrastructures...)
National Agency for Quality Assessment and Accreditation
http://www.aneca.es/eng
Conducts evaluation, certification and accreditation activities for the Spanish Higher Education System. approves new degrees and "certifies" research activity for researchers.
Traditional metrics for evaluation research activity
By June 2021 signed DORA
By October 2021 published new guidelines for professor evaluation. Has the intention to add quantity indicators to traditional metrics (still not defined)
State Research Agency
https://www.aei.gob.es/en
Manages the PEICTI
Manages funding for research projects
Monitors research projects funded
Uses traditional metrics for selecting projects


National entities involved in Open Science
crue Conference of Spanish University Rectors (CRUE)
https://www.cure.org
CRUE is a non-profit association that holds all Spanish universities, both public and private. Is the interlocutor with the government.
Signed a commitment for Open Science in 2019 https://www.crue.org/wp-content/uploads/2020/02/2018.03.05-Pto.-9-Compromisos-Crue-Open-Science-ENG_revFINAL.pdf. Embraces the principles of Open Science (communication, infrastructures, Citizen Science, open evaluation)
Signed European Open Science Cloud (EOSC) declaration
Promotes training on Open Science
Encourages the use of new evaluation indicators based on quality
Coordinates the new transformative agreements with editorials for all universities (Elsevier, Springer, Wiley, ACS)
Holds Open Science meetings


4. Open Science in UPCT



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Appendix 4: Report from the Metrics Sub-Group

Landscape report on research evaluation and recommendations for an EUt+ Research Evaluation Policy.

National policies

1. Germany

There is no national standard for the evaluation of research in Germany. Most institutions use classic metrics, i.e., impact factor, h-factor or similar. In addition to the number of publications - articles as well as monographs - the number of papers given at national or international conferences, the election to committees of the respective professional society are often used as criteria. Furthermore, the acquisition of research funds (third-party funding) is evaluated. The last component for the evaluation is the promotion of young researchers, i.e., how many doctoral students were supervised.

There are various efforts to add other metrics, but this has not yet been widely adopted. The large national research organisations are looking at this, and various large universities are also involved. Currently, Germany is very much involved in strategic activities regarding open access for publications and research data, or open educational resources, which is a prerequisite to use metrics.

Research Data

The systematic and structured handling of research data has gained significant attention in recent years. Activities at international level such as the European Open Science Cloud or the Research Data Alliance (RDA) have contributed significantly to this. In Germany, the first steps towards the world of open data have been taken by the major project sponsors. For example, in spring 2022 the German Research Foundation (DFG) renewed its guidelines for handling research data.[1] With its Action Plan for Research Data, the Federal Ministry of Education and Research is providing an important impetus for an improved data culture in education, science and research - and is thus

laying the foundations for innovation as well as a competent and sovereign exchange of digital data.[2]

The most important activity in Germany with respect to research data is the financing of the German National Research Data Infrastructure (NFDI).[3]Valuable data from science and research will be systematically accessed, networked and

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made usable in a sustainable and qualitative manner for the entire German science system. The NFDI aims to create a permanent digital repository of knowledge as an indispensable prerequisite for new research questions, findings, and innovations. Relevant data will be made available according to the FAIR principles (Findable, Accessible, Interoperable and Reusable).[4] The NFDI is organised by different consortia, mostly associations of various institutions within a research field. Darmstadt University of Applied Sciences is involved in several consortia, more on this elsewhere.

Open Educational Resources

Another field for openness and indicators is Open Educational Resources. Being very late with respect to developments in other countries Germany started a national initiative with the establishment of a central OER information portal[5]and more than 20 projects for the qualification of educational staff. Actually, a national strategy is expected to be published in early summer of 2022.

Open Access

The topic of Open Access has played a central role in Germany from the very beginning. The Berlin Declaration on Open Access[6] was adopted in 2003 and more than 560 institutions worldwide have now signed it. It is the de facto standard in Germany, shared by universities and research associations. The DFG has created corresponding funding instruments that can provide financial support to researchers for OA publications.

The DEAL[7] project was initiated in 2014 by the Alliance of German Science Organisations to negotiate new contract models in Germany, particularly with the three major scientific publishers Elsevier, Springer Nature and Wiley. The starting point for this was the orbitally rising licence and subscription fees for journals, which meant that it would no longer have been possible to guarantee a comprehensive supply of literature and information in the long term. In the meantime, corresponding publishing agreements have been concluded with Springer Nature and Wiley, which ensure a Germany-wide supply of literature from these publishers and at the same time promote publishing in Open Access - Publish-and-Read-Agreement. These national activities led to a call by the German Council of Science and Humanities in the spring of 2022 for open access to be established as the standard, since only through free and permanent access to scientific publications can research be strengthened, social reception increased, and economic viability enhanced.[8]

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[1] https://www.dfg.de/en/research_funding/announcements_proposals/2022/info_wissenschaft_22_25/index.html

[2] https://www.bildung-forschung.digital/digitalezukunft/de/unsere-ueberzeugungen/digitalstrategie-des-bmbf/aktionsplan-forschungsdaten/aktionsplan-forschungsdaten_node.html

[3] https://www.nfdi.de/?lang=en

[4] https://www.go-fair.org/fair-principles/

[5] https://open-educational-resources.de/ueber-oerinfo/about-the-information-service-oer/

[6] https://openaccess.mpg.de/Berliner-Erklaerung

[7] https://www.projekt-deal.de/aktuelles/

[8] https://www.wissenschaftsrat.de/SharedDocs/Pressemitteilungen/DE/PM_2022/PM_0222.html

2. France

National research evaluation in France is handled by the HCERES, an independent administrative authority dedicated to the evaluation of higher education and research. It therefore evaluates universities, courses and research units.

Regarding Research Units, the evaluation is twofold

- Qualitative self-evaluation : Statistics regarding researchers and PHD students, theses.
- Quantitative evaluation with the Observatory of Science and Technology
- The HCERES uses 3 sources of information:
- The publications that the university considers the most representative

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- The publications deposited or reported on the national open archive (HAL)
- The publications identified by Web of Science

The HCERES then analyses said publications on the previous 5 years

- By type of documents, domains crossed with their percentage published in Open Access, either Green or Gold
- By type of publisher (academic press, national or international publisher)
- A complex open access algorithm compares the percentage of open access publication of the institution with that of the country or at an international level depending on the domain.

  For a given domain (j), the algorithm (Taux d'Accès Ouvert, TAO) compares the access to the open publications (x) of the institution or the country (i) (TAOij = OAij / xij) with the worldwide access to any open publication belonging to said Research domain (X) : (TAOwj = OAwj / Xwj). The normalised open access ratio (Taux d'Accès Ouvert Normalisé, TAON) is therefore TAONSij = (OAij / xij) / (OAwj / Xwj) .

The ANR, the French national funding agency, also evaluates the research projects it funds based on 3 criteria

· Quality control:

  - Clarity of the research objectives and hypothesis
  - Innovation
  - Methodology and risk management

· Organisation

  - Expertise of the project coordinator and his/her partners.
  - Adequation between the objectives and the resources dedicated to it.

· Impact

  - Scientific and socioeconomic or cultural impact
  - How it completes existing research or benefits France or Europe
  - Dissemination and valorisation of research results (which involves open access strategy.

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It should be noted that the open publication of the articles related to the project is mandatory. The research manager is also required to create a data management plan, in part to clarify the open publication (or lack thereof) of the research data.

3. Latvia

There is no national level research evaluation policy or specific institution for research evaluation. The Latvian Ministry of Science and Education has a new Research, Technology and Innovation Policy where one of the main goals is – research excellence. SciVal and InCites tools for analysis are used on a national level by the Ministry of Science and Education. Regular bibliometrics are used on national and institutional level for publication evaluation and researcher evaluation – research output, journal metrics, h-index etc. Open Access as an indicator is a new addition because of the imminent National Open Science Strategy and Policy. Open Access publications will be a new indicator in international evaluation of Latvian scientific institutions carried out every 6 years.

In order to receive national funding Latvian research institutions are evaluated and compared every year by the Ministry of Science and Education. Indicators are publications that are indexed in Scopus and Web of Science. Open Access does not play any role in this evaluation and neither does research data. New methodology will be in place in 2025 which will use bibliometric indicators such as research output in Scopus and Web of Science, publications in journal quartiles by CiteScore (Scopus) and the Journal Impact factor (Web of Science). Publications in Q1 journals will have the biggest weight, then Q2, then all other publications that are indexed in Scopus and Web of Science. Also, publications with 1000+ authors will have a significantly smaller weight unless the author is the first or last author on the authors list (showing that author has been heavily involved in the research).

For researchers, there is legislation issued by the Cabinet of Ministers called “Procedures for Evaluating the Scientific and Teaching Qualifications or Results of Artistic Creation Work of an Applicant for the Position of Professor or Associate Professor and of a Professor or Associate Professor Holding the Position”. The number of scientific publications, scientific monographs demanded of an applicant for the position depends on a field of research as the required number differs. Indicators are number of scientific publications and h-index.

4. Spain

Universities in Spain are free to establish any kind of indicators and metrics internally, but there are two entities that hold the research evaluation at a national

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level: (1) The National Agency for Quality Assessment and Accreditation (ANECA in Spanish) and (2) The State Research Agency (AEI in Spanish). The ANECA basically certifies high school institutions, careers and professors, whereas the second one (AEI) provides public funding for research projects.

Several aspects are considered when it comes to the evaluation of researchers. All of them are collected into the CVN (digital standardised curriculum). This provides a standard content and format for researchers' CVs and a link to a fully integrated registry of researchers. The CVN consist of:

- Former and present professional situation including managing activities.
- Academic background.
- Academic activity (Supervised thesis, academic experience, academic publications, educational innovation projects, etc.).
- Scientific and technological experience (research projects as leader or a researcher, contracts and agreements with companies).
- Scientific and technological activities (publications such as journal articles, congress participation and publication of proceedings, other technical publications, standards, activities as peer reviewer or scientific committee member, stays at prestigious academic or research centres, research outreach activities).
- Quality levels of research publications are different depending on the knowledge area.

Metrics used for evaluating research outputs specifically are the one based on journal impact factor; they are quantitative rather than qualitative for both ANECA and AEI.

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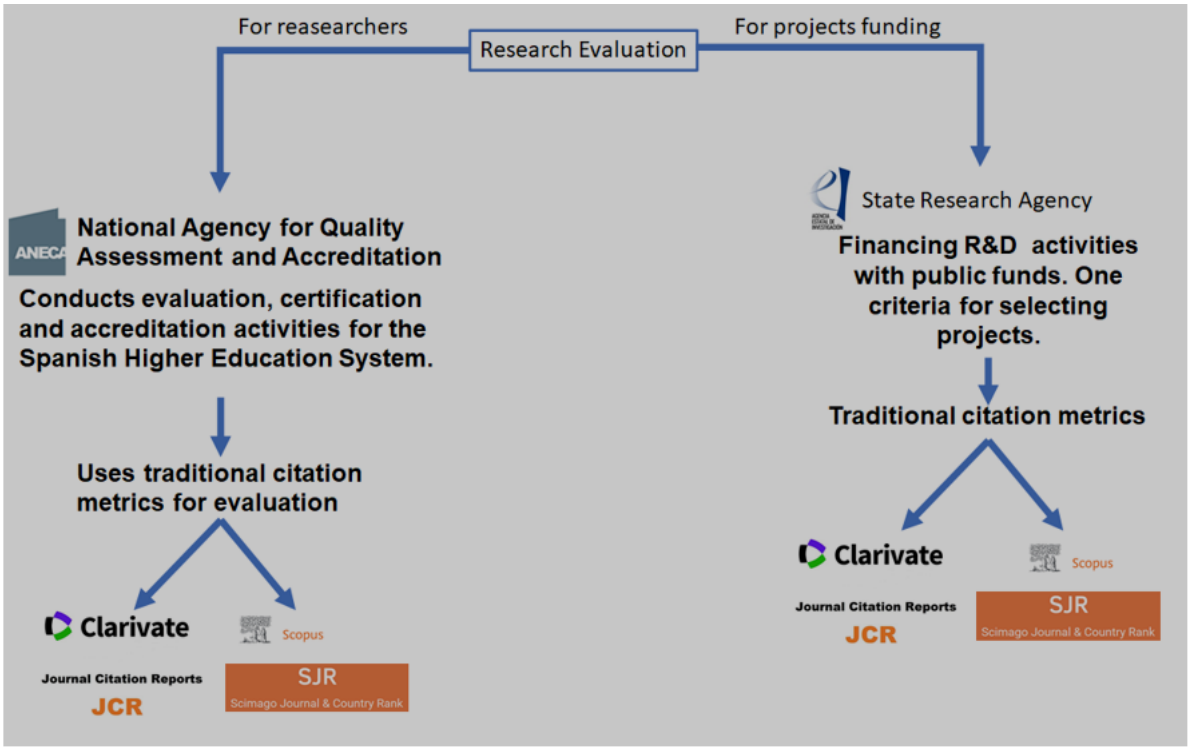

5. Romania

In Romania evaluation of research activities at the national level is carried out on several levels:

- Institutional financing of state universities by the Ministry of Education includes one component (supplementary financing) which includes research metrics and accounts for a given percentage of the total funding of the state universities. In 2022 the percentage was 26.5%.
- The Ministry of Education also allocates to state universities budgetary funds dedicated to research activities (100.000.000 lei in 2022**).** 45% of these funds' areas allocated are based on metarankings.

For the first category the indicators listed below are used.

a) Quality of human resource (IC.2.1) (14%)

The scores are based on the relative degree of fulfilment of the national standards for occupying a professor and associate professor position. National standards depend on the domain and include criteria such as: publications indexed in Web of

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Science or in international databases and a minimal number of publications in Q1 or Q2 WOS journals, number of citations, books, patents, grants/research projects, minimal number of research projects directed as a principal investigator, scores obtained for each article depending on the impact factor etc.

b) Impact of the scientific activity IC.2.2 (14%)

This is calculated for each research domain as the mean for all the researchers in the university. For each researcher the indicator is a weighted mean of the Hirsch scores (Web of Science, Google scholar, Scopus).

c) Performance of the scientific activity IC 2.3 (14%)

The indicator is calculated for each research domain as the mean- the last four years for indexed ISI, ERIH, ISI Proceedings, IEEE Proceedings or ISI Emerging articles/papers in journals/volumes ISI, ERIH, ISI Proceedings, IEEE Proceedings or ISI Emerging: Nature or Science - 15 points; ISI journals ISI (Q1 - 7 points, Q2- 5 points, Q3 and Arts Humanities - 2 points), ERIH Plus journals - 1 point; ISI Emerging - 2 points, articles in ISI proceedings and IEEE proceedings - 1 point.

d) Funds for scientific research (6%). The indicator takes into account the funds attracted or provided by the universities for the scientific research and the number of teachers or researchers within the university.

For the second category the repartition of the fund to research activities is based on the following rules:

- 20% equal fixed amount to all state universities
- 45% amount depending on a metaranking of the universities for the previous year
- 20% –for programs in priority domains and as a function of the number of students.
- 10% – accounting for the number of researchers
- 5% – score allocated based on scientific results

The metarankings taken into consideration are in 2021:

1. Academic Ranking of World Universities/ARWU (teaching and research- http://www.shanghairanking.com/)
2. Centre for World University Rankings/CWUR (teaching and research- - https://cwur.org/)
3. Leiden Ranking/CWTS (research - http://www.leidenranking.com/)

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4. Performance Ranking of Scientific Papers of World Universities/NTU (research - http://nturanking.lis.ntu.edu.tw/)
5. QS-Top Universities Ranking/QS (teaching and research- - https://www.topuniversities.com/university-rankings)
6. Scimago Institutions Ranking/Scimago (research oriented- https://www.scimagoir.com/)
7. Times Higher Education-World University Rankings/THE (teaching and research- https://www.timeshighereducation.com/world-university-rankings)
8. University Ranking by Academic Performance/URAP (research- https://www.urapcenter.org)
9. World's Best Universities Rankings/US-News (research - https://www.usnews.com/education/best-global-universities/rankings)

EUt+ universities policies (from the 2021 Survey)

Technological University Dublin

Research evaluation generally involves traditional metrics such as funding, citation counts, high quality journals and some qualitative statements. The Technological University Dublin is considering signing DORA or the Leiden Manifesto and incorporating non-traditional methods of research assessment when evaluating researchers. The University uses Scival and Scopus for research evaluation.

The University has been assured by the Commercialisation Officer that there is no conflict between open research and protection of IP.

Hochschule Darmstadt University of Applied Sciences

Darmstadt University of Applied Sciences is currently still in the early stages of implementing the national activities. Every 5 years professors are required to submit a report about their work (Hessian science law), but there is no formal standard of the process/evaluation criteria. In addition to (1) participating in research and development projects, professors shall (2) promote young scholars and artists, (3) teach courses, (4) implement resolutions of university bodies to ensure teaching, (5) mentor students and young scholars, (6) participate in study reforms and advising, (7) participate in examinations, and (8) participate in the self-governance of the university.[1] As can be seen from this, these are not exclusive criteria for the qualitative evaluation of academic performance. Appropriate reports are prepared for this purpose, which are reviewed by the responsible deaneries and the President's Office.

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In order to implement the national activities and set a corresponding framework for action at Darmstadt University of Applied Sciences is considering signing DORA or the Leiden Manifesto and incorporating non-traditional methods of research assessment is planned. The University currently uses the Web of Science for Research evaluation. The target criteria agreed between the university and the Ministry as part of the Higher Education Pact also stipulates that success criteria and metrics for recording quality in research and teaching be designed and implemented.

In association with all other universities in Hesse, a number of digital infrastructures and, from a scientific perspective, evaluation criteria and best-practice recommendations have been created since 2016. These include the Hessian Research Data Infrastructure (HeFDI), in which distributed infrastructures are designed, developed, and operated for all Hessian universities. This collaborative approach has shown itself to be an enormous strength in recent years, as it allows standards to be effectively developed at the state level while the project is still running, and enables the transfer needed for a cultural change in science and research. At the national level, the university is involved in a number of NFDI initiatives and can also significantly initiate local change through active participation in these long-term planned research projects. The NFDI initiatives are the following projects: text+, NFDI4Ing, KonsortSWD, 4Culture and 4Memory. Excitingly, these are transdisciplinary research activities, as they address the interfaces between the humanities, cultural and social sciences, computer and information science, and the natural and engineering sciences.

[1] §64 Hessisches Hochschulgesetz: https://www.rv.hessenrecht.hessen.de/bshe/document/jlr-HSchulGHE2010V6P64

University of Technology Troyes

Although research teams are evaluated by a national committee (HCERES: High Council for Education and Research of Higher Education) with indicators assessing their contribution as a whole to the scientific community as well as the university, individuals are still evaluated through Impact Factor or h-index. The University uses Scopus for Research evaluation.

Riga Technical University

The metrics used involve the total number of publications, the number of publications in SCI databases, the journal quality (impact factor), citation count and

H-index of the researchers. Research data is also taken in account – count, number of indexed datasets in WOS, citations and if the dataset is available as open access.

Evaluating the scientific and teaching qualifications also uses traditional metric indicators like the h-index, publication type, number of publications in Scopus or Web of Science, citation count etc. It is based on the Cabinet of Ministers regulation "Procedures for Evaluating the Scientific and Teaching Qualifications or Results of Artistic Creation Work of an Applicant for the Position of Professor or Associate Professor and of a professor or Associate Professor Holding the Position".

The Riga Technical University considers signing DORA or the Leiden Manifesto and incorporating non-traditional methods of research assessment when evaluating researchers. The University uses SciVal, Scopus, Web of Science and other sources for Research evaluation.

Technical University of Sofia

The Technical University of Sofia has an internal system for the evaluation of researchers (SOPCONI) and NACID (of the Ministry of Education and Science). Some of the main criteria for evaluation are the number of publications in SCOPUS and Web of Science, citation counts, the H-index, journal quality, publications in Open access journals, projects funding etc.

The Technical University of Sofia considers signing DORA or the Leiden Manifesto and incorporating non-traditional methods of research assessment when evaluating researchers. The University uses SciVal, Scopus, Web of Science, and other sources for Research evaluation.

The Technical University of Sofia believes there is a conflict between Open Research and the protection of Intellectual property, especially in terms of research cooperation with industry. Most of the research resulting from cooperation with industrial enterprises is subject to confidentiality agreements and is protected by IP. Partner companies are not interested in disclosing such data to the wider public or to their competitors. The University view is that research findings should be considered individually and decisions about which part of the research can and should be open data and which should be protected have to be taken by the two Committees, i.e. Intellectual Property Committee and Committee of Fostering and Promoting Open Research Policy.

Technical University of Cartagena

The Technical University of Cartagena uses metrics based on results: publications, patents, transfer and funded projects, citation count, H-index, Scopus SJR and WoS JCR.

The Technical University of Cartagena considers signing DORA or the Leiden Manifesto and incorporating non-traditional methods of research assessment when evaluating researchers. The University uses Scopus and Web of Science for research evaluation. The University respects the copyright agreements between editors and researchers.

Cyprus University of Technology (Cyprus)

No data

Technical University of Cluj-Napoca (Romania)

Research evaluation follows the national policies and also uses its own system called SIMAC (Information System for the Management of the Research Activity) that documents teaching, research and management activity results. As far as research is concerned, the metrics used are traditional: scientific articles (ISI, articles in international databases such as Scopus, IEExplore, articles in journals, conference proceedings, impact factors etc), patents, physical models and prototypes, books, projects, citations, distinctions and awards, management of scientific activity. These metrics are grouped in classes of importance. Reporting is done annually, and specific standards have to be met depending on the position professor, associate professor, assistant professor etc.

Innovative policies

Worldwide

The following examples are practical policies from universities or consortia that have signed the DORA statement.

Online

Classroom Citation

Open Syllabus collects and analyses syllabi and extracts citations and metadata using machine learning techniques. The aim is to determine how widespread scientific papers are in the courses, i.e., based on which papers the teaching takes place. This is referred to as classroom citation and is evaluated as another bibliometric or scientometric indicator. The "rank" of a title is calculated in relation

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to the 4.8 million titles identified in the collection. A title's "score" is another representation of rank, converted to a scale of 1-100 (using a dense ranking of publication counts converted to a percentage and adjusted for decimal places).

Open Syllabus sees curriculum counting as a useful addition, as it privileges types of work that are typically underrepresented in metrics derived from journal citations, including the more readily accessible forms of work that often make up a large proportion of faculty work. This is an opportunity for teachers to gain recognition for scholarly work that can be used in the classroom.[1]

[1] https://opensyllabus.org/

Finland

Finland has a national approach of Research assessment based on two documents. *Good Practice in Researcher Evaluation : Recommendation for the Responsible Evaluation of a Researcher in Finland*, prepared by the working group set up by The Federation of Finnish Learned Societies. These states:

- Quantitative indicators can be used to support qualitative peer review of scientific activity. **Peer review should be the primary approach** for evaluating individual researchers.
- Publication metrics should be based on data that is relevant for the unit of assessment. The known limitations of the data should always be disclosed.
- Be **as open and transparent as possible** in data collection, analytical processes and results is necessary. Those being evaluated should, as far as possible, be able to check both the data used and the results of the analysis.
- **Disciplinary differences and interdisciplinarity** should be considered in the application of publication metrics.

The indicators used in assessment should be chosen to **support the aims** of the evaluation.

- Results should be reported with an accuracy relevant for the unit of assessment, methods, and the data. **Inapplicable indicators should not be reported**.
- **Specific expertise** is needed in the production and interpretation of publication metrics.
- Organisations committed to this recommendation should **provide sufficient resources and expertise** needed for producing and interpreting publication metrics. Organisations should offer training for the responsible use of publication metrics for their faculty and staff.

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- Organisations committed to this recommendation **should name** the responsible party in their organisation who can be contacted in cases of irresponsible use of publication metrics.

The second document is the The Finnish Advisory Board on Research Integrity (TENK) which provides a template for a researcher's curriculum vitae. Rather than focusing on the research outputs and publication metrics, the researcher is evaluated on his whole career. This template notably includes:

- Research supervision and leadership experience: number of supervisees by degree programme, principal supervisor/co-supervisor, leadership experience in research groups or projects
- Teaching merits: Pedagogical training and other demonstrated pedagogical expertise, research-based and collaborative development of teaching and teaching methods and funding received for the development of teaching
- Other key academic merits include: acting as pre-examiner or opponent of a doctoral dissertation; memberships in doctoral dissertation committees or boards; peer review of funding applications ; referee for scientific publications
- Scientific and societal impact: **The promotion of open science and research**, for example the production and responsible distribution of research material and datasets, utilising research output (own and that of others)

The Tampere University also identified a few indicators specific to Open Science evaluation:

- Proportion of Open Access publications (Publications in OA channels / Hybrid Open Access / Self-archived publications and Grand OA total)
- Proportion of self-archived publications by year
- Proportion of OA theses
- International co-publications in Tampere University: OA publications proportion by year for each faculty

Belgium

The University of Ghent has created a template for a researcher's portfolio that allows him/her to present his entire career.

Here are the points of interest:

- VITALITY – focus is on growth and development: Favourable evaluation of applications for research funds from external funding agencies, International

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awards and recognitions based on intrinsic research quality and general or field-specific special recognitions, Reviews of papers as a peer review expert, Leading role as an evaluator or expert in the researcher's field (e.g. panel chair, member of a "high level group"), etc.

- ORIGINALITY - Innovation: Development of a new research line within the group, International, top-level awards, both general and field-specific, development and testing of new methodologies, Normalised citation impact of publications during the reference period, Publications in top 5% or 10% journals, Book publication by an internationally-renowned publisher.
- LEADERSHIP IN RESEARCH: Role as a people manager in the design of a research group or research consortium, Supervision of employees, Appropriate management and/or restructuring of the research group, High-quality supervision of doctoral researchers, Leading role as an evaluator or expert in the researcher's field (e.g. panel chair, member of a "high level group").
- INTERDISCIPLINARITY: Sharing of research infrastructure, Management of and involvement in an interdisciplinary research group, Joint publications with colleagues in other fields, Joint doctoral projects with colleagues in other fields, Joint applications for research funding with colleagues in other fields.
- INTERNATIONAL COLLABORATION: Leading role in international scientific organisations, Management of an international research project or research applications as a member of international consortia, Research funding obtained from international sources, Development, continuation and reinforcement of an international network for high-quality collaboration and exchange, Supervision of international exchange doctoral students, Patents with international co-applicants.
- § ACADEMIC COMMITMENT : Leading role as an evaluator or expert in the researcher's field, (Co-)authorship of reports or opinions on research or innovation policy, Leading or strategic role based on the researcher's own general research expertise, Membership in external assessment committees
- SCIENTIFIC IMPACT : Keynote speaker at the most renowned conferences in the field, Edition/circulation of a book publication by a renowned academic publisher , Editor (by invitation) of a special issue of a journal or scientific book series , Member in or chair of assessment or evaluation committees outside of his/her University, **Number of downloads of (open access) papers, Number of users/downloads of (open) datasets**, Normalised citation impact of SSCI and SCIE publications during the reference period, Highly cited papers.
- SOCIETAL AND/OR ECONOMIC IMPACT: Development of a valorisation strategy for research results, Creation of an endowed chair, Research projects in

collaboration with non-academic partners (industry, government, private non-profit, etc.), Research projects in collaboration with partners in developing countries, Patent applications submitted, and patents granted.

United Kingdom

The University of London also concentrates on a career overview, in a manner more complex than the previous examples. The Academic Careers Framework separately grades the Research staff on 4 criteria with notes ranging from 7 to 10, also adding a « Core » or « Specialist » grade for each note. The 4 criteria are:

- Research
- Education
- Enterprise & External Engagement
- Institutional Citizenship

This is an example of the Grades 7 and 10 for the research criteria:

Grade 7: understanding and knowledge of the subject and contemporary research activities within it. All research outputs are available as Open Access wherever possible.

- **Core**: Implement and develop independent, original, significant, and rigorous contributions to the subject area or body of knowledge. Build networks of research contacts around the discipline and/or relevant cross-disciplinary communities. Presentation of work to collaborators or others external to UCL
- **Specialist**: Broader or more in-depth core research activities; or some core research activity at next grade level. Contribute to writing bids for research grants. Co- or joint supervision of staff and/or students; or management of other delegated research resources or duties. Contribute to policy-focused activity relating to area of expertise,
- **Indicators of impact**: PhD or equivalent professional qualifications/experience (in vocational disciplines). References from group leader, supervisors, and immediate collaborators. Refereed conference posters/papers. Peer-reviewed journal articles, book chapters. Peer-reviewed cultural, artistic or design outputs, as appropriate to the discipline

Grade 10: an individual at this grade will demonstrate successful delivery of outstanding contributions to a subject area or body of knowledge, demonstrating both the ability to sustain their own research and to be successful against research

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competition in ways appropriate to the discipline. All research outputs are available as open access wherever possible.

- **Core**: Sustained completion of PhD students and their establishment within careers drawing upon their research skills. Effective mentoring of early-career supervisors of research students. Lead role in collaborations within a large research team or with other research teams/institutions. Established and maintained reputation within the subject community, including sustained engagement with

globally leading contributors to the subject area (including reputation of wider research team where this collaboration is appropriate to the discipline).

- **Specialist**: Extensive support, mentoring or management of early career researchers, for instance as leader of a research group, convenor of a network, or research director within a department, as appropriate to the discipline. Repeated, successful and noteworthy leadership of diverse range of significant research-related enabling activities domestically, within the EU and globally. Sustained role on funding or strategy board or major cross-disciplinary research activities. Significant leadership in the use of research platforms.
- **Indicators**: Mentoring of research supervisors with evidence of impact. Sustained track-record of income generation to support one's own group or field of work. Chair of departmental or faculty research committee. Leadership of a major research field or group with a track record of securing competitive grants, Editor of a significant research journal or book series. Regular keynote speaker invitations at conferences attracting international participation.

Germany

Innovative policies can be expected in Germany in the future, especially from the NFDI consortia. In addition, the following developments have been established.

The **Charité Medical Library** (Universitätsmedizin Berlin) displays the following Open Access indicators for the university authors:[1]

- Percentage of open access of all articles published by the unit authors.
- Percentage of open access of all articles published as corresponding author by the unit member.

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- Percentage of articles involving the unit authors appearing in a DOAJ listed journal.
- Articles involving unit authors by open access status (percentage and absolute numbers).
- Articles with a unit corresponding author by open access status (percentage and absolute numbers.)
- Articles involving the unit authors by publisher and by open access status.
- Articles involving the unit authors by journal and by open access status.

- Articles involving the unit authors by type of open licence.

The Leibniz Research Alliance Open Science[2] is an association of more than 30 research and information infrastructure institutions from the Leibniz Association, university institutes and libraries, non-university-affiliated research institutions, and other partners primarily from Germany. They are committed to the research and development of working methods, infrastructures, and tools of open science in the following three fields of action: (1) Research & Knowledge Transfer, (2) Infrastructure & Tools and (3) Advocacy & Community Building. The diversity of these institutions and the wide range of science disciplines and competencies make the alliance unique in the German-speaking region and worldwide. The most visible activity of the Leibniz Research Alliance Open Science is the yearly organised international conference on Open Science (https://www.open-science-conference.eu/) with more than 250 participants in 2022 from over 50 countries.

[1] https://medbib-charite.github.io/oa-dashboard/

[2] https://www.leibniz-openscience.de/ueber-uns/strategy-2019-2024/

France

1) Baromètre de la Science Ouverte (Open Science Monitor):

The French Open Science Monitor aims at measuring progress in open access to scientific resources: publications, code, data. Its implementation is part of the French National Plan for Open Science and the Action Plan for France as part of the Open Government Partnership (OGP). Initially developed only for scientific publications, it proposes to analyse over a period the proportion of publications in open access, i.e. made freely available on the public Internet according to disciplines and publishers, among publications with a French affiliation. The

Monitor can differentiate publications hosted by the publisher from those hosted on open repositories such as HAL.

The French Open Science Monitor is built on open data (from Unpaywall, a global database of scientific publications metadata that provides information on the openness status of publications) using an open methodology. Thus, the data underlying the French Open Science Monitor is made available under an open licence, its code is open, and its methodology is presented in detail in a publication available as open access.

The French Open Science Monitor will be updated on an annual basis in December of each year. At each update (December of year n) the results for the scientific work published the previous year (y-1) will be published and the results of previous years will be updated (y-2, y-3, etc.). A "Note Flash" from the French Ministry of Higher Education, Research and Innovation will accompany each edition with the update of the monitor and will highlight the main trends.

2) French Universities committed in OS evaluation:

Nantes and Poitiers are the two universities more advanced than others in France : They apply a bonus/malus on the laboratories financial resources according to a percentage of publications in open access. Some others take only or mainly into account the open access publications for the assessment. In conclusion, many declarations of intent with little follow-up.

Latvia

Open Access is one of the three main pillars of the new Open Science strategy in Latvia. Some kind of innovative open access monitoring is yet to be introduced.

Recommendations for research evaluation

DORA and the LEIDEN Manifesto

Published on May 13, 2013, the San Francisco Declaration on Research Assessment (DORA)'s purpose is to shift the research evaluation paradigm from the Journal Impact Factor to an emphasis on the researcher's contribution to his/her unit, university, field or to society. The declaration lists a total of 18 principles. However, only 7 of them are addressed to institutions or researchers:

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"The signatories of the San Francisco Declaration on Research Assessment support the adoption of the following practices in research assessment.

Source: https://sfdora.org/read/

DORA Recommendations

1. Do not use journal-based metrics**, such as Journal Impact Factors, as a surrogate measure of the quality of individual research articles,** to assess an individual scientist'**s contributions, or** in hiring, promotion, or funding decisions**.**

[...]

For institutions

Be explicit about the criteria used to reach hiring, tenure, and promotion decisions**, clearly highlighting, especially for early-stage investigators, that the scientific content of a paper is much more important than publication metrics or the identity of the journal in which it was published.**

For the purposes of research assessment, consider the value and impact of all research outputs (including datasets and software) **in addition to research publications, and consider a broad range of impact measures including** qualitative indicators of research impact, such as influence on policy and practice**.**

[...]

For researchers

15. When involved in committees making decisions about funding, hiring, tenure, or promotion, make assessments based on scientific content **rather than publication metrics.**

16. Wherever appropriate, cite primary literature **in which observations are first reported rather than reviews in order to give credit where credit is due.**

17. Use a range of article metrics and indicators on personal/supporting statements**, as evidence of the impact of individual published articles and other research outputs (see http://altmetrics.org/tools/)**

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18. Challenge research assessment practices that rely inappropriately on the Journal Impact Factors and promote and teach best practice **that focuses on the** value and influence of specific research outputs**."**

LEIDEN Principles

Published on April 22nd, 2015 in the journal *Nature* 520 (pp. 429-431), the Leiden Manifesto for Research metrics offers a similar analysis: to move from a reliance on metrics to a more qualitative evaluation of the research. The Manifesto proposes 10 principles for the measurement of research performance.

Source: https://doi.org/10.1038/520429a/

"1) Quantitative evaluation should support qualitative, expert assessment**. Quantitative metrics can challenge bias tendencies in peer review and facilitate deliberation. This should strengthen peer review, because making judgements about colleagues is difficult without a range of relevant information. However, assessors must not be tempted to cede decision-making to the numbers. Indicators must not substitute for informed judgement. Everyone retains responsibility for their assessments.**

2) Measure performance against the research missions of the institution, group, or researcher**. Programme goals should be stated at the start, and the indicators used to evaluate performance should relate clearly to those goals. The choice of indicators, and the ways in which they are used, should consider the wider socio-economic and cultural contexts. Scientists have diverse research missions. Research that advances the frontiers of academic knowledge differs from research that is focused on delivering solutions to societal problems. Review may be based on merits relevant to policy, industry, or the public rather than on academic ideas of excellence. No single evaluation model applies to all contexts.**

3) Protect excellence in locally relevant research**. In many parts of the world, research excellence is equated with English-language publication. Spanish law, for example, states the desirability of Spanish scholars publishing in high-impact journals. The impact factor is calculated for journals indexed in the US-based and still mostly English-language Web of Science. These biases are particularly problematic in the social sciences and humanities, in which research is more regionally and nationally engaged. Many other fields have a national or regional dimension — for instance, HIV epidemiology in sub-Saharan Africa.**

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This pluralism and societal relevance tend to be suppressed to create papers of interest to the gatekeepers of high impact English-language journals. The Spanish sociologists that are highly cited in the Web of Science have worked on abstract models or study US data. What is lost is the specificity of sociologists in high-impact Spanish-language papers: topics such as local labour law, family health care for the elderly or immigrant employment5. Metrics built on high-quality non-English literature would serve to identify and reward excellence in locally relevant research.

4) Keep data collection and analytical processes open, transparent, and simple**. The construction of the databases required for evaluation should follow clearly stated rules, set before the research has been completed. This was common practice among the academic and commercial groups that built bibliometric evaluation methodology over several decades. Those groups referenced protocols published in the peer-reviewed literature. This transparency enabled scrutiny. For example, in 2010, public debate on the technical properties of an important indicator used by one of our groups (the Centre for Science and Technology Studies at Leiden University in the Netherlands) led to a revision in the calculation of this indicator Recent commercial entrants should be held to the same standards; no one should accept a black-box evaluation machine. Simplicity is a virtue in an indicator because it enhances transparency. But simplistic metrics can distort the record (see principle 7).** Evaluators must strive for balance — simple indicators true to the complexity of the research process**.**

5) Allow those evaluated to verify data and analysis**. To ensure data quality, all researchers included in bibliometric studies should be able to check that their outputs have been correctly identified. Everyone directing and managing evaluation processes should assure data accuracy, through self-verification or third-party audit. Universities could implement this in their research information systems, and it should be a guiding principle in the selection of providers of these systems. Accurate, high-quality data take time and money to collate and process. Budget for it.**

6) Account for variation by field in publication and citation practices. **Best practice is to select a suite of possible indicators and allow fields to choose among them. A few years ago, a European group of historians received a relatively low rating in a national peer-review assessment because they wrote books rather than articles in journals indexed by the Web of Science. The historians had the misfortune to be part of a psychology department. Historians and social scientists require books and national-language literature to be included in their publication counts; computer scientists require conference papers to be counted.**

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Citation rates vary by field: top-ranked journals in mathematics have impact factors of around 3; top-ranked journals in cell biology have impact factors of about 30. Normalised indicators are required, and the most robust normalisation method is based on percentiles**: each paper is weighted based on the percentile to which it belongs in the citation distribution of its field (the top 1%, 10% or 20%, for example). A single highly cited publication slightly improves the position of a university in a ranking that is based on percentile indicators but may propel the university from the middle to the top of a ranking built on citation averages.**

7) Base assessment of individual researchers on a qualitative judgement of their portfolio**. The older you are, the higher your h-index, even in the absence of new papers. The h-index varies by field: life scientists top out at 200; physicists at 100 and social scientists at 20–30 (ref. 8). It is database dependent: there are researchers in computer science who have an h-index of around 10 in the Web of Science but of 20–30 in Google Scholar. Reading and judging a researcher's work is much more appropriate than relying on one number. Even when comparing large numbers of researchers, an approach that considers more information about an individual's expertise, experience, activities and influence is best.**

8) Avoid misplaced concreteness and false precision. **Science and technology indicators are prone to conceptual ambiguity and uncertainty and require strong assumptions that are not universally accepted. The meaning of citation counts, for example, has long been debated. Thus, best practice uses multiple indicators to provide a more robust and pluralistic picture. If uncertainty and error can be quantified, for instance using error bars, this information should accompany published indicator values. If this is not possible, indicator producers should at least avoid false precision. For example, the journal impact factor is published to three decimal places to avoid ties. However, given the conceptual ambiguity and random variability of citation counts, it makes no sense to distinguish between journals on the basis of very small impact factor differences.** Avoid false precision: only one decimal is warranted**.**

9) Recognize the systemic effects of assessment and indicators. **Indicators change the system through the incentives they establish. These effects should be anticipated. This means that** a suite of indicators is always preferable **— one will invite gaming and goal displacement (in which the measurement becomes the goal). For example, in the 1990s, Australia funded university research using a formula based largely on the number of papers published by an institute. Universities could calculate the 'value' of a paper in a refereed journal; in 2000, it was Aus$800 (around US$480 in 2000) in research funding. Predictably, the number of papers published**

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by Australian researchers went up, but they were in less-cited journals, suggesting that article quality fell.

10) Scrutinise indicators regularly and update them. **Research missions and the goals of assessment shift and the research system itself co-evolves. Once-useful metrics become inadequate; new ones emerge. Indicator systems must be reviewed and perhaps modified. Realising the effects of its simplistic formula, Australia in 2010 introduced its more complex Excellence in Research for Australia initiative, which emphasises quality."**

European policies

The Paris Call on Research Assessment was prepared by the French Open Science Committee and was presented to the Paris Open Science European Conference (OSEC) held on 4th and 5th February 2022. It was organised by the French Presidency of the Council of the European Union.

"The Open Science European Conference (OSEC) 2022, under the auspices of the French Presidency of the Council of the European Union:

1. Recognises that openness improves the quality, efficiency and impact of research, and fosters team science.
2. Reaffirms the need to align what we assess with what we value.
3. Calls for an assessment system where research proposals, researchers, research units and research institutions are evaluated on the basis of their intrinsic merits and impact, rather than on the number of publications and where they are published, promoting qualitative judgement provided by peers, supported by a responsible use of quantitative indicators.

Calls therefore for a research assessment system that:

- rewards quality and the various impacts of research.
- ensures that research meets the highest standards of ethics and integrity.
- values the diversity of research activities and outputs such as publications and preprints, data, methods, software, code and patents, as well as their societal impacts and activities related to training, innovation and public engagement.
- uses assessment criteria and processes that respect the variety of research disciplines.
- uses and rewards not only research outputs, but also the appropriate conduct of research, and values good practices, in particular open practices for sharing research results and methodologies whenever possible ;.values

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collaborative work, as well as cross-disciplinarity and citizen science, when appropriate;

- supports a diversity of researcher profiles and career paths.
- calls for the creation of a coalition of research funding organisations, research performing organisations, and assessment authorities, willing and committed to reform the current research assessment system along commonly agreed objectives, principles, and actions (such as mutual learning, shared documentation and commonly agreed monitoring effort).
-

Recommendations for an Eut+ Research assessment policy

The present report has listed the recommendations of both DORA and the LEIDEN Manifesto, and their applications by universities that have started to embrace a new system of Research evaluation. However, we can see from these examples that there is no agreement yet on specific metrics, either quantitative or qualitative: if general principles are generally agreed upon, the methods of evaluation are left to the appreciation of each institution, therefore ensuring vast differences from one university to another. Furthermore, the various countries have diverging expectations, and each university has its own method to evaluate a researcher. This leads this group to conclude that any lasting change in research assessment must come from the top down and must be accepted not only by the researchers and the EUt+ universities, but also by their respective ministries and funding agencies.

This group therefore recommends **that the EUt+ observe the work** of a "Coalition on reforming Research assessment" organised by the European Commission, tasked with drafting an agreement on reforming research assessment. Signatories agree to base actions on common principles, to implement commitments for change (including a given timeframe for implementation), to operate and organise the Coalition along some common principles. We recommend that the EUt+ and its members **adopt its propositions regarding quantitative and qualitative Research assessment**.

The drafting team propositions are currently reviewed by a core group (the EUA, Science Europe, the European Commission) and organisations having expressed interest in being part of this coalition (a growing list of universities and various national or independent institutions from European countries or other continents). Here is a description of the redaction process of the agreement draft:

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Here is the current timeline for the coalition regarding the finalisation of the agreement:

- May 19th, 2022: 2nd stakeholders assembly
- May-June 2022:
- Draft Agreement revision
- Preparing draft on possible organisation and operations of the Coalition
- Engaging with Member States via ERA Forum
- Analysis of barriers to reform
- Support signatories to affect changes.
- June 17th, 2022: 6th Core group meeting
- July 8th 2022: 3rd Stakeholder Assembly
- Final Agreement presented.
- Discussion on the organisation and operations of the Coalition
- Autumn 2022
- Signature of the Agreement
- Constitutive Assembly

On the specific topic of Open Access dissemination of the university's publications, this group recommends the commonly used and accepted Open Access metric to follow the institutions progress in this regard: **the percentage of research outputs** (Articles, books, chapters, proceedings, theses, research datasets, reports) **published in the five last years under any form of Open Access** (Gold, Green, Diamond, etc.).

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Appendix 5: Report from cRIS Sub-group

Common EUt+ Research Portal

Introduction and Overview

Established in 2020, The European University of Technology (EUt+) actively supports and promotes technological research regionally, nationally, in Europe and the wider world. Its distinctive research ethos is 'Human First'. As part of its commitment to a 'Human First' research ethos, EUt+ has a proactive statement on Open Research, a shared open repository, and unique Open Access Academic Press. Open research information demonstrates the responsible use of public funds provided by the citizens of the EU and creates transparency about research funding by private sponsors. However, building a fully 'Human First' ethos requires more than just a commitment to Open Research. Recognising this, the EUt+ WP8 T8.6/7 (Open Science) realised that one of the prerequisites for the liberation and empowerment of the collective 'research ecosystem' within the University had to be a much deeper understanding of its collective research activity and that, to do this, EUt+ needs to develop a broad, coherent, common, and inclusive description of our work and the basis for this descriptions should be a shared 'community cRIS[1]'.

Accordingly, we in Work Package 8.6/7 have initiated the development of such a 'community cRIS' that includes, among other things, information on research projects, scientific publications, research data, doctoral theses, and a wide variety of other research outputs from across all our research activities[2]. This 'community cRIS' will be built on the existing local cRIS systems currently deployed across the EUt+ alliance.

Aims and Benefits

While this document examines the prerequisites for a joint research portal from an organisational, technical, and legal perspective, it is important to realise that aims and benefits of a 'community cRIS' with the EUt+ Alliance are clear and deliverable. This document is a requirements analysis of the necessary information architecture. Based on our requirements analysis and building on the Common European Research Information Format (CERIF) standard [3] and the OpenAire cRIS guidelines [4] we will develop several possible implementation scenarios.

3.1 Aims

There are several aims for this project:

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- Reduce the administrative workload on researchers associated with engaging with research in the Alliance.
- Facilitate the variety of reporting requirements from funders, universities, etc.
- provide a 'gateway' or 'portal' to EUt+ research and technology.
- **A single canonical source of information about research activities within EUt+**. It is hard to understate the importance of a single, agreed source of research information. Partners who either have implemented or are implementing such a local system have discovered significant amounts of data being recorded but not exposed.
- **Create a single research 'backbone' within the University**. Research exists as an 'ecosystem' across the university. There are numerous actors in this ecosystem including research support staff, students, PIs, post docs, infrastructure etc. In many cases dealings between actors involve separate, uncoordinated services that are blind. This generates a lot of significant, but valueless, transactions that are repeated. For example, how many times have Principal Investigators entered their names in a system. A common system where all transactions are carried out significantly reduces the number of redundant, repetitive tasks and makes those that are required more useful and valuable.

  In short researcher's research, supporters support.

- **Activate local intra university relationships 1st, building critical mass**: By exposing what we do to our partners, we start to identify common and/or complementary strengths, infrastructure, strategic relationships etc. and develop significant 'critical masses' that open new opportunities for EUt+.

3.2 Benefits

Based on our own experiences of local university cRISs, there are five groups of beneficiaries.

- · Researchers
- · Students
- · Research Offices
- · Externals
- · EUt+ and its constituent members

For researchers: a research portal offered centrally by the EUt+ provides the opportunity to present their achievements in research in a broader and richer context. At the same time, a research portal will promote internal cooperation

between researchers at EUt+'s distributed locations by making it easier to find people doing research in similar subject areas.

For students: Registered students in EUt+ have access to a much wider pool of supervisors, advisors, and mentors, improving their mobility possibilities and better contextualising their work within the EUt+ and international research contexts. Students looking for study and research opportunities have a single source of research information available to them to help them make up their minds in the knowledge that our work is inherently interdisciplinary and that there are opportunities for much more diverse experience than may be available on a single campus.

For research offices: a common research portal provides an integrated suite of datasets for planning service provision including partner matching, funding applications, shared infrastructure diverse expertise, best practice exchange. The development of novel, integrated, high value but low volume services become much more feasible. Research offices operate across universities and can easily 'see' into research and discipline silos and identify potential collaborations between researchers. An integrated research portal dramatically increases the potential for 'silo-busting'.

For externals: Though not intended as an EUt+ 'expertise register' (a much more complex project), a single research portal will provide access to research outputs, and outcomes of EUt+ in a single managed and consistent format. These externals are citizens, commercial interests, potential collaborators, other universities, schools, journalists, etc.

For the university, A joint research portal dramatically raises the profile of EUt+ among its peers and the wider community. It allows the research activities at EUt+ to be presented to the public and makes the context between researchers, research institutions, projects and results comprehensible. The research portal is to be used as an easy-to-use entry point for researching ongoing completed research projects and making research results discoverable. At the same time, potential partners can use the portal to identify people and institutions at the EUt+ who might be suitable for future collaborations.

Existing local CRIS systems: Building on and leveraging our collective experiences of institutional research data collection and management, means we are in a good place to build a common institutional research data resource.

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Analysis of the current state

The starting point for a joint research portal is an analysis of the current information infrastructure at the participating partner universities. The current state will be analysed from an organisational, technical, and legal perspective, and the specifics of the information to be presented will be addressed.

Status overview

The majority of EUt+ partners operate a current research information system (CRIS), have their own research portal or are working on setting up corresponding systems (status: Dec 2021). The following table provides an overview of the current status:

Institution	Status	Software	Research portal
TU Dublin	Replacing a 1st generation cRIS	Elsevier PURE (Commercial)	Planned
h_da	In development	HISinONE Campus Management (Commercial)	Link
UTT	In development	Custom solution	In development
RTU	Operational	Custom solution	Link
TUS	Operational	Custom solution	Link (TUS) Link (National CRIS)
UPCT	In development	Universitas XXI / Dialnet CRIS for portal (Consortium / collaborative)	Pilot in Jan. 2022.
CUT	Operational	DSpace (Open Source)	Link
UTCN	Operational	Custom solution	Internal (Link); public information also available at https://research.utcluj.ro/index.php/publications.html (ISI or SCOPUS articles) and https://research.utcluj.ro/index.php/active-research-projects.html (research projects)

Research information management at the EUt universities

All partner universities have organisational structures in place to collect, manage and evaluate research information. As a rule, the research departments and libraries of the universities are responsible for this. However, the level of detail of the information collected as well as the underlying information architecture and software solutions used vary greatly. While some institutions already have a professional CRIS or are about to introduce such a system, other institutions mainly use external databases and classic spreadsheet software. As a result, the degree to which related research information is linked varies greatly. A standardised data schema such as CERIF is not currently used at any location. Local data schemas may be based on CERIF but are customised, extended or only partly used to fit to the local requirements. In conclusion we assume that every EUt partner uses different data models in the local system (e.g., publications, projects, research groups, etc.) with different attributes or data structure and entity types.

TU Dublin

TU Dublin has opted to implement a PURE (Elsevier) cRIS system. In TU Dublin, the PURE business manager is the VP for Research and Innovation (VPRI). The VPRI is responsible for first line support. Infrastructure is provided by IT Services. The intent behind the TU Dublin PURE cRIS is to provide a single, integrated research backbone to which all actors in the TU Dublin research ecosystem have access. PURE also provides an online RGMS service to researchers and the Research Office. PURE will integrate with ORCID, HR, Finance, Ethics, Tec Transfer Office, Institutional Repository and Student database to provide a 'single source overview' of research in TU Dublin and support reporting to local, national, and European authorities. TU Dublin owns the data in PURE, but users can control their own data. The implementation is hosted in the EU.

UPCT

The CRIS for the UPCT is currently being implemented. It consists of two main parts: data and web. The first one is the "administrative" part, where researchers, projects, funders, etc. are managed. It is hosted and managed by the UPCT IT but developed and implemented by a consortium of universities called Universitas XXI [5]. Since this first part has no web portal, the university has opted for Dialnet CRIS which actually is a research portal developed and hosted by Dialnet Foundation [6]. The standard behind this administrative part is the CVN (Curriculum Vitae Normalized) which is the Spanish standardised norm used for researchers' evaluation. It enables interoperability with the different databases of the institutions and allows researchers to present and update their curriculum vitae in a single, common digital format. The data to be shown on the research portal is obtained from the Universitas

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XXI application, as well as Scopus and WoS. The Research and Technology Transfer Unit and the library will support the service.

UTT

The UTT is currently implementing an information system developed by Quasar Conseil, hosted by the IT department. The intent is to provide the Research Department with a tool managing the research teams, the researchers, their contracts, their projects, their affiliations, etc... The IT department is currently working on synchronising this information System with other sources regarding personnel, PHD students and on data consistency and treatment for the future website so that each researcher can access their own administrative data. [JVV1]

h_da

The central information hub for research information at h_da is the HISinOne Campus Management System [7] that holds information about researchers, projects and publications. The data schema is built upon the German Research Core Dataset (KDSF Basic Data) framework [8]. The software has a public research portal that allows for searching and listing publicly available information. The system is hosted and supported by the central IT department which integrates core information about persons and organisations with the central identity management system. The responsibility for project and funding data lies with the research office, while the library manages publication data.

RTU

no data

UTCN

The UTCN's CRIS system is named SIMAC. It has been built by the university and allows for the collection and qualitative evaluation of the performance in research, academic and institutional activity. As far as the scientific research activity is concerned, the system allows reporting of articles (indexed in the ISI Web of Science or in other international databases like Scopus, IEEEXplore, national/international conferences) published in a chosen reference year. Also, it collects data about ongoing research projects (funding, team members, type, research domain), about patents, products and technologies resulting from the research activity. Published books are also included. Reporting is done by each staff member on a yearly basis. For articles the collected data is the usual: publication authors, journal/conference name, start page, end page, total pages, isbn, issn, uri, journal category (Q1, Q2, Q3)

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etc. Activities to be reported are structured on categories of importance and the system provides reports with scores for each staff member.

On the backend it uses Oracle technology, databases with staff members grouped based on their membership to departments, tables with ISI journals, tables with nationally recognised international databases for each domain etc. The system has been built following an internal regulation of the TUCN [9]. Public information about ISI or SCOPUS indexed papers and about ongoing projects is available on the research department dedicated web pages [10].

CUT

KTISIS [11] is a Current Research Information System (CRIS) that collects and disseminates the research activity (publications, theses, datasets, projects, patents) of the Cyprus University of Technology. Initially Ktisis was created using the DSpace software [12] which is built on a simple data model based on publications. Then the system upgraded on DSpace-CRIS software. The system is hosted in the university datacentre and supported by CUT Library department and 4Science [13].

TUS

At the moment, TU-Sofia does not have an official CRIS system. There is a custom-made system. It contains information about projects, publications, patents and more. There is a public portal through which publications for authors can be searched. The system is hosted in the Centre for Information Resources but is under the direct management of the Rector for e-government.

At the national level there is a CRIS system - nacid.bg. This performs the functions of the National Information Centre for Academic Recognition and Mobility within the meaning of Art. IX.2 of the Convention on the Recognition of Qualifications concerning Higher Education in the European Region (Lisbon Convention) and is a member of the European ENIC / NARIC networks. It performs the following functions.

- It keeps and maintains the register for the scientific activity in the Republic of Bulgaria under Art. 7b of the Law for Promotion of Scientific Research and coordinates the activity of the national register with the European network of scientific registers - EUROCRIS.
- Maintains a Register of the academic staff and the defended dissertations in the Republic of Bulgaria.
- Collects, stores, processes, and provides for use scientific, technical and pedagogical literature and information in the Scientific Library.

Existing technical infrastructure

The main technical requirements result from the decentralised structure of the European University of Technology, where the collection, administration and evaluation of data must take place within a distributed organisational structure. The technical information architecture for a common research portal must consider the decentralised organisational form.

The following table shows an overview about hosting, product ownership and an external implementation partner:

Institution	Hosting	Product owner / User Support	Implementation partners
TU Dublin			Elsevier
h_da	self-hosted	IT department in collaboration with library and research office	HIS eG
UTT			
RTU			
TUS	Self-hosted	TU-sofia	no
UPCT	hybrid (self + external)		Universitas XXI + Dialnet
CUT	self-hosted		4Science
UTCN	self-hosted	UTCN	no

External data source used:

- UTT: National repository for publications / research data (e.g. https://hal.archives-ouvertes.fr/)

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Institution	Web of Science	Scopus	ORCID	Pubmed
TU Dublin	?	?	?	?
h_da	no	no	x	no
UTT	?	?	?	?
RTU	?	?	?	?
TUS	no	no	no	no
UPCT	x	x	no	no
CUT	x	x	x	x
UTCN	x	x	no	no

Functional requirements

This chapter outlines the functional requirements for a common cRIS for the EUt. These requirements must be fulfilled.

Basic technical requirements

- Web-Application
- ReSTful API for CRUD Operations
- OAI-PMH-Support

Data Model

- A Current Research Information System (CRIS) to collect, manage and display all research information including scholarly publications, projects, researcher profile, datasets, patents, for EUt+ members.
- Metadata schema: Customisable metadata schema, CERIF and **OpenAIRE CRIS compliant.**

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UI

- List view for each main content type (persons, organisations, publications and projects)
- Detail view for each main content type
- Layout and style have to be compliant with EUt corporate design

Search and Filter

- Full text search over all content
- Full text search over specific content types like persons, projects or publications
- Filter functionality for each content type (Filter attributes have to be defined)

System Administration

- Admin UI for system administrators
- Authentication and Permissions of users
- Content rights: Administrator specify permissions rights to the Communities/Collections/Content

Infrastructure requirements:

- Hosting, Development, Support?
- First Level support internal (not technical)?
- Who will administer it?
- How do we collect the data from local repositories?
- What about universities that don't have a local cRIS/repository?

Connectivity

- Import Content: Harvest or import metadata from local repositories and CRIS systems.
- Manual submission: If there is no local CRIS, a manual data entry process must be available.
- EUt+ partners assist with implementation of a basic CRIS at EUt universities without an existing CRIS.
- Import data from multiple formats: bibtex, ris, csv, pubmedXML, crossrefxmlSelective Harvesting and Datestaps: allows updates to flow between local repositories and cris system, update metadata records that created, deleted, modified within a specified date range.
- Common target data model for the research portal

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Non-functional requirements

This section outlines the non-functional requirements for a common cRIS for the EUt. These requirements hugely improve the functionality, usability, and acceptance of the cRIS.

- Facet Search and Advanced Search Options
- Statistics and Metrics Reporting: Generate reports and metrics.
- Multi-Language support for user interface and content. abstract is often in English; we can't translate all contents into the different languages of EUT?
- Multilingual interface (information often only in local language) -> API integration
- Should be Open Source Software [JD2]
- Reporting on indicators (to discuss with metrics subgroup)
- Should we have citation information on the website? e.g. from https://opencitations.net/
- Export feature on the public website as BibTeX, RIS, Endnote
- Export as list in e.g., Harvard Style or APA style
- Single canonical source for EUt+ research information for reporting, planning, etc.

Regulatory requirements

- Accessibility requirements must be ensured (EU law)
- GDPR Compliance requirements must be ensured (EU law)
- Reporting obligations towards state institutions
- Contractual agreements with project partners and funders on confidentiality
- Procurement and Public tendering rules if a commercial system should be bought [14]

Data model

The research portal is necessary to enable data exchange between different repositories in different metadata formats. CRIS systems data models rely on a set of basic entities as defined by the Common European Research Information Format (CERIF). CERIF describes entities in the Research domain, such as person, organisation, project, publication, patent, data, facility, equipment, service, funding, measurement, indicators, identifiers, and their relationships.

- Data model from OpenAIRE CRIS Guidelines
- Based on the mapping document in Whaller
- Possible extensions of the OpenAIRE Model?

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Data Sources

In terms of data sources, we believe that we should take advantage of each institution's existing data sources, as long as they conform to the OpenAire data model. In this sense, the main sources would be the CRIS systems of each institution.

Additionally, data would also be obtained from other sources such as Web of Science, Scopus, Crossref, PubMed, SpringerLink or Google Scholar. This would cover those institutions that currently do not have any CRIS. From the sources mentioned above, the most widely used are Web of Science and Scopus, that would be our main ones, but given the private nature of them, it will be necessary to contact them so that they authorise a massive download of data through their APIs.

We also found it necessary to have some kind of identifiers for users but also for organisations. ORCID is the best identifier for users, whereas ROR could be used for organisations.

Local cRISs

- Data Europa https://data.europa.eu/
- ORCID for both documents and identifiers.
- SCOPUS,is the Scopus api free to use?
- Will private database (Scopus /WoS) allow us (as a group) to collect show its data.
- WOS Lite is free to use.
- WOS Premium needs a contract.
- Google Scholar.
- Pubmed (free).
- Crossref (free with fair use / limited rate).
- ROR for organisational identifiers (free).
- CORDIS for EU funded projects.
- SpringerLink API?
- Wikidata.

Proposed solution

We will develop 'Proof of Concept' common cRIS for EUt+. The proof of concept acknowledges that there are some issues which it will not be possible to resolve in a proof of concept and these may be developed in a final version of the cRIS.

A key consideration is that the pilot should exploit as much existing software and information as possible and that it must be compliant with relevant technical standards.

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There are several potential routes to delivery:

- Develop, in house, a harvesting process and software to support the project.
- Purchase a commercial cRIS software product.
- Develop the cRIS through existing systems such as OpenAire
- One commercial provider has offered us the opportunity to do this project in a platform-agnostic 'community cRIS' portal that they have developed. They are doing this because developing their platform to support international collaborative projects is one of their objectives. They are willing to offer their product and services on a 'each covers their own costs' basis

Other decisions to be made.

- Do we try to bring all our researchers and research information into the new cRIS or do we pilot it with a much smaller group? While the larger group does pose more issues, the smaller group is likely not to be of sufficient size or diversity to really appreciate the benefits of this project.

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[1] cRIS is a 'current Research Information System' that holds a wide variety of research information. cRISs are also known as Research Information Management Systems (RIMS) or a Research Grant Management Systems (RGMS) though, to be strictly accurate RIMS and RGMS encompass slightly wider functionality. We will use the more common term cRIS but, in reality, we will stray into RIM and RGM territory.

[2] EUt+ has previously published an Open Research Charter and an Open Research Declaration.

[3] The Common European Research Information Format (CERIF) is the comprehensive information model for the domain of scientific research. It is intended to support interchange of research information between and with CRISs: https://eurocris.org/services/main-features-cerif

[4] OpenAIRE Guidelines for CRIS Managers: https://openaire-guidelines-for-cris-managers.readthedocs.io/en/v1.1.1/

[5] https://www.universitasxxi.com/uxxi-investigacion.html

[6] https://fundaciondialnet.unirioja.es/servicios/dialnet-cris/

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