

AURORA

AURORA Research and Innovation

*A Roadmap for convergence of research plans across the
Alliance*

Deliverable 2.4



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Executive Summary

Work Package 2 (WP2) of the AURORA RI project aims to develop a shared support plan for research and innovation within Aurora. By strengthening support for researchers, such a plan will advance the European Commission's priorities identified in the new European Research Area communication, the Horizon Europe missions, the European Digital Transformation, and the EU Green Deal.

This report is the fourth deliverable of WP2 and outlines the outcome of Task 2.3. The roadmap identifies the common building block and tools necessary to support excellent research in Aurora as identified within the Aurora RI project. The roadmap will guide the way forward for continued collaboration on Research and Innovation by focusing on the deliverables from each work package that allows us to continue our collaboration into the future. The roadmap will also serve as a guide to finding further funding to continue some of the actions identified through our project.

This Roadmap is a shared action plan on supporting excellent research and Innovation within Aurora. It is made up by the tangible results from Work packages 3-8 that can have the most impact on research and innovation collaboration in Aurora and will be sustained after the end of the project. The Roadmap will be crucial to maintain the collaboration on R&I support in Aurora and is accessible at Aurora's website (<https://aurora-universities.eu/research/research-support-platform/partner-universities/>).

Project Abstract

Aurora was formed in 2016 as a consortium of research-intensive universities deeply committed to the social impact of their activities. The objective of Aurora is to match academic excellence with societal relevance. One of the core values of Aurora is to learn from and with each other and the AURORA RI project is an important part in realizing this.

The AURORA RI project develops closer research and innovation support structures to complement the excellent research and innovation activities within the Aurora Alliance, a European Universities Initiative funded by the European Commission. It will further deepen and expand the cooperation among these universities and strengthen their identity as research-intensive universities dedicated to societal impact and engagement. The aim of Aurora RI is to develop a research and innovation support agenda framed by the Sustainable Development Goals (SDGs) and based on the four priority domains of the Alliance:

1. Sustainability and Climate Change;
2. Digital Society and Global Citizenship;
3. Health and Wellbeing; and
4. Culture: Diversity and Identity.

The project focus is to identify and achieve an understanding of best practices and policies on sharing research infrastructure and resources, cooperation on open science and entrepreneurial activity, empowering human capital, and mainstreaming citizen engagement. Throughout the project we analyse and map best practices already in place, learning from each other. We define barriers to cooperation at national and international level and find ways to overcome them where possible. The findings will create the basis for our Research & Innovation support agenda and will be shared with the other European Universities and beyond. The actions implemented during the project period aim at creating a platform for cooperation that will sustain beyond the lifetime of the project and equip researchers and students at Aurora Alliance Universities with a broad toolkit to conduct excellent research and disruptive innovation.

1. Introduction

The objective of this final deliverable is to create a Roadmap which will serve as an action plan for collaboration on research and innovation support in Aurora. The report is based on the outcomes and results of the work packages in the Aurora RI project, taking into the account the lessons learned throughout the analysis done in the project. The roadmap rests on two reports that were completed in WP2 for the first 14 months of the project on the *Feasibility study on opportunities for joint research support* and a *Report on the challenges and barriers to cooperation, and methods and means to overcome them*. The roadmap focuses on the tangible results from the project that we can continue to collaborate on and what obstacles we might face.

The report gathers the tangible results from the 6 thematic WPs¹ of the project, namely:

- ▲ WP 2 – Development of a Shared Support Plan for Research and Innovation
- ▲ WP 3 – Sharing Infrastructure and resources
- ▲ WP 4 – Strengthening cooperation on entrepreneurial activity
- ▲ WP 5 – Empowering human capital
- ▲ WP 6 – Sharing and implementing open science practices
- ▲ WP 7 – Engaging citizens and society

Work package leaders for these WPs provided input for the roadmap by identifying the results and deliverables that had the most potential to continue after the end of the Aurora RI project and providing ideas for means to continue collaboration, where relevant.

This report is the result of Task 2.3 of the work plan and reports on the work done as part of this task for the whole period of the project:

Task 2.3 – Developing a roadmap for a shared support plan based on common interests:

Identifying the common building blocks and tools necessary for supporting excellent research including infrastructure, research integrity, cooperation with external actors, open science and other matters identified in WP3-8, within the Alliance.

Harmonizing and synthesizing the results from pilots and other WPs.

Developing a long-term joint R&I support plan based on the results from task 2.1 using the foundation from task 2.2.

Aligning the plan and the Aurora position papers submitted to the EU.

Focus R&I support plan towards achieving the SDGs, prioritizing those most relevant for Aurora Mission Statement.

¹ WP 1, WP8 and WP 9 are excluded, as WP1 and WP9 are exclusively operational and WP 8 focuses on the collaboration with other European Universities

2. AURORA Research and Innovation Roadmap – Shared Support Plan



Through the Aurora RI project, the participating universities have identified the topics they wish to continue to further strengthen research and innovation collaboration in Aurora. These building blocks are the most successful and most sustainable project results from each of the work packages of the project.

One of the most significant results from Aurora RI is the knowledge that we have gathered about our partners and the institutional trust that has formed during this period. This is portrayed in our willingness to continue our collaboration on Research and Innovation support going forward. Aurora universities will continue to find ways to collaborate in enhancing research and innovation support and to find ways to support our researchers in finding and forming collaboration within the network.

Feasibility and barriers

One of the first deliverables within the project was a feasibility study aimed at finding ways for the universities to improve their capacities by working together. The work was done by examining the strategies and research support structures in place at each university showing that most of the Aurora universities included research support as an important element of the strategies. The conclusion from the feasibility study is that an Aurora research support ecosystem is more appropriate and beneficial than joint research support services at Aurora

level. Several items are mentioned to build up research support in Aurora through an Aurora research support ecosystem:

- Exchange of knowledge: knowing how each university operates, sharing of best practices and expertise helps to fill in gaps in strategy and structure.
- Becoming a European stakeholder: by pooling research support expertise, Aurora partners can better support the European commission in defining the strategic priorities of research.
- Shared training activities: to exchange best practices and improve capacity of research support amongst Aurora partners.
- Increased internationalization of research: through cooperation the Aurora universities are more likely to successfully address European and international societal challenges.
- Building an Aurora brand through increased visibility.

The results identified in this roadmap all aim to build on these items with exchange of knowledge being the forefront for all our results.

Another deliverable of work package 2 was a report on the challenges and barriers to cooperation and methods to overcome these challenges and barriers. The barriers identified were clustered together based on characteristics of the barriers.



Through the analysis and the continued collaboration in Aurora RI the means to overcome these barriers have been identified:

- Strategic approach to participation in projects – not everyone needs to be involved in everything
- Visibility of Aurora has increased → researchers more aware of the possibilities for Aurora cooperation
- Better and wider knowledge and sharing between Research managers in Aurora = more trust

Joint Research and Support Platform – WP2



The Joint Research Support Platform is designed for Research Managers and/or Administrators (RMAs) to facilitate knowledge sharing and collaboration between grants offices and research support staff in Aurora. Ultimately, this contributes to three of the seven transformation modules launched by the European Commission in 2020:

3. A strategic European Research and Innovation agenda: the central role of universities and research actors.
5. Fostering increased knowledge transfer and collaboration between academia and non-academic sectors.

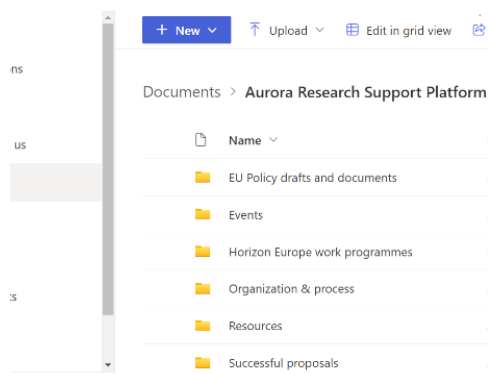
7. Optimising universities' role in research infrastructures.

The platform was delivered to be a holistic solution for research services, based on the project lifecycle from idea to impact. It allows the Aurora Alliance to share the knowledge and expertise of support services and thereby reach a critical mass.

Its function is to map best practices across the Alliance in terms of research support, to identify further opportunities to collaborate and build platforms to fill identified gaps and to identify priority areas for the Aurora Alliance.

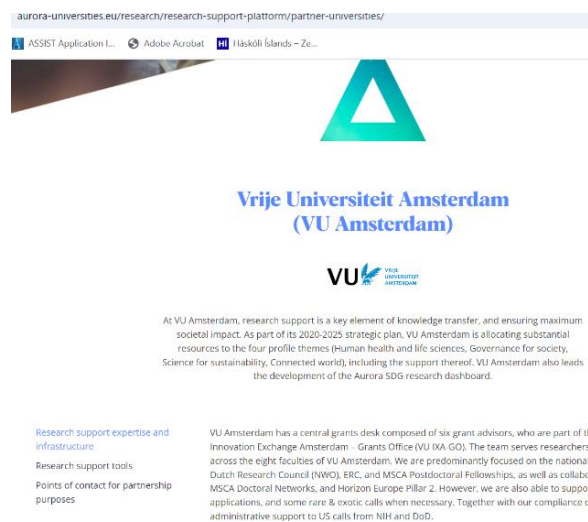
The platform created in Aurora RI was twofold, an external platform providing information

Aurora Research Support



about the research support at each Aurora University and their involvement in international collaboration on research management. The external platform is published at the Aurora website (<https://aurora-universities.eu/research/research-support-platform/partner-universities/>)

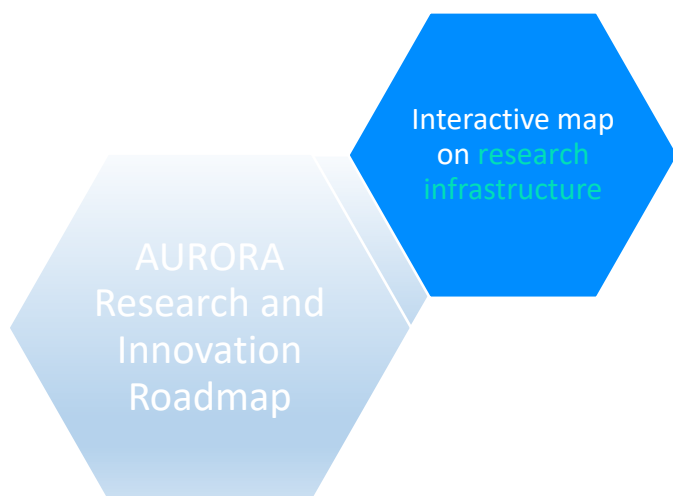
The group also identified a need for an internal platform to share more sensitive information and to create a common collaboration space for research managers in Aurora.



Continuing beyond Aurora RI:

The intention of building the platform was to succeed the project lifecycle, and to continue to facilitate and encourage collaboration between RMAs for years to come and it is already showcasing how the project is making a real and lasting impact to collaboration between Aurora's research managers. Before Aurora RI started, an EU grant managers group was already in place that met regularly to discuss common topics. This group still has mandate from when it was formed in 2016 and will continue to meet based on this mandate. One of the regular discussions revolves around funding opportunities for the group to continue the important capacity building that Aurora RI has relayed for both research managers and researchers in Aurora.

Aurora Research Infrastructure Map – WP3



Aurora’s universities host a wealth of relevant resources for research. By sharing these resources, we aim not only to highlight the many different areas of activity within Aurora, but also to foster a sense of community among Aurora researchers.

Work Package 3 of the Aurora RI project aims to drive research collaboration between partners of the Alliance. The first step to

amplify research collaboration was to gather information on existing research resources at each partner, which was done in the report on Deliverable 3.1. The second step was to establish a common basis for sharing these research resources gathered under D3.1 which was done through the development of an interactive map that shows the research resources available within the consortium (D3.2) and the creation of a memorandum of understanding between all full and associated partners of the Aurora Alliance including two templates for agreements on research collaborations to make the sharing of resources as easy as possible (D3.3).

This mapping of relevant resources encourages the creation of hotspots for research that require specific resources that can be shared across the alliance to strengthen our community impact and commitment to the SDGs.

Research Resources

About the Aurora research resources dataset

Aurora’s universities host a wealth of relevant resources for research. By sharing these resources, we aim not only to highlight the many different areas of activity within Aurora, but also to foster a sense of community among Aurora researchers. This mapping of relevant resources encourages the creation of hotspots for research that require specific resources that can be shared across the alliance to strengthen our community impact and commitment to the SDGs.

[Register your resource here](#)

Search by content:

Search by keywords:

Filter by type:

Filter by research area:

Filter by university:

Resources Map



Memorandum of Understanding

As Aurora universities, we aim to promote the sharing of resources to further strengthen excellent research within the Alliance. To facilitate resource sharing, we are currently working on a memorandum of understanding between the partners. This will allow us to carry out collaborations across Aurora even more easily.

You can find further information on the memorandum [here](#).

Contact Information

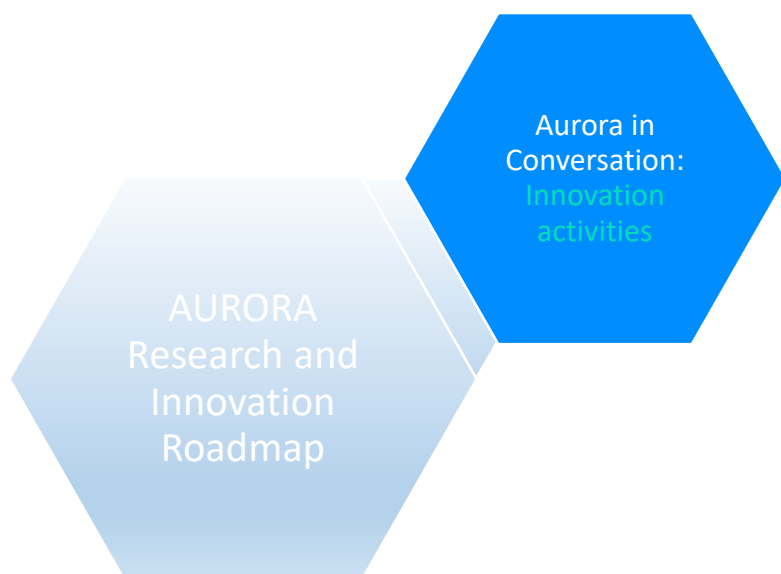
For any inquiries on the resources dataset contact dejan.kakovc@tubik.ac.at

Continuing beyond Aurora RI:

Aurora commits to continuing to update, maintain and promote this robust framework for sharing research resources which consists of the database, interactive map, Memorandum of Understanding (MoU), templates and further useful resources. We also aim to resolve the issue of not being able to track emerging collaborations. The research infrastructure map is an important component for researchers to find possible collaborators and to build network that can be supported by networking funding in Aurora 2030. There has also been

discussions on further funding possibilities for collaboration on shared research infrastructure.

Aurora 'In conversation with': Innovation talks – WP4



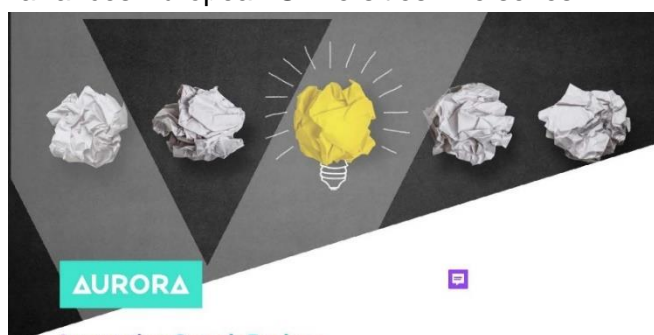
Aurora 'In conversation with' is a series of one-hour, informal style coffee talks sessions aimed at Aurora colleagues and their networks interested in the exchange on current topics of innovation promotion and technology transfer. The speakers come from the Aurora institutions and their regional ecosystems (including on occasion international external speakers) where they briefly showcase their expertise, challenges, and activities, talking about their own experiences in a certain topic area, concluding with a Q&A. The events are mainly virtual but also physical / hybrid on

occasion, for example, during an on-site meeting (biannual or physical get-together).

The sessions were designed and developed through regular and extensive discussions within the work package team. All Aurora universities participated with suggestions for topics as part of a prior mapping of expertises, best practices and capacity building areas. As such, it is a prime example of collaborative work. The sessions also allowed us to reach interested participants from outside Aurora and from other alliances European Universities. The series aligns with the themes of the priority areas identified in a prior mapping of expertises, best practices and capacity building areas. The initial sessions were on subjects such as 'Incentivising innovation activity amongst researchers', "Identifying Innovation Potentials" with the help of an Innovation Search Engine and "The role of University Holdings in boosting science-based start-ups".

Continuing beyond Aurora RI:

The Aurora "conversation-style" events will continue to take place as a low-threshold occasion to bring together Aurora colleagues and their networks interested in the exchange on current topics of innovation promotion and technology transfer. Based on this, new contacts within Aurora and beyond are made, and existing collaborations are intensified. The next steps will involve finding solutions to coordinating a regular date as a distinguishing feature that considers the numerous commitments of the core participants, national holidays, etc. as well as



Innovation Search Engine: Identifying Innovation Potentials

In Conversation With....

Arman Arzani
Networked Embedded Systems, University of Duisburg-Essen

Online Webinar
Pre-registration
req'd via [this link](#)
or QR code:



Friday,
8 December 2023
11:00 CET

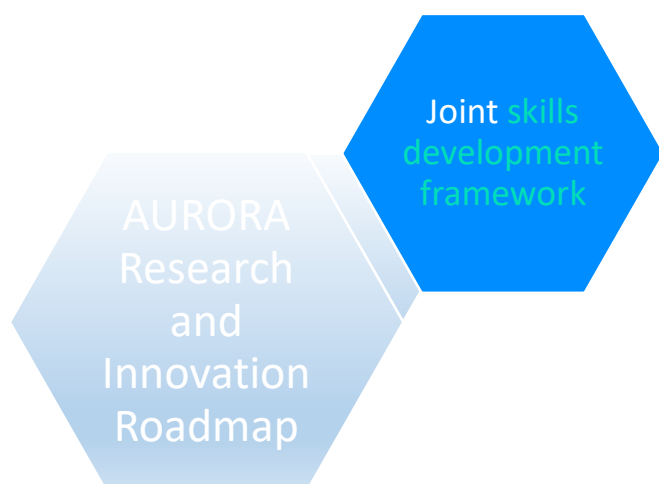
Arman will present his work on the Innovation Search Engine, a web-based tool for research and innovation managers to identify innovation and collaboration opportunities based on the analysis of scientific publications, patents and industry reports. This is made possible through the automated analysis of complex data from the university's own databases and external information sources. The goal is to make screening and scouting of innovations and people much more efficient.

The [Aurora | European University Alliance](#) has the exchange of knowledge, experiences and cooperation as its primary purpose. This one hour, informal 'In conversation with' style session is aimed at Aurora colleagues and their networks interested in the exchange on current topics of innovation promotion and technology transfer. It will include a Q&A.



developing the habit of actively participating and engaging in the sessions and discussion, considering the number of other events and activities the innovation community has access to.

Aurora Skills Development Framework – WP5



One of WP5's objectives is to strengthen human capital through the design of policies/practices/tools that boost mobility of knowledge and research staff.

The joint skills development framework was developed for the Aurora Alliance, for researchers and research support staff. Its purpose is to define the set of skills and competences needed to reinforce and empower researchers and research support staff, by (i) designing a training roadmap and mentoring guidelines for talent promotion at all levels including dealing with

setbacks or misfortunes in academic careers, (ii) introducing digital technologies for skills training, thus contributing to the modernization of the training at all partners' institutions. A pool of training courses for the Aurora Alliance, both for researchers and support staff (the latter led by the Aurora EU grants managers group) will be developed as a part of this task. The training will address diversity, inclusiveness and disadvantaged researchers and staff.

Continuing beyond Aurora RI:

Blended Intensive Programme (BIP) are short-term intensive programmes that use innovative learning and teaching methods such as an online collaborative learning. They combine the virtual exchange element with a face-to-face mobility stay of a short duration (5 and 30 days).

This innovative format combining physical mobility with a virtual component opens up an opportunity for more flexible mobility without the barriers that often limit participation in traditional courses, aiming to reach out to all types of participants, from any background, field of study and cycle.

Based on the experience and work done previously in the Erasmus+ project and the set of skills and abilities mapped in AURORA RI, the Aurora universities will continue to host Blended Intensive Programs.

A Blended Intensive Programme requires three Aurora universities to participate. One takes on the role of a coordinating organization by receiving at least 15 international participants, organising at least physical component of a minimum of five days and guarantee recognition of at least 3 ECTS.

Participant organizations do not receive funding, but they must guarantee the mobility of participants. They co-organise the teaching and virtual component and must guarantee recognition of at least 3 ECTS.

Aurora Open Science Training and Community Starter Kit – WP6



Academia is in a transition towards a more transparent way of doing and sharing scientific research. This shift to Open Science increases the accessibility of research, which contributes to research integrity and opens new avenues for collaboration with other researchers and societal partners. In Work Package 6 of Aurora RI, we have focused on sharing and implementing Open Science practices.

Continuing beyond Aurora RI:

1. Joint training programme on Open Science

Aurora RI established Open Science training modules for Aurora PhD candidates. These were aimed at helping students and researchers to incorporate Open Science practices into their research workflows and become ambassadors for Open Science. Topics that were covered are Open Access publishing; how to make research data and software FAIR; how to guarantee research integrity; and how to engage with the general public about research.

The Aurora consortium will continue opening up local training opportunities to PhD candidates from other Aurora universities. Furthermore, within Task 5.3 of Aurora2030 ('Support and Infrastructure for Open Science'), we will expand our joint training programme to training opportunities for *research support staff* at Aurora universities.

2. Network of Aurora Open Science Communities

We created a network of Open Science communities within and between the Aurora institutions. In these Open Science communities, students and researchers who want to learn about Open Science can share experiences and inspire each other.

To help Aurora universities start their local communities, we collaborated with the International Network of Open Science Communities ([INOSC](#)) to create an [online incubator program](#), which is now offered twice per year to researchers and research support staff from universities around the world.

5 of 9 Aurora universities have Open Science Communities now. The Aurora consortium will continue to foster and grow its network of Open Science Communities, by involving these communities in and connecting them to the abovementioned training programme.

Aurora Capacity Matrix for Citizen Engagement – WP7



The university as an institution is increasingly functioning as an open system, taking on various roles beyond traditional research and education. In the 21st century, universities are not just centers for learning; they are also actively involved in applying knowledge through valorization programs, securing funds to address societal issues, and striving for social impact. This evolution has made universities more adaptable, but also more vulnerable.

This new vision requires that the university and its staff develop effective ways to engage with citizens and societal actors. In WP7, one of the deliverables outlined designs for a facility (e.g., a

science shop, social lab, co-creation lab, or mini-public for deliberation) to engage with local communities, develop shared research questions, co-create projects, and address local societal challenges.

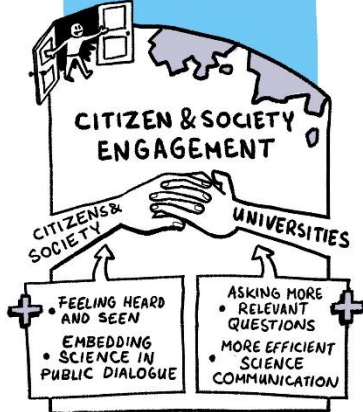
Given that such a facility is highly context-dependent, a 'one-size-fits-all' blueprint is impractical. Various factors, such as the university's size, scientific focus, target groups, location, and current support capacity, must be considered. Therefore, we have created a set of building blocks for a facility that are general enough to be applicable in all conditions but can also be adapted to specific institutional needs.

- **Long-term partnerships and outreach:** The facility should build and maintain lasting collaborations with various stakeholders, actively engaging with the community through off-campus activities.
- **Intermediaries with the right expertise:** The facility needs intermediaries who can connect external challenges with the appropriate university expertise, ensuring effective collaboration and project alignment.
- **Change agent role:** The facility should act as a change agent within the university, driving innovation and influencing policy to support continuous improvement and adaptation.
- **Support and training in engagement:** The facility should provide comprehensive support and training for researchers to effectively communicate and collaborate with various audiences, including through media and co-creation processes.
- **Student-focused engagement:** The facility should integrate community engagement into the curriculum, allowing students to apply their academic knowledge in real-world settings through community-based projects.
- **Spaces for engagement:** The university should offer dedicated spaces designed for internal and external collaborations, fostering a culture of engagement and innovation.
- **Becoming engagement researchers:** The facility should develop expertise in science-society interactions, focusing on understanding, supporting, and improving engagement practices through continuous evaluation and transformative learning.

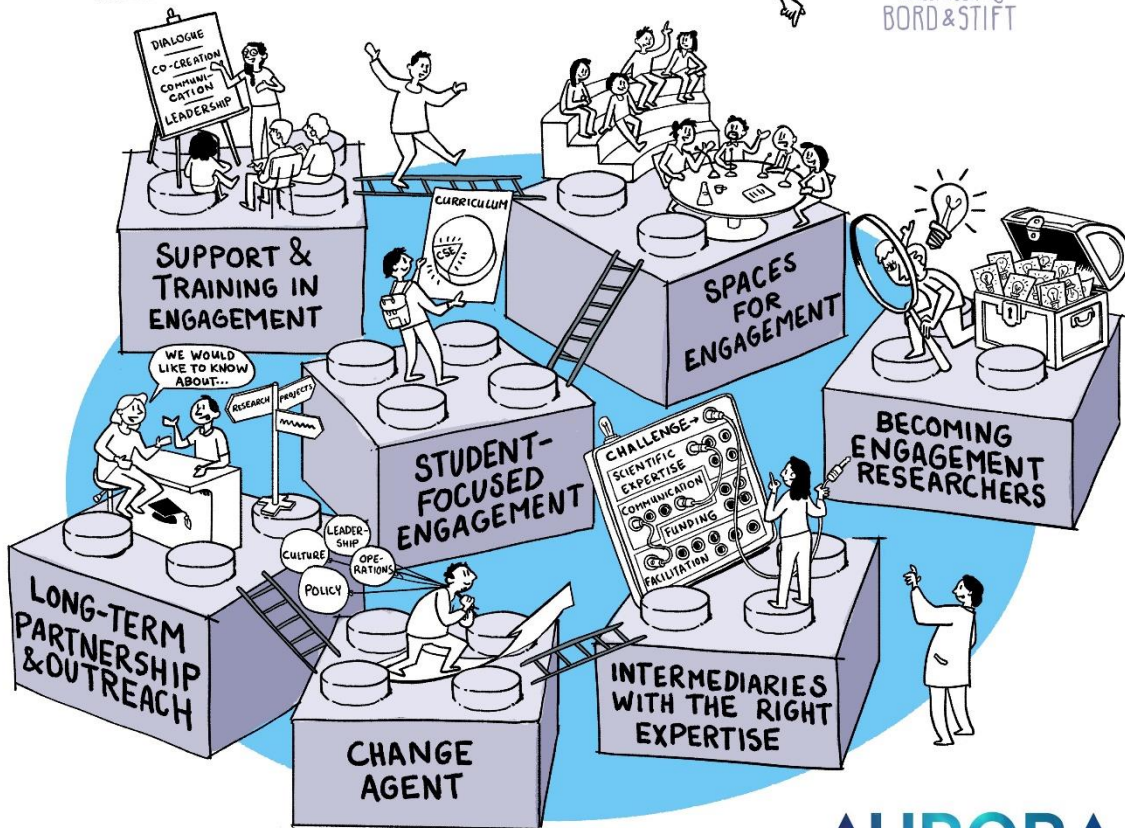
DESIGN FOR AN ENGAGEMENT FACILITY

WHY?

TO PROPERLY ADDRESS SOCIAL CHALLENGES UNIVERSITIES MUST OPEN UP



HOW?



Continuing beyond Aurora RI:

Aurora will continue to support the framework for capacity building in dialogue and science communication for research managers, enabling them to cascade this training within their institutions. Palacký University and Vrije University Amsterdam are setting up a project to run a structured "train-the-trainer" model for Aurora. Additionally, an impact training model for early-career researchers across Aurora universities will be led by the University of Innsbruck and the University of Iceland, with support from Vrije University Amsterdam, strengthening researchers' ability to convey and implement the societal impact of their work. Following a recent visit, volcanologists from the University of Iceland have requested collaboration on developing a summer school focused on science communication and volcanology. This summer school, planned to launch in May 2025, will be supported by an Aurora grant.

Aurora and Collaboration with Other Alliances – WP8

The purpose of WP8 is to share the deliverables and outcomes of our project with the rest of European University Alliances (EUNs). AURORA RI has enhanced this collaboration through the participation in the Forum of European Universities #2 (FOREU2), through the Aurora Central Office in Brussels, and through the participation of Aurora universities, both at the institutional level and the Alliance level in different events organised by and for European Universities Alliances. FOREU2 has been a new initiative aimed at fostering dialogue and cooperation among key representatives of the second round of European Universities alliances. The aim of this forum was to bring together university actors from across Europe to address the most pressing challenges and opportunities related to the transformation goals.

Deliverable 8.4 “A roadmap for further collaboration with other European Universities” summarises the results of an analysis of AURORA RI’s participation in collaborative events and includes some recommendations to enhance collaborations in the future, including via the new FOREU4All project but also via embedding of part of the AURORA RI activities including Open Science, Citizen Engagement and Sharing and Skilling Scientific Experience and Knowledge within the Erasmus+ funded Aurora 2030. The creation of active and engaged joint working groups with other alliances focused on specific thematic areas such as sustainability, digital transformation, and health has proven very efficient. Mapping of other specific topics of interest and the generation of dedicated working groups will facilitate deeper collaboration and more targeted outcomes on areas of interest.

Continuing beyond Aurora RI:

FOR-EU4All project aims to unite all European University alliances into a collaborative structure substituting prior FOREU forums, and the intention of Aurora is to actively participate in this forum beyond the end of Aurora RI. FOR-EU4All provides an opportunity to deepen the impact of its predecessor forums by increasing engagement and participation from all alliances and key members, in co-creation with other stakeholders and Aurora will take part in this to help strengthen the mechanisms for sharing best practices and experiences to further support the European Universities alliances’ goals and sustainability.

The road ahead

By working together on different topics within research support Aurora partners have built institutional trust. The mapping and sharing of best practices has helped build capacity within individual research support offices in Aurora. Work Package 5 in Aurora 2030 rests on the foundation created by Aurora RI ensuring continued collaboration within the field of Open Science. The trust built has also paved the way for collaboration between researchers in Aurora which is further solidified with seed funding. The discussion amongst research managers in Aurora RI has also led to further funding opportunities being explored to continue this important collaboration.

Aurora network is a sponsor to ERA Action 17: *RESEARCH MANAGEMENT INITIATIVE – Enhancing the strategic capacity of Europe’s public research performing and funding organisations.*

There is a willingness in Aurora to continue the collaboration of Aurora universities for research and innovation support to foster and deepen the partnership for excellent research and innovation, through Aurora 2030 and beyond. The Aurora Network already has structures in place to continue collaboration of research and innovation managers that go beyond the Aurora RI project. The reinstatement of the Research Managers and Grant Advisors’ group allows continued collaboration on research and innovation support. It also has a role to promote the shared use of research support tools developed in Aurora RI and to map out further funding opportunities for researchers and research managers, both at national and European level. An Aurora representative for research and innovation will also continue to operate in Brussels promoting Aurora goals and vision, ensuring the visibility of Aurora activities and international outreach, contributing to policy making within EUN and ERA and ensuring coherence with the EEA.