AURORA

AURORA
Research and Innovation

A design for a facility to engage with local communities, develop shared research questions, co-create research projects and contribute to local societal challenges

Deliverable 7.5
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Acknowledgements

Executive summary

In the 21st century, universities are expanding beyond their traditional roles of research and education to embrace broader societal responsibilities. This evolution reflects a growing recognition that universities contribute to solving societal challenges through active engagement with communities. As universities increasingly position themselves as open systems, they develop new capacities—both in skills (referred to as *'software'*) and institutional structures (*'orgware'*)—to effectively foster citizen and societal engagement (CSE). However, significant challenges remain in embedding these engagement efforts within university frameworks.

Key challenges and requirements for effective engagement

Universities face numerous challenges in institutionalizing CSE. These include insufficient support in terms of time, funding, and resources, as well as a lack of prioritization and integration of engagement activities into their core missions. Additionally, there is often a disconnect between engagement initiatives and the individual skills of university staff, which hampers the effectiveness of these efforts. To overcome these barriers, universities need to establish robust support systems, appropriate funding schemes, and comprehensive training programs to embed CSE within their institutional structures.

Engagement also requires specific skills and mindsets from those involved. Effective CSE moves beyond merely using citizens as data collectors and involves them in defining problems, designing research, and co-creating solutions. This shift from a top-down transmission of scientific knowledge to a collaborative, co-creation model is essential for meaningful societal impact. Skills such as listening, networking, and context sensitivity are crucial, as are competencies in participatory approaches, language proficiency, and leadership.

Training and dialogue: foundations for engagement

During the Aurora Universities Dialogue Trainings, a series of training programs were conducted to foster open dialogues between universities and society. These programs highlighted the need for rethinking the science-society relationship and emphasized the importance of enhancing science communication and fostering effective dialogues. For instance, workshops like *'Science Communication Under Pressure'*, '*The Art of Dialogue'* and '*The New University'* equipped researchers with the skills needed to facilitate societal interactions and reflect on their assumptions about their roles as intermediaries.

Insights and recommendations for a CSE Facility

Establishing a dedicated facility that provides the necessary support, training, and infrastructure helps to institutionalize CSE. The facility should be designed based on a modular approach, allowing it to be tailored to the specific needs of each university. Key components of this facility can include:

1. **Support and training in engagement:** The facility serves as a central hub for providing researchers with the skills and knowledge needed for effective public

engagement, from traditional science communication to co-creation with societal partners.

2. **Intermediaries with the right expertise:** The facility employs intermediaries who can connect societal challenges with appropriate university expertise, ensuring that research projects are responsive to societal needs.

3. **Change agent role:** The facility acts as a catalyst for systemic change within the university, working closely with policy stakeholders to embed CSE into institutional practices and culture.

4. **Long-term partnerships and outreach:** The facility fosters long-term collaborations with external partners and actively engage with communities to address societal challenges. This includes organizing off-campus activities that bring university expertise to the community.

5. **Student-focused engagement:** The facility integrates CSE into the curriculum, providing students with opportunities to engage with societal issues through community-based projects.

6. **Spaces for engagement:** The facility provides dedicated spaces where university staff, students, and external partners can collaborate on engagement activities, fostering a vibrant culture of dialogue and innovation.

Conclusion

As universities continue to evolve, their ability to effectively engage with communities will be crucial in addressing complex societal challenges. By developing the necessary institutional structures and skills, universities can strengthen their connections with society, creating meaningful collaborations and fostering a culture of open dialogue. The proposed CSE facility, informed by insights from various Aurora universities, offers a strategic approach to embedding engagement within university operations, ensuring that universities are well-equipped to contribute to societal progress.

The aim of Work Package 7 (WP7) of the AURORA RI project is threefold:

1. Build on the vast amount of work on citizen and (local) public authorities' engagement and RRI concepts, methodologies and practices in the community and beyond.

2. Shift the participation attention from '*hardware'* (i.e. tools, formats, procedures) to '*software'* (values, assumptions, mindsets, participatory culture) and *'orgware'* (embedding, institutionalisation).

3. Follow the systemic turn in participation. Shift focus from isolated activities or events to building and nurturing an ecology of participation around the different Aurora partners, connecting the universities to local communities, authorities and organisations, building long-term relationships with citizens, civil society organisations and public authorities, issues and communities in a participatory ecosystem.

Project Abstract

The [AURORA RI](#) project develops closer research and innovation support structures to complement the excellent research and innovation activities within the [Aurora universities](#), a European University Network funded by the European Commission. It deepens and expands 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 SDGs and based on the four priority domains of the Alliance:

i) **Sustainability and Climate Change;**
ii) **Digital Society and Global Citizenship;**
iii) **Health and Wellbeing; and**
iv) **Diversity & 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, learn 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 R&I 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 universities with a broad toolkit to conduct excellent research and disruptive innovation. In addition, being part of FOREU2 we would like to have a common understanding among the 24 Alliances of the modus operandi and share experiences and knowledge. This first combined FOREU2 report is about practices and measures taken/to be taken to ensure the mainstreaming of gender dimension in R&I long-term strategies.

The Aurora universities are a collaboration of European universities focused on enhancing societal impact through research and education. The primary goal of Aurora is to foster community engagement to drive social change and integrate this impact-focused approach into academic programs. Work Package 7 (WP7) of the AURORA RI Project, a complement to the Aurora Alliance (2020-2023) and Aurora 2030 (2023-2027), focusses on embedding citizen and societal engagement (CSE) within research and education. It specifically focuses on how to successfully embed CSE in research and educational activities.

For WP7 we view CSE as an overarching term referring to a variety of approaches that are actively used to involve citizens or societal organizations, including those in disadvantaged communities, in the production of scientific knowledge and (technological) solutions for societal challenges. Engagement approaches can range from consultation – where citizens are informed or consulted – to more deliberative and co-productive approaches – where citizens have more decision-making control (De Weger 2022). As such, engagement approaches can take many different forms, including more bottom-up mobilisation or more structured and organised involvement of citizens in agenda-setting, decision-making and knowledge production processes. For example, citizens may be involved in scientific research as data collectors, interpreters, or co-designers. Ultimately, the aim is to increase the meaningful engagement of a wider group of citizens, civil society and public/city authorities in research, innovation, and education.

Motivation to strengthening the connection with the communities through citizen and societal engagement

Universities have increasingly begun to function as an open system. They have started to differentiate their roles and take on various additional roles in the 21st century. Focusing solely on research and education is not sufficient anymore; they are increasingly involved in applying knowledge through valorization programs, acquiring funds to solve societal problems, and striving for social impact. This has made universities more adaptable, but also more vulnerable.

This new positioning and vision of the university requires that the university and its staff develop different capacities within its ranks. In earlier deliverables within this work package, we referred to these capacities as the skills and mindset needed for engagement, the "software"; while we refer to university structures as "orgware". Below is an overview of the software and orgware capacities we have encountered, as described in D7.2.

Table 1: Theoretical framework for succesfull citizen and societal engagement	
"Orgware"	"Software"
"Orgware" highlights the challenges of embedding public engagement within institutional frameworks, emphasizing the need for universities to support and maximize CSE.	Engaging, shaping, and/or facilitating the interaction between science and society is essential for CSE. This requires certain skills and mindsets from those who play a role in this interaction.
Differences among Aurora partners in incentivizing and institutionalizing CSE were observed, with varying funding schemes, training and support systems. Interviewees from inspiring practices in previous deliverables pointed out specific issues as barriers to CSE such as: - Lack of support in terms of time, money, and space; - Absence of urgency and priority within organizations; - CSE not being mentioned in vision and mission statements or encouraged by supervisors and senior management; - Lack of integration between engagement initiatives and individual skills; - Prioritization of research for society over working with society; and - Specific funding schemes.	Assumptions and mindsets about the role of CSE and about capacities of citizens and societal organization being involved in engagement often shape how CSE is being done and how much it can enable meaningful collaboration between science and society. For example, we found that many CSE practitioners conceive CSE as method to use citizens for data collection, without allowing them to have an contribution to how the research is designed, how the problem is defined or what public values are at stake. Much of CSE focuses on transmitting scientific results rather than co-creation. Effective CSE requires *software,* such as: - Crucial skills such as listening, brokering, networking, context sensitivity; - Engagement competences (including modesty, perspective-taking, participatory approaches, tension management, and innovation diffusion); - Language proficiency (complex issues need to be explained not in a scientific community style but in a way that every citizen can understand them); and - Entrepreneurial and personal leadership skills (identifying opportunities for collaboration, initiating innovative projects, and managing resources effectively)

Using the lens of how to successfully shape citizen and societal engagement, based on our theoretical framework of "hardware", "software", and "orgware", we explored various examples and needs that could be addressed through the establishment of a facility for engagement. In this deliverable, we first outline our findings from the Dialogue Tour (Chapter: Challenges faced by citizen and societal engagement practices). During this tour, we gathered insights from various Aurora partner universities regarding what they would require in such a facility.

Additionally, we reference examples from previous work within this work package, highlighting various Aurora universities where some form of engagement facility has already been

established (Chapter: Current existing Aurora Universities facilities). The take-aways for a facility in these two elements—both the challenges faced by citizen and societal engagement practices and the existing facilities at Aurora universities—provides the foundation for the actual design of the facility, as described in the final chapter (Chapter: Design for an engagement facility).

Before diving into the insights gained in D7.5, it is important to define what we and our partners within the Aurora Alliance in WP7 consider as Citizen and Societal Engagement (CSE). CSE encompasses a wide range of practices that foster collaboration between universities and external societal actors—such as citizens, communities, and organizations—to address societal challenges. CSE goes beyond merely involving the public in research; it includes co-creating knowledge, fostering dialogue, and integrating societal needs into research and education. This engagement can take various forms, such as community-based research, where researchers and community members collaborate to address local issues; service learning, which integrates student learning with real-world community service; engaged scholarship, where researchers contribute directly to solving societal problems; and transdisciplinary teaching, which brings together diverse perspectives across academic and societal sectors. Additionally, CSE involves universities aligning their strategic goals with societal needs, embedding engagement within their institutional frameworks to create sustainable, long-term partnerships with communities.

In the following sections, you will read about these different forms of CSE that we have encountered and developed within the framework of Aurora over the past years. Instead of adopting a singular overarching form of CSE, it is important that we embrace and describe the diversity of these approaches.

Challenges faced by citizen and societal engagement practices

For the earlier deliverables 7.2 and 7.3, a capacity matrix was developed outlining the competencies practitioners need for engagement. Additionally, during a Transformative Dialogue tour was conceptualized and implemented to train the trainers among the Aurora partners. Two trainers from VUA traveled to the Aurora partners University of Iceland (HI), University of Duisburg-Essen (UDE), Palacký University (UPOL) and Universität Innsbruck (UIBK). to provide training to researchers, policymakers, and support staff.

Table 2: Context of Transformative Dialogue Training series

Dialogue between science and society as a form of CSE is more important yet more challenging than ever. The urgent societal issues we are facing today, such as global warming, poverty, and migration, require science to open up to societal perspectives. While the need for science-society collaboration and communication is growing, polarization and contestation of scientific knowledge in society seems to be more pressing every day. It is time to rethink the science-society relationship and foster dialogue.

The various trainings we provided at different Aurora partners were first tested at the Vrije Universiteit Amsterdam (VUA). Then, two trainers were sent to the partners. These trainings were designed from a co-creation perspective, where we collaboratively thought about how to reshape the relationships between science and society from within the academic community. It was truly a dialogue with the academic community, where we engaged with researchers as well as support staff working in communication departments, administration, and policymakers. Among the researchers, we sought participants ranging from PhD students to full professors.

The first training we conducted was *'Science Communication Under Pressure'*. This training viewed the field of CSE as a way to enhance the relationships between science and society and explored what is happening in this area. We see various complex societal and social problems that researchers want to address and contribute to

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positively, but they often lack the right tools. We highlighted this from a perspective they might not be accustomed to, namely the different roles researchers can play. Can a researcher only disseminate information, and to whom? Or can they also act as guides or facilitators, bringing together various perspectives and approaches to societal problems for a better start?

The second training, called '*The Art of Dialogue*' focused on the conversations researchers have with each other and with society. What is needed for a good conversation? The theory we adhered to suggested that researchers need to listen better and become aware of their own assumptions towards 'others'.

The final training, which informed this deliverable, was *'The New University'*. In this workshop, we mapped out the system of CSE by examining what happens at each level. What happens at the individual level, within your scientific community, and what happens to ensure that researchers have the time and space to engage in these forms of engagement? What works against and what supports this? We thought about where the scientific community should head, what is needed for this, and where we need to be to collectively shape this change.

These trainings in a co-creative manner fostered an open dialogue and helped us collect insights into what is needed for a facility focused on CSE. The training sessions, particularly the '*The New University*', focused on the capacities and institutional conditions necessary to integrate CSE into the research practices and university structures. We discussed with our participants what is required at the system level, what is needed for cultural change, and what adjustments are necessary in the attitudes of academic staff. These insights informed the design of a facility for engagement as described later in the deliverable. By consulting these diverse groups of people and understanding what is happening in their specific context, we can better determine what facilities are appropriate and what their needs are.

In this deliverable, we describe possible designs for a facility, as well as the internal dialogue with stakeholders within the university so that such a facility fits the context of the local university, creates support within the local academic community, and take into account the right needs and questions that exist within this community. Below is a description of three different trainings we provided at the universities of HI, UIBK, and UPOL, and the insights we take away from each of the universities that helped shape the facility later on.

Innsbruck, Universität Innsbruck

The program attracted an overwhelming number of participants per session (n=40-50 per session), eager to develop skills in transformative dialogues. The view on CSE by our participants at the start of the three-day-serie can best be characterized as "*How can we convey our message as effectively as possible?*". This perspective, however, changed slightly over the course of the three workshops. We discovered with our participants that they felt an urge to interact and engage with their intended publics.

During the co-creation session '*The New University*' about the envisioned future role of the university, where the goal of the session was to develop a strategy for institutionalizing dialogue at the university, most groups devised ways to engage in science communication, such as a university day where doors open to the public. Other groups focused on setting up training programs, while one group tackled the theme of 'Team Science,' calling for more policy support for career paths of researchers committed to societal engagement.

Between the sessions, many (informal) conversations took place with attendees, which also involved some policymakers and support staff. What stood out was there was no research group known to be working on the theory behind engagement and dialogue; researchers were

often unaware of developed activities around interdisciplinary collaboration and engagement; and that their current strategies in the institutional plan did not yet explicitly mention engagement, dialogue, or science communication, or any affiliated concept.

Take-aways for a facility

- Support and training in engagement: would fill a need amongst these participants
- Change agent role: making sure that there is policy support within the university for CSE

Olomouc, Palacký University

In Olomouc, our dialogue trainings coincided with the Academia Film Olomouc (AFO) film festival, the science film and documentary festival held annually in Olomouc. The trainings were scheduled concurrently to allow attendees of the film festival to participate in the dialogue trainings and vice versa. The setup of the trainings was slightly different from other universities: we only conducted the '*Science Communication Under Pressure'* and '*The Art of Dialogue'* workshops. The third training, *'The New University'*, was organized as a panel discussion by the director of the local Science Center, which is affiliated with UPOL.

The first two trainings took place with groups of about 20 people, mainly PhD students but also a vice-rector joined. While this group also focused on crafting a better narrative for society, the insight emerged that there is a significant need for more frequent internal dialogues within the university community on these themes.

Additionally, the traditional understanding of these training sessions as methods to help researchers "*convince the public with 'the facts.'"* was quickly left behind by the participants as discussions deepened. Guided by theories and practical examples, there was recognition amongst the participants of how more nuanced engagement and science communication, and the importance of the democratic element in it can be a worthwhile contribution. The participants came up with ideas on how to attract members of society to the university, creating spaces for engagement where experiences and assumptions can be shared with one another. In the end they settled on a mutual goal: to progress together through mutual understanding and collaboration.

Both the organization of the dialogue trainings and the participants found the open conversation during the trainings about CSE refreshing and enriching, feeling a strong need to continue such conversations. This sentiment was also felt during the panel discussion on the last day that replaced the '*The New University'* training. The panel consisted of the university's vice-rector, a well-known national science journalist, and a physician-researcher. These conversations marked the beginning of discussions on these themes involving multiple levels of the university, focusing on how to make engagement part of the university structures. There was a common understanding and felt need of urgency to start looking into how this university would go about. After the trainings, the lead author of this deliverable received a message from the contact person at UPOL: "*It looks like the SciCom workshops and the panel debate at AFO have gotten the ball rolling here at Palacký University.*", and this eventually led to a new position of science communicator and popularizator under the rectorate of UPOL.

Take-aways for facility

- Becoming engagement researchers: a central coordinator is appointed to streamline the institutionalization of science communication and engagement

Reykjavik, University of Iceland

Among the universities visited during the dialogue tour, the University of Iceland faces unique challenges in its capacity for CSE. There is a significant demand for media appearances in Iceland, particularly in fields like volcanology and geyser studies, where local expertise is highly valued both domestically and internationally. Researchers in these areas often encounter difficulties in media interactions, where the complexity of their work can be overshadowed by the demand for brief soundbites.

Iceland's academic community, though small, is deeply engaged in international collaborations, such as those within the Aurora universities. Currently, the university's communication and marketing team, which plays a vital role in CSE efforts, is relatively small. Additionally, with government funding for science and technology being limited, competition for resources is intense. Therefore, it was very beneficial and constructive to have these training sessions, where eventually 40 individuals committed to science-society interactions came together, to discuss how the university could enhance the distribution of financial resources, promote the exchange of expertise and experiences, and emphasize to policymakers the importance of this area to the scientific community.

In the final training session with *'The New University,'* participants synthesized examples from various European practices and developed two key strategies:

1. **Establishment of a communications and media office**: This office would bring together individuals from the communication and marketing departments, along with researchers from different faculties, who would serve as advisors. Given the high media demand for researchers to present their work, the goal is to create a safe space—dubbed the 'Festival of Failure'—where researchers can engage in peer-to-peer training, make mistakes, and learn from one another in a supportive environment.
2. **Enabling and rewarding public outreach**: This strategy focuses on empowering and incentivizing researchers to engage in public outreach. It suggests that funding agencies require open access and offer both financial support and resources for public engagement initiatives, thereby legitimizing and encouraging these efforts. The approach involves both top-down and bottom-up strategies, with a call to "change the incentive structures set by funding agencies" to better support public outreach activities.

Take-aways for facility

- Long term partnerships and outreach: by uniting within a body such as a Communications and Media Office, university researchers could reach out to citizens and societal actors.

Current existing Aurora Universities facilities

Conducting this internal dialogue (mapping the current field together; determining what we want to achieve regarding dialogue at the university; creating a vision to bring about change at the university) can be guided by the various examples we encountered during the Aurora Alliance project. We describe four facilities in the following section.

Network Science in Dialogue

The Network Science in Dialogue at the Vrije Universiteit is an example of a facility for CSE. Although it does not primarily focus on directly involving citizens, it supports researchers in creating the right conditions to do so. It came to existence to address a shared need within VUA for a place where researchers can be trained and supported in CSE. It offers a platform for exchange knowledge and experiences about creative methods to better involve citizens and societal actors in scientific research. Examples include co-creative methods, theater techniques, role-playing, and citizens' assemblies on themes like climate, sustainability, and diversity.

The Network Science in Dialogue originated from research on the status of science communication in the Netherlands (Bruggenbouwers in spagaat, Kupper *et al.,* 2022). During this research, conversations were held with researchers across the country, including support staff. It became clear that many researchers are eager to engage in dialogue and engagement. However, integrating these activities within their current research discipline proved challenging. Science communication itself limited them: it made it difficult for them to gain promotions as it was not yet valued as research and education are, and often they must perform these activities outside their regular work hours and incentive schemes.

To change this, VUA initiated a preparatory phase, collaborating with various researchers, valorisation and impact officers, policy officers, and different services and departments such as communication & marketing, grant support, university relations, and fundraising. Over a year, numerous conversations were held to inventory needs and determine how to meet them. They also explored what dialogue and engagement mean for this specific university and whether a specific VU vision exists in this area. Additionally, they connected with various initiatives. For example, they were part of the co-creation of the research strategy, a ten-year plan for research at the VU, in collaboration with the scientific community. They also joined the VU's Open Science initiative, which includes funding opportunities on a national level as well. After the preparatory phase, the plan was discussed with the executive board, approved, and funding was allocated to realize it.

Science in Dialogue brings together different researchers from VUA and beyond by offering training within their expertise. This can range from traditional forms of science communication, such as writing articles for LinkedIn, to how researchers can handle polarization and engage in conversations with skeptics, for example antivaxxers. Another aspect is that researchers can receive seed funding to create a 'dialogue intervention' for their research. This might involve adapting part of their research process to collaborate with citizens or societal organizations, rather than working solely within their scientific community.

Examples include jointly setting up a research agenda, defining problems with citizens within their research discipline, and jointly evaluating and disseminating scientific knowledge. Science in Dialogue is currently a small organization, consisting of two people, and is running as a pilot project for the first two years with university funding. After this period, the aim is for funding to be supported by various university faculties to ensure continuous and sustainable progress. Many of the trainings mentioned in earlier deliverables are applied and further refined.

Take-aways for facility

- Intermediaries with the right expertise
- Support and training in engagement
- Change agent role

UNIAKTIV and Community Service Learning (CSL)

UNIAKTIV and Community Service Learning (CSL) are two initiatives recognized as Inspiring Practices in Deliverable 7.1, both aimed at promoting CSE and transdisciplinary education. Although they share similar objectives, they differ significantly in their organizational models and scope. Both initiatives focus on engaging students with societal issues by facilitating interdisciplinary collaboration and encouraging them to apply academic knowledge to real-world challenges. Through structured programs, students are encouraged to address societal problems by working directly with community partners and stakeholders, integrating both education and research into their learning experiences.

Community Service Learning (CSL) at VUA

CSL at VUA is a university-wide program integrated into all faculties, encouraging students to engage with societal issues as part of their academic training. Through CSL, students gain a deeper understanding of their course material while developing critical skills like problem-solving, cultural awareness, and civic responsibility. The initiative supports students in becoming agents of societal change. By promoting active engagement with external organizations, students are given the opportunity to apply theoretical knowledge in practical contexts. The CSL team provides extensive resources and guidance to help lecturers integrate CSL into their courses, ensuring that projects are aligned with both academic and societal goals. Additionally, CSL focuses on fostering long-term partnerships with societal organizations to ensure sustainable impact both within and beyond the university context.

UNIAKTIV at UDE

UNIAKTIV, founded as a central unit in 2013, serves as a core facilitator of societal transfer at UDE. It connects faculty, students, and community organizations, fostering partnerships that address social, cultural, and ecological issues on local, regional, and international levels. UNIAKTIV's approach is deeply embedded in UDE's broader strategy for societal engagement, aiming to integrate civic responsibility into all areas of university life. By facilitating collaborative projects between the university and civil society, UNIAKTIV supports the development of meaningful partnerships that contribute to societal well-being.

UNIAKTIV's approach applies methodologies such as Service Learning, Design Thinking, and Community-Based Research. It emphasizes user orientation and reciprocity, ensuring that both academic goals and community needs are met. One of its key successes lies in balancing the needs of university courses with those of community partners, enabling projects that would not have been possible otherwise. Additionally, UNIAKTIV provides substantial support to faculty through training, acquisition of community partners, and project facilitation. It has earned recognition for its work, including national awards, and is deeply embedded in UDE's strategic goals for societal transfer. UNIAKTIV also conducts regular evaluations, such as its recent Community Partner Survey (ComPaS), to assess the outcomes and impact of its projects. The initiative actively seeks to improve its processes by regularly adapting its methods based on feedback from both students and community partners.

Comparison

While both initiatives aim to foster societal engagement through education, the differences in their organizational structure and strategic focus are evident. CSL at VUA has a broader institutional reach, with established support systems across faculties. In contrast, UNIAKTIV operates more as an intermediary between the university and community, placing a stronger

emphasis on fostering reciprocal relationships and co-developing projects with external partners. Despite these differences, both initiatives share a common goal: to create meaningful and lasting societal impact through student engagement and collaborative research.

In both cases, the boundary between education and research is blurred, as students are involved in real-world problem-solving, often led by researchers who are also lecturers. These initiatives provide added value to both students and community members, enhancing the societal relevance of academic research and education. They also help prepare students for future roles as socially engaged professionals, contributing to societal well-being and development through their academic and professional endeavors.

Take-aways for facility

- Student-focused engagement: embedding community engagement into coursework, allowing students to apply academic knowledge to societal issues through real-world projects.
- Long-term partnerships: building sustained relationships with community organizations, ensuring projects are co-created and meet both academic and societal needs.
- Support and training: providing faculty and students with the necessary training and resources to engage effectively with external partners and manage community-based projects.

Citizens Academy within the healthcare sector

The Citizens Academy is part of the University of East Anglia, which was previously part of the Aurora universities. We had more extensive conversations with them after they emerged as an Inspiring Practice in Deliverable 7.1. The Citizens Academy primarily focuses on healthcare and is part of the Faculty of Medicine. This initiative aims to provide a coordinated approach by involving various people from society, including patients and experts with relevant experience, in research and education, often referred to as Patient Engagement.

The Citizens Academy serves as a central hub that supports researchers within their network with training, mentorship programs, policy development, and best practice guidelines. This support is organized both top-down and bottom-up. Leadership initiated the change, and grassroots educators and researchers embraced it, organizing pockets of good practice that promote patient and public involvement. There is now a robust infrastructure for training and support. Researchers follow certain guiding principles that are hightlighted in the table below.

Table 3: Guiding principles for good practice within the Citizen Academy
- **Inclusivity and representation**: Ensure that patient and public involvement (PPI) includes diverse voices, especially those from seldom-heard groups. It's crucial to make sure that these voices are not only heard but also have a meaningful impact on the research and outcomes.
- **Transparency and clarity**: When engaging with the public, it's important to set clear expectations from the outset. This includes being transparent about the goals of the project, the possible outcomes, and any limitations or uncertainties, such as funding uncertainties that could affect the research.
- **Support and training**: Providing support and training both for the public involved in the research and for the researchers themselves is essential. This includes giving members of the public the skills and confidence to contribute meaningfully and ensuring that researchers are prepared to work with a diverse range of people.
- **Flexible and responsive engagement**: Public involvement should be flexible, allowing for varying levels of engagement depending on the individual's circumstances and preferences. This flexibility

> ensures that participation is feasible and meaningful for all involved, without placing undue burdens on participants.
>
> - **Ongoing reflection and adaptation**: Reflecting on the processes and outcomes of public involvement is vital. This ongoing reflexivity helps in adapting practices to improve and align more closely with the needs and expectations of both the public and the researchers.

Patient engagement has been a common approach in healthcare for decades because it is known that patients often have valuable experiential expertise to add to the research, something that is quickly overlooked. They can, for example, assess whether a particular treatment is effective and define a disease more accurately. This allows them to contribute to personalized care, something doctors and researchers alone might not immediately consider. Patient engagement is somewhat easier to implement because each research project has a clearly defined target group, namely people with a specific disease or condition. Polarization or controversy as could be the case with complex societal issues (climate change, migration, etc.) does not appear often here.

Take-aways for facility:

- Support and training in engagement
- Becoming engagement researchers

The Science Shop

The Science Shop acts as an intermediary by connecting societal organizations and non-profit institutions with a specific research question to students or regular researchers at Groningen University. The goal is to engage groups in society with scientific research and achieve direct positive changes together. The Science Shop has a network function that involves finding the right expertise within the university to set up a research project. Students are involved, who can conduct research for credits, such as a master's thesis or as part of their regular studies.

What stands out about this is how accessible this organization is: citizens talk to a contact person instead of having to navigate through bureaucracy first. There are two possible responses from the Science Shop to practical questions from societal groups. In both aspects, citizens or societal actors with a particular question are matched with research (teams). Depending on the complexity or context of the case, either these researchers already have the answer to the question, or they jointly investigate the question within a new research project. This shifts the focus to transdisciplinary research, where solutions are jointly considered. This mindset, which is strongly present here, contributes to the Science Shop's success in attracting questions from outside.

The research themes the Science Shop focuses on, due to its location in an agricultural area and its connection to Groningen University, relate to changing food production, health and nutrition, green transitions, nature and ecology, city and countryside. What makes the Science Shop unique as a facility to attract citizens is their ability to bring in questions from outside the university.

Take-aways for facility:

- Long term partnerships and outreach: a prime example of how research projects can be co-created.

Design for an engagement facility

Since the design of a CSE facility for Aurora Universities is highly context-dependent, it is impossible to create a 'one-size-fits-all blueprint'. There are some many factors to take into account, such as the size of the university; its specific focus in scientific domains and target groups; its location; the current support capacity, etc. However, through our collaborations with various Aurora partners and our visits during the train-the-trainer program, we have gained various insights about the requirements for effective CSE, that are general enough to be valid in all conditions but can also be adapted to specific needs for an institute. These insights/requirements have been deduced from each of the examples from either the training sessions at the Aurora Universities or examples of facilities across the Aurora Univeristies. Furthermore, they span across the theoretical framework of software, orgware, and hardware.

Ideally, a CSE facility would include all aspects of CSE, ranging from traditional science communication and dissemination to equal collaboration with partners in research projects, and follows a certain trajectory:

1. First, open up for internal dialogue amongst relevant stakeholders within the institute;
2. Then, assign a task to a group of dedicated people develop a strategic plan, meet more and more stakeholders within various faculties. This group constructs the CSE facility based on a modular approach. These steps are explained underneath.

Step 1: Open, internal dialogue

There is a need for facilities to engage with local communities, develop shared research questions, co-create research projects and contribute to local societal challenges but as we found during our tour, it is important to first have internal conversations among staff, students, researchers, policymakers, administrators, support staff, and teachers on these themes. This became apparent in the dialogue tour: many of the participants had not yet spoken with their colleagues about these subjects in a structured way.

Such an internal dialogue involves all key stakeholders, including top management, researchers, students, policymakers, and support staff. The primary aim is to develop a shared understanding of the current challenges in the relationship between science and society, such as misinformation, distrust, communication gaps, and ethical concerns. Equally important is reflecting on internal issues within scientific institutions, like exclusive access to knowledge, lack of transparency, and resistance to change.

This internal dialogue can, for instance, address these key questions (non-exhaustive; they are described in-depth in training module '*The New University*'):
- *What are the university's goals in fostering science-society interaction?*
- *What role should the CSE play in bridging the gap between academia and society?*
- *How should the university organize itself to engage effectively with societal challenges?*
- *What specific forms of engagement are most appropriate given the social and political context?*

In addition, researchers need to engage in self-reflection, questioning their own assumptions about their role as intermediaries between science and society and evaluating the

effectiveness of their current CSE methods (non-exhaustive; they are described in-depth in training module *'Science Communication under Pressure'*):

- *What assumptions do I have about others when I talk to people from society?*
- *What role do I see for myself as an intermediary between science and society?*
- *Why have the dialogue methods I used so far been effective or ineffective in achieving my goals?*

The design of the CSE can be be informed by these internal discussions to ensure it aligns with the local context and effectively addresses societal challenges through co-created research projects. This requires not only the commitment of university leadership but also the involvement of ambassadors who can mobilize their networks, skilled facilitation of conversations, and innovative approaches to break existing barriers. The ultimate goal is to create a facility that promotes transparency, supports collaboration, and fosters a culture of open dialogue, making university research more responsive to societal needs and reflective of its own role in society.

Step 2: Strategic plan and modular approach

In the next phase, a strategic plan for embedding, supporting, and valuing CSE within the university is developed over a longer period of time. The assigned team continues these conversations with the university. It approaches and brings together leaders and ambassadors from various faculties, institutes, and services. These moments consist of one-on-one conversations as well as various co-creational working sessions to together develop the foundational elements of the facility. Design an organizational structure that provides space and structure for researchers to come together, learn from each other, and engage in dialogue. Establish a sustainable financing model for the future.

During our conversations with researchers, support staff and management levels within the Aurora Universities, we found common themes that can serve as the foundational elements for a CSE facility. Such a facility can be shaped as a modular system, consisting of various blocks that can be selected and adapted as needed. As a change agent within your specific academic context, remaining flexible may help incorporating the appropriate blocks that fit your specific needs.

Long-term partnerships and outreach

The facility should foster long-term collaborations with partners both within and outside the university. This involves establishing and maintaining relationships with a diverse range of stakeholders, including other academic institutions, industry partners, government agencies, and community organizations. By doing so, the facility can create a robust network of collaborators who contribute to and benefit from the shared knowledge and resources. It should actively reach out to address societal inquiries, opening its doors to 'questions from the public' and collaborations. It requires a proactive approach, people within the university need to 'go out there' to remain or became responsive to societal needs and challenges. Additionally, the facility should organize engagement activities off-campus, bringing the university to the community rather than expecting the community to come to the university. Such initiatives can include community workshops, public lectures, and collaborative projects that are held in local venues, making the university's expertise and resources more accessible to the broader public.

Intermediaries with the right expertise

The facility should have intermediaries who can connect the challenges and needs that are collected to the right university expertise and projects. These intermediaries play a crucial role in bridging the gap between academic researchers and external partners, ensuring that the right expertise is brought on each project. This includes not only scientific expertise but also professionals from communication departments or grant officers who understand funding requirements and sources. Furthermore, facilitators skilled in designing, conducting and guiding sessions with external partners should also be part of such projects.

Change agent role

The facility should act as a change agent, driving innovation and systemic change within the university by collaborating with key policy stakeholders. This involves not only implementing new practices and technologies but also influencing institutional policies and culture to support continuous improvement and adaptation. By working closely with university leadership and other decision-makers, the facility can advocate for the necessary changes that enable the institution to remain at the forefront of research and education. This role also includes monitoring and assessing the impact of these changes, ensuring that they lead to concrete improvements in the university's operations and outcomes.

Support and training in engagement

Probably the most frequently heard need during the train-the-trainer program, is the facility being a central place for support and training, from dissemination of scientific information to hosting dialogue sessions with external partners. This support includes providing researchers with the skills and knowledge they need to effectively communicate their work to various audiences, from academic peers to the general public. Media training is a crucial component, helping scientists to engage with journalists and use social media platforms effectively. Guidance on how scientists can engage in co-creation processes is also essential, as it enables researchers to work collaboratively with stakeholders in designing and conducting research projects. The facility should include a leadership program and embed science communicators within research projects at all stages, from developing research questions and defining problems to implementation and evaluation.

Student-focused engagement

Inspired by the work of UNIAKTIV and Community Service Learning, the facility should also foster dialogue with society at the course level, focusing on student engagement. This involves integrating community engagement into the curriculum, providing students with opportunities to apply their learning in real-world settings. By participating in short-term community-based projects, students can develop a deeper understanding of societal issues and learn how to use their academic skills to address these challenges. This approach not only enriches the students' educational experience but also strengthens the university's ties with the community.

Spaces for engagement

There should be various dedicated spaces within the university where CSE activities can take place. These spaces should be designed to facilitate internal dialogue among university staff and students, as well as creative collaborations with external participants. Researchers or university staff can invite people from outside the university to these spaces to work together on projects, host workshops, or hold discussions. By providing flexible, accessible, and well-equipped venues for these activities, the university can enhance its capacity for meaningful engagement and stimulate a vibrant culture of collaboration and innovation.

Becoming engagement researchers

Expertise in CSE is necessary to anchor it within the institution. The facility should provide an analysis of science-society interactions, building expertise to uncover the dynamics of these interactions at various levels. This includes understanding how to engage in dialogue, support and embed dialogue in research practices, and work on transformation as an institution. Monitoring and evaluating these interactions are crucial to enable transformative learning and ensure the continuous improvement of engagement practices.

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