CATALISI

Catalysation of institutional transformations of Higher Education Institutions through the adoption of acceleration services

D1.1 ACTING-LLS NEEDS ASSESSMENT AND 4-HELIX ECOSYSTEM

31/10/2023

HORIZON-WIDERA-2022-ERA-01



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ACTING-LLS NEEDS ASSESSMENT AND 4-HELIX ECOSYSTEM

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2	EY ADVISORY SPA	EY	ITALY					
3	F6S NETWORK IRELAND LIMITED	F6S	IRELAND					
4	EUROPEAN NETWORK OF LIVING LABS IVZW	ENoLL	BELGIUM					
5	KAUNO TECHNOLOGIJOS UNIVERSITETAS	KTU	LITHUANIA					
6	UNIVERSITAT JAUME I DE CASTELLON	ILU	SPAIN					
7	LUISS LIBERA UNIVERSITA INTERNAZIONALE DEGLI STUDI SOCIALI GUIDO CARLI	LUISS	ITALY					
8	UNIWERSYTET GDANSKI	UG	POLAND					
9	UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, CORK	UCC	IRELAND					
10	ARISTOTELIO PANEPISTIMIO THESSALONIKIS	AUTH	GREECE					
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EXECUTIVE SUMMARY

The primary goal of the CATALISI project is to support seven Higher Education Institutions (so-called 'Implementers') in successfully implementing a strategy and individual pathway for institutional transformation.

CATALISI Higher Education Institutions (Implementers) are located in seven European countries, more specifically: Greece (Aristotle University of Thessaloniki – AUTH), Lithuania (Kaunas University of Technology – KTU), Ireland (University College Cork – UCC), Poland (University of Gdańsk – UG), Spain (Jaume I University – UJI), Italy (Luiss Guido Carli University – LUISS), and Netherlands (Amsterdam University Medical Center – AUMC).



The institutional transformation objective will be accomplished through the adoption of different acceleration services. Among others, the Living Lab service focuses on the set-up of CATALISI Acting Living Labs allowing the elaboration of targeted and effective action plans within the selected Intervention Areas in a co-created and iterative process in line with the Living Lab methodology. This deliverable is presenting the results of the first activities within WP1 and more specifically within Task 1.1 'Setting up the CATALISI Acting-Living Labs' and Task 1.2 'CATALISI Living Labs: Exploration stage'.

This document reports on the analysis carried out by each seven Implementers to explore and assess the local context, barriers and framework conditions that can influence the respective institutional transformation. After an introduction to the project, the Implementers and the deliverable context (Chapter 1), the document presents a detailed presentation of the methodology, approach and processes implemented (Chapter 2) and the results of each Implementer workshops (Chapter 3). These results are then analysed and processed in the conclusions (Chapter 4), also defining the next steps leading to the Implementers adoption of the Acting Living Labs Action Plan for institutional transformation.

In line with the Living Lab methodology embraced by CATALISI, a mixed-method approach has been adopted, prioritising participatory and iterative co-creation actions to desk-based research. Data collection indeed involved conducting collaborative online and onsite workshops both jointly with all the Implementers partners of the consortium (5th April 2023),



and within each respective Implementer ecosystem between June 1st and August 2nd 2023. The first consortium-wide workshop helped ensuring a common and harmonised approach and understanding across the seven Implementers, considered necessary for the collection, processing, and sharing of data, knowledge, experiences, etc. In parallel, the stakeholder workshops aimed for a tailored approach, focussed on the specificity of the context and focus selected by each Implementer allowing the integration of research and innovation processes in real-life communities and settings for a co-created institutional transformation. The workshops primarily involved key stakeholders from each HEI, both from within the project and their respective universities. Future WP1 tasks and workshops will emphasize broader guadruple helix sector engagement.

In order to allow the maximum flexibility and respondence to actual stakeholder needs, the workshops agenda, participants, moderators, structure, and roll-out has been accurately discussed over different bilateral meetings and interviews.

This resulted in 153 participants attending four workshops organised in real-life setting at Implementers' sites (KTU, UG, UJI, and LUISS), two hybrid workshops with participants both at Implementers' sites and online (AUTH and UCC), and one workshop fully organised online (AUMC).

The exercise performed is fundamental for the establishment of Acting Living Labs that will drive the HEI institutional transformation. These collaborative workshops yielded significant outcomes that will serve as the foundation for shaping the Action Plans within Task T1.3 and the transformational pathway within Task 3.2.

CATALISI project workshops revealed a shared commitment among all Implementers to boosting research excellence and societal impact, despite distinct challenges faced by Implementers. Living Labs, with their innovative potential, are pivotal not just in aligning stakeholder needs but also in enriching Higher Education Institutions. Engaging in co-creative workshops with actors beyond their own departments, such as discussing barriers and solutions, is an uncommon yet value-added practice. The positive feedback received from HEIs further attests to this approach's effectiveness and novelty.

The implementation revealed challenges related to timing not matching the academic season, more structured collection of inputs, and in-person preparatory meetings. The consortium planned that each HEI presented the preliminary workshop results, during a monthly consortium meeting, and to enhance the reporting template before moving to the next phase of concrete Action Plans definition.



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ABBREVIATIONS

СА	Consortium Agreement
СоР	Community of Practice
D	Deliverable
DC	Dissemination and Communication
DoA	Description of Action
EU	European Union
GA	Grant Agreement
HEI	High Education Institution
LL	Living Labs
MOOC	Massive Open Online Courses
SME	Small and Medium Enterprise
Т	Task
WP	Work-Package



1 INTRODUCTION

Higher Education Institutions (HEIs) in the EU have been recognized for their global leadership in the fields of research and innovation. In order to maximize research impact and institutional transformation, HEIs need to strengthen their European University collaborations. By bridging the gap between HEIs disparities in terms of R&I performance, HEIs can navigate and cooperate in the production and dissemination of high-quality knowledge to maximize the value of research and its impact within the region.

The CATALISI project aims to help and support HEIs to successfully implement strategies and individual pathways for institutional transformation through the adoption of acceleration services. CATALISI model focuses indeed on three main domains for institutional transformation (Research careers and talent support, Open science and public engagement, and Sustainable research and education) composed by different intervention areas and intersected by seven targeted and innovative acceleration services (Living Labs, Design Lab for transformational pathway, and Counselling, Reinforce Human Capital; Predictive study on skills anticipation; Marketplace; Community of practice (CoP)). These are designed to facilitate and catalyse institutional transformations in the field of Research and Innovation which will strengthen European Universities collaborations and alliances as lighthouses of European values.

Within the eleven partners from eight European countries of the CATALISI consortium, seven universities, referred to as "Implementers," have committed to undergoing significant organizational transformations and are resolutely working towards introducing enhancements in specific areas, with the support of four "Facilitators" (APRE, EY, ENoLL, F6S).

CATALISI Implementers encompass a diverse range of specializations and geographic locations. Each university possesses a distinct profile and operates within a unique local context that shapes their project activities.

These Higher Education Institutions are situated in seven different European countries:

- Greece (Aristotle University of Thessaloniki),
- Lithuania (Kaunas University of Technology),
- Ireland (University College Cork),
- Poland (University of Gdańsk),
- Spain (Jaume I University),
- Italy (Luiss Guido Carli University), and
- the Netherlands (Amsterdam University Medical Center).

FIGURE 1 - CATALISI IMPLEMENTER HEIS

Beyond the simple diversity of geographic areas, the complementarity among CATALISI Implementers is further enhanced by their unique focus and target intervention areas within the project that will be further presented in Chapter 3.



Among the different acceleration services offered by CATALISI Facilitators, a primary step in the institutional transformation of Implementers is the "Living Lab" service that is developed within WP 1 'Acting-LL co-creation'. This service, under ENoLL guidance, focuses on the setup of CATALISI Acting Living Labs allowing the elaboration of targeted and effective action plans within the selected Intervention Areas in a co-created and iterative process.

This deliverable is presenting the results of the first activities within WP1 and more specifically within Task 1.1 'Setting up the CATALISI Acting-Living Labs' and Task 1.2 'CATALISI Living Labs: Exploration stage'. This document reports on the analysis carried out by each of the seven Implementers to explore and assess the local context, barriers and framework conditions that can influence the respective institutional transformation. A pivotal moment in this analysis was represented by the organisation of collaborative and interactive workshops tailored to each CATALISI Higher Education Institution. with the support of project Facilitators, mainly ENOLL. The seven workshops, organised between June and August '23, involved the active participation of 153 key stakeholders. While most participants hailed from universities, all were pivotal to the Implementers' local ecosystems, focusing on specific interventions that drive institutional transformation. While intervention areas were initially outlined during the proposal phase, the workshops prompted re-evaluation and fine-tuning of these areas.

Beyond this introductory chapter presenting the document and its rationale, the deliverable is further structured into the following chapters:

- Chapter 2 'Approach and methodology': this section provides information about the methodological approach that was followed while planning and developing all the stakeholder workshops.
- Chapter 3 'CATALISI Stakeholder Participation Analysis: This chapter presents an analysis of participation in the first workshop, focusing on the representation of the quadruple helix for each workshop implementer. By reviewing stakeholder involvement, it clarifies the origins of the workshop outcomes and the variety of perspectives provided by the participants, which are detailed in chapter 4.
- Chapter 4 'CATALISI Acting-Living Labs' ecosystems: presents outcomes of all stakeholder local workshops organized by the implementers. The content provided in the subsequent sections focus on introductory information regarding the target intervention areas, information on local contexts, barriers and framework conditions that can affect the institutional transformation of the CATALISI HEIs. This section provides also information on stakeholders' needs, values, concerns and expectations.
- Chapter 4 'Conclusions': provides a summary of results achieved during the stakeholder workshops and outlines the next steps within the CATALISI.

This deliverable is closely connected with other activities within WP 1 'Acting-LL co-creation', since assessing the local context, barriers and framework conditions that affect the institutional transformation of HEIs, is a starting point for developing the concrete Action Plan for each Implementer within the Task 1.3 'CATALISI Living Labs: Co-Design stage'. This deliverable will also impact activities undertaken within Task 1.4 'CATALISI Living Labs: Implementation stage' and Task 1.5 'CATALISI Living Labs: Evaluation stage'.

In addition to WP1 activities, this deliverable is also a valuable insight for activities undertaken within WP 3 'Design, Coaching and Sustainability', more particularly Task 3.2 'Design lab for transformational pathway: strategy and agenda setting' that focuses on the development and tailoring of the transformational pathways to the specific institutional needs of CATALISI Implementers.



There is also a link between this deliverable and WP 2 'Knowledge sharing and mutual learning programme', especially Task 2.1 'Setting up the learning hub', since input gathered during the WP1 stakeholder workshops will inform about the needs and priorities of Implementers' regarding their training needs as well as the expertise and strengths each of them can share with and provide to the other CATALISI universities.

Finally, it needs to be emphasized that this document is also interconnected with activities within WP 4 'Evaluation and Impact Assessment', since input provided in D1.1 is also crucial for designing and developing the CATALISI evaluation framework and will contribute to creating evidence-based policy recommendations.



2 METHODOLOGY, APPROACH, AND PROCESSES

The methodology employed for exploring and assessing the Implementers' local context, barriers, and framework conditions is in line with the **Living Lab methodology** embraced by CATALISI. Living Labs are innovative research environments that emphasize co-creation, stakeholder involvement, and real-world settings. They spotlight a distinctive approach and outcomes, and their unique application tailored for HEIs within the CATALISI project

CATALISI adopted a **mixed-method approach**, prioritising **participatory** actions to deskbased research. The identification and analysis of each Implementers' local context has been based on the use of a participatory approach in workshops settings. Compared to the mere desk-based research indeed, stakeholder workshops allow for direct and interactive discussions and activities fostering the collaborative understanding of different perspective and experiences, a richer exploration of potential barriers, and a higher ownership of the identified results. This resulted in an accurate data collection and analysis that has been revolved around seven main stakeholder workshops.

As highlighted in the previous chapter (1.2), CATALISI Implementers are a complementary group of organisations, from different geographic areas, representing a broad scope of specialisations, and focussing on different CATALISI intervention areas. While ensuring a coherent and harmonised approach across all Implementers actions, these differences are important to be valorised. For this reason, the approach in the event preparation and organisation ensured to **balance** on one side a common and **harmonised** structure across all Implementers, while acknowledging on the other side the differences and peculiarities of the different context, focus and ecosystem represented by each Implementer. A common and harmonised approach across the seven Implementers is indeed necessary for the collection, processing, and sharing of data, knowledge, experiences, and understandings etc. In parallel, a **tailored** approach, focussed on the specificity of the context and focus selected by each Implementer allows the integration of research and innovation processes in real-life communities and settings for a co-created institutional.

To effectively address complex challenges across various intervention areas, a holistic approach was embraced, emphasizing the interconnectedness of the 4-helix ecosystem. In the context of CATALISI, a **localization approach** has been favoured to ensure that intervention strategies align with the region's specific needs and priorities, enhancing their relevance and effectiveness. While the workshops primarily involved participants from universities, these sessions cultivated a collaborative and inclusive environment. Attendees reflected on the roles, needs, and expectations of various actors in the process. The discussions provided insights into the intersections of research and education, business application, policy considerations, and societal impacts, emphasizing the expertise and needs predominantly rooted in the academic sector.

All Implementers started from a standardised workshop structure and agenda including mandatory common key components to be addressed in relation to the specific intervention areas prioritised by the CATALISI Implementers:

- Identification of local context, barriers and framework conditions that can affect the institutional transformation,
- Identification of stakeholders' values, concerns, needs and expectations.

Starting from this standardised agenda and workshop structure, different practicalities (e.g., stakeholders' availability, timing, and languages), nuances and local specificities have been considered while preparing, developing, and running the local workshops.



The workshop activities are structured across three main phases running from March to October 2023: before, during, and after the events summarised in Table 1 and presented in the following subchapters.

TABLE 1 - TIMELINE OF THE THREE MAIN PHASES FOR NEEDS ASSESSMENTS AND 4-HELIX ECOSYSTEM IDENTIFICATION.

PHASES	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1. PREPARATION								
2. IMPLEMENTATION								
3. ANALYSIS & FOLLOW-UP								

2.1 PREPARATION PHASE

The preparation phase of WP1 workshops saw a gradual transfer of responsibility from Facilitators to Implementers, under the guidance of ENoLL team.

Initially, the Facilitators – ENOLL, APRE, and EY – have started since mid-March 2023 with **alignment and planning actions** in preparation of the collaborative events. Particular attention has indeed been paid to ensuring the coherence and alignment among the different acceleration services developed and provided within CATALISI. For this, a close collaboration among the Facilitators has been set up and maintained through exchanges and online meetings focussed on the preparation of a first joint workshop and in planning and aligning the requests to Facilitators.

A key moment has been the organisation of the 1st CATALISI workshop held online on 5 April 2023. The workshop was targeted to all project partners and had multiple purposes:

- o introducing the Living Lab essentials to all CATALISI partners
- o organizing an interactive exercise dedicated to commonly defining and concretizing intervention areas, and
- o introducing the stakeholder mapping approach to initiate the process of mapping the respective quadruple helix stakeholders by CATALISI Implementers in their local ecosystems.



AGEN		
Time	Activity	Leading Partner
12:00-12:10	Welcome and introduction to the workshop	APRE, ENOLL
12:10-12:40	Living Lab essentials - presentation	ENoLL
12:40-13:30	Concretization of intervention areas – interactive exercise	EY
13:30-13:45	Coffee break	-
13:45-14:45	Stakeholder mapping approach – interactive exercise	ENoLL
	Discussion wrap-up and next steps	ENol I



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FIGURE 2 – SAMPLE SLIDES AND SCREENS FROM CATALISI 1ST JOINT WORKSHOP

This joint workshop was a relevant moment to ensure the alignment of all partners, creating a valuable exchange and common understanding. Exchanges and discussions initiated over this workshop were a pivotal starting point for the preparation work on the Implementers' side.

In this occasion, a standardised structure for the local workshops has been developed and agreed with all CATALISI partners. The structure ensured the coherency of inputs and data gathered during the workshops. From this structure, a template agenda – provided in Annex 1 - has been developed and shared with Implementers for the definition of the final workshop agenda.

Starting from the template structure, different intervention areas, and the quadruple helix stakeholders presented and explored during the workshop, Implementers have been guided by ENoLL over an intensive preparatory work, aimed at designing concrete and tailored workshops, best addressing the Implements' needs.

Through regular meetings and interviews, Implementers have been supported towards the identification of **concrete intervention areas** and **stakeholders** across the quadruple helix relevant for the specific priority intervention areas. The involvement of EY team in the interviews helped to ensure the coherency and alignment of data gathered within WP1 and Task 3.2 'Design lab for transformational pathway: strategy and agenda setting'.

Once the final agenda has been agreed for each workshop, the Implementers have been actively responsible for the **practical workshop organisation** in their respective local context.

Invitations to local stakeholders have been shared by the Implementers both via email providing in the respective local language key information:

- the workshop agenda,
- a different tailored message for each workshop
- CATALISI factsheets developed by APRE and F6S (Annex 2)

Based on personal relations between HEIs' teams members and the stakeholders in the ecosystems, additional means of contacts have been used - including personal contacts, phone calls, messages, etc. – to ensure the participation of relevant actors to the events.

Pre-workshop meetings have been organised between ENoLL and the implementers to discuss and define different practicalities such as facilitation of discussions, division of tasks between facilitators, division of workshop participants into smaller groups, feedback that needs to be gathered during the workshop, preparation of the room and different materials needed for the session, etc.



2.2 IMPLEMENTATION PHASE

As of 1st June 2023, the seven collaborative stakeholder workshops have been organised over two months, with different modes, facilitation languages, and number of participants as presented in Table 2.

HEI	Date	Mode	Language	Attendees	Quadruple Helix Representation
Kaunas University of Technology	1 June 2023	Onsite	LT & EN	23	Academia, Government, Private Sector, Civil Society
Aristotle University of Thessaloniki	12 June 2023	Hybrid	GR & EN	13	Academia, civil society
University of Gdańsk	16 June 2023	Onsite	PL	20	Academia, Government
Amsterdam University Medical Center	30 June 2023	Online	EN	13	Academia, Civil society, Government
Jaume I University	3 July 2023	Onsite	ES & EN	20	Academia, Civil Society, Private sector, Government
Luiss Guido Carli University	11 July 2023	Onsite	IT & EN	24	Academia, Private Sector
University College Cork	2 August 2023	Hybrid	EN	40	Academia, Private sector, Government, Civil society

TABLE 2 - OVERVIEW OF CATALISI STAKEHOLDER WORKSHOPS

Each workshop has been facilitated by the staff of each Implementer HEI with active support of ENoLL. In the case of LUISS workshop, APRE and EY also joined the workshop benefiting of being located in the same city and helping with the discussion facilitation. Table 3 provides a complete overview of the organisers and facilitators in charge for each local workshop.

TABLE 3 - OVERVIEW OF ORGANISERS AND FACILITATORS OF THE CATALISI LOCAL WORKSHOPS

HEI (Implementer)	Organiser & Facilitators	
Aristotle University of Thessaloniki	AUTH: Konstantina Tsimpita, Pavlina Lazaridou,	
	Despoina Petsani	
	ENoLL: Joanna Karas	
Kaunas University of Technology	KTU: Eglė Butkevičienė, Aistė Balžekienė,	
	Audronė Telešienė	
	ENoLL: Joanna Karas	
University College Cork	UCC: Martin Galvin, Ciara O'Halloran, David	
	Hogan, David O'Connell	
	ENoLL: Joanna Karas	
University of Gdańsk	UG: Katarzyna Markiewicz, Sylwia Mrozowska,	
	Sebastian Susmarski,	



	ENoLL: Joanna Karas	
Jaume I University	UJI: Ramón A. Feenstra, Carlota Carretero García	
	ENoLL: Joanna Karas	
Luiss Guido Carli University	LUISS: Virginia Dicuonzo, Anna Elisa D'Agostino APRE: Laura Mentini, Maria Carmela Fierro EY: Benedetta Lucidi, Matteo Di Rosa, Rrap Kryeziu ENOLL: Joanna Karas	
Amsterdam University Medical Center	AUMC: Mariëtte van den Hoven, Miriam van Loon ENoLL: Joanna Karas	

Each CATALISI workshop has been organised into two main moments: an introductory presentation part and a collaborative and interactive part.

The **introductory phase**, after the necessary welcoming of participants by the hosts and organisers, focussed on setting the ground for the active engagement expected in the interactive parts. This phase included:

- A brief presentation of the CATALISI project to ensure the workshop participants external to the consortium could have a common understanding of the driving idea of the project and the reason for being invited to contribute to the initiative.
- A presentation by the Implementers on the particular focus of the planned Acting-Living Lab and the target intervention areas, detailing and explaining why these are relevant for the perspective of the specific HEI.
- Stakeholders have then been invited to briefly introduce themselves to each other helping 'break the ice' and making everyone aware of the other fellow participants, their expertise, focus and professional backgrounds.

Afterwards, the workshops evolved into an **interactive and co-creation phase**. For this, participants have been split into small groups of 5-10 participants (depending on the overall number of workshop participants) based on their expertise and interest related to the intervention areas, so to guarantee the opportunity for each participant to smoothly share their perspective.

In this group work participants have been asked to brainstorm and discuss upon three main aspects related to the particular intervention area(s).

- 1. First, stakeholders have been asked to share their perspectives on **barriers/challenges** associated with particular intervention area(s). While sharing their feedback, in some cases, they automatically suggested potential solutions to tackle these issues. This additional input was also marked down and secured for future purposes of CATALISI since it will be a valuable contribution for creating concrete Action Plans for each Implementer within Task 1.3 'CATALISI Living Labs: Co-Design stage'.
- 2. The focus of the participants then moved to discussing the **framework conditions** that can affect the institutional transformation of a particular HEI. In order to structure the discussions during this part of the session, the factors affecting the institutional transformation were divided into:



- **internal factors**, that are specific for the university and can affect its institutional transformation either positively or negatively (e.g., knowledge and competences, organizational assets, resources, infrastructure, technology, etc.), and
- **external factors** that are present beyond the university but still can influence its institutional transformation (positively or negatively) such as different political, economic, social, technological and legal aspects.
- 3. Finally, participants have been requested to provide feedback regarding the **needs**, **values**, **concerns**, **and expectations of different societal actors** across the quadruple helix associated with institutional transformation of CATALISI HEIs.

This participatory work has been organised coherently across all workshops thanks to the use of common frames and templates (Figure 3) to guide the discussions and to gather stakeholders' inputs. For online participants, Miro boards have been used, while flipcharts and posters have been preferred for in-person participants. In addition to the participants contributions to the frames, sessions facilitators were appointed note-taking duties to secure additional insights.



FIGURE 3 - TEMPLATES FOR GATHERING INPUTS ON DIFFERENT ASPECTS OF THE PARTICULAR INTERVENTIONS: A) BARRIERS AND CHALLENGES– LEFT; B) UNIVERSITY'S LOCAL CONTEXT - CENTER; C) STAKEHOLDERS' NEEDS, VALUES, CONCERNS AND EXPECTATIONS - RIGHT

2.3 ANALYSIS AND FOLLOW-UP PHASE

Following the workshops implementation, a particular attention was dedicated to establishing a common approach to classify, report, and analyse the data and feedback received. This is indeed necessary to enable a well-informed drawing of conclusions, and to shape the next planning phase.

A template for reporting on the workshops outcomes and discussions has been developed by ENoLL, piloted with the organisers of the first three workshops (KTU, AUTH, and UG) and adopted for all Implementers once the recommended edits have been included (Annex 3). Post-workshop online meetings with all Implementers have been organised to support the analysis and reporting of collected inputs.

The results of each HEI report – presented in detail in Chapter 3 - have then been assessed by ENoLL for the identification of eventual common trends facilitating the exchange of experiences among the Acting-Living Labs.



The events follow-up was a moment to consider – both with Implementers and among Facilitators - practical organisational challenges and insights to be carefully considered in the future to ensure smoother and more efficient CATALISI activities leading to the definition of Acting Living Labs Action Plans.

3 CATALISI STAKEHOLDER PARTICIPATION ANALYSIS

This chapter offers a thorough analysis of participation in the 1st workshop, emphasizing the representation of the quadruple helix for each implementer workshop. By examining stakeholder participation, it provides insight into the origins of workshop outcomes presented in the next chapter and the diverse perspectives contributed by representatives.

3.1 AUTH STAKHOKDER PARTICIPATION ANALYSIS

During an internal meeting, the AUTH Catalisi team conducted a comprehensive stakeholder mapping, considering their expertise and contributions in research, business, and public engagement. This process enabled the alignment of each stakeholder with the chosen intervention areas and strategic planning of the Medical Department. By taking into account their backgrounds and experiences, the team aimed to gather valuable insights and perspectives on the relevance of these interventions. This approach laid the groundwork for meaningful collaboration and ensured that the interventions would address stakeholders' real needs and objectives.

In the first workshop, **13 stakeholders participated**, primarily from the university's internal departments. Additionally, stakeholders from other universities, including representatives from McGill University of Canada, where the department has close collaboration, contributed to the discussions. Their involvement brought valuable international perspectives, enriching the dialogue, and providing a broader context. Furthermore, the head of the Applied Informatics Sector from the University of Macedonia participated, along with a representative from ANTIGONE, an NGO focused on racism, ecology, peace, and non-violence.

In the context of institutional transformation, the workshop topics may have been specialized or theoretical, focusing on internal processes, academic research, or administrative procedures specific to the university. For example, discussions might have included changes in curriculum design, academic policies, or administrative restructuring. External stakeholders, such as businesses or organizations outside the academic realm, may not have found direct relevance or immediate benefits in these discussions, potentially viewing their time as better spent on activities directly related to their own operations or interests. For instance, a local business might prioritize market expansion or product development over engaging in theoretical university discussions.

The 1st workshop included representatives from key internal departments: the Medicine Department Laboratory of Digital Innovation, the IT Department, and the Technology Transfer Office (TTO). The Medicine Department Laboratory of Digital Innovation provided insights into the role of digital tools in healthcare and research. The IT Department offered expertise on data sharing and intellectual property, which was crucial for the workshop interventions. The Technology Transfer Office bridged the gap between academia and industry, contributing to discussions on collaboration and research commercialization. These selections were strategic to ensure relevant and impactful contributions to the workshop discussions.

The insufficient representation of the quadruple helix in the first workshop can be attributed to several factors. Limited external engagement may have resulted from challenges such as



the availability of stakeholders and a lack of interest in theoretical discussions, which hindered their participation. Additionally, communication barriers in conveying the benefits of external involvement may have contributed to the issue. Furthermore, the institutional culture, with its prevailing norms and historical emphasis on internal collaboration, might have also deterred external stakeholders from engaging.

Quadruple Helix Sector	Organisation name	Internal Department
Academia	AUTH	IT Center
Academia	AUTH	Medical Education Department
Academia	AUTH	Technology Transfer Office
Academia	AUTH	Legal Department
Civil Society	ANTIGONE– Information and Documentation Centre on Racism, Ecology, Peace and Non-Violence'	Social Work
Academia	McGill University	School of Physical and Occupational Therapy, Faculty of Medicine

TABLE 4-AUTH STAKEHOLDER REPRESENTATION

3.2 KTU STAKEHOLDER PARTICIPATION ANALYSIS

The stakeholder mapping process began with defining the three intervention areas of KTU. Following this, the CATALISI KTU team identified relevant organizations outside academia and various departments and centers within the university. The scope of invited stakeholders encompassed representatives from all spheres of the quadruple helix: academia, government, civil society, and business.

For academia, the CATALISI KTU team focused on identifying departments and centers pertinent to the intervention domains of human capital, research modus operandi, and finance. The goal was to include members from diverse units within the university, including departments from the central office of KTU to ensure the broader university's awareness and acceptance of CATALISI goals, as well as offices and departments related to the intervention areas such as the Library, International Office, and Distance Education Centre. This also included the Faculty of Social Sciences, Arts, and Humanities, where some pilot interventions are being planned.

When mapping external stakeholders, the CATALISI KTU team primarily targeted governmental and civil society institutions from Kaunas city, such as the Kaunas City Municipality and the Kaunas Communities Centre, to foster the ecosystem within the quadruple helix in Kaunas. For the business sector, the CATALISI KTU team relied on personal networks and KTU alumni networks to identify stakeholders who had experience or intentions of cooperating with KTU.

The workshop included 23 participants: 18 from academia, 3 from government, 1 from civil society, and 1 from the private sector. Representation from the quadruple helix sectors encompassed relevant departments and centers, local governmental institutions to support



the ecosystem, civil society organizations for community engagement, and business stakeholders identified through personal and alumni networks. The intervention areas primarily focused on internal actions, necessitating the inclusion of representatives from various KTU centers and departments.

For the human capital intervention domain, representatives included those with expertise in human resources management and academic planning, such as the Projects Manager for Lifelong Learning, the Human Resources Administration Projects Manager, the Head of the Academic Centre of the Faculty of Social Sciences, Arts, and Humanities (FSSAH), and the Vice-dean for Studies from FSSAH.

To discuss international mobility, the CATALISI KTU team included experts from the Academic Mobility Office, International Relations Department, and the FSSAH to ensure comprehensive representation. Enhancing researchers' capabilities, particularly in producing high-quality scholarly publications, required the participation of internal experts familiar with publication evaluation criteria and researcher support services, such as the Director of the KTU Library and the Coordinator of the Writing Clinic at the Centre of Foreign Languages.

For the public engagement discussion, the CATALISI KTU team invited representatives promoting citizen science, including the Chief Information Manager from the KTU Library and a representative from the Centre of Data Analysis and Archiving. Finally, for the finance intervention area, the CATALISI KTU team aimed to ensure the sustainability of research funding through interdisciplinary research, involving experts from KTU's central office, such as the Director of the Department of Research Affairs and the Head of the E-learning Technology Centre, along with the Dean of FSSAH.

Quadruple Helix Sector	Organisation Name	Internal Department
Academia	KTU	Library
Academia	KTU	Department of Information Technology, e-Learning Technology Centre
Civil Society	Association of Kaunas Community Centres	Council of Kaunas Association of Community Centres
Private sector	AGURU	Na
Academia	KTU	Academic Mobility and Networking Unit
Academia	KTU	Academic Mobility and Networking Unit
Academia	KTU	International Relations and Study programmes committee Faculty of Social Sciences, Arts and Humanities
Academia	KTU	Department of Research Affairs

TABLE 5- KTU STAKHOLDER REPRESENTATION



Academia	КТU	Research and Innovation Projects Centre
Academia	KTU	Writing clinic, Centre of Foreign Languages, Faculty of Social Sciences, Arts and Humanities
Academia	KTU	Adminstration, Faculty of Social Sciences, Arts and Humanities
Academia	KTU	LiDA data archive, Faculty of Social Sciences, Arts and Humanities
Academia	KTU	DAtA center, Faculty of Social Sciences, Arts and Humanities
Academia	KTU	Center for lifelong learning
Academia	KTU	Administration, Faculty of Social Sciences, Arts and Humanities
Government	Kaunas City Municipality	Strategic Planning, Analysis and Program Management Division

3.3 UCC STAKEHOLDER PARTICIPATION ANALYSIS

The UCC project team began with an extensive stakeholder mapping process, initiated through an ENOLL workshop and followed by three team meetings to identify relevant stakeholders and determine their engagement points during the project's development. A central database was established and updated throughout the planning and development of the first workshop. This database currently identifies 180 stakeholders, including 91 internal stakeholders, 36 from civil society, 22 from business/industry, and 31 from the public sector.

Mapping criteria for internal stakeholders focused on key areas within the University relevant to this initiative. These included senior leadership, colleagues in finance and research support, researchers at all levels (PhD, early, mid, and late career) across the University's four colleges, research institutes and clusters, the Alumni Office, Quality Enhancement, flagship initiatives, and other key institutional committees. External mapping criteria targeted regional and representative voices crucial to higher education partnerships. This included civil society partners experienced in research collaborations and umbrella organizations representing the sector in regional and national policy and funding contexts. Business and industry bodies, as well as companies representing various sectors and scales, were also considered. Additionally, public sector agencies, including municipalities, regional assemblies, and national higher education research, funding, and policy organizations, were included.

For the first workshop, **40 stakeholders attended**, supplemented by three written submissions.

The UCC area of focus is "Financial Sustainability for Research & Innovation." Key aspects of this focus area required an internal institutional perspective to address the expertise and relevance of specific aspects related to institutional practice, policy, and culture. Additionally, there was an opportunity to ensure that the workshop would inspire wide engagement with internal colleagues by allowing candid discussions about institutional transformation. Accordingly, one half of the first workshop was dedicated to internal focus, with the second part expanding to include external stakeholders. When engaging with external stakeholders, the discussion was framed to highlight financial sustainability as an integral and requisite part



of realizing broader sustainability within the research and innovation ecosystem at local, regional, national, and international levels.

Despite the invitations extended to a wide range of stakeholders within the University, securing participation for the workshop was challenging due to competing demands on colleagues' time. Nonetheless, the final group of participants represented a diverse cross-section of disciplines, departments, and functions. Many colleagues who could not attend expressed their enthusiasm for the initiative and interest in future engagement.

The business/industry sector was somewhat under-represented in the first workshop and our current database. This under-representation partly reflects the recognition that this sector often already has strong links with research tailored to its needs. At this initial stage, it was deemed critical to prioritize the inclusion of public sector and civil society voices. However, the mapping process identified flagship research centers and institutes as key points of interface with the business/industry sector, which should be leveraged as CATALISI progresses.

Quadruple Helix Sector	Organisation Name	Internal Department
Academia	UCC	Library
Academia	UCC	Department of Information Technology, e-Learning Technology Centre
Academia	UCC	Council of Kaunas Association of Community Centres
Academia	UCC	Na
Academia	UCC	Academic Mobility and Networking Unit
Academia	UCC	Academic Mobility and Networking Unit
Academia	UCC	International Relations and Study programmes committee Faculty of Social Sciences, Arts and Humanities
Academia	UCC	Department of Research Affairs
Academia	UCC	Research and Innovation Projects Centre
Academia	UCC	Writing clinic, Centre of Foreign Languages, Faculty of Social Sciences, Arts and Humanities
Academia	UCC	Adminstration, Faculty of Social Sciences, Arts and Humanities

TABLE 6-UCC STAKEHOLDER REPRESENTATION



Academia / Public	PPI Ignite	LiDA data archive, Faculty of Social Sciences, Arts and Humanities
Public	Cork City Council	DAtA center, Faculty of Social Sciences, Arts and Humanities
Civil Society	Cork Simon	Center for lifelong learning
Public Sector	Cork City Council	Administration, Faculty of Social Sciences, Arts and Humanities
Business / Enterprise	Policy Executive, IBEC	Strategic Planning, Analysis and Program Management Division
Civil Society	Cork Migrant centre	
Civil Society	Carberry Housing Association	
Civil Society	Public Participation Network	
Civil Society	SECAD	
Business and Enterprise / Public	Cork City Council	Head of Enterprise
Business and Enterprise	Director NFB Campus	
Public Sector	Campus Engage (Hybrid / Dial In)	
Civil Society	The Wheel (Hybrid/Dial In)	
Civil Society	Cork Transport & Mobility Forum/Environmental Forum	
Public Sector	Cork City Council	
Academia	UCC	Director of Research Support & Policy
Academia	UCC	Institutional Data & Research
Academia	UCC	Head, Civic & Community Engagement
Academia	UCC	Civic & Community Engagement
Academia	UCC	Centre for City Futures Research Intern

3.4 UG STAKEHOLDER PARTICIPATION ANALYSIS

The UG CATALISI project team is fully committed to their institutional transformation journey, focusing on intervention areas spanning the domains of research, finance, and human capital.

A comprehensive mapping of stakeholders was conducted, and invitations were extended to a diverse array of participants for the first workshop, aligning with the agenda topics. As a result, **20** individuals actively engaged in the workshop, predominantly representing academia.



The stakeholders pivotal for delineating and attaining the institutional transformation goals across these domains encompass representatives from various specific departments within the UG university. These include but are not limited to the internal cooperation department, the office for analysis and expertise, and the technology transfer department office. Their presence and contributions enriched the discourse with valuable insights.

Furthermore, the participation of stakeholders from different internal departments not only fostered interdisciplinary collaboration but also provided multifaceted perspectives.

Quadruple Helix Sector	Organisation Name	Internal Department
Academia	UG	Office for Analysis and Expertise
Academia	UG	Vice-Rector for Cooperation and Development
Academia	UG	Office for Analysis and Expertise
Academia	UG	Office for Analysis and Expertise
Academia	UG	Cooperation and Development Office
Academia	UG	Department of Transporation Market,Faculty of Economics
Academia	UG	Department of Logistics, Faculty of Economics
Academia	UG	Department of Transport Economics, Faculty of Economics
Academia	UG	Department of Transport Market, Faculty of Economics
Academia	UG	Office for Analysis and Expertise
Academia	UG	Technology Transfer Center
Academia	UG	Technology Transfer Center
Academia	UG	Univentum Labs
Academia	UG	Management Office Project
Academia	UG	University Laboratory of Research Services
Academia	UG	Senior Executive in Maritime, Logistics and SCM
Academia	UG	RWE Renewables, Offshore environmental specialist
Public	Gdansk Municipality	Municipal officer
Academia	UG	Graduate

TABLE 7- UG STAKEHOLDER REPRESENTATION



3.5 UJI STAKEHOLDER PARTICIPATION ANALYSIS

The UJI team contacted internal and external stakeholders based on their expertise in our priority intervention areas. Our goal was to gather stakeholders from the quadruple helix (QE) who could provide valuable knowledge and insights on promoting transformations in research assessment, Open Science, citizen science, and gender equality in research. To achieve this, we engaged internal stakeholders in top and middle management positions at UJI, as well as some UJI technical staff, and external stakeholders from diverse backgrounds to foster dialogue among individuals in different positions within the QE.

The proportion between internal and external stakeholders is unequal due to the current priority to understand the state of the university concerning the intervention areas. The first workshop included **20 participants**, including three Vice-Rectors, the Head of the Unit of Scientific Outreach and Citizen Science (part of the Vice-Rectorate of Innovation and Scientific Dissemination), and the Head of the Equality Unit (Vice-Rectorate of Social Policies). These key stakeholders, holding top and middle management positions, are instrumental in deciding which transformations will be implemented at UJI and the roadmap for their design and execution. Their presence in the workshops allows the CATALISI team to create alliances and exchange views and opinions with the individuals responsible for the decision-making processes leading to the transformations CATALISI is promoting.

Additionally, we involved some of UJI's technical staff who work in the Office for Cooperation in Research and Technological Development (OCIT). These stakeholders are crucial as they will be implementing most of the transformations, especially those related to research assessment. Their insights are essential to anticipate and prevent any bureaucratic and technical difficulties.

Quadruple Helix Sector	Organisation Name	Internal Department
Academia	ILU	Vicerectorate of Social Responsibility, Inclusive policies and Equality
Civil Society	Isonomia Foundation	
Private sector	Mirada PLC	
Administration	Onda City Hall	
Private sector and civil society	Networking Directivas Castellón	
Civil society and academia	Committee for Ethics in Tourism of	

TABLE 8- UJI STAKEHOLDER REPRESENTATION



	the Valencian Community	
Administration	Castellón City Hall (2019-2023)	
Private sector	Viunatura company	
Academia	ILU	Vicerectorate of Social Responsibility, Inclusive policies and Equality
Civil Society	Isonomia Foundation	
Private sector	Mirada PLC	
Administration	Onda City Hall	
Private sector and civil society	Networking Directivas Castellón	
Civil society and academia	Committee for Ethics in Tourism of the Valencian Community	
Administration	Castellón City Hall (2019-2023)	
Private sector	Viunatura company	

3.6 LUISS STAKEHOLDER PARTICIPATION ANALYSIS

For the first workshop, external stakeholders were identified by reviewing the records of all organizations and institutions that had participated in research projects in the previous couple of years, either as funders or partners. Conversely, internal stakeholders were identified among representatives of departments involved in the research process.

24 people participated in the first workshop, mainly from Academia. External stakeholders from the Government, Private sector, and Civil Society were invited to the first workshop but did not participate. We believe there might be two main reasons for this: firstly, the number of organizations and institutions invited was relatively small, so the likelihood of getting at least a few to participate was low; secondly, the topics discussed were mostly internal (e.g., the mobility of researchers), which might not have been of interest to the external stakeholders.

Regarding the internal stakeholders, there were representatives from the Faculty (those who conduct research), representatives from the Research and Third Mission Office (who provide administrative support for all funded research projects and public engagement activities), representatives from the Library (who manage all research archiving), representatives from the Lectures and Seminars Office (who support research dissemination), and a representative from the Skills Development Office (who organize cultural activities, including some public engagement initiatives).



Quadruple Helix Sector	Organisation Name	Internal Department
Academia	Luiss Guido Carli	Research and Third Mission
Private Sector	APRE	
Private Sector	APRE	
Academia	Luiss Guido Carli	Research and Third Mission
Academia	Luiss Guido Carli	Research and Third Mission
Private Sector	ENoLL	

TABLE 9-LUISS STAKEHOLDER PARTICIPATION

3.7 AUMC STAKEHOLDER PARTICIPATION ANALYSIS

The AUMC CATALISI project team is focused on implementing an institutional transformation in two intervention areas: the reform of research assessment and the recognition of qualifications and research careers. Since these intervention areas are strongly intertwined in practice, the focus is on improving responsible conduct of research (RCR) in general, by stimulating RCR through education and fostering a positive research culture (RC). This involves various actions, such as changing existing policies and enhancing the training and skills of researchers, staff, and other target groups within the institutions.

The stakeholders relevant for defining and achieving these goals include researchers, policy makers, and experts within the university. Therefore, a broad range of stakeholders was invited: policy makers from different organizations, RCR trainers, Research Integrity coordinators from different faculties, Open Science (OS) experts, researchers at various levels, and potential students. The expertise of these stakeholders in research integrity, good scientific practices, training, and policy was highly valuable for the workshop's goals.

As a result, **11 stakeholders participated** in the first workshop, representing the quadruple helix: academia, civil society, and government (university policy makers). Most relevant stakeholders were either present during the workshop or provided input in earlier meetings or workshops. Since the AUMC CATALISI team focuses on embedding policy and training within our institutions, most stakeholders are from academia or government.

Additionally, stakeholders from different internal departments were present, including policy makers and researchers from various departments. The researchers, selected for their expertise in research integrity (RI) and responsible conduct of research (RCR), are primarily based at the VU Philosophy Department and the Department of Ethics, Law, and Humanities at Amsterdam UMC.



Quadruple Helix Sector	Organisation Name	Internal Department
Academia	Amsterdam UMC	Senior researcher and teacher RI
Academia	VU	PhD student
Civil Society	Amsterdam UMC	Policy maker, RI confidential officer
Civil Society	VU	OS expert, policy
Civil Society	VU, Amsterdam UMC	Professor RCR, chair international RI networks
Academia	VU	Policy maker research culture
Government	VU	Policy maker RI training
Government	Amsterdam UMC	Senior researcher and teacher RCR
Academia	VU	RI coordinator
Academia	Amsterdam UMC	Research project support
Academia	Amsterdam UMC	Researcher in RI

TABLE 10- AUMC STAKEHOLDER REPRESENTATION

4 CATALISI ACTING-LIVING LABS' ECOSYSTEMS

This chapter provides extensive information on Implementers' local ecosystems, reporting on the key outcomes and results of the analysis performed both by Implementers teams and within the local workshops. In line with the workshops structure, the analysis pays a particular focus on barriers and framework conditions that affect the HEIs institutional transformation, as well as information on the needs, values, concerns, and expectations of the respective quadruple helix stakeholders.

4.1 TARGET INTERVENTION AREA

One of the two intertwining dimensions of the CATALISI model is represented by three domains – Human Capital, Research Modus operandi, Finance, – respectively composed by different intervention areas that indicate the content of specific institutional transformations that can be deemed necessary by each HEI.



Research careers and talent support: qualifications & research careers, research assessment, digitalization, talent circulation & mobility, life-long learning, gender equality & inclusiveness. Research Modus Operandi: open science, public engagement & outreach, sharing of infrastructure and capacities. Sustainable research and education: sustainability in education & funding, sustainability in research and campus operations.

FIGURE 4 – THREE MAIN CATALISI DOMAINS OF INTERVENTION AND RELATED INTERVENTION AREAS

In line with the balance between a harmonised yet tailored approach, Implementers have the flexibility of choosing the exact areas of focus within CATALISI to achieve the desired institutional transformation.



HEIs have identified their preferences since proposal phase as reported in Figure 5 extracted from the Grant Agreement, representing both the areas in which the implementers planned to carry out institutional transformations (marked by "X"), and the areas in which they can contribute to the acceleration services with their own expertise (marked by "O").

Domains	Intervention AREA	AUTH	KTU	ucc	UG	ILU	LUISS	VUMC
Human Capital	Recognition of qualifications & research careers	Х			0	Х		
	Reform of research assessment	Х	Х	X	0	X	X	
	Digitisation of higher education sector	Х	0		0			
	Supporting talent circulation / mobility	Х	Х		Х		Х	
	Accurately addressing lifelong learning	0			0	0		
	Strengthening of human capital and accurately addressing lifelong learning	0	х		0			
	Gender equality & inclusiveness	Х	0	0	0	0		0
ResearchModus Operandi	Mainstreaming of open science and digitisation of research	0	0		0		Х	
	Need for enhanced public engagement with and outreach to society to solve social challenges	Х	Х	0	Х	Х	Х	
	Reinforcing the role of universities in local innovation ecosystems	0	Х		0			0
	Sharing of research infrastructures and capacities	Х		X	0			
Finance	Sustainability in education (funding opportunities)	Х	Х		0			
	Sustainability in research	Х	Х	Х	0		Х	
	Sustainability in campus operations	0			X			0

FIGURE 5 - OVERVIEW OF TARGET INTERVENTION AREAS OF HEIS IN GRANT AGREEMENT

Since project start, HEIs has re-assessed their target intervention areas, identifying their preferences based on **actual needs** of their organisations and feasibility of applying interventions in their specific local contexts. Both in the preparatory phases and within the collaborative workshops with stakeholders, each Implementer has meticulously identified areas necessitating intervention, grounded in their unique context and specific requirements. This selection process was informed by a deep understanding of the Implementers' core needs and objectives as well as by the feedback and inputs of the relevant stakeholders.

Domain & Intervention Area		ΚТU	ncc	ŊĠ	ī	LUISS	VUMC	
Human Capital								
Recognition of qualifications and research careers								
Reform of research assessment								
Digitisation of higher education sector								
Supporting talent circulation / mobility								
Accurately addressing lifelong learning								
Strengthening of human capital								
Gender equality & inclusiveness								
Research Modus Operandi								
Mainstreaming of open science and digitisation of research								
Public engagement with and outreach to society to solve social challenges								
Reinforcing the role of universities in local innovation ecosystems								
Sharing of research infrastructures and capacities								
Finance								

TABLE 11 -TARGET INTERVENTION AREAS OF CATALISI IMPLEMENTERS AND ACTING-LIVING LABS



Sustainability in education (funding opportunities)				
Sustainability in research				
Sustainability in campus operations				

This resulted in a revised overview of the target intervention areas summarised in Table 4 and further addressed for each Implementer/Acting-Living Lab in the following chapters.

The following chapters present a detailed report of each Implementer Acting-Living lab, first presenting the intervention areas identified by each HEI, then their local context, barriers and framework conditions that can influence the institutional transformation of the university, including, when possible, a SWOT analysis and finally, insights into stakeholders' values, needs, concerns, and expectations.

4.2 AUTH ACTING-LIVING LAB ECOSYSTEM

This section provides information on Aristotle University of Thessaloniki (AUTh)'s (Greece) intervention areas, local context, barriers and framework conditions that can influence the institutional transformation of the university. In addition to that, insights into stakeholders' values, needs, concerns, and expectations are presented.

The input from stakeholders was gathered during the workshop organized on 12 June 2023 at the Aristotle University of Thessaloniki (Greece). The workshop gathered 13 participants who jointly discussed the topics that matter from the perspective of the institutional transformation of the university.

4.2.1 Target intervention areas

Aristotle University of Thessaloniki, drawing from its prior experience, has meticulously identified five specific areas that require interventions. Three of these areas are under the intervention domain of 'Human Capital', one intervention area is under the domain of 'Research Modus Operandi', and one is under the intervention domain of 'Finance'. This selection process was guided by a thorough understanding of the primary needs and objectives of the university, aiming to strategically address challenges and propel itself towards achieving its desired goals.

The five selected intervention areas are as follows:

- Human Capital
 - Recognition of qualifications and research careers
 - Reform of the research assessment.
 - Digitisation of the higher education sector.
- Research Modus Operandi
 - Mainstreaming of Open Science and digitisation of research.
- Finance



o Sustainability in research.

1. RECOGNITION OF QUALIFICATIONS AND RESEARCH CAREERS

Aristotle University of Thessaloniki (AUTh) is directing its efforts towards enhancing the recognition of qualifications and research careers, with a particular focus on the **implementation of Living Labs and the certification of Researchers in Citizen Science**. AUTh envisions the establishment of a comprehensive framework designed to facilitate the acknowledgment of researchers' practical knowledge and expertise gained through engagement in Living Labs, Citizen Science, and Open Science initiatives. The certification programs serve a crucial purpose, validating the practical application of knowledge by researchers involved in Living Labs and Citizen/Open Science projects. These certifications act as tangible evidence of a researcher's ability to apply their academic knowledge to real-world challenges, offering a valuable credential recognized not only locally but also at the EU level. This intervention highlights AUTh's commitment to promoting experiential learning, interdisciplinary collaboration, and the ethical conduct of research, ultimately contributing to the development of well-rounded and socially engaged scholars in line with Aristotle's educational principles.

2. **REFORM OF THE RESEARCH ASSESSMENT**

The aim of AUTh University is to reform the research assessment process by integrating Open Science Adoption criteria and implementing necessary safeguards for researchers and stakeholders.

The primary focus here is the integration of **Open Science Adoption criteria into this assessment framework**, alongside the identification of essential requirements to ensure the **security of researchers and stakeholders** involved in research projects. AUTh is committed to safeguarding the well-being and security of researchers and stakeholders. This involves identifying and implementing measures to protect sensitive data, intellectual property, and the personal safety of individuals engaged in research. The university seeks to create a research environment that fosters innovation and collaboration while mitigating risks associated with data breaches and potential threats to researchers' safety.

3. DIGITISATION OF THE HIGHER EDUCATION SECTOR

AUTh is dedicated to digitizing the higher education sector, with a specific emphasis on **promoting the utilization of MOOCs**, particularly within the Medical School. In this context, AUTh aims to democratize access to education, allowing a wider range of learners to benefit from high-quality academic content. MOOCs offer flexibility, enabling students to access educational resources and courses online, by promoting the usage of MOOCs, This initiative reflects AUTh's commitment to **modernizing education and embracing technology** as a means to enhance learning outcomes and expand educational reach.

Moreover, the digitisation of the Higher Education Sector will provide accessible and comprehensive education, ensuring that students, including those in the Medical School, have the tools and resources to excel in their chosen fields while promoting the broader goal of knowledge dissemination for the betterment of society.

4. MAINSTREAMING OF OPEN SCIENCE AND DIGITISATION OF RESEARCH

AUTh is actively engaged in mainstreaming Open Science and advancing research digitization, with a strong focus on **facilitating Fair Data Sharing and embracing Crowdsourcing methodologies**. This intervention envisions a research ecosystem that operates on principles of openness, collaboration, and digital accessibility. Facilitating Fair



Data Sharing and signifies a commitment to transparency, where research findings, data, and methodologies are made openly available to the global scientific community. This ensures that knowledge is freely accessible, reproducible, and can be built upon, aligning with the ethos of open inquiry that is at the core of Aristotle's philosophical ideals.

Moreover, AUTh places a significant emphasis on facilitating Fair Data Sharing, recognizing that equitable access to research data is paramount. Fair Data Sharing principles ensure that data are not only accessible but also findable, interoperable, and reusable, promoting the responsible and ethical use of research information.

Crowdsourcing opens up research to a broader audience, enabling citizen scientists, volunteers, and experts from various fields to participate actively in scientific endeavours, underscoring AUTh's dedication to transforming research practices, making them more inclusive, transparent, and responsive to societal needs.

5. SUSTAINABILITY IN RESEARCH

As a part of its commitment to research sustainability, AUTh University places a specific emphasis on fostering collaboration in research and promoting Intellectual Property (IP) Sharing. This approach underscores the importance of sharing research findings, inventions, and innovations ethically and equitably to maximize the long-term societal impact of AUTh's research endeavours.

A key point of this initiative is collaboration, emphasizing the need for researchers to work together across disciplines and institutions. **Collaborative research** allows for a more holistic approach to addressing complex sustainability challenges.

Moreover, AUTh advocates for the **sharing of Intellectual Property (IP)** to expedite progress in sustainable research, by sharing knowledge and innovations openly, allowing researchers to collectively accelerate solutions to pressing issues, in a manner consistent with legal and ethical standards.

4.2.2 Local context, barriers, and framework conditions

This section provides information on AUTh local context and framework conditions that can affect the institutional transformation of the university under all of the five specific intervention areas mentioned in the previous section.

RECOGNITION OF QUALIFICATIONS AND RESEARCH CAREERS – LOCAL CONTEXT AND FRAMEWORK CONDITION

In this intervention area, AUTh is focusing on strengthening the recognition of qualifications and research carriers with a specific emphasis on implementing Living Labs and certifying Researchers in Citizen Science.

AUTh envisages the creation of a framework that will support the acknowledgement of the researchers' practical knowledge and expertise of Living Labs and/or Citizen Science and Open Science by providing a formal certification that will be approved by HEIs across the EU.

The certifications provided to researchers in Living Labs and/or Citizen/Open Science projects serve as validation of their practical knowledge application to real-world challenges. Stakeholders pointed out during the workshop the **absence of formal mechanisms for recognizing qualifications gained in Living Labs**, such as certificates, badges, or endorsements. As a result, participants miss out on formal recognition for their valuable



contributions to the Living Lab and Open Science, which can be discouraging and dampen their enthusiasm for future initiatives. Furthermore, although Living Labs often provide valuable networking opportunities with industry professionals, researchers, and other stakeholders, participants without certifications may not be able to leverage these connections effectively to further their career or research goals. To address these challenges, Living Labs should establish **transparent guidelines and procedures for awarding certifications** based on participants' contributions and accomplishments. Providing constructive feedback and evaluation to all participants, regardless of certification attainment, can also foster skill development and encourage sustained engagement in Living Lab activities. It is crucial that the credentials offered are widely recognized and accepted by potential employers and stakeholders, ensuring credibility and trustworthiness in the recognition process.

During this discussion, a representative from CERTH (Center for Research & Technology of Greece) mentioned the strategy that the institution follows, implementing suggested procedures and general criteria through a **'reference system'**. This system aims to establish a standardized framework for evaluating researchers across all departments of CERTH. Based on the official Framework Document titled 'Criteria for Evaluating CERTH Researcher Candidates'', each candidate's assessment should be conducted on an individual basis, taking into account their scientific and research activities, personality traits, and their alignment with the prevailing trends in science and the specific technological and scientific conditions relevant to the institute or position they are applying for. For research institutes like CERTH, particular attention should be given to the candidate's capability to develop, maintain, and manage research activities.

In addition to evaluating the candidate's scientific publications and research work, other criteria should be considered, specifically related to the focus and goals of the Research Center. These additional criteria may include the candidate's participation in competitive programs and research projects, involvement in development projects or studies, number of patents and product copyright applications, and the development of innovative products or services.

The evaluation process should not overly emphasize the number of publications, citations, and bibliometric indicators as the sole criteria. Instead, the overall activity and contributions of the candidate should be considered. For example, recognition and scientific acceptance of their research work can be demonstrated through various means, such as international presentations, participation in scientific committees, international awards, and more.

Overall, the evaluation process aims to assess candidates in a comprehensive manner, considering their research accomplishments, innovative contributions, and potential to drive technological development in their respective fields. It seeks to identify individuals who can bring significant value to the Research Center and its objectives, fostering a culture of excellence and innovation.

The discussed solutions are an invaluable inspiration for AUTh and other HEIs across Europe regarding applying these good practices for improving the recognition of qualifications and research careers in academia. Feedback gathered from workshop participants will serve as a starting point for further development of the AUTh's concrete actions dedicated to creating a framework for enhancing the recognition of qualifications and research careers based on Living Labs and certifying Researchers in Citizen Science.

REFORM OF RESEARCH ASSESSMENT – LOCAL CONTEXT AND FRAMEWORK CONDITIONS



In the second intervention area, AUTh is focusing on reforming the research assessment process by incorporating Open Science Adoption criteria and identifying requirements for ensuring the security of the researchers and other stakeholders.

The particular focus is put here for ensuring the safety and wellbeing of researchers and stakeholders engaged in research activities. Researchers and participants play diverse and crucial roles in the research process, with their contributions extending beyond pure participation. Recognizing the significance of their efforts and providing insurance coverage underscores the university's commitment to supporting and protecting all participants involved.

Insurance coverage serves as a vital safety net, offering financial and medical protection against unforeseen accidents and incidents that may occur during research projects, experiments, and focus groups. This comprehensive protection mitigates potential risks and liabilities, safeguarding the interests of researchers and stakeholders alike. It creates an environment of confidence and assurance, enabling them to fully immerse themselves in their research pursuits without concerns about personal liabilities or financial burdens.

Moreover, having insurance coverage can be seen as a measure to enhance and ensure the overall quality of research projects. As with ethical considerations, insurance could become a standard requirement or necessity in research endeavours. By mandating insurance, institutions and regulatory bodies can demonstrate their commitment to the safety and wellbeing of all involved parties, encouraging a higher level of responsibility and diligence in research practices. This, in turn, can lead to better-quality research outcomes and a more reliable foundation for scientific progress.

However, Aristotle University and other academic institutions in Greece face challenges in obtaining the necessary insurance options for research activities. One interesting point raised by participants is that most insurance companies in Greece lack the ability to offer the specific type of coverage required for research-related endeavours. The insurance market in Greece might have limited offerings specifically tailored to research activities. Insurance companies might be hesitant to provide coverage for research projects due to perceived risks or uncertainties associated with innovative research endeavours. Moreover, research activities in some fields, such as medical research or experimental studies, can involve higher risks due to the nature of the experiments or interventions. Ensuring such complex research projects might require specialized coverage that is not readily available. Another aspect mentioned was that academic institutions might have internal policies or protocols that influence their insurance decisions. The lack of alignment between institutional policies and available insurance offerings can create additional hurdles for researchers seeking coverage.

Furthermore, the reform of Research Assessment focusing on identifying the needs for insurance of researchers and stakeholders represents a crucial step towards creating a more comprehensive, fair, and responsible research landscape not only at AUTh, but also at other European universities.

DIGITISATION OF HIGH EDUCATION SECTOR – LOCAL CONTEXT AND FRAMEWORK CONDITION

In the third intervention area, AUTh is focusing on digitization of the higher education sector, with a particular focus on promoting the usage of MOOCs, especially within AUTh's Medical School.

During the workshop, the creation and implementation of Massive Open Online Courses (MOOCs), with a particular emphasis on their application within the Medical Department was widely discussed. Workshop participants considered the MOOCs as a valuable solution that AUTh could benefit from in the long perspective.


Participants expressed their enthusiasm for integrating MOOCs as a standard educational tool, particularly during and after the Covid-19 pandemic when all courses were conducted online. The widespread adoption of online learning during this period highlighted the potential of MOOCs to enhance educational accessibility and flexibility.

Developing MOOCs requires a **collaborative approach**, and participants emphasized the importance of continuous communication between course developers and the Medical Department's professors and researchers. This communication ensures that the content of the courses aligns with the department's curriculum and reflects the latest advancements in medical research and practices. Involving professors and researchers in the development process enables the creation of high-quality, relevant, and engaging course materials that cater to the specific needs of AUTh's students.

Moreover, the pandemic served as a catalyst for institutions to rethink their educational strategies, pushing them to embrace digital transformation and explore innovative teaching methodologies, making their educational material accessible to citizens. MOOCs emerged as a valuable tool for reaching a broader audience and extending educational opportunities beyond traditional classroom settings. The flexibility of MOOCs allows students to learn at their own pace, making education more accessible to diverse learners with different schedules and geographical locations.

Currently, at AUTh, MOOCs are in the format of seminar lessons, but the ultimate objective is to integrate them seamlessly into the regular curriculum. However, a challenge highlighted during discussions pertains to the **time-consuming process** of sourcing suitable resources, ensuring they are free from intellectual property issues, and aligning them with the vision of the development team. Moreover, **ethical considerations**, particularly in the field of bioethics, require careful navigation. Decisions on which topics to include and how to present data related to sensitive medical, legal, and ethical issues can impact the overall educational experience. Striking the right balance between informative content and respectful treatment of sensitive subjects is of utmost importance to ensure an inclusive and ethical learning environment.

To overcome these challenges, continuous communication and collaboration between the development team, medical faculty, and legal experts are crucial. Emphasizing the principles of transparency and accountability can facilitate the decision-making process and enable the team to address complex issues effectively. Implementing a robust feedback system that allows students and faculty to express their concerns and suggestions can further enhance the quality and relevance of the MOOCs.

While challenges exist, embracing MOOCs as a standard educational practice can bring immense benefits to the AUTh Medical Department. By carefully addressing copyright issues, ethically sensitive topics, and legal considerations, the department can create a powerful platform for innovative medical education.

MAINSTREAMING OF OPEN SCIENCE AND DIGITISATION OF RESEARCH – LOCAL CONTEXT AND FRAMEWORK CONDITIONS

In the fourth intervention area, AUTh is focusing on mainstreaming of Open Science and digitizing research practices, with a strong emphasis on facilitating Fair Data Sharing and embracing Crowdsourcing methodologies.

The aim of the Aristotle University of Thessaloniki is to foster a transformative shift in research practices, promoting transparency, collaboration, and open data sharing. AUTh endeavours to maximize the impact of shared data and facilitate a broader dissemination of knowledge for the improvement of society and the advancement of scientific progress.



According to representatives from AUTh's IT Center, a significant shift has occurred in the approach to Fair Data Sharing and Crowdsourcing at the university. They highlighted that all dissertations, including relevant datasets, are now openly accessible and uploaded to the Institutional Repository of Scientific Works of the Aristotle University of Thessaloniki. This repository serves as a centralized platform for collecting, preserving, and disseminating the research output of the university's teaching and research staff.

In the past, there was a prevailing attitude of secrecy, where research results were often concealed and kept confidential. However, the current academic community at AUTh is more willing to share their research results and findings openly. Despite this positive trend towards data sharing, a significant challenge remains the **underutilization of shared data and findings**. After research is completed and data is made available, it is not always effectively utilized by others or even known to a wider audience.

One of the key issues identified is the **lack of awareness among researchers and the broader community** about the existence of these openly shared datasets and research findings. Many valuable resources lie untapped simply because individuals are unaware of their availability. Additionally, there is a knowledge gap in understanding how to correctly and effectively utilize the shared data for further research or practical applications.

To address these challenges, it is essential to promote awareness and accessibility of the Institutional Repository and its contents. This can be achieved through targeted outreach and communication efforts within the university and beyond. Training programs and workshops can also be organized to educate researchers and stakeholders on how to navigate the repository and leverage the shared data for their own research or projects.

Open-access dissertations and datasets are certainly a significant step towards transparent and collaborative research practices. However, to fully unlock the potential of shared data, efforts must be made to bridge the gap between data availability and utilization. By raising awareness, providing necessary training, and fostering a culture of collaboration, the university can empower researchers and the wider audience to effectively utilize and benefit from the shared research output.

SUSTAINABILITY IN RESEARCH – LOCAL CONTEXT AND FRAMEWORK CONDITIONS

In the fifth intervention area, AUTh is focusing on sustainability in research, with a particular focus on collaboration and IP sharing.

Regarding Collaboration and Intellectual Property (IP) Sharing, the discussion at AUTh centered on the **absence of a centralized database for managing IP and collaborative projects**. Over the last few years, the university has participated in collaborative initiatives under the European Funded Partnership Agreement for the Development Framework. While this provided some financial support, it was not enough to fully address the challenges in this domain.

The main difficulty mentioned by participants was the **lack of sufficient budget allocation and low prioritization of IP-related matters** by the Ministry of Education and the university itself. To tackle this issue, there was a consensus on the need to advocate for greater recognition and dissemination of the importance of collaboration and IP sharing. This advocacy can be facilitated through the active involvement of high-end professors and academic staff, who can influence decision-makers and stakeholders.

Currently, fostering collaboration and IP sharing largely relies on the **personal interest and commitment** of the IT Center staff. Participants noted that they conducted an internal study to identify the needs and priorities of the Technology Transfer Office, with the results



highlighting the necessity for on-premises infrastructure and extensive training to bolster their capabilities in handling IP-related matters effectively.

One significant need expressed during the discussion was the establishment of a technology fund or budget. This funding would alleviate the constant pressure and stress on staff to compete for external funds or win competitions, which can negatively impact their actual work. Having a dedicated technology fund would offer a stable and reliable source of financial support for IP-related projects.

While ideas and potential collaborations abound, the **absence of a specific framework and bureaucratic paperwork** remain considerable challenges. Participants emphasized that navigating these hurdles makes their work more difficult and time-consuming. Establishing a clear and efficient framework for managing IP and facilitating collaboration is essential to streamline processes and encourage greater participation from researchers and stakeholders.

4.2.3 SWOT analysis

Based on the previous input on the interventions, we can incorporate some elements from the interventions' SWOT analysis to provide a more comprehensive and relevant perspective.

Strengths:

- Diverse Programs: The university's wide range of academic programs and faculties aligns with the digitisation of the higher education sector, including the development of Massive Open Online Courses (MOOCs).
- International Collaboration: The university's involvement in European Funded Partnership Agreements and other collaborative projects demonstrates its commitment to mainstreaming Open Science and digitisation of research.
- Alumni Network: The alumni network can play a role in the recognition of qualifications and research careers, advocating for greater support and resources in collaboration and intellectual property (IP) sharing.

Weaknesses:

- Bureaucratic Processes: Lengthy bureaucratic processes may impact the timely implementation of interventions and hinder progress in achieving transformative goals.
- Limited Recognition Mechanisms: The absence of formal mechanisms for recognizing qualifications gained in Living Labs and IP-related matters may hamper researchers' motivation and discourage sustained engagement.
- Resource and Funding Constraints: Implementing the interventions effectively may require additional resources and funding, which could pose challenges in an already financially constrained environment.
- Ethical Considerations: Addressing ethical considerations related to presenting sensitive medical and legal issues in MOOCs and research data sharing requires careful navigation and compliance with ethical guidelines.



Opportunities:

- Formal Mechanisms for Recognition: Establishing formal mechanisms for recognizing qualifications gained in Living Labs and research output can incentivize participation, provide credentials, and increase motivation for future initiatives.
- Advocacy and Awareness: Advocating for the importance of insurance coverage and collaboration can increase awareness and support from relevant stakeholders, including industry partners and funding agencies.
- Enhance MOOCs and Digital Learning: Continuously improving MOOCs and incorporating technology in education can attract a wider audience and increase educational accessibility.

Threats:

- Competing Priorities: Bureaucratic hurdles and limited resources might divert attention and resources away from the successful implementation of the interventions.
- Changing External Factors: External events, such as economic challenges or global crises, can impact funding opportunities and research collaboration possibilities, affecting the implementation of interventions.
- Insufficient Insurance Offerings: The lack of suitable insurance options tailored to research activities in the Greek insurance market can create risks and challenges for researchers and stakeholders.
- Resistance to Change: Resistance from stakeholders or internal policies may hinder the implementation of new processes and recognition mechanisms.

4.2.4 Quadruple helix stakeholders: needs, values, concerns, and expectations

The quadruple helix stakeholders, namely Academia, Business, Public Administration, and Civil Society, each have their distinct needs, values, concerns, and expectations in the context of the AUTh's five intervention areas, which are described in the following section.

ACADEMIA

Academic stakeholders highly prioritize the acknowledgement of qualifications and research careers. They are actively seeking formal mechanisms to validate the practical knowledge acquired through Living Labs, Open Science projects, and non-formal educational practices. Their ultimate goal is to foster a transformative research environment that encourages transparency, collaboration, and addresses ethical concerns in educational content. To achieve this, academia requires a streamlined framework for effectively managing intellectual property and facilitating collaborations, which will promote wider participation and lead to more efficient research outcomes.

BUSINESS



Stakeholders from the business sector are keen on supporting the digitisation of higher education, particularly the implementation of MOOCs, which can provide a skilled and adaptable workforce. They see opportunities in collaborations and Open Science practices, offering access to valuable data and insights for potential innovation. However, they express concerns about the challenges posed by long-legal processes and limited resources, expecting a conducive environment for collaboration, efficient technology transfer, and funding support.

PUBLIC ADMINISTRATION

Stakeholders from the sector of public administration emphasize the importance of a holistic approach to address institutional transformation and research assessment reform, valuing the mainstreaming of Open Science and digitisation of research practices, as these foster transparency, accountability, and economic growth. They express concerns about long paperwork processes and resource constraints that could hinder transformative initiatives. Their expectations include advocacy for greater recognition of collaboration and IP sharing, streamlined processes, and comprehensive support for transformative projects.

CIVIL SOCIETY

Civil society stakeholders hold expectations for tangible societal benefits from research and educational interventions. They value accessible and inclusive higher education through MOOCs, recognizing the potential to enhance knowledge dissemination and skill development. At the same time, stakeholders expressed their concerns about potential ethical considerations and the effective utilization of shared data, seeking increased awareness, transparency, and accountability in research practices. Civil society expects transformative interventions that address pressing societal challenges and create a positive impact on the community.

4.3 KTU ACTING-LIVING LAB ECOSYSTEM

This section provides information on Kaunas University of Technology (KTU)'s (Lithuania) local context, barriers and framework conditions that can influence the institutional transformation of the university. In addition to that, insights into stakeholders' values, needs and expectations are presented.

The input from stakeholders was gathered during the workshop organized on 1 June 2023 at KTU. The workshop gathered 23 representatives of all quadruple helix actors who jointly discussed the topics that matter from the perspective of the institutional transformation of the university.

While facilitating discussions during the workshop, KTU team first shared their pre-defined ideas for concrete interventions and then gained participants' feedback regarding feasibility of those ideas. Then, workshop stakeholders were asked to share their insights on additional ideas for concrete interventions to implement at KTU.

4.3.1 Target intervention areas



Kaunas University of Technology has identified and explored 5 intervention areas (IAs), Three of these five intervention areas are under the intervention domain 'Human Capital', one intervention area is under the domain of 'Research Modus Operandi', and one is under the intervention domain of 'Finance'.

The five selected intervention areas are as follows:

- Human Capital
 - Supporting talent circulation/mobility.
 - o Accurately addressing lifelong learning.
 - o Strengthening of human capital.
- Research Modus Operandi
 - Public engagement with and outreach to society to solve social challenges.
- Finance
 - Sustainability in research.

1. SUPPORTING TALENT CIRCULATION/MOBILITY

In this particular intervention area, KTU places its focus on the challenge of ensuring talent circulation and fostering employee mobility. This intervention area is a part of the broader domain of Human Capital, addressing the critical issue of talent circulation and mobility, which is extremely important for the university. In its long-term vision, the university aims to cultivate a climate of high international employee mobility, and to become attractive for talents, including senior and young researchers. In the medium-term university wants to increase in number of academic personnel that completed international academic or research mobility. The greatest barrier is related to promoting first-time mobility of young researchers.

The main challenges that impede first-time academic and non-academic mobility are as follows: (1) In some cases, language skills are insufficient; (2) Lack of practice and experience, as well as self-confidence, (3) Lack of contacts of external partners in the particular research and teaching area/topic; (4) In some cases, low motivation of partner institutions to provide high-quality training and sufficient infrastructure for mobility, and finally, (5) The benefits of academic and non-academic mobility are not clear (such as recognition of gained competences, etc.).

In this context the university stakeholders express their needs regarding mobility, that focus on (1) creating a system of recognition of competences gained abroad (especially in the case of non-academic mobility); (2) Strengthening opportunities of blended mobility (first, trying virtual mobility, and then physical mobility), (3) developing a database of partner institutions with a clear identification of topics and areas of expertise; (4) strengthening support system through providing language and intercultural communication courses and mentorship.

The university stakeholders have also formulated their needs regarding talent circulation: (1) to have an academic unit at the University that manages the attraction of talents (full time staff); (2) creating a fund for talent attraction (at the university level); (3) promoting Inbound mobility to attract young talents (post-docs) to stay longer at the institution.

2. ACCURATELY ADDRESSING LIFELONG LEARNING

In this specific intervention area, KTU is directing its efforts toward the challenge of effectively addressing lifelong learning, which falls within the broader intervention domain of Human



Capital. Lifelong learning is a national priority for Lithuania, that KTU strongly supports. KTU engages with multiple audiences in providing nonformal education programs to address lifelong learning needs. One of the major audiences, reachable through university, is its alumni.

The major challenges in this intervention area are related to (1) insufficient diversity of topic for trainings, (2) costs of training; and (3) lack of interest in life-long learning from society.

STRENGTHENING OF HUMAN CAPITAL

In this specific intervention area, KTU is dedicated to addressing a pivotal challenge: Enhancing human capital and researchers' capacities. This is part of the broader domain of Human capital, a major focus for the university. The university seeks to act as strong researchoriented HEI. In order to achieve this goal, the university needs to invest in strengthening the competencies of the university academic and research staff to publish in highly rated journals and books and conduct top quality research.

KTU stakeholders also highlighted the need to strengthen competencies and abilities of the personnel to provide top-quality research and teaching outputs/results, in particular, the need to strengthen a Paper Writing Clinic was articulated.

PUBLIC ENGAGEMENT WITH AND OUTREACH TO SOCIETY TO SOLVE SOCIAL CHALLENGES

In this specific intervention area, KTU is dedicated to the challenge of enhancing public engagement and inclusion of stakeholders to solve societal challenges. This IA is an integral component of the Research Modus Operandi intervention domain.

The University is discussing the strategies of how to better engage the public in research and to make social impact on society. In particular, the discussion emphasized strengthening Citizen science hub, as a focal point for public engagement, that will host a "Request bank" (a platform where external stakeholders and society at large submit their interests and university researchers match them with their interests and opportunities to engage/cooperate).

SUSTAINABILITY IN RESEARCH

In this intervention area KTU is focusing on a challenge/question: How to ensure sustainability in research? This IA is a part of the intervention domain of Finance.

The university aims to develop strategies of how to secure sustainability of research funding. In particular, the discussions emphasize strengthening interdisciplinary research cooperation, that provides better funding opportunities. In this IA, some challenges might be identified, in particular, fragmentation of the external funding availability (for example, irregular national research funding calls). To capitalize on this IA, University needs to find alternative funding sources (e.g., private sponsorship).



4.3.2 Local context, barriers, and framework conditions

This section provides information on KTU local context and framework conditions that can affect the institutional transformation of the university under all the four specific intervention areas mentioned in the previous section.

SUPPORTING TALENT CIRCULATION/MOBILITY

In this intervention area, KTU focuses particularly on promoting first-time international mobility. KTU team has first suggested having a **greater involvement of external stakeholders in researcher mobility programs.** The suggestion was that the prospective participants would come to the KTU not just for academic mobility, e.g., staying within KTU for lecturing or research activities, but the prospective participants could also come for a combined stay in partner organisations from business, industry, governmental or nongovernmental organisations.

For example, an incoming mobility researcher would spend three days in the KTU Faculty of Social Sciences, Arts and Humanities, and would then spend another two days with the media research business organisation 'Mediaskopas'.

Yet, the KTU workshop participants have indicated a number of challenges and unfavourable framework conditions, so that such an action of combined mobility does not feel feasible.

- The **lack of similar practice and experience** was indicated by the workshop participants as an important social-economic context. Various mobility programs are available to KTU at the moment, within for instance Erasmus+ mobility program, and European Consortium of Innovative Universities (ECIU) mobility program. However, none of these have practiced the idea of a participant coming to spend time in two organisations (one organisation of higher education, and one education from business, industry, governmental or non-governmental organisations).
- This area of action is also closely linked to the legal context, which does not define such possibilities. There is no precedent for such a program and KTU **does not have a proper legal example of needed agreements**.

On a good note, the active involvement of KTU alumni in partnerships with the university has been identified as an enabling factor (framework) for such an arrangement.

An important economic factor (context) is related to the **lack of interest or opportunities for the external stakeholders to allocate time and resources** for participation in such an endeavour.

Mostly the lack of resources is related to the lack of human resources.

After collecting the workshop participants' feedback, KTU team has reframed the suggested intervention action and now focuses on promoting first-time international mobility, especially among the early career researchers. The problem is that one needs to have already established academic contacts to go for an Erasmus+ exchange or ECIU University mobility. Early career researchers (but also some R3 researchers) do not have strong academic ties to higher education institutions abroad, and this serves as a barrier for their mobility.

Workshop participants have indicated **several important actions**, needed for promoting the talent circulation and international mobility:

- enabling blended mobility,
- developing a mobility partners' database,



• and creating an incentive system for international relations coordinators.

This action should be functioning at the primary units (faculties or institutes) level. The faculty international relations officer would collect the already established contacts from senior researchers, but also based on the already existing mobility agreements. This would make a basis for starting a contact database, further developed, and maintained by the international relations officer. The early career researchers (but also R3 researchers) would be encouraged to use this database when planning their first outgoing mobility. No social, economic, legal nor technical barriers have been identified for such program, and the current base of mobility agreements, the established position of faculty international relations officer, and the working contacts of senior researchers would serve as the enabling framework conditions.

ACCURATELY ADDRESSING LIFELONG LEARNING

The second intervention area focuses on accurately addressing lifelong learning, with a strong emphasis on developing alumni lifelong learning programme.

The workshop stakeholders have indicated that there is a big **need for lifelong learning services** and that the **needs assessment** should be implemented. Specifically, the participants have identified and discussed one very specific and feasible approach that is linked to the alumni of KTU. They proposed to establish a loyalty program for all the KTU alumni, that would include discounts and special offers for nonformal educational programs and short courses.

In terms of the legal context, there are certain difficulties with **incomplete regulations of the university's nonformal education**, which would need to be clarified. However, there are no national legal contexts that could hinder the development of alumni lifelong learning programs have been identified.

In terms of social context, it should be noted, that there is a growing awareness and need for a lifelong learning course in Lithuania. The economic context is also favourable as Lithuanian government starts a new initiative for public funding of skills development and lifelong learning of all employed people in Lithuania. The well-established ICT base, the university's online cloud software, as well as the already established portal of open.ktu.edu serve as favourable technological contexts. One of the indicated weaknesses is related to marketing of such a program.

The framework conditions for this action therefore includes:

- an active network of KTU alumni and good communication with them,
- an excellent technological base for synchronous and asynchronous learning
- and an already functioning KTU system of nonformal education courses.

STERENGHTENING OF HUMAN CAPITAL

In the third intervention area, KTU focuses on the strengthening of human capital, with a particular emphasis on strengthening writing skills.

One of the most needed competencies in a research career is **academic writing and publishing of research articles.** A 'Writing Clinic' is already established in KTU, at the Faculty of Social Sciences, Arts and Humanities, Center of Foreign Languages. The volunteers of this Clinic work with KTU PhD students and early career researchers by consulting them on language use, proofreading as well as consulting the general questions related to publishing an academic article.



The current barriers to the further development and implementation of this Writing Clinic mission are mostly related to the **availability of funding and the lack of time of the personnel** to serve all the needs of the University community. The barriers also include the lack of willingness on the part of the clients of the Writing Clinic (the PhD students and other researchers) to learn the new transferrable skills – they often expect to receive a quick fix and get a quick result, without proper learning.

An important social-economic context includes the general expectation towards researchers that they would easily master academic writing and publish in high-cited journals. In general, there are only a few Lithuanian academic journals indexed in the Web of Science or SCOPUS, with high impact factor, which means that Lithuanian researchers cannot rely on the national system of academic journals and must write in non-native languages (mostly English) in order to publish in good journals abroad.

National legislation has fostered a research assessment system, where publications in goodranking (international) journals are most expected, and the funding of research in universities highly depends on publications. The individual-level researcher assessment and remuneration system at KTU also focuses on **publications in high-ranking journals**.

Yet PhD structured study programs in Lithuania rarely involve courses on academic writing, therefore leaving PhD students and early career researchers in great need for that type of consulting and support.

Framework conditions include a legal system that puts a lot of focus on high-ranking publications, a researcher assessment system that heavily relies on academic publications, underdeveloped system of national high-ranking journals and the lack of academic writing courses within structured PhD programs.

ENHANCED PUBLIC ENGAGEMENT WITH AN OUTREACH TO SOCIETY TO SOLVE SOCIAL CHALLENGES

In the fourth intervention area, KTU focuses on enhancing public engagement with outreach to society to solve social challenges, with a special emphasis on strengthening the Citizen Science Hub.

The workshop stakeholders have supported the idea that citizen science has potential for transforming the research practice, making it more democratic, relevant, and tuned to the actual needs of the society. This includes a fundamental shift in research modus operandi. KTU has established a Citizen Science Hub (CSH), dedicated to this transformation.

The important aspect of the social context of the CSH is the general **reluctance of the Lithuanian society to participate in research activities**.

Therefore, the creation of a motivation and incentives system would be needed. Stakeholders have further suggested that establishing of a special prize for the involvement in citizen science activities would further contribute to attracting the public interest.

In parallel to that, workshops and courses should be organized to build the **awareness and spread the knowledge about citizen science** potential.

Additionally, stakeholders have identified that a strong partnership network needs to be established. The network would consist of various Quadruple Helix stakeholders and would supply contacts and interested citizens for participation in citizen science projects.

An important legal barrier (context) is the r**egulations related to personal data protection**, especially when the citizens are involved first-hand in the field activities and collect the data.



The general framework conditions for the strengthening of the citizen science include: an established citizen science hub (data.ktu.edu.citizensciencehub) at the Faculty of Social Sciences, Arts and Humanities (KTU), Center for Data Analysis and Archiving, that has working connections to the KTU library; active researchers, frontrunners in the field, eager to develop citizen science in KTU and Lithuania; lack of an established network of partners.

SUSTAINABILITY IN RESEARCH

In the fifth intervention area, KTU focuses on sustainability in research with a particular emphasis on strengthening interdisciplinary research cooperation.

This intervention is related to a question of how KTU could reach for research funding sustainability, including such important areas as external grants and national funding based on publications.

Research funding in Lithuania heavily depends on grant writing success and the potential for high-ranking publications. If researcher teams can write successful project applications and if they produce high-ranking research articles, that contributes to the sustainability of research funding.

Along with other schemes and initiatives for investing in human capital, one more action has been suggested by KTU stakeholders, that could contribute to ensuring higher success of grant writing. Namely – **strengthening research cooperation across disciplines and across faculties (institutes)**.

An important framework condition to that is the requirements for Horizon Europe funding that include strong focus on inter-, cross-, multi- disciplinarity. KTU is comprehensive university with multiple research fields. Therefore, KTU needs to equip the researchers with competences in interdisciplinary cooperation.

Moreover, KTU needs to develop systemic conditions for constant reinforcement of interdisciplinary (that by default also means inter-faculty) cooperation.

Several important context factors have been identified.

• First, EU level research funding heavily focuses on inter-, trans-, multi-disciplinarity. But Lithuanian research funding, at least the programs administered by the Research Council of Lithuania, **discourages interdisciplinary projects**.

Another important social factor is that KTU is a big university and the researchers **do not know each other**. For instance, there is insufficient knowledge of who is doing what in university. It is also important that some of the lecturers of the university **lack motivation for participation in research projects.** Some researchers lack English language proficiency to effectively participate in international projects.

• Among important external barriers, more factors have been mentioned. For instance, **lack of experienced project proposals expert-assessors** at the Research Council of Lithuania, that could adequately assess the interdisciplinary project proposals.

Stakeholders have stressed the value of interdisciplinary projects and the changes that are needed so that the university could secure higher sustainability for research funding. More practically, a yearly B2B event was suggested. That would be an event where researchers from different units of the university would meet and exchange contacts and ideas for research projects and publications. The event could also include workshops for new project ideas.

Stakeholders also suggested having a projects' related news section on the KTU website and in the newsletter, especially focusing on the results of the already implemented projects.



Mentorship to include people without experience in project activities was also listed as important framework condition.

4.3.3 SWOT analysis

Strengths:

- Multidisciplinary university with strong international research and studies portfolio
- The strong player in Horizon Europe funding compared to other universities in Lithuania
- Change-oriented organizational culture
- Strong competences in e-learning/ e-teaching
- Strong competences in open science and citizen science

Weaknesses:

- Public engagement activities are not properly acknowledged for professional development and careers of researchers
- Lack of human resources and motivation to engage in extra activities

Opportunities:

- Involvement in international networks, in particular, membership in European Consortium of Innovative Universities (ECIU)
- Active collaboration with KTU Alumni network (www.alumni.ktu.edu)
- Expert roles in international networks and organizations (EUA, EC, UNEP, etc.)

Threats:

- Sustainability of funding activities beyond the project lifetime
- Low stakeholders' interest in participating in activities organized by the university/project
- Competing priorities induced by changing national legislation and /or global crises

4.3.4 Quadruple helix stakeholders: needs, values, concerns, and expectations

The core idea of CATALISI project is to develop a university as an open and inclusive participant in the innovation ecosystem, addressing societal challenges. This idea was introduced to the participants in the KTU workshop with the stakeholders. The quadruple helix stakeholders, namely Academia, Business, Public Administration, and Civil Society, each have their distinct needs, values, concerns, and expectations in the context of the KTU's selected intervention areas, which are described in the following section.

ACADEMIA

In the innovation ecosystem, universities are expected to be the flagman of research directions, that reflect the current challenges and problems within the society. The main values, that universities can bring to the innovation ecosystem, are openness, social responsibility, continuity, academic integrity, and service for the society.

In the light of this, workshop participants expressed that KTU should be at the core of shaping the changes in the society. Additionally, Universities can offer attractive open spaces for the



society, for example, KTU has recently launched a modern library, that is open to all the public.

One of the expressed needs from the academia stakeholders is to raise funds for the sustainable and continuous functioning in the spirit of research and education excellence. The development of interdisciplinary research opens the possibilities of closer business - university cooperation and is attractive for fund raising. To address this need, one of the planned KTU interventions in CATALISI project in finances will foster interdisciplinary cooperation among research groups of KTU in order to achieve sustainability in research funding, including important areas as attraction of project funding, finances from scientific publications, and ensuring social impact of research.

The concern raised by the KTU academia stakeholders is that business in Lithuania is not intensively investing in R&D and would like to have cheap solutions. On the other hand, Lithuanian scientists still lack the skills in commercializing their products, especially business–university cooperation is weak in social sciences and humanities.

Stakeholders, participating in KTU workshop, proposed various ideas how universities can foster the development of quadruple helix innovation system and what institutional changes are needed. There could be larger involvement of public sector organisations (for example, State Tax Inspectorate, State Social Insurance Fund Board (SODRA)) in KTU Career days, as now mainly the representatives from the industry participate. The development of National Innovation and Entrepreneurship Centre (NIEC) activities, common activities with business. expansion of social partners network and promotion of social impact activities could foster the creation of the community of practice (CoP) among stakeholders in the quadruple helix. The 'contacts back' can be created, where partners can register their needs and interests.

KTU also should pay more attention to the communication activities, for example in the dissemination of science to the public or information dissemination about informal education. Cooperation between the academia actors with the communities and civil society organisations should be strengthened to understand the needs and challenges and co-create solutions.

BUSINESS

The expectation of the industry sector in the innovation quadruple helix ecosystem is to foster applied research, where fundamental knowledge is applied to develop practical solutions for businesses. The needs from the industry should be included in the cooperation action between universities and industries and integrated into the study programs and research agendas.

Business actors are interested in providing university with the internship positions or proposing working places for talented students and graduates. Industries are interested in the mutual co-operation in the field of the development of new technologies and innovations that would provide them with the added value.

It was noted by the workshop participants, that it is important that cooperation between industries and universities would connect multiple areas of science. Participants of the workshop proposed the idea of exchanging the lecturers (practitioners) from the businesses with the universities, who can provide students with hands-on practical examples and experiences.

Also, it is important to create a system to constantly monitor the feedback from businesses about the needed qualifications in the job market and the quality of education. One of the



proposed interventions by KTU team will create a feedback system from KTU alumni to track their needs for qualification improvement and to offer adequate training programs.

Participants of the KTU workshop identified that the cooperation at the highest level is needed for the universities to correspond to the needs of industries via study programs and research projects. The concern was revealed, that in Lithuania there is a lack of research funding, and there is a lack of the philanthropy traditions among business leaders, for example, funding breaking-through research initiatives. On the other hand, during recent years some nice initiatives by private individuals or business companies were established in Lithuania, for example Jakulis funds the returning researchers of the Lithuanian origins for the high-level research projects, or Teltonika funds talented students to pursue STEM studies. The sponsorship of scientific research as an institutional practice in the industry sector would foster the development of mutual cooperation towards the excellence of applied research.

PUBLIC ADMINISTRATION

Governmental sector in the quadruple helix ecosystem aims at solving societal problems and challenges, therefore it needs science - based solutions for the decision making. Governmental sector should be looking for the international level competences and the applied research.

Participants in KTU workshop identified that the expectations for this sector are to encourage and do not disturb scientific research, rely on the data analysis, and use scientific competencies in the decision making. The governmental sector should cooperate with the universities in the preparing specialists with needed qualification to solve contemporary issues.

As identified by KTU workshop participants, fundamental values in this sector are ensuring social justice and also supporting economic growth within the country. These values should be harmonized in a sustainable way.

Workshop participants raised the concern, that both at the national and municipal levels, the funding for RDI in Lithuania is low (for example compared to other EU countries), and this is a serious obstacle to fund research that would have high social impact but is not funded by the industries. The proposals for the institutional changes included the system of 'scientific attaché' in the governmental institutions, that would foster more efficient integration of the scientific knowledge into the decision-making processes. Also, the specialists from the universities should be more actively included in the policy framing processes.

CIVIL SOCIETY

Universities are seen as providing a service of science to society in mutual cooperation. As identified by the participants in KTU workshop, one of the most important expectations from the society is that universities will deliver education of the high quality via dissemination of objective knowledge, helping to solve problems and challenges of contemporary societies.

An important need from the society is to maintain the competencies after university graduation via lifelong learning programs. KTU intervention in the CATALISI project in the area of human capital is supposed to address this need. Another important expectation is the education of intellectual leadership and talents for society in the universities and the creation of new knowledge. The growth of universities also means fostering of the economic growth of the city or the region. As participants of the workshop identified, there is a need for the members of the civil society to participate in the governance of the universities, for the better mutual cooperation.



From the value perspective, universities should serve as a flagman of values for the society, helping to shape the values of students via the study programs, that would reflect the challenges and concerns of contemporary societies. Additionally, universities as a physical and creative entities, enhance the youthfulness and vitality of the cities with a great added value for the society and would promote the cities and Lithuania.

Concerns from the perspective of civil society participation in the quadruple helix ecosystem is related to the inefficient mechanisms of how civil society organisations or communities can participate in the research and how their needs can be identified. One of the KTU interventions in CATALISI project will foster the participation of citizens in the scientific research via Citizen Science Hub activities. Ideally, citizens should be also involved in the development of the strategy of RDI of the University.

Workshop participants proposed several initiatives for the changes within the quadruple helix ecosystem regarding public participation. It is important to work towards science literacy in the society and to change the attitudes around conspiracy theories, that are still visible in Lithuania. Another area of the change is to provide possibilities for alumni to return to universities via life – long learning programs. Additionally, alumni fund at KTU could be established, where alumni would have a feeling of belonging to the academic community and create stronger social responsibility.

4.4 UCC ACTING-LIVING LAB

This section provides information on UCC's local context, barriers and framework conditions that can influence the institutional transformation of the university. In addition to that, insights into stakeholders' values, needs and expectations are presented.

The input from stakeholders was gathered during the workshop organized on 2 August 2023 at the University College Cork (Ireland). The workshop gathered more than 40 representatives of all quadruple helix actors who jointly discussed the topics that matter from the perspective of the institutional transformation of the university.

4.4.1 Target intervention area

The University College Cork has identified one broad intervention areas under the domain of 'Finance': sustainability of research.

The Acting-Living Lab at University College Cork focuses on a cross-cutting target intervention area under the working title **'Financial Sustainability for Research & Innovation'**. This is approached as a single Intervention Area for the purposes of the Living Lab co-creation process and the development of a Transformation Pathway for the institution. Although the intervention area is assigned to the Domain of 'Finance', it has interconnections with the other two Domains. More particularly, it also directly spans the 'Research Modus Operandi' Domain, with a strong relationship to the 'Human Capital' Domain.

While framing this broad intervention area, it was recognized that *financial sustainability* is an integral and requisite part of realizing sustainability in broader terms and within the context



of a *research and innovation ecosystem* that interacts at local, regional, national, and international levels.

Institutionally UCC is committed to continually strengthening its research and academic excellence. This intervention area is therefore *strongly aligned to university institutional strategy*, leadership commitment and ambition around our Research and Innovation agenda. This is articulated under Goal 1 of the UCC Strategic Plan 2023-2028 which sets out to,

'Deliver impactful research and innovation that addresses global grand challenges in signature areas of excellence through the UCC Futures framework, resulting in a distinctive research reputation.'

The 'UCC Futures' initiative is an ambitious new programme of research prioritization coupled with an innovative academic recruitment strategy across ten indicative areas of strategic importance. It aims to enable a dynamic enhancement of research, support of innovation and translation of research to tangible solutions to address emerging societal needs and global grand challenges, to secure a better future for all.

UCC team will need to go *beyond 'business as usual'* to fully realise the institutional ambition and opportunity for transformative impactful Research and Innovation, especially R&I that addresses societal challenges, has meaningful policy impact and enables regional and national social and economic development,

Accelerating transformation towards a more financially sustainable research and innovation ecosystem underpins our ambition for excellence and world-class research.

UCC Acting-Living Lab and related transformational pathway present a timely opportunity to collaboratively explore the current state of affairs and to co-design, develop and pilot new models and practices.

Taking the above-mentioned into consideration, the UCC areas of focus within CATALISI include:

- University's current institutional research grant 'overhead' practices,
- PhD funding model,
- UCC's ability to support societally engaged research,
- University's ability to invest in research capacity,
- Funding researcher supports and systems,
- Supporting the attraction and retention of talent,
- Sustainably financing research infrastructure,
- Engagement with wider policy/funding culture and context.

FINANCIAL SUSTAINABILTY FOR RESEARCH AND INNOVATION

UCC Research and Innovation Ecosystem - University College Cork (UCC) is an internationally competitive, research-led university that plays a key role in the development of Ireland's knowledge-based economy. There are approximately 1500 researchers at UCC organized across thematic clusters, disciplinary schools, and colleges and over 70 research institutes and centres. Over 5,000 institutions globally collaborate with UCC researchers. Our researchers also actively work and develop research partnerships with public sector, private sector, community, and civil society locally, regionally and nationally.



UCC plays a key role in supporting local and regional development including attracting FDI and facilitating community, economic and spatial planning, policy, and development. The institution plays a key role in the wider regional Research, Development, and Innovation ecosystem, working closely with industry including managing a large portfolio of patents, licenses and spin-off companies. UCC is also a leader for research and innovation for public and community sectors. We are a co-founding member of Campus Engage, an initiative of the Irish University Association which promotes societal engagement as a core function of Higher Education. UCC is the first Irish institution to have a dedicated institutional Civic and Community Engagement Plan.

Institutional Strategic Plan – Goal 1 of the UCC Strategic Plan 2023-2028 sets the roadmap for Research and Innovation in UCC for the next five years. The following strategic approaches are identified, supported by a number of priority actions.

1.1 Implement the UCC Futures framework, informed by smart specialisation and the UN SDGs.

1.2 Improve strategic hiring, retention and development of our people at all career stages, supported by a research ecosystem and career framework.

1.3 Increase PhD enrolment numbers, enhance the research student experience, and embed research and innovation into our curriculum.

1.4 Transform UCC's research culture through the implementation of engaged research and open research, underpinned by academic integrity, and ethical and responsible practice.

1.5 Create an innovation culture and entrepreneurial campus, underpinned by an ethos of creativity and discovery.

Developing and delivering the changes envisaged in our institutional strategic plan will benefit from the proposed CATALISI intervention focus on financial sustainability. We wish to contribute to ensuring long-term financial viability as we further grow and develop our Research and Innovation ecosystem, whilst also serving as catalyst to accelerate good practice.

The Living Lab approach to collaboratively examine and plan for financial sustainability is particularly relevant to the institution considering:

Inadequate exchequer investment - While Ireland has a long-standing ambition to achieve a 2.5% of GNP in respect of Gross Expenditure on Research and Development (GERD), it has consistently fallen short of this target.

Infrastructural Deficits – The Programme for Research in Third-Level Institutions (PRTLI) was an Irish Government programme that provided integrated financial support for research infrastructure. The last PRTLI call was 15 years ago.

Balance of Competitive Funding - A high proportion of total research income to the institution comes from a small number of large-scale research centres, such as the Tyndall National Institute. There is an institutional need to examine the financial health and sustainability of Investigator Led funding models.

Academic independence - One risk of the current funding model is an over-focus on external funders, and consequently research priorities set by funding agencies. There is a narrowing of research topics with greater diversity needed, but also a curtailing of researcher led institutionally determined topics.



Diversity of Funding - There is an over-reliance on Science Foundation Ireland (SFI) funding, which is a potential risk to longer term financial sustainability.

Overhead Model - The current overhead model at UCC requires review and revision. Research income for the most part, solely covers direct project costs. In many cases, the small institutional overhead provided (indirect costs) by a grant does not sufficiently support the full cost to the institution of supporting a research grant. For example, grants require support from staff in the research office, finance office, legal office, human resources department, Library, and many other support services over the lifetime of the grant. Currently, indirect costs are distributed to the unit involved in the grant, with the University retaining a small percentage. There is no mechanism currently for retaining overhead institutionally to invest in strategic initiatives or capacity building initiatives. An enhanced strategic model of income allocation will be required for longer term financial sustainability – as without the ability to invest strategically, the institution is compromised. This could include a strategic fund that gives our 4 colleges co-decision making on its application.

Brain Drain – Increasingly UCC, as a local regional institution, is experiencing issues related to brain drain, talent retention and attraction. We need to unlock mechanisms to better retain, attract and sustain a pipeline of research talent. This requires identifying and unlocking sustainable financial mechanisms that enable institutional development in this area.

Data, Technology and Open Science – Higher education, research and innovation operate today in the context of a rapid pace of change with respect to Open Science. There is an adhoc fragmented approach to Open Science and limited consideration of future needs and planning for same.

Pre and Post Award grant support is an issue for researchers outside of research centres. The CACSSS Community Engagement Committee has identified a range of support needs for College and School based researchers. In particular - grants involving complex community partnerships (co-hiring, co-financing, co-researching etc.) require deeper research supports than are currently available.

Funding Context versus institutional autonomy- The EUA University Autonomy Scorecard provides a full comparative analysis of the state of play of university autonomy in 35 higher education systems in Europe. Despite a relatively favourable scoring across the 4 indicators for Ireland, UCC finds itself relatively constrained regarding its ability to fund and support an institutionally determined and driven research agenda - within a wider context of funding policy and culture determined nationally and at European level.

Engagement for Positive Societal Impact - Funders are also increasingly requiring societal 'engagement' as an aspect of research proposals, but without consideration of the collaborative design, planning and ongoing engagement over many years needed with external partners to enable meaningful and impactful research. Systems and supports are needed to realise truly *transformative* rather than transactional relationships between higher education and society. There is currently a disconnect between university research systems, societal actors, funding instruments, policymakers and the public, There is thus a need and opportunity for advocacy to funding bodies and policymakers to address these shortcomings.

4.4.2 Local context, barriers, and framework conditions

This section provides information on UCC local context and framework conditions that can affect the institutional transformation of the university under the broad intervention area of financial sustainability for research and innovation.



In the first part of the section, the McKinsey 7-S framework (Peters and Waterman, 1982)¹ was employed as a model to portray the *current state local context and internal framework conditions* affecting transformation.

In the second part of the section, the PESTLE analysis was emlployed as a framework to capture the *current state local context and external framework conditions* affecting transformation.

I. FINANCIAL SUSTAINABILITY FOR RESEARCH AND INNOVATION – LOCAL CONTEXT AND FRAMEWORK CONDITIONS

INTERNAL - MCKINSEY 7-S FRAMEWORK

The McKinsey 7-S framework model identifies seven interrelated internal elements of an organisation that influence its ability to change and can be examined to consider organisational alignment and effectiveness for implementing strategy and managing change processes. The model makes a distinction between 'hard elements' – strategy, structures and systems; and 'soft elements' – shared values, skills, style and staff.

A summary of stakeholder discussions and inputs harvested during the Acting Living Lab workshop is organised under these headings.

Staff

- High staff turnover (due the funding related contract-to-contract nature of researcher careers), and related challenges with staff retention, create additional burden on overheads and efficient/effective systems and supports within our research ecosystem.
- Pre and Post Award grant support is an issue outside of the big research centres. The CACSSS Community Engagement Committee for example has identified a range of support needs for College and School based researchers. In particular, grants involving complex community partnerships (co-hiring, co-financing, co-researching etc.) require deeper research supports than are currently available.
- Resource and operational models to grow PhD numbers are as yet underdeveloped and there is a lack of clarity on how a critical mass will be achieved in balance and concert with sustaining undergraduate programmes and pipeline to PhDs.
- The PhD experience and level of PhD training and support are inconsistent across the University. There is a disconnect between research and teaching, acting as a barrier to long-term progression opportunities and career paths needed for wider ecosystem sustainability.
- UCC people and talent are an existing strength, however there is an institutional challenge in that know-how, transformation and best-practice is often led by individual champions and not embedded in systems, which is creating long-term resource inefficiencies and missed opportunities to share and capitalise on existing institutional learning to leverage organisational strengths.

¹ Peters, T.J. and Waterman, R.H. (1982) In search of excellence: lessons from America's best-run companies. 1st ed. New York: Harper & Row.



- There is a need to start earlier in the career lifecycle, to embed a positive research culture, research values, research literacies and opportunities for careers in research and innovation, which will enhance long-term sustainability. More support programmes for mid-career academics is needed early and established academics are somewhat catered for example ERC calls.
- Key roles in the ecosystem were identified as critical to enabling sustainability including for example engaged research officers, data stewards, research assistants, research managers.
- Staff experience administrative burden, burn out and barriers and frustrations with institutional processes. More efficient/effective/agile systems and structures would contribute to accelerating institutional transformation.
- Cost of living in Ireland impacts the desirability of Ireland as a research location. We are losing people who cannot afford to live here on a researcher income.

Style

- UCC's leadership and engagement at national level is an existing strength that could be harnessed to support external factors and conditions for transformation.
- A leadership culture of fair and transparent processes is essential, in particular with regards to review and revision of overhead model
- Institutional leadership will be required to take people on the journey of transformation to remove barriers, incentivize, inspire shared values and make it easy for staff to work in ways that support transformation.
- A leadership culture that encourages innovation for transformation is required creating opportunity to experiment, test, pilot and recognizes the learning and value from 'trying' and 'failing'.
- Embedding a culture of agility requires responsiveness and flexibility creating opportunities for small actions that can build capacity, momentum and scale mitigating against risk.
- Opportunity for bottom up and horizontal and peer to peer leadership where existing staff/talent strengths and assets can be harnessed to build capacity cost effectively in the system through enhanced networks, collaboration and structured learning opportunities.

Skills (Knowledge and Competencies)

- A key challenge is around building research capacity outside of flagship centres.
- A key challenge is loss of researcher talent.
- Unlocking latent assets Existing assets and strengths within the ecosystem are undervalued and/or not being harnessed.
- Networks could support skills, practice, knowledge, competencies development, exchange and best practice. The types of skills identified included practical operational know-how in areas such as procurement as well as research



methodologies and practices for example creative practice, engaged research especially citizen science and participatory action research.

- The importance of supporting skills/expertise was identified- including IT enablers, data stewards, legal, finance, research assistants, research managers, engaged research officers' Greater awareness and value need to be placed on these at institutional level.
- Operational and administrative know-how and experience is being lost. Huge time is invested in learning and navigating complexity and identifying workarounds to barriers in the system. Staff turnover and a lack of a central repository or structure creates inefficiencies and a missed opportunity to capture and embed organisational knowledge and competencies. Examples include procurement, IP, project set up, and grant capture. End to end training programme for researchers which includes financial and data aspects of research management suggested.
- The current state re skills, knowledge, competencies will vary significantly across different parts of the organisation relating to both disciplinary strengths and the scale/evolution phase of the unit. For example, STEM disciplines may have strengths and efficiencies around intellectual property while creative practices and humanities might have strengths and established best practice for community partnerships. Similarly, at an operational level some organisational units may need to build competencies at start-up stages, while others may have challenges associated with rapid scaling.
- Existing strengths around positive collaborations and interdisciplinary activities were recognized. There is an opportunity to better harness diverse disciplinary strengths to collaborate, share strategies and experience across disciplines.
- Current funding is project focused and driven. This means there is no financial support for knowledge dissemination, translation, impact. It also leads to fragmentation and discontinuity between projects both internally and externally. There is a need for a 'process owner' or life-cycle owner – enabling long-term planning and coordination to process, store and systematically embed institutional knowledge and flows.
- These factors all speak to the potential transformations that would reduce inefficiencies, waste and missed opportunities within the ecosystem to enhance overall financial sustainability.

Shared Values (Culture)

- While the institutional strategy and initiatives like CATALASI are strengths, more is needed to build a sense of shared values/narratives around the new UCC Futures framework across the institution.
- There is not a shared research culture, shared values and cultural alignment across the institution. A typically competitive environment, there can be a degree of territorialism and protectionism where supports and enablers are perceived as threats or competitors.
- There are key institutional strengths on working collaboratively, internally and externally, especially towards addressing societal challenges.
- More can be done on communicating and translating the value of UCC research to both internal and external audiences, supporting advocacy for creating the right conditions for transformation.



- If we are to tackle societal challenges more is needed to develop a sense of shared goals for delivery/transformative practice, especially working in partnership with City and region.
- UCC has key institutional strengths, such as our tradition and recent enhanced focus
 of civic and community engagement, that can support the development of
 partnerships needed for these approaches, but the investment of time and resources
 to build deep, trusted collaboration and practices is not well understood or
 recognized.
- Institutionally, UCC needs better balance and emphasis on both qualitative and quantitative values. Research traditions, in all their diversity should be embraced.

Systems

Relating to business systems, procedures, policy and processes:

- Stakeholders expressed frustrations with day to day systems and processes.
- A shift in approach from institutional focus to the design of internal systems and supports to be more researcher-centred/led.
- Opportunity to take a continuous improvement approach to capturing learning for systematic and ongoing enhancements to institutional operations.
- Grant capture and knowledge management. A number of discussions point to the need for enhanced systems and processes for knowledge management.
- Enhanced systems needed to support and enable lateral flows and collaboration across the research ecosystem. There is also opportunity to enhance how the research ecosystem links with other parts of the University.
- Libraries, publishing and internal related systems in context of open access, Open Science, FAIR data principles iare factors.
- Support and enhancements for systems needed at local level.
- Seed fund models were cited as good practice for enabling accessible, agile and responsive research. Some existing, e.g., UNIC4ER seed fund but more like this needed.
- Duty of Care for Staff, as a risk for researchers, policy is currently underway.

Structures

Contributors highlighted key organisational structures that affect transformation, and which require alignment, change or improvement to enhance the financial sustainability of research and innovation.

- Considering research management and the experience of administrative burden, there is sense that greater agility is needed regarding administrative and operational structures.
- Fora or platforms for internal knowledge exchange and shared learning was identified a gap in existing structures.



- More is required to support staff in navigating systems, making operational know-how more accessible.
- More structured opportunities for training and learning were identified as a need.
- A lack of standardised, central approach to platforms or repositories for data, knowledge management and continuity was also identified as a weakness in existing structures.
- Local structures need to be supported.
- Don't utilise our spaces well.
- Poor infrastructure for active data, no service or funding for data storage.
- There is a question to be considered in terms of standardisation v's flexibility, recognising the diverse disciplinary contexts.
- There is also a general question as regards a broader approach and whether systems and structures are organised around processes or domain expertise?
- The current divide between PhD versus Post Doc was questioned. Stronger, more standardised, and structured links between Research and Teaching needed to support the career lifecycle. This should support multiple possible pathways e.g., across Research careers, innovation, and entrepreneurship.
- Lack of formal student innovation hub since Blackstone LaunchPad ceased operations.
- There is no infrastructure for sustained external collaboration for long-term approaches.

Strategy

Under the final element 'strategy' we capture some emerging elements of an 'ideal state'. Although the workshop was focused on 'current state', discussions naturally touched on potential solutions and suggestions of what should be done to solve the barriers or issues identified. Related examples of good practice were also captured.

- Process owner, life-cycle owner for long-term planning and coordination to process and store institutional knowledge and flows,
- Knowledge Management,
- Partnerships and joint ventures,
- Policy messages, communications, and advocacy,
- Societal driven research agendas,
- National engagement,
- Strategic and transparent approach to revising overhead,
- Leverage and harness existing strengths,
- Incentivize and reduce administrative burden,
- Better networks for collaboration,



- Best practice, toolkits, and training,
- Research Seed Fund,
- Engaged Research support positions institutionally and locally in colleges and schools,
- Data Stewards.

EXTERNAL – PESTLE ANALYSIS

Political Factors

- City and regional partnerships are critical to enable the research culture and wider ecosystem. Existing strengths in working at City and Regional level to be leveraged. The importance of being part of the regional dialogue on skills, talent, needs noted.
- A key factor is the politicization of universities' research agendas aligned with funder and government priorities, placing academic independence at risk.
- In general, UCC operates in the national policy context and national investment for Higher Education and Research in Ireland. New Department for Higher Education and Research. Opportunities identified in relation to lobbying and advocating research agenda with politicians - making R&I relevant to political agendas and aligning priorities.
- In national budgets, research not highest priority. There is a disconnect between research environment and the political environment.
- IUA pre-budget submissions are important. A major lobby point is the National Challenge Fund (NCF).
- Lack of coordinated approach is hampering advancement.
- There is an opportunity in relation to the national funding landscape and proposed merger between SFI and IRC to inform and influence the shape of future.
- Influence and advocacy for more interdepartmental initiatives by Government. There is approx. €800m being spent by Government Departments on Research, which is almost as much as the €1.2bn invested in R&I by the Government.
- Forging strategic partnerships with industry we are well placed to do this is Cork 9 top pharma companies based here. City scale and English first language are strengths.
- Engaged research, especially agendas created with and by citizens, communities, and public sector partners, need to underpin research.
- A number of discussions highlighted a need for advocacy and communication to enhance reputation, positioning, lobbying for investment as a key factor.
- The rapid pace of policy change and trends around AI and Open Science is a factor.
- Rankings are an important consideration. Improving requires attention to research funding, infrastructure, and data management. Transforming research funding will transform our rankings.
- Housing crisis is taking up a lot of policy space in Ireland, naturally, this crowds out other policy needs such as research funding.



- Public needs to be behind investment in research ifor politicians to sell it.
- Public intellectuals are important, and this does help win public and civil servant support in research.
- Policy making needing to be evidence informed is an important factor around attracting public investment in research.
- HEI's have a perceived role in leading on sustainability, this can be leveraged for greater investment in research. HEI's need to lead the climate debate in Ireland.
- Science communication is very important.
- Knowledge translation into public value services (not industry spin offs and products as the sole focus)

Economic Factors

- Strategic partnerships with industry this can support PhD models as well as research infrastructure investment.
- Influencing at national level the research structures and infrastructure, the UK life science research structures cited as example the National Open Research Forum established to enable Action Plan. Ireland investing less.
- Investment in research infrastructure could be matched by private sector. The lack of government investment is a barrier to securing private investment. Lack of investment in RDI infrastructure also makes City/Region less competitive for investment.
- Need to draw down from tax system into Research and Innovation.
- City/Regional economic development context is a factor for the research and innovation ecosystem for the institution as well as business sector issues like cost of living but more critically housing and accommodation was cited as a key issue across the board.
- The economic capacity of all sectors to engage in collaborative approaches and invest in the ecosystem is an issue beyond UCC as an institution. Community and public sectors equally face challenges re project driven funding and lack of resources to invest in capacity building, partnerships, and collaborations. Funding silos are a barrier.
- There needs to be clear benefit, value for external partners investing time/resources. Opportunities for creative and community responses need to recognise that these groups are often face more precarious and economic constraints that researchers.
- UCC research supports to take on some of the administrative burden of grants and securing funding was considered a strength. The time investment to secure funding is a barrier across all stakeholders, often seen as 'not worth it'.
- EU funding and partnerships could be utilised more to build our position in UCC excellence. Ireland good at soft skills in an international context.
- The agenda of funding policy and bodies is a factor affecting transformation, limiting the type of research that gets supported.



- Philanthropy could be better leveraged Highlighting and communicating positive impacts of research effectively will encourage philanthropy. This is influenced by national philanthropic policy and tax incentives for philanthropy.
- Research funding doesn't allow for knowledge translation beyond the period of the funding e.g., funding ends, move on to next project.
- There is an issue for all stakeholders in relation to annual funding v's multi-annual funding models.

Social Factors

- Over recent years Ireland has seen significant progressive changes and societal transformations. This is a strength to build on as well as learn from in terms of our collective stories and experience to create change.
- Where reputation and positioning were highlighted in relation to political advocacy, investment, and global competitiveness, it was equally discussed in terms of local community, wider societal and public perception. Engagement in public dialogue and debate was highlighted as an opportunity to deepen public awareness and understanding of the key societal issues and challenges as well as influence policy.
- Cultural diplomacy and diaspora graduate network not leveraged enough. The global alumni network could be better engaged with, bringing their learning back to Cork particularly in relation to diversity and inclusion.
- There is an issue around extractive relationships with community groups rather than true partnerships. Communities are disempowered and the rights of the 'researched' is a concern. How does research advance things for the people civil society organisations serve and what is the community gain/benefit? How does UCC take its mandate from society?
- Research is perceived as inaccessible from social side. The key social issues are not being addressed and a need for more societal led initiatives. Communities would benefit from not just engagement on research but also skills transfer (e.g., evaluation, innovation) and building capacity as knowledge partners.
- Values and ethics need to be a central part of the dialogue. There is a need to move beyond research supporting evidence-informed services in the public sector, to research supporting value-based services.
- Networks for enhanced external collaboration and innovation are required. Stakeholders spoke of the 'water-cooler' moments that support idea generation and create spaces for new partnerships and collaborations to emerge. Better networks, matchmaking etc could enhance structured processes for this. This requires central channels and structures processes for sustained connection across the quadruple helix and a clear hub/point of contact in UCC.
- Retention of talented researchers locally loss to private industry with more sustainable / permanent employment conditions.
- Pandemic experience invites a more blended approach, with less environmental impact. Remote working had more impact on home life.



- Inaccessible research ecosystem effects funding context, as public societal buy-in is lacking. Walk in research clinics are needed.
- Research in schools and society is needed.

Technological Factors

- Good data, shared data, access to data research partners seek stronger access to knowledge production, including for example access to academic libraries and repositories where project reports and documents are accessible. It was highlighted by research partners that knowledge dissemination, sharing reports, findings etc. is weak.
- This speaks to wider context and issues around the topic of open access, Open Science and FAIR data principles.
- No dedicated research IT support service in UCC. No archival service "just put it in MS Teams and leave it there for 10 years". We only have 2 data stewards for the whole university. Data stewards support data needs throughout a project. Our ability to win ERC's is undermined by not having this.
- Researchers are struggling with fair an open data. No KPI's for this. We have a problem, but we don't know how big it is.
- Al a tool that we can direct but we need more information. Research has a large role to play in responsible use.
- Data centres have a social, environment and technological impact and cost to communities e.g., pollution, pressure on electric grid. Computer power is main use not storage.
- Re-focus of investment on Technological sector €50m Technological Sector Advancement Fund to provide support for initiatives that are critical to the strategic development of the technological sector.
- AI will impact research; we need to plan through horizon scanning. Will it free people up to do more meaningful research, or replace them?
- How can AI support research financing.
- RRI is even more critical in the tech space.
- Computing power is unsustainable currently, responsible data production is needed.
- How can AI support predictive future research skills.
- How can teach enhance home / hybrid-based research careers.
- Ireland is poor at sharing tech infrastructure nationally.
- Investment in research data infrastructure is needed.

Legal Factors



- Research not being published as some partner funders will not allow data release whilst some recommending open data.
- Governance and oversight including national legal environment for higher education funding, governance, performance, quality etc.
- IP who owns it, especially when dealing with private companies and public institutions. Can be a bit of a quagmire.

Environmental Factors

- Pressure to publish, competitive global higher education landscape and rankings.
- Crisis and change pandemic, environmental crisis, Ukraine, AI research value and opportunity.
- Financial sustainability aligned to environmental sustainability including decarbonisation targets.
- Blockages and challenges navigating other parts of the public sector.
- Need for societal collaboration in research ecosystem regarding climate emergency and other grand challenges.

4.4.3 SWOT analysis

Strengths:

- Institutional strategy and plans
- Institutional appetite for change
- Existing programmes, structures and models identified that could be adapted or scaled
- Under-utilized strengths and assets
 - Existing inter-disciplinary and collaboration strengths
 - Existing skills, talent, and passion
 - Strengths and skills for creative solutions-focussed innovation
 - Civic Engagement, and Partnerships locally, regionally, and nationally

Weaknesses:

- Common values, narratives for UCC Futures
- Capability to invest in research ecosystem capacity
- Research infrastructure deficits
- Systems barriers and administrative burdens



- Inconsistent PhD experience
- Fee only PhD
- Pipeline to PhD and career progression
- Continuity between funded projects

Opportunities:

- National funding landscape changes, national policy advocacy and opportunity to influence
- City and regional ecosystem scale, partnerships, English language
- Alumni and philanthropy
- Bringing in external learning and best practice from strong external networks and relationships
- EU projects and programmes Alternative overhead models in Ireland to learn from (UCD)

Threats:

- Competing with private sector for career progression
- Housing and cost of living for attracting and retaining talent
- Competing agendas (funders etc)
- Rapid pace of change in policy context and policy implication
- Societal access and participation in research ecosystem.

4.4.4 Quadruple helix stakeholders: needs, values, concerns, and expectations

The quadruple helix stakeholders, namely Academia, Business, Public Administration, and Civil Society, each have their distinct needs, values, concerns, and expectations in the context of the UCC's selected intervention areas, which are described in the following section.

ACADEMIA

Academics held personal concerns in relation to uncertainty and precarity for their own careers, of that of their staff and colleagues. The is a general hope and expectation that the conditions for job security and career progression within research should be improved.

A related concern was work life balance with many expressing the overburden on researchers. Competitive funding environment leads to chasing funding continually with an enormous strain placed on research leaders and researcher personally and professionally. Participants reported frequently working 60 hours plus weeks.

The need and expectations here are also related primarily to creating more accessible, efficient and effective systems, structures and operational supports.

Pre and Post Award grant support is lacking outside of the big research centres. CACSSS CE Committee for example has identified a range of support needs for researchers involved in



grants with NGO's, Government Agencies etc. the breadth and depth of support needed is outside of current college capacity to support.

Connected to both the above points was a value *professional development supports* with many identifying opportunities for learning, training, and professional development and well as the need for professional networks and exchange.

They recognised these issues as not only having a personal impact, but also as an institutional impact creating barriers to a thriving research and innovation ecosystem.

Academics also *valued interdisciplinary engagement*, however there were concerns that arts practices, humanities and social sciences were broadly undervalued and their potential not well understood or recognised.

There was a *clear focus on values* around wanting to contribute to positive societal impact; to see fairness, equity and transparency in ways of working; a sense of local pride; and a concern for ethical research and advocacy for care for community and environment.

A Research SWAT Team is needed to support big research awards. This should be a one stop shop.

UCC Futures is not getting overheads. There is an over reliance on overhead for lab-based departments. It's a zero-sum game because of government underfunding of infrastructure.

Data management is ad hoc, UCC needs data checklists similar to ethics.

CAPACITY needs to be understood as underpinning everything that is done at UCC.

When UCC hires, it is essential to hire people who have demonstrable track records of getting funding.

APC is an excellent model for supporting researchers in grant applications and management subsequently. Roll out this model.

Research is a bit of a pyramid game, it is all about the PI's and their needs, duty of care as regards wellbeing and professional growth can be compromised.

How can we better support people out of academic-based research careers and into public and industry-based careers (extend the Odyssey programme).

BUSINESS

The business sector (recognising also that public agencies and local authorities are also now economic players) expressed a common need and alignment with higher education in relation to joint advocacy for investment in research, development, and innovation. Ireland ranks well on global innovation index, but is not a leader. There is an alignment of needs in relation to competitiveness in a global marketplace and securing investment for the regional more generally.

Business stakeholders were also keen to remove the false narrative that business and societal values are diametrically opposed. Business needs and societal needs and challenges are more aligned now than ever. Key issues such as digital inclusion, climate, housing, transport, and quality of life are core concerns to business sectors.

In order to collaborate more effectively, businesses (including economic development agencies) need clear central channels and structured processes to support engagement with higher education.



There is a key challenge and need to engage SMEs in research and innovation activities. Engagement is difficult due to lack of capacity to invest time and resources but would be beneficial considering the productivity gap between MNCs and SMEs.

PUBLIC ADMINISTRATION

Public sector stakeholders spoke of a *need for a more radical approach to co-operation* to address societal challenges and realise systemic change. They would like to realise more sustained connections to coordinate with a long-term view.

They, like higher education in Ireland, have *a common need to demonstrate efficiencies and value of public expenditure*. There is opportunity to work with research to identify areas of wasted money/expenditure and re-divert into positive actions.

They value being able to *influence national policy* in a way that benefits the local communities they serve. In this regard, they were interested in *values-based policy*, going beyond merely evidence-based.

Needs identified include capacity building, know-how, training, professional development, and building best practice.

They require *clearer processes, channel, and systems to work collaboratively* with the institution. Finding 'the right people' or knowing who and how to approach is a key barrier.

They had particular *concerns around process for data and knowledge management*, specifically in relation to the dissemination phase and access to reports.

They would like to see a central point of contact/hub to support consistency, co-ordination, navigation, brokering.

Good data is needed to make decisions. Move away from personality driven decisions to research-informed.

UCC needs more coordination and communication, so Cork City council for example is not driving a project and UCC a similar one without talking to each other. The UNIC Centre for City Futures can help here.

There is too much overlap between research projects, more exploitation of results is needed.

Innovation is important but implementation is more important.

What is the risk of not doing research. It means the quality of life of people is diminished, if researched, their life could be better.

SMEs are the lifeblood of the domestic economy and they need support from HEI's. They do not know how to access the research and innovation ecosystem,

CIVIL SOCIETY

Civil society and community stakeholders primarily want to see more real knowledge partnerships, co-creation and engagement that ensures research brings optimal community gain and benefit.

They have concerns around extractive relationships between research and society. They also identify a concern with there not being sustained relationships between projects.

They value research on societal-led issues that is developed together, can influence improved service design, planning and delivery. Often operating on minimal resources, they expect to see and realise clear value from any collaboration.



They value that engagement with research can lend weight to their work in advocating for policy changes and/or to secure funding to deliver services to address a need. They also value practical supports from use of buildings to support for grant writing. Small scale pilots and projects are often a more manageable scale.

For long-term financial sustainability of the research in innovation ecosystem - they would like to see co-operation that builds capacity for community sector to be knowledge partners, that supports and empowers community research and innovation, for example through including skills transfer.

The real issues that matter to communities are not being addressed, which are currently housing and sustainability. Communities are disempowered, they have no real power.

People are confused as to what the real issues are, as they are not properly informed. Research needs to be much more grounded in community.

There is an artificial divide between community enterprise and communities being pigeonholed as not having the solutions. Make them part of the solution through community-based innovation and enterprise. They are not just repositories of information; they also can take action.

Researchers need to be embedded in community organisations and communities over the long-term, in order to understand what needs researching. Practitioner PhD models could support this.

Small scale projects are needed, not just the big flashy EU ones. If communities innovate, things will change.

RPL and Microcredentials are a means of allowing marginalised people to get a foothold on the further and higher education ladder. Once there, they are more receptive to understanding research. When they are not even on the ladder, research is a million miles away.

If parents were excluded from education, this is a barrier to 1st generation researchers, they have specific challenges.

The model is extractive and not transformative, needs to scale deep within organisations and emplace research. Mobilise understanding first and then seek funding.

PhD students need a living wage and subsidised housing. UCC needs more housing cooperatives.

Multiannual funding for long-term research initiatives that are community embedded.

The community sector is precarious, and the research system needs to realise that community organisations provide support to enable research to happen.

How can the research system take its mandate from society and not the other way around.

Community groups, practitioners and researchers are complementary to one another, they are part of the strategy.

Small organisations are not savvy enough about research or how funding works. The relationship with researchers is often unequal. Researchers come to them after the fact and do not include them in the research design and funding application phase. They need to be informed so that they can advocate for themselves.



The Interreg model is a best practice model as community groups or LA's can lead it and they can lead work packages.

Communities need opportunities to formulate ideas, they are not research objects, they have agency.

Some groups are dealing with intergenerational trauma issues, they feel like they can't say no to powerful institutions. They must be educated about research and told they can say no and have the right to do so.

Often people's lives are compartmentalised by research, there are researchers with the same organisations all studying different issues. More intersectional and emplaced approaches are needed.

The Community Foundation of Ireland Biodiversity action plan initiative is a good model as it has an implementation fund and social action plan. Research but also demonstration of impact is needed.

Universities are knowledge bottlenecks; they create knowledge but do not share it. This means people's lives are not positively affected. Research to industry can create blocks in ability to more widely knowledge share.

4.5 UG ACTING-LIVING LAB

This section provides information on UG's local context, barriers and framework conditions that can influence the institutional transformation of the university. In addition to that, insights into stakeholders' values, needs and expectations are presented.

The input from stakeholders was gathered during the workshop organized on 16 June 2023 at the University of Gdańsk (Poland). The workshop gathered 20 representatives of all quadruple helix actors who jointly discussed the topics that matter from the perspective of the institutional transformation of the university.

4.5.1 Target intervention areas

The University of Gdańsk has identified and explored 3 intervention areas under all three Domains of 'Human Capital, 'Research Modus Operandi' and 'Finance:

- Recognition of qualifications and research careers.
- Public engagement with and outreach to society to solve social challenges.
- Sustainability in campus operations.

RECOGNITION OF QUALIFICATIONS AND RESEARCH CAREERS

Recognition of qualifications and research careers refers to the process of assessing and recognizing professional qualifications and research skills that can be used in business. It is an important element in the fields of education, learning and employment that allows for the comparison and recognition of achievements and work experience in different contexts. We focus on the context of being a research university.

Research path recognition involves evaluating an individual's research achievements and skills in order to recognize him or her as a scientist or researcher, as well as a good and



qualified business partner. This process can take into account scientific publications, research projects, experience in teamwork, ability to generate new knowledge and scientific conclusions, participation in conferences and other scientific training, as well as profit generation as a result of cooperation with business.

Thus, the goal within CATALISI is to promote the University of Gdańsk, enabling individuals to realize their potential and achievements in the context of cooperation with business and the research university. This is especially important in an era of globalization, where scientists and professionals often work in an international environment, and recognition of their qualifications and experience is crucial to their career and professional success - the success of the University of Gdańsk.

PUBLIC ENGAGEMENT WITH AND OUTREACH TO SOCIETY TO SOLVE SOCIAL CHALLENGES Public engagement with and outreach to society to solve social challenges are aimed at actively involving the public in the process of solving social challenges. It's a collaborative and dialogue-based approach that aims to involve various sectors of society, including local communities, NGOs, businesses, and residents, in solving social problems and achieving positive change.

As part of public engagement, it is important that various stakeholders have the opportunity to participate in the decision-making, planning and implementation of solutions. This requires building partnerships and collaboration between scientists, experts, policymakers and local communities and other stakeholders. Together, they identify social problems, develop action strategies, and take concrete actions to contribute to solving these challenges.

At the same time, outreach and education activities are also an important part of public engagement. By spreading knowledge, raising awareness, and developing community skills, the public can be mobilized to cooperate and actively participate in the process of solving social problems. This can include organizing workshops, conferences, debates, public campaigns, and other activities that promote dialogue and knowledge exchange between scientists, experts and communities.

SUSTAINABILITY IN CAMPUS OPERATIONS Sustainability in campus operations refers to an approach in which a university campus seeks to minimize its environmental impact while promoting social and economic sustainability. This includes various operational aspects of the campus, such as energy management, water management, waste management, transportation, urban greenery and green building design.

What is also relevant is finding out the opinions and needs of stakeholders in terms of cooperation with UG - conduct the Faculty of Economics surveys internally and externally (with entrepreneurs).

Responding to the R&D needs of businesses and other organisations (at the same time stakeholders) – matching (pairing) the needs of businesses and other organisations with the capabilities/competencies of the scientific staff.

Mapping the potential of services for business - preparing a "mind map" based on the questionnaire survey conducted. The map will allow the collection of possible services/research for the benefit of business by the various research teams of the Faculty of Economics. The map will allow the identification of specific people, indicate the contact to these people and the ranges of offers for the benefit of business. At the same time, the map will allow identification of individuals/teams with similar qualifications within the Faculty of Economics.



The University of Gdańsk care about implementation of micro-activities and projects with entrepreneurs: e.g., sponsored electric scooter zone, creation of electric car charging space, inclusion of sustainability criteria in public procurement, cooperation in testing and implementation of new sustainability solutions and enabling students to use them - both for experimental undergraduate and graduate theses and product testing, online ESG lectures, creation of educational pathways at the Sopot campus, among others, related to ESG, conducting workshops with the Entrepreneurs Council in the area of support needs in sustainability.

4.5.2 Local context, barriers, and framework conditions

This section provides information on UG local context and framework conditions that can affect the institutional transformation of the university under all of the three specific intervention areas mentioned in the previous section.

RECOGNITION OF QUALIFICATIONS AND RESEARCH CAREERS – LOCAL CONTEXT AND FRAMEWORK CONDITIONS

The University of Gdańsk has developed an internal context that fosters an ecosystem for innovation. This ecosystem includes key components such as the Technology Transfer Centre, the Office of Analysis and Expertise, and the UG subsidiary Univentum Labs. These entities work collaboratively to facilitate the transfer of technology and expertise between the university and external stakeholders.

Moreover, the UG Marine Research Center and the Centre for Sustainable Development actively cooperate with the University of Gdańsk, further enhancing the internal context for innovation. This collaboration allows for the exploration of cutting-edge technologies and sustainable practices in relevant fields.

To streamline processes and support innovation, the university has established application and project management offices. These offices provide assistance and guidance to researchers and innovators throughout the application and project management lifecycle, ensuring efficient and effective implementation of ideas and initiatives.

The University of Gdańsk also boasts well-equipped laboratories for research services, which manage research infrastructures. These laboratories play a crucial role in providing necessary resources and facilities for conducting high-quality research, enabling researchers to push boundaries and make significant contributions in their respective fields.

In addition, the university has the Aramtor Office, responsible for managing the floating research vessel r/v Oceanograf. This specialized office ensures that researchers have access to a unique research platform, supporting marine research and exploration.

To promote collaboration and industry involvement, the University of Gdańsk has established consultative councils comprising entrepreneurs from various sectors. These councils provide valuable insights and expertise, fostering an environment of knowledge exchange and partnership between academia and industry.

Overall, the University of Gdańsk has created an internal context that encompasses multiple entities, offices, laboratories, and collaborative structures. This holistic approach supports innovation, knowledge transfer, and research excellence, positioning the university as a key player in driving societal and economic development.

In the external context, the University of Gdańsk maintains its status as an apolitical institution, ensuring an environment that is free from political influence and biases. This commitment to



impartiality allows the university to uphold academic integrity, promote diverse perspectives, and encourage critical thinking.

The University of Gdańsk's reputation is further reinforced by its recognition in international rankings, including The IMPACT RANKINGS. These rankings provide an objective assessment of the university's performance and impact in areas such as sustainability, innovation, and societal engagement. This recognition serves as external validation of the university's commitment to excellence and its positive influence on the global academic landscape.

Collectively, these external factors contribute to the University of Gdańsk's reputation as a respected institution that is committed to academic integrity, sustainability, international recognition, and collaboration with other leading universities in the maritime domain.

PUBLIC ENGAGEMENT WITH AND OUTREACH TO SOCIETY TO SOLVE SOCIAL CHALLENGES – LOCAL CONTEXT AND FRAMEWORK CONDITIONS

The internal context of the University of Gdańsk is characterized by several key components that contribute to its academic excellence and research capabilities. The aforementioned units of the early local context of the Technology Transfer Center, the Office of Analysis and Expertise and UG subsidiary Univentum Labs are also relevant to this intervention.

One aspect of the internal context is the presence of application and project management offices. These offices play a crucial role in supporting researchers and innovators throughout the application and project management process. They provide guidance, assistance, and resources to ensure the efficient and effective implementation of research projects and initiatives.

Moreover, the university exhibits a high level of competence across all 11 faculties and units attached to faculties. These include the Inter-University Faculty of Biotechnology University of Gdańsk and Medical University of Gdańsk, the International Centre for Cancer Vaccine Science, the Faculty of Chemistry, the University Research Services Laboratories, the Faculty of Biology, the Faculty of Mathematics, Physics and Chemistry, the International Centre for Theory of Quantum Technologies, the Faculty of Oceanography and Geography, the Faculty of Management, the Faculty of Economics, the Faculty of History, the Faculty of Social Sciences, the Faculty of Philology, and the Faculty of Law and Administration.

This wide range of faculties and units signifies the diverse academic expertise and research capabilities present within the university. Each faculty specializes in specific fields, such as biotechnology, chemistry, biology, mathematics, physics, oceanography, management, economics, history, social sciences, philology, and law. This internal diversity allows for interdisciplinary collaborations, knowledge exchange, and comprehensive research endeavors across various disciplines.

By harnessing the expertise and resources available within these faculties and units, the University of Gdańsk cultivates an environment that fosters innovation, promotes interdisciplinary research, and facilitates the pursuit of academic excellence. This internal context enables the university to address complex research challenges, provide comprehensive educational programs, and contribute to the advancement of knowledge in multiple fields of study.

The University of Gdańsk benefits from a rich external context characterized by numerous collaborations with various institutions. These collaborations span across academic, research, and industry sectors, enabling the university to foster interdisciplinary partnerships and exchange knowledge and expertise with a diverse range of stakeholders.


One notable collaboration is the university's membership in the SEA-EU consortium, which consists of nine maritime universities. Being part of this consortium provides the University of Gdańsk with opportunities for joint initiatives, research projects, and academic exchanges focused on maritime studies. This membership allows the university to tap into a network of renowned maritime institutions, facilitating the sharing of best practices, fostering innovation, and enhancing the quality of education and research in this field.

These collaborations and partnerships in the external context provide the University of Gdańsk with valuable resources, expertise, and global perspectives. By engaging with a wide range of institutions, the university can expand its knowledge base, enhance its research capabilities, and promote internationalization efforts. Such external collaborations contribute to the university's reputation, relevance, and impact both regionally and globally.

SUSTAINABILITY IN CAMPUS OPERATIONS – LOCAL CONTEXT AND FRAMEWORK CONDITIONS

The internal context of sustainability in campus operations of the University of Gdańsk encompasses several significant elements that contribute to its overall functioning and development.

Firstly, the university has established The Centre for Sustainable Development of the University of Gdansk (CZRUG). This center plays a crucial role in promoting and advancing sustainable practices within the university. It serves as a hub for research, education, and initiatives related to sustainability, addressing key environmental, social, and economic challenges.

Additionally, the Sopot campus, which houses the Faculty of Management and the Faculty of Economics, serves as a representative sample of research in CATALISI project. This campus showcases the university's expertise and research capabilities in the fields of management and economics, contributing to the overall academic standing and reputation of the institution.

Furthermore, consultative councils have been formed at the departments within the university. These councils consist of business representatives who provide valuable insights and expertise from the industry. Their involvement ensures a strong connection between academia and the business community, fostering collaboration, knowledge exchange, and relevance in research and educational programs.

In line with sustainable development, the university has published a report titled 'Together for People, Environment and Prosperity: UG's public engagement through the lens of Sustainable Development.' This report highlights the university's commitment to public engagement and showcases its efforts to address societal challenges through sustainable practices. It demonstrates the university's dedication to promoting sustainable development and engaging with the public to create a positive impact.

Collectively, these elements within the internal context of the University of Gdańsk highlight the institution's focus on sustainability, research excellence, industry collaboration, and public engagement. By incorporating these elements, the university strives to create a conducive environment for learning, innovation, and making a meaningful contribution to society and sustainable development.

In the external context the university demonstrates its dedication to sustainability by actively developing in a manner that aligns with all sustainable development goals. This holistic



approach considers social, economic, and environmental aspects, ensuring that the university's activities and initiatives contribute to a more sustainable future.

Additionally, our university is ranked first in Poland in terms of its commitment to the Sustainable Development Goals according to the Times Higher Education Impact Rankings 2023.

4.5.3 SWOT analysis

Based on the previous input on the interventions, we can incorporate some elements from the interventions' SWOT analysis to make it more comprehensive and relevant.

Strengths:

- High quality of scientific research,
- Wide range of study programs,
- Strong scientific teams,
- International cooperation,
- Proximity to business and public sector,
- Favorable location,
- Member of many international projects (e.g., SEA-EU consortium of 9 maritime universities).

Weaknesses:

- Lack of a holistic approach to building the idea we want to sell in the context of long-term support,
- Lack of teamwork and transfer of *know how* due to fear of losing intellectual property,
- Lack of awareness among scientists about intellectual property and the value of their work/discoveries,
- Lack of support in building the career path of a scientist (complex interdisciplinary profile, physics + business),
- Lack of continuous monitoring of existing professional qualifications and skills of employees,
- Too slow response to business needs (lack of certification),
- Lack of a clear strategy for the development of UG in relation to expectations for the scientist from business,
- Too one-sided approach to the expected activity of the scientist at UG (including science, teaching, expertise),
- Too few ordered forms of education,
- Inability to establish a partnership relationship with business,
- No support center for the individual scientist to overcome existing barriers,



- Problems in internal and external communication,
- Inefficiency of a team responsible for relationships, networking, projects acquisition and management,
- Misalignment of business needs with the UG actual offer,
- University and corporation bureaucracy and procedures,
- Different language of communication and different speed of actions and reactions,
- Lack of UG brand management strategy,
- No remuneration in horizontal projects,
- Large number of areas to be integrated (11 faculties + MAB)
- Lack of knowledge among companies about changes insufficiently in relationships between UG and its stakeholders.

Opportunities:

- Regular meetings with entrepreneurs,
- ESG Manager post-graduate studies,
- Diagnosis of potential/capacity in the context of sustainability,
- Mapping of priorities (wants and needs),
- Good practices,
- New approach to education,
- Research plan in sustainability,
- Creating customer journey map,
- Training on building relationships with customers,
- Introducing an integrated training system for UG employees,
- Customer relations strategy,
- Learning to identify commercial services,
- Establishing a support center for scientists appreciating failures,
- Increasing awareness of scientists about intellectual property and the value of their works/discoveries educating scientists,
- Including in the new strategy of the University of Gdansk as one of the main goals: cooperation with business,
- Introduce monitoring of employees' professional qualifications and skills,
- Development of offices cooperating with business,



- Establishing the UG's activities in the right order first check the needs of the environment, and then design forms of education, and not vice versa,
- Training administration staff and scientists in establishing partnership relations with business and other sectors.

Threats:

- Pre-imposed rules for the operation of a public entity,
- Conflict of interest,
- Change in research priorities,
- Loss of academic autonomy,
- Risk of commercialization of science.

4.5.4 Quadruple helix stakeholders: needs, values, concerns, and expectations

The quadruple helix stakeholders, namely Academia, Business, Public Administration, and Civil Society, each have their distinct needs, values, concerns, and expectations in the context of the UG's selected intervention areas, which are described in the following section.

ACADEMIA

Academia has certain needs and expectations from the University of Gdansk in terms of igniting new relations with businesses and effectively presenting UG offerings. These needs and expectations are mentioned below.

Academia expects the University of Gdansk to actively foster collaborations and partnerships with businesses. This involves creating platforms and opportunities for academia-industry interactions, such as joint research projects, knowledge transfer programs, and internships. The university should actively seek out and engage with businesses, demonstrating its expertise and willingness to collaborate in areas of mutual interest.

Academia stakeholders expressed the need to provide a clear and compelling pitch or executive summary that effectively communicates the general offerings and strengths of UG to businesses. This pitch should highlight the university's academic programs, research capabilities, facilities, and any unique initiatives or resources that differentiate UG from other institutions. It should emphasize the potential value and benefits that businesses can gain from partnering with the university.

In addition to that, workshop stakeholders have expressed concerns and identified various barriers within the context of UG's foreseen intervention areas. Stakeholders have raised concerns about the challenges posed by language barriers and varying speeds of decision-making and implementation processes. These differences can hinder effective communication and collaboration between stakeholders.

-Problems in internal and external communication: Stakeholders have observed issues in both internal communication among UG departments and external communication with



external partners and stakeholders. Inefficient communication channels and practices can lead to misunderstandings, delays, and a lack of alignment in objectives and expectations.

-Lack of teamwork and transfer of "know-how" due to fear of losing intellectual property: Stakeholders have identified a reluctance among individuals and teams to collaborate and share knowledge due to concerns about intellectual property protection. This barrier can impede the transfer of expertise and hinder the potential for innovative collaborations.

-Lack of a clear strategy for UG's development in relation to business expectations: Stakeholders have expressed a need for UG to define a clear strategy that aligns its development goals with the expectations of the business community. Without a well-defined strategy, it becomes challenging to establish meaningful partnerships and address the specific needs and interests of the business sector.

-Absence of a support center for individual scientists to overcome barriers and failures: Stakeholders have highlighted the absence of a dedicated support center that can provide guidance and assistance to individual scientists in overcoming barriers and failures encountered during their research or collaboration efforts.

-No remuneration in horizontal projects: Stakeholders have noted the lack of proper remuneration systems or incentives for researchers involved in collaborative projects that cut across different departments or disciplines within UG. This can discourage participation in horizontal projects and hinder interdisciplinary collaboration.

-Lack of UG brand management strategy: Stakeholders have emphasized the need for UG to develop a brand management strategy to enhance its reputation and visibility. A coherent and consistent brand strategy can strengthen UG's positioning and attract potential collaborators, students, and funding opportunities.

-Lack of a common UG policy in cooperation with companies: Stakeholders have pointed out the absence of a unified policy or framework for UG's collaboration with companies. The lack of a common approach can lead to inconsistent practices, difficulties in negotiations, and limited opportunities for mutually beneficial partnerships.

-Addressing these concerns and barriers requires proactive measures such as establishing effective communication channels, fostering a culture of collaboration and knowledge sharing, formulating a clear strategic direction, implementing support mechanisms for individual scientists, revising remuneration systems, developing brand management strategies, and creating a coherent policy for collaboration with companies. By addressing these concerns and barriers, UG can enhance its ability to foster effective collaborations, innovation, and overall stakeholder satisfaction.

BUSINESS

Businesses have specific needs and expectations from the University of Gdansk, which include:

- Flexibility and quick responses to inquiries: Businesses expect the University of Gdansk to be responsive and adaptable to their inquiries and requests. This entails timely communication, efficient processes, and a willingness to accommodate business needs promptly. Quick responses can foster a positive business-university relationship and facilitate effective collaboration.
- Provision of more services based on University of Gdansk expertise: Businesses seek access to a wide range of services and expertise offered by the University of Gdansk. They expect the university to leverage its academic resources, research capabilities, and specialized knowledge to provide valuable services and solutions that align with



their specific needs. This can include consulting, technical assistance, research collaborations, and customized training programs.

Stakeholders have expressed concerns and identified several barriers within the context of the University of Gdansk (UG) regarding its interaction with businesses. These concerns and barriers include:

- Lack of a clear offer for business: Stakeholders have raised concerns about the university's clarity and specificity in terms of its offerings and services for businesses. The absence of a clear and well-defined value proposition can hinder effective engagement and collaboration with the business sector.
- Different language of communication and different speed of actions and reactions: Stakeholders have highlighted the challenges posed by language barriers and varying speeds of decision-making and response times. These differences can impede effective communication, understanding, and timely progress in collaborative endeavors.
- Lack of accreditation of management systems, laboratories, standards, and norms: Stakeholders have expressed concerns about the absence of formal accreditation or certifications for UG's management systems, laboratories, and adherence to standards and norms. This can create doubts about the reliability and quality of the university's offerings, limiting its appeal to businesses.
- Lack of continuity and connection with UG graduates in their careers: Stakeholders have raised concerns about the lack of continuity and connection between UG and its graduates in their professional careers. This gap may result in a limited network of UG alumni in the business sector, which can impact the university's ability to foster lasting relationships and collaborations with businesses.

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PUBLIC ADMINISTRATION

The public administration, in the context of acquiring new contracts, may have several needs and expectations from the University of Gdańsk. Here are some key aspects:

- Expertise and Knowledge: The public administration expects the University of Gdańsk to possess expertise and knowledge in relevant fields. This could include areas such as law, public policy, economics, environmental studies, social sciences, or any other discipline that aligns with the specific contracts being pursued. The university should have faculty members who can provide valuable insights, research, and analysis to support the administration's decision-making processes.
- Research and Development: The administration may require the University of Gdańsk to conduct research and development activities to address specific challenges or provide innovative solutions. This could involve conducting feasibility studies, analyzing policy options, evaluating potential risks, or developing new technologies. The university should have the capacity to perform rigorous research, collect data, and present evidence-based recommendations to assist the administration in making informed decisions.



- Training and Capacity Building: The public administration may expect the University of Gdańsk to provide training programs or courses to enhance the skills and knowledge of its employees. This could involve organizing workshops, seminars, or specialized training sessions related to the subject matter of the contracts. The university should have qualified trainers who can deliver effective training programs tailored to the administration's needs.
- Collaboration and Partnership: The administration may seek collaboration and partnership with the University of Gdańsk to leverage the expertise and resources available within the institution. This could involve joint research projects, sharing of data and information, or collaborative initiatives aimed at addressing societal challenges. The university should be open to collaborating with the administration and actively engaging in joint efforts to achieve common goals.
- Timeliness and Responsiveness: The administration expects the University of Gdańsk to be responsive and timely in its deliverables. This includes meeting deadlines, providing accurate information, and responding promptly to queries or requests for assistance. The university should prioritize effective communication channels and maintain a proactive approach to ensure a smooth and efficient working relationship.
- Compliance and Accountability: The public administration expects the University of Gdańsk to adhere to ethical standards, legal requirements, and transparency in its operations. The university should demonstrate a commitment to integrity, avoiding conflicts of interest, and upholding high standards of professionalism. It should also provide clear documentation, reporting, and accountability mechanisms to ensure the administration's trust in the processes and outcomes.

Overall, the public administration seeks a reliable and capable partner in the University of Gdańsk to support its efforts in acquiring new contracts. The university's expertise, research capabilities, training programs, collaboration mindset, responsiveness, and adherence to ethical and legal standards are crucial factors in meeting the administration's needs and expectations.

Stakeholders have expressed concerns about the deficient short-term training opportunities offered by the University of Gdańsk, which may not adequately address the specific skill needs of professionals in various industries.

The lack of certification programs provided by the university is seen as a barrier, as stakeholders value formal recognition of skills and knowledge acquired through training, which can enhance employability and professional advancement.

These concerns and barriers highlight the need for the University of Gdańsk to assess the demands of stakeholders and industry sectors more effectively, and develop relevant and certified short-term training programs to bridge the skills gap and meet the evolving needs of professionals and employers.

CIVIL SOCIETY

Civil society has certain needs and expectations from the University of Gdańsk, particularly regarding more information about the university's activities being made available to the public and the possibility of volunteering. Here's a description of these aspects:

More Information Outside about Activity of UG: Civil society expects the University of Gdańsk to provide increased transparency and visibility regarding its activities and initiatives. This



includes making information easily accessible to the public, such as research findings, academic events, community engagement projects, and collaborations with external organisations. By sharing such information, the university can foster greater awareness and understanding of its contributions to society, enabling civil society to stay informed and engaged.

Possibility of Volunteering: Civil society seeks opportunities for active engagement and participation with the University of Gdańsk through volunteering programs. This could involve individuals from civil society contributing their time, skills, and knowledge to support university initiatives, research projects, or community outreach programs. By offering volunteering opportunities, the university can bridge the gap between academia and civil society, fostering collaboration, and creating a sense of ownership and shared responsibility for societal development.

Addressing these needs and expectations can enhance the University of Gdańsk's relationship with civil society, promoting greater trust, collaboration, and mutual understanding. By actively sharing information and providing volunteering opportunities, the university can strengthen its role as a dynamic institution that actively contributes to the welfare and development of the community it serves.

One barrier faced by civil society in their engagement with the University of Gdańsk is the different language of communication. The university primarily operates in Polish, which can create challenges for individuals or groups from civil society who do not have proficiency in the language. This language barrier can hinder effective communication, understanding, and collaboration between civil society and the university, limiting their ability to actively participate in discussions, events, or initiatives.

To overcome this barrier, the University of Gdańsk could consider adopting strategies to enhance communication accessibility, such as providing bilingual or translated materials, offering language support services, or organizing events and activities in languages other than Polish, especially in cases where there is a significant non-Polish speaking civil society presence.

By addressing the language barrier, the University of Gdańsk can ensure that civil society members, regardless of their language proficiency, have equal opportunities to engage and contribute to the university's activities and initiatives. This inclusivity can foster stronger partnerships, a more diverse range of perspectives, and ultimately contribute to a more robust and inclusive civil society engagement.

4.6 UJI ACTING-LIVING LAB

This section provides information on UJI's local context, barriers and framework conditions that can influence the institutional transformation of the university. In addition to that, insights into stakeholders' values, needs and expectations are presented.

The input from stakeholders was gathered during the workshop organized on 3 July 2023 at the Jaume I University (Spain). The workshop gathered 20 representatives of all quadruple helix actors who jointly discussed the topics that matter from the perspective of the institutional transformation of the university.

4.6.1 Target intervention areas



Jaume I University has identified four intervention areas that the university will focus on within the CATALISI. Three of them are under the 'Human Capital' Domain and one is under the 'Research Modus Operandi' Domain.

The four selected intervention areas are as follows:

- Recognition of qualifications and research careers.
- Reform of research assessment.
- Gender equality & inclusiveness.
- Need for enhanced public engagement with an outreach to society to solve social challenges.

Considering how activities associated with these four activities are organized at UJI and having in mind the interconnections among them, UJI team has decided jointly discuss topics associated with intervention areas I, II, and III, namely recognition of qualifications and research careers, research assessment and gender equality (all under the 'Human Capital' Domain), and separately focus on topics associated with intervention IV focusing on UJI's public engagement (under the 'Research Modus Operandi' Domain).

UJI's workshop was divided into two parts: the first focused on internal stakeholders' perceived needs, whereas the second part focused on the needs of external stakeholders. During the first part of the session, internal stakeholders were divided into two groups according to their expertise.

One of the groups discussed local context and framework conditions regarding possible transformations in research assessment, recognition of research careers and gender equality. The other group focused on local context and framework conditions regarding the promotion of citizen science and public engagement at UJI. UJI's vice-rectors, technicians and professors participated in both groups.

During the second part of the session, some internal as well as external stakeholders (representatives from public administration, business and civil society) were divided into two groups: public engagement, specifically focusing the discussion on the topic of tourism in Castellón (this is one of the region's main economic sectors); and gender equality, focusing on UJI's needs on this respect (indicators for gender equality in research) but also external stakeholders needs (the promotion of gender equality in society).

RESEARCH ASSESSMENT, RECOGNITION OF RESEARCH CAREERS AND GENDER EQUALITY

The reform of research assessment is a key goal for Spanish universities as some changes are currently being promoted by the Ministry of Universities that affect the whole Spanish system. This reform of the research assessment, which of course also affects Universitat Jaume I, should answer the following questions: How should research careers be evaluated? What criteria and procedures are the most appropriate?

This reform of research assessment is strongly related to the other two areas of intervention that were also addressed in one of the sessions of the workshop: recognition of research and gender equality. For Universitat Jaume I, the creation of indicators to measure and promote



gender equality in research is a key goal, as it is the need to reinforce the tools for the recognition of research careers.

PUBLIC ENGAGEMENT The promotion of this intervention area is key to strengthening the relationship between the university and civil society. This will allow UJI to focus more on society's needs and also take into account people's perspectives when proposing and carrying out a research project. This way, society's needs and people's situated perspectives will be part of the process of generating knowledge and seeking solutions for social problems.

Also, public engagement is highly relevant for sharing the research work that is already being done at UJI and also for making people familiar with research and science. This intervention area will focus on boosting citizen science projects, reaching different audiences, increasing the impact of science outreach actions, developing professional training in science outreach for researchers, and assessing and acknowledging the participation of researchers in science outreach activities.

More specifically, we will focus on how to strengthen the relationship between university and civil society in the topic of tourism, since it is one of Castellón's main economic sectors.

4.6.2 Local context, barriers, and framework conditions

This section provides information on UJI local context and framework conditions that can affect the institutional transformation of the university under all of the specific intervention areas mentioned in the previous section.

RESEARCH ASSESSMENT, RECOGNITION OF RESEARCH CAREERS AND GENDER EQUALITY

Regarding research assessment and gender equality, there is a strong internal commitment from the university to tackle these areas, as expressed by those in charge of implementing these changes within UJI. In the case of gender equality, this commitment is also shown by Universitat Jaume I government programme for 2022, since it includes the promotion of indicators to measure gender equality in research. In relation to research assessment, Universitat Jaume I signed the COARA Agreement in January 2023.

This way, specific interventions on gender equality will focus on the definition of indicators to measure the promotion (and progression) of gender equality in research (both in research groups and projects).

Regarding research assessment, UJI is particularly interested in promoting new criteria that combine qualitative and quantitative approaches. The aim is to avoid the impact factor being the only (or predominant) criteria for evaluating research.

Regarding recognition of research careers, the discussion focused on the need to assess researchers' good practices in areas such as the promotion of open access, Open Science and, in general, RRI.

One idea that came up during the workshop, which was very well received by all the participants, was the development of a 'RRI traffic light'. That is, the creation of a software where research groups could self-assess in matters related to gender equality, open access and scientific integrity. The idea was to launch this software first as a pilot and later as part of



awards and university policies (this idea would require sophisticated technical development and therefore is not easy to develop).

When it comes to external conditions that may affect the implementation of these changes, it should be taken into account that the Ministry of Universities recently published a Royal Decree announcing changes in the accreditation system (e.g., in the system of research assessment). Along the same lines, the national evaluation agency (ANECA) also announced changes. These contextual changes will make a decisive contribution to promoting positive transformations in these intervention areas within UJI. As our participants pointed out, these external changes are creating the agendas that will be implemented by universities.

It is believed that changes shouldn't be the result of a top-down process only, but it is also important that members of the research community get involved. To this end, it is considered essential to organise courses for researchers in early stages of their careers. It is believed that changes are more difficult to promote among older or more established researchers. Among the possible limitations, one of the questions most frequently mentioned is the lack of knowledge about the use and the possibilities (and limits) of bibliometric indicators. Another possible limitation frequently mentioned has to do with the complexity of research assessment: there are no magic formulas or simple solutions. Also, it can be difficult for researchers to get involved in the implementation of these changes since they are busy fulfilling numerous tasks (teaching, doing research and management and bureaucratic tasks). This, in a context of constant changes in the research regulatory system.

Also, UJI's institutional support should be highlighted again. There is a real interest in exploring options for change in the different areas affecting research assessment, recognition of careers and gender equality in research. Moreover, the participation in the workshop of the vice-rectors in charge of these areas evidences this interest. Also, there are different groups at the university interested in these issues and with different specialisations in matters related to Open Science and RRI. This way, UJI offers a context in which collaboration with different groups can be achieved to promote transformations (in a multidimensional process that involves both the research community and the top management).

CITIZEN SCIENCE AND PUBLIC ENGAGEMENT

Regarding the promotion of public engagement and citizen science, internal stakeholders identified two different aspects that should be addressed: research culture and recognition in research assessment (internal) and citizen's perception of the university (external). The first topic (research culture) is related to researchers' lack of knowledge about citizen science and public engagement and also a lack of willingness to participate in these kinds of projects.

Also, there is a lack of institutional and economic support to these activities. According to the participants, this is mainly because participation in citizen science and public engagement barely counts when applying for a position as a researcher or as a professor.

The second aspect (citizen perception of the university) mostly addresses citizen's preconceived ideas about the university as well as the expertise needed to participate in research projects. Citizens tend to assume that a high level of expertise is required to participate in these kinds of projects.

Developing a closer relation between university and civil society will help citizens to understand that their situated knowledge of social problems is also important and, thus, would be important for developing research with a transformative impact on society.



According to the internal stakeholders, these are the two main aspects that must be addressed in order to promote this area of intervention.

This way, institutional transformations should address, in the first place, researchers' attitudes. A cultural change is perceived as the main measure in order to boost researchers' participation. The participants suggested specific interventions such as courses on the concept of citizen science and public engagement, on how to design a citizen science project, on how to map external stakeholders according to the needs of the project, on how to contact external stakeholders, etc. Also, creating connections between different research groups working on citizen science and public engagement is considered necessary. This should be complemented with changes in research assessment and in economic and institutional support to improve researchers' perception of public engagement and citizen science. In regard to boosting citizen's participation, the participants suggested trying to reach different audiences. Some of the activities that could be done in that respect are: scientific talks in high schools on citizen science, improving communication channels or using apps such as instagram or tiktok in order to involve people from different regions and ages.

A new unit for science outreach and public engagement was recently created at UJI. The director, Lluis Martínez, as well as the vice-rector of scientific dissemination, are interested in applying CATALISI. So there is a strong institutional commitment when promoting these areas of intervention. Also, some research groups are already working on projects from a citizen science perspective as well as promoting public engagement. This all will help promote the cultural change needed to boost citizen science and public engagement. Regarding perceived weaknesses, it must be noted that these areas of intervention have barely been developed in Spain. This means we have little experience and examples that might help develop our interventions. Also, few people have the knowledge to train others on these topics.

4.6.3 SWOT analysis

Strengths:

- Institutional support: involvement of UJI's vice-rector of research, vice-rector for Social Responsibility, Social Inclusion and Equality and vice-rector of scientific dissemination
- Previous work on areas such as Gender equality, Open Science, Citizens' Engagement and Integrity Research has been done in the framework of ETHNA project (H2020-EU.5.f.)

Weaknesses:

- Existence of long bureaucratic processes that may delay transformations
- Funding deficits and shortage of resources (human capital) to implement the desired changes

Opportunities:

- New policies addressing research evaluation and promotion of citizen science are taking place at national (as well as European) level.
- UJI's adherence to the COARA agreement



- Institutional infrastructures dedicated to gender equality, public engagement and citizen science and research assessment and qualifications.
- Research groups at UJI already working on topics such as gender equality and gender perspective in research or public engagement.

Threats:

- Potential resistances from researchers towards the cultural changes that need to accompany transformations in areas such as reform of research assessment and recognition of qualifications and research careers or citizen science
- Difficulties changing evaluation systems: any changes need to be reviewed and accepted by several governing bodies
- Difficulty defining the criteria for the creation of indicators for research assessment and gender equality in research
- The potential increase of bureaucratic tasks for researchers
- External factors: changes in the political context, economic crisis or any disruptions that derive from our globally connected context and that may affect funding or changes in laws affecting the Spanish R+I system
- Difficulties involving external stakeholders (given the specificity of the issues).

4.6.4 Quadruple helix stakeholders: needs, values, concerns, and expectations

This section provides insights into stakeholders' needs, values, concerns and expectations regarding all intervention areas that UJI in focusing on within CATALISI. Stakeholders are divided into all quadruple helix groups, namely academia, business, public administration and civil society.

ACADEMIA

Regarding gender equality, academia stakeholders defended the development of a system of indicators to identify and evaluate the inclusion of a gender perspective in research projects and research groups. Also, they highlighted the need to incorporate the equality criteria from the Spanish and European programs into the UJI research plan.

Regarding Public Engagement, academics were particularly interested in being openminded and creative when trying to promote projects in collaboration with citizens and civil society. Participants also highlighted the difficulty of bringing closer academia and civil society. Specific options for the tourist sector were also discussed (this is a strategic economic sector in Castellón). It was also pointed out that the university has a wide range of research groups specialised in this area.

BUSINESS

Regarding gender equality, business stakeholders defended promoting women in certain careers (STEM) and in top management. This is expected to be tackled through the promotion of cultural changes within the labour market (e.g., women to be considered as talented as men in every career) and also through increasingly engaging men in care and domestic activities.



Parity among the employees in different career stages, gender-blind CVs or positive discrimination measures in the hiring and promotion process were highlighted as useful. Moreover, the need to promote a transformation in masculinity (new masculine archetypes) and to boost men's involvement in gender equality were also mentioned.

Regarding Public Engagement, representatives from the tourist sector expected to collaborate with the university and also to improve their knowledge of the surrounding territory in Castellón. Issues such as pollution, depopulation and inequality in certain rural areas were of particular concern.

The participants also pointed out that companies located in more touristic areas would probably be more concerned about competitiveness than those located in less touristic parts of the region.

PUBLIC ADMINISTRATION

Regarding gender equality, it was highlighted that public administrations (PAs) have better working conditions for women when compared to private businesses. This was due to the opportunities for conciliation that PAs offer among its employees. However, gender equality within public administration needs to be emphasised.

Also, equality policies, not only within the labour market (although this was a key topic in the conversation) but also regarding care and gender violence need to be emphasised. It was mentioned that a cultural change (in mentalities) is needed for society to become more equal.

Regarding Public Engagement, public administrations would like academia to speed up their process of analysis. On the one hand, they appreciate the rigour of the studies carried out, but on the other hand, they feel that sometimes they do not fit with the time frames of the decisions that need to be made by the administration.

Furthermore, they feel that academia could contribute more to the dissemination of the motivations behind some of these decisions. For example, when environmental measures affecting the tourist sector are adopted, they are sometimes met with unease by the population and the business sector. This unease is sometimes increased by the media, which is seen as not always reflecting in depth regarding these issues. It is hoped that academia will be able to promote more participatory and deliberative processes to avoid situations in which misinformation prevails.

CIVIL SOCIETY

Regarding gender equality, civil society stakeholders highlighted women's promotion within the labour market as a key topic. As in the case of the other stakeholders, a change in mentalities, attitudes and perceptions of men and women (their values, their strengths and weaknesses) was seen as needed. Specially, regarding topics such as their unequal presence in different careers and career stages, and also regarding care.

Regarding public engagement, stakeholders expressed their interest in having publication and dissemination spaces to promote what they do in relation to civil society.

On the other hand, they stated that academia can provide highly relevant data and reports that help improve society.

Also, they stated that collaboration between society (specifically the tourist sector) and academia is something key to achieving those two goals. Also, the university is perceived as an actor able to identify and analyse conflicts and also good and bad practices within the



sector. Moreover, it is seen as a space where collaborative experiences of co-participation can be promoted.

4.7 LUISS ACTING-LIVING LAB

This section provides information on LUISS's local context, barriers and framework conditions that can influence the institutional transformation of the university. In addition to that, insights into stakeholders' values, needs and expectations are presented.

The input from stakeholders was gathered during the workshop organized on 11 July 2023 at the Luiss Guido Carli University (Italy). The workshop gathered 24 representatives of all quadruple helix actors who jointly discussed the topics that matter from the perspective of the institutional transformation of the university.

4.7.1 Target intervention areas

Luiss Guido Carli University (Luiss) identified its focus on four key intervention areas within all of the three Domains of 'Human Capital', 'Research Modus Operandi' and 'Finance'.

The four selected intervention areas are as follows:

- Supporting talent circulation / mobility.
- Mainstreaming of Open Science and digitisation of research.
- Public engagement with and outreach to society to solve social challenges.
- Sustainability in Research.

SUPPORTING TALENT CIRCULATION / MOBILITY

This area of intervention will focus on the following short-, medium- and long-term goals of Luiss:

- Supporting Principal Investigators of ERC and MSCA projects in the project management and in the creation of networks that promote the circulation and exchange of talents.
- Promoting and improving Luiss' policies to attract ERC and MSCA talents, providing incentives.
- Increase Luiss' funds as a Host institution awarded for Luiss' projects of excellence in research especially at the European level.

MAINSTREAMING OF OPEN SCIENCE AND DIGITISATION OF RESEARCH

This area of intervention will focus on the following short-, medium- and long-term goals:

- Raising awareness about Open Science among the Faculty, the administrative staff, and on a governance level.
- Improving the quality of publications in Open Access.



• Development of innovative tools/instruments for Open Science.

PUBLIC ENGAGEMENT WITH AND OUTREACH TO SOCIETY TO SOLVE SOCIAL CHALLENGES

Public engagement and outreach to society have been interpreted in Luiss, according to the objectives of the 2021-2024 Strategic Plan, as the 'Third Mission'.

The 'Third Mission' is a set of activities through which universities interact directly with civil society and the business world to promote the economic, social and cultural growth of the territory.

The Third Mission covers the objectives of the 2021-2024 Strategic Plan and has always been present in Luiss since its foundation, thanks to Luiss' link to the business world.

This area of intervention will focus on the following short-, medium- and long-term goals:

- Increasing internal awareness towards the Third Mission and strengthen the communication and dissemination of quality research and the Third Mission
- Enhancing the quality of Third Mission activities done in Luiss with the active involvement of the Faculty with particular regard to public engagement activities.
- Enhancing Luiss' role in the national and international debate on Third Mission.

SUSTAINABILITY IN RESEARCH

This area of intervention will focus on the following short-, medium- and long-term goals:

- Promoting research funding opportunities on sustainability issues at large.
- Increasing the number of quality researchers, also specialized on sustainability issues, in line with the new national legislation and the job market.
- Increasing external funding to make research financially sustainable for the University and encourage its sharing through tools that promote financial sustainability (e.g., Open Science).

4.7.2 Local context, barriers, and framework conditions

This section provides information on Luiss local context and framework conditions that can affect the institutional transformation of the university under all of the specific intervention areas mentioned in the previous section.

SUPPORTING TALENT CIRCULATION / MOBILITY

Among internal aspects as challenges to the institutional transformation in this area, the following were identified:

Firstly, there is little awareness regarding the importance of a middle figure such as the Project Manager, equipped with skills between research and administration that are crucial to bridging possible gaps between the Faculty and the administrative apparatus of the University.



Secondly, a shortage of resources in charge and personnel also has an impact on the management of ERC and MSCA projects that promote talent circulation. This is due to the difficulty in finding skilled and qualified personnel for such roles.

Among external aspects, the following barriers were identified:

Firstly, competitiveness with other European universities in attracting quality researchers, especially with relation to salaries. This is due to differences in normative between the national and the international level, which have a direct impact on researchers' salaries and therefore competitiveness among universities. In order to tackle this issue, welfare incentives extending to the researchers' personal dimension (family, health insurance, etc.) could be set up.

Secondly, there is a lack of information and coordination between universities when partnering for competitive research that prevents them from building alliances based on each university strengths.

MAINSTREAMING OF OPEN SCIENCE AND DIGITISATION OF RESEARCH

Among internal aspects identified with targeted stakeholders as barriers or challenges to the institutional transformation in this area, the crucial one is the lack of knowledge on the topic, especially among the Faculty. Being Open Science an umbrella term that encompasses many concepts, there is a lack of knowledge and awareness concerning all the elements that make it up (e.g. Citizen Science).

A second key challenge identified is the lack of time, due to a high workload linked to teaching, researching, supervising tasks and several events that prevent the Faculty from deepening the subject.

Thirdly, a lack of platforms for research experiments and a difficulty in retrieving data from traditional platform such as Scopus was highlighted.

Finally, the lack of an infrastructure for open data, as well as the lack of an Open Science Policy that goes beyond Open Access, also characterize the framework conditions of the University.

Among external aspects, the following barriers were identified:

Firstly, a lack of legislation at national level. After the publication of the programmatic document of the National Plan in June 2022, no further steps have been taken for the implementation of Open Science as encouraged by the European Commission and UNESCO.

Secondly, the research evaluation system and methodology could constitute a barrier as Open Access products can be evaluated as of lower quality compared to traditional publishers.

However, other factors were identified as possible beneficial influences on institutional transformation. Internally, a PhD and Young Researchers community which appears to be more invested and interested in the subject. Externally, the European Commission's commitment to Open Science as a push, especially in Horizon Europe-funded projects.

PUBLIC ENGAGEMENT WITH AND OUTREACH TO SOCIETY TO SOLVE SOCIAL CHALLENGES – LOCAL CONTEXT AND FRAMEWORK CONDITIONS

Among internal aspects that could constitute barriers to the institutional transformation in this area, the following were identified:



Firstly, a lack of knowledge and awareness about "Third Mission", which is largely present in Luiss, but without awareness concerning the many activities that fall under this umbrella term.

Secondly, a lack of monitoring of Third Mission activities, or activities with a specific focus on public engagement and societal impact, which is due to the difficulty in identifying universal criteria that are valid for the wide range of activities that term encompasses.

Thirdly, a lack of coordination between the many public engagement events.

Finally, a lack of incentives specific for Third Mission that could encourage the increase of activities in the field, especially on the initiative of the Faculty.

Regarding external factors, on the one hand, a cultural distance was identified among citizens when it comes to University activities. On the other hand, the stakeholders face a difficulty in identifying external actors with whom to communicate about University initiatives.

However, thanks to the recent appointment of the Luiss Research Office to the management of the Third Mission, new steps forward are being taken to tackle such aspects, such as, for instance, surveys on Third Mission to increase internal awareness.

With the same aim, the research newsletter has recently been updated to include Third Mission activities, and, also, to be sent outside the University.

Moreover, being Luiss' closely linked to the business world and the civil society since its foundation, many public engagement and societal impact activities are usually carried out throughout the year.

SUSTAINABILITY IN RESEARCH

Among internal aspects acting as barriers or challenges to the institutional transformation in this area, the following were identified:

Firstly, an "old" vision of research as research that is not concerned by the market needs and is therefore not linked to competitive research, which however would contribute to financial sustainability.

Secondly, a lack of communication outside of the University regarding funding opportunities, which Luiss promotes especially internally.

Finally, another challenge could be Luiss participation to specific rankings in sustainability, which the University should try to tackle encouraging projects on the topic of sustainability.

Regarding external factors to financial sustainability of research, the Italian landscape is characterized, as mentioned above, by low wage competitiveness and precariousness in the researchers' career path.

4.7.3 SWOT analysis

Strengths:

- University strong links to civil society and the business world, which facilitate activities where their active involvement is foreseen,
- Vibrant PhD and Young Researchers community that can be involved in CATALISI activities



- Appointment of the Luiss Research Office to the management of the Third Mission which works across all intervention areas, therefore ensuring a point of reference for the faculty and the administrative staff of the University
- Abundance of University initiatives and events that can foresee the participation of citizens and more generally of an external audience ensuring public engagement

Weaknesses:

- Lack of awareness and knowledge of the targeted intervention areas aforementioned, which can prevent the active involvement of the Faculty in CATALISI activities.
- Lack of internal policies and specific incentives put in place across intervention areas.
- Lack of infrastructures and equipment to ensure certain data collection.

Opportunities:

- Key opportunity is represented by the international push in those areas, which is creating a momentum around certain issues, especially Open Science and sustainability
- Production of communication material that is received from contacts that are also external to the University, ensuring outreach on the topics addressed in CATALISI
- Existing network of ENGAGE.EU University Alliance can be used to support Luiss goals in CATALISI

Threats:

- Legislative absence which characterizes the national landscape, which in turn results in a cultural void among stakeholders regarding the targeted intervention areas.
- The former results in a cultural gap among citizens that are not adequately equipped to be involved or interested in certain University initiatives
- Often times when national legislation is in place, it is unsuitable to compete with European and international standards (e.g., for salaries, welfare incentives, etc.).
- Time constraints of interested stakeholders who are busy and might not be able to add new activities, events or trainings to their schedules

4.7.4 Quadruple helix stakeholders: needs, values, concerns, and expectations

This section provides insights into stakeholders' needs, values, concerns and expectations regarding all intervention areas that Luiss is focusing on within CATALISI. Stakeholders are divided into all quadruple helix groups, namely academia, business, public administration and civil society.

ACADEMIA



Among academia stakeholders' needs there is more collaboration on decisions and internal processes between the Faculty and administrative personnel, to improve efficiency in Luiss' activities.

Furthermore, there is a need to find a balance between economic resources and research quality, feeding certain research lines such as sustainability. In this framework, an increase in Luiss' researchers' awareness on research opportunities is needed.

Among the stakeholders' concerns is the lack of time to deepen the knowledge of topics such as Open Science and Public Engagement, given the high workload.

Moreover, stakeholders expect trainings for PhDs and young researchers to increase awareness concerning Open Science.

Also, more outreach to society and external stakeholders is expected for the dissemination of research, also through research data visualization tools that can foster multidisciplinary with European partners by exposing Luiss competences and skills (academia networking).

In this framework, a network of young researchers could be hosted in Luiss for talent circulation, to build a European scientific community of young researchers in certain thematic areas.

BUSINESS

Among business stakeholders' needs, there is one to improve interconnections with the University. The goal of such improved connections would be to encourage the merging of the needs of the market with the research offer, in order to boost the impact of research on society and improve its dissemination.

However, in order to reach this goal, there needs to be a focus on the impact of research, which needs to be clearly identified and highlighted.

This would also improve the sustainability of research because research products would be not only exploited and applied, but would also be seen as an investment, which companies would be willing to finance, resulting in cost sustainability of research.

A change in the business models of big academic editors is also desired, with the aim to boost research impact and sustainability through Open Science and Open Access.

PUBLIC ADMINISTRATION

According to public administration stakeholders' needs, research should be oriented as to have effective impact on society, improving partnerships between the public and the private sector.

Public administration entities are expected to put in place more concrete policies, especially on a national level, in order to encourage Open Science, while simultaneously reforming the system of research evaluation in this view.

A simplification of the management of research funds deriving from public entities on a national and European level is also desired, especially from an administrative point of view, for instance by providing guidelines based on researchers' needs.

CIVIL SOCIETY

Among civil society stakeholders' concerns is the need to make research understandable to reduce the distance between research and society. Linked to this, there is a need to see a



concrete impact on society of research and other universities' initiatives (concerning for instance social and economic development).

In this regard, proper dissemination of research results is crucial. For this reason, a newsletter of events that are open to society (e.g., high school students) could be useful to promote Luiss' programs and activities. In this way, citizen science could also be implemented through the active involvement in research of citizens and civil society/third sector organisations.

Among their expectations is also the opening of research through materials that are free to access and study for private purposes and with an educational aim (Open Access). Moreover, skill training events in the field of eco-digital literacy could be promoted, even as pilot initiatives for a pool of Luiss' stakeholders.

4.8 AUMC ACTING-LIVING LAB

This section provides information on AUMC's local context, barriers and framework conditions that can influence the institutional transformation of the university. In addition to that, insights into stakeholders' values, needs and expectations are presented.

The input from stakeholders was gathered during the workshop organized on 30 June 2023 online. The workshop gathered 13 representatives of all quadruple helix actors who jointly discussed the topics that matter from the perspective of the institutional transformation of the university.

4.8.1 Target intervention areas

Amsterdam University Medical Center (AUMC) and VU Free University Amsterdam have identified two target intervention areas in relation to the institutional transformation of the university under the Domain of 'Human Capital'. These are described below. Considering the context of these institutions, some organizational aspects are relevant. AUMC is the joint institution of two university medical centers of Amsterdam; AMC & VUMC, employing about 19,500 staff and educating over 2,000 medical students. In this project, we focus mainly on the VUMC location of the AUMC organisation, -employing over 6,000 staff and educating over 1,000 medical students. VUMC has a history of collaboration with the VU Free University Amsterdam, and the collaboration will continue in the future. The VU Free university has over 4,000 employees, and over 25,000 students. AUMC also collaborates with the University of Amsterdam (UvA), another independent university. For CATALISI, the focus will be on implementing changes in the institutions AUMC – location VUMC, and VU Free University.

The two selected intervention areas are as follows:

- Recognition of qualifications and research careers.
- Reform of research assessment.

Two transformations will be targeted in the CATALISI project, in which these two intervention areas are relevant, namely a) embedding training and education in research quality and b) stimulating a change in research culture in the organization.

EMBEDDING TRAINING AND EDUCATION IN RESEARCH QUALITY



The intervention 'embedding sustainably training and education in research quality for students and staff' has four main goals:

- To offer a network for exchange on trainings for PhD's;
- To improve training quality and teacher quality;
- To design and embed educational interventions for undergraduate students and supervisors/senior staff;
- To offer a learning pathway on responsible conduct of research (RCR) in the organization that aligns with changing researcher assessment policies.

This is relevant because we believe better education can improve responsible conduct of research, and therefore education and training needs to be embedded more sustainably in research performing organisations.

Specific interventions related to this intervention are for example: re-developing training for senior researchers/supervisors and for PhD students, based on their needs; improving the quality of trainings and trainers and evaluating the outcomes of implemented trainings. A learning pathway for RCR should be developed, combined with policy changes to increase sustainability of education and stimulate researchers to be involved in training. A detailed plan of this intervention is described in our VUMC CATALISI project plan.

STIMULATING A CHANGE IN RESEARCH CULTURE

This intervention has two specific goals:

- To work with relevant policy makers/support staff in the faculties to make RCR more relevant by aligning with researcher assessment initiatives.
- To offer workshops to departments in various disciplines with tools to stimulate RCR.

This is relevant because a change in research culture can improve responsible conduct of research. Research has shown that in Academia, due to the Academic structure, often issues arise around social safety, experiencing high workload and uncertainty and great competitiveness. This can impact research quality. Therefore, we need to investigate what kind of changes are required to improve practice, according to relevant stakeholders. Also, training tools should be developed to discuss and tackle issues related to research culture. The next step is offering workshops and providing tools to stimulate RCR. A detailed plan of this intervention is described in our AUMC CATALISI project plan.

4.8.2 Local context, barriers, and framework conditions

In this section, information on the local context and framework that will affect the institutional transformation at VUMC and VU is presented, based on the results of the CATALISI stakeholder workshop on June 30. Both internal and external aspects are mentioned related to these institutions. After describing internal and external aspects related to intervention 1 – Embedding RCR education, and intervention 2 - Improving Research Culture, a SWOT analysis will be provided, Then we will provide a SWOT analysis indicating strengths and weaknesses of our institutions from the perspective of all target interventions as well as opportunities and threats in the external environment, also from the perspective of all target interventions overall.

EMBEDDING TRAINING AND EDUCATION IN RESEARCH QUALITY – LOCAL CONTEXT AND FRAMEWORK CONDITIONS

In this section, some of the local context and framework conditions for embedding education are described.



Internal:

Several internal aspects appeared to be relevant according to our stakeholders in the workshop. The main internal aspects surrounding embedding of education in RCR will first be described:

- With regards to **funding and resources**, in the different institutions VU and AUMC, budget and budget cuts are returning issues. Budget cuts could be a barrier for implementation of embedding education sustainably, since time and resources need to be spent on properly embedding education. Commitment and a sense of priority from the board was also said to be important.
- With regards to **policy**, stakeholders mentioned the new proposal for Recognition and Rewards policy within the organisation offers an opportunity within the organisation for this project. However, a challenge is to harmonise policies within the organisation of Amsterdam UMC, since the different organisations VUMC, VU, UvA and AMC all have different policies e.g., considering topics as Open Science.
 - Related to policy, education requirements could become part of promotion procedures in the organisation.
- A connection to existing **networks** is important, such as 'Research Data Support @VU'

 focus on research data management, infrastructure, and support, and 'Open Science programme' with relevant projects e.g., Research Data Management (RDM)/Open Science (OS) training for students and staff. In the workshop, stakeholders related to different networks participated.
- **Communication** internally and externally was mentioned as internal aspect, in order to motivate people to educate themselves.

External

Several external aspects appeared to be relevant according to our stakeholders in the workshop. The main external aspects surrounding embedding of education in RCR were:

- **Funding and resources** national and international funders criteria can influence educational requirements and research focus and research climate within the organisation.
- **National policies**, The association of Dutch Universities (Universiteiten van Nederland (UNL), the Nederlandse Federatie van UMC's (NFU) and the Association of universities of applied sciences (Vereniging Hogescholen (VH) influence policies at local universities.
- **Political focus** on sub-topics that relate to RCR/OS (but may also direct attention away from other important points) e.g. knowledge safety/ collaboration, ancillary activities
- Broad **societal interest** in transparency (of government and research) e.g. Open Goverance Law (Wet Open Overheid [Dutch]), transparency of policy decisions and underlying RIVM data in corona crisis
- International **momentum** for revising research assessment e.g. Coalition of Advancing Research Assessment

STIMULATING A CHANGE IN RESEARCH CULTURE – LOCAL CONTEXT AND FRAMEWORK CONDITIONS



In this section, some of the local context and framework conditions for improving Research Culture (RC) are described.

Internal

Internal aspects that were mentioned by stakeholders related to the following topics:

- **Funding and resources**; time and money allocated to improve research culture were mentioned to be either a barrier if not enough time and money is allocated, or a facilitator, if a positive research culture is a priority in allocating resources, for improving research culture.
- This also relates to the **strategic plans** of the institutions, the institution should prioritize improving RC.
- **Transparency** of internal processes was mentioned as being crucial to be able to make a change
- A connection to existing initiatives on research culture inside the institution is valuable for this project
- **Goodwill** of managers, policymakers and the **president** of the institution are also important facilitators for improving research culture
- A barrier for improving RC, or making changes in existing structures, could be **resistance to change**, and managers protecting their managerial positions.

External:

Several external aspects relevant for the improvement of research culture were mentioned.

- An aspect that was discussed to a great extent is the **capitalist system** in which universities are based, with an increasing focus on neoliberalism, marketization and massification. According to stakeholders, this leads to a prioritization of scientific production above everything else, valuing and promoting researchers who obtain large grants and produce great outputs often in terms of publications. Marketization also influences what we see as valuable, both in education and research, as output is now often monetized.
- The **view on science and academia** at a national level impacts the ways that resources are allocated.
- The **place of the university** in the world and in a given country (e.g., rural, city, global north, global south) can also highly impact the institution. Universities are influenced by current world trends and events.
- Trust in **technical solutions** can influence trust in people working in universities.
- There needs to be a **political will** to change and reprioritize the focus of academia.
- Academic freedom is important; do researchers feel the liberty to conduct their research according to their own values, insights and expertise or are research quality demands experienced as (new) restrictions on academic freedom?



- The need to work together with **external parties** such as the industry and the government also influences expectations of outputs, and what is considered good research practice.
- Social **gender roles** are present in academia, and influence research culture in different ways.

Finally, some additional aspects were mentioned relating to both internal and external contexts.

More particularly, participants highlighted the importance of rank & status, related to the **hierarchies** in universities and the broader hierarchies in academia, with fixed titles, related responsibilities and power. Status and power can influence research culture to a great extent, either positively or negatively.

Moreover, stakeholders mentioned noticing a **resistance to change**, making it difficult to daring to reform 'conservationism & nostalgia'.

Finally, the concept of **ecological university** was mentioned as a metaphor including different relevant aspects, both internal and external: which ecologies influence the university - and which ecologies the university can influence.



FIGURE 6 ECOLOGICAL UNIVERSITY

Source: Barnett, R. (2018). Culture and the university: An ecological approach. Contemporary philosophical proposals for the university: Toward a philosophy of higher education, 125-144.

4.8.3 SWOT analysis

Strengths:

• In previous (inter)national projects, VUMC have developed training tools and educational materials on different RCR topics, both for undergraduate students, early career researchers and supervisors which can be used to redesign and develop a more sustainable offer within the organization.



- This expertise and existing networks can be used to support implementation of VUMC goals within CATALISI. More specifically, the installing of a centre for Research Integrity and Open Science (RIOS) at VU, in collaboration with AUMC, is a huge opportunity to carry out the ambitions set in the CATALISI project.
- Many **RCR topics are related to 'good' research culture**; role modeling and proper mentorship can increase research quality for example, by showing young researchers how to conduct research responsibly.
- The **infrastructure** to address the research culture of the organisations are well established: policies are in place, task force teams or RI coordinators at each faculty are appointed, and several projects are focusing on improving research culture. We can benefit from this infrastructure to reach out to research groups, departments and teams.

Weaknesses

- Lack of time and '**curriculum space'** is a returning barrier for implementation of education: especially senior researchers often lack time to actively participate in trainings, or do not understand the relevance of being trained in RCR topics. Coordinators of educational programs might not be willing to offer opportunities for RCR training in their curriculum.
- Institutional policy can also provide weaknesses, if there is no priority for improving education in RCR, or not enough time or resources are spent to develop and implement policies and initiatives, embedding training becomes a challenge. This relates to available resources; time and money needs to be invested, funding should be available to have time to design and develop training materials and tools. Embedding RCR into educational curricula requires a lot of work.
- There is a lack of recognition and rewards for embedding RCR and Open Science practices. The current system of research evaluation (researcher quality) is still highly dominated by research output. RCR and OS seems by opponents to be distracting from this dominant view on researcher quality.
- The organisational situation of AUMC-VU-UvA can be a barrier for decision making, policies and collaboration. The chain of command is not always clear, and there seem to be barriers between the organisations to guarantee a smooth policy uptake.
- It is **difficult to define** for the VUMC the 'Research Culture'; the concept can be interpreted and used in many different ways. What are the main elements of good or bad research culture? Even more, it makes it also more complex to <u>evaluate</u> whether RC is improved? We need to define this more clearly in order to understand how we can influence RC and evaluate whether we can improve RC through CATALISI.

Opportunities

• Offering a differentiated and **scaffolded approach** to training/education in RCR helps to align with faculty/disciplinary needs. This will be effectuated by creating a modular curriculum, with trainings at different levels, using different presentation modes (hybrid, onsite, online). Also, this can enable flexibility in the amount of time spent.



- Developing the most appropriate and impactful content: For PhD students this means making the course relevant and applicable for their daily practice and not too general.
- Involvement in current EU projects helps to keep **educational materials up to date** e.g., the threats from AI to research integrity.
- Linking RCR training to **researcher quality** will make training more valuable for senior researchers (professional skill and development).
- Look into the option to offer RCR in the onboarding for **new employees** at VU and AUMC. Fact that policy makers at all levels are willing to collaborate with this project team, offers opportunities to inquire this option.
- **Embedding for teachers**: the RIOS (centre for excellence in Research Integrity and Open Science) can offer the following: a) creating a Canvas environment with RCR training materials/ assignments for teachers to embed into their courses; b) organise peer-coaching meetings for teachers to deal with all the stories and to further develop targeted training materials.
- **Evaluation & improvement:** implementing education more sustainably and on a larger scale, can increase the opportunities for evaluation of the trainings, investigating whether RCR is actually improved. Results of larger scale evaluation can inform further development and improvement of trainings.
- **Harmonisation**: If institutions have harmonised trainings/support, the scalability can increase easily and exchange of materials, trainers will improve.
- Within academia, issues of research culture also relate to the topic of social safety, which is widespread in academia unfortunately, often are caused by power hierarchies and power abuse. By improving research culture and redefining power structures, many aspects of RCR could be influenced in a positive way.
- VUMC has the opportunity to spend time on defining what we mean with research culture and develop a framework for how to analyse RC improvement. Investigating what stakeholders needs and wishes are, in different contexts, can provide context-specific information on how RC is defined in different departments, and what possible solutions could be to improve RC. E.g., training tools, workshop on RC related topics or necessary policy changes.
- The opportunity to connect to existing projects on related topics (social safety, recognition and reward policies) and involve policy makers in our institutions in these areas. connect to existing projects on related topics (social safety, recognition and reward policies) and involve policy makers in our institutions in these areas.

Threats:

• **Time**: People are busy and there might be push back for mandatory trainings (especially mid to senior level. Curricula are already packed. The CATALISI project will allow us to spend some time to develop and offer training facilities for the next years, yet for sustainable development, time investment within the organisation is also required.



- **Scale**: who will provide all these trainings and how is this done sustainably (or will the trainings disappear
- **Evaluation**: How to know the courses are working? What type of evaluation is appropriate (outcomes competencies or behaviour). Current expertise in evaluation of trainings in RCR will be used by the project team.
- **Content**: RI is a broad subject and the scientific population is heterogenous. If we cannot define the topics that need to be included, skills that need to be trained well or determine our target audiences, we will risk being impactful. Also, a focus on single researchers might not always be efficient or appropriate (team research is more common yet not acknowledged in many trainings on RCR.
- How to avoid **overlap** and competition- there are numerous RI courses which are not connected and there is no co-learning between them
- **Embedding**: Are we able to develop a learning trajectory for students and staff? E.g. How should continuous education for all staff be addressed? For Data management there are online courses via the P&O self-service portal is that a way to go for a basic level of training?
- There can be resistance to change. Also, there are existing inequalities and hierarchies, on institutional, national and global level and existing epistemic injustices. How should we move from a 'masculine' RC to more inclusive view on RC? A lack of time and resources, or no willingness to finance changes could hinder changes to a great extent. It was mentioned by stakeholders that researchers for example, may not have the time and headspace to implement changes in RC.
- There are many institutional and disciplinary differences and varieties. Terminology and definitions can differ across disciplines and departments, and application of solutions may differ across research contexts. The challenge is to be context specific, yet also to have some general solutions or ideas on how to improve RC.

4.8.4 Quadruple helix stakeholders: needs, values, concerns, and expectations

This section provides insights into stakeholders' needs, values, concerns and expectations regarding all intervention areas that VUMC is focusing on within CATALISI. Stakeholders are divided into all quadruple helix groups, namely academia, business, public administration and civil society.

ACADEMIA

Needs for academia can be summarized in 1) a decrease of inequality in all levels decreasing importance of status and ranks, 2) a need for collaboration and 3) stakeholders mentioned the need to feel understood and valued – especially related to research culture, but also eg valuing educational outputs as well as research outputs or gaining grants. This relates to the values mentioned, which were security and job security, and also solidarity.

In the expectations, similar topics came about:

- Creating a good future for all academics and especially for the future generation.
- Teamwork and sharing visions between universities.



• Investment in 'good' RC is a continuum, we need to invest in the education of all people involved.

BUSINESS

The business stakeholder's perspective was mainly defined by values as efficiency, profit making, human capital and related economic values. For expectations, it was mentioned that skills from university students should be relevant and transferrable, and graduates should be making profit. Also, funders exert influence on the research agenda, which is a concern, and an example of institutional financial dependency.

PUBLIC ADMINISTRATION

Some concerns related to public administration stakeholders were budget cuts, and the expectation that public administration may influence academia – setting the agenda in terms of money. Values mentioned for the perspective of public administration were solidarity; trustworthiness; trust between institutions; trust between different stakeholders and Open Science.

CIVIL SOCIETY

For the civil society perspective, needs mentioned were finding relevant solutions for societal problems, better communication to the public about research and results, and increased access to academia. Related norms were transparency; reliable science; better communication and trust in academia, institutions and their researchers. The main expectation is that research should answer relevant research questions, and that money is not wasted.

At the center of all quadruple helix, mentioned to be important for all the stakeholders, were reducing research waste, and knowledge sharing and collaboration.



5 CONCLUSIONS

With the launch of CATALISI's first acceleration service in the Acting Living Labs, the transformative journey undertaken collectively by CATALISI Implementers has started, representing diverse Higher Education Institutions (HEIs) across Europe. Each of these institutions has committed to comprehensive organizational changes, underlining their determination to introduce tailored reforms in specific domains and intervention areas.

The stakeholder workshops organised by all CATALISI Implementers, proved to be instrumental in gathering valuable insights into the local contexts, barriers, and framework conditions that impact the institutional transformation of Higher Education Institutions. These workshops served as a platform for meaningful exchanges with 153 quadruple helix stakeholders and provided a foundation for the project's progression.

The involvement of quadruple helix stakeholders - Academia, Business, Public Administration, and Civil Society - has added a mosaic of perspectives, needs, and expectations to the project. These stakeholders collectively emphasize the importance of collaboration, cultural change, and responsive communication in achieving shared objectives. All these insights will be a foundation basis of the action plans at the next step of the project that will aim to concretely design the institutional transformations. All the valuable insights of this deliverable will allow ensuring the specific contexts, frameworks, and needs are taken into consideration to drive effective transformation.

This collaborative endeavour within the CATALISI project has yielded valuable insights and conclusions:

- Each CATALISI HEI is focused on improving research excellence and societal impact, often through different strategic areas, but with a shared goal of positive change towards accelerating research and innovation in their universities and advancing towards universities of the future.
- Despite this common focus, each Implementer faces unique challenges and barriers that require innovative solutions. For example, some face language barriers and funding fragmentation, while others grapple with cultural shifts and resource awareness. Acknowledging these local challenges and conditions is crucial to identifying targeted acceleration services to support the achievement of transformation and involving the key stakeholders that can overcome them.
- University representatives are a consistent presence, underscoring the central role of academic institutions in these discussions. Research and innovation stakeholders are also widely represented, emphasizing the importance of fostering research excellence and innovation within higher education. Additionally, technology experts and those focused on technology integration underscore the significance of digital solutions in modern education. A concern for educational issues and a dedication to improving the learning experience are evident through the participation of individuals working with NGOs in the education sector. These common stakeholder types collectively demonstrate a multidimensional approach to addressing challenges and driving positive transformations within higher education.

These workshops also highlighted the crucial role of Living Labs as facilitators in harmonizing the diverse needs of stakeholders, forging a shared transformation vision, and addressing individual interests. While the Higher Education Institutions (HEIs) initially identified target intervention areas during the proposal phase, these areas were significantly refined and, in some cases, entirely revised based on collaborative exercises and stakeholder input. In comparison to the intervention areas specified in the Grant Agreement, the intervention areas



for the implementers saw substantial adjustments. These changes stemmed from discussions that occasionally prompted a re-evaluation of priorities, resulting in a shift towards different areas of intervention. Furthermore, some implementers introduced new intervention areas, while others removed existing ones in alignment with the evolving priorities identified during the workshops.

From the organisational perspective, some challenges and areas of improvement have also been identified alongside recommendations for the second round of workshops to be organised. These mainly revolve around three main aspects:

- **Timing and Academic Seasons.** Scheduling workshops during the summer period (from June to August) was challenging due to the overlap with the end of the academic semester and the start of the summer break in many European countries. This made it difficult to engage quadruple helix stakeholders and hindered their active participation. The academic season's demands on university-based project teams further diverted their focus from project activities. Despite these obstacles, June to August was the only viable window for organizing local workshops and gathering essential stakeholder feedback for Deliverable 1.1. Going forward with CATALISI activities, careful attention to event timing is crucial.
- **Feedback Collection.** Improvement is needed in collecting feedback from Implementers within each university participating in the project. Diversity in local contexts and characteristics is a strength, but ensuring coherent and structured feedback has been challenging. The current structure for gathering input from workshops was found to be unclear and lacking detail. For future CATALISI activities, a more detailed template should be developed to guide Implementers in offering structured and consistent feedback. This will aid the project team in effectively assessing and utilizing the collected information.
- In-Person Preparatory Meetings. CATALISI experience highlights the value of inperson preparatory meetings held a day before workshops at the event venue. These meetings foster effective coordination and preparation among project partners. Unfortunately, logistical constraints, like flight delays and workshop timing issues, sometimes made this approach infeasible. Given the positive impact of in-person preparatory meetings, they should be prioritized in future CATALISI activities to ensure comprehensive logistical and organizational preparation, enhancing workshop success. While the workshops achieved success in many aspects, challenges related to timing, feedback collection, and preparation require careful consideration in future endeavours. These lessons learned will undoubtedly contribute to the improvement of CATALISI's future activities.

Building on these results and recommendations, the project is ready to move to the next phase leading to definition of concrete action plans aiming to design the institutional transformation.

Before the organisation of a second round of workshops, concrete, and fundamental steps in the process to be organised as of November 2023 include:

- The distribution by Implementers of the different workshops results reports to the stakeholders attending the workshops to maintain the attention alive and demonstrate that the insights have been carefully taken into consideration.
- The organisation by the Facilitators of a consortium workshop to present and discuss the results of the report and different workshops, sharing experiences, challenges, and successes.



• The revision of a reporting template guiding both the collection and analysis of stakeholders' inputs both quantitatively and qualitatively for their translations into concrete action plans. The template will also include the KPIs, which will be defined collaboratively with project partners in alignment with the framework assessment.



ANNEX 1 – TENTATIVE WORKSHOP STRUCTURE

CATALISI WORKSHOP

[INSERT HEI NAME] [INSERT WORKSHOP LOCATION] [INSERT WORKSHOP DATE]

Agenda point	Led by	Time
Welcome	HEI & ENoLL	10:00 - 10:10
Introduction to CATALISI project and targeted interventions	HEI & ENOLL	10:10 - 10:30
Identification of local contexts, barriers and framework conditions that affect the institutional transformation (Part 1)	HEI & ENOLL	10:30 - 11:50
Coffee break		11:50 - 12:00
Identification of local contexts, barriers and framework conditions that affect the institutional transformation (Part 2)	HEI & ENoLL	12:00 - 13:00
Lunch break		13:00 - 14:00
Identification of stakeholders' values, concerns, needs and expectations (Part 1)	HEI & ENOLL	14:00 - 15:30
Coffee break		15:30 - 15:40
Identification of stakeholders' values, concerns, needs and expectations (Part 2)	HEI & ENoLL	15:40 - 16:40
Wrapping up & next steps	HEI & ENoLL	16:40 - 17:00



ANNEX 2 – CATALISI FACTSHEET



The CATALISI project

CATALISI is an EU-funded project that will help and support Higher Education Institutions to successfully implement a strategy and individual pathway for institutional transformation through the adoption of acceleration services.

CATALISI will analyse how the governance of Higher Education Institutions can be changed, considering the governance as a way in which societal and state actors interact in order to transform Science Technology and Innovation systems, by regulating issues of societal concern.

The model of CATALISI is built upon 2 blocks:

- 4 facilitators (APRE, EY, ENoLL, F65) who will accelerate and facilitate the transformational pathways of HEIs through the acceleration services, the knowledge transfer, and the implementation of activities co-designed.
- 7 Implementers (UCC, KTU, UJI, LUISS, UG, AUTH, VUMC) – the Higher Education Institutions that will implement new reforms in their structures intervening on specific domains and intervention areas.

Domains of Institutional transformation

Three main domains composed by different intervention areas indicate the content of specific institutional transformations.

DOMAIN 1

Research Careers and Talent Support

Recognition of qualifications & research careers

Reform of research assessment

Digitalization of higher education sector

Supporting talent circulation & mobility

Strengthening of human capital and addressing lifelong learning

Gender equality & inclusiveness

Research modus operandi

Mainstreaming of open science and digitization of research

Enhanced public engagement and Outreach to society to solve social challenges

Sharing of research infrastructures and capacities

Reinforcing the role of universities in local innovation ecosystems

DOMAIN 3 Sustainable research and education

Sustainability in education (funding opportunities)

Sustainability in research

Sustainability in campus operations



CATALE (Data years of instances) involvements of elepter totacion instances through the adoption of consynantics envices. Fanded by the European Union under Grant Agreement is, cocceptor, Week and ophicine expression instances those of the authorid on its ecoses light effect hours of the European Union or European Research Decodate Adores (ISAA) Meether the European Union nor the particle authorid on the back more than the factor of the authorid and the address to be address to the address of the factore of the address of the factor of the address of the





Living Lab

Design lab for transformational pathw

Acceleration services for Institutional transformation

Institutional transformations will be reached through the adoption of seven specific acceleration services, which are designed to facilitate and catalyze the process of institutional transformation of Higher Education Institutions, and are characterized by an innovative feature that crosses the domains.

Reinforce Human Capital: capacity building and outreach

Marketplace / knowledge Hub

Community of Practice (COP)

Predictve study on skills anticipation

Institutional transformation of HEIs

Stakeholders are individuals or organizations that are involved, and/or interested in CATALISI activities, strategy and acceleration services. They are affected by CATALISI activities in some way or may have a direct impact on the Institutional transformation of HEIs.

Stakeholders represent all Quadruple Helix groups: government & public sector, industry & business, academia & universities, and civil society. Citizens and users are at the heart of the innovation ecosystem and are actors of the innovation process. Identified stakeholders will contribute to the co-development of other acceleration services for the institutional transformation of higher education institutes.

in 🕞 🏏 CATALISI PROJECT on social media



ANNEX 3 – TEMPLATE FOR REPORTING THE OUTCOMES OF DISCUSSIONS DURING STAKEHOLDER WORKSHOPS

3. CATALISI ACTING-LIVING LABS' ECOSYSTEMS

3.1. [UNIVERSITY XX] ACTING-LIVING LAB

3.1.1. Institutional transformation – introduction to target intervention areas

[This section will focus on initial priorities regarding the target interventions of your university. We will indicate the focus and brief description of all target interventions, one by one]

INTERVENTION 1 – FOCUS AND BRIEF DESCRIPTION [Please provide a short paragraph on intervention 1, its focus and relevance to your university]

INTERVENTION X - FOCUS AND BRIEF DESCRIPTION [Please provide a short paragraph on intervention 1, its focus and relevance to your university]

3.1.2. Local context, barriers and framework conditions

[This section will provide information on local context, barriers and framework that will affect the institutional transformation of your university. We will focus on aspects that are both internal and external to your university. **Internal**, e.g., knowledge and competencies, resources, infrastructure, technology, etc. **External**, e.g., economic, social, cultural, political, legal, technological, etc. First, we will indicate all internal and external aspects that are relevant from the perspective of all target interventions, one by one. Then we will provide SWOT analysis connected with institutional transformation of your university overall (we will indicate strengths and weakness of your university from the perspective of all target target interventions as well as opportunities and threats in the external environment, also from the perspective of all target of all target interventions overall.

[INTERVENTION 1] - LOCAL CONTEXT, BARRIERS, AND FRAMEWORK CONDITIONS

Please indicate all internal (e.g. knowledge and competencies, resources, infrastructure, technology, etc. at your university) and external aspects (e.g. social, cultural, economic, political, legal) that are relevant from the perspective of this intervention

[INTERVENTION X] – LOCAL CONTEXT, BARIERS AND FRAMEWORK CONDITIONS

Please indicate all internal (e.g. knowledge and competencies, resources, infrastructure, technology, etc. at your university) and external aspects (e.g. social, cultural, economic, political, legal) that are relevant from the perspective of this intervention.


INSTITUTIONAL TRANSFORMATION OF [UNIVERSITY X] - SWOT ANALYSIS

Please provide SWOT analysis connected with institutional transformation of your university overall. Please indicate strengths and weakness of your university from the perspective of all target interventions (described earlier in this section) as well as opportunities and threats in the external environment, also from the perspective of all target interventions overall.

3.1.3. Quadruple helix stakeholders – needs, values, concerns and expectations

This section will provide information on needs, values, concerns and expectations of all quadruple helix stakeholders who are relevant from the perspective of institutional transformation of your university overall (including all target interventions).

ACADEMIA - STAKEHOLDERS' NEEDS, VALUES, CONCERNS AND EXPECTATIONS

Please provide information on stakeholders' needs, values, concerns and expectations from the academia sector. Please focus on aspects that are relevant from the perspective of all target interventions and institutional transformation of your university overall.

BUSINESS - STAKEHOLDERS' NEEDS, VALUES, CONCERNS AND EXPECTATIONS

Please provide information on stakeholders' needs, values, concerns and expectations from the business sector, Please focus on aspects that are relevant from the perspective of all target interventions and institutional transformation of your university overall.

PUBLIC ADMINISTRATION – STAKEHOLDERS' NEEDS, VALUES, CONCERNS AND EXPECTATIONS

Please provide information on stakeholders' needs, values, concerns and expectations from the public administration. Please focus on aspects that are relevant from the perspective of all target interventions and institutional transformation of your university overall.

CIVIL SOCIETY - STAKEHOLDERS' NEEDS, VALUES, CONCERNS AND EXPECTATIONS

Please provide information on stakeholders' needs, values, concerns and expectations from the civil society. Please focus on aspects that are relevant from the perspective of all target interventions and institutional transformation of your university overall.