

EIT Higher Education Initiative

D2.1

Innovation Ecosystems Mapping Report

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D2.1 Innovation Ecosystems Mapping Report

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* **R**=Document, report; **DEM**=Demonstrator, pilot, prototype; **DEC**=website, patent fillings, videos, etc.; **OTHER**=other

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1 ABOUT THE HIGHER EDUCATION INITIATIVE

About the EIT Higher Education Initiative

The EIT Higher Education Initiative is designed to build innovation and entrepreneurial capacity within higher education by integrating HEIs into Europe's innovation ecosystems and value chains. This is more than funding - it's a catalyst for change. The initiative connects institutions with industry and research, fostering collaboration where it matters most.

At the heart of this initiative is the EIT Knowledge Triangle Model - the integration of business, education, and research. Participating HEIs are expected to use this model as a practical tool to enable systemic, institutional transformation. They will also engage with Smart Specialisation Strategies, apply the Regional Innovation Impact Assessment (RIIA) framework, and contribute to the goals of the EIT Regional Innovation Scheme (EIT RIS).

This approach strengthens ties between HEIs and their regional innovation ecosystems and sets the stage for long-term impact, encouraging institutions to tap into additional funding opportunities beyond the initial project.

HEIs are invited to develop proposals that deliver on six key Actions - building entrepreneurial capacity, embedding innovation, and connecting with ecosystems. The outcome? Tangible transformation. Real results. And a stronger innovation future for Europe.

2 EXECUTIVE SUMMARY

D2.1 Innovation Ecosystems Mapping is part of WP2 Innovation & Entrepreneurship Ecosystem within the project BIKE-HEI. D2.1 aims to map the innovation and entrepreneurship ecosystems at the BIKE-HEI partner Universities, UA, UP, USAAR and MSU.

The ecosystems mapping collected data of a diverse group of relevant stakeholders around the BIKE-HEI partner universities. The centres / central departments for innovation and entrepreneurship were the most responsive group according to the data provided by the questionnaire. The ecosystems mapping therefore allows an engagement with key actors around the partner HEIs right from the project onset.

Key actors within the innovation and entrepreneurship ecosystems of the partner HEIs were asked to fill out detailed questionnaires about their role within the ecosystem around the partner HEIs, about the significant gaps they consider within the ecosystems that hinder innovation and entrepreneurship services and academic spin-offs. Lastly, stakeholders were asked if they want to contribute to a plan to foster innovation and entrepreneurship services and policies. In summary, the questionnaire provided insights in strengths and weaknesses / gaps within the ecosystems. The data collected builds a strong foundation for the gap analysis (D2.2)

Additionally, one key actor per partner HEI gave more profound insights in a written interview about the current innovation and entrepreneurship situation, which provides further in-depth information on strengths and weaknesses in the current ecosystems.

Most of the stakeholders that were contacted within the ecosystems mapping are interested in co-designing or enhancing the innovation and entrepreneurship ecosystems in their regions, which will be relevant for the engagement of stakeholders for the co-designing of a future innovation and entrepreneurship infrastructure (M2)

The analysis of the ecosystems mapping, the mapping of the current situation of partner HEIs in terms of innovation and entrepreneurship capacity will help to devise the training plan and mentoring programmes for WP3.

The mapping and contacting of significant stakeholders within the ecosystems of the partner HEIs provides the ground for D2.2 Gap Analysis Report, which be the foundation for the design of the Joint Innovation and Entrepreneurship Policies that shall be developed within WP4.

Furthermore, the engagement of significant stakeholders that were contacted in terms of the ecosystems mapping contributes to the BIKE Hub which shall be implemented within WP5 as well as to the networking activities within WP6.

D2.1 Innovation Ecosystems Mapping Report

2 BIKE-HEI Ecosystem Mapping – Structure and Methodology

The innovation ecosystem mapping provides a comprehensive analysis, aimed at identifying key actors within the four project's ecosystems and assessing the critical gaps. The goal is to support the transformation of HEIs – Higher Education Institutions into more entrepreneurial and innovation-oriented organizations.

The mapping process identifies and categorizes the principal stakeholders within each ecosystem. For each actor, the analysis evaluates the types of services offered, the target beneficiaries, and the degree of interconnectivity among actors, placing particular attention to the role of HEIs as central nodes in the network.

The assessment phase highlights structural and functional gaps that hinder the ecosystems' innovation potential, in order to suggest corrective actions to enhance the entrepreneurial and innovative capacities of HEIs.

2.1 Structure

A detailed questionnaire was designed to collect both quantitative and qualitative data from the key innovation and entrepreneurship actors in BIKE-HEI's regional ecosystem, namely Germany, Slovenia, Spain, and Ukraine.

The survey included closed-ended questions as checkboxes, multiple choice, and open-ended questions, organized into the following sections:

- General information,
- Ecosystems actors and services offered,
- Interconnections and collaborations,
- Ecosystem gaps and missing services,
- Recommendations and strategic actions.

2.2 Methodology

To develop the Innovation Ecosystem Mapping Report, BIKE-HEI employed a structured, survey-based methodology designed to provide a comprehensive view of the regional innovation and entrepreneurship ecosystems across partner regions.

This survey adopts a multi-phase, comparative approach to identify and map the innovation ecosystems in Germany, Slovenia, Spain, and Ukraine. The mapping process facilitated the identification of both strong connections and missing links between actors. A gap analysis was conducted to highlight underrepresented services and under-engaged stakeholders, as well as mismatches between ecosystem needs and service offerings.

The identification of gaps enables to develop and implement corrective actions, and frameworks in order to make HEIs more entrepreneurial and innovation-oriented. These strategies are tailored to the needs of each ecosystem, as they present distinct characteristics.

Based on the results of the mapping and gap analysis, several strategic interventions will be structured to enhance the entrepreneurial and innovation capacity of regional ecosystems. For example, tailored services should be launched or strengthened to provide specialized, targeted support that meets unique needs of each region.

The development of digital platforms (such as BIKE hub) can facilitate continuous digital interaction, resource sharing, and collaboration among ecosystem actors. Aligning HEI's internal policies with specific demands is essential to ensure institutional responsiveness and relevance.

Additionally, fostering collaboration through matchmaking events, innovation challenges and seed funding opportunities can stimulate cross-sector engagement. Finally, encouraging the formation of multi-stakeholder partnerships will help to generate a broader impact, and ensure sustainability within the ecosystem.

3 Results of the Ecosystems Mapping

For the mapping of the current innovation and entrepreneurship ecosystems at the partner HEIs, USAAR together with META Group created a detailed questionnaire which was disseminated among significant stakeholders around the partner HEIs. In the following, the key frame facts will be listed.

- Number of participants of the questionnaire in total: 21
- Participants by country:
 - Spain: 3
 - Slovenia: 5
 - Ukraine: 3
 - Germany: 9

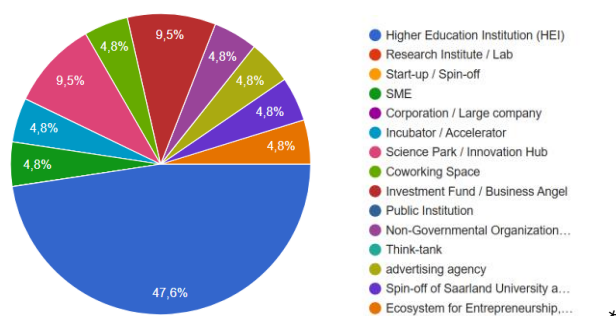
Additionally, for D2.1 one key actor at each partner HEI in charge of the innovation and entrepreneurship support services at was consulted in a written interview:

- Spain: Loren Moreno Monteagudo, ua:emprende coordinator, Technology Transfer Office at the University of Alicante
- Slovenia: Prof. Dr. Stefko Miklavic, Vice Prorector for Research and Development at the University of Primorska
- Ukraine: Inna Arakelova, Associate Professor, Educational and Scientific Institute of Management at Mariupol State University
- Germany: Jens Krück, General Manager, Triathlon at Saarland University

Most participants indicated that they are already connected to the HEIs in their region and that they are willing to take an active role in addressing the significant gaps within their ecosystems. 19 out of 21 participants indicated that they at least consider participating in a collaborative initiative to design or enhance innovation ecosystems in their region.

In the following, the results of the ecosystems mapping will be displayed in more detail.

3.1 Types of Organizations



The figure above shows the diversity of the types of organizations that participated in the innovation ecosystems mapping. Almost half of the participants (10) consider themselves part of a HEI. 7 different groups of organizations are each represented by only 4,8 % of the participants, i.e. 1 person per such group. Business Angels and Fund Investors as well as Science Parks are represented with 9,5 % of the participants, i.e. 2 persons per such group. This hints to a special interest of these two groups for the topic, the functional ecosystem of innovation and entrepreneurship at HEIs.

*The last two types of organizations in the figure are not fully eligible. They say: "Spin-off of Saarland University and AWSi (August-Wilhelm Scheer Institute)" and "Ecosystem for Entrepreneurship, Innovation & Transfer"

3.2 Primary Roles in the Ecosystem

Most frequently participants indicated that their roles in their regional ecosystems are somehow tied to research and education. Digitization was also an aspect that was mentioned multiple times, indicating how the significance of this matter has increased.

To give an impression of the diversity of the stakeholders' roles within the regional ecosystems, in the following, three answers will be highlighted:

- "[Our role is an] Innovation Hub to boost the level of innovation and related sprint projects in the region of Saarland and the Greater Region for private companies as well as GovTech entities and startups (also part of the digital hub initiative)" – European Digital Innovation Hub, Saarland, Germany
- "We are a specialized supplier of off-road vehicles, including ATVs, amphibious vehicles, and snowmobiles. Our primary role in the ecosystem is to provide high-performance mobility solutions for challenging terrains. We support sectors such as defense, emergency services, agriculture, tourism, and outdoor recreation by offering reliable transportation technologies and expert guidance." – Argo LLC, Ukraine
- "Support the growth of the spin-off companies created by the University of Alicante. With the time we have evolved and nowadays we dynamize an industrial ecosystem willing to cooperate in talent and R&I with the university." – Alicante Science Park, University of Alicante, Spain

In summary, the questionnaires that aimed at the mapping of the current ecosystems for innovation and entrepreneurship at the HEIs did not receive more than 21 responses in total. Yet, the diversity of the stakeholders that participated and the profundity of their responses still provides an idea of the strengths and weaknesses of the current ecosystems.

3.3 The Services that the Ecosystem Actors Provide

The participants named a wide and diverse range of services that they provide within their regional ecosystems. It is important to comprehend which support, services and products the ecosystem actors provide to understand and plan how they could be implemented in a plan for future innovation and entrepreneurship policies and strategies at the partner HEIs and the whole T4EU Alliance.

The services named by the participating stakeholders are as follows:

- Entrepreneurship training or mentoring
- Innovation support (incubation, acceleration)
- Access to finance / funding
- Legal or Intellectual Property (IP) advisory services
- Contact research or knowledge valorization
- Testing, prototyping, validation
- Innovation support
- Policy / regulatory facilitation
- Coworking spaces / laboratories / rooms for startups / facilities
- Programs or support services focused on women entrepreneurs
- Networking with companies (i.e. matchmaking session)
- Infrastructure
- Entrepreneurship programs and national & international competition for young people
- Continuous education

Since many of the participants indicated that they at least consider being part of the project BIKE-HEI and contributing to the boost of innovation and entrepreneurship at the partner HEIs and the respective regions, it seems that those services mentioned in the list above as well as the organizations that provide them will likely be accessible for the project BIKE-HEI.

3.4 Main Target Groups / Beneficiaries of the Stakeholders

Another important question to consider in terms of the engagement of key stakeholders for the project BIKE-HEI is of course their main target groups and/or beneficiaries. We need to know the main target groups of the stakeholders to understand how we can meaningfully involve them into the project.

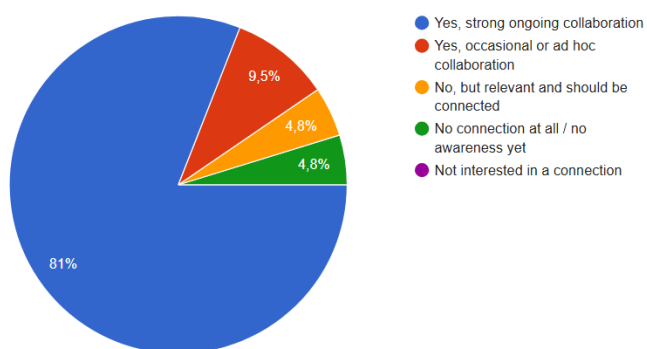
The following target groups and beneficiaries were mentioned by the participants:

- Students
- Researchers
- Academic staff
- Start-ups and entrepreneurs
- Companies
- Policy makers
- Ambitious and entrepreneurial young people aged 11 to 29
- Workforce
- Governmental organizations

Most frequently mentioned were Start-ups and entrepreneurs (15 mentions), companies (14 mentions), students (13 mentions) and researchers and academic staff (12 and 9 mentions, resp.).

None of the stakeholders explicitly mentioned non-academic staff. Within BIKE-HEI, there is special emphasis on the education and training of non-academic staff as well to foster innovation, digitalization and entrepreneurship at HEIs. The data collected in this regard makes it seem like there might be an awareness-gap of the stakeholders in the partner HEIs regional ecosystems for the significance of non-academic staff within the ecosystems and the innovation progress.

3.5 Connection of the Stakeholders to the regional HEIs



As shown in the figure above, 90 % of the stakeholders that participated indicated that they are already connected to the HEIs in their region. Around 80 % indicated that there is a strong ongoing collaboration. Only 2 participants claimed that there was no connection yet and only 1 stakeholder indicated that there was no connection at all and/or no awareness yet. None of the participants indicated that they were not interested in a connection.

Those who are not yet connected with a HEI in their region indicated the following as reasons:

- "I didn't hear about that before."
- "Lack of resources that HEIs possess to engage our machinery for some research needs."

Regarding the first response, we assume that the term "HEI" was probably unclear / unknown to the participant and / or that the participant was unclear about what exactly was meant by a connection of the stakeholders to the HEIs. This is a hint that there might be a need for further education and further accessibility of the offers of the HEIs for non-academic sectors.

The second response, "Lack of resources [...]" is mentioned very often by the stakeholders when it comes to weaknesses of the current innovation and entrepreneurship ecosystems and is therefore a critical factor to consider for the co-design of a joint innovation and entrepreneurship institutional strategy blueprint.

Regarding these results, we must consider a certain bias within the responses and the groups that have responded: In case the stakeholders responded to the questionnaire, it was very likely that they were already connected to the HEIs. And as we have seen in chapter 3.1, almost half of the participants even consider themselves part of a HEI.

It is interesting, though, that we could also reach out to small number of participants who were not yet connected to HEIs in their region and that there was not a single ecosystem actor that was not interested in a connection. According to these results, we might therefore assume that within the partner HEIs ecosystems, there is a general interest in a connection with the HEIs and the project BIKE-HEI.

3.6 Interconnections of the Stakeholders

Not only did most of the participants indicate that they were already connected to the HEIs in their regions, but they also claimed in the questionnaire that they were quite well interconnected with further ecosystem actors.

The most frequently mentioned other ecosystem actors that the stakeholders were already connected to are as follows:

- Start-Ups / Entrepreneurs
- Companies
- Research centers
- Government agencies
- Investors / Venture Capitalists
- Non-Governmental Organizations

Interestingly, the participating stakeholders named “Government agencies” as one of the ecosystem actors they are well connected to, whereas for the BIKE-HEI questionnaire, governmental organizations were the least responsive group. This shows that there might probably be space for improvement of the ties of HEIs to governmental organizations, when it comes to innovation and entrepreneurship services and / or in general.

3.7 Notable missing links or weak relationships

The questionnaire also inquired about the missing links or weak relationships within the regional ecosystems that the stakeholders would indicate.

In the following, two responses that provide information on a gap between HEIs and non-academic institutions shall be highlighted:

- “The links and relationships are already very good. However, two points can be noted:
 - a) Probably certain synergies between the partners could be used even more efficiently, which is about to be addressed in the near future.
 - b) Generally, the region is undergoing a structural change from old industry like coal, steel and car manufacturing to a more diverse and modern economy. This is driven to a great extent by the impact of regional HEIs including spin-off creation. A side effect of the current, incomplete status in this process is, **that the technologies developed at the HEI are often too advanced for being absorbed by the regional companies, resulting in less transfer taking place than theoretically possible** and/or in transfer taking place to other regions. **A very good strategy is in fact spin-off / start-up creation**, which is being improved at the moment from a good level to produce even better output. Furthermore, **it would be desirable that existing regional companies strengthen their efforts in new technological fields and open their focus towards HEI topics**. This is at the core of the current development of new initiatives.” – IP-Office, Saarland University
- “While we are actively engaged with clients from the defense, agricultural, and adventure tourism sectors, we recognize that our relationship with Higher Education Institutions (HEIs) and research centers in the region remains underdeveloped. **There is potential for stronger collaboration** in areas such as applied research, field testing of new mobility technologies, technical training programs, and co-organized innovation events. **We are also interested in connecting more closely** with innovation hubs, regional policymakers, and technology transfer offices to better align our products with evolving market and societal needs.” – Argo LLC, Ukraine

As already constated in chapter 3.5, the collected responses show that we can assume there is a critical missing link / weak connection between HEIs and the non-academic industry. The project BIKE-HEI and its incentives provide a solid ground and good opportunity to strengthen those connections, which would make a significant difference of the successful implementation of newest technologies that are developed at the HEIs and into the regional industries and markets. The responses of the IP-Office representative at a partner HEI and the industry representative show that there is at least an interested and a potential for a closer connection and a stronger collaboration in the future.

4 Ecosystem Gaps and Missing Services

The questionnaire that was disseminated and the interviews which were conducted for the innovation ecosystems mapping also included the study of critical gaps and missing services in the current ecosystems of the partner HEIs. However, D2.1 Innovation Ecosystems Mapping Report will only give a brief overview of some of the most frequently mentioned gaps and weaknesses within the ecosystems. More detailed information is to be found within D2.2 Gap Analysis Report.

4.1 Missing Innovation or Entrepreneurship Services in the Regional Ecosystems

Whereas the majority of the stakeholders indicated that they at least partially help addressing the critical gaps within their regional ecosystems, they still indicated many different missing services for innovation and entrepreneurship.

A selection of 5 most often mentioned missing services are the following:

- Mentoring programmes with industry experts or alumni
- Incentives for staff to engage in entrepreneurship or commercialization
- Access to angel investors or pre-seed capital for HEI-based ventures
- Train-the-trainer programmes for university staff
- Equipment and prototyping services

“Mentoring programmes with industry experts or alumni” have been mentioned 13 times and with this by far the most often. This puts once again emphasis on the interest in a closer connection between the industry and HEIs.

4.2 Under-engaged or Absent Actors

16 participants indicated that Investors and Funders are under-engaged or absent. This is twice as much as is indicated for every other group that was given within the questionnaire. It shows that there is a strong interest in more investment and funding by the ecosystem actors.

Other frequently mentioned groups were Businesses and companies (8 mentions) and public sector innovation buyers (7 mentions). The frequency of businesses and companies as under-engaged or absent actors once again aligns with what we have seen previously. The public sector as one of the under-engaged or absent groups aligns with the public sector being a lesser responsive group for the questionnaires in general.

4.3 Barriers That Prevent Better Collaboration Between HEIs and Ecosystem Actors

To foster the potential of the collaboration between the HEIs and their regional ecosystem actors, it is necessary to notice and comprehend existing barriers.

The 5 most frequently mentioned barriers that prevent a better collaboration are as follows:

- Insufficient entrepreneurial culture
- Limited access to funding
- Bureaucratic or regulatory constraints
- Lack of connection
- Lack of institutional strategy or vision

We already addressed the issue of the lack of connection between the HEIs and the further ecosystem actors as well as the lack of funding. Furthermore, bureaucracy and constraints in terms of rigid regulations have been mentioned as strong barriers for a better collaboration. We might assume that, for example, extensive and bureaucratic regulations at HEIs inhibit the confidence of non-academic ecosystem actors.

However, another aspect that is stressed in the responses here is the entrepreneurial culture and institutional strategy and vision. With the incentives and initiatives within the project BIKE-HEI, we can work on improving the entrepreneurial culture at the partner HEIs and the surrounding ecosystems. With the co-designing of a joint blueprint for innovation and entrepreneurship, the project BIKE-HEI additionally strongly fosters the institutional strategic innovation and entrepreneurship vision at the partner HEIs and the T4EU Alliance.

5 Recommendations and Strategic Actions

To provide ground for WP3 Trainings and Mentoring Programs within the project, within the ecosystems mapping stakeholders were also asked about quick wins and long-term actions that would improve the regional innovation and entrepreneurship ecosystems.

D2.2 Gap Analysis Report allows a more detailed information on the recommendations and strategic actions that derive from the collected data. Yet, in the following, there will be a brief overview.

The 5 most frequently mentioned quick wins or actions that were to be implemented, according to the stakeholders, are as follows:

- Map and publish an online directory of regional innovation actors
- Run internal awareness campaigns
- Host innovation days or innovation and entrepreneurship fairs on campus
- Organize stakeholder roundtables or co-creation workshops
- Develop a mentoring pool

The 5 most frequently mentioned long-term structural improvements (2+ years) are as follows:

- Establish structured alumni entrepreneur networks
- Set up long-term co-financing mechanisms with public and private partners
- Mainstream entrepreneurship education across all disciplines
- Incentivize and reward staff for innovation and entrepreneurship engagement

- Integrate entrepreneurship and innovation into HEI mission and governance structures / Establish a Vice-Rectorate or Dean of Innovation and Entrepreneurship

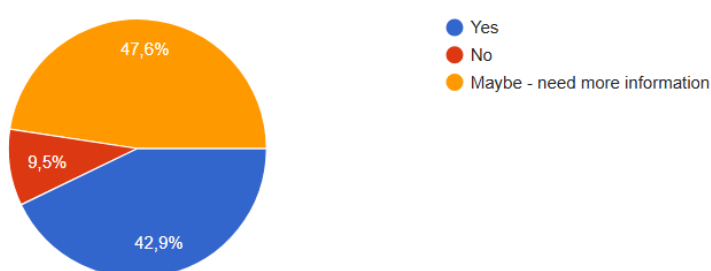
The collected data shows that once again there is a strong interest in the alumni network to foster entrepreneurial culture. Additionally, also regarding long-term structural improvements it is mentioned that ecosystem actors hope for a stronger integration of innovation and entrepreneurship into the HEI's institutional mission and strategies.

6 Synergies with Existing Initiatives and Interest to Cooperate Within BIKE-HEI

Most of the stakeholders indicated that they already have synergies with initiatives like Smart Specialisation Strategy, T4EU, KICs and / or Horizon Europe. 5 stakeholders indicated that they currently do not have any synergies with one of the initiatives.

Regarding the project BIKE-HEI itself, 43 % of the stakeholders stated that they are interested in participating in a collaborative initiative to design or enhance the innovation ecosystems in their region. 48 % indicated that they would maybe be interested to participate. Around 10 % are not interested in a collaboration in this matter.

Figure: The interest of the ecosystem actors in participating in a collaborative initiative to design or enhance innovation ecosystems in their region:



7 Summary

Deliverable 2.1 Innovation Ecosystems Mapping Report aims to analyse and report the collected data of a diverse group of relevant stakeholders within the regional ecosystems of the BIKE-HEI partner universities (UA, UP, MSU and USAAR). The centres / central departments for Innovation and Entrepreneurship at the partner HEIs were the most responsive group according to the data provided. The least responsive group was the political / governmental public sector.

The questionnaire created by META Group together with USAAR provided profound insights in the strengths and weaknesses of the current innovation and entrepreneurship ecosystems at the partner HEIs. The data collected therefore builds a strong foundation for the D2.2 Gap Analysis Report and the trainings and mentoring programmes that are to be implemented within WP3.

The data within the ecosystems mapping has shown that the majority of the ecosystem actors around the partner HEIs is interested in a closer collaboration with the HEIs. Most of the stakeholders do at least consider working together within the project BIKE-HEI to co-design and enhance the innovation and entrepreneurship ecosystems and strategies in their regions.

