



Summary report on the Innovative and Entrepreneurial potential of the SEA-EU

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Deliverable identification

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|---|---|
| Deliverable No. and Title | D3.1. Exploring innovation and entrepreneurial potential of Alliance with HEInnovate |
| Leader | University of Split |
| Related task(s) | Task 3.1. |
| Authors | Nikola Balić (UNIST) Prof Leandra Vranješ Markić, PhD (UNIST) Ivana Vuka PhD (UNIST) |
| Dissemination level | Public |
| Due submission date | 31.12.2022. |
| Submission (first version) | 21.11.2022. |
| Project number | 101017454 |
| Start date of the project | 01/01/2021 |
| Duration | 36 months |
| <p>This document includes a survey and case study about entrepreneurial capabilities using HEInnovate in the European university alliance. The study aimed to investigate the entrepreneurial and innovation potential of the six university members of the SEA-EU alliance. The survey results are also graphically presented together with the main conclusions and action areas on Poster Annex 1 "How entrepreneurial is the European university alliance".</p> | |

Versions and contributions history

| Version | Date | Modified by | Reason |
|---------|-------------|---|---|
| 1. | 21.11.2022 | Tea Pezo | The version was sent for review to the RDIS |
| 2 | 15.12.2022. | Leandra Vranješ Markić Nikola Balić | The version was sent for review to the EEC |

Introduction

This document contains a summary report on the Innovative and Entrepreneurial potential of the SEA-EU designed for reSEArch-EU. The report diagnoses areas of strength and weaknesses of the entrepreneurial and innovative capacities, policies, and models of Alliance members by using the HEInnovate methodology. HEInnovate is a free self-assessment tool for all types of higher education institutions that allows you to assess your institution using a number of statements related to its entrepreneurial activities, including leadership, staffing and links with business.

There is a need to recognize the spatial dimension of Higher Education Institutions (HEI) collaboration where their research and teaching are adapted to the needs and opportunities of the surrounding communities [1]. Meaningful interactions of HEIs with their ecosystem are creating a flywheel directly impacting the quality of teaching and research while increasing local innovation absorption capacity [1].

The European Universities of the Seas (SEA-EU) alliance is part of the flagship 'European University' Initiative of the European Commission launched in 2019 to renew the vision of universities' role as key leaders in and shapers of the future of Europe [2]. SEA-EU is made of six constituent universities geographically and strategically connected to the seas: the University of Brest, University of Cadiz, University of Gdansk, Kiel University, University of Malta and University of Split. SEA-EU aims to establish an international, pluri-ethnic, multilingual and interdisciplinary European University. One of the SEA-EU missions is to situate its educational and research activities within the broader context, making the quintuple helix a reality through the contextualization of the triple helix within the perspective of society and nature/environment [3]. While SEA-EU 2030 manifesto aims to build dynamic, locally embedded yet globally engaged universities for 21st-century Europe [4].

One of the steps in achieving the above-mentioned goals is analysing the current state of play in innovation and entrepreneurship at the alliance level. The report aimed to investigate innovation potential at the six SEA-EU universities, identify strengths and weaknesses, and suggest areas of improvement on both the Alliance and individual university levels. Furthermore, survey results highlighted the possible areas of cooperation and best practices exchange.

The summary report results from intensive work on project task 3.1 Exploring innovation and entrepreneurial potential of Alliance with HEInnovate. For this purpose, 4 virtual workshops from May till the middle of June 2021 were organised covering target groups in the following order: 1) management, 2) researchers, 3) students, 4) SEA-EU associated partners along with other stakeholders. Before these workshops' meetings were held with nominated researchers to explain the methodology and step-by-step actions in more detail. During the course of the workshop participating, target groups worked on filling out the surveys jointly.

The report's conclusions will help to design solutions tailored to the Alliance's needs for a strategic approach to innovation and entrepreneurship and will serve as one of the inputs for a "long-term research plan" (Task 6.3).

Research methodology and approach

The survey was performed from May to December 2021 at the six SEA-EU Alliance universities using the HEInnovate self-assessment tool [5]. The tool consists of eight dimensions and 42 statements to explore HEIs innovation potential. Dimensions include leadership and governance, organisational capacity, entrepreneurial teaching and learning, preparing and supporting entrepreneurs, digital transformation and capability, knowledge exchange and collaboration, internationalised institutions and measuring impact. Statements could be rated from 1 to 5, with the option to choose 0 if there is no answer or opinion. Management of the universities, researchers, other staff, students and external stakeholders were included in the survey. To analyse the baseline characteristics of included participants, several questions included gender, age, work experience, university, and stakeholder group. Data was collected in a spreadsheet and analysed in R both quantitatively and qualitatively. The reliability of the survey sections was confirmed using Cronbach's alpha. To compare the mean of the average scores of relevant dimensions with the mean of the single statement we have used a one-sample t-test. Overall, 324 participants were included in the survey. The group with the highest number of participants were researchers (N=113), followed by the management (N=88), students (N=67), others(N=41), and external stakeholders (N=15).

In the distribution by Universities, the highest number of participants were from the University of Split (N=92) followed by the University of Gdansk (N=88), University of Cadiz (N=85), University of Malta (N=34), University of Brest (N=21) and Kiel University (N=4).

The sex division was slightly in favour of females (53% of all participants).

Results

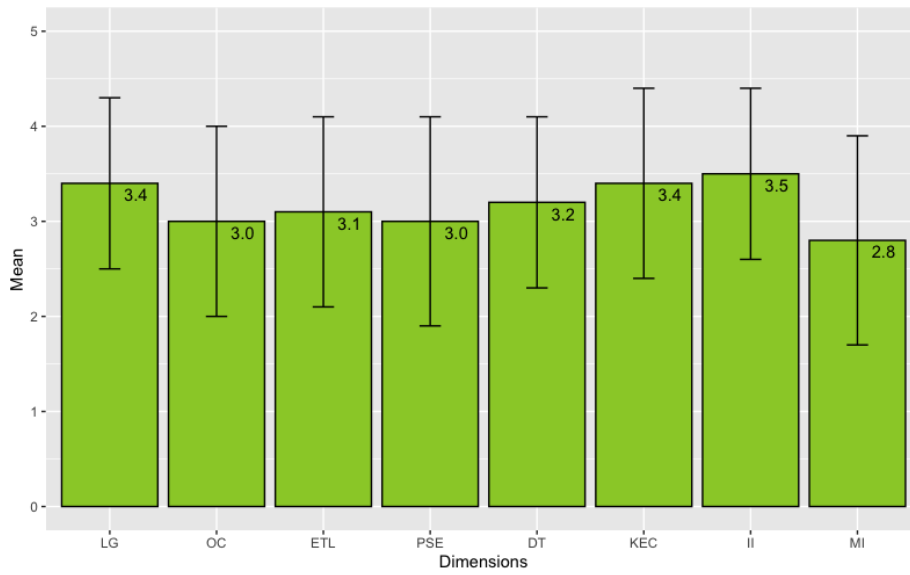


Fig 1. Mean and standard deviation bar plot of HEInnovate dimensions of SEA-EU Alliance. The full names of the dimensions are given in Table 1

The best-scored dimension at the alliance level was “internationalised institution” with a mean score and standard deviation of $3.5 \pm 0,94$ (Fig 1 and Table 1). The dimension with the lowest score was “measuring impact” with a mean score and standard deviation of 2.8 ± 1.1 .

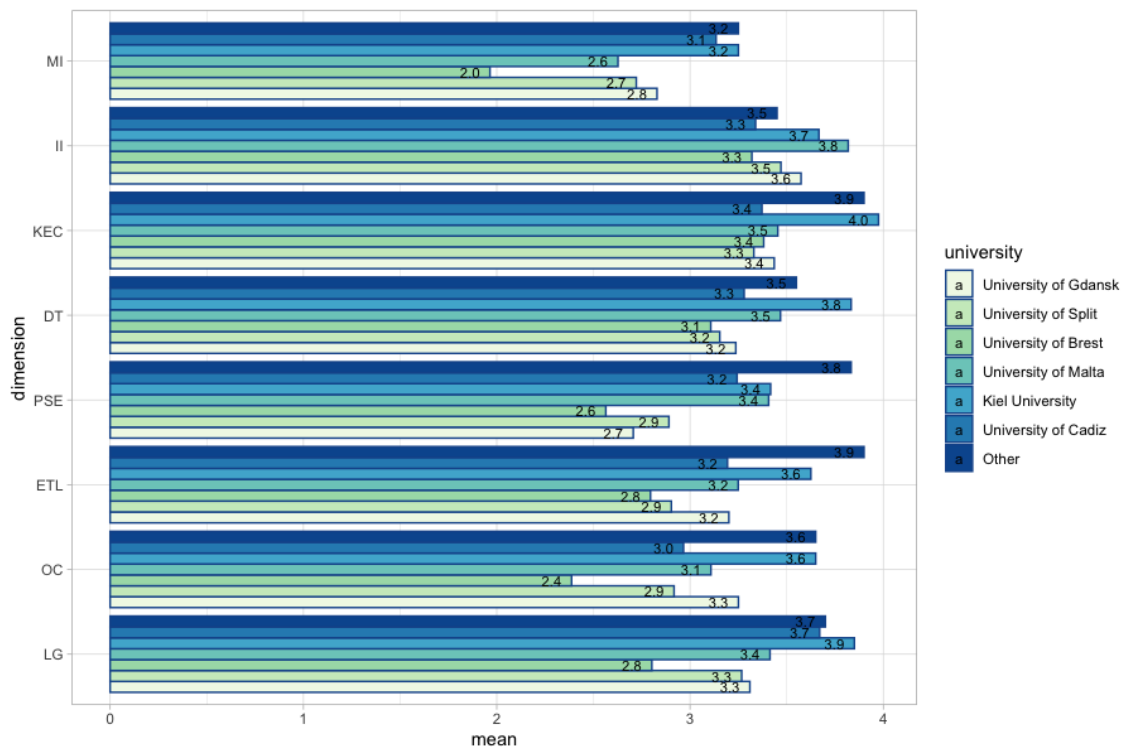


Fig. 2 Mean bar plot of HEInnovate dimensions of SEA-EU Alliance referring to Universities. The full names of the dimensions are given in Table 1.

Measuring impact was rated lowest at all universities except for the Cadiz and the Gdansk, where the lowest scoring was organisational capacity and preparing and supporting entrepreneurs, respectively. The distribution of the best scoring dimensions was different, with Split, Gdansk and Malta having internationalized institutions, Cadiz having leadership and government, Brest having knowledge exchange and collaboration and Kiel having digital transformation and capability as the highest-rated dimension (Fig. 2 and Table 1).

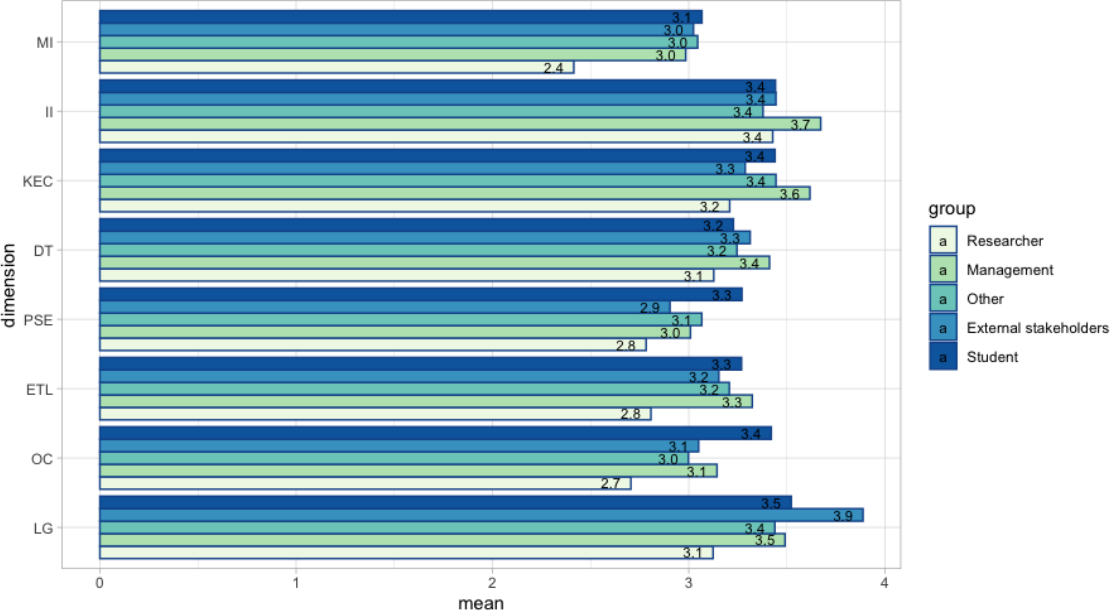


Fig. 3 Mean bar plot of HEInnovate dimensions of SEA-EU Alliance referring to target groups. The full names of the dimensions are given in Table 1.

In terms of different target groups, engaged management had higher average scores for the dimensions: leadership and governance, entrepreneurial teaching and learning, digital transformation and capability, knowledge exchange and collaboration and internationalised institutions. External stakeholders had more optimistic scoring for the leadership and governance dimension. At the same time, researchers had higher scoring for the internationalized institution and knowledge exchange and collaboration and students were more optimistic about the dimensions of organisational capacity and measuring impact (Fig. 3 and Table 1).

Table 1. Dimensions of HEInnovate survey and corresponding mean and standard deviation values including reliability and internal consistency measure

| Dimension | Full name | Mean | SD | Cronbach's alpha | No. of items |
|-----------|--|------|------|------------------|--------------|
| LG | Leadership and Governance | 3.4 | 0.93 | 0.87 | 5 |
| OC | Organisational Capacity | 3.0 | 0.97 | 0.86 | 5 |
| ETL | Entrepreneurial Teaching and Learning | 3.1 | 1.0 | 0.90 | 5 |
| PSE | Preparing and Supporting Entrepreneurs | 3.0 | 1.1 | 0.92 | 6 |
| DT | Digital Transformation and Capability | 3.2 | 0.94 | 0.90 | 5 |
| KEC | Knowledge Exchange and Collaboration | 3.4 | 1.0 | 0.92 | 5 |
| II | The Internationalised Institution | 3.5 | 0.94 | 0.87 | 5 |
| MI | Measuring Impact | 2.8 | 1.1 | 0.95 | 6 |

Discussion

On the level of individual statements, there is an overall favourable agreement that the SEA-EU alliance strongly supports the international mobility of its staff and students. HEI support for the international mobility statement was significantly ($p < 0.01$) scored the highest at all universities. This is entirely in line with the SEA-EU alliance mission and vision and long-term perspective to offer a full range of mobility and provide its staff and students with the broadest scope of opportunities for developing their potential. On the other hand, measuring impact and regularly assessing how personnel and resources support the SEA-EU entrepreneurial agenda was identified as the main weakness, which leaves room for improvement on both alliance and university levels.

The overall lowest-scoring single statement was related to the effort of HEIs in attracting international and entrepreneurial staff. Universities should address this with specific tools such as the joint fund. Incentives and rewards for staff supporting entrepreneurial agenda are lacking with a significant departure from the dimension average in the case of Split ($p < 0.01$), Brest ($p < 0.01$) and Malta ($p < 0.05$). Entrepreneurship as a major part of the HEIs strategy is among the highest-scoring single statements with significant positive departure from the dimension average in the case of Split ($p < 0.05$), Malta ($p < 0.05$) and Cadiz ($p < 0.01$).

Conclusion

The HEInnovate analysis of the SEA-EU alliance produced a valuable snapshot of the alliance's current state of innovation and entrepreneurship capabilities. Results highlight many opportunities that can help the alliance create and nurture a more entrepreneurial ecosystem. These results will serve as a basis for discussion within the different stakeholder groups of the SEA-EU alliance to share best practices and further develop and support programs and initiatives to foster the SEA-EU entrepreneurial agenda. This research has pinpointed exact opportunities for the exchange of practices inside the alliance in order to strengthen each individual university and alliance itself. HEInnovate concept could support the development of a tool to be used as an internal benchmark and to facilitate monitoring and policy guidance.

Further inferential statistical analysis is needed on the dataset to identify barriers and opportunities for strengthening the alliance. The limitation of the study was the use of convenience sampling methodology which limits the generalizability of the results. Nevertheless, the aim of this study was to focus on the overall collective opinion of target groups at each university. Future research would benefit from an improved sampling methodology.

At the UIIN conference held in June 2022 in Amsterdam, the poster was presented on the theme: **How entrepreneurial is the European University Alliance?** The poster includes the main results of the study and the HEInnovate survey. Also, areas of action are identified, highlighted and presented:

- Build on existing strengths: strategy, internationalization, partnerships, and digitalization
- Implement impact measuring processes, future develops joint fund initiatives, create alliance-level reward schemes for the entrepreneurial staff
- Implement entrepreneurial learning in non-business curriculums.

The Poster is part of this Report under Annex 1.

Based on the extended abstract, we have been invited to submit a manuscript to the Journal of Regional Studies for a Special Issue on The Geography of Higher Education in cooperation with OECD.

References

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Annex 1 Poster: How entrepreneurial is the European university alliance?


How entrepreneurial is the European university alliance?

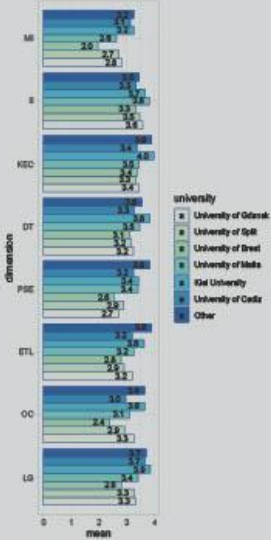
A CASE OF THE SEA-EU ALLIANCE

Nikola Balić *
Prof. Leandra Vranješ Markić, PhD *
Ivana Vuka, PhD *

* University of Split





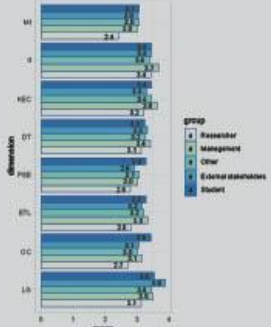


university

- University of Gdansk
- University of Split
- University of Brest
- University of Malta
- Kiel University
- University of Cadiz
- Other

The SEA-EU alliance brings together six universities geographically and strategically oriented to the sea: the *University of Brest, University of Cadiz, University of Gdansk, University of Malta and University of Split*. The study aimed to investigate entrepreneurial and innovation potential at the six universities, identify strengths and weaknesses, and suggest areas of improvement on both the alliance and university levels. Furthermore, survey results highlighted the possible areas of cooperation and best practices exchange.

Overall, 324 participants were included in the HEInnovate survey. The group with the highest number of participants was researchers (N=114), second most represented group was management (N=88), while the least represented group was external stakeholders (N=16). Data was collected with LimeSurvey and analysed in R quantitatively.



group

- Researcher
- Management
- Other
- External stakeholder
- Student

HIGHEST SCORING DIMENSION
Internationalised Institution

HIGHEST SCORING STATEMENT
The HEI explicitly supports the international mobility of its staff and students.

LOWEST SCORING DIMENSION
Measuring Impact

LOWEST SCORING STATEMENT
The HEI facilitates access to financing for its entrepreneurs.

Incentives and rewards for staff supporting entrepreneurial agenda are lacking with significant negative departure from the dimension average in case of Split ($p < 0.01$), Brest ($p < 0.01$) and Malta ($p < 0.05$). Entrepreneurship as major part of the HEIs strategy is among highest scoring single statements with significant positive departure from the dimension average in case of Split ($p < 0.05$), Malta ($p < 0.05$) and Cadiz ($p < 0.01$). Partnerships and collaboration with stakeholders are generally highly scored and especially in Kiel, Malta and Gdansk.

AREAS OF ACTION: Build on existing strengths: strategy, internationalisation, partnerships and digitalisation. Implement impact measuring processes, further develop joint fund initiative, create alliance level reward schemes for the entrepreneurial staff and implement entrepreneurial learning in non-business curriculums.

AREAS OF STRENGTH OF EACH UNIVERSITY ARE CLEARLY IDENTIFIED

HIGH DEGREE OF COMPLEMENTARITY ACROSS THE ALLIANCE

POTENTIAL FOR TRANSFERABILITY OF GOOD PRACTICES

* HEInnovate dimensions: leadership and governance (LG), organisational capacity (OC), entrepreneurial teaching and learning (ETL), preparing and supporting entrepreneurs (PSE), digital transformation and capability (DT), knowledge exchange and collaboration (KEC), internationalised institutions (I) and measuring impact (MI).

Co-funded by the Erasmus+ Programme of the European Union

contact: nikola.balic@unist.hr