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European Universities and Knowledge Alliances within their territorial innovation ecosystems.

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Abstract

Higher education institutions (HEIs) are increasingly expected to contribute to regional development and transformative innovation and heralded as actors of change in the context of the twin transitions and European recovery and resilience. Knowledge Alliances and European University alliances are two ERASMUS+ funding initiatives for HEIs that enable the translation of this broad strategic agenda into an individual and local context and the negotiation of the global (excellence) – local (relevance) dichotomy and potential alignment of their missions. The potential for HEIs to contribute to and participate in regional innovation ecosystems and European and global education, research and innovation agendas is under-exploited. This report explores the role of these two initiatives in strengthening this interaction.

Foreword

The Higher Education in Smart Specialisation (HESS) project has been developed in collaboration with DG Education, Youth, Sport and Culture (EAC) since 2016 and seeks to engage stakeholders from Higher Education in regional development processes and regional innovation ecosystems to ensure places contribute to local and broader European growth and transformation.

Acknowledgements

Please see Annex 1 for a list of participants in the research.

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Executive summary

Beyond their core tasks of teaching, research and innovation, universities are key actors in addressing societal challenges to become true engines of development for cities and regions and promote civic engagement. There is an increasingly strong expectation at EU, national, regional and local levels that universities will play an active role in contributing to regional innovation and development, and address societal grand challenges. The transformation of HEIs and higher education systems requires a much deeper level of cooperation between universities and a transdisciplinary co-creation of knowledge with citizens and other actors in the quadruple helix, linking education, research, innovation, and service to society[1].

The Erasmus+ funded Knowledge Alliances (KA) and European Universities (EuUn) look to strengthen the capacity and outputs of HEIs and their collaboration with business and wider society. A variety of innovative cooperation projects between different types of HEIs and stakeholders from distinct regions, across a diversity of disciplines or profiles have been funded under the two initiatives. This research aims to provide an analysis of projects funded and the extent to which they relate to their local ecosystems and to wider RIS3 processes and regional development, strengthen the link between teaching, research, innovation and knowledge transfer, and align, contribute and impact at *policy, systemic, organisational and individual levels*. It investigates the extent to which these *universities of the future* contribute to the green and digital transitions and improve European recovery and resilience in the face of societal challenges, and identifies good practice in the reinforcement and anchoring of universities in their regions and connectivity with their local ecosystem as well as alignment of the different HEI missions.

Policy context

The Commission Communication of 18th January 2022 on a European Strategy for Universities[2] presented measures to turn higher education institutions into engines of innovation, recognising that Europe and its society needs, more than ever, the contribution of its universities to facing the major challenges of recovery from the pandemic and shaping sustainable and resilient societies and economies, and to empower them as actors of change in the twin green and digital transitions. Universities can contribute to Europe's resilience and recovery through more effective partnership and transnational cooperation around societal challenges and through enhanced cooperation with their industrial ecosystems. The Commission Communication on A New European Innovation Agenda[3] recognised unexploited potential in higher education, research and training organisations to engage more actively with territorial partners and contribute to regional innovation ecosystems and cohesion, especially in less developed regions. HEIs are seen as the EU's most important target in enabling effective realisation of the European Research Area (ERA)[4]. Meanwhile, the New Industrial Strategy for Europe[5] emphasized (re-)skilling, and ensuring that education keeps pace with the twin transitions through collective action across stakeholders, as a fundamental for Europe's industrial transformation.

The EU Renewed Agenda for Higher Education[6] recognised that Higher Education Institutions (HEIs) should engage in the development of their regions and cities, integrating local, regional and societal issues into their curricula, cooperating with businesses, involving the local community in teaching, research and lifelong learning but also building links with the local community and contributing to regional development. The Communication on achieving the European Education Area by 2025[7] promotes an accelerated transformation of higher education institutions focusing upon connectivity, inclusion, addressing digital and green readiness and resilience, and innovation. Erasmus+ is instrumental in enabling ambitious and innovative cooperation opportunities between higher education institutions and with their knowledge ecosystems, and hence integrating regional development and regional and European innovation into the HE agenda.

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[1] Commission Staff Working Document Accompanying the European Strategy for Universities and the Council Recommendation on building bridges for effective European higher education cooperation, SWD(2022), 6

[2] https://education.ec.europa.eu/sites/default/files/2022-01/communication-european-strategy-for-universities.pdf; COM(2022) 16 final

[3] COM(2022)332

[4] European Commission, Directorate-General for Research and Innovation, A new ERA for research and innovation – Staff working document, Publications Office, 2020, https://data.europa.eu/doi/10.2777/605834

[5] COM (2020)102 Communication COM/2020/102: A New Industrial Strategy for Europe | Knowledge for policy (europa.eu)

[6] COM (2017)247 / OJ C 429, 14.12.2017

[7] https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1743

In its December 2017 European Council Conclusions, EU leaders called on Member States, the Council and the Commission to strengthen "strategic partnerships across the EU higher education institutions and [encourage] the emergence by 2024 of some twenty 'European Universities'". 41 alliances, involving more than 280 HEIs were approved over 2 calls for proposals in 2019 and 2020 aiming at fostering excellence, innovation, and inclusion in higher education across Europe and accelerating the transformation of higher education institutions into the universities of the future. In the 2021-2027 financing period, the initiative is due to be further rolled out as a flagship initiative of the European Strategy for Universities, and as a central tool to building the European Education Area by 2025, achieving the transformation of higher education in the EU and an innovative and globally competitive European Education Area and European Research Area[8].

Knowledge alliances are transnational result-driven activities between higher education institutions and businesses, aiming at strengthening Europe's innovation capacity and fostering innovation in higher education and business. The 160 projects approved under the 2014-2020 Multi-Annual Financial Framework are open to any discipline, sector and to cross-sectoral cooperation and intend to develop new, innovative and multidisciplinary approaches to teaching and learning, stimulate entrepreneurship and entrepreneurial skills of HE teaching staff and company staff, and facilitate the exchange, flow and co-creation of knowledge. The Knowledge Alliances initiative was replaced in the current 2021-2027 funding period by Alliances for Innovation, with a strengthened focus upon talent and skills development and on the digital and green transitions and deep tech domains[9].

Smart specialisation was introduced under Cohesion Policy in the 2014-2020 programming period and has a strong place-based dimension, seeking to ensure the prioritisation of funding in areas where territories could have a competitive advantage and strong bottom-up engagement. As a place-based approach to fostering innovation, it requires an institutional eco-system in which innovation actors working together in an open, collaborative quintuple helix (HEIs, business, government and public authorities, other educational providers, citizens and civil society organisations). Smart specialisation therefore links higher education institutions to their territories with HEIs increasingly prioritising responsibilities and challenges within their local ecosystems and acting as “anchor institutions” in their territories, boosting regional growth and shaping green and digital transitions through knowledge production, dissemination and transfer, human capital development, and supporting entrepreneurship[10].

Main findings

In terms of their contribution and impact at ***policy and systemic*** levels, the EuUn alliances have a much closer **integration, connection and embeddedness in their local ecosystems** than the KAs, being more likely to undertake detailed ex-ante analyses of S3 domains and local skills needs and supply for example. They were similarly more likely to input or add value into local or national policymaking debates. Conversely whilst the majority of KA projects were directly or indirectly producing place- or sector-relevant outcomes or conclusions within the context of the territorial innovation, S3 and other local strategies, there was very little project activity identified that directly influenced public policy, strategies or programmes and generally, a lack of coordination with or policy learning within the wider local innovation ecosystem.

Both the KA and EuUn initiatives have been instrumental in **enhancing HEI collaboration with stakeholders within their local innovation ecosystems**. Although many universities were already previously pursuing outreach/third mission related strategies, the initiatives have further enhanced local collaboration and partnership working in the local innovation ecosystem. Both types of alliances engaged actors from across the quadruple helix, enabling the HEI to reach a broader set of stakeholders and engage with them across the board on knowledge/tech transfer and improve the connection between the innovation ecosystem and the academic offer. Local stakeholders are more motivated to engage where societal challenges are being addressed within a broader and international coalition, and the value of collaboration and its benefits are more convincing. The initiatives also add value to activity already being undertaken,

[8] European Universities initiative: Council conclusions pave the way for new dimension in European higher education - Consilium (europa.eu), and *Bridging higher education, research, innovation and society: paving the way for a new dimension in European higher education* at: https://data.consilium.europa.eu/doc/document/ST-8658-2021-INIT/en/pdf

[9] See Alliances for innovation | Erasmus+ (europa.eu)

[10] COMMISSION STAFF WORKING DOCUMENT Accompanying the documents Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a European strategy for universities and the Commission Proposal for a Council Recommendation on building bridges for effective European higher education cooperation, SWD/2022/6 final

enabling the scale, subject matter, inter-disciplinarity and scope to be enhanced, as well as improving the visibility of the actions. Local stakeholders in turn tend to become increasingly integrated and engaged within the other missions of the HEIs e.g. teaching and research.

In terms of ***organisational and individual impact***, the KAs demonstrate a strong focus and impact in relation to the **development and implementation of innovative learning and teaching methods and incorporation of challenge-based, collaborative and inter-disciplinary approaches**. The institutional and individual benefit of KA actions is significant and sustainable, with academic activity and collaborative models being built upon and improved beyond the end of the project's timeframe and spilling over to other individuals and domains/disciplines: most significantly increasingly evolving from the educational sphere into the research sphere. Under EuUn, HEIs had been more likely to analyse the gap between skills supply and demand in the local job markets as part of the design of project activities, and hence potentially to add more value strategically in the territory and academic curricula, ensuring that local students have the skills and competences demanded by the local labour market and hence better employability. Collaboration within the EuUn was perceived as a central element in the adoption of new or innovative instruments and methodologies to foster competences/skills teaching and had led to more international and multi-disciplinary approaches and even improved citizenship. Under both initiatives, HEIs articulated the value of the learning that takes place from partners in other territories and their experiences or good practices, which can be emulated or adapted to serve local needs and address local challenges and transferred to local stakeholders.

Key conclusions

Both KA and EuUN were instrumental in creating cooperative partnerships and achieving increasingly networked and connected HEIs. Both initiatives offer a means to increasingly integrate HEIs into regional development and innovation policies, including S3, and integrate them within their innovation ecosystems, through facilitating their contribution across the three HEI missions (research, teaching and outreach/community) and in S3 governance. The extent to which projects succeeded in engaging in or contributing to regional development processes was determined by a number of factors: the initiative itself (being more likely under EuUn), the different models of collaboration (type of actors involved, length of collaboration and activities undertaken), the themes for engagement, different institutional and individual approaches, as well as territorial/place-based characteristics. The HE system is extremely heterogeneous across the European territory, with distinct regulatory arrangements, strategic priorities, capacities and profiles, organisational and policy contexts, geographical scope and location, all of which impact on their engagement with KAs and EuUns and integration within their innovation ecosystems/level of territorial embeddedness. How these initiatives translate across different education systems, different innovation ecosystems, across different government levels with their varying priorities and in the context of each individual HEI differs considerably. Nevertheless, unprecedented funding is currently available for education and training and research and innovation across the EU, and it is vital that different territorial and HE actors identify and make effective use of synergies across different funding streams and tools in order to mobilise all efforts towards transforming higher education into a key actor in the twin transition.

Related and future JRC work

In the 2021-2027 financing period, the European Universities initiative will be further rolled out as a central tool to building the European Education Area by 2025 and achieving the transformation of higher education as a flagship initiative of the European Strategy for Universities[11]. Member states are encouraged to utilise all available funding possibilities, including the Recovery and Resilience Facility and the European Regional Development Fund to support the development of 'European Universities', modernised education and training systems, enhanced alignment of HEIs with their ecosystems and to strengthen territorial cohesion. As part of the HESS project, the JRC is undertaking a complementary analysis of funding under ESIF and RRF in relation to skills and human capital for smart specialisation and industrial transition in order to gain an understanding of how universities may be able to engage under and benefit from other EU funding initiatives.

A further exercise under the HESS project will analyse the HEI initiative of the European Institute of Innovation & Technology (EIT)[12]. Projects funded under this scheme are required (as specified in the text of the call for proposals) to strengthen links between HEIs and their local/regional innovation ecosystems, enlarging HEIs

[11] European strategy for universities
[12] https://eit-hei.eu/

capacities as key actors for innovation-based initiatives and their contribution to and leveraging of Smart Specialisation Strategies. The analysis will consider synergies across different EU programmes and funding streams and the varying role and integration of HEIs in innovation ecosystems under each.

Finally, a further piece of work aims to understand the role of HEIs and education and skills policy in transformative innovation in the context of Partnerships for Regional Innovation (PRI)[13], a transformative place-based innovation approach that demands a more systemic i.e. whole-of-government and multi-level approach and the extent to which HEIs can become agents of change in the twin transitions.

[13] PRI - Smart Specialisation Platform (europa.eu)

1 Introduction

There is an increasingly strong understanding of the potential role and contribution of universities to regional innovation and development, the twin green and digital transitions and European recovery and resilience in the face of societal challenges. The European Strategy for Universities[14] expects that higher education institutions become engines of innovation, that through more effective partnership and transnational cooperation around societal challenges and through enhanced cooperation with their industrial ecosystems they can become actors of change and transformation.

Drivers, such as smart specialisation and more recently Partnerships for Regional Innovation (PRI), demonstrate that HEIs can contribute to the challenges facing civil society both locally as well as globally and contribute to economic, social and environmental place-based development. Addressing societal challenges requires building capacity for collaboration by diverse actors coming together in 'quadruple helix' partnerships embracing HEIs, business, public authorities and civil society.

In order to inform this debate, this research looks at two diverse Erasmus+ funded initiatives, Knowledge Alliances and European Universities and seeks to determine the extent to which they can act as a catalyst to the transformation of universities, strengthening their capacity and outputs but also their collaboration with business and wider society, reinforcing and anchoring them in their regions and local innovation ecosystems, and increasingly aligning the different HEI missions, as well as becoming increasingly inter-connected transnationally and contributing to a European and global future[15]. It aims to determine relevant factors in the reinforcement and anchoring of universities in their regions and the alignment of teaching, research and innovation, and provide policy recommendations and good practice examples in relation to strengthening this connectivity between HEIs and their local ecosystems to become universities of the future, contributing to and driving Europe's response to the twin transitions and resilience in the face of global challenges.

[14] https://education.ec.europa.eu/sites/default/files/2022-01/communication-european-strategy-for-universities.pdf; COM(2022) 16 final

[15] Council recommendation of 5th April 2022 on building bridges for effective European higher education cooperation (2022/C 160/01)

2 Methodology

An initial exercise was undertaken to collate and screen all available data relating to approved project consortia under the two initiatives in order to establish a database of approved projects and their key characteristics (e.g. types of institutions, collaborations, diversity of profiles/disciplines, and geographical/territorial aspects).

A survey was developed and sent to all 2014-2020 beneficiaries of the Knowledge Alliances (see Annex 3) between late October and early November 2021. Lead partners were invited to complete it but also – if they considered it appropriate – to disseminate it to other project partners for their contribution. 95 answers were received, of which 74% of the respondents were universities and including beneficiaries from 23 programme countries (out of 28) and 5 partner countries and all sectors from the New Industrial Strategy for Europe [16]. Projects were then screened to determine those with a specifically regional/territorial dimension and demonstrating a strong link, or set of activities to develop links, with their regional ecosystem(s) that, for instance, include a mission statement that makes reference back to their local area/that are rooted in S3 and the role of HEI in the regional ecosystem or that actually specifically focus on the topic of regional development. Examples from several types of HEIs in different regions/countries were selected in order to explore multiple socio-economic and politico-institutional contexts and the lead partners were then approached for interview. A questionnaire was then sent to a sample of selected projects from different sectors and geographic areas, to further analyse specific initiatives and potential good practices and 13 responses received. Six interviews were subsequently held with representative institutions participating under the Knowledge Alliances initiative.

With the European Universities a different methodology was employed, and following seven interviews with representative institutions of European University alliances, nine focus groups were held in September and October 2022, to which all HEIs participating in a European University were invited according to their geographical location. Out of the 41 alliances that were approved in the 2019 and 2020 calls, representatives of 34 of them (82.9%) participated in the focus groups, with 89 people from 75 different HEIs joining one of the focus groups. These 75 HEIs represent 28.2% of the total number of those involved in European Universities in the EU 27 member states (See Annex 4). Focus groups had an average length of 90 minutes and were held with the support of an online platform (klaxoon.com). After an introduction by the members of the research team, participants were given slots of around 20 minutes to answer some 2-3 survey-type questions (available on the platform) and provide insights (written on the platform's board and/or by orally explaining) across three main domains (those addressed in the results section).

[16] non-EU, since organisations from any country in the world can participate as partners through joining an EU-based partnership

3 HE connectivity to territorial innovation ecosystems

3.1 Contribution to territorial needs and challenges

3.1.1 Knowledge Alliances

The 2014-2020 Knowledge Alliances can be loosely categorised according to the type of challenge they address. A first category concerns **tackling sector-specific skill needs** in areas and/or communities with higher industrial/economic specialisation indexes. For example, the University of Novi Sad (Serbia) project Agtech7[17] developed training materials and actions to address the gaps between the needs of the agri-food sector and the competences and skills of graduates. Building academic/educational content based upon sectoral challenges is perceived as fostering student-based teaching and pilot actions fit for universities of the future. A second category focuses upon **horizontal educational and skills needs/challenges**, such as VISION[18] which aims at building tools to address the future challenges of HEIs' pedagogical systems, especially digital ones and DataLit[19], tackling data literacy.

A third category deals with **challenges around transition:** digitalisation, environment and sustainability and industrial transition. For example urban challenges are tackled from different perspectives under the Urban Challenge Programme[20], the KA-EBUP project[21], or the KA-AU[22] project, which define tools to foster training initiatives that address these challenges. Other projects tackled digital aspects: the ODEdu[23] project designed a training programme addressed to the public sector based on working open data; the Gov3.0[24] project addresses digitalisation and digital government. Other projects not aimed directly at these subjects did tend to include some actions or initiatives that addressed the environment and sustainability,[25] but it was only those respondents in projects specifically tackling some aspect linked to environmental sustainability who tend to see a strong impact of these projects in this area (38% of respondents considered that there was some impact from their projects, while the other 62% see little or no impact).

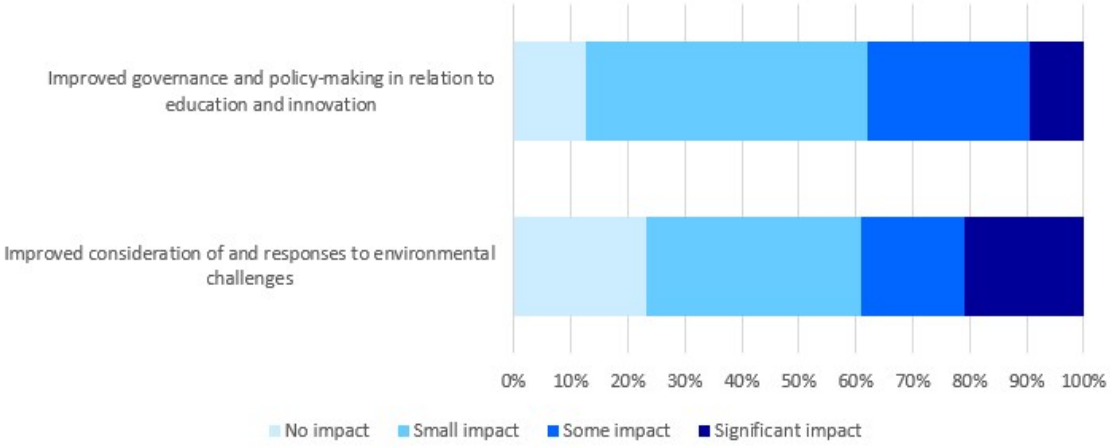
A fourth category focuses upon **general societal challenges.** For example, the EXPAND[26] project on homelessness, COP4HL[27] on the promotion of a healthy lifestyle, ATHIKA[28] on eHealth, SIKE[29] on social innovation and CISCOS[30] on inclusive social planning, community development and service provision for persons with disabilities, in line with the UN Convention on the Rights of Persons with Disabilities and the EU's Disability Strategy 2010-2020.

Knowledge Alliances projects therefore can be seen to respond to and address current territorial challenges and contexts to differing degrees. In most cases participant organisations rarely considered alignment with public policies, strategies, or programmes and interaction with territorial authorities prior to or as part of project development. For the most part, local needs were only considered once the project had been approved for funding and implementation had commenced. At this point the further in-depth development of the project topic and its context, in a small number of cases, lead to the assessment of and identification of relevant policies and strategies locally and the (normally informal) integration of collaborative activity with territorial authorities.

[17] https://www.agtech7.uns.ac.rs/
[18] https://www.vision-project.org/
[19] https://datalit.pa.itd.cnr.it/en/
[20] http://ka-au.net/
[21] https://www.kaebup.eu/
[22] https://www.cbs.dk/en/research/cbs-research-projects/research-projects-overview/66eb1e35-ea02-4a5b-9a60-4eb9f4a5f13a
[23] https://erasmus-plus.ec.europa.eu/projects/eplus-project-details#project/e5eafa5e-a090-45ba-b5bd-381933422502
[24] https://www.gov30.eu/
[25] The SHOUT project, for example, looks to strengthen the innovation capacity and transformational role of HEIs, SMEs and NGOs, but specifically refers to SDG-related challenges. (https://shout-project.eu/)
[26] https://expandaccelerator.eu/
[27] https://cop4hl.eu/
[28] http://www.athika.eu/
[29] https://sikeeuorg.wordpress.com/
[30] https://ciscos.eu/

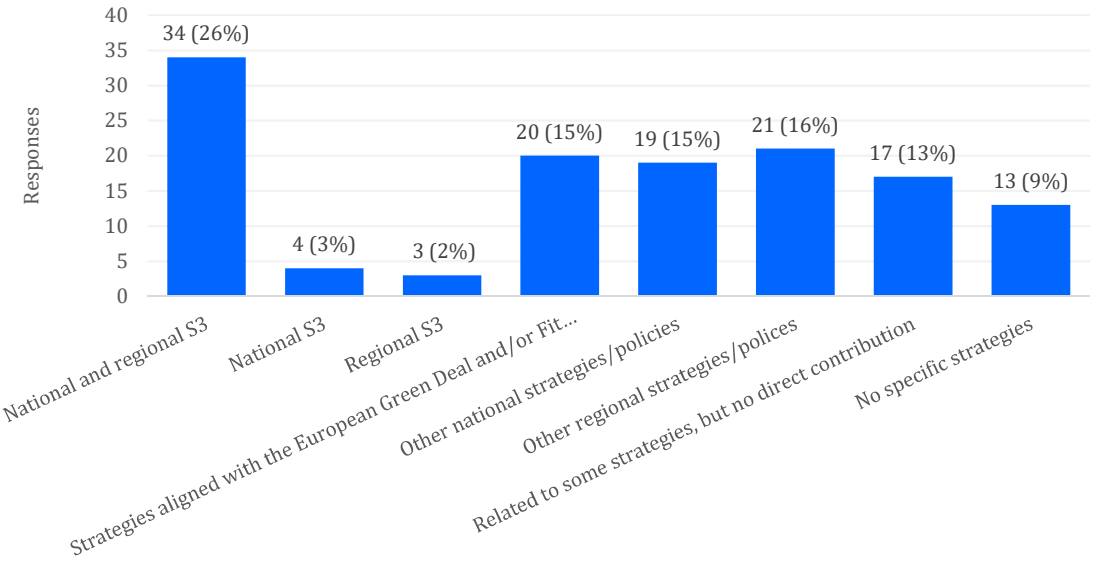
Regarding the improvement of governance and policymaking (related to education and innovation), less than 10% responded that their project has a significant impact; less than 30% think that there is some impact, and the rest see little or no impact. However, 87% of the respondents believed there was an improved relevance of higher education in the territories and sectors concerned.

Figure 1. Respondents' self-assessment on the level of impact of Knowledge Alliance projects on policymaking and societal challenges



(Source: authors' own elaboration from survey responses)

Figure 2. Project contribution to specific strategies according to respondents



(Source: authors' own elaboration from survey responses)

Figure 2 depicts the survey results to the question "Does your project contribute to or reflect any national or regional strategy/policy, including the smart specialisation strategy (S3)?", where respondents could select all the strategies/policies that they considered directly related/relevant to their KA project. Smart specialisation strategies seem to have a key role, with most respondents stating that they considered both national and regional S3, whilst many respondents also state that their project links to other strategies/policies. Only 13 respondents (13.7%) declared that their project did not contribute to any strategy/policy. Nevertheless, during interviews, it became clear that respondents were reporting the contribution of their projects in a very broad sense, and that whilst there was some alignment between the topics and challenges addressed by KA projects and some specific policies and/or strategies, there was little close relation between the two. Nevertheless, it

was possible to identify connectivity between strategies and projects in a more indirect manner. For instance, competitive advantage around ICT is the focus of HUBLinked[31], which clusters organisations across member regions to develop better academic tools. The KINESIS[32] project creates an alliance among training/education institutions, NGOs, communities, local authorities, and businesses to develop a programme of multidisciplinary activities in rural areas where the population is declining, and young people are leaving for the cities. The IMPACT[33] project specifically aims at effectively translating Europe's "Green Deal" into an innovative sustainable development-based educational programme, tools and business practice. The SDG4BIZ[34] project creates, tests and disseminates a curriculum and training material recognising and realising 60 business opportunities inherent in SDGs. Other projects tackle broader domains, like emerging areas of innovation such as the OUTDOC[35] project, which aims at developing tools having in mind new industrial trends and the emerging technologies and markets. In the field of education, the Encore+[36] project capitalises on open resources in education, analysing how 'policies and strategies' should address this domain. The BizMOOC[37] project studied the implications of legislation and higher education policies in European countries in relation to new technologies (MOOCs).

Therefore, whilst there was very little project activity identified under the Knowledge Alliances that *directly* aimed at influencing public policy, strategies or programmes, the majority of projects were directly or indirectly producing place- or sector-relevant outcomes or conclusions. In most cases, projects were seen to be producing highly relevant results and outcomes within the context of the territorial innovation, S3 and other local strategies, with two thirds of respondents agreeing that their project created knowledge and learning that was directly relevant to S3 design and implementation and could inform public policies and strategies for research and innovation. However, in most cases, there was no formal coordination or approach to build on synergies with or conclusions and policy learning that was relevant within the wider local innovation ecosystem (although see, for example, Box 1).

There is room for fostering roles for broader range of stakeholders (not just industrial partners) in the projects and enhanced links to the territories' entrepreneurial discovery process, to enable an improved identification of, and project alignment with, territorial challenges and potential ways to overcome them. Enhancing the role and participation of public administration could lead to project learning with input into the policy process enhancing territorial policies and strategies. In some cases however, there is an actual collaboration between public authorities and project partners, with authorities participating in projects as associated partners. For instance, in ITELab[38] ministries of the partner countries (including Bulgaria, France, Lithuania, and Turkey) were involved but this was not the norm. There is a strong argument for including the integration of project outcomes into place-based policymaking more comprehensively as a project activity.

Box 1: Spanning Boundaries

The goal of the Spanning Boundaries[39] project aims to empower and enable university and business professionals to make a stronger contribution to regional economic and social development by providing knowledge, support, closer joint working and improved engagement with their environment. The project logic reflects the need for "boundary spanners" in the innovation ecosystem, and particularly in HEIs: individuals who have deep understanding of both business and academia and can play a strong role in entrepreneurial discovery and smart specialisation processes, providing leadership to drive change "break(ing) down internal and external organisational boundaries in their engagement for collaborative innovation". The project's main training programme looks to reduce barriers between HEIs and business, linked to the co-creation of innovation-based challenges.

[31] http://www.hublinked.eu/
[32] https://www.kinesis-network.eu/
[33] https://www.impact-project.site/
[34] http://sdg4biz.eu/
[35] https://outdoc.usal.es/
[36] https://encoreproject.eu/
[37] https://bizmooc.eu/
[38] http://itelab.eun.org/
[39] https://www.spanning-boundaries.eu/

3.1.2 European Universities

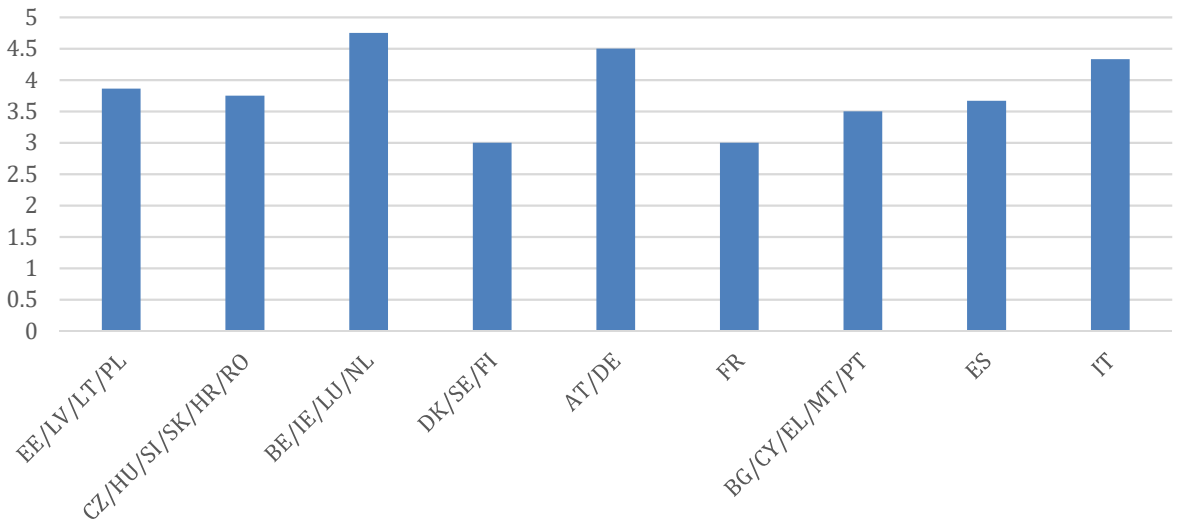
The approach under Knowledge Alliances is at odds with that under the European Universities where, in many cases, alliances undertook an ex-ante exercise to identify, analyse and compare their territorial contexts, challenges and S3 domains (and the potential to collaborate when addressing those at an alliance-level). For instance, when defining the logic of the EC2U alliance, members compared the respective S3s of all the involved territories to identify common specialisation domains and challenges in order to inform the selection of 3 SDGs that are each represented through a virtual institute (good health and wellbeing, quality education, and sustainable cities and communities). Similarly, partners across the ECIU alliance undertook a mapping of the domains addressed in their smart specialisation strategies as part of their project development activity.

This analysis of their territorial ecosystems' challenges and needs has tended to enable HEI participants under European Universities to have a better understanding of the added value they can contribute to the development and implementation of territorial policies and strategies. As a result, or in connection with their participation in the ENLIGHT alliance, for example, the University of Tartu (EE) claims to have a broader vision and understanding to draw upon in their participation in local policymaking and strategy development (e.g. S3: the Estonian Research and Development, Innovation and Entrepreneurship Strategy 2021—2035). The University of Zadar (HR) participates in co-creation of both urban and county level strategies, integrating lessons learnt within the alliance into the creation of territorial strategies. Key elements potentially seen as impacting on the role of the university in the local innovation ecosystem was the recognition and support amongst local authorities of the role of the HEI in the innovation ecosystem, and the HEI's ranking or lack of competitors locally. For instance, as the largest HEI in the territory, the University of Innsbruck (AT) is always invited to be present in regional strategy/policy development.

A large share of the respondents in the European Universities' focus groups considered that their participation reflects or contributes to solving territorial challenges/needs. This was especially evident amongst participants from Benelux/Ireland, and Austria/Germany (see Figure 2). Nevertheless, there was a general feeling that it is still early in the project cycle to identify potential impact of the collaboration with authorities linked to specific territorial needs/challenges.

Figure 3. Responses from European Universities focus group question: To what extent does your participation in a European University reflect or contribute to local/regional strategies or address territorial needs?

(1 = low; 5 = high) Average of answers per FG *(not all participants answered all questions.)*



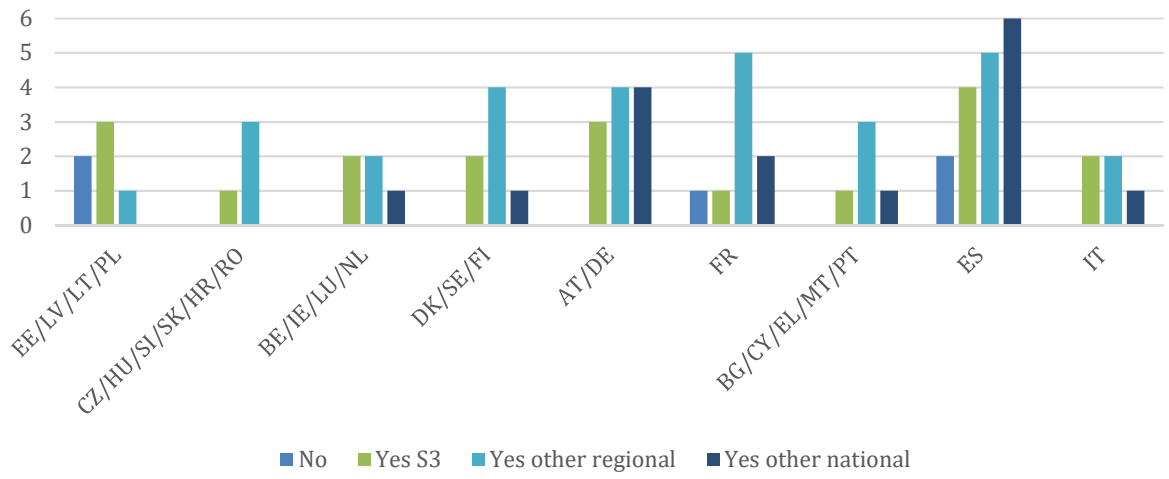
(Source: authors' own elaboration from focus group responses)

It was generally observed that the more concrete the topic or domain for collaboration, the easier the collaboration, as the universities could identify relevant local partners and stakeholders and activities with greater precision. A number of European Universities have defined very specific territorial and societal challenges and domains in common across partner organisations, and aligned a series of challenge-based educational activities and actions to be undertaken under the umbrella of the European Universities project.

The EPICUR alliance, for example, addresses three domains of particular interest to the partners: sustainability, public health, and mobility/migration. It looks to foster early-stage researchers to undertake research activities that would lead to solutions to these challenges. The AURORA alliance addresses the challenge of migrant inclusion with a permanent group established that includes representatives of relevant associations and territorial authorities and connects S3 domains relating to 'climate change and sustainability' to key objectives like 'future skills'.

Interaction between HEIs and public administration in the context of territorial strategies/polices, under European University alliances (see Figure 3), tends to occur more with the local/regional level public administration than the national level, irrespective of whether this relates to S3 or not, and Spanish universities tended to have the greatest level of engagement. Whilst this interaction often reflects a mapping exercise around local needs rather than actual continual collaboration, European Universities perceive they have a strong potential to influence local policies/strategies (see Figure 3). German and Austrian participants seemed to be the most optimistic in this regard, whilst respondents from France, the Benelux, Ireland, and Scandinavia see potential impact as being generally weaker.

Figure 4. Question: Have you been in contact with or worked with any public authorities in relation to regional/local strategies or policies? Total number of answers in each FG.



(Source: authors' own elaboration from focus group responses)

Respondents commented that as collaborations with local (mainly city) authorities are especially strong under European Universities, a focus on local challenges and issues (in many cases environment and sustainability challenges) is particularly logical. In the E3UDRES2 alliance context, the Vidzeme University of Applied Sciences (LV) works with the local administration (City of Valmiera) and the local development agency to solve local challenges such as circular economy. The HEI is expected to bring international perspective and innovative ideas to the alliance. The Kaunas University of Technology (LT), works with their municipal authority to address challenges such as waste management, and the usability of public spaces. Local authorities were consulted by YUFE partners when building the alliance, leading to the identification of four relevant challenges: sustainability, digital societies, citizens' wellbeing, and European identity and responsibilities in a global world. The 'sustainability' domain is particularly relevant in the framework of the Eut+ alliance and integrated into their entrepreneurship and innovation activities. Whilst environmental and sustainability themes were considered a strength and key focus of the European Universities, it was also a domain in which many respondents felt more could be done.

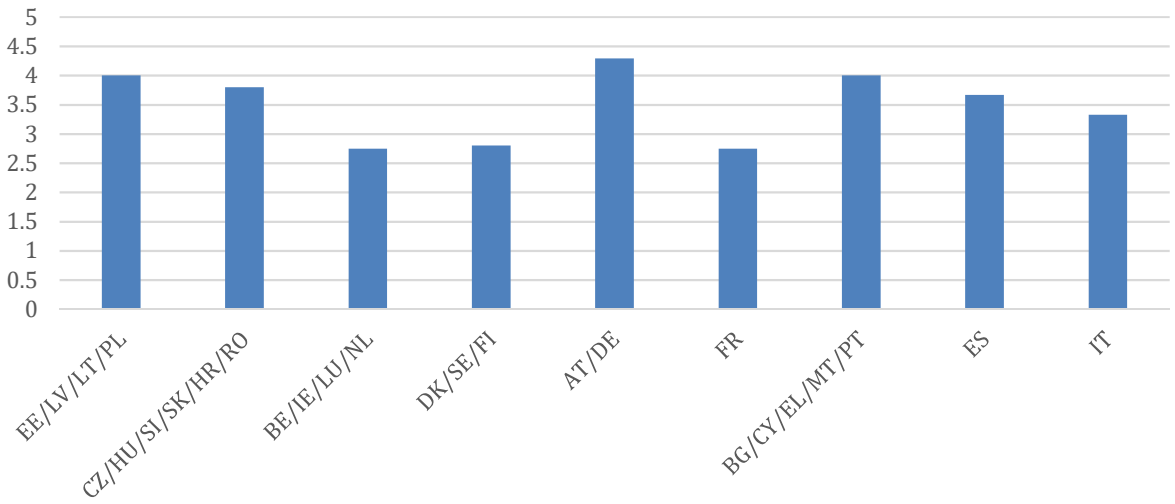
Most respondents perceived the results of their collaboration with territorial authorities as constructive and positive, and some could clearly reference outcomes linked to specific challenges/specialisation domains and influencing local policymaking and strategies (see Figure 4). In the context of the EU4ART alliance, the Art Academy of Latvia (LV) is developing, in collaboration with the municipality, creative quarters in run-down areas of the city, where students and professors collaborate with the local communities in implementing activities relevant to territorial development. Similarly, in the ENLIGHT project, the Comenius University in Bratislava (SK) has collaborated with the municipality to create innovation districts, where researchers and students work in living labs with local companies to co-create solutions to specific local district-level challenges. At the Autonomous University of Barcelona (ES), they work under the concept of 'shared agendas', where local stakeholders identify challenges and joint solutions to address them. At the University of the

Aegean (EL), they have taken advantage of their participation in the ERUA alliance to locally raise awareness around sustainable development and develop new activities with local authorities in this area. Experience gained under the UNIC alliance was perceived to have helped the University College Cork (IE) to add value to national level discussions around educational policymaking developments (specifically in the field of micro-credentials).

However, in several cases, contributions to policymaking are considered rather to reflect long-term collaborations, rather than participation in the actual alliance itself. It was widely perceived that there was still room for improvement in relation to impacts on policymaking and territorial strategies and integrating the knowledge and lessons learnt into the wider policy context. Participants in RUN-EU for example felt that there was little direct potential to influence strategies/policies, except in very specific cases. Nonetheless, belonging to a European University alliance was seen to strengthen HEIs collaboration possibilities and hence presence in the context of territorial policymaking. For example, under the Czech European Council presidency (July-December 2022), the Palacký University Olomouc obtained funding to promote European Universities activity in Czechia, through an event engaging other HEIs, other EU and local stakeholders, including policy makers.

Whilst generally, the EuUn alliances help connect HEIs and their academics, researchers and students with local policymakers, opening spaces for analysis and debate and integrating policy learnings into local frameworks and ecosystems, there were areas where improvements could be made according to respondents. This included around raising awareness about the logic and objectives of the European Universities locally, the definition of collaborative actions to address local challenges, and in collaboration with public authorities in the context of developing territorial policies/strategies. Interestingly, whilst the majority of projects focus on local/regional authority collaboration, projects such as ATHENA consider wider territorial frameworks such as EU macro-regions that enable the project to reflect both local and EU interests. ECOMED addressed specific challenges of the European Mediterranean countries and connected to Med-Area strategical frameworks.

Figure 5. To what extent do you think your participation in the EuUn alliance could influence local policies/strategies in the present or near future? (1 = low; 5 = high) – Average of answers per FG



(Source: authors' own elaboration from focus group responses)

Table 1: European University activity: policymaking and territorial challenges

European University Alliance	Activity/Initiative
ECIU	Creation of a virtual research institute and communities of practices for researchers of all HEIs to work together on shared territorial challenges.
EU4ART	Arts collaboration (exhibitions, festivals, etc.) to build territorial attractiveness and fight

European University Alliance	Activity/Initiative
	brain drain.
UNITA	Built R&I thematic hubs linked to their mountain-based territories' development (renewables, circular economy, cultural heritage).[40]
CIVIS	Open labs focusing on 5 challenges (climate, cities and territories, health society, heritage, and digital and technological transformation). Work on same issues with 6 African partners.
EC2U	Studies on local needs in relation to citizens' health and the creation of 7 sets of guidelines for consideration and adoption by partners' public authorities.
ENGAGE.EU	Organisation of 'expedition weeks' in the different territories, together with the local municipality. The latter present challenges and students from the involved HEIs propose solutions (challenge-based, mission-oriented solutions).
YUFE	Online platform where the city and provincial administrations, local port and university meet, together with the university, to discuss policies/strategies. Learning outcomes from the alliance are fed in to add an international perspective. A hackathon where secondary school teachers and HEI students find solutions for local problems (e.g. accessibility for people with reduced mobility).
AURORA	'Green office' initiative where students address challenges linked to environment/sustainability. The University of Naples holds a fair to exchange good practices[41], which will be replicated or scaled-up to an AURORA Innovation village to capitalise on the already-existing activity.
Circle U	Intensive summer courses for the Circle U alliance students held by the Interdepartmental Centre for the Study of the Effects of Climate Change of the University of Pisa (CIRSEC), who promote, coordinate and carry out studies and support technology transfer and enhancement of research products, knowledge, and skills acquired on topics related to effects of climate change.
UNITE	Creation of an intensive programme of urban planning within the partnership.

(Source: authors' own elaboration)

3.1.3 Comparative summary of the initiatives

KA projects were far less likely to have undertaken an ex-ante exercise to determine strategic alignment and territorial challenges and priority domains during project development stages compared to EuUn projects which as a result tended to demonstrate a much stronger understanding of their added value in the context of the development and implementation of territorial strategies and policymaking. KAs had lower impact in relation to governance and policymaking approaches, although this reflected in general the lack of a suitable mechanism for collaboration or policy-learning internal to the territorial innovation ecosystem, as most projects were producing highly relevant place- or sector-related results and outcomes. The lack of public sector involvement (mostly at regional/local level) was a key factor in most cases, as well as the lack of recognition of the potential role and function of a HEI in the innovation ecosystem by territorial authorities. This, alongside factors such as the size and number of HEIs in a territory tended to determine the level of

[40] https://www.piton.univ-smb.fr/
[41] https://innovationvillage.it/

influence of the HEI and initiative in territorial policymaking. In many cases however, a longer-term approach is needed to determine impact, as in many cases collaboration with territorial authorities was occurring in a punctual rather than a continual manner.

3.2 Collaboration within the territorial ecosystem

3.2.1 Knowledge Alliances

Collaboration with local stakeholders is a key aspect of the Knowledge Alliances projects, as they aim at building synergies between (mostly) universities and other organisations to improve the education/academic activities and to foster innovation. The majority of survey respondents had, within the scope of their project participation, interacted with more than one type of stakeholder but for the most part with higher education institutions and private companies (see figure 6). In general, survey respondents felt that KA projects improve their organisations' connections and relationships with the stakeholders in their ecosystem, as well as transferring knowledge from project partners to other entities. All respondents had a largely positive perception of the exchange of experiences process with their peers, as well as the learning gathered thanks to the collaboration with institutions in other territories and countries and emphasized the enrichment at institutional and individual level that results.

Figure 6. Type or organisations that have collaborated with respondents under their KA projects

(Source: authors' own elaboration from survey responses)

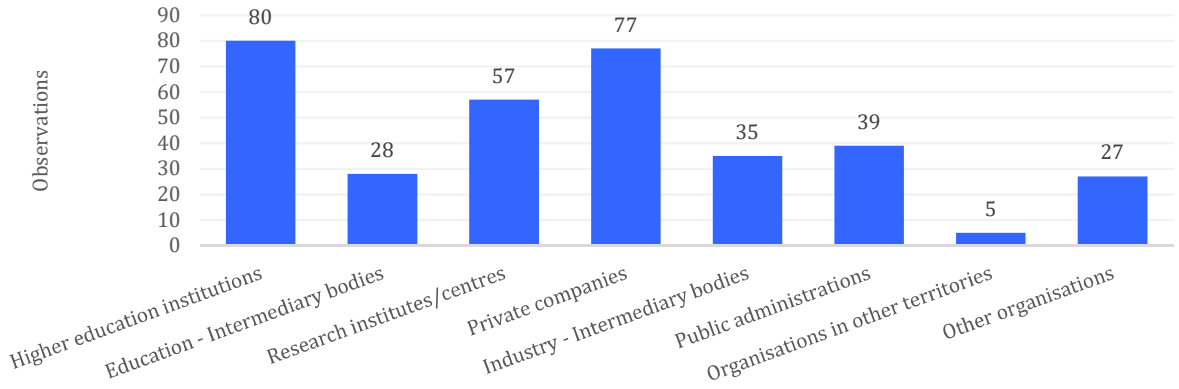
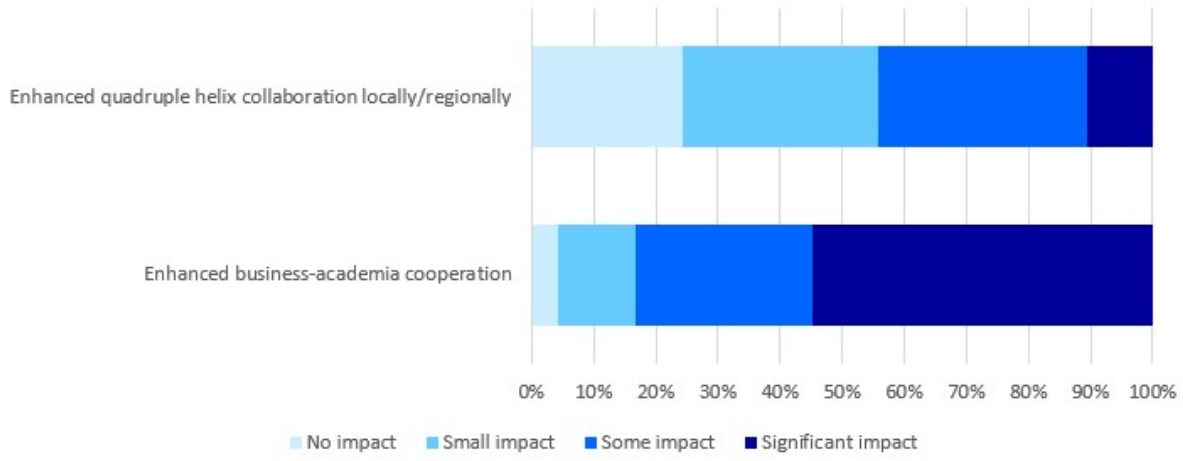


Figure 7. Respondents' self-assessment on the area of impact of Knowledge Alliance projects in relation to connections with the local ecosystem



(Source: authors' own elaboration from survey responses)

Whilst all survey respondents believed that the KA projects in which they participate represent a sound opportunity to foster collaboration with agents from across the quadruple helix and knowledge ecosystem in their territories, only 10% of the respondents perceived that their projects had actually had a significant

impact in relation to enhancing quadruple helix collaboration in their territory, while a little more than 30% think that there is some impact; the rest see little or no impact (see Figure 7). Over 70% of the respondents agree, when asked, that their project has resulted in the wider engagement of their organisation with other projects, initiatives, and stakeholders locally, which suggests a positive impact in the territory. 87% of the respondents think that there are indeed improved connections between their institutions and other local stakeholders, and this figure grows to 92% when asked about the transferability of the results, with most projects producing outputs/outcomes that they perceive valuable to disseminate locally, and which could have a positive effect in their region. Most respondents (73%) also think that the project has enhanced their ability to connect their local territories to world class research and education and respond to global megatrends, which also stresses the transnational relevance of the implemented initiatives.

Impact in terms of collaboration with industry is perceived as being the most positive and significant: when asked about the impact of their projects in relation to enhanced business-academia cooperation, over 50% of the respondents consider that their projects have a significant impact on these aspects, reaching levels of 80-90% if we include those answering 'some impact' (see Figure 7). Interestingly, a small number of KA participating HEIs stated that they choose to collaborate with companies with whom they have previously worked. For instance, the University of Beira Interior has previously collaborated with Roche and Novartis in the sector of biotechnology and has enhanced this cooperation under Bio-All[42]. Similarly, the University of Le Mans is using the momentum of its KA project (ASKnow) to build a Techno Campus with current collaborators as well as more widely. In bringing HEIs and companies closer together, the KA projects had further improved mutual understanding of divergent priorities, logic, interests and activity across different stakeholders. This was especially significant in HEIs with less experience in innovation and with less traditional partners, building on already existing collaboration in some cases. For example, whilst previous collaboration with farmers and rural business had been challenging, under the umbrella of the AgTech7 university-industry collaboration has improved. Under SocialB[43], an advisory group with social enterprises enables a continuous co-creation of potential solutions to local challenges.

Under the Knowledge Alliances initiative, most HE organisations have significant interaction with the companies with whom they collaborate, and perceived they were able to communicate more fluently with them as a result. The continual engagement of business was considered a particularly significant impact in ongoing project activity but also beyond the scope of the project umbrella, with many KA HEI-industry partnerships proving sustainable and leading to further collaboration under other initiatives, and longer-term relationships. Respondents emphasized how specific business needs could be taken into consideration to ensure that the expected outcomes address those needs and foster employability. Good practice university-business collaborative actions include: students learning through specific challenges defined by companies, firm staff teaching applied modules/courses adapted to the specific needs of a sector, exchange of staff between companies and universities/research organisations. The GrEnFIn[44] project's master's programme integrates companies with industry representatives teaching parts of the programme, internships for academic researchers in business and double supervision (company/HEI) of master theses. There is however a missing link between these project activities and research and innovation activity in the HEIs and companies. In many cases, R&I projects are being developed and/or implemented in other parts of the participant organisations but unfortunately do not engage within the umbrella of the project. Respondents identified a further or ongoing weakness, with HEIs being unable to access timely sector-level data and information and lacking an understanding of industry/business thinking to enable them to continually adapt their project activity and courses/training provision to reflect the needs of the sector(s).

As regards interaction with public administrations/authorities and the wider innovation ecosystem, collaboration was generally less successful and less sustainable. In most projects, participant organisations contact and are in continuous communication with their public administration in relation to project management functions such as project communication and dissemination or only for very specific actions and for a limited period. However, collaboration with public sector actors and the ecosystem is less common with regards to actual project activities and content, with little knowledge transfer from HEIs and KA projects to public officials and other innovation actors to inform the design and/or implementation of public policies,

[42] http://bioall.eu/
[43] https://socialb-erasmus.eu/
[44] https://www.grenfin.eu/

strategies, or programmes. There were some exceptions, for instance, under BIO-ALL, the University of Beira Interior held several meetings with the territorial authorities to identify challenges and seek input on and collaboration in their training activities. However, interaction in the ecosystem beyond industry generally tended to be based upon short-term communication-type activity.

3.2.2 European Universities

Respondents from the European Universities alliances also perceived a real benefit and added value to their participation in relation to wider collaboration in the innovation ecosystem. Figure 8 presents their responses according to the different focus groups (not all participants answered all questions). Participants across all member states considered the impact of the alliances when it comes to their collaborations with local stakeholders as positive but most especially those from Austria/Germany.

Figure 8. Question: To what extent has participating in the European University enhanced your collaboration with other organisations in your innovation ecosystem? (1 = low; 5 = high) – Average of answers per FG

(Source: authors' own elaboration from focus group responses)

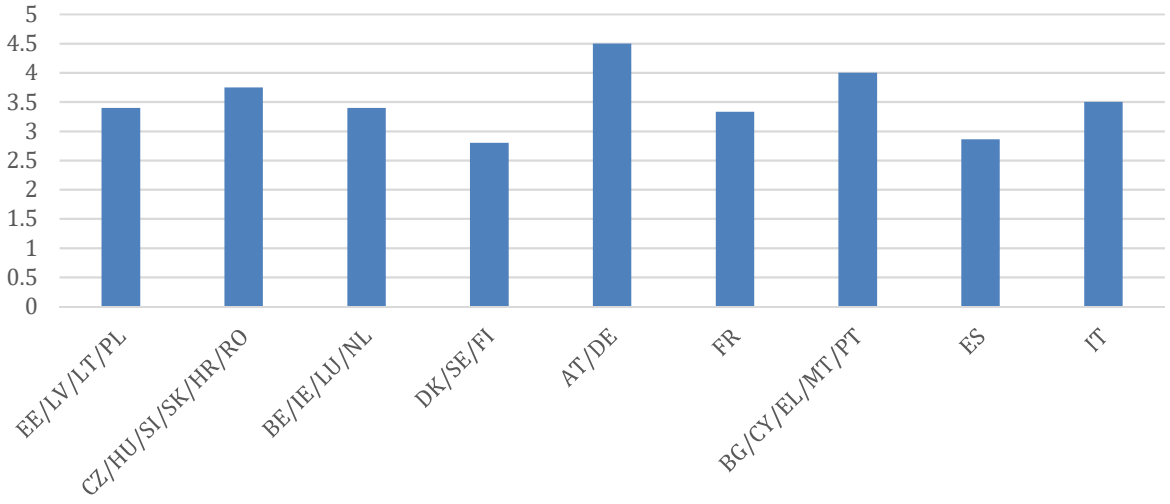


Figure 9. Question: Regarding these collaborations, with which stakeholders? Number of positive answers by FG and type of stakeholder (Source: authors' own elaboration from survey responses)

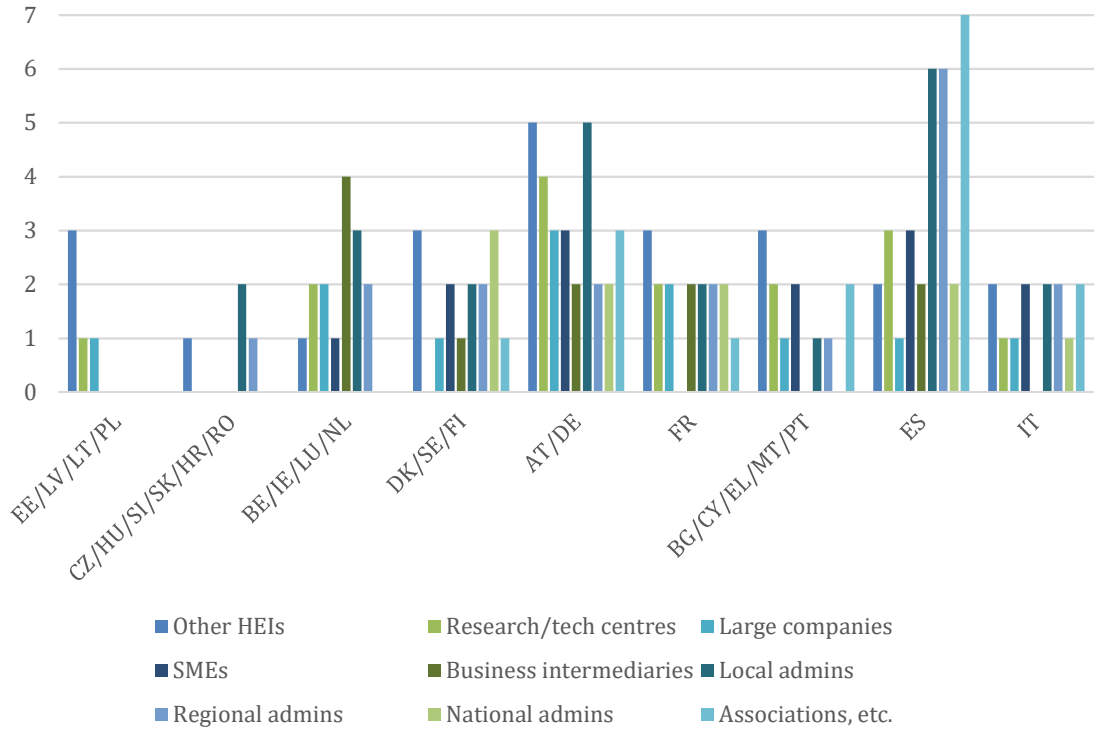


Figure 9 shows participant responses by focus group when asked about which stakeholders are those that they engaged with within the framework of the European University. Besides other HEIs, research and technology centres and local administration seem to be most relevant in all territories. Other stakeholders (private sector, other administrations, and associations, etc.) have a varying level of participation across the different member states.

Nevertheless, many respondents perceived the alliances engaged all actors from the quadruple helix, enabling the HEI to reach a broader set of stakeholders and engage with them across the board on knowledge/tech transfer and improve the connection between the innovation ecosystem and the academic offer. Being part of a European alliance opened doors to new or deeper collaboration and networking, larger-scale collaborative actions, new ways of working. For instance, joint degrees across different countries and enabled greater multi-disciplinarity or the involvement of increasing number of domains in approaches to solving global challenges. Their Europe-wide or international approach to solving challenges and the greater visibility provided by EU for local activity, was seen as particularly important especially for smaller or less well-known organisations to engage with other local innovation actors and to give them the opportunity to connect with peers in other territories. One respondent stated: "*taking part in the YUFE Alliance helps us to internationalise. There are already a lot of connections in Bremen's innovation ecosystem; now we want to work on connecting the local ecosystems of the partner locations*." European University alliances were also seen to enhance the international/intercultural and entrepreneurial dimension of the academic curriculum, through the incorporation of local stakeholders and partners in project activities: "*TUM had already an established a sound network of local stakeholders from industry, but participating in EuroTeQ helped them to further institutionalise this cooperation and to address specific needs of the ecosystem, which also helped to further strengthen their training activities for students and their professional opportunities*". Nevertheless, and in contrast to KA, some respondents indicated that business collaboration was still their greatest challenge.

Collaboration with local and regional authorities seem to be especially strong, with the relevant territorial administration generally perceived as being interested in collaborating in initiatives connected to the European Universities, but not always. It was reported that it can still be complicated to convince administrations of the value of participation. The Technological University of Shannon (IE) has a memorandum of understanding with local public authorities, who are involved in activities of the partnership. The University of Tartu (EE) shares alliance results with municipal stakeholders to strengthen and widen existing collaboration. The EC2U alliance is keen to enhance the already-existing links with municipal authorities, but also a broader set of stakeholders such as regional government, chambers of commerce, incubators with a long-term orientation (i.e. aiming for

sustainability beyond the timeframe or funding of the alliance). Respondents noted that this level of collaboration with local stakeholders and administrations reflected territorial characteristics in some instances, for example, stakeholders in smaller cities were able to coordinate joint activities very successfully due to their smaller size, population and number of actors.

Some HEIs could point to specific results coming from new or enhanced collaboration in the scope of the alliance. For instance, the Comenius University in Bratislava (SK) created the Regional Academy of the Comenius University as a single platform to cooperate with external partners instead of through multiple bilateral initiatives. UNIVERSEH, focuses on the field of aerospace and aimed to facilitate dialogue between national and EU stakeholders (mostly space agencies, but also the private industry) around challenges in the sector. As a direct result of this dialogue the alliance has created transdisciplinary courses in the domain (for example, including engineering and law content). Other HEIs pointed to the learning that takes place from partners in other territories and their experiences, which can be emulated or adapted to serve local needs and address local challenges and transferred to local stakeholders.

Respondents considered that in many cases, due to their divergent goals and interests, interacting with companies could be especially challenging but that industry is more likely to engage when presented with wider collaboration within the framework of an EU alliance: "*Companies are more eager to provide challenges when they are exposed as part of the European network of universities rather than a single one.*" Some HEIs reported a very positive response and engagement from local HEIs in relation to creating joint training for example: under NeurotechEU they sought a broad perspective to neurosciences that included emerging domains and so industry engagement was considered key. EUGLOH organises roundtables with different companies, researchers and students from the different territories to discuss education-related challenges and identify and propose solutions to the companies. Thus, the alliance is the catalyst for industry engagement.

However, at times, the impact of this collaboration is not always easy to measure. There is still a need to better understand what the actual benefits for partners are on both sides. Equally, the European University concept is not always well understood amongst local stakeholders who can struggle to understand their potential role in the partnership. This should obviously reduce as a challenge as European Universities gain greater momentum and visible results. The timing of the Covid-19 pandemic was also particularly unlucky for some of these emerging partnerships and limited participation in some activities. Further challenges expressed by respondents included language, which in some occasions limited participation of actors from one territory in activities being held in another, and the difficulty in designing alliance-wide activity or internationalising local collaboration into the broader EU framework. Similarly the diversity of local contexts and interactions with local stakeholders across the EuUn members makes it difficult for a strong and coherent message or input into EU debates. Potential impact of the initiative is also seen to be restrained by the low level of funding offered to EuUn alliances and the fact that partners sometimes act competitively rather than cooperatively.

Table 2. European University alliances: activities to foster collaboration/engagement with local stakeholders

(Source: authors' own elaboration)

EuUn alliance	Activity/Initiative
UNIC	Thematic city labs that include stakeholders, students and researchers to identify territorial challenges and what research/innovation is needed, and to co-create solutions. Specific added value of interaction between researchers/students and wider innovation ecosystem. Some are sectorial (e.g. health), some more transversal (e.g. innovation). e.g., "new innovation corridors"; 'resilience Zagreb' which brought together 180 representatives/researchers from the university (all domains) + other actors in the ecosystem (including local/regional government, NGOs, SMEs, etc.) to discuss territorial resilience including in relation to earthquakes. City festivals are held to include every city in the consortium in the labs. Mapped the local collaboration structures and ecosystems' needs in the alliances' cities as a baseline to build potential projects.
T4E	'Transformation Labs' including students, researchers and other stakeholders to address

EuUn alliance	Activity/Initiative
	specific territorial challenges.
FORTHEM	Creation of 7 labs, each involving at least 3 different universities from different countries involving students and stakeholders from the alliances' territories (both public and private), working on common challenges and domains of food science, life quality, and climate and resources.
AURORA	WP "co-engaging communities" involves collaboration with other regional stakeholders to foster the innovation ecosystem. The Academic Film Festival has been established to foster municipal and HEI collaboration across the alliance territories.
ULYSSEUS	Forum in which students, professors, firms etc can present business activities or entrepreneurial ideas, and the university supports some of the ideas/projects that are presented.
EUTOPIA	Learning communities: challenge-based initiatives in which students are in contact with local stakeholders to address local challenges and find solutions that add value.
CHARM	'Knowledge creation teams' made up of local stakeholders define challenges for students to address and as the focus for their theses.[45]
ENLIGHT	Global engagement module (alliance-level): for students to apply their knowledge to real local challenges; hosting universities identify their local challenges and students work to provide solutions in collaboration with local stakeholders. Students obtain academic credits (European Credit Transfer and Accumulation System, ECTS). European dialogues events: each HEI in the alliance brings one external stakeholder with them so they all collaborate under specific challenges/topics (for instance, urban sustainable development); every territory presents a specific challenge under these domains and academics, students, and external stakeholders collaborate in identifying/proposing solutions.
YUFE	Mayors meeting initiative: partner cities' mayors participate once a year in a meeting in a different city to deepen their thematic collaboration (e.g. sustainability).
E^3UDRES^2	Regional hackathons and bootcamps with local challenges deriving from local stakeholders.
UNITA	"Real-life" activities for students in collaboration with stakeholders. Weekly research seminars open to stakeholders.
UNIVERSEH	Stakeholders' participation in HEI lectures. Launched working groups with stakeholders, which involve meetings and tasks. Workshops with private and public stakeholders under the SWAFS project (Beyond UNIVERSEH).
ENGAGE.EU	One-week intensive "challenge week" held with students and staff from all HEIs and wider stakeholders. Businesses present real challenges and students work in teams for one week with mentors to develop a solution, which is then shared with the

[45] https://www.charm-eu.eu/knowledge-creating-teams

EuUn alliance	Activity/Initiative
	stakeholders.
CIVIS	Each HEI in CIVIS has open an open lab for civil society, stakeholders, staff and students to meet and discuss challenges and projects. Creation of a "digital campus" where students can participate and engage in these activities.
EUGLOH	Specific work package devoted to collaboration with local stakeholders, within which they have organised 30 courses to foster entrepreneurial skills in a challenge-based approach and involving specialised start-ups in the local ecosystem. Students learn from the entrepreneurial journey, and work on a list of identified challenges.
RUN-EU	Creation of 3 European Innovation Hubs in the areas of future industries and sustainable regional development, bio-economy and social innovation. These EIHs engage academic and other partners from local innovation ecosystems, and incorporate the results into new research/academic activities.
INVEST	Creation of living labs integrated within the HEI curricula, helping the students to improve their competences, learning under real-life situations.
ARQUS	The ARQUS Living Lab is an open space for collaboration between groups of students, academics, and other stakeholders (companies, NGOs, local/regional authorities, schools, museums, etc.) to provide solutions to local challenges, but internationalising the approach to EU-wide.
EUniWell	Collaboration of 102 associate partners across the alliance, including the mayors' offices. Seed funding call project for researchers and students to engage in collaborations.[46]
UNA Europa	Collaboration between the universities, national health service, and citizens' associations.

3.2.3 Comparative summary of the initiatives

Both KAs and EuUns improve collaboration, connections and relationships within the local innovation ecosystem, with the latter seeming to offer a more robust impact in terms of the broader quadruple helix and the former creating stronger connections between HEIs and the private sector, but of a continual and sustainable nature. In both cases, the initiatives were seen to link local challenges to wider global trends, research and education and to enable an internationalisation of the local innovation ecosystem under EuUn. The latter generally demonstrated a greater collaboration with public authorities, again reflecting specific characteristics of the territory, and clearer outputs in relation to educational/academic offers.

3.3 Developing Skills and Competences

3.3.1 Knowledge Alliances

Regardless of the main challenge that the Knowledge Alliance addressed, key project actions did not differ significantly. The development and implementation of new learning and teaching methods is the activity most

[46] https://www.euniwell.eu/what-we-offer/seed-funding-programme

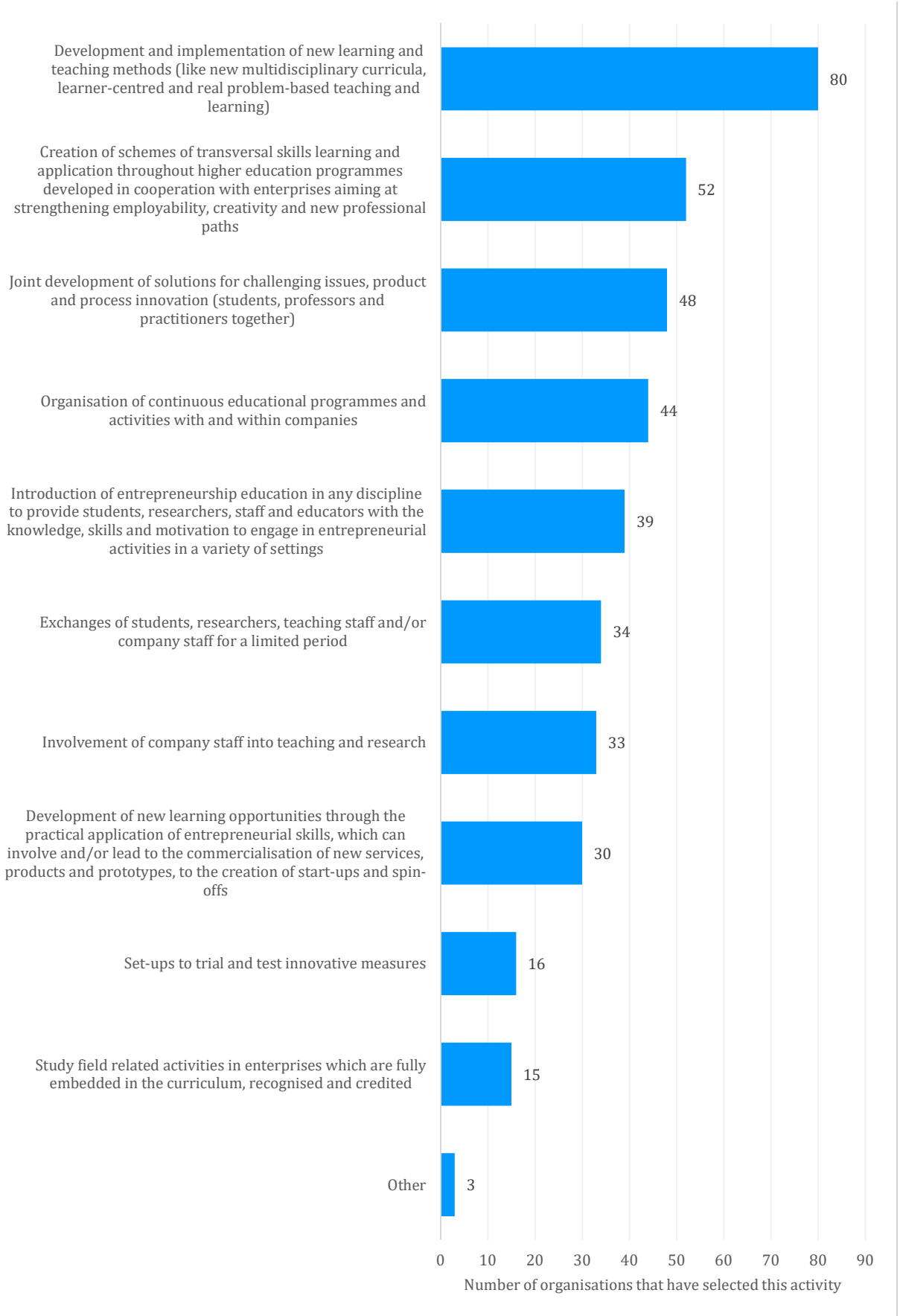
frequently undertaken (82% of respondents) by the partnerships, where the alliance identifies methodologies to integrate a challenge-based perspective into the academic curricula and brings learning closer to the student. This was followed by transversal skills learning and application in cooperation with enterprises, and interaction and joint development (by students/professors and practitioners) of solutions for specific challenges. Most projects combine at least two of the aforementioned activities (see Figure 10) and, whilst HEIs and companies are at the core of each, the logic of the projects also leaves room for other organisations to participate.

In terms of the impact of Knowledge Alliance projects, the most significant impacts were considered to be pedagogical, related to teaching and training improvements, with all participants identifying a significant impact within the academic framework of their organisations. Most of them commented that the academic programmes developed under the projects improve students' skills, competences, and employability. As we see in figure 10, over 50% of the respondents consider that their projects have a significant impact on the provision of better skilled workers and the improved employability of students, and this increases to 80-90% if we include those answering 'some impact'. In relation to improved collaborative teaching methods, over 50% of respondents considered their projects have a significant impact, reaching levels of 80-90% if we include those answering 'some impact', whilst increased challenge-based teaching also scores highly.

Most organisations see the KA-linked courses, modules, and programmes as pilot actions to be further developed and implemented. Fostering teaching methods based on challenge-based learning and education models developed through collaboration with other stakeholders (often companies), is something that they intend to apply and extend to other programmes and domains across their institution. For example, the University of Beira Interior's BIO-ALL[47] project has served as a pilot in building academic content/programmes incorporating collaboration with other partners. The programme has proved sustainable beyond the life of the project, being further improved and developed with additional and increasingly interdisciplinary content added. Similarly, the modules/academic programmes developed under the University of Novi Sad's AgTech7[48] project will continue beyond the lifetime of the project, with professors and students across science, technology and agriculture recognising the value of their interdisciplinary collaboration and seeking to expand and broaden it.

[47] http://bioall.eu/
[48] https://www.agtech7.uns.ac.rs/

Figure 10. Type of activities implemented by responding organisations in KA projects (survey responses)



(Source: authors' own elaboration from survey responses)

Regarding R&D and innovation activities, almost 30% of respondents think that their projects have a large impact in the development of new products, services, and processes; 38% think that they have some impact. When it comes to entrepreneurship – understood as the creation of new innovation-based companies – less than 10% of the respondents think that there is a significant impact, while another 23% thinks there is some; the rest consider that there is little or no impact. Nevertheless, in terms of impact on specific domains and skills, 70% of the respondents consider that their project has stimulated entrepreneurship among students and researchers. However, relatively few of them specifically aim at student collaboration with entrepreneurs for the purpose of building students' entrepreneurial competences or ability to develop their own business ideas, with respondents tending to consider that their project impact in relation to entrepreneurial activities was much smaller than in relation to HEI-business collaboration. Nevertheless, some activity was apparent in this field for example under the SPRING[49] project which addresses the long-term survival of family businesses, mainly SMEs, and provides relevant educational solutions for this sector. Additionally, WeRin[50] goal is to increase the share of female graduate entrepreneurs and ensure they are integrated in regional entrepreneurial ecosystems.

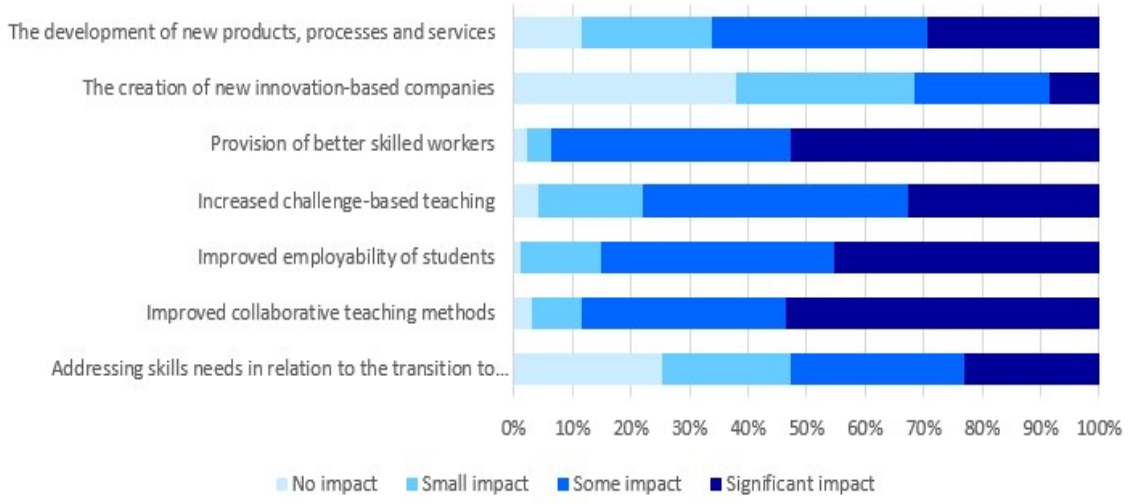
However, when asked about the development of new skills for workers in declining industries, only 35% agree with the statement saying that the project has responded to this challenge (32% disagree, the rest do not agree nor disagree). Regarding sustainability, 63% of respondents say that their project has enabled an increased emphasis on sustainability across the partners and their activities (only 8% disagree). However, when asked about the impact on addressing skills needs in relation to the transition to sustainable models of production and consumption, respondents ascribe greater impact (52% of them answered some or significant impact).

In general, a very clear influence or momentum was ascribed to the partnership and collaboration involved in a KA project. 77% of respondents claim that they have engaged more widely with other projects and initiatives across the consortium and its territory because of their KA participation and 98% stated that their project supported the exchange of best practices across the partnership, which is seen as a key institutional benefit of these programmes. Generally, organisations collaborating under Knowledge Alliances aim at continuing to do so in the future, within the existing partnership or with other institutions. 91% of respondents said that they were looking to continue transnational collaborative work and apply to future calls and future collaborative ventures are being developed not only in the training/education dimension but increasingly moving also to incorporate the research dimension. Respondents mentioned the relevant activity to continue cooperation in training and education under Erasmus+ and more broadly through exchange of students (and/or staff) initiatives, cooperation partnerships, joint academic programmes, but that cooperation is starting to spill over into the research domain and extend to cooperation and partnership within the framework of Horizon Europe. There is a tendency for KA participation to generate wider interest amongst the organisation's staff, who then seek to develop and implement their own collaborative projects, broadening their collaboration within the ecosystem, for instance, exploring new and/or more applied/challenge-based pedagogical models. Members of the BIO-ALL partnership for example, have been working to engage in further joint collaboration, requesting funding under different calls to implement projects in the bio/sustainable economy sector/domain, from different academic disciplines. Nearly all respondents considered that there was significant *individual* benefit as well as *institutional* benefit to be gained from participating in the projects.

[49] https://www.euspring.eu/
[50] https://werinproject.eu/

Figure 11. Self-assessment on the impact Knowledge Alliances projects had on different aspects, according to respondents based on the projects in which they participated (II): positive externalities

(Source: authors' own elaboration from survey responses)



3.3.2 European Universities

European Universities have a similar aim to foster new or innovative academic models that allow the further development of students' competences and skills, address the present and future needs of (local) job markets and enhancing the skills and competences of future graduates. In several alliances, member HEIs analysed the gap between the competences and skills, supply and demand in the local job markets (through surveys and interviews of local stakeholders for example) as part of the design of project activities. The University of Silesia in Katowice (PL) undertook surveys to understand the needs of the labour market, as an input to develop training programmes within the alliance (T4E). The University of Porto (PT) under EUGLOH developed a survey for students regarding the skills they wanted to develop (linked to job market needs) with the results showing a keen interest in practical learning and a multidisciplinary approach. The University of Toulouse Midi-Pyrénées (FR), under UNIVESEH, launched a questionnaire to local stakeholders to identify specific needs in terms of skills in space-related domains, and collaborate with high schools and local stakeholders to ensure that future required skills are being developed, with a focus on inclusion and promoting the role of women. The University of Florence (IT) analysed skills needs and gaps between supply and demand from two perspectives: the EUniWell alliance's domain (wellbeing) alongside transversal skills necessary to be successful in the job market and create micro-credential courses to address the identified gaps. A small number (4) of EuUn alliance representatives state that whilst participation in an alliance offers a great opportunity to forecast and build towards the skills that will be needed until 2030, current policies and approaches do not adequately support HEIs to adapt, pedagogically and academically, their programmes and courses linked to these skills.

Even without a formal analysis of skills needs, collaboration with local stakeholders, and specifically companies/private sector under the EuUn umbrella, enables their comprehensive input to be embedded into the academic curricula, ensuring that local students have the skills and competences demanded by the local labour market and hence better employability. Based on the identification of the needs of local firms, the University of Agribusiness and Rural Development (BG) has embedded applied research projects from the regional living labs into their educational activities, leading to innovative solutions that can be beneficial for local business and society. The Saxion University of Applied Sciences (NL) is fostering local industry to research needs in relation to skills/competences of graduates, and are in touch with policymakers to discuss the implications.

Collaboration between the alliances' members has been a central element in the adoption of new or innovative instruments and methodologies to foster competences/skills teaching. The role of micro-credentials and/or alike instruments is presented by numerous HEIs as an innovative and relevant way for competences/skills development, and they have been developed and introduced in many European Universities in collaboration with local stakeholders. The RUN-EU initiative currently offer short courses (2-5 ECTS), shaped as micro-credentials that incorporate local organisations relevant to topics being addressed,

such as hospitals for healthcare modules. The EUGLOH alliance organised an 'entrepreneurial training' programme jointly developed and implemented by academic staff across all the alliance's HEIs. The collaboration enables the identification of new ways of collaborating and the improved integration of intercultural aspects into their joint work. Similarly, each EURECA-PRO member HEI has designed and/or updated programmes on responsible production and consumption in collaboration with other partners and disciplines, in a 'very enriching' process. EPICUR alliance members are also designing and offering similar courses across each of the HEIs, combining resources and coordinating calendars and academic disciplines to focus upon common trans-regional aspects to provide a significant step change in relation to student competences. The EUTOPIA alliance has developed 30 networks, each one led by teaching staff in one of the HEI members who is charged with identifying thematic partners in other universities; they give assignments to students based in cross-campus teams and in blended formats, via dedicated learning platforms. At the University of València (ES), thanks to the participation in the FORTHEM alliance, micro-credentials, blended intensive programmes, short-term mobilities, winter/summer schools, team teaching, have all been introduced, signifying a major step forward towards greater multilingualism and multiculturalism amongst students and staff, and institutional and individual benefits of EuUn collaboration. A representative of the UNITE! Alliance similarly reported an internationalising influence from their participation and changes to the academic framework, for instance, with the introduction of short-term activities such as summer schools. Even where there has been little evolution in micro-credentials as participants were well-advanced (e.g. in the Finnish universities of Helsinki and Tampere), there has been value added in the form of a more international and multi-disciplinary perspective. The identification of synergies between different programmes within their university and those from other HEIs has helped to further develop, enlarge and improve the relevance and quality of these micro-credentials.[51]

The vast majority of EuUn participants agreed that, when it comes to ensuring learning outcomes meet job markets' needs and curricula reflect challenge-based learning integrating 21st century skills, European Universities have been extremely beneficial and have developed a sense of citizenship in their students who are better prepared for future world of work. Most participants stressed that horizontal cross-cutting skills are key, especially digital skills, and EuUn participants were notably more optimistic regarding the entrepreneurial mindsets and competences they can impart to their students as a key result of their collaborative participation. Participation in European Universities seemed to trigger institutional changes in participating HEIs, encouraging them to develop new, innovative pedagogical models or methodologies, placing competences/ skills development and collaboration with other local stakeholders at the centre. One alliance representative stated the EuUn initiative helps to "unlock the transformative power of education and adopt a holistic approach for sustainable development, including not just environmental aspects, but also social, economic, and cultural ones". Figure 12 presents the answers to a question in which participants were asked to rate (from 1 to 5) whether they thought that their alliance's activities had had an impact in their institutional academic activities, and Figure 13 the areas in which participants from different member states felt the EuUn participation most impacted.

[51] Other HEIs referring to micro-credentials programmes within the context of an EuUn alliance included: University of Pisa (IT) (Circle U.), the University of Turin (IT) (UNITE!), the West University of Timișoara (RO) (UNITA), the Autonomous University of Barcelona (ES) (ECIU), and the University of Porto (PT) (EUGLOH).

Figure 12. Focus group question: To what extent do your European University activities impact on the educational/academic activities of your institution? (1 = low; 5 = high) – Average of responses per FG

(Source: authors' own elaboration from focus group responses)

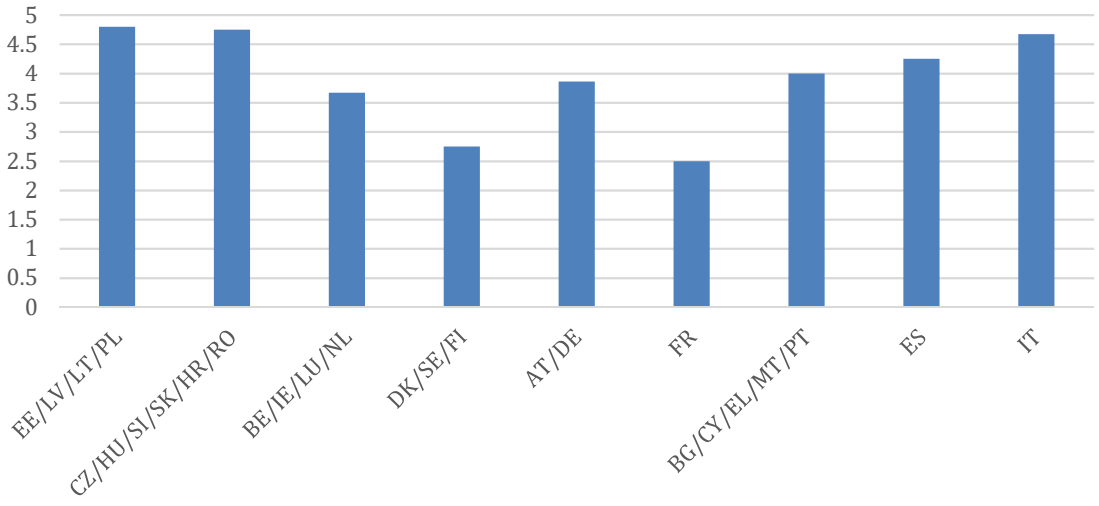
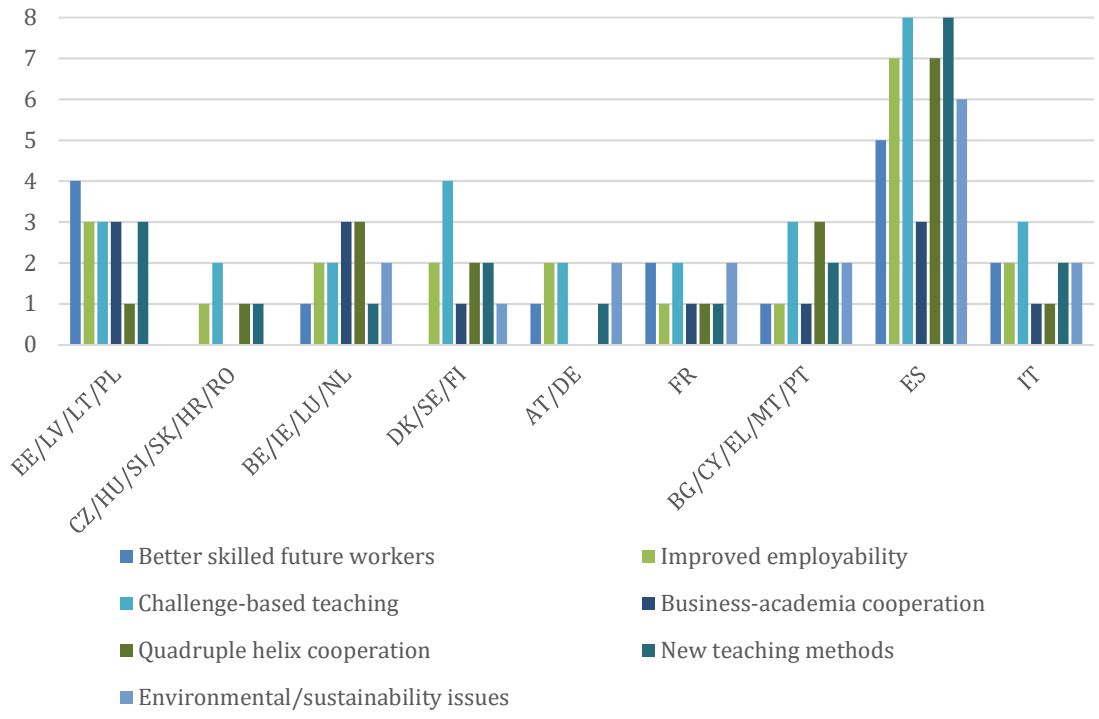


Figure 13. Focus Group Question: Regarding the activities you undertake in the scope of the European Universities, in which of the following elements do you think there is a significant impact? Total number of answers in each FG.



(Source: authors' own elaboration from focus group responses)

A significant challenge in relation to cooperation among HEIs is the disparity across national rules and regulations when it comes to the design and implementation of joint programmes and projects. Eight HEI representatives specifically referred to this challenge as a key barrier to participation, and one that needs to be addressed at the level of EU and national governments. Other participants referred also to national differences in education systems, academic logic, and pedagogical methods but learning how to work

collaboratively across these differences was generally seen as a positive learning experience. Transferring learning outcomes to other programmes and courses was however constrained by resources and stakeholder availability in many cases.

Table 3. European University activity: Development of skills and competences

EuUn alliance	Activity/Initiative
EPICUR	Analysis of the needs of early-career researchers to avoid them leaving for the private sector.
EU4ART	Development of an Erasmus Mundus joint academic programme addressing topics of common interest, like service design.
YUFE	Challenge-based learning through short training courses, a programme to promote entrepreneurship and innovation among students, including MOOCs. Instrument to support postdoctoral students aligned to the four challenges addressed by the partnership. Students have an additional advisor from a non-academic organisation to help them in their applied work.
ENLIGHT	Living labs and summer schools based on real challenges
AURORA	Development of an AURORA Competence Framework Development of joint degrees including external stakeholder involvement. Courses with external stakeholders to address specific challenges linked, for instance, to social innovation and entrepreneurship.
ECIU	Students compete to propose solutions to real-life challenges posed by local actors. CBL tool: challenge-based learning; students, under study modules, address private sector challenges in international transdisciplinary teams.
FORTHEM	Creation of a digital academy for students and staff to improve their soft skills. Development of joint study courses and mobility schemes. Creation of an office for early-stage researchers.
E^3UDRE^2	Creating an innovation and entrepreneurship mindset amongst their students through hackathons, bootcamps, and AI-living labs in which students are trained to work with industry and stakeholders on specific challenges. 6 ECTS living labs working on challenges from stakeholders and students with coaches and entrepreneurial educators who help them identify solutions.
ARQUS	Company-creation challenges to foster the entrepreneurial skills of PhD students, promote international internships and have created challenge-based collaborative programmes.
EURECA-PRO	Development of the “PhD journey”, under which PhD students can spend time in partner universities and improve their competences.

EuUn alliance	Activity/Initiative
EUTOPIA	Open innovation challenge programme for students to identify challenges in companies and organisations and provide solutions. Creation of learning communities, each one led by a different HEI in the alliance and on a different domain, such as multilingualism and diversity, or data and critical thinking.[52]
EDUC	Development of more than 50 joint virtual courses.
EC2U	Development of an 'entrepreneurial academy' which introduces challenges from stakeholders. Students and professors from the alliance collaborate to address these challenges.[53]
UNITA	Analysing improved ways to implement traineeships for students. Compulsory for students to undertake an entrepreneurship course before they start their traineeships.
ENGAGE.EU	Creation of 'online exchange initiatives' (short courses) to foster skills and knowledge in other disciplines.[54]
INVEST	Offer specialisations in their Masters courses, linked to a living lab in their country, and the challenges they address. These living labs integrate public and private stakeholders.

(Source: authors' own elaboration)

3.3.3 Comparative summary of the initiatives

Both KAs and EuUns have led to clear academic benefits, both at the level of the individual (staff member or student) plus at the level of the organisation. KAs report teaching and training improvements in relation to their curricula and content, and increasing challenge-based learning, albeit with lower impact reported in relation to entrepreneurship and entrepreneurial skills. EuUns are more likely to have an explicit focus upon providing innovative approaches to addressing territorial skills gaps and labour market needs, based on an ex-ante or early analysis or consultation of stakeholders. Both initiatives provide a catalyst for further collaboration and in the case of KAs a clear building of momentum was perceived, with collaborative ventures increasingly evolving from educationally-orientated and moving into the research sphere.

[52] https://eutopia-university.eu/english-version/education/eutopia-learning-communites
[53] https://ec2u.eu/find-out-the-programme-of-the-2nd-entrepreneurial-week/
[54] https://www.engageuniversity.eu/online-exchange-initiative/

4 Key findings

4.1.1 Knowledge Alliances

The most significant results and impact of the Knowledge Alliances are those related to pedagogical aspects, with the majority of respondents stressing the improvements in students' skills and competences, and hence employability. The programmes are also seen as a positive outcome for HE as a whole, transforming ways of working and providing a momentum which lasts beyond the length of the project and extends to other programmes and disciplines across HEIs, and leads to a greater appetite for collaborative ventures, and increasingly moving from more education/training focused subject matter to incorporate research. The KA programme is also highly relevant and significant in relation to fostering collaboration between higher education institutions and other actors of the innovation ecosystem, especially companies, although cooperation with public authorities was more challenging in most cases.

KA projects also have the potential to support and influence policies and strategies, since they address relevant topics and challenges, and the learning could serve to improve those policies/strategies and enhance HEI contribution to strategy design and implementation; nonetheless, this contribution is still limited, and it could be further reinforced in the future. Policy learning from KA projects relevant to place-based policymaking and strategy design and implementation was generally not integrated into the local ecosystem, with limited collaboration between partner organisations and public authorities in many cases. Some projects link to specialisation sectors in given territories, with applicable learnings that could be integrated in the strategies; other projects address aspects linked to transversal competences and skills, many of those connected to innovation; and other projects tackled societal/horizontal industrial challenges. Whilst many of the respondents could easily identify the connection between their projects and place-based and societal challenges, few of them has managed to achieve significant coordination or collaboration with territorial policymakers. The transfer of policy learning to public authorities/managing bodies should therefore be a priority and integrated as an actual project activity within the framework of the KAs, or similar future Erasmus+ initiatives with this alignment supporting the role of HEIs as actors of change within the context of the twin transitions.

KA projects face some challenges, mostly relating to technical aspects that are not directly connected to the programme. For example, national legislative/regulatory differences across EU member states, which limit the possibility to develop joint ventures under academic programmes. Table 4 provides an overview of strengths of the programme identified in our research, and some recommendations for potential improvement.

Table 4. Strengths and recommendations for the KA programme and projects

Strengths	Potential improvement / recommendation
- Projects address challenges that are relevant to current societal/economic subjects, and they are built on a sound problem-solving approach. - Projects are often based upon previous activities and initiatives and they build on them, rather than addressing new domains for a given organisation. - Specific training/skills needs are at the core of the project definition. - HEI collaboration with companies in delivering project activities is successful and helps broaden firm-HEIs collaboration - There is a perception of significant positive impact of projects' activities in relation to students' skills, competences, and employability. - Projects lead to further collaborations between research teams and companies and improve the communication between universities and business	- In defining the project topic, local policies, strategies and programmes relevant to the challenge/domain should be taken further into consideration and the project should identify specific activities to further integrate policy learning into territorial policymaking. Explicit mention in the call for proposals of engaging in collaboration with public officials in charge of designing/implementing policies/ strategies. - Implementing R&I activities under KA projects is uncommon. Collaboration in/with R&I projects and activity could have valuable positive externalities for learning and increase the added value of the project. - A stronger presence for entrepreneurs should be fostered, including them as key actors together with more well-established firms. - Similarly the presence of company staff in project activities could be enhanced (e.g. firm staff teaching, staff mobility.)

Strengths	Potential improvement / recommendation
more generally. - Organisations tend to discuss projects and their activities with representatives of public authorities, but mostly only for the purpose of communication and dissemination. - Project impact in participant organisations can be seen both from an institutional and an individual (i.e. staff) perspective. - The exchange of knowledge and mutual learning within the partnerships is seen as very positive and it is one of the main strengths of the programme.	- Project collaboration with public administrations should be improved, using projects' learning to improve and enhance public policymaking. - There is room to further foster the role of environment and sustainability aspects in projects.

(Source: authors' own elaboration)

4.1.2 European Universities

The European Universities programme successfully fosters collaboration between higher education institutions and other actors of the innovation ecosystem, especially through the creation of innovative academic/training models that bring students (and scholars) closer to the needs and challenges of local stakeholders. European Universities also have a greater potential to support and influence, input into and improve territorial policies and strategies, hence enhancing HEI contribution to their design and implementation. Nonetheless, while HEIs and public authorities have engaged in significant collaboration within the context of the EuUn alliances', this contribution could still be further improved and reinforced. The alliances have been operational for less time than the KAs and in many cases early partnerships were impacted by the Covid-19 pandemic. Thus a full understanding of actual impact is not yet possible, and mostly qualitative in nature.

European Universities have tended to act as a trigger (or a support tool) within HEIs for them to enlarge their collaboration, rethink academic programmes and work increasingly closely with the ecosystem's stakeholders to foster a more challenge-based locally-relevant educational offer and skills. Institutional changes are often required to ensure that HEIs' staff have the necessary incentives and support to participate and continually engage, and that they can develop and implement new pedagogical methods. Engaging in activities such as European Universities must be considered relevant and rewarded in each academic career.

Regarding collaboration with the local ecosystem, a lot of work has been done across several HEIs, especially at a local level, to improve collaborations with public authorities, address local challenges and integrate results from the European Universities into policymaking. Nevertheless, findings and results achieved within the European Universities' do not regularly feed into the design and implementation of local S3 and place-based strategies. Most respondents were keen to continue and strengthen their collaboration moving forwards but stated that more support (especially financial) should be available to strengthen this cooperative ventures across the EU. In several cases, partner HEIs have already been working to complement the instrument's funding with other financial schemes, especially the HEI Initiative of the European Institute of Technology (EIT) and/or calls from the Science with and for Society (SWAFS) schemes. Other partners stated there was strong national support to learn from the European Universities (e.g. the Finnish National Agency for Education).

Table 5. Strengths and recommendations for the European Universities programme

Strengths	Potential improvement / recommendation
- Innovation stakeholders show, in general, additional interest in collaborating with HEIs when these collaborations are part of the European Universities. - Projects strengthened the role of HEIs in the regional innovation ecosystem. - Strengthened role of public/private organisations in HEIs' academic programmes.	- Collaborations with public authorities could be further enhanced to address local challenges and ensure learning outcomes inform local policies and strategies and the relevant stakeholders. This could be a condition of funding/explicitly outlined in the call for proposals/a specific activity or outcome expected under each project. - Communication and dissemination around EuUn should be improved, to ensure that local stakeholders

Strengths	Potential improvement / recommendation
-European Universities favour the internationalisation of the participant HEIs, in both academic and research and innovation terms. Promote a strong trans-EU collaboration to address common challenges. - Some alliances have undertaken analysis of the local need/challenges and skills/competences and used this to inform their activities, rationale for collaboration and academic programmes. This should lead to improved learning outcomes and reduced skill mismatches as well as a higher level of territorial embeddedness of EuUn activity. - Environment and sustainability are a key domain in most alliances. - Development of new tools and schemes within European Universities including micro-credentials and challenge-based education activities. - Support the entrepreneurial mindset of students, building activities in which they work under real-life challenges.	can understand their potential role within the European Universities. Encourage a closer link between EuUn and S3 domains and local EDP. - A major challenge relates to differences between the EU member states' national rules and regulations, which limit the possibilities for joint programmes/academic initiatives. Policy initiatives could be proposed at EU level to overcome this divergence. - The incentives for the academic staff to participate in initiatives under the alliances, and recognition of its value in an academic career should be improved. - Enhance the interdisciplinarity of projects, fostering the collaboration of stakeholders in different sectors/academic domains, and the inclusion of a wider range of local stakeholders who can benefit from international collaboration around a theme.

(Source: authors' own elaboration)

5 Conclusions and looking forwards

Knowledge Alliances and European Universities provide an opportunity for "the co-creation of incentives to accelerate the transformation of Higher Education" into an actor of change in the context of the twin transitions and macroeconomic and societal challenges[55]. Linking universities with their local and regional ecosystems creates the right conditions to strengthen Europe's capacity to innovate and to modernise and transform HE systems. The implementation of both initiatives proved highly effective in terms of improving the quality and relevance of HEIs in their territorial context, strengthening the knowledge triangle and university-business cooperation, and developing a range of innovative approaches and tools to contribute to improving the curricula, students' skills and competences and their subsequent employability.

The projects addressed a variety of domains and produced a diverse set of outputs ranging from needs/skills analysis, new curricula, study programmes, courses or training modules, innovative pedagogies, MOOCs, toolkits to e-learning hubs, as well as introducing new ways of working and co-creating across partners and disciplines. On the one hand, EuUn alliances contributed more effectively on a policy/systemic level and in relation to the knowledge triangle and transnational cooperation on education, research and innovation. Knowledge Alliances, on the other hand, had the tendency to contribute significantly in relation to university-business cooperation and pedagogical innovations, and therefore on the institutional and individual levels. Whilst at times cooperation was built upon previous relationships and collaboration, there was always evidence of significant added value from participation in the projects, in terms of scale, subject matter, inter-disciplinarity, scope and visibility. Much of this collaboration will also extend beyond the timeframe of the project and prove sustainable. There was evidence of local stakeholders become increasingly integrated and engaged not only in collaborating to address local challenges but also within the other missions of the HEIs (e.g. teaching and research).

Nonetheless, project learning was often not being utilised to inform territorial strategy/policymaking (including S3), despite the production of highly relevant outputs and knowledge. Especially under Knowledge Alliances this proved a missed opportunity in terms of impact. The findings suggest the importance of the initial framework for the design and establishment of projects and the requirements of the funding are vital in this regard and suggest that more recent initiatives that have been launched with a specific territorial agenda in mind. For instance, the HEI Initiative of the EIT-KICs, will have more success in addressing these elements.

A significant challenge in relation to cooperation among HEIs and the knowledge triangle is the disparity across national rules and regulations, education systems, academic logic, and pedagogical methods that can act as a barrier when it comes to the design and implementation of joint programmes and projects. Policy developments are gaining momentum in this direction. However as part of the 2023 European Year of Skills, the Commission will update the current EU learning mobility framework to enable learners to move more easily between education systems and the necessary reskilling and upskilling of the European workforce. The European Strategy for Universities[56] proposes to create a legal statute for alliances of higher education institutions. This would allow European Universities and other types of alliances to act together with a legal personality and pool resources, activities and data, exchange staff and develop joint programme and degrees hence facilitating deeper, long-term and more flexible transnational cooperation. The strengthening of the inter-connectedness and the embeddedness of Europe's universities to develop the skills, competences and innovations for the twin transitions is key to their role as actors of change.

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List of abbreviations and definitions

EuUn	European University
KA	Knowledge Alliance
HEI	Higher Education Institution(s)
HESS	Higher Education in Smart Specialisation
SDG	Sustainable Development Goal(s)
S3	Smart Specialisation Strategy

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Annexes

Annex 1. Acknowledgements

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Tampere University	FI	Henri Pirkkalainen	ECIU
Technical University of Košice	SK	Viliam Fedák	ULYSEEUS
Technical University of Munich	DE	Carla Albrecht-Hengerer	EuroTeQ
Technological University of the Shannon	IE	Jane Burns	RUN-EU
Technological University of the Shannon	IE	Liam Brown	RUN-EU
Technological University of the Shannon	IE	Patrick Murray	RUN-EU
Technological University of the Shannon	IE	Siobhan Moane	RUN-EU
Tilburg University	NL	James Small	ENGAGE.EU

Trinity College Dublin	IE	Catherine Comiskey	CHARM-EU
University College Cork	IE	Jean van Sinderen-Law	UNIC
University of Agribusiness and Rural Development	BG	Miglena Kazashka	INVEST
University of Agribusiness and Rural Development	BG	Mariana Ivanova	INVEST
University of Amsterdam	NL	Anouk Tso	EPICUR
University of Antwerp	BE	Tim Engels	YUFE
University of Bologna	IT	Maria Letizia Guerra	UNA Europa
University of Bremen	DE	Charlotte Simmat	YUFE
University of Coimbra	PT	Liliana Moreira	EC2U
University of Florence	IT	Louise Benchetrit	EUniWell
University of Galway	IE	Aishling Hanrahan	ENLIGHT
University of Granada	ES	Fernando Galán	ARQUS
University of Groningen	NL	Nati Mansilla Ovejero	ENLIGHT
University of Helsinki	FI	Maija Urponen	UNA Europa
University of Innsbruck	AT	Thomas Baumgartner	AURORA
University of Latvia	LV	Didzis Elferts	FORTHEM
University of Leoben	AT	Sarah Kollnig	EURECA-PRO
University of Ljubljana	SI	Simona Rataj	EUTOPIA
University of Luxembourg	LU	Eric Tschirhart	UNIVERSEH
University of Maribor	SI	Mladen Kraljić	ATHENA
University of Oulu	FI	Sari Hirvonen-Kantola	UNIC
University of Oulu	FI	Henna Määttä	UNIC
University of Paris-Saclay	FR	Bich-Liên Doan	EUGLOH
University of Pau and Pays de l'Adour	FR	Emilie Desconet	UNITA
University of Pau and Pays de l'Adour	FR	Clement Bardoux	UNITA
University of Pécs	HU	Péter Árvai	EDUC
University of Pisa	IT	Paola Cappellini	CIRCLE U.
University of Pisa	IT	Veronica Moretti	CIRCLE U.
University of Poitiers	FR	Ludovic Thilly	EC2U

University of Porto	PT	Joana Resende	EUGLOH
University of Potsdam	DE	Katharina Kloss	EDUC
University of Savoy Mont Blanc	FR	Laurence Vignollet	UNITA
University of Silesia in Katowice	PL	Małgorzata Myśliwiec	T4E
University of Silesia in Katowice	PL	Jacek Nowak	T4E
University of Tartu	EE	Tiina Jaksman	ENLIGHT
University of the Aegean	EL	Ioannis Katsounis	ERUA
University of Toulouse Midi-Pyrénées	FR	Mathilde Marcel	UNIVERSEH
University of Turin	IT	Emanuela Barbero	UNITA
University of València	ES	Esteban Sanchis	FORTHEM
University of Zadar	HR	Zvjezdan Penezić	EU-CONEXUS
University of Zagreb	HR	Goranka Lalić Novak	UNIC
University Toulouse 1 Capitole	FR	Cecile Chrysochoos	ENGAGE.EU
Van Hall Larenstein University of Applied Sc.	NL	Denise Lapoutre	INVEST
Vidzeme University of Applied Sciences	LV	Iveta Putniņa	E^3UDRES^2
Vytautas Magnus University	LT	Edvinas Samys	T4E
West University of Timișoara	RO	Alexandra Petcu	UNITA
West University of Timișoara	RO	Andra Dragotesc	UNITA

Annex 2. Instruments' description[57]

EUROPEAN UNIVERSITIES

1. Description of the instrument

European Universities is an Erasmus+ instrument aimed at creating EU transnational HEIs alliances that integrate key principles based on the European identity and its values, fostering quality and competitiveness within the European Higher Education system.

The term "Universities" should be understood in its broadest sense, including all types of Higher Education Institutions. The European Universities initiative responds to a long-term vision that has the potential to transform the institutional cooperation between higher education institutions and bring it to the next level. In this context, 'European Universities' will reach the above aims by gradually implementing the following key elements by 2025:

a) Share an integrated, long-term joint strategy for education with, where possible, links to research and innovation and society at large, that goes beyond any potential existing bilateral and multilateral cooperation:

- o Based on a common vision and shared values, for pursuing a high level of enhanced, sustainable cooperation across various levels of the organisation, and across different areas of activity, building on their complementary strengths and where students and staff at all levels of the participating organisations are empowered to implement this vision.
- o Implemented by joint structures pooling their expertise, platforms, data and resources together.

b) Establish a European higher education inter-university 'campus' where typically:

- o Students, doctoral candidates and staff can move seamlessly (physically or virtually) to study, train, teach, do research, work, or share services in any of the partner institutions. Students customise their choice of where and what to study within the confines of pedagogically sound and logically structured study programmes between the different higher education institutions and other members of the alliance.
- o Embedded mobility at all levels, including at Bachelor, Master and Doctoral levels, is a standard feature. At least 50% of the students within the alliance should benefit from such mobility, be it physical, virtual or blended.
- o New joint and flexible curricula are delivered, where relevant, in the three cycles (Bachelor, Master and Doctoral), based on cross-disciplinary/multi-disciplinary and cross-sectoral approaches, integrating innovative pedagogies, including the use of the latest digital technologies. While content is personalised, cooperation is global.
- o Practical and/or work-based experience is provided by external mentors to foster an entrepreneurial mindset and develop civic engagement;
- o The student body reflects the diversity of the population (in terms of social, economic and cultural aspects), including lifelong learners, part-time and non-traditional students. Access, participation and completion of under-represented and disadvantaged groups are ensured.
- o Any other creative and innovative activities that are key to reach the joint long-term strategy are implemented.

c) Build European knowledge-creating teams ("challenge-based approach") of students and academics, possibly together with researchers, businesses, regional actors and civil society actors - depending on the overall strategy and vision of the alliance - address together societal and other challenges of their choice in a multi-disciplinary approach through:

- o Innovative learning and training that equip students and researchers with high-level, entrepreneurial, Open Science and transferable skills for a fast-changing labour market and knowledge economy and society, including through the transfer of research results back into education

[57] Summary of the information available at the latest version of the Erasmus+ programme guideline for the programming period 2014-2020. Available at: https://ec.europa.eu/programmes/erasmus-plus/sites/default/files/erasmus_programme_guide_2020_v3_en.pdf

o Creation of innovative solutions adaptable to different regions in Europe.

In addition, 'European Universities' should progressively build their capacity to act as models of good practice to further increase the quality, international competitiveness and attractiveness of the European higher education landscape and should become key elements of the European Education Area by driving excellence. As laid down in the Communication Building a stronger Europe: the role of youth, education and culture policies, "Establishing the European Education Area will enable the EU Member States to do more, faster, to drive up the quality, competitiveness and inclusiveness of their education and training systems, while providing inspiration to non-EU countries to follow". In this respect, 'European Universities', in cooperation with their national authorities, should commit to work towards relevant policy objectives of the European Education Area, such as: multilingualism; automatic recognition of academic qualifications and learning periods abroad provided for by the participating higher education institutions within the alliance; the use of the European Student Card, once fully operational; as well as the Bologna key commitments (quality assurance, recognition, and wherever applicable three cycle degree).

2. Supported activities

This action (European universities) will support higher education institutions in going beyond existing higher education cooperation models, and gradually achieving the long-term ambitious vision for 'European Universities'.

- This action will test different innovative and structural models for implementing and achieving the long-term vision mentioned in the section above. It will support the creation of alliances, ideally composed of 5 to 8 partners, by either setting-up new cooperation partnerships or enhancing current ones by going beyond any existing bilateral and multilateral cooperation, through a step by step approach.

- Through this action, higher education institutions will gradually implement the activities that are necessary to achieve their long-term vision, starting by increasing their level of integration. To achieve this objective, they will agree on a mission statement at institutional level of each of the members of the alliance. The mission statement will entail a full joint strategy for pursuing a high level of enhanced and sustainable cooperation across various levels of the organisation (e.g. management, academics, professional/support staff and students), and across different areas of activity (strong education focus with links where possible to research and innovation and service to society), building on their complementary strengths.

- As this action follows a bottom-up approach, each alliance will have the flexibility to shape through a step-by-step approach its joint work plan of activities that is the most relevant to reach their strategic objectives and that will ultimately help them in achieving the long term vision of European Universities, as described above. This joint work plan of activities should be supported by the design of relevant and efficient common management structures. Examples for establishing a tight cooperation between institutional management structures are: setting up joint boards, developing common pool of physical and virtual intellectual and administrative resources, distributing shared resources, common provision of infrastructure, data and services such as student, researcher and staff support, administration and international relations, with digitalised joint processes wherever possible.

- The joint work plan should also include activities to reach the high level of ambition in terms of mobility, social inclusion, and a challenge-based approach. Alliances should also engage with key stakeholders in education and where possible research and innovation to foster societal engagement of students and staff as well as their entrepreneurial key competences. This action will support higher education institutions in implementing the first steps of this joint work plan of activities.

3. Number of projects 2014-2020:

European Universities - Number of projects 2014-2020: 41

European Universities - Number of involved HEIs: 165 from 26 member states (+ third countries)

KNOWLEDGE ALLIANCES

1. Description of the instrument

Knowledge Alliances aim at strengthening Europe's innovation capacity and at fostering innovation in higher education, business and the broader socio-economic environment. They intend to achieve one or more of the following aims:

- develop new, innovative and multidisciplinary approaches to teaching and learning;
- stimulate entrepreneurship and entrepreneurial skills of higher education teaching staff and company staff;
- facilitate the exchange, flow and co-creation of knowledge.

The main attention is turned to projects that contribute to the modernisation of Europe's higher education systems as outlined in the 2017 EU Communication on the Renewed EU Agenda for Higher Education, namely:

- tackling future skills mismatches and promoting excellence in skills development;
- building inclusive and connected higher education systems;
- ensuring higher education institutions contribute to innovation;
- supporting effective and efficient higher education systems.

Knowledge Alliances are transnational, structured and result-driven projects, notably between higher education and business. Knowledge Alliances are open to any discipline, sector and to cross-sectoral cooperation. The partners share common goals and work together towards mutually beneficial results and outcomes. The results and expected outcomes are clearly defined, realistic and address the issues identified in the needs analysis. Knowledge Alliances are meant to have a short and long-term impact on the wide range of stakeholders involved, at individual, organisational and systemic level.

As a general rule, Knowledge Alliances target the cooperation between organisations established in Programme Countries. However, organisations from Partner Countries can be involved in a Knowledge Alliance, as partners (not as applicants), if their participation brings an essential added value to the project.

The key features of Knowledge Alliances are:

- Innovation in higher education and innovation through higher education in enterprises and their socio-economic environment: innovation is considered as state-of-the-art project-specific and related to the partnerships context and analysed needs.

- Sustainability of university-business cooperation. A strong and committed partnership with a balanced participation from enterprises and higher education institutions are pivotal for the success of Knowledge Alliances. The role and contribution of each participating organisation and associate partner have to be specific and complementary.

- Impact going beyond the project's lifetime and beyond the organisations involved in the Alliance. It is expected that partnership and activities persist. For that, results/deliverables might not be stand-alone but be linked to/integrated into existing undertakings, schemes, projects, platforms, ventures etc. Changes in higher education institutions and enterprises have to be measurable. Results and solutions have to be transferable and accessible to a broader audience.

Knowledge Alliances are a highly competitive part of Erasmus+. Common attributes of successful proposals are:

- reliable relations between higher education institutions and enterprises: Knowledge Alliances have to demonstrate the commitment and added value of all partners, whereby strong and balanced involvement from both the business and higher education sectors is essential. A well designed proposal is the result of close cooperation between the prospective partners and based on a solid needs analysis;

- their innovative and transnational character, visible across all criteria.

A proper needs-analysis clarifies the rationale, influences the selection of partners, makes the proposal specific, helps to raise the potential for impact and ensures that end-user and target groups are well involved in the project activities.

2. Supported activities

Knowledge Alliances implement a coherent and comprehensive set of interconnected activities which are flexible and adaptable to different current and future contexts and developments across Europe. The following list provides examples of activities:

- Boosting innovation in higher education, business and in the broader socio-economic environment:

    o jointly developing and implementing new learning and teaching methods (like new multidisciplinary curricula, learner-centred and real problem-based teaching and learning);

    o organising continuing educational programmes and activities with and within companies;

    o jointly developing solutions for challenging issues, product and process innovation (students, professors and practitioners together).

- Developing entrepreneurial mind-set and skills:

    o creating schemes of transversal skills learning and application throughout higher education programmes developed in cooperation with enterprises aiming at strengthening employability, creativity and new professional paths;

    o introducing entrepreneurship education in any discipline to provide students, researchers, staff and educators with the knowledge, skills and motivation to engage in entrepreneurial activities in a variety of settings;

    o opening up new learning opportunities through the practical application of entrepreneurial skills, which can involve and/or lead to the commercialisation of new services, products and prototypes, to the creation of start-ups and spin-offs.

- Stimulating the flow and exchange of knowledge between higher education and enterprises:

    o study field related activities in enterprises which are fully embedded in the curriculum, recognised and credited;

    o set-ups to trial and test innovative measures;

    o exchanges of students, researchers, teaching staff and company staff for a limited period;

    o involvement of company staff into teaching and research.

Knowledge Alliances may organise learning mobility activities of students, researchers and staff in so far as they support/complement the main activities of the Alliance and bring added value in the realisation of the project's objectives

Knowledge Alliances - Number of projects 2014-2020: 158

Number of partners (in data base): 1,678

Table 6. Knowledge Alliances: General statistics by member state EU-28 2014-2020

	Projects	HEIs in ETER 2016	Students in thousands 2018 (Eurostat)	Projects per thousand students	Projects per institution
AT	33	69	430.20	7.67	0.48
BE	52	63	515.50	10.09	0.83
BG	14	52	236.30	5.92	0.27
HR	16	37	164.80	9.71	0.43
CY	22	26	47.20	46.61	0.85
CZ	11	67	329.00	3.34	0.16
DK	20	33	310.90	6.43	0.61
EE	8	22	45.80	17.47	0.36
FI	36	41	294.50	12.22	0.88
FR	39	375	2618.70	1.49	0.10
DE	78	393	3127.90	2.49	0.20
EL	46	47	766.90	6.00	0.98
HU	15	53	283.40	5.29	0.28
IE	27	25	231.20	11.68	1.08
IT	88	216	1896.00	4.64	0.41
LV	9	44	81.60	11.03	0.20
LT	14	43	118.30	11.83	0.33
LU	2	2	7.00	28.57	1.00
MT	6	2	15.20	39.47	3.00
NL	54	56	889.50	6.07	0.96
PL	28	274	1492.90	1.88	0.10
SK	6	32	144.40	4.16	0.19
SI	24	52	76.50	31.37	0.46
ES	96	82	2051.80	4.68	1.17
SE	18	37	431.10	4.18	0.49
UK	56	260	2467.10	2.27	0.22

Annex 3. Summary of survey sent to Knowledge Alliances.

Higher Education for Smart Specialisation - Knowledge Alliances

Fields marked with * are mandatory.

Higher Education for Smart Specialisation - Knowledge Alliances: Connection to Local Ecosystems * 1. Name of your organisation (English translation)

* 2. Type of organisation (please select):

- HEIs: Universities and research universities
- HEIs: Specialised higher schools
- HEIs: Business schools
- HEIs: Independent colleges
- Private company (including social enterprises)
- Research institute/centre
- Public administration (local/regional/national) (including agencies)
- Intermediary body representing education, training, etc., like university/students, associations/foundations, etc.
- Intermediary body representing companies, like chambers of industry, sectorial associations, clusters, etc. Other
- organisations active in the field of education and training

3. (Higher education institutions / Other research institutions only). What is the approximate number of professors-researchers of your institution?

4. (Higher education institutions only). What is the approximate number of students of your HEI (undergraduate + graduate)?

* 5. Select the country where your organisation is based:

- AT
- BE
- BU
- HR
- CY
- CZ
- DK
- EE
- FI
- FR
- DE
- EL
- HU
- IE
- IT
- LV
- LT
- LU
- MT
- NL
- PL
- PT
- RO
- SK
- SI
- ES
- SE
- UK (considered a member state for Erasmus+ period 2014-2020)
- Non-EU Region 1: Western Balkans
- Non-EU Region 2: Eastern Partnership
- Non-EU Region 3: South-Mediterranean
- Non-EU Region 4: Russia
- Non-EU Region 5: Andorra, Monaco, San Marino, Vatican CS
- Non-EU Region 6: Asia (except Central Asia)
- Non-EU Region 7: Central Asia (KZ, KG, UZ, TM, TJ)
- Non-EU Region 8: Latin America (except islands, but including Cuba)
- Non-EU Region 9: Iran, Iraq, Yemen
- Non-EU Region 10: South Africa
- Non-EU Region 11: Africa (except South-Mediterranean shore) + Caribbean/Pacific Islands (execpt Cuba) Non-EU Region 12: Gulf Cooperation countries
- Non-EU Region 13: Other industrialised countries (AU, BN, CA, CL, HK, JP, KR, MO, NZ, SG, TW, US, UY) Non-EU Region 14: Norway, Switzerland, and Faroe Islands

6. Name of your region (NUTS2 level) - Organisations in a EU member state only

*7. Name of the project (or projects) - full name and/or acronym - in which you have participated (Knowledge Alliances only). Please include the year when they started and the total length of the project (in months).

*8. To which of the 14 industrial ecosystems identified in the New Industrial Strategy for Europe does your project belong? i.e. What sector does your project address? (You can select more than one, if needed)

- Tourism
- Mobility-Transport-Automotive
- Aerospace & Defence
- Construction
- Agri-food
- Low-carbon energy intensive Industries (including extraction of fossil fuels and manufactoring of products with high environmental impact like chemicals, steel, plastics, etc.)
- Textile
- Creative & Cultural Industries
- Digital
- Renewable Energy
- Electronics
- Retail
- Social Economy
- Health
- Other / No specific sector (please specify below)

9. If the project addresses another sector, please specify. If it does not relate to any specific sector, please specify whether it addresses a specific technological domain, a specific challenge, or any other domain.

* 10. Does your project contribute to or reflect any national or regional strategy/policy, including the smart specialisation strategy (S3)? (Select as many as you need)

- It contributes to/reflects the smart specialisation strategy (S3) - national one only
- It contributes to/reflects the smart specialisation strategy (S3) - regional one only
- It contributes to/reflects the smart specialisation strategy (S3) - both national and regional
- It contributes to/reflects strategies that are aligned with the European Green Deal and/or Fit for 55
- It contributes to/reflects other regional strategies/polices
- It contributes to/reflects other national strategies/policies
- Our project relates to some strategies, but it does not contribute to/reflect them directly Our
- project does not relate to specific strategies, or we do not know about them

11. If your project considers other regional or national strategies/policies, please specify which.

* 12. In the scope of the project, have you been in contact with the body in charge of designing/implementing S3 in your region/country?

- ○ Yes, substantially
- ○ Yes, to an extent
- ○ Yes, but little
- ○ No

* 13. In the scope of the project, what kind of institutions have you been in contact with (excluding your own and other partnership members) in your region/territory/area? (select as many as you need)

- ☐ Higher education institutions (universities, higher schools, business schools, etc.)
- ☐ Private companies (including social enterprises)
- ☐ Research institutes/centres
- ☐ Public administrations (local/regional/national) (including agencies)
- ☐ Intermediary bodies representing education, training, etc., like university/students, associations/foundations, etc.
- ☐ Intermediary bodies representing companies, like chambers of industry, sectorial associations, clusters, etc.
- ☐ Other organisations active in the field of education and training
- ☐ No other organisations
- ☐ Other organisations outside our territory (excluding project partners or associated partners)

14. If you selected the last option in the previous question, please specify which organisations outside your territory.

* 15. Which of the following activities were developed throughout your project's implementation? (select as many as needed)

- ☐ Development and implementation of new learning and teaching methods (like new multidisciplinary curricula, learner-centred and real problem-based teaching and learning)
- ☐ Organisation of continuous educational programmes and activities with and within companies
- ☐ Joint development of solutions for challenging issues, product and process innovation (students, professors and practitioners together)
- ☐ Creation of schemes of transversal skills learning and application throughout higher education programmes developed in cooperation with enterprises aiming at strengthening employability, creativity and new professional paths
- ☐ Introduction of entrepreneurship education in any discipline to provide students, researchers, staff and educators with the knowledge, skills and motivation to engage in entrepreneurial activities in a variety of settings
- ☐ Development of new learning opportunities through the practical application of entrepreneurial skills, which can involve and/or lead to the commercialisation of new services, products and prototypes, to the creation of start-ups and spin-offs
- ☐ Study field related activities in enterprises which are fully embedded in the curriculum, recognised and credited
- ☐ Set-ups to trial and test innovative measures
- ☐ Exchanges of students, researchers, teaching staff and/or company staff for a limited period
- ☐ Involvement of company staff into teaching and research Other
- ☐

16. If you selected 'Other' in the previous question, please specify.

16. To what extent do your project activities impact on the local/regional ecosystem in relation to the following aspects?

	No impact	Small impact	Some impact	Significant impact
* Provision of better skilled workers	○	○	○	○
* Improved employability of students	○	○	○	○
* Improved collaborative teaching methods	○	○	○	○
* Increased challenge-based teaching	○	○	○	○
* The development of new products, processes and services	○	○	○	○
* Improved governance and policy-making in relation to education and innovation	○	○	○	○
* The creation of new innovation-based companies	○	○	○	○
* Enhanced business-academia cooperation	○	○	○	○
* Enhanced quadruple helix collaboration locally/regionally	○	○	○	○
* Addressing skills needs in relation to the transition to sustainable modes of production and consumption	○	○	○	○
* Improved consideration of and responses to environmental challenges	○	○	○	○
* Other (specify below, rate here)	○	○	○	○

17. If you selected 'Other' in the previous question, please specify.

18. In terms of results/impact of your project, to what extent do you agree with the following statements?

	I completely disagree	I tend to disagree	I do not agree nor disagree	I tend to agree	I totally agree

* The project has improved the quality and relevance of higher education in the territories and sectors concerned	○	○	○	○	○
* The project has stimulated the entrepreneurship of partner universities' students and researchers	○	○	○	○	○
* The project has improved my institution's connection to other local stakeholders	○	○	○	○	○
* The project and project partners have engaged more widely with other projects and initiatives across the consortium and its territory	○	○	○	○	○
* The project has resulted in wider engagement of partners with other projects, initiatives and stakeholders locally	○	○	○	○	○
* The project has enabled an increased emphasis on sustainability across the partners and their activities	○	○	○	○	○
* The project has facilitated the development of new skills for workers in declining industries	○	○	○	○	○
* The project has facilitated the exchange of best practices and the flow of information and co-creation of knowledge among the project partners	○	○	○	○	○
* The project has created knowledge and learning that are directly relevant to smart specialisation design and implementation	○	○	○	○	○
* The project's activities and results have been directly (negatively) affected by the Covid-19 public health crisis	○	○	○	○	○
* Project participants are looking to continue transnational collaborative work and apply to future calls under Erasmus+ and/or other initiatives	○	○	○	○	○
* The project has had a strong impact on individual researchers, students, etc as well as on the organisations involved.	○	○	○	○	○
* The project has led to the creation of transferable knowledge that is relevant in a wider context (outside the project itself)	○	○	○	○	○

* The project has enhanced partners' ability to connect the local territories to world class research and education and respond to global megatrends	○	○	○	○	○

16. Did the partnership encounter any significant challenge(s) when implementing the project? Can you tell us about it/them? (optional)

*21. Linked to the project and its members, have you participated (or would like to) in other projects under other EU schemes (ERDF, Horizon Europe, innovation hubs, Life, etc.)? If so, please indicate which instruments were/could be considered and, if possible, specify the topic of the project you are working on or would like to. Please also mention whether this is an active project or a potential one to be built in the future.

*22. In one sentence can you please describe the most significant contribution of your project to its/your territory/ies and its specific socio-economic context?

Annex 4. European Universities Focus group participation

Focus groups (autumn 2022): dates and participants

Date	Member states	Number of participants	Number of institutions represented
6 September	EE, LV, LT, PL	10	8
22 September	CZ, HU, SI, SK, HR, RO	12	11
23 September	BE, IE, LU, NL	18	14
28 September	DK, FI, SE	6	5
7 October	AT, DE	8	8
18 October	FR	9	8
19 October	BG, CY, EL, MT, PT	8	6
21 October	ES	8	7
24 October	IT	10	8

Table 4. Participation in the focus groups

	Number of HEIs invited (all HEIs in Euro. Univ.)	Number of HEIs participating in the FG	% of the total
AT	10	3	30.0%
BE	11	2	18.2%
BG	5	1	20.0%
HR	4	2	50.0%
CY	3	0	0.0%
CZ	4	1	25.0%
DK	7	0	0.0%
EE	3	1	33.3%
FI	11	4	36.4%
FR	33	8	24.2%
DE	39	5	12.8%
EL	7	1	14.3%
HU	11	1	9.1%
IE	10	4	40.0%
IT	26	8	30.8%

LV	4	3	75.0%
LT	5	2	40.0%
LU	1	1	100.0%
MT	1	0	0.0%
NL	15	7	46.7%
PL	13	2	15.4%
PT	12	4	33.3%
RO	12	3	25.0%
SK	3	2	66.7%
SI	2	2	100.0%
ES	27	7	25.9%
SE	11	1	9.1%
Total	266	75	28.2%

Annex 5. European Universities' summary descriptions[58]

ARQUS: The Arqus European University brings together seven longstanding comprehensive research universities who share extensive experience in joint projects in many fields and a common profile as internationalised institutions with deep regional engagement in medium-sized cities. https://arqus-alliance.eu/

4EUPLUS: 4EU+ consists of large, comprehensive, public European research universities that are strongly embedded in their local territories and share European values and a global outlook. https://4euplus.eu/

CHARM-EU: The mission of CHARM-EU is to promote the common European values emphasising the richness and diversity of the European tradition. CHARM-EU will offer a transformative, truly European educational experience to citizens of the world. https://www.charm-eu.eu/

CIVICA: European world-leading institutions in the social sciences unite to create CIVICA – The European University of Social Sciences. https://www.civica.eu/

ECIU: ECIU University is a new pan-European University with an innovative challenge-based approach and a true European inter-university campus. https://www.eciu.org/

EDUC: EDUC (European Digital UniverCity) will strengthen the European identification process by enhancing knowledge creation and by putting forward European skills acquisition through digitally supported cross-campus and cross-disciplinary teaching activities as well as various learning opportunities. https://educalliance.eu/

EPICUR: EPICUR, a European University for the future, is a place where all boundlessly mobile students, doctoral candidates and staff can acquire a broad, interdisciplinary, academic perspective strongly rooted in European traditions, irrespective of their nationality, mother tongue, cultural or socio-economic background. https://epicur.education/

EU4ART: The EU4ART European University, created by four higher education institutions devoted to fine arts, aims to develop common flexible curricula in the field of painting, sculpture and graphic art. https://eu4art.eu/

EU-CONEXUS: The European University for Smart Urban Coastal Sustainability, EU-CONEXUS, has chosen to focus on urban and semi-urban coastlines because these areas are increasingly densely populated and very important for trade, aquaculture and fisheries, energy, tourism and more. https://www.eu-conexus.eu/

EUGLOH: EUGLOH will combine its members' expertise and resources in Global Health to offer the most competitive and attractive education and training to their students in one multicultural, integrated and inclusive campus. https://www.eugloh.eu/

EUTOPIA: EUTOPIA is a challenge-led, student-centred, place-based, inclusive alliance of entrepreneurial, change-focused universities. https://eutopia-university.eu/

FORTHEM: FORTHEM consists of multidisciplinary public research universities that are situated (all but one) outside capital regions. https://www.forthem-alliance.eu/

SEA-EU: The vision of the European University of the Seas (SEA-EU) is to establish a distinctly international, pluri-ethnic, multilingual and interdisciplinary European University. https://sea-eu.org/

UNA Europa: UNA Europa will create a truly European inter- university environment, linking outstanding research to transnational learning and innovative, critical thinking. https://www.una-europa.eu/

UNITE!: UNITE! (University Network for Innovation, Technology and Engineering) will educate a new generation of European students in science, technology and engineering, transcending the traditional engineering educa tion, with an entrepreneurial mindset. https://www.unite-university.eu/

YUFE: The Young Universities for the Future of Europe (YUFE) aims to bring radical change by becoming the leading model of a young, student-centred, non-elitist, open and inclusive European University based on cooperation between higher education institutions, public and private sector, and citizens. https://yufe.eu/

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[58] https://education.ec.europa.eu/european-universities-factsheets
[59] https://education.ec.europa.eu/european-universities-factsheets

ATHENA: ATHENA aims to shape the digital transformation of societies. It will support the development of an equitable, sustainable and safe digital economy. https://athenauni.eu/

AURORA: The Aurora European University aims to equip a diverse student population with the skills and mindset to contribute to addressing societal challenges as social entrepreneurs and innovators. https://aurora-universities.eu/

CIRCLE U.: Circle U. forms an ethically-principled circle of knowledge, connecting education, research and innovation in service to society. https://www.circle-u.eu/

E³UDRE²: E³UDRES² promotes the development of small and medium-sized cities and their rural environments into smart and sustainable regions and shapes a prosperous future with the best possible quality of life for self-determined people in a progressive European society. https://eudres.eu/

EC2U: EC2U is a multi-cultural multi-lingual European Universities Alliance consisting of seven long-standing, education- and research-led, locally and globally engaged universities from all four European regions. https://ec2u.eu/

EELISA: EELISA envisions a future in which society thrives and masters global challenges with smart and sustainable solutions empowered by European engineering. https://eelisa.eu/

ENGAGE.EU: ENGAGE.EU is an alliance of leading European Universities in business, economics, and social sciences with rich experience in analysing societal change. https://engage.eu/

ENHANCE: The European values referred to in the Treaty of the European Union form the basis for all activities within the ENHANCE alliance to create common European education and research: respect for human dignity, freedom, democracy, equality and human rights, the rule of law. https://enhanceuniversity.eu/

ENLIGHT: ENLIGHT aims to undertake a fundamental transformation of European higher education in which all barriers to learning, performing research and cooperation are removed. https://enlight-eu.org/

ERUA: ERUA is built on a common ambition to develop a new kind of cooperation, which not only connects universities within Europe but also reimagines the role of European Universities in a global context. https://erua-eui.eu/

EUNICE: EUNICE is a new, creative European University that aims to bring about a paradigm shift from traditional to customised education through inter-university "blended" mobility. https://eunice-university.eu/

EUniWell: he core mission of the European University for Well-Being – EUniWell – is to understand, improve, measure and rebalance the well-being of individuals, our own community, our environment and society as a whole on a regional, European and global level. https://www.euniwell.eu/

EURECA-PRO: the EURECA-PRO European Universities alliance holistically contributes to the highly topical issues of Sustainable Consumption and Production and on the other hand, it effectively contributes to the transformation of the European Higher Education Area. https://www.eurecapro.eu/

EuroTeQ: The EuroTeQ Engineering University builds on the belief that societal developments of recent years call for strong university alliances to make the Knowledge Square of Education, Research, Innovation and Service to Society a reality and its impact a benefit to Europe and beyond. https://euroteq.eurotech-universities.eu/

Eut+: The mission of the European University of Technology, Eut+, is first and foremost to serve the betterment of society. https://www.univ-tech.eu/

FILMEU: FILMEU brings together four higher education institutions. Together, they collaborate around the common objective of jointly promoting high-level education, innovation and research activities in the multidisciplinary field of film and media arts and consolidate the central role of Europe as a world leader in the creative fields. https://www.filmeu.eu/

INVEST: Lead by the need to strengthen the link between teaching, research, innovation and knowledge transfer, encouraging mobility and enhancing high quality and excellence in education and research, 5 universities have united their efforts based on their previous cooperation to establish the INnoVations of REgional Sustainability. https://www.invest-alliance.eu/

Neurotech EU: Neuroscience shows great promise to become an applied science, to provide brain-centred or brain-inspired solutions that could benefit society and kindle a new economy in Europe. https://theneurotech.eu/

RUN-EU: The Regional University Network – European University will secure the sustainable economic, social, cultural and environmental progress of its regions and stakeholders. https://run-eu.eu/

T4E: The T4E partners have joined forces to transform themselves and their collaboration in order to drive the transformation of Europe. http://www.transform4europe.eu/

Ulysseus: Ulysseus alliance's vision for 2030 is to develop an excellence-recognised and internationally attractive, open to the world, persons-centred and entrepreneurial European University for the citizens of the future. https://ulysseus.eu/

UNIC: Ten years from now, our students, teachers, researchers and administrative staff shall enjoy a truly European learning, teaching and working experience. https://www.unic.eu/

UNITA: The UNITA Alliance intends to build a fully-fledged European inter-university campus based on excellence in teaching and learning, research and innovation, and on civic engagement. https://univ-unita.eu/Sites/

UNIVERSEH: UNIVERSEH aims to be recognised as a comprehensive European Space University for Earth and Humanity. https://universeh.eu/

Annex 6. Good practices from European Universities

NOTE: The following good practices (GPs) have been directly extracted from the publicly available information on each European University's website (November 2021). The text has not been treated; it has only been adapted (in some cases). The selected GPs are those that have been considered as good examples of collaboration with the local innovation ecosystem, linked to the local challenges, and/or other domains analysed in this report.

European Universities – Call 2019

European University	arQus European University Alliance
Title of GPs	• Virtual Company Creation Contest • Co-creating Citizen Science
Description	
• **Virtual Company Creation Contest** An open-source contest to encourage participants already open to entrepreneurship to implement practical tools and knowhow. • **Co-creating Citizen Science** The main objective of the activity "Co-creating Citizen Science" is to give visibility to projects related to values of citizen science and based on cooperation, openness and participation, in which these universities are either leading or taking part. One of the expected results is also to achieve advancements in the position paper that the Arqus Alliance is preparing on this subject. In the first part of the programme, universities will present their institutional initiatives on citizen science. After that, there will be brief presentations on specific projects (4-5 minutes) and thirdly, a **living lab format** will be used for group work on specific subjects of citizen science. The event will close with a sharing session.	
Involved stakeholders	• Students • Open to everyone
Link to GPs info	1. https://www.arqus-alliance.eu/events/company-creation-challenge-2021 2. https://www.arqus-alliance.eu/news/co-creating-citizen-science2021

European University	4eu+ EUROPEAN UNIVERSITY ALLIANCE
Title of GP	Urban Health Case Challenge 2021: Mental Health in Urban Spaces
Description	
The Urban Health Case Challenge is an initiative under the 4EU+ European University Alliance. The aim is to develop the best solution to a real-world issue within a limited time-span. Each team presents their solution in front of an expert jury at a pitching session on the last day of the case challenge. In order to find a solution, there will be a number of online lectures that deal with the general topic and give insights from different perspectives. The focus this year is on how the quality of urban space and social interactions within it can help in the prevention and mitigation of mental health issues on an emotional, psychological and social level and thus to ensure the well-being of the inhabitants and the strengthening of social cohesion. Starting on October 29, we will have four online lectures that provide background knowledge, ranging from psychological perspectives to behavioural economic approaches and urban planning aspects. The participants	

will also receive training in innovative methods and the pitching of results and solutions. The group work of the challenge itself will take place from December 9 to December 12. On December 9, the specific case question will be revealed, and the teams will join to work on their innovative solutions to the aforementioned challenges. Background materials on the specific question, the neighbourhoods and their residents will be the starting point of students' research projects. However, the case question will be wide enough to meet the realities of several cities in Europe. The joint sessions will take place online, the local teams are encouraged to meet and work face to face wherever possible. On December 12, the last day of the competition, the teams will pitch their solutions to an international jury of experts. All teams will receive feedback on their ideas. The winning team may be given the opportunity to put the proposed idea into practice.	
Involved stakeholders	Students, lecturers and experts (from local authorities, for example)
Link to GP info	https://4euplus.eu/4EU-16.html?event=22835&lang=en

European University	CHARM-EU CHallenge-driven Accessible Research-based Mobile European University
Title of GP	Knowledge Creating Teams

Description

CHARM-EU's mission is to work closely with extra-academic actors to identify, propose and create solutions and research agendas to solve complex, global challenges. Extra-academic actors are members of social and traditional enterprise, communities and individuals across all sectors of society. Additionally, transdisciplinarity is the core principle of CHARM-EU and supports the mission and vision of the alliance. Transdisciplinarity is also a CHARM-EU educational principle. We bring multiple disciplines together with students and extra-academic actors to examine challenges, synthesise approaches and mobilise to take action. The unique transdisciplinary nature of CHARM-EU is implemented through Knowledge Creating Teams (KCTs).

KCTs are collaborative groups of academics, researchers and extra-academic actors (e.g. traditional and social enterprise) formed around a common expertise/interest related to a sustainability theme. KCTs have two levels of membership: Core and Expanded Network.

1. KCT Core: research, develop and teach challenge-based content in the pilot master's programme.
2. KCT Expanded Network: join and build trans-institutional research communities and communities of CHARM-EU stakeholders connected to thematic challenge areas.

Both the KCT Core and Expanded Networks also function as pan-European research networks.

KCT members can be described as knowledge brokers who facilitate a diverse group of academic and extra-academic actors to negotiate a transdisciplinary approach to educating students to analyse and propose solutions to complex societal challenges.

KCT Core and Expanded Members are experts within a specific field but also T-shaped generalists[1] who have the demonstrated or acquired through professional development the competence to negotiate and integrate multiple disciplinary and extra-academic perspectives into research and educational experiences and curriculum content. They possess the following skills, knowledge and competencies acquired through professional experience and/or through CHARM-EU's Professional Development programme of activities:

1. A solid understanding of CHARM-EU Educational Principles in particular transdisciplinarity and challenge-based learning.
2. Expertise in innovative delivery for example hybrid learning and intercultural classroom dynamics, mentoring, facilitation etc.

3. Competency in facilitation, teamwork, negotiation, open communication and intercultural awareness.
4. Experience with community-engaged research and teaching.
5. Familiarity with implementation science and strategies for maximising research impact.

As part of its activities, CHARM-EU is offering students the opportunity to enroll on a master's programme in Global Challenges for Sustainability, in the multiple campuses of CHARM-EU alliance universities across Europe from September 2021. KCTs have essential tasks in the development of the master's programme.

Involved stakeholders	Students, researchers and extra-academic stakeholders.
Link to GP info	https://www.charm-eu.eu/knowledge-creating-teams

European University	CIVICA THE EUROPEAN UNIVERSITY OF SOCIAL SCIENCES
Title of GP	Civic Engagement

Description

Our alliance strives to become an agent of change in European society, defending and promoting European democratic values, and becoming fully networked in the local communities.

We are building an innovative university model that branches out to high schools, minorities, policymakers, businesses, the civil society, the wider public, and other entities outside academia. Civic engagement is at the core of this ambition.

Our civic engagement activities unfold along three main directions:

1. **CIVICA Public Lecture Series Tours d'Europe**

Hosted in turn by each CIVICA university, the CIVICA Public Lectures Tours d'Europe are designed to reaffirm CIVICA's role as 'a university for all'.

Researchers and experts from CIVICA member universities share their findings and interrogations on contemporary issues with a non-expert audience. The series aims to strengthen citizens' knowledge base.

Each event in the CIVICA Public Lecture Series is tailored to the local community and strives to create a bridge between academic and the wider public.

Recordings with English subtitles of the events will be available digitally for a global audience.

2. **Access to higher education**

Students, faculty and staff on CIVICA campuses are collaborating with local high schools, offering activities focused on first generation students and other high school students (e.g. from disadvantaged backgrounds) to promote access to higher education. The aim is to give high school students a taste of the university experience and to promote social diversity, so they can gain a better understanding of what higher education has to offer.

3. **Action for marginalised groups**

In the effort to promote societal cohesion across Europe, CIVICA runs various initiatives aimed at marginalised groups and other minorities. Building on the experiences of our member universities, these activities aim to improve the situation of the minorities, by highlight the role universities can play in their lives, fostering engagement with academia, and offering various opportunities.

Involved stakeholders	Researchers, experts, non-expert population and other society agents.
Link to GP info	https://www.civica.eu/areas-of-work/civic-engagement/

European University	
Title of GP	• CIVIS Open Labs • CIVIS hubs
Description	

- **CIVIS Open Labs**

Our Open Labs connect CIVIS with local communities in all the cities and regions of our member universities.

Through these Open Labs and their projects, we support the development of universities that are participatory, inclusive, and open. By building a community of universities and citizens, we ensure that CIVIS has real impact for people outside the university at local, regional and international levels.

9 universities, 9 cities, a myriad of opportunities

Conceived as open and collaborative spaces, CIVIS Open Labs create a forum where universities and local citizens can meet. Together they develop solutions to the challenges facing their city and region. Through innovative thinking and the co-creation of projects, participants can launch creative and inclusive initiatives which have a positive impact on the wider community.

We work together with our local stakeholders, encouraging initiatives which:

Address societal challenges, connected to the Sustainable Development Goals and aligned with the CIVIS challenge-driven approach

4. Foster citizen involvement and participation to help find solutions to local problems
5. Promote civic values such as inclusivity, solidarity, and equality
6. Promote service-learning through initiatives that connect academic content with hands-on experience

- **CIVIS hubs**

CIVIS hubs are cross and interdisciplinary thematic research and education areas which will structure our European University. Our goal is to create innovative study and research programmes focus on global societal challenges. We will pool the expertise, infrastructures, resources and innovative pedagogies of our universities to build new kind of study programmes at BA, MA and Ph.D. level.

Each joint educational pathways will involve three or more CIVIS member universities and include physical, virtual and blended mobility. Developing challenge-driven study programmes around the UN sustainable development goals will provide our students with new skills and knowledge, and support their entrepreneurial mind-set to better tackle society's biggest challenges locally and globally.

Through the collaboration of our research teams, associated partners, shared infrastructure and digital platforms, our hubs will underpin high-level multidisciplinary and multinational joint research and innovation opportunities.

Involved stakeholders	Students, researchers, society stakeholders.
Link to GP info	- https://civis.eu/en/activities/civis-openlab - https://civis.eu/en/activities/civis-hubs

European University	ECIU
Title of GP	ECIU University Challenges

Description
This website is created as the ECIU University Challenge Platform. It frames real life challenges into practical form for learners to work on and to come up with practical solutions for the challenge. The Challenge Platform provides the overview of the ECIU University challenges and micro-modules, allows visitors to explore the challenges and register to them, also introduces the community of challenge facilitators that will help learners through the challenge-solving process. This platform aims to support the above objective by 1. giving an overview of challenges. Upcoming challenges and open challenges for contributions as well as archived challenges to inspire visitors to join our community. 2. offer options to register for visitors and learners 3. offer options to indicate your favourite challenges 4. offer an option to apply for a position in a team for a specific challenge 5. help companies, governments and other societal actors to contact an ECIU university via a regional challenge coordinator and learn more about possibilities to introduce a challenge The idea is that a challenge is proposed by universities or by professionals, business, associations or other stakeholders from society and this challenge can be addressed from different approaches. In all cases experts on the topic work on the challenge. Sometimes the challenge get the form of a course open to everyone or only to students from member studies, sometimes the challenge is treated in workshop including team work or labs... In the link you can find many challenges already addressed and some others that are upcoming. IT IS A VERY ADVANCED PLATTFORM.

Involved stakeholders	Students, business, professional, experts.
Link to GP info	https://challenges.eciu.org/challenges/

European University	European Digital UniverCity
Title of GP	EDUC-SHARE project

Description
In February 2021, the research and innovation part of EDUC funded by the Horizon 2020 EU program was launched. The initiative - EDUC-SHARE project - comes in line and in continuation with the Erasmus+ EDUC pilot with the ambition to turn the EDUC alliance into a fully integrated university which meets all its missions (education, research and innovation at the European scale), that will give full importance to European citizens' participation to identify and solve current and future challenges, while promoting EU values and fundamental rights.

Involved stakeholders	Partners and associates
Link to GP info	https://educalliance.eu/new/networking-in-research-and-innovation-process-by-h2020-program/

European University	EPICUR EUROPEAN UNIVERSITY
Title of GP	GROW; entrepreneurial labs
Description	
Thanks to a new partnership with GROW, all EPICUR students are cordially invited to participate in the contest for an opportunity to express their ideas, connect with other creative minds, and maybe even win a cash prize. Successful participants will be invited to attend a live event in Karlsruhe (8.12.21 – 18.12.21) to further work on their ideas. In addition, successful participants of the EPICUR Entrepreneurial Lab will also be able to attend this event. We were able to secure funding for travel and accommodation costs for all EPICUR participants and we are hoping that this will enable students from across the alliance to visit Karlsruhe and experience our exciting start-up spirit. As a practice-oriented entrepreneurship course, the EPICUR Entrepreneurial Lab gives you the environment, support and competencies you need to develop innovative products for society and the environment. Entrepreneurship is defined as one of the key competences for European citizens. Therefore, the EPICUR Entrepreneurial Lab aims to provide an effective and state-of-the-art entrepreneurship education by connecting entrepreneurial students and stakeholders from eight EPICUR partner universities. It is based on the cooperation of the EPICUR ecosystems including lecturers and trainers, innovation-oriented companies as well as start-ups and investors. EPICUR Entrepreneurial Lab provides an action-based learning approach creating a favourable environment for innovative projects so that you can follow your visions and realize your ambitions! In addition to interactive online courses, EPICUR Entrepreneurial Lab provides students support and mentorship by start-ups from the EPICUR regions. The Lab is open to Master students from all faculties, who are currently enrolled at an EPICUR university and have an English language proficiency of B2 (CEFR) minimum. To find more detailed information about the Entrepreneurial Lab, please read the course catalogue and the FAQs provided on this platform.	
Involved stakeholders	Students, researchers, entrepreneurships.
Link to GP info	Grow: https://epicur.education/grow-exciting-opportunity-for-epicur-entrepreneurs/ Entrepreneurial labs: https://learn.epicur.education/goto.php?target=cat_569

European University	EU4ART ALLIANCE FOR COMMON FINE ARTS CURRICULUM
Title of GP	Galleries

Description	
Knowledge sharing, artistic research and art exhibitions is an integral part of our fine art teaching and regarded as a learning lab and extension of the ateliers for the EU4ART Alliance network students and faculty. Galleries refer to several workshops, symposiums or meetings where knowledge or piece of arts are shared by students, experts, artists and society.	
Involved stakeholders	Students, experts, artists and society.
Link to GP info	https://eu4art.eu/galleries/

European University	EU CONEXUS European University for Smart Urban Coastal Sustainability
Title of GP	Smart Urban Coastal Sustainability Days
Description	
La Rochelle Université, in partnership with its Foundation and EU-CONEXUS, organised the third edition of Smart Urban Coastal Sustainability Days. "The aim of the Smart Urban Coastal Sustainability Days is to share and synchronise the respective analyses and knowledge of scientists, public decision-makers, partners from the socio-economic world and citizens on the major challenge facing our planet in terms of integrated coastal zone management "explained Jean-Marc Ogier, President of EU-CONEXUS and La Rochelle Université. Around 150 people from nine European countries attended the event. Representatives of several ports were present to this event or participated online. Representatives of cities and urban communities also participated to this event. Laboratories visits have been organised to show how La Rochelle Université contributes to provide knowledge and research on the Smart Urban Coastal Sustainability with the presentation of the CEREGE (Management sciences, economics and law), LIENSs (interdisciplinary laboratory on Environmental Sciences, Health, Humanities and Social Sciences) and LaSIE (Engineer Sciences for Environment). A visit of the three ports of La Rochelle has also been held to present this ecosystem. For two days, cities, ports, companies and universities representatives exchanged over roundtables on smart urban coastal sustainability topics. The aim was to showcase innovative projects and find synergies around four topics: Connected, Efficient & Responsible Ports; Sustainable Tourism; Resilient Strategies for urban coastlines and Smart Solutions and Coastal Cities. A whole afternoon was also dedicated to innovation with several activities: An Escape game on innovation, an Innovation showroom, speed meetings and a Keynote on the successful collaboration between La Rochelle Université and Valbiotis, a biotechnology research and development company in the area of prevention of metabolic and cardiovascular diseases. A conference called "Coastline: what will change?" was also held to raise awareness of the general public on such topic with Isabelle Autissier, the first woman to circumnavigate the earth during a world sailing competition and Honorary President of WWF France and Eric Chaumillon, Professor of Marine and Coastal Geology at La Rochelle Université. Around 200 persons attended this conference.	

This event was also the opportunity to gather EU-CONEXUS boards. The Governing Board members of the 9 partners and associated partners worked on the future strategy and roll-out of the alliance. Members of the External Advisory Board also met to work on the sustainability strategy of the European University and gave valuable feedbacks for further implementation.	
Involved stakeholders	Partners, associates, representatives from city and coastal associations.
Link to GP info	https://www.eu-conexus.eu/en/2021/11/24/the-smart-urban-coastal-sustainability-days-in-la-rochelle/

European University	EUGLOH European University Alliance for Global Health
Title of GP	EUGLOHRIA
Description	

Addressing Global Health challenges, such as the current pandemic, requires coordinated efforts based on robust collaboration and grounded common purposes. Following this premise, the European University Alliance for Global Health (EUGLOH) has already set a prosperous precedent in establishing a network focused on education and training in Global Health at European level. The Alliance has also provided fertile ground for the formulation of further joint endeavours in the broad spectrum of Global Health topics and issues, ground from which EUGLOHRIA has emerged.

Financed by the European Commission for the next three years under the "Science with and for Society" call within the Horizon 2020 Program, EUGLOHRIA will consolidate the Alliance's efforts and achievements towards establishing a European University around Global Health by broadening its scope to include the "Research and Innovation" dimension. Building upon EUGLOH's accomplishments in education and training on Global Health, EUGLOHRIA will broadly expand EUGLOH's reach, incorporating cutting-edge research and situating the Alliance as a strategic partner within highly dynamic innovation ecosystems.

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To secure the realisation of EUGLOHRIA's objectives, the coordinated actions within the Alliance will revolve around following transformational modules:

6. Joint Research & Innovation Agenda: Developing a common research and innovation agenda in Global Health, focusing on global health crises.

7. Sharing Infrastructures & Resources:Developing a joint action plan to share research infrastructures and resources related to Global Health.
8. Promoting Academia-Business Cooperation: Developing and deploying joint strategies to reinforce the societal and economic impact of Global Health by promoting academia-business cooperation.

Based on the unique expertise, robust cooperation and common perspectives that characterize the Alliance, the efforts within EUGLOHRIA will focus on:

1. Establishing an action plan in research on pandemics as a tangible example of a Global Health challenge by joining the partner's cross-disciplinary expertise in tackling the current COVID-19 pandemic.
2. Setting in motion a joint action plan for creating a Network of Excellence Core Facilities (EFC) aiming at exploiting the Alliance's potential in Research and Innovation.
3. Generating the conditions for adequate assimilation of the Alliance's contributions to Global Health by fostering academia-business co-operations within the particular innovation ecosystems.
4. Envisioning the establishment of the "EUGLOH Observatory of Global Health" as a knowledge exchange and innovation hub in Global Health to sustain the joint efforts and accelerate the translation of research into innovations.
5. Guaranteeing proper communication and dissemination efforts and actively engaging actors across different sectors of society.
6. Ensuring the sustainability of the institutional transformation agenda.

Involved stakeholders	Academics, students, business.
Link to GP info	https://www.eugloh.eu/research/euglohria https://www.eugloh.eu/news/eugloh-news/euglohria-inventories

European University	EUTOPIA European University
Title of GP	EUTOPIA TeamWork

Description

It is a new cross-campus, challenge-based, problem-solving programme for students.

TeamWork is a part-time, virtual international programme taking place during summer 2022. It aims to bring together multi-disciplinary teams of students from EUTOPIA universities to collaborate and work together online, on an organisation's project or challenge. TeamWork provides students with valuable international and intercultural experience and skills to enhance their employability, whatever their chosen career path.

Benefits as student:

1. It improves your employability skills;
2. It provides valuable international experience;
3. It enhances your CV and expands your professional network;
4. It improves your self-confidence and intercultural understanding;
5. It develops your transferable skills such as communication, working effectively with others and problem solving;
6. It can be life changing by helping you find out more about yourself and explore your career options;
7. It can help you gain a global network of friends and potential employers.

Benefits as organisation:

It is a unique opportunity for you and your organisation to benefit from having a team of students apply their perspectives, global outlook and academic abilities to your specific project or challenge. TeamWork is also an ideal branding opportunity for your organisation. Plus, you have an opportunity to spot prospective graduate talent for recruitment. - Global, multi-disciplinary perspectives applied to your project - Giving back to the next generation - Branding and potential recruitment pipeline	
Involved stakeholders	Organisations, students
Link to GP info	https://eutopia-university.eu/english-version/opportunities/students/eutopia-teamwork-a-new-cross-campus-challenge-based-problem-solving-programme-for-students

European University	forthem. Fostering Outreach within European Regions, Transnational Higher Education and Mobility
Title of GP	FORTHEM labs for research, education and innovation
Description	
We have set up seven expert teams, Labs for education, research and innovation on topics which reflect our areas of special expertise and are of crucial societal relevance: - Diversity and Migration, coordinated by the University of Palermo; - Multilingualism in School and Higher Education, coordinated by the University of Jyväskylä; - Food Science, coordinated by the University of Burgundy; - Digital Transformation, coordinated by the University of València; - Climate and Resources, coordinated by the Johannes Gutenberg University Mainz; - Experiencing Europe, coordinated by the University of Opole; - Resilience, Life Quality and Demographic Change, coordinated by the University of Latvia. - Each Lab consists of representatives from at least three countries, involving university staff and students and public and/or private sector representatives. They are designed to provide the necessary framework for diverse, collaborative, flexible, experimental and dynamic learning environments with the aim to encourage our students to become designers of innovative processes and develop future skills, such as analytical thinking, creativity and communication. They will serve as new and innovative interfaces between education, research and innovation. They will provide new tools for transferring research-based knowledge to society and transmitting the input, knowledge and ideas from society to universities. The outputs of the Labs will include new online teaching material for FORTHEM Digital Academy, new intensive courses, joint scientific publications and final reports of civic engagement projects. On the long run, the FORTHEM Alliance is working towards the establishment of collective PhD groups and joint degree programmes related to the seven topics. The FORTHEM Campus will be closely linked with the activities of all FORTHEM Labs.	
Involved	Countries, university staff and students and public and/or private sector

stakeholders	representatives.
Link to GP info	https://www.forthem-alliance.eu/objectives/labs/

European University	
Title of GP	SEA-EU Observatories
Description	

Within the multitude of tasks and initiatives that the SEA-EU alliance is carrying out, the Observatories have been chosen as key actions for the transformation of Higher Education in Europe.

- **Observatory of migration and human rights**

  The SEA-EU Observatory for Migration of Human Rights is a multidisciplinary and international team addressing the current challenges of EU governance and policy on migration matters and the changes in the protection of migrants' rights.

  The reception of migrants is a European reality on which SEA-EU has the ambition to develop a determined action. The maritime and port nature of all the partner institutions of SEA-EU, integrated into trade networks, has placed them at the heart of the migration issue since time immemorial. SEA-EU therefore believes that it has a real legitimacy to address this issue among its priorities. Therefore, in line with the project proposal, the SEA-EU Observatory for Migration and Human Rights has been launched, gathering a multidisciplinary team of experts on migration.

- **Observatory for Sustainable Blue Growth**

  University of the SEAS has started initial activities to establish the Observatory for Sustainable Blue Economy.

Involved stakeholders	Students, experts, researchers.
Link to GP info	- https://sea-eu.org/observatory-of-migration-and-human-rights/ - https://sea-eu.org/observatory-for-blue-growth/

European University	
Title of GP	Future UniLab
Description	

The Future UniLab serves as the think tank of Una Europa. Designed as a 'living laboratory', it aims to:

- Provide a forum for discussion on the future role of universities in society
- Develop ground-breaking tools and models for cooperation in European Higher Education
- Assess and future proof Una Europa's activities.

In order to achieve these ambitions, the Future UniLab will develop a new method for discussing the obstacles and opportunities European universities face when they join forces to "Europeanise" their activities. In the longer term, the Future UniLab is expected to become a permanent institution that brings together top-level experts and serves as a reference point in the European Higher Education and Research Area.

he Future UniLab will develop a new method for discussion and problem-solving for European Universities that is also transferable and scalable for use in various contexts and institutional settings. The essential component of the methodology is to distinguish between two kinds of teams, the visionaries and the implementers.

The teams of visionaries will be appointed to work on particular issues. They will consist of experts coming from within and outside of the Una Europa universities and, depending on the topic at hand, will consist of researchers, lecturers, students, administrative staff, entrepreneurs, representatives of NGOs, representatives of local and national governments, as well as EU policy experts. The teams of visionaries will be given the freedom to dream and think truly out of the box.

The teams of implementers, like the teams of visionaries, will be appointed to work on particular issues. They will consist mainly of professionals from the Una Europa partners and will be tasked with the crucial "reality check" for the dream scenarios.

The interaction of these two central players is orchestrated by the UniLab's core team. This team is a permanent structure, consisting of representatives from all Una Europa partners. The core team coordinates the Future UniLab activities and acts as the main interlocutor for policy makers. It will play a central role in differentiating "fundamental questions" and "short-term problems" and defining the appropriate discussion forum, within the UniLab and beyond. Some discussion formats, such as Brussels policy workshops, will be public.

In June 2021, Future UniLab released its first position paper outlining a vision for the European University of the Future. The pillars of the European university of the future will be core values, a commitment to sustainability and a creative bringing-together of richly-symbolic university campuses with new, dynamic spaces opened up by digital technology.

To act in accordance with these pillars and shape the vision of a broad, innovative future for universities, Future UniLab calls for all actions to be BIO: bold, integrated and open. The paper also outlines methods for universities and policy makers to enable and promote BIO actions.

Involved stakeholders	Students, researchers, experts
Link to GP info	https://www.una-europa.eu/initiatives/future-unilab-1

European University	unite! University Network for Innovation, Technology and Engineering

Title of GP	We Unite! Startups
Description	
Partner universities are organising We Unite! Start-ups, a series of sessions, in virtual format, with leading speakers from various sectors of international industry, who will show us what it takes to internationalise start-ups in various European countries such as Portugal, Sweden, Finland and Spain. Unite! in collaboration with Tech Labs of the, Aalto Startup Center, Universitat Politècnica de Catalunya and KTH, brings you a series of events dedicated to the European start-up community. With the aim to bring together startups from Europe, to network and learn from each other but also to analyse their specific trends and cross-industry issues in the context of internationalization. These events will allow start-ups to discover new ways to access mentoring and expertise that can support internationalization processes, while at the same time gaining a better understanding and access to the Unite! ecosystem market and funding opportunities. This initiative will last until the end of the year 2021. Once a month, a specific theme will be presented through an interesting keynote speaker, who will guide you in strategic thinking and cross-industry methodologies as well as trends regarding the 4 specific themes: 1. Agriculture, Food, Forestry and Sea; 2. Health & Wellness; 3. Urban Mobility and Sustainability; 4. Emerging Technologies. Each thematic event will be hosted by different Unite! partners. The next event is titled “Health & Wellness” here you can find a brief overview: Are you a startup in the EU and operating within the industries of health and wellness? Or maybe you are a curious researcher or student? Learn more about these two important areas. Meet with experts, learn from startups that have come further and gain insight to trends. You will also have a chance to network with other startups and experts. This event is part of the initiative “We Unite! Startups” We are a University Network for Innovation, Technology and Engineering and in collaboration with Tech Labs, Aalto Startup Center, Universitat Politecnica de Catalunya and KTH we aim to bring together startups from Europe , and not only, to network and learn from each other. Until the end of the year and once a month a specific thematic will be presented through an interesting keyno Agenda: 1. Introduction 2. Motivational Speaker - Startup (founder to founder) - Luís Patrão (UpHill) 3. Key-note Speaker - Health & Wellness Trends - Joana Feijó (Health Cluster Portugal) 4. Round tables with experts 5. New funding opportunities Public vs Private 6. Conclusion	
Involved stakeholders	Students, researchers, experts, start-ups
Link to GP info	https://www.unite-university.eu/whatsnew/join-us-in-the-kick-off-event-we-unite-startups-on-september-22

European University	Young Universities for the Future of Europe
Title of GP	- YUFE Community Volunteering Programme - YUFE @Home Initiative - YUFE Civic Star
Description	
- **YUFE Community Volunteering Programme** allows university students to contribute to different volunteering initiatives within the YUFE cities and surrounding regions. Volunteers can work for local NGOs and other partners in organizing activities for refugees and immigrants, helping children with homework, keeping company to lonely, struggling teenagers, teaching a language etc. - With Europe slowly opening up with the lifting of restrictions, the **YUFE @Home Initiative** will become an essential element of the inclusive European University model, facilitating the integration of YUFE individuals of all levels in the YUFE communities of our cities. For example, in Kuopio, Finland, students are invited to visit and spend time with the neighbouring elderly, organizing activities. In Nicosia, Cyprus, students who reside in student accommodation can become energy saving agents and be recognized for that. - By attending any YUFE Civic Engagement Activity, the student can earn a **YUFE Civic Star** as part of the innovative YUFE Star System that rewards learners for taking up extra-curricular YUFE activities and for reflecting on their learning goals. At this moment the YUFE Star System is open to students only, but other learner groups may be added in the future.	
Involved stakeholders	Students, citizens
Link to GP info	https://yufe.eu/yufe/%e2%80%aflocal-communities-and-universities-now-closer-than-ever-before/ https://yufe.eu/citizens-and-cities

European Universities – Call 2020

European University	ATHENA European University
Title of GP	The ATHENA collaboration plan with the industry
Description	
The ATHENA project partnership established a plan to engage in long term collaboration with the industry, aiming at addressing 6 challenges: 1. Youth unemployment, especially in the south of Europe; the partnership works to define specific professional degrees in undergraduate and postgraduate level to tailor the market needs. 2. Overcoming legislative, economic and personal barriers so to link the results of research and the development conducted within the HEIs with the Industrial needs. 3. Low competition of European industry compared to rivals, like Asian firms. 4. Fast advances in technology and science, to which HEIs must adapt. 5. The need to attract funding, often coming from the private sector.	

6. Use innovations to make the EU economy more competitive.

Actions taken by the ATHENA project:

7. Collaboration in Research e.g. (a) submission of joint research projects; (b) launching of specific goal-oriented research contracts awarded by the industry to the HE; (c) launching of industrial grants for HEI; (d) the provision of industry facilities for general research activity; and (e) the submission of joint publications.
8. Establishment of joint research & educational laboratories within the ATHENA consortium where the equipment will be shared for research purposes but also for students' training under the supervision of Industrial or Academic staff.
9. Collaboration in Educational – Training Programs; (a) development of professional degrees in undergraduate, postgraduate and PhD level tailoring the Academia and Industrial needs; (b) development of joint projects (from mini projects to long term internships) within the Industry or Academic laboratories in order the students to come in contact with their future employees
10. Organization of Job Fairs every year in the ATHENA Consortium facilities where the Associated Industry will advertise the skills they are looking for but also the existed vacancies.
11. University staff (teachers and researchers) acting as experts and helping the industry to solve specific problems.
12. Industrial experts (e.g. engineers, executives) acting as (a) part-time university lecturers; (b) members of the various examination committees; (c) members in the accreditation bodies (and especially to this one evaluating the competences of ATHENA consortium graduate students) of the collaborating Faculties and Universities and (c) members on the governance boards of the Faculties or even more in these ones of the Universities.
13. The purchase of 2nd hand scientific equipment at lower prices or even through donation by industry to HEIs for educational and research purposes.
14. Participation in joint exhibitions, conferences and fairs.

Involved stakeholders	Project partners + industry/businesses
Link to GP info	http://www.athenaeuropeanuniversity.eu/the-athena-research-principles-2/

European University	Circle U. European University Alliance
Title of GP	Knowledge Hubs

Description

Knowledge Hubs are physical and virtual spaces where students and staff work together with external stakeholders to solve societal challenges. During the pilot phase, they will work across disciplines on issues regarding Climate, Democracy and Global Health.

Students will solve societal problems in student teams, and benefit from knowledge from other sectors, disciplines and national contexts. The Knowledge Hubs will also form the basis on which courses, summer schools and degree programmes will be developed.

We will support bottom-up joint initiatives embedding learning co-creation, virtual mobility and exchanges across all our universities and in cooperation with our associated partners. To stimulate engagement, we will set up seed fund mechanisms for academic or student led initiatives to co-create joint and innovative learning activities.

As our cooperation deepens, we will support bottom up initiatives to create new Knowledge Hubs that engage even greater areas of university life over time.

Involved stakeholders	Partners + associated partners
Link to GP info	https://www.circle-u.eu/initiatives/knowledge-hubs/

European University	E³UDRES²
Title of GP	Living Labs
Description	
The alliance is exemplary as an engaged and entrepreneurial European university that responds to the social, environmental, and economic challenges of the 21st century and is committed to sustainable development goals. It acts as a living laboratory for the society of the future in progressive European regions and connects research, innovation, education and service to the community. From 7 to 15 June 2021, the first online meetings of the E³UDRES² Living Labs took place - virtually, of course. The event featured meetings and presentations that were open to all interested people from the E³UDRES² partner universities. The offered talks marked a great opportunity for everyone interested to learn more about E³UDRES², as well as to hear how anyone can actively contribute to the project and thus help develop a smart and sustainable region themselves. During Workshops on the topics of Circular City and Sustainable Mobility, participants were asked to bring along pictures of good practices and challenges for the respective theme. Another main part of the E³UDRES² Living Labs were internal meetings especially for researchers contributing to E³UDRES². The researchers involved in E³UDRES² will work closely with stakeholders, citizens and students on the joint development of R&D projects. The first E³UDRES² I Living Lab kicked off on 08 November 2021. In this innovative design thinking lab, students from all the E³UDRES² universities will try to come up with solutions for socially relevant topics by dealing with challenges like "AI and Robots in Wellbeing for Disabled People" or "Raising Awareness and Strengthening Students' Mental Health in Higher Education". The I Living Labs will close with final presentations on 17 December 2021. In participating in the event, students will collaborate internationally, get input by external stakeholders and be awarded 6 ECTS for participating.	
Involved stakeholders	Researcher + students + external stakeholders

European University	EC²U European Campus of City-Universities
Title of GP	Think Tanks
Description	
A unique partnership between academia, cities and socio-economic stakeholders via the EC2U Forum, every six months, promoting European engagement via EC2U Think Tanks composed of students, researchers and citizens.	

Every six months, the Alliance organises the EC2U Forum to gather students, staff, citizens, local and regional authorities to foster open dialogue on pressing issues in society and to share good practices. The Forum in Turku will be free of charge, open to all, and will be organised virtually due to the COVID-19 situation.

They also run surveys to gather information and define future action lines.

Involved stakeholders	Students, researchers and citizens
Link to GP info	1st forum: https://ec2u.eu/ec2u-first-forum/?_sf_s=forum 2nd forum: https://ec2u.eu/ec2u-forum-19-21-may-2021/?_sf_s=forum 3rd forum: https://ec2u.eu/third-ec2u-forum-27-28-october-2021/?_sf_s=forum

European University	EELISA European University
Title of GP	EELISA innoCORE

Description

On Nov 10th, we submitted a proposal entitled EELISA innoCORE (EELISA INNOvation and COmmon REsearch Strategy) in response to the specific call of the topic "Support for the Research and Innovation Dimension of European Universities" (Horizon 2020 – Science with and for Society program). All the members of the EELISA alliance will participate in this coordinated action. EELISA innoCORE pursues an unprecedented level of cooperation between our institutions initiated with the Erasmus + call. This time the focus is on the Research and Innovation area of our Higher Education Institutions.

In line with the spirit of European policies on Research, Innovation and Education, EELISA innoCORE takes three steps to transform the R & I dimension of the alliance:

1. Make our researchers and innovators know each other. We will take advantage of the spaces for dialogue between academics, citizens and industry that are created within the EELISA communities. Our goal is to allow our researchers and innovators to achieve a systemic transformation of the world through scientific and technological solutions. To support them in this ambitious endeavour, we will provide them with a portfolio of shared scientific infrastructures (the EELISA Multi-Labs) and a new networking platform that will give them access to the common research strategies of the alliance.
2. Foster and support the development of specific joint R & I actions, as well as the creation of new structures (research groups, clusters, joint labs, start-ups, technological parks). Once our researchers and innovators decide to collaborate, we will support them in the creation of transnational structures and fundraising from private and public sources.
3. Optimize the outreach of R & I actions, maximizing their impact and promoting the knowledge exchange.

In parallel to these steps, we will work on a common strategy on Open Science, we will assess the costs and benefits of actions, we will communicate the project and will deploy plans to promote gender equality and diversity (across institutions, countries, regions, disciplines, and people) as well as to foster citizen science. The outcomes of EELISA innoCORE will be available to other HEIs, alliances and policy makers, in order to establish

successful models of collaboration in research and innovation and to contribute to the consolidation and enhancement of the European Research Area. This means a step forward of our alliance that will be possible thanks to the commitment of all the partners.	
Involved stakeholders	Academics, citizens and industry
Link to GP info	https://eelisa.eu/eelisa-innocore-an-innovation-and-research-strategy/

European University	ENGAGE·EU
Title of GP	ENGAGE.EU Labs
Description	
Bridging Research & Innovation and Society, we will set up a series of ENGAGE.EU Labs in which we integrate students, lifelong learners, researchers, innovators, companies, citizens' initiatives and policymakers working together to find knowledge-based solutions for real-life problems. Not yet kicked off.	
Involved stakeholders	Students, lifelong learners, researchers, innovators, companies, citizens

European University	ENHANCE
Title of GPs	**1.** ENHANCE transdisciplinary research collaboration into climate change and urban sustainability – Workshop **2.** Participation of student groups from ENHANCE Alliance in Stage Two Competition.
Description	
- Workshop description: As a starting point to develop transdisciplinary research collaboration the main objectives of ENHANCE relative to the topic are presented. Existing groups working on the ENHANCE pilots for climate change and urban sustainability, as well as their transversal artificial intelligence pilot, are invited to present their background and interests to facilitate the dialogue with the ENHANCE research community onto future joint proposals and academic initiatives. - Competition is not organised by ENHANCE, but their students take part. On Friday, October 29th, the "Stage Two" competition between university start-ups takes place in Berlin. Student start-ups from ENHANCE also take part in the competition. Stage Two gathers early-stage start-ups pre-selected by university-affiliated entrepreneurship centres during university rounds. The best 2 start-ups of each university will pitch live at Stage Two in front of top European investors & industry leaders.	
Involved stakeholders	Students, investors, industry.
Link to GPs info	1. https://enhanceuniversity.eu/enhance-transdisciplinary-research-collaboration-workshop/

	2. Link to Stage Two Competition: https://stagetwo.io/competition/

European University	ENLIGHT
Title of GP	ENLIGHT RISE / Regional Academies
Description	

1. ENLIGHT RISE (Research and Innovation agenda with and for society) seeks to strengthen the research and innovation dimension of the network. In synergy with ENLIGHT's educational components and surrounding ecosystems, it will deploy a comprehensive joint transformation agenda for our universities.

The objective is to become more competitive and innovative together, leveraging and synergizing our respective strengths and capitalizing on our innovation potential as well as the partnerships in our surrounding ecosystems to promote a greener, healthier, more equitable and sustainable Europe.

Bellow you can find some initiatives under ENLIGHT RISE:

ENLIGHT R&I support group: ENLIGHT RISE will develop a common, sustainable Research and Innovation (R&I) action plan to foster joint activities. The support group will support the emergence of synergies (including non-academic) by identifying strategic scientific areas with the highest joint competitive and innovative potential.

To kickstart the implementation of the R&I action plan, they aim to: Establish three pilot focus groups , create incentives such as seed funding mechanisms for launching further joint R&I projects around those challenges, support joint R&I projects in the search for suitable funding schemes as well as in the application process though joining forces of our research support offices at the nine universities

European Innovation District: ENLIGHT RISE will reinforce academia-business cooperation by setting up an ENLIGHT European Innovation District, starting with the development of a map of ENLIGHT industry-academia partnerships related to our flagship challenges.

The digital innovation district will gather public and private actors to foster university-business cooperation and entrepreneurial and innovation capacity that is inclusive to all parts of the economic sector.

To this end, we will formalize an ENLIGHT Innovation Network of academy-industry collaborators fostering collaboration and partnership on grant applications. We will use ad hoc methodology and tools such as ENLIGHT AIM Days (Academic-Industry Meeting Days) to jointly define R&I priorities in relation with the 5 flagship challenges and identify gaps and opportunities in the market for innovation, matching with ENLIGHT R&I skills.

R&I Observatory : The ENLIGHT Research and Innovation (R&I) Observatory is an online one-stop shop portal centralizing various benchmarking results, inventories/maps, survey results and evidence-based policy recommendations emerging from our joint activities.

The portal, designed for a broad audience of researchers and non-academic stakeholders, is a key tool to identify emerging topics and generate cross-disciplinary, relevant research synergies. It will connect the R&I capability of the network strongly to enhance interaction throughout the network and the ENLIGHT community.

2. Regional Academies connects ENLIGHT to local and regional actors within each partner university's communities. The Regional Academies provides a forum for identifying local variations of the ENLIGHT Flagship Domains. Local challenges then serve as the basis for a number of outcomes such as new challenge based courses in a living lab model, opportunities for students to do their thesis projects or as start-up projects for research and innovation.

The Regional Academies from the nine communities will also meet regularly connecting community representatives across the ENLIGHT-network to each other and to researchers from the ENLIGHT universities in the European Dialogues.

In the first year of ENLIGHT primary sources for challenges are public entities located in the ENLIGHT-communities. As ENLIGHT expands the origin of challenges will have a greater variation.

Involved stakeholders	Researchers and surrounding ecosystem.
Link to GP info	ENLIGHT RISE: https://enlight-eu.org/index.php/landing-research-and-innovation/research-and-innovation Regional Academies: https://enlight-eu.org/index.php/for-cities-communities/regional-academies

European University	ERUA European Reform University Alliance
Title of GP	3 initiatives (see below)

Description

It consists in 3 Flagships to connect and engage the 6 campuses in UAegean, the partners of ERUA and the ERUA Alliance with the outside word (stakeholders, partnerships, networks, etc).

1st flagship: Develop and Adopt Common Digital tools for Digital Mobility, Creative Digital Partnerships and Sustained engagements with Regions and Societies. Digital Outcomes from 1st flagship:

1. 3 tools for Digital Mobility and Connectivity, and reports, guides and roadmap
2. 1 Digital Hub for students and young researchers in the fields of Design & Arts, Culture, Social and Circular entrepreneurship
3. 1 Digital Science & Art e-Gallery/events calendar
4. 1 Open Interregional Platform (the Alliance with regions, and societies)
5. Web applications for 2 Hackathons
6. E- science shops

2nd flagship "Aeiforia in Erua": Enable Sustainable Synergies between ERUA partners, Local Societies and Regions for joint efforts to achieve greater impact and efficiency, designing models based on Quintuple Helix in order to achieve Sustainable Alliance and Sustained engagements with Regions and Societies.

2 Policy (1 commitment on SDGs and policy for 3Rs of waste). Outcomes from 2nd flagship:

1. Databases with SDG, regional and social 3stakeholders
2. Engagement plans and workshops(in campus and in societies)
3. 10 initiatives in Blue-Green Mobility and Transport and (3Rs) of waste
4. Alliance Knowledge Base (Innovation, Research, Technology, Education, creative learning, etc) under the concepts of "sustainability", "sustainable development" or" social ecology"
5. A model for joint entrepreneurial discovery process based on creativity and Quintuple Helix
6. 2 Region competitions – hackathons
7. 5 Local Contact Points as "Science Shops"
8. 5 Community-Based Participatory Research & Education projects

3rd Flagship: "Bauhaus in Erua": Experience the New European Bauhaus movement, "the twin challenge of a green and digital transformation", as a bridge between the world of science & technology & the world of art & culture, with a new Green Deal aesthetic, combining design & digital technologies (1st Flagship: "Digital Reform in Erua") with sustainability (2nd Flagship: "Aeiforia in Erua"). Outcomes:

1. 2 Databases of students, researchers and cultural stakeholders (museums, galleries, creative industries)
2. 2 Networks (Students& Researchers and Cultural stakeholders)
3. Cultural Ambassadors(1 per faculty)
4. Connected events, experiments, courses, digi-talks, with 1st Flagship: "Digital Reform in Erua" & 2nd Flagship: "Aeiforia in Erua" and other WPs

Involved stakeholders	Partners + Associates + Other stakeholders
Link to GP info	https://erua-eui.eu/dissemination-and-sustainability/#wp5

European University	eunice EUROPEAN UNIVERSITY
Title of GP	EUNICE WEEKS

Description

Webinars, mobility forums, conferences, debates, **workshops**, concerts, online games. We highlight workshops which can have some impact or involve other parts from society beside students and organisers. Three parallel workshops:

• **Intercultural Training**, organised by Poznan University of Technology. This session will focus and what it means working in international teams and it includes practical exercises concerning everyday work.

• **Contamination Lab Pills**, organised by Université de Mons and Universitá degli Studi di Catania

The first part of this workshop will consist on a presentation of the Contamination Lab concept, related to entrepreneurial education. Afterwards, students will take part in a series of practical exercises related to soft organisational and design skills that are highly demanded in the global labour market.

• **Start- Cup**, organised by Universidad de Cantabria, Université de Mons and Universitá degli Studi di Catania. The students will have the chance to listen to start-up founders whose projects are present in the international marketplace.

Companies' Elevator Pitch

Four parallel sessions regarding thesis and internship opportunities in companies located in the seven countries where EUNICE has a presence. This will also be a good opportunity to learn about EUNICE Internship Portal, and interactive tool to help students and academics explore mobility opportunities in public and private organisations for industrial doctorate or work experience.

Participants will be able to attend the session related to the sector they are interested in:

• Energy and Sustainability

• Transport & Environmental Recovery

• Health and Pharma

• Microelectronics, Sensoristics, AI & Big Data

Involved stakeholders	Partners and associates
Link to GP info	https://eunice-university.eu/wp-content/uploads/2021/10/downloadable-PROGRAMME-EUNICE-WEEKS-2021.pdf

European University	euni well European University for Well-Being
Title of GP	Research Arenas
Description	

Through a bottom-up approach with a series of design-challenge events and workshops amongst our researchers, EUniWell has identified four thematic key arenas for research and teaching. These are closely linked to UN Sustainable Development Goals (SDGs) in which we have strong expertise:

Arena 1: Well-Being and Health (linked to SDG 3, Good Health and Well-Being)

Arena 2: Individual and Social Well-Being (linked to SDG 16, Peace, Justice and Strong Institutions)

Arena 3: Environment, Urbanity and Well-Being (linked to SDG 11, Sustainable Cities and Communities)

Arena 4: Teacher Education (linked to SDG 4, Quality Education)

We furthermore take into account two transversal SDGs that reinforce all four arenas: Gender Equality (SDG 5) and Reduced Inequalities (SDG 10).

Our arenas are flexible, dynamic inter- and transdisciplinary research platforms across our European campus:

- They group together departments and services across our alliance and **across all three core performance levels – teaching, research, and transfer.**
- They contain virtual and physical elements and the potential for constant reorientation, reform and renewal.
- They also develop inter- and transdisciplinary approaches and methods, learn from each other, **test and implement educational mobility and impact on and with society.**
- They realize research- and challenge-based as well as entrepreneurial education and training at BA-, MA- and PhD-levels.

Involved stakeholders	Partners and associates
Link to GP info	https://www.euniwell.eu/about/research-and-outreach

European University	EuroTech Universities
Title of GP	European Venture Programme
Description	

The European Venture Programme is the EuroTech Universities Alliance's contribution to a more vibrant scene of scalable start-ups in Europe. We do this by offering 25 young EuroTech start-ups per year exclusive access to the entrepreneurship expertise and networking resources available at the six EuroTech Universities, i.e. Technical University of Denmark (DTU), École polytechnique fédérale de Lausanne (EPFL), École Polytechnique (l'X), Technion Israel Institute of Technology, Eindhoven University of Technology (TU/e), and Technical University of Munich (TUM).

An intensive 10-day programme takes entrepreneurs on a journey to multiple EuroTech ecosystems to boost their business beyond borders! Per location, there are thematic workshops in venture creation, plenty of time for peer feedback and networking opportunities with local start-ups, companies, governmental and public organisations, technology experts, business coaches, VCs and more.

This unique chance is offered every year to four – five start-ups from each EuroTech University and is fully funded by the EuroTech Universities Alliance.

Involved stakeholders	Partners and start-ups linked to partners.
Link to GP info	https://eurotech-universities.eu/projects-programmes/projects/evp/

European University	EUT+ EUROPEAN UNIVERSITY OF TECHNOLOGY
Title of GPs	- HEI INNOVATE - SUSTAINABILITY LAB

Description

1. The HEI Initiative: Innovation Capacity Building for Higher Education has been designed with the aim of increasing the innovation and entrepreneurial capacity in higher education, bringing together HEIs in innovation value chains and ecosystems across Europe
The scope of the HEI Initiative is broad. It aims to address the need for HEI transformation and the role of HEIs in boosting sustainable economic growth and competitiveness by reinforcing the innovation capacity of Member States. More specifically, the HEI Initiative aims to encourage HEIs to look at their own practices and the opportunities for increasing their impact in their ecosystem, and it provides support to HEIs to develop and undertake concrete Actions which are specifically tailored to achieve such enhanced impact.

DOMAIN 1 – FOSTERING INSTITUTIONAL ENGAGEMENT AND CHANGE

- Secure and maintain institutional engagement for the implementation of the IVAP.
- Enhance the scale and scope of student engagement activities.
- Infrastructure development (incl. digital infrastructure)
- Develop inter- and multi-disciplinary support structures, testbeds and other structures.
- Set up or improve organisational units and/or entities to develop collaborations for technology transfer.

DOMAIN 2 – STRENGTHENING PARTNERSHIPS (KNOWLEDGE TRIANGLE INTEGRATION)

1. Establish new collaborations and enhance the nature, content and types of collaborations with external partners, including businesses, research organisations, governmental bodies, NGOs and other societal partners
2. Exchange good practices through enhanced networking and mutual learning
3. Collaborate with the EIT KICs, e.g. through peer-to-peer collaboration

DOMAIN 3 - CONTRIBUTION TO DEVELOPING INNOVATIONS AND BUSINESSES

- Develop structures and conditions for people to develop their businesses and start-ups
- Create structures and conditions for innovation-driven research

- Utilise testbeds and other types of platforms

DOMAIN 4 – ENHANCING THE QUALITY OF INNOVATION AND ENTREPRENEURIAL EDUCATION
- Develop or improve innovation and entrepreneurial curricula
- Assessment of teaching and learning practices
- Develop innovation and entrepreneurial training programmes and mentoring schemes for staff and students
- Organise internships in businesses

2. SUSTAINABILITY LAB

In view of global challenges such inter- and transdisciplinary research field of sustainability sciences has established itself worldwide. The concept of sustainable sciences has established trans- and interdisciplinary forms of research that share an orientation towards the goals of sustainable development. In this context, the need has arisen from various directions to view the search for solutions in engineering and the natural sciences more strongly against the background of a social embedding of technology. For this reason, the sustainability sciences integrate several branches of science and research in order to gain insights into societal, socio-economic, engineering (or technical) and natural science challenges. An essential requirement hereby is not to look at individual problems from separate disciplinary perspectives. The aim is to clarify the various effects and interactions on the one hand, but also the influences of involved and interested actors. This includes the complex interplay of environment and society as a whole. For bringing together expertise from all partner universities and enable joint working in this field, the idea of an EUt+ Sustainability Lab has arisen. It may offers us a space for discussion and research in EUt+ in bringing together all colleagues interested in topics of sustainable development. It will for sure be a wide variety of topics, probably even similar as it can also been seen for example in the Sustainable Development Goals, the SGDs.

Involved stakeholders	Partners and associates
Link to GPs info	- https://www.univ-tech.eu/projects - https://www.univ-tech.eu/the-institutes

European University	filmeu European Universities Alliance for Film and Media Arts
Title of GP	FILMEU HUB

Description

FilmEU will design and implement a digital and physical infrastructure to manage, support and facilitate learning and research across all the campuses of the University. This will be our shared campus – a cultural and creative hub for all those who have an interest in traditional film practices and increasingly in new and emerging disciplines at the intersection of film and technology. This infrastructure is a key differentiating aspect of the European University since it materialises its positioning in the multidisciplinary field of artistic creation and experimentation, while reinforcing its international and cooperative dimensions. This hub is also a key driving element of the proposed Samsara model, since project development and associated mobility are dependent on the facilities and resources offered by this network of labs. We have named this network **FilmEU HUB**. FilmEU HUB is composed of three interlinked layers of shared physical and virtual infrastructures:
- A virtual repository and media management layer that will provide the Alliance with storage and media assets and metadata management services;
- A VLE that will integrate three different components: a dedicated platform for LLL and internal training entitled Lusofona X based on the Edx framework and APIs; a dedicated implementation of Moodle supported by the existing implementations in the partner HEIs; and a number of virtual rooms for education and collaboration;
- Four distinctive labs in each of the campuses of the Alliance as represented in the figure below,

corresponding not to mere amalgamations of technology but to a collection of equipment, resources and facilities consistent with the future areas of innovation for the culture and creative industries recently identified in the EU report "100 radical innovations for the future".	
Involved stakeholders	Partners
Link to GP info	https://www.filmeu.eu/areas-of-intervention/

European University	A European University Alliance invest The Competitive University for a Sustainable Society
Title of GP	Living Labs
Description	
Definition of Living Labs: "Physical regions or virtual realities where stakeholders from public-private-people partnerships (4Ps) of firms, public agencies, universities, institutes, and users all collaborating for creation, prototyping, validating, and testing of new technologies, services, products and systems in real-life contexts" (Westerlund and Leminen, 2011) In INVEST we will develop a new pedagogy that includes applied research projects from the regional Living Labs into our education, both in modules, traineeships and final thesis work. INVEST students will have more opportunity to apply knowledge to concrete situations and come up with innovative solutions where civic society will benefit from. By introducing methods of learning by doing off the Universities of Applied Sciences and combine these with the more theoretical approaches of the scientific universities the educational programs of INVEST will become more interesting and relevant for both students, staff, researchers and future employers.	
Involved stakeholders	Partners and associates
Link to GP info	https://www.invest-alliance.eu/en/Home/Texts?link=7-living-labs

European University	Neurotech[EU]
Title of GP	Neurotech[EU] Ecosystem
Description	
Modern universities need to be integrated into society and the economy to help universities to focus on their education, talent development and innovation efforts; to help boosting graduates' employability and to promote entrepreneurship. NeurotechEU Ecosystem will integrate NeurotechEU with society and economy. It will help: - Students to have easy access to internships, apprenticeships and intersectoral training opportunities - Companies to access skilled and creative individuals - To create new business opportunities through knowledge and technology transfer from universities to (societal) stakeholders - Assist NeurotechEU with the development of new technologies to diversify and improve education	

No events related to this initiative have taken place yet.	
Involved stakeholders	Partners and associates
Link to GP info	https://theneurotech.eu/mission

European University	
Title of GP	Interregional European Innovation Hubs and RUN-EU Discovery Program
Description	
The creation of **Interregional European Innovation Hubs** and the **RUN-EU Discovery Program**, fostering joint research, development and innovation activities, at Masters and PhD level, with industry and regional stakeholders focused on three strategic areas: Future Industry and Sustainable Regional Development, the Bio-economy and Social Innovation. None of the two initiatives have started yet.	
Involved stakeholders	Partners and industry.

European University	
Title of GP	Innovation Hubs
Description	
Six innovation hubs for six R&I challenges in one innovation ecosystem. Innovation Hubs are the innovative joint structures for collaboration within the Ulysseus community. They will be at the centre of the co-creation process for transdisciplinary and challenge-driven education, intertwined with research and knowledge transfer programmes, and the promotion of citizen engagement and European values. Our six Innovation Hubs, one at each university, are aligned with six R&D regional and local challenges, in turn responding to the UN Sustainable Development Goals, the European Green Deal, and the Horizon Europe clusters and missions. Below, you can find the 6 Innovation Hubs: - Food, biotechnology and circular economy: a sustainable biotechnology and responsible use of the principles of circular economy will contribute to the EU green Deal objective of making a climate neutral Europe.	

- Ageing and well-being: in a context of major global demographic and environmental changes, our ambition is to design an innovative and sustainable systemic approach for living and ageing in good health. - Tourism, arts and heritage: Sustainable tourism management is one of our greatest ambitions. To that end, a landscape, heritage & arts mapping will be developed. - Artificial Intelligence: we are aware of how AI and its adapting can contribute to education and continuous learning and to solving societal, environmental and business-related challenges. - Energy, transport, mobility and smart cities: one of the greatest challenges of the 21st century lies in the sustainable and more efficient use and production of energy, to develop a balanced urban model. - Digitalization: we want to contribute to shaping Europe's digital future, and to maximize the potential of the digital education and the digital economy to the full.	
Involved stakeholders	Partners and associates
Link to GP info	https://ulysseus.eu/#innovation

European University	UNIC
Title of GP	City Labs
Description	

UNIC CityLabs are physical and virtual meeting points where students, citizens, academia and city stakeholders work together to identify and solve societal challenges faced by post-industrial superdiverse cities.

In these urban meeting places, UNIC students, researchers, teachers meet UNIC's associate partners, local communities and citizens to co-create innovative solutions to real-life urban challenges. The underlying challenged based and impact-by-design research methodologies ensures that social impact and research will go hand in hand. It confronts students with new societal challenges in their local context and teaches them to approach these challenges using new hybrid forms of knowledge to generate innovative solutions from an international approach. The combination of citizen-centred and participatory design principles creates a sense of belonging to the UNIC community facing the common challenges.

In three years' time, a UNIC CityLab will be established in each UNIC city.

This initiative is structured as follows:

Pop-Up City Labs

The societal challenges are brought up at 48 UNIC Pop-Up City Labs - physical or virtual pop-up meeting points in urban locations where students, academia, societal stakeholders and citizens work together to identify important issues for superdiverse UNIC post-Industrial cities. UNIC aims to publicly introduce societal challenges to local agents and prepare the field to further research and co-creation of innovative solutions.

Virtual Meeting Platforms

Challenge and research-based learning methods engender a reciprocal and transformative learning process for the students working on UNIC CityLabs. This is done within Virtual CityLab peer-working spaces that will allow UNIC students to participate in inter-university activities, like hackathons and collaborative online international learning (COIL) on Comparative Harvard Case Study Models. 48 UNIC CityLabs Virtual Meeting Platforms bring problems to the university classrooms and encourage students, teachers and researchers to co-work in the search of innovative solutions and alternatives to bring superdiverse development to post-industrial spaces.

International CityLab Festivals

An annual International CityLab Festival in Liège (2021), Oulu (2022) and Bilbao (2023) showcases the impact and research insights of the projects developed in the UNIC CityLabs (both Pop-Ups and Virtual Meeting Platforms), with multiplayer effect in new associate partners. These events aim to be the joint outcome of the solution process in order to help post-industrial cities and societies to solve the superdiversity challenges with the pursued societal impact that UNIC aims. Festivals' goal is to bring students, citizens, academia, researchers and city stakeholders together to celebrate the outcomes of Pop-Up CityLabs and Virtual Meeting Platforms. Furthermore, they pursue to visibilize UNIC University together with its achievements and new challenges.

UNIC Open Case repository

Finally, the UNIC Open Case Repository collects the case-based knowledge and expertise from the CityLabs and thereby builds the foundation for an innovative solutions infrastructure with a rich empirical data basis for publications with a multi-level impact.

Involved stakeholders	Students, citizens, academia and city stakeholders
Link to GP info	https://www.unic.eu/en/city-labs

European University	UNITA universitas europae
Title of GP	Research and Innovation Hubs

Description

In order to contribute to the sustainable development of their territories UNITA research and innovation will focus during the first phase of the project on three main thematic areas:

Renewable energy: energy transition and resource management.

- Circular economy, including Bio-economy: networking and opening-up of economies.
- Cultural heritage: enhancement of the heritage and identity of the territories.
- Through these three main areas UNITA can contribute to the development of rural and mountain areas through promoting the value of the natural resources, developing networks of circular economy (including bio-economy), linking different economic activities (agriculture, tourism, industry and crafts), promoting the richness of the cultural and linguistic heritage, and optimising the relationship among the different actors of each ecosystem.

UNITA proposes an action plan based on the launching of three Research and Innovation Thematic Hubs as the main tool to reach the following objectives:

1. Focusing research on territories: Formalizing research and innovation projects around the three thematic areas in connection with the local ecosystem.
2. Identifying actors in the three main areas: a cartography of research

3. Designing models for UNITA R&I Hubs
4. Implementing UNITA R&I Hubs connecting all stakeholders: a R&I strategic five-years plan
5. Connecting research and education: Embodying the research results into the teaching at all the learning levels.
6. Introducing bachelors' students to research through micro-credentials, when possible in the rural and mountain territories
7. Fostering research-based master education though summer/winter school
8. Enhancing links among the UNITA PhD programs
9. Energizing the territories: Revitalising the mountain and rural areas through life-long learning and entrepreneurship.
10. Transferring research results for life-long learners
11. Connecting with stakeholders: a network of Liaison Services
12. Enhancing entrepreneurship and employment: co-working spaces and business incubators

This model, which has to be designed and implemented during the period 2020-2023, will be then evaluated to assess its impact and transformative capacity on the territory, on research-driven learning, and on life-long learning, employment and entrepreneurship. If the results are positive, it will be expanded with the necessary modifications in order to extend it progressively to other thematic areas. First of all, those that have a more direct relationship with the development of rural and mountain territories and that best fit the Smart Specialization Strategies of the UNITA regions (for instance, veterinary, food production, environmental sciences, cultural and naturel tourism, among many others). The objective is to extend in the long-term the coverage to all the thematic areas that can be addressed through a coordinated collaboration of all public and private actors in each ecosystem

Involved stakeholders	Students, researcher and other societal stakeholders
Link to GP info	https://www.ubi.pt/Sites/unita/en/Pagina/researchers

European University	UNIVERSEH
Title of GP	Beyond UNIVERSEH

Description

Beyond UNIVERSEH is the Research pillar of UNIVERSEH. It is set to expand the teaching and learning know-how of the alliance into a UNIVERSEH European Research University focusing on space in all its dimensions:

7. Science and Engineering;
8. Economy, Business and Finance;
9. Medicine and Health;
10. Social and Human Sciences;
11. Art and Culture;
12. Innovation and Entrepreneurship.

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It will connect researchers and stakeholders from multiple backgrounds, promoting a highly multi-disciplinary and cross sectorial network to address the societal challenges of Space and New Space.

Beyond UNIVERSEH's main ambition is to develop and propose a research policy roadmap for 2035 and a vision for 2050 within the space sector. This roadmap will implement a sustainable, integrated research and innovation network within the UNIVERSEH alliance and beyond. Also, Beyond UNIVERSEH will create a shared and collaborative virtual single lab and a research community, spearheading new collaborative and interdisciplinary methodologies, to further enhance Space research and innovation outputs.

It is not yet kicked off.	
Involved stakeholders	Students from partners and associates.
Link to GP info	https://universeh.eu/universeh-presents-beyond-universeh-research-and-innovation-programme-at-inaugural-conference/

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