

European Alliance for Global Health - Transformation through Joint Research & Innovation Action

Public version of the Action plan for EUGLOH academia-business-society networks

WP4 - Fostering innovation and reinforcing the cooperation of the

EUGLOH Alliance with businesses and other stakeholders

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EXECUTIVE SUMMARY



The EUGLOHRIA (the European Alliance for Global Health – Transformation through Joint Research and Innovation Action) project aims to reinforce public-private, academia-business cooperation in research and innovation (R&I).

This will be achieved by strengthening knowledge exchange and transfer capacity, fostering entrepreneurship, and exploring partnerships to facilitate access to R&I finance. This will be complemented by increasing the openness of Universities and the Alliance and intensifying the connectivity and cooperation with other stakeholders at the local and international levels.

These objectives are being pursued through the collaboration among the five partner universities of the EUGLOHRIA Consortium:

- University of Paris Saclay (herein, UPSACLAY),
- Lund University (LU),
- University of Szeged (USZ),
- University of Porto (UPORTO),
- Ludwig-Maximilians-Universität München (LMU Munich)

As one of its first tasks, a brief overview of the best practices/initiatives (both terms will be used interchangeably hereinafter) at each of the EUGLOHRIA partners' R&I ecosystems (supply side) was shared and followed by a survey on external stakeholders' needs (demand side),

namely organisations involved in the R&I ecosystems, such as start-ups, large enterprises, and NGOs. The data collected has been crucial to identifying common practices and needs of the users to inform the development of the action plan for creating the EUGLOH academia-business network.

As part of the action plan, four main actions and their targets are put forward in this document:

- Creation of a EUGLOH innovation hub,
- Opening existing practices within the EUGLOH,
- Connect local TTOs belonging to EUGLOH, and
- Establish the EUGLOH Academia-Business networks team

Ultimately, and in the long run, this should induce cooperation among EUGLOH ecosystem business actors and society players through establishing and facilitating local but also EUGLOH interconnected innovation hubs, spaces of co-creation, networking platforms and circles, and virtuous loops that will mobilise EUGLOH strategic partners and civil society.



1. Introduction TO THE R&I Ecosystems



A Research and Innovation (R&I) ecosystem is the interconnected network of various players, stakeholders, and community members that share knowledge, capabilities, and technologies, working cooperatively and competitively to create and develop innovations¹.

In the case of a University, this ecosystem includes students, academics, researchers, entrepreneurs, research institutes, technology transfer offices, incubators, start-ups, large corporations, public actors, foundations, non-profit policy organisations, and civil society. Each of them plays a significant role in creating value in the larger ecosystem by proposing solutions to societal challenges and supporting and collaborating to make them available to the markets. Regarding academia-business relationships, these collaborations occur in many ways described in the practices of the next chapter, including events, cross-promotion, and sharing of resources.

These research and innovation ecosystems create communities that support each other's goals, missions, visions, and values.

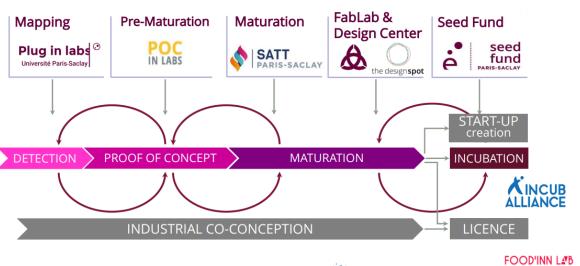
¹ based on the Grandstrand and Holgersson (2020) definition of "Innovation ecosystem" [https://doi.org/10.1016/j.technovation.2019.102098] This section summarises each partner's R&I Ecosystem and its main actors to help to know these different R&I ecosystems. This will be very helpful in identifying the following steps to create an action plan for the EUGLOH academia-business networks.



University of Paris-Saclay

The University of Paris-Saclay is a part of the Paris-Saclay Innovation Ecosystem that is recognised as one of the world's eight most innovative clusters, according to the MIT Technology Review, bringing together academic knowledge, business actors, and civil society. The innovation and technology transfer community in UPSaclay is being coordinated, at the different stages of the value chain, by several entities belonging to the university, namely: i) Plug in labs Université Paris-Saclay, ii) POC'in Labs, iii) Technology Transfer Accelerator Office of the Paris-Saclay Cluster (herein, SATT Paris-Saclay) iv) FabLab, v) Design Center, vi) the Seed Fund and vii) Incuballiance.

UPSaclay's R&I ecosystem value chain





Students Entrepreneurship **Programs**



GENOPOLE

VEDECOM









Pluq in Labs Université Paris-Saclay was created in 2018. It is a digital platform designed by and for research institutions, which connects companies and research structures. Plug in Labs provides access to exceptional scientific skills and technical platforms capable of accelerating innovation projects. The Pluq in Labs platform aims to facilitate innovation between public laboratories and companies and, thus, to multiply sustainable cooperation that contributes to the dynamism of the territory. The *Plua in Labs* is the reference entry point for connecting interested groups to the research world.

The University of Paris-Saclay has been supporting the emergence of innovative projects with an entrepreneurial dimension through calls for projects. The POC in Labs call for projects aims to highlight any innovation project, whether technological or societal, social and solidarity-based, from laboratories within the scope of the University of Paris-Saclay. The objective is to develop the project's proof of concept, produce a valuation strategy, and propose a team for the maturation and development of the project. POC in Labs also aims to make project leaders aware of design within the framework of support from the Design Spot (a design centre) and business creation within the training framework offered by IncubAlliance.

The Technology Transfer Office at the University of Paris-Saclay (SATT), created in 2014, supports researchers to transform public research results into innovation for companies by supporting projects throughout their journey: developing, registering licenses and patents, and onto start-up creation.

FABLAB UPSaclay is a community-based space dedicated to Research, Empowerment, to Distributed Education for the Commons, created in 2013, where mentoring, creation, and designing take place and where sharing is a rule.



University of Paris-Saclay

The *Design Spot* is the design centre of the University of Paris-Saclay, created in 2017. It aims to support students, researchers, and entrepreneurs in their R&D projects by providing them with design expertise to meet the expectations of tomorrow's society. The **Design Spot** organises workshops and holds meetings, conferences, and master classes to promote the design disciplines throughout the Paris-Saclay R&I ecosystem.

The UPSaclay Seed Fund was created in 2017, and it is constituted by the higher education establishments of the University of Paris-Saclay, intended to promote the emergence of technology and service start-ups. Therefore, students, recent graduates, and researchers from these establishments will have access to tailor-made equity financing for their business projects. The start-ups can receive up to two and a half million euros in equity funding over multiple investment rounds. The fund is managed by Partech Ventures, one of Europe's largest venture capital investors in digital and information technology. Partech's teams are supported by Kurma Partners, which will be responsible for life sciences investments.

Incuballiance is the Paris-Saclay cluster's shared technology incubator and was created in 2005 by leading higher education and research institutions, along with businesses in the region. Its core focus is innovative entrepreneurial technology projects. These projects are spin-offs from labs or businesses. They're also led by entrepreneurs who want to be part of a well-known ecosystem and a successful incubator. The French Ministry of Research, the European Union, and regional authorities partly support the incubator.

The local dynamics of innovation and technology transfer are also promoted by initiatives prepared by industrial and research partners. These initiatives include industrial research chairs, programmes dedicated to entrepreneurship and innovation, shared institutes in several cutting-edge fields, and collaborative platforms. Actions targeting students and researchers with plans to launch their first business are conceived by the *Paris-Saclay* Student Entrepreneurship Department (PEIPS).



Lund University

Lund University's R&I ecosystem is an important hub for innovation and entrepreneurship. Innovation and collaboration units organised by the University centrally, in parallel with activities at the faculties, boost this ecosystem.

There is a national government agency, Vinnova, Sweden's innovation agency promoting collaboration and innovation in Lund University to support innovative ideas, with an eclectic approach in the intersection between research-innovation-change-making.

At Lund University's R&I ecosystem, there are also several players contributing to the promotion of innovation, such as i) LU Innovation, ii) LU Holding, iii) Venture Lab, iv) Sten K. Johnson Centre for Entrepreneurship, v) Ideon Science Park, vi) Medicon Village, and vii) Ideon Innovation.

LU Innovation is the hub for innovation and commercialisation at Lund University. They work with the University's researchers and students to ensure knowledge and research from Lund University benefit society, offering free business advice, verification support, and market and IP screening. In parallel, the holding company, part of LU Innovation, LU Holding, functions as one unit with a joint mission and management. LU Innovation is part of the Research, Collaboration, and Innovation division (FSI) consisting of five offices: LU Innovation, Research Services, the Cooperation office, the Development Office, and Lund University Commissioned Education (LUCE).

Investments are managed by *LU Holding* created in 1997, which is owned by the Swedish state but managed by Lund University. LU Holding's mission is to develop new businesses from ideas and research results from Lund University, which will contribute to Sweden's growth and job creation.

VentureLab is part of LU Innovation and is designed specifically for students. It encourages students and recent graduates to become entrepreneurs and helps them develop business ideas or start their own companies. VentureLab offers a student incubator at Ideon Agora in Lund's Ideon Science Park.

Sten K. Johnson Centre for Entrepreneurship, formed in 2012, aims to be one of the leading centres in Europe concerning knowledge development and dissemination, aiming to strengthen entrepreneurship and entrepreneurs by providing education in, about, and for entrepreneurship, targeting national and international actors, including students from all faculties and levels of study, and external partners, The Centre conducts cutting-edge research within entrepreneurial phenomena across various contexts, serving as a foundation for the educational activities. The Centre develops strategic relations for mutual exchange with national and international universities, alumni, partners from the industry, and other actors interested in entrepreneurship, providing various activities directed at these groups, and becoming a natural meeting place for the exchange of knowledge in entrepreneurship.

Ideon Science Park, one of the first and largest science parks in Europe with a permanent commitment from the state to coordinate regional development issues and lead the work of creating a Regional Development Strategy, was founded in 1983, creating innovations within life science, software/IoT, telecommunications, energy, and new materials.

Medicon Village, created in 2012, is a life science research park in Lund. Medicon Village is divided into two companies - Medicon Village Fastighets AB and Medicon Village Innovation AB. Both companies are wholly owned by the Mats Paulsson Foundation for Research, Innovation, and Societal Development. At the research park, members get access to labs and equipment, offices, competencies from other members, security support, health and exercise, and a network that gathers academia, the public sector, and businesses to collaborate.



Lund University

Ideon Innovation is the business incubator in the middle of the *Ideon Science Park* in Lund that develops entrepreneurs, ideas, and companies through well-chosen, value-creating activities and support resources. They ensure the best possible support with experienced business coaching and broad collaboration with players in the innovation ecosystem.



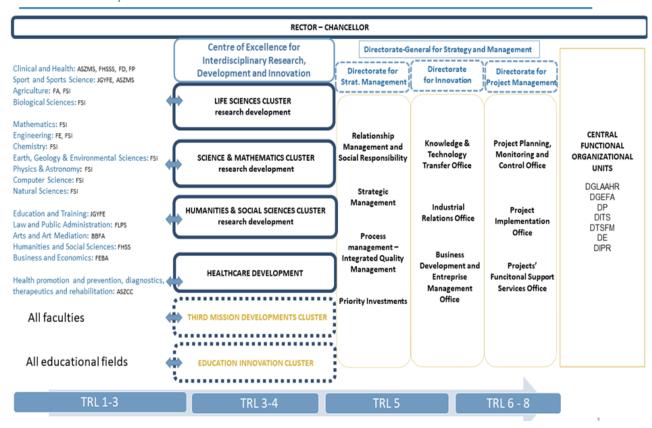
University of Szeged

The University of Szeged intends to support research and industrial projects with a specific approach and from a unique perspective, allowing for the emergence and support of excellent research results with industrial and societal benefits through the coordination of resources and strengthening cooperation between the actors in the R&D&I system.

This work is supported and achieved through the development and reorganisation of central management and administrative units. Integration of inputs is mainly the responsibility of the Directorate-General for Strategy and Development (DGSD) [link 1] [link 2]. At the same time, the alignment of outputs (development, services, etc.) is the task of the newly created Centre of Excellence for Interdisciplinary Research, Development, and Innovation (CEIRDI) [link]. The connection between these two units is achieved by the operational side of the dual (scientific and operational) management of CEIRDI clusters managed by DGSD. The relationship between DGSD and CEIRDI, their organisational structure, and their operation is detailed in the Figure on the right. The tasks of CEIRDI include increasing the innovation performance of the University, enhancing the practical utilisation of research results, and strengthening the cooperation among R&D&I actors. To bring the three inseparable and mutually supportive pillars of innovation - knowledge creation, knowledge transfer, and knowledge exploitation - into a value-added process, the innovation management staff is organised into clusters within the Centre, working together with additional staff at DGSD to be able to maximise economic and societal benefits. [link].

Within CEIRDI clusters, the existing R&D services and activities already at a developed market and societal exploitation stage are organised into Research Groups and Competence Centres. The Competence Centres are dynamically evolving and are thematically linked to the University's Thematic Excellence Areas, which seek - in line with the sustainable development framework – solutions to problems and challenges in their own areas of competence.

USZ's R&I ecosystem





University of Porto

The research ecosystem of the University of Porto drives the regional innovation ecosystem in Porto, being responsible for 23% of scientific knowledge production in Portugal, according to data published in the Scientific Production of the University of Porto indexed in the Web of Science 2016-2020 report. This knowledge production contributes to the University's research, development, and innovation strategy of translating this knowledge produced into value for society. The pool of talent of the University is also creating hundreds of innovative start-ups that are transforming the city and helping to boost its economy.

The innovation, entrepreneurship, and knowledge transfer strategy involve several players belonging to the R&I ecosystem, its faculties and R&D units, the Associated Research Institutes, the Science and Technology Park (UPTEC), and external partners (e.g. Bial, CaixaBank, Fraunhofer, and City Council). This dynamic innovation ecosystem of U.Porto is mainly promoted by the University of Porto Innovation (UPIN) and the University of Porto Science and Technology Park (UPTEC).

U.Porto Innovation is a technology transfer office at U.Porto created in 2004 with the primary mission of supporting the value chain of innovation by acting as an interface connecting academia and businesses for the best use of the knowledge produced for society. The Technology Transfer Office (TTO) provides technical support in IP protection and supports the creation of spin-offs and their links with small or large companies. The University of Porto is the leader in the number of patents among Portuguese universities, most of which are in co-ownership with other universities or companies, with 271 granted patents and more than 300 active patents.

UPTEC is the Science and Technology Park of the University of Porto, created in 2007, acting as an incubator for start-ups and housing some innovation centres for large companies. The park is structured into four main centres, a technology centre (UPTEC TECH), a creative centre (UPTEC PINC), a sea centre (UPTEC MAR), and a biotechnology

centre (UPTEC BIO). This clustering ensures that start-ups, innovation centres and anchor projects share their resources and get the specific support needed and organised in a cross-cutting network of large and small companies, research centres, policy-makers, and other actors belonging to the innovation ecosystem. More than 600 start-ups were created over the past 15 years in a range of areas, with the creation of 1900 (primarily highly-qualified) jobs and an impact on GDP of 284 million euros and a 49 million impact on tax revenues in 2019.

Both industrial and research partners collaborate with the University of Porto Innovation and UPTEC to promote innovation initiatives in all stages of the innovation value chain, contributing to the local innovation and technology transfer dynamics. The University of Porto Associated Research Institutes that are Linked-Third Parties in the EUGLOHRIA project, such as i3S, INEGI, and INESC TEC, play a prominent role in the process of promotion of innovation. The Institute for Research and Innovation in Health (i3S) was created in 2015, merging three research institutes (IBMC, INEB, and IPATIMUP) to face and overcome the most relevant health challenges society faces today, such as ageing, infectious diseases, cancer, regenerative medicine, and neurodegenerative diseases. The Institute of Science and Innovation in Mechanical and Industrial Engineering (INEGI) is a Research and Technology Organisation (RTO) founded in 1986 that focuses on research and technology-based innovation activities, technology transfer, consulting, and technological services oriented to the development of industry and economy. INEGI used to be a member of the Executive Board of the EARTO (European Association of Research and Technology Organisations), which INESC TEC is currently a part of. The INESC TEC, created in 1985, is a private non-profit research association with Public Interest status dedicated to scientific research and technological development, technology transfer, advanced consulting and training, and pre-incubation of new technology-based companies in the domains of Computer Science, Industrial and Systems Engineering, Networked Intelligent Systems, and Power and Energy.



Ludwig-Maximilians-Universität München

The work of LMU Munich's Unit for Research and Technology Transfer is embedded in Munich's dynamic innovation ecosystem. Being the capital of the Free State of Bavaria and one of the largest cities in Germany, Munich has experienced a historically strong development and high dynamics of change since the Second World War from an agricultural state to a hot spot of biotechnology. The outstanding economic performance is based on consistent economic development and the Bavarian government's focus on future industries and technologies. The City of Munich and the Free State of Bavaria pursue dedicated innovation policies that result in various initiatives and programmes, among them the so-called High-Tech-Offensive and the High-Tech-Agenda.

As one of the German Universities of Excellence, LMU Munich successfully interacts with its local ecosystem, consisting of a variety of parties:

- several universities (among them LMU Munich, including the LMU Klinikum and the Technical University of Munich – TUM),
- other research institutions (e. g., Fraunhofer Society, Max Planck Society, and Helmholtz Institutes),
- Governmental institutions (the Bavarian State government as well as the local administration of the City of Munich with their policies, innovation initiatives, and programmes),
- industrial companies (e.g., MNCs like Siemens or the German headquarters of Microsoft, a considerable number of SMEs and start-ups, as well as service providers such as specialised patent attorneys),
- facilitators (including the High-Tech-Clusters, various networks and incubation organisations, and the headquarters of the European and German Patent Offices).

Apart from these aspects, the consistent growth of the city and its ecosystem can also be attributed to relatively soft factors such as Munich's attractiveness for companies and investors due to talents and the innovative potential stemming from the universities, the excellent public infrastructure, and a high quality of life - not least because of a high

economic and personal safety in the city.

Against this background, research and technology transfer is an issue in numerous parts of LMU Munich. In nearly all faculties, many collaboration projects with companies and societal institutions are conducted, and spin-offs emerge. In the LMU Munich's Clusters of Excellence funded by the Excellence Strategy of the German federal and state governments, established researchers from various disciplines work together to find answers to current scientific questions - in close cooperation with other research institutions and non-academic business partners. Several of them have solid medical or technological relevance. As different structures have a specific focus on transfer, the Biomedical Center Munich (BMC) and the Center for NanoScience (CeNS) can be mentioned. Lastly and of relevance for EUGLOHRIA with its focus on Global Health, LMU Munich forms part of the German Centers for Health Research - an essential national network for translational medicine. It should be noted that LMU Munich is the only German university being part of all six Health Research Centers.

From a scientific perspective, innovation and transfer are mainly dealt with in the *LMU* Innovation and Entrepreneurship Center (LMU IEC). Through numerous interdisciplinary research and teaching activities, the LMU IEC inspires and supports the development and implementing of innovative solutions for significant societal challenges. The LMU IEC focuses on translational research and supports transfer activities at a very early stage. Further support to LMU Munich's researchers is offered by the Unit for Research and Technology Transfer, advising and supporting scientists at LMU Munich concerning the exploitation of their research findings. Specific strategies and offers include industry cooperation, cooperation with societal partners, the registration of patents, and guidance regarding the foundation of spin-off companies.



Ludwig-Maximilians-Universität München

LMU Munich's focus on basic research finds partners with a particular interest in research and high R&D investments within the Munich ecosystem. This allows the university to be robust in generating innovative research findings that can be implemented and applied in practice with partners. LMU Munich primarily works with companies from research-intensive industries that take on early projects and develop them further with their research departments. One example of this is the pharmaceutical industry.





2. MAPPING THE SUPPLY SIDE: **ACADEMIA-BUSINESS NETWORK PRACTICES**



Key Findings

- Most of the best practices target the scientific community and the business actors, which aligns with the goal of creating academia-business networks.
- Most of the best practices have objectives of networking with companies and creating academiabusiness events, with strong links between these two objectives since the practices might have these two objectives simultaneously to develop academia-business networks.
- The best practices are particularly relevant to <u>promote</u> i) Joint academia-business R&D, ii) Joint academia-business events, and iii) technology transfer.

The mapping exercise looked at universities' existing practices related to Academia-Business networks. It further helps to build a picture of universities' existing academia-business networks and how they are being nurtured.

The mapping exercise allowed partners to identify different levels of development of R&I ecosystems in the EUGLOH Alliance. The collected data allowed us to identify, as the most frequently identified practice, activities aiming at "Creating Academia-Business Networks." These types of practices aim at developing solid collaborations with external partners on research, development, and innovation (R&D+i) projects.



3. DEMAND SIDE ANALYSIS: **ACADEMIA-BUSINESS** COOPERATION SURVEY



Key Findings

- > The external stakeholders identified Research, Development and Innovation (R&D+i) projects and Partnerships, through international Networks, as the top two academia-business activities that can be further developed within the EUGLOH Alliance.
- > Access to knowledge, Recruitment of international talent and Visibility are the main motivators of academia-business cooperation for external stakeholders cooperating with academia.
- For the sample of respondents, the three main benefits of academia-business cooperation within EUGLOH have been i) joint knowledge generation, ii) joint innovation hubs, and iii) Use of synergy and ideation spaces.

The demand side analysis aimed at contributing to the EUGLOH Alliance's understanding of the business perspective on academia-business cooperation in the five innovation ecosystems. This analysis draws on a survey developed in close collaboration between EUGLOH and EUGLOHRIA projects and two workshops facilitated by academic experts. The survey's main objective was to enquire business actors about the added value delivered by European Alliances within several dimensions of academia-business cooperation (namely talent recruitment and joining R&D+I ventures). While acknowledging limitations relating to the conclusions of these results due to the small (and convenient) sample used for data collection, the results provide positive signs both of the present and for the future of academia-business cooperation while also indicating the activities that require more substantial development.

The data analysis allowed us to identify the main priorities on demand for R&D+I cooperation (considering different types of organisations looking for this type of cooperation, such as large corporations, start-ups, NGOs, etc.).

EUGLOHRIA

4. MATCHING THE DEMAND AND SUPPLY SIDES OF ACADEMIA BUSINESS NETWORKS



For the business actors, practices that result in R&D+i projects and Partnership endeavours (through international networks) that grant access to knowledge are, according to the survey, the proprieties to be developed within the EUGLOH Alliance. The type of practices most likely to fulfill these objectives are academiabusiness cooperation through the establishment of academia-business networks practices and technology transfer funding opportunities since these types of practices result in joint academiabusiness R&D and involve partnerships with business actors.

Furthermore, the need for joint innovation hubs was also reflected in survey results. In this respect, the creation of meetings or events of cocreation and discussion between academia and businesses will create this chance for business actors and academia to share knowledge and discuss solutions for complex business and society challenges in Global Health.

From the initiatives previously analysed and in the context of the EUGLOH Alliance, most of them can be locally replicated from existing initiatives (or at least they can rely on experience exchange among partners, considering the similarity of

practices already in place).

Finally, considering the section for original practices, their scale-up potential, and the demand and supply side sections, initiatives considered by the partner Universities as possible to be Organised by the Alliance (scale-up) or at least open to the Alliance members (to boost cooperation within a bottom-up approach).



5. VISION, GOALS AND POTENTIAL ADDED VALUE



The vision of the action plan for EUGLOH academia-business-society networks is forging durable collaboration networks and strengthening local innovation ecosystems by connecting them in a European cross-country network to optimise and accelerate the translation of research in Global Health into innovations in the FUGLOH Alliance.

The main goal of the action plan is to create and densify local academia-business-society networks while interconnecting them within the EUGLOH ecosystems to contribute toward the long-term vision of the "European Universities 2030".

From the ongoing discussions in the working group EUGLOHRIA meetings and Workshops and after collecting and analysing the demand (through a survey to the business actors with links to EUGLOH Alliance Universities) and the supply (identification of the best practices at EUGLOH Alliance Universities R&I ecosystems) sides of Academia-Business Cooperation, and to induce cooperation between EUGLOH ecosystem business actors and partner Universities, this section characterises the potential added value, i.e., the value that the EUGLOH Alliance can bring to the partner universities' R&I ecosystem and academia-business relations.

The potential added value of the EUGLOH Alliance falls into five categories defined within the discussion of the experts participating in the working group:

- Open to the Alliance
- Organised by the Alliance
- Replicate at the local level
- Experience exchange
- Creation of new practices

The first category, Open to the Alliance, includes practices locally organised (by one of the partners) that may be opened to other EUGLOH partners, possibly reaching a broader audience. The second category, Organised by the Alliance (scale-up), includes local initiatives that may be organised at the Alliance level, i.e., jointly promoted by all alliance partners (or at least a sufficiently large sub-group of them). The third category, Replicate at the local level, includes practices that take place in one partner but may be locally replicated by other partners. The fourth category, Experience exchanges, includes practices that aim at promoting/facilitating partners' experiences and best practices exchange. Finally, the fifth category, the Creation of new practices, includes practices that have yet to be implemented in existing ecosystems and could benefit the local and the EUGLOH innovation ecosystems.





6. Proposed ACTIONS



Action 1.

Creation of EUGLOH Innovation Hub

Potential added value: Creation of new practices

Action 2.

Open local practices to the EUGLOH partners

Potential added value: Open to the Alliance

Action 3.

Connect local TTOs belonging to EUGLOH

Potential added value: Experiences Exchange

Action 4.

Establish the EUGLOH Academia-Business **Network Team**

Potential added value: Creation of new practices



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Further information about this project and/or if you wish to contact the authors of this publication, you can find it on the project's website:

www.euglohria.eu



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