

D2.2 STRATEGIC PLAN FOR THE CO-DESIGN AND ESTABLISHMENT OF THE EUROPEAN INNOVATION HUBS - FINAL REPORT

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NHL Stenden University of Applied Sciences, The Netherlands*

Table of Contents

Executive Summary	5
European Innovation Hub 1 – Future and Sustainable Industries Strategic Plan	7
1. Executive Summary	8
2. Mission and Vision for the Establishment of AN European Innovation Hub on FUTURE AND SUSTAINABLE INDUSTRIES	10
2.1 Mission Statement.....	10
2.2 Vision Statement	10
2.3 EIH Identity	10
3. European Innovation Hubs within the RUN-EU project.	12
4. EIH Strategy Map.....	13
4.1. EIH Objectives, KPI's and initiatives	17
5. Embedding EIH Overarching Tasks and Deliverables	22
6. Strategic plan implementation and next steps	23
European Innovation Hub 2 – Bioeconomy	24
1. EXECUTIVE SUMMARY	25
2. MISSION AND VISION FOR THE ESTABLISHMENT OF EUROPEAN INNOVATION HUB IN BIOECONOMY.....	26
2.1 Mission Statement.....	26
2.2 Vision Statement	26
2.3 EIH Identity	27
3. EUROPEAN INNOVATION HUBS WITHIN THE RUN-EU PROJECT.....	30
4. EIH STRATEGY MAP	30
5. EIH OBJECTIVES, KPI'S AND INITIATIVES	33
6. STRATEGIC IMPLEMENTATION PLAN AND NEXT STEPS	36
.....	39
European Innovation Hub 3 – Social Innovation.....	39
1. Executive Summary	40
2. Mission and Vision for the Establishment of AN European Innovation Hub in SOCIAL INNOVATION	42
2.1 Mission Statement.....	42
2.2 Vision Statement	42
2.3 EIH Identity	42
3. European Innovation Hubs within the RUN-EU project.	46
4. SOCIAL INNOVATION EIH - Strategy Map.....	48

4.1. SOCIAL INNOVATION EIH Objectives, KPI's and initiatives	51
5. Embedding EIH Overarching Tasks and Deliverables	55
6. Strategic plan implementation and next steps	56

Abbreviations

D	Deliverable
EIH	European Innovation Hub
ERA	European Research Area
EZ-ID	European Zone for Interregional Development
FHV	Vorarlberg University of Applied Sciences, Austria
HAMK	Häme University of Applied Sciences, Finland
IP	Intellectual Property
IPCA	Polytechnic of Cávado and Ave, Portugal
IPL	Polytechnic of Leiria, Portugal
KPI	Key Performance Indicator
KT	Knowledge Transfer
LMRO	Labour Market Relevant Outcomes
MOU	Memorandum of Understanding
NDA	Non-disclosure Agreement
NGO	Non-Governmental Organisation
NHL Stenden	NHL Stenden University of Applied Sciences, The Netherlands
R&I	Research and Innovation
RUN-EU	Regional University Network – European University
RUN-EU PLUS	Regional University Network – European University: Professional Research Programmes for Business and Society
SWAFS	Science with and for Society
SZE	University of Győr – Széchenyi István University, Hungary
T	Task
TT	Technology Transfer
TTO	Technology Transfer Office
TUS	Technological University of the Shannon: Midlands Midwest, Ireland
WP	Work Package

EXECUTIVE SUMMARY

The Regional University Network – European University (RUN-EU) will strive to secure the sustainable economic, social, cultural, and environmental progress of its regions and stakeholders. RUN-EU will implement this mission by delivering on the future and advanced skills necessary for its students and regional stakeholders to successfully meet the challenges of the future, engage in societal transformation and promote active citizenship, thereby leading in the creation of a new type of multinational interregional alliance, a European Zone for Interregional Development (EZ-ID).

Through the development of European Innovation Hubs (EIHS) across the RUN-EU partner network, one of the key goals of the RUN-EU mission will be achieved. This goal is the creation of collaborative, regionally oriented and novel mobility-led education, research, and innovation. RUN-EU sees EIHS as unique platforms where joint interregional research, innovation and regional stakeholder engagement activities will be created and nurtured. EIHS will seek collaborations with associated partners in government, business, society and uniquely with the OECD Secretariat of Higher Education and its Labour Market Relevance and Outcomes (LMRO) initiative. It is envisaged that the outcomes of this quadruple helix approach will not only feed back into education, research, and innovation development opportunities within the regions of the alliance through RUN-EU training models such as Short Advanced Programmes (SAPs), Future Advanced Skills Academies (FASAs), but could also inform innovative solutions for labour market relevance and outcomes which would be adaptable to different regions of Europe.

The principal aim of establishing European Innovation Hubs is to promote collaborative teaching and research excellence through the development of student-centred, cutting edge pedagogical, research, innovation, and engagement activities, using the strong links between the alliance members and their local ecosystems and businesses. It is envisaged this collaborative method will nurture and stimulate the student body of RUN-EU, but also other regional stakeholders to adopt a sustainable approach to the economic, social, cultural, and environmental progress of the member regions. The creation of innovative mobility opportunities through new multinational academies and hubs is aimed at improving the national and international competitiveness of the associated regions and their academic community thus allowing them to: (i) complement existing capital and large city regions; (ii) retain and attract young talent and (iii) correct existing unfavourable bias in development trends in peripheral European regions.

RUN-EU partners have committed to the establishment of European Innovation Hubs (EIH) focusing on the three overarching thematic areas of: 1) Future and Sustainable Industries, 2) Bioeconomy, and 3) Social Innovation. Each EIH has developed to a stage where they have all been launched formally in NHL-Stenden, March 2022, and developed their own individual Strategic Plan based on the original overarching Strategic Plan of 2021-2022.

These Strategic Plans aim to align RUN-EU to regional, national, and European strategies for driving innovation to (a) bring about societal change and economic sustainability, (b) address global challenges including meeting Sustainable Development Goals, and (c) prepare Europe for the challenges of the coming decade and beyond.

European Innovation Hub 1 – Future and Sustainable Industries Strategic Plan



1. EXECUTIVE SUMMARY

The Regional University Network – European University (RUN-EU) will strive to secure the sustainable economic, social, cultural and environmental progress of its regions and stakeholders. RUN-EU will implement this mission by delivering on the future and advanced skills necessary for its students and regional stakeholders to successfully meet the challenges of the future, engage in societal transformation and promote active citizenship, thereby leading in the creation of a new type of multinational interregional alliance, a European Zone for Interregional Development (EZ-ID).

Through the development of European Innovation Hubs (EIHS) across the RUN-EU partner network, one of the key goals of the RUN-EU mission will be achieved. This goal is the creation of collaborative, regionally oriented and novel mobility led education, research and innovation. RUN-EU sees EIHS as unique educational platforms where joint interregional research, innovation and regional stakeholder engagement activities will be created and nurtured. EIHS will seek collaborations with associated partners in government, business, society and uniquely with the OECD Secretariat of Higher Education and its Labour Market Relevance and Outcomes (LMRO) initiative. It is envisaged that the outcomes of this collaborative approach will not only feed back into education, research and innovation development opportunities within the regions of the alliance through RUN-EU training models such as Short Advanced Programmes (SAPs), Future Advanced Skills Academies (FASAs), but could also inform innovative solutions for labour market relevance and outcomes which would be adaptable to different regions of Europe.

The principal aim of establishing European Innovation Hubs is to promote collaborative teaching and research excellence through the development of student-centred cutting edge pedagogical, research, innovation and engagement activities, using the strong links between the alliance members and their local ecosystems and businesses. It is envisaged this collaborative method will nurture and stimulate the student body of RUN-EU, but also other regional stakeholders to adopt a sustainable approach to the economic, social, cultural and environmental progress of the member regions. It is envisaged that the creation of innovative mobility opportunities through new multinational academies and hubs will improve the national and international competitiveness of the associated regions and their academic community thus allowing them to: (i) complement existing capital and large city regions; (ii) retain and attract young talent and (iii) correct existing unfavourable bias in development trends in peripheral European regions.

The working group of the “Future and Sustainable Industries” EIH has established a network of academics and researchers in the different RUN partners in order to create the seed for what the Hub aims to become. In the preliminary stage, the key areas of intervention were identified. Secondly, the different research groups’ competences were mapped onto these areas, to highlight specific interests and potential synergies between groups. Last, and more recently, a roadmap of activities was agreed among members, which are focused on the involvement of external partners (both companies and governmental entities), in order to pave the way for the last step of bringing the Hub’s activities to society in general.

This Strategic Plan aims to align the EIH with the key priorities and strategy established for the RUN-EU in terms of Regional, National and European innovation impact. The EIH is currently counting on the following individuals and research groups (alphabetically ordered by institution):

Florian Maurer, FHV, Digital Factory

Jens Schumacher, FHV, Business Informatics

Paldan Katrin, FHV, User-centered Technologies

Francois Christophe, HAMK, Robotics

Juha-Matti Torkkel, HAMK, Serious Gaming

Kaisa Kontu, HAMK, Energy

Paivi Laaksonen, HAMK, Long-term Durability

Timo Kärppä, HAMK, Reverse Engineering & 3D-Technologies

Joao Vilaça, IPCA, 2Ai (Applied Artificial Intelligence Laboratory)

Geoffrey Mitchell, IPL, CDRSP (Centre for Rapid and Sustainable Product Development)

Luís Neves, IPL, INESCC (Institute for Systems and Computer Engineering of Coimbra)

Sérgio Faria, IPL, IT (Telecommunication Institute)

Fernando Kleiman, NHL Stenden, Serious Gaming

Marcel Crul, NHL Stenden, Circular Plastics

Wilbert van den Eijnde, NHL Stenden, CESSM (Centre of Expertise Smart Sustainable Manufacturing)

Áron Ballagi, SZE, Digitalization and Automation

Evert Fuenmayor, TUS, PRISM (Polymers, recycling, industrial, sustainability and manufacturing) Research Institute

John Cosgrove, TUS, ACORN (Intelligent Solutions for Industrial, Commercial and Energy Applications) + CEEDD (Centre for Energy Efficiency and De-Carbonisation) + IDEAM (Irish Digital Engineering, Artificial Intelligence and Advanced Manufacturing)

Rupal Srivastava, TUS, SRI (Software Research Institute)

Caitriona Mordan, TUS, ATIM Cluster

In addition to those, the sub-committee of WP2 which has been actively promoting this EIH, and responsible for the work contained in this report, feature (in alphabetic order):

Filipe Chaves, IPCA

Jan van der West, NHL Stenden

Martin Dobler, FHV

Ricardo Simões, IPCA

2. MISSION AND VISION FOR THE ESTABLISHMENT OF AN EUROPEAN INNOVATION HUB ON FUTURE AND SUSTAINABLE INDUSTRIES

2.1 Mission Statement

The EIH in Future and Sustainable Industries constitutes an interregional network dedicated to the development of collaborative research and innovation processes, jointly with and prompted by the needs of businesses (fostering the growth of the very small and pushing for a sustainable evolution of the very large), public sector and civil society, utilising a quadruple helix approach.

2.2 Vision Statement

The EIH in Future and Sustainable Industries will be recognized as an European reference in research with regional impact, in this thematic area, using a human-centred approach and the strong links between the alliance members and their local ecosystems and businesses in the definition and provision of joint research and knowledge exchange, as well as collaborative future-proofed skills-based educational opportunities, thus contributing to adopting a sustainable approach to the economic, social, cultural and environmental progress of the member regions. It will constitute one of the central pillars of the European Zone of Interregional Development (EZ-ID) envisaged by RUN-EU.

2.3 EIH Identity

This EIH is focused on industrial sustainable productivity and competitiveness, through the use of technology and design that can foster progress, promoting and then applying innovative research in the areas of: Robotics & Autonomous Systems, Optimized & Sustainable Manufacturing, Digitization, Computer Science, Materials & Circularity, and Industrial Design & Product Engineering. The Hub will function as a virtual overarching interregional network, bridging RDI with knowledge transfer and training, with the target of creating significant regional impact on the RUN-EU partner regions.



Governance

It is expected that the three planned EIHs have a common, joint governance structure (Figure 1). Within this structure, which is still being decided, the “Future and Sustainable Industries” EIH is expected to have a Management Board that will include a Hub Director, Program Managers, and Thematic Area Managers. The programme managers will ideally be members of external partners (preferably industrial partners, who will in this way ensure proper connection between the hub and different professional activities and events), while thematic area managers will ideally be from the associated research centers. Through its Director, the Management Board will ensure proper articulation of the Hub activities with other workpackages of RUN-EU, namely WP5 research groups, and integrating the Hub’s goals into the activities of WP3, WP4, WP6, and WP7.

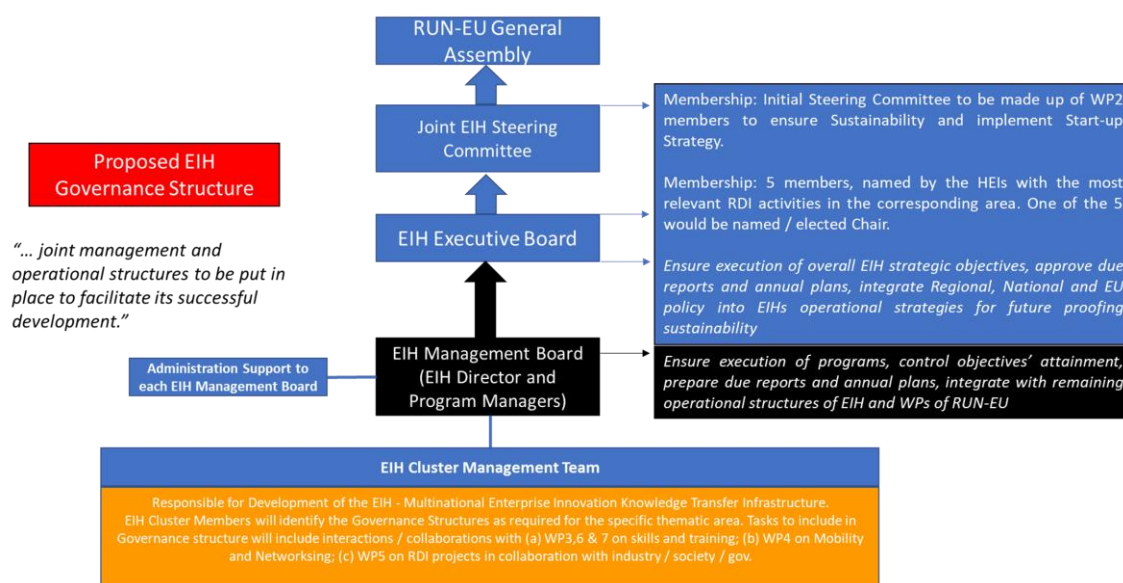


Figure 1 – The work plan for RUN-EU alliance

3. EUROPEAN INNOVATION HUBS WITHIN THE RUN-EU PROJECT.

European Innovation Hubs constitute the ultimate output envisaged by work package 2 (WP2), within the generic work plan of RUN-EU (Figure 2).

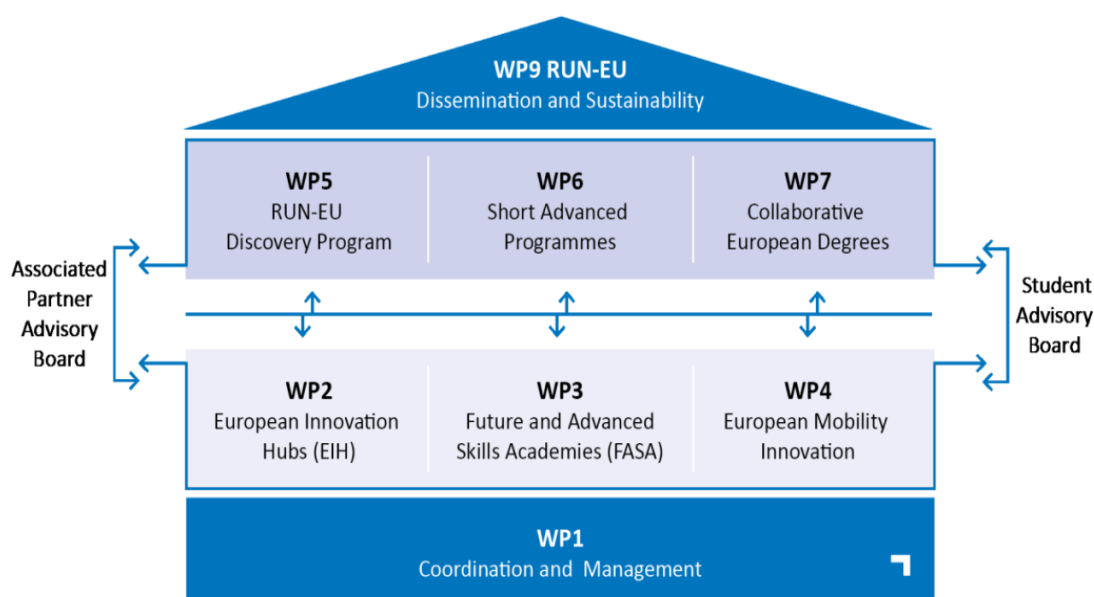


Figure 2 – The work plan for RUN-EU alliance

The European Innovation Hubs are expected to build up from the existing links between the alliance members and their local ecosystems and businesses in the definition and provision of collaborative future-proofed skills-based educational opportunities, joint research and knowledge exchange; thus, contributing to adopting a sustainable approach to the economic, social, cultural and environmental progress of the member regions. The Future and Sustainable Industries Hub is particularly dependent on interfacing with regional innovation clusters at each member state, and to interact with local partners in pursuing the most important regional challenges that can bring about true societal transformation. As this EIH has several different areas of interest, it will be particularly easy (and simultaneously important) to establish links to the other work packages. In particular, input from the industrial partners on what SAPs are needed, establishing networks that prepare research proposals in the framework of WP5 research groups, and mobility of students/researchers/faculty both for research activities but also for networking events.

4. EIH STRATEGY MAP

The Future and Sustainable Industries EIH has established its Mission and Vision aligned to the overarching RUN-EU EIH Strategic Plan, as described below:

Mission: The EIH in Future and Sustainable Industries constitutes an interregional network dedicated to the development of collaborative research and innovation processes, jointly with and prompted by the needs of businesses (fostering the growth of the small and pushing for a sustainable evolution of the large), public sector and civil society, in a quadruple helix approach.

Vision: The EIH in Future and Sustainable Industries will be recognized as an European reference in research with regional impact, in this thematic area, using a human-centered approach and the strong links between the alliance members and their local ecosystems and businesses in the definition and provision of joint research and knowledge exchange, as well as collaborative future-proofed skills-based educational opportunities, thus contributing to adopting a sustainable approach to the economic, social, cultural and environmental progress of the member regions. It will constitute one of the central pillars of the European Zone of Interregional Development (EZ-ID) envisaged by RUN-EU.

Scope: The EIH in Future and Sustainable Industries aims to foster progress in the areas of Robotics & autonomous systems, Optimized & sustainable manufacturing, Digitization, Computer science, Materials & circularity, and Industrial design & product engineering, bridging RDI with knowledge transfer and training, aiming to have significant regional impact.

Considering the goals, processes and supports each thematic EIH has influence over, Key Performance Indicators (KPIs) were proposed for the EIH. Figure 3 illustrates the strategy map layout to accomplish the Hub's strategic plan. These initiatives include input and output points with the other work-packages of RUN-EU to inform in the development of key skills, training programmes and opportunities of innovative learning with associate partners and regional stakeholders.

The Hub will endeavour to develop all its activities framed by the 17 Global Sustainable Development Goals, contributing to the EU - and therefore - regional needs for change, while also aligned to regional/national authority strategy plans and policies.

[illegible]

Figure 4 – Example of Research Cluster, Hub, External Partner Audit output for the EIH

Taking the audit output as a start, all relevant research groups were contacted, and a working group was created, which met periodically since the end of 2021 (about every 3 months). Figure 5 shows the key areas which were identified by all participants in the EIH meeting (representatives from the research centres are the different RUN-EU partners).

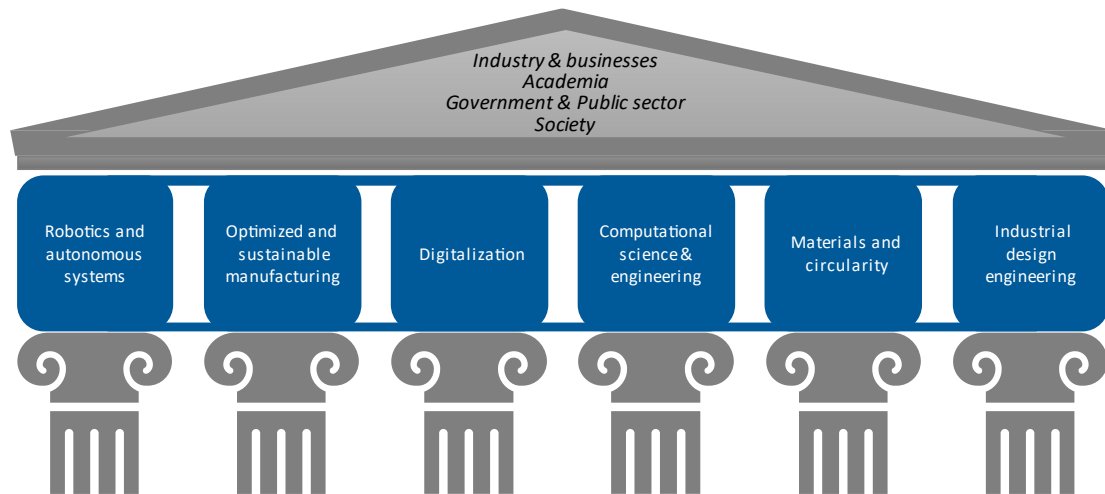


Figure 5 – Key areas for the EIH

Subsequently, the involved research centres have identified how their activities are aligned with the key areas. This considered both existing projects as well as new areas which the centre is now exploring or even considering for the near future. Although it was not expected that each centre features activities in all the selected key areas for the EIH, all centres were able to frame their activities with at least 1 of those areas, and in most cases with 3 or 4. It was also found that there is a fair balance between the key areas, with Industrial design engineering featuring the least number of active centres, while Optimized and sustainable manufacturing featuring the highest number of active centres.

The taxonomy of the selected key areas results from a balance in the breadth of scope, attempting to avoid very narrow definitions which limit the field of activity for the area and simultaneously avoid too broad areas that encompass entire fields of study. Nevertheless, there are two fairly broad areas (Optimized and sustainable manufacturing, and Computational science and engineering), and it is expected that moving forward it will be possible to make their scope explicit through a more detailed explanation of each.

The research groups activities and the respective alignment with the EIH key areas are schematically represented in Figure 6.

<i>RUN partner</i>	<i>Research Group</i>	Area 1 - Robotics and autonomous systems	Area 2 - Optimized and sustainable manufacturing	Area 3 - Digitalization	Area 4 - Computational science & engineering	Area 5 - Materials and circularity	Area 6 - Industrial design and product engineering
FHV	Digital Factory	•	•	•			
FHV	User centered technologies	•	•		•	•	•
FHV	Business Informatics		•		•		
HAMK	Long term durability					•	
HAMK	Robotics	•			•		
HAMK	Reverse engineering		•				•
HAMK	Energy		○				
IPCA	2Ai	•	•		•		•
IPL	CDRSP		•	•		•	•
IPL	INESCC	•	•	•	•	•	
IPL	IT				•		
NHL	Circular plastics		•			•	•
NHL	CESSM	•	•			•	
NHL	Computer vision				○		
NHL	Serious gaming				•		
SZE	Digitalization and automation	•		•	•		
TUS	MRI		•	•	•	•	
TUS	ACORN	•	•	•	•		
TUS	CEEDD		•			•	
TUS	SRI	•		•			
TUS	IDEAM	•	•	•	•	•	
TUS	ATIM Cluster		•		•	•	

Figure 6 – Research groups activities and alignment with the EIH.

4.1. EIH OBJECTIVES, KPI'S AND INITIATIVES

The following tables detail the Objectives, KPIs each thematic EIH needs to address and examples of Initiatives in which to accomplish them.

No.	Objective description	KPI	Initiative
P1	Engage regional partners to identify skills requirements.	Number of partners engaged in the identification of skills requirements.	Establish, each year, a consistent program of exploratory visits and networking events with external partners (quadruple helix approach: industry representative bodies, SMEs, national and regional entrepreneurial and innovation agencies, regional government agencies, regional and national social innovation and cultural bodies and agencies)
P2	Adopt common approach to Masters, PhD and post-doctoral programmes in cooperation with business, government and social partners. Consider also level 5 master classes and associate degrees.	Number of double / joint degrees developed in cooperation with business, government and social partners	Articulate initiatives and programmes with WP3

P3	Engage regional partners to identify RDI requirements	Number of partners engaged in the identification of RDI requirements.	Establish, each year, a consistent program of exploratory visits and networking events with external partners (quadruple helix approach: industry representative bodies, SMEs, national and regional entrepreneurial and innovation agencies, regional government agencies, regional and national social innovation and cultural bodies and agencies)
P4	Develop innovation-based projects with industry / government / social partners	Number of innovation-based projects with industry	Short term mobility program to bring together multidisciplinary and international teams working with industry / government / social partners (articulate w/ WP4)
P5	Support enhanced collaboration between member region spinouts and SMEs.	Number of projects developed involving both spinouts and SMEs	Establish a multinational Enterprise Innovation knowledge transfer infrastructure
P6	Promote entrepreneurship.	Number of entrepreneurship projects supported / mentored through projects involving RUN-EU members' collaboration	Establish a multinational Enterprise Innovation knowledge transfer infrastructure

P7	Recruit funding for projects	Amount of funding (€) obtained by the projects [refer to P4]	
P8	Increase research network among RUN partners	Number of companies with which projects were established [refer to P4]	Establish new and enlarge existing networks of companies around RUN partners

No.	Objective description	KPI	Initiative
S1	Promote training for research staff	Number of Short durations CPD directed for staff training, in the thematic area of the EIH	Articulate initiatives and programmes with WP6
S2	Attract top talent	Number of new researchers hired	Articulate initiatives and programmes with WP5
S3	Capture funding opportunities	No. approved joint projects involving RUN-EU members	Articulate initiatives and programmes with WP5
S4	Have up-to-date equipment and infrastructures specific to the EIH area		From WP5 Audit report... share specialised equipment / infrastructures (physical or virtually)

S5	Promote inter-university international RDI working teams	No. thematic international teams working in common projects	Short term mobility program to bring together multidisciplinary and international teams working with industry / government / social partners (Articulate with WP4)
S6	Formal agreements between the alliance member regions	No. formal agreements involving RUN-EU members and / or external partners of RUN-EU regions	Establish, each year, a consistent program of exploratory visits and networking events with external partners (quadruple helix approach: industry representative bodies, SMEs, national and regional entrepreneurial and innovation agencies, regional government agencies, regional and national social innovation and cultural bodies and agencies)
S7	Raise societal awareness on the thematic area of 'Future & Sustainable Industries'	Survey inferring societal awareness on the thematic area (in two moments in time, separated by N years)	Structured Program for awareness raising engagement and demonstrative activities related to each thematic area, directed to diverse targets (e.g. children, local gov. entities, SMEs, HEI students...). Articulate with WP8.

Note: Objectives, KPIs and Initiatives will be reviewed annually to ensure the EIH targets are addressing RUN-EU, Regional and European needs.

5. EMBEDDING EIH OVERARCHING TASKS AND DELIVERABLES

The EIH will contribute to meeting the overarching tasks of work package 2, including expected deliverable outputs such as annual activity reports and production of dissemination material. In the pursuit of this goal, the activities of the EIH will be continuously linked to the ongoing tasks of work package 2, and the Management board of the EIH will be represented in each plenary meeting of work package 2. This synergy is natural, as the tasks of work package 2 are essentially connected to the stages of evolution of a Hub.

As such, the ongoing EIH tasks include:

- Identification of interregional RDI activities among the RUN-EU partners and of opportunities for establishing RDI teams.
- Identification of funding targets that can support the envisioned RDI activities under the different key areas of the Hub and promote projects with interregional character and the quadruple helix approach that constitutes the cornerstone of the Hub.
- Build an interregional network within the scope of activities of the EIH, involving external partners and relevant regional actors, aiming to create large scale projects that tie to the RUN-EU Plus project.
- Identify training opportunities that meet the needs of external partners, and which can help define the future skills to be incorporated into programs being defined at different levels on the various work packages of RUN-EU (namely, short, advanced programs and collaborative degrees).
- Produce an annual activities report.

6. STRATEGIC PLAN IMPLEMENTATION AND NEXT STEPS

In recent months, the working group of EIH has triggered the following initiatives:

- Establish an Infrastructural development team to operationalise and implement the EIH strategic plan. This team is composed of Ricardo Simões (IPCA), Jan van der West (NHL Stenden), Martin Dobler (FHV), Filipe Chaves (IPCA), Jarmo Havula (HAMK), Marcel Crul (NHL Stenden), Tobias Werner (FHV), and Enda Fallon (TUS).
- Request human capital support, namely at least 1 Innovation Assistant for the Hub, which role includes partner connectivity, funding identification and dissemination of marketing materials and outputs. However, funding for this was not yet secured, and eventually the partners will prepare a joint application to EU Enterprise Development Funding Calls.
- A series of three networking events is planned with researchers, innovators, business, industry and community partners from each RUN-EU member for 2023. This event will be mostly driven to the engagement of external partners.
- Plan for a branding and awareness campaign of the EIH among RUN-EU Members in collaboration with WP8 team. This task has only recently begun.
- As part of the strategic plan implementation, the link to UN SDG, RIS3, Horizon 2030, and other highly relevant strategic programmes and initiatives are being identified.

Moving forward, in the next months, the EIH team is planning to focus on the following topics:

- Analyse current public policy and strategic documents that are relevant for the EIH to establish social regional context of the partner RUN-EU regions.
- Evaluate the human capital availability for tech transfer and innovation, in the scope of the selected key areas.
- Compile a track Record of lead Principal Investigators among involved research centres.
- Perform a SWOT analysis considering the selected key areas and the current large-scale challenges at a European level.
- Identify actions for risk mitigation.

European Innovation Hub 2 – Bioeconomy



1. EXECUTIVE SUMMARY

The Regional University Network – European University (RUN-EU) will strive to secure the sustainable economic, social, cultural and environmental progress of its regions and stakeholders.

The working group on the establishment of EIHs has carried out an initial audit on current Research Clusters, Associated External Partners, Associated Hubs and Facilities that exist across the network as part of delivering Task 2.1 which informs this Strategic Plan on each partners' readiness levels for joining an EIH in a particular thematic area. This audit will be reviewed on an annual basis to catalogue the progress of each EIHs' development and individual RUN-EU partners interactions and growth as a result.

The audit has provided graphical insight into the partners clarifying main interests and providing a primary focus point for initial establishment of the EIHs under a shared Mission and Vision.

The graphic also directly connects the RUN-EU members with their own external partners, providing an extra layer in the audit, which will help the partners not only to reach their primary shared goals within the network, but also to act for our external partners as a turntable of knowledge. The external partners are facilitated to contact / connect with other external partners with the help of RUN-EU members, to reach goals initially out of reach of our RUN EU-network.

This RUN EIH in Bioeconomy Strategic Plan was prepared by the following members from the RUN-EU Partner Institutions:

Annukka Pakarinen (EIH Lead)	Häme University of Applied Sciences, Finland
Päivi Vartiainen (EIH admin.)	Häme University of Applied Sciences, Finland
Neil Rowan	TUS Athlone, Ireland
Jeroen Rijnhart	NHL Stenden, The Netherlands
Gillian Barry	TUS Limerick, Ireland
Petra Szakonyi	Szecheny Istvan <u>University</u> , Hungary
Ricardo Simões	Polytechnic of Cávado and Ave, Portugal
Sara Calçada Novais	Politécnico de Leiria, Portugal

2. MISSION AND VISION FOR THE ESTABLISHMENT OF EUROPEAN INNOVATION HUB IN BIOECONOMY

2.1 Mission Statement

The mission of European Innovation Hubs (EIH) is focused on fostering joint synergistic interregional research, innovation and regional stakeholder engagement activities, departing from existing members' regional innovation clusters and ensuring their expansion to an interlinked and collaborative network involving associated partners from each country, drawn from industry and enterprise, regional government entities and society. This holistic EIH framework will be deeply complementary as it will foster shared open access to knowledge, innovation and infrastructure exchange for stakeholders, end-users and beneficiaries associated with respective expertise from each region; thus, supporting, and enabling co-development of transnational EIH hubs. On the first phase of RUN-EU, the European Innovation Hubs to be created will be focused on three areas: Future Industry and Sustainable Regional Development, the Bio-economy and Social Innovation.

The mission of the Bio-economy hub is to bring together parties who together have an opportunity to change the world more sustainably. The mission of the RUN-EU Bioeconomy hub consists of the following subsections:

1. Promotion of applied research that supports the sustainable use of natural resources and carbon-wise production.
2. Multidisciplinary approach that increases the possibilities of the bioeconomy with the help of digital technology.
3. Promotion of the business opportunities in the bioeconomy sector and, in general, promotion of the green transition of various industries.
4. Integration of value chains that support circular economy
5. Competence development and future skills to enhance the implementation of bio-innovations.

2.2 Vision Statement

The vision of the RUN-EU Bioeconomy EIH is based on the principles of the EU's bioeconomy strategy¹. The strategy, in which RUN-EU Bioeconomy EIH relies on, has 5 goals 1) ensure food and nutrition security 2) manage natural resources sustainably 3) reduce dependence on non-renewable, unsustainable resources 4) limit and adapt to climate change and 5) strengthen European competitiveness and create jobs. Goals 1-4 are worked on in research clusters Food and Biotechnology and Climate Change – Circular Economy & Decarbonisation. Goal 5 is worked on together with FASAs.

¹ European Commission, Directorate-General for Research and Innovation, *A sustainable bioeconomy for Europe : strengthening the connection between economy, society and the environment : updated bioeconomy strategy*, Publications Office, 2018, <https://data.europa.eu/doi/10.2777/792130>

The vision is to provide a ‘network of networks’ in which stakeholders can together:

1. have an access from regional bioeconomy networks to European level networks,
2. increase R&D and funding opportunities
3. complement skills and facilities to meet the future needs
4. contribute to policy makers and measures

To meet the listed objectives RUN EIH in Bioeconomy invites regional stakeholders to participate and work in the areas shown in figure 1.

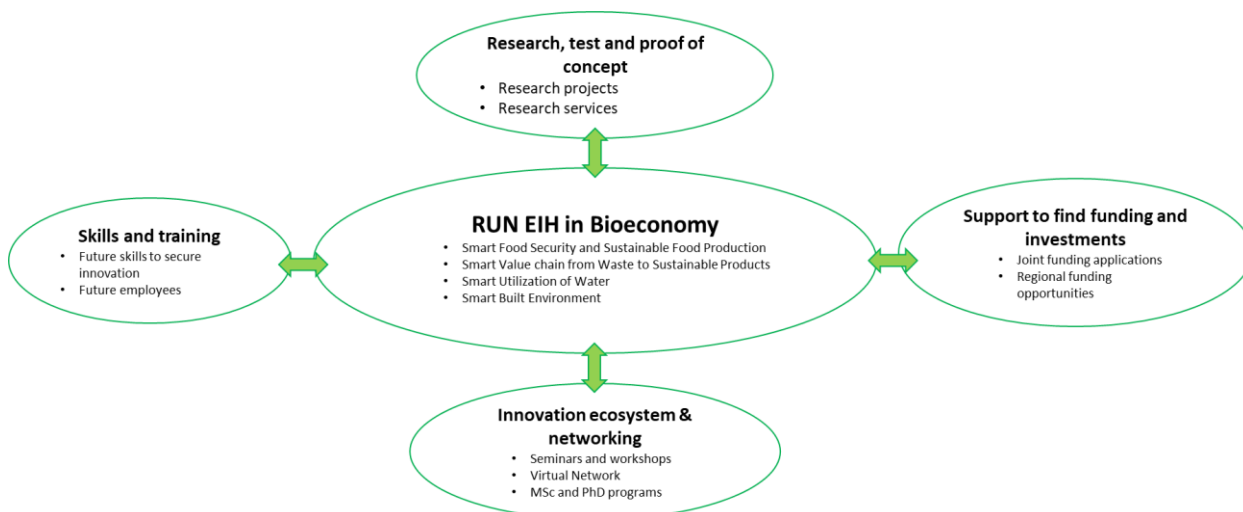


Figure 1 – RUN-EU Bioeconomy Thematic Areas

2.3 EIH Identity

The Bioeconomy is not only an approach to sustainable development of many sectors of the economy, *e.g.* agriculture and food processing, forestry, fisheries, biotechnology and pharmacy. But rather the creation of extensive value chains that promote a sustainable circular economy and switch to renewable resources. The aim of RUN-EU Bioeconomy EIH is to make optimal use of natural products and their processing into useful products along the value chain, from primary production to value added products, food, materials, clean energy and fuels. Sustainable value chains are not only local, but to a greater extent European and global.

Appearance

Each EIH is a virtual entity. One of the most influential elements of WP2 is the network element as well as of each of the hubs. By describing the EIH as virtual, the essence of being a network is emphasized. To express and support this network within the three thematic areas as well as an overarching network, we will research the possibilities to develop and implement a digital environment. This environment will be an important and sustainable element of WP2. The EIH in Bioeconomy will be part of RUN EIH virtual network and events have been and will be on-line.

Branding

The name of each hub itself will reflect the hub's domain. The names can be considered sub-labels of the R-N EU label, and, as such, be part of the bigger RUN-EU brand. Since RUN-EU is aimed at becoming sustainable, the key 'sustainability' element with the EIH's will be derived from the main brand.

The EIH Collaborative development and sub themes

The strategy and structure of RUN EIH in Bioeconomy have been discussed and developed in a small subgroup. This group consisted of representatives from management (Research director, Annukka Pakarinen, HAMK), Research and Education (Prof. Neil Rowan, TUS, Athlone), Incubators and business (Head of Innovation & Enterprise, Gillian Barry, TUS, Limerick) and Business (managing director at CEW, Jeroen Rijnhart, NHL Stenden). Päivi Vartiainen (HAMK) joined later as an administrative and development assistant.

The EIH in Bioeconomy collaborates actively with the food and biotechnology research cluster (established in WP5). The group of researchers from RUN-EU partners has met approx. once a month and prepared two Horizon applications together. Bioeconomy is present also in the Climate Change – Circular Economy & Decarbonization research cluster and meetings (led by Petra Szakonyi, SZE) have taken place. The backbone of the EIH in Bioeconomy consists of the existing research groups/centers/clusters etc. that work actively with the business and society in their region (Figure 2)

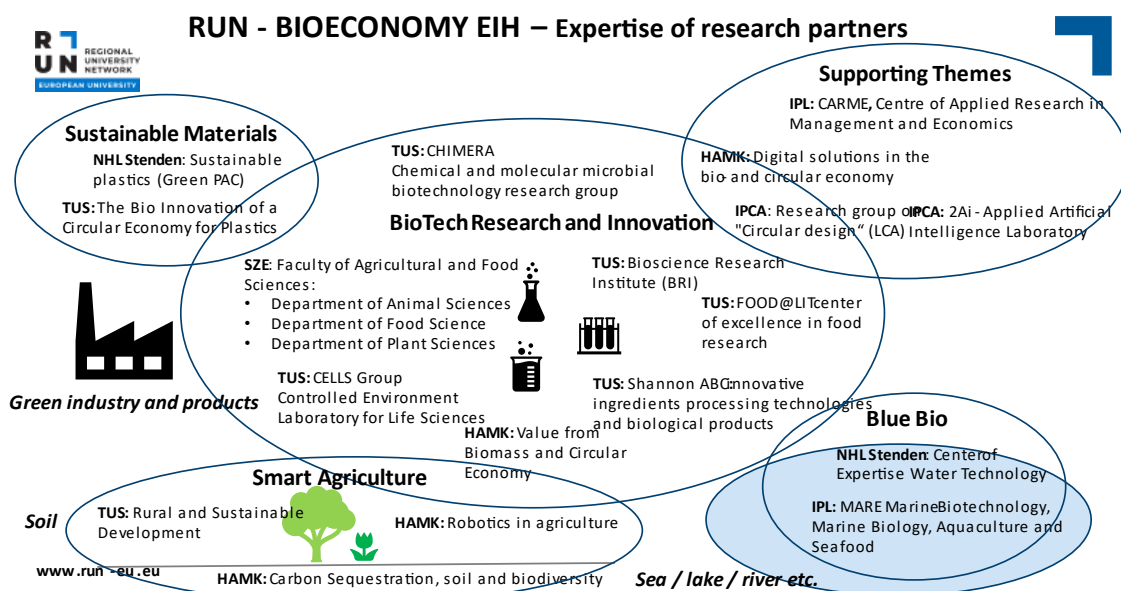


Figure 2 Research units/centers/areas/clusters involved in RUN Bioeconomy EIH

Governance

The Bioeconomy EIH consists of experts working in the active research centers, clusters, and/or groups of each partner university (Figure 2). Therefore, the hub is strongly linked to the research

clusters, mainly those in Food and Biotechnology and Climate Change – Circular Economy & Decarbonization. The Bioeconomy EIH is led by HAMK (leader and administration support). The leader is a member of the EIH Executive Board. Each partner university will have a contact person responsible for information flow between research, business, and other regional stakeholders. Additionally, expertise from business and incubator centers is requested to be part of the EIH (EIH management board). Actual work will be done mainly through researchers and research-business co-operation in funding application processes and funded projects. Focused themes, based on our expertise and EU bioeconomy strategy, will be announced and companies invited to join those theme clusters (EIH clusters) which are all led by one or two researchers from RUN partner institutions.

The Bioeconomy EIH works in close co-operation with FASA to ensure required future skills in the field of bioeconomy. The innovation ecosystems concept and research-based MSc + PhD programme development have been developed in close collaboration with the RUN-EU Plus project team.

Organization of RUN-EU Innovation Hub in Bioeconomy and connections to other RUN-EU and RUN-EU plus activities are shown in Figure 3.

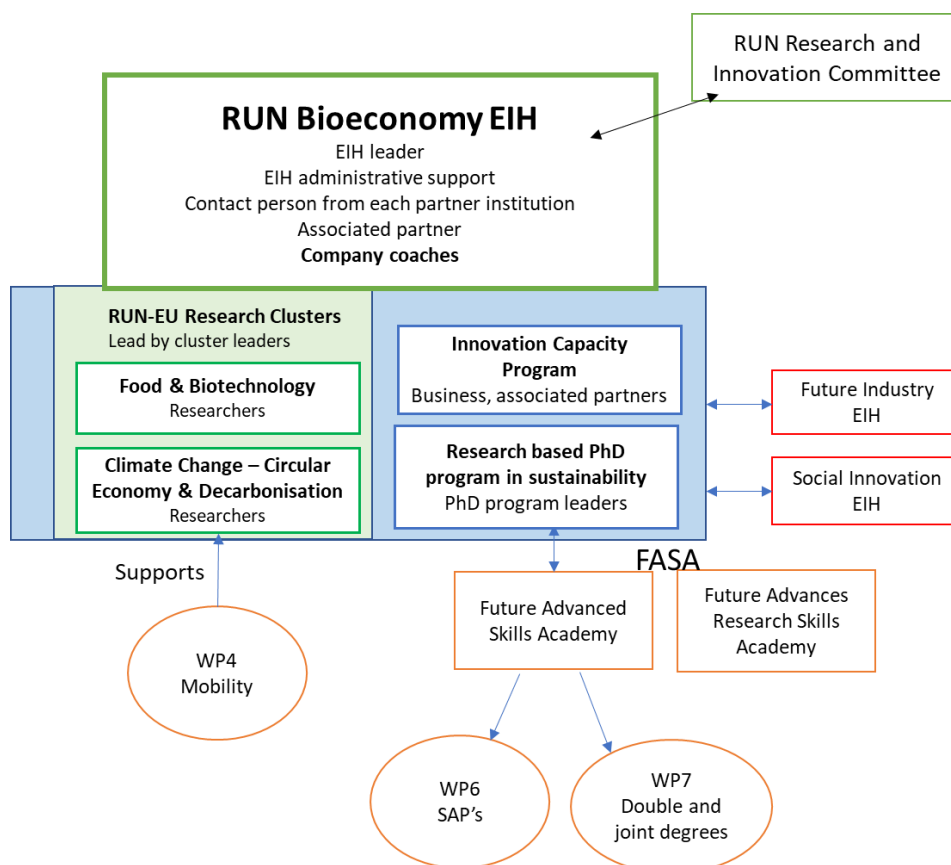


Figure 3 Organization of RUN-EU EIH in Bioeconomy and connections to RUN-EU and RUN-EU Plus project

3. EUROPEAN INNOVATION HUBS WITHIN THE RUN-EU PROJECT.

European Innovation Hubs constitute the ultimate output envisaged by work package 2 (WP2), within the generic work plan of RUN-EU. Connections of Bioeconomy hub to other RUN-EU project work packages are shown in image 1. Outcomes of RUN-EU EIH's are described in each deliverable.

The RUN-EU EIH in Bioeconomy will support and develop its ecosystem to meet the overarching RUN-EU objectives and to complement other RUN-EU EIH's. The EIH in bioeconomy is in a development phase. The ecosystem between European-level researchers, regional developers and business is designed in close co-operation with FASA, other EIH's, RUN-EU Discovery program and RUN-EU Plus project. The research clusters in Food and Biotechnology and partially Climate Change – Circular Economy & Decarbonization are merged into the EIH in Bioeconomy to form a research body. Associated partners and regional business are an important part of EIH's. Innovation ecosystem and research-based MSc and PhD programme development will be done in close co-operation with the RUN-EU Plus project.

4. EIH STRATEGY MAP

Mission: The EIH in “Bioeconomy” constitutes an interregional network dedicated to the development of collaborative research and innovation processes within the areas of bioeconomy, jointly with and prompted by the needs of businesses (fostering the growth of the very small and pushing for a sustainable evolution of the very large), public sector and civil society, utilising a quadruple helix approach.

Vision: EIH in “bioeconomy” will be recognized as an European reference in research with regional impact, in this thematic area, using a human-centered approach and the strong links between the alliance members and their local ecosystems and businesses in the definition and provision of collaborative future-proofed skills-based educational opportunities, joint research and knowledge exchange, thus contributing to adopting a sustainable approach to the economic, social, cultural and environmental progress of the member regions. It will constitute one of the central pillars of the European Zone of Interregional Development (EZ-ID) envisaged by RUN-EU.

The RUN-EU EIH in Bioeconomy will promote development and strengthening of regional and local research and innovation ecosystems and smart economic transformation, in line with regional/national smart specialisation strategies. However, challenges to the bioeconomy are regional, national and world-wide thus the ecosystem covers other partners than only regional.

The ecosystem is primarily focused on the regional; farmers and other companies in primary production, companies in waste management, food industry, companies producing, processing, refining or utilizing side streams or bio-based compounds/materials. Ecosystem contains also companies working in green infrastructure, construction or water management. The public sector, citizens and policy makers are important elements of the ecosystem as well. Since the Bioeconomy sector is wide, the EUe RUN EIH in Bioeconomy has chosen four thematic areas to focus on.

Thematic areas chosen for the RUN-EU EIH in Bioeconomy

In the field of bioeconomy RUN bioeconomy hub will concentrate on four thematic areas to fulfil the needs of the future demands:

1. Smart Food Security and Sustainable Food Production
2. Smart Value chain from Waste to Sustainable Products
3. Smart Utilization of Water
4. Smart Built Environment

Thematic areas will support Horizon Europe programme pillar II, cluster 6 (Food, Bioeconomy, Natural Resources, Agriculture and Environment) and its destinations 1) Biodiversity and ecosystem services 2) Fair, healthy, and environmentally friendly food systems from primary production to consumption 3) Circular Economy and bioeconomy 4) Clean environment and zero pollution and 5) Lands, oceans and water for climate action. More detailed research focus areas are listed below.

Smart Food Security and Sustainable Food Production will concentrate on enhancing:

- *Carbon neutral and sustainable primary production in agriculture, horticulture and fisheries*
 - *Soil fertility and structure*
 - *Feed*
 - *Utilization of sidestreams (green biomasses, manure etc.)*
- *New solutions for food production*
 - *Indoor and Urban Farming*
 - *Bioreactors*
 - *Cellular Agriculture*
- *Sustainable refining processes*
 - *Utilization of sidestreams*
 - *New packaging solutions*
- *Data collection processing, analyses and utilization*
 - *Tools to understand, optimize and develop*

Smart Value chain from Waste to Sustainable Products will concentrate on enhancing:

- *Utilization of sidestreams from the primary production and various industry*
 - *Organic solids and waste waters*
 - *Development of value chains, processes and products utilizing side streams*

- *growing media, fertilizers, algae, fungi, microbes, biogas, biochar*
- *extraction methods and analytics*
- *cellular and synthetic biology as tools to new production lines*
- *New solutions for sustainable bio-based raw materials and materials*
 - *cosmetics, construction, packaging, chemical, agriculture etc. industry*
 - *Formulation, structure and long-term durability testing*
- *Optimization of value chain and production logistics and opportunities*

Smart Utilization of Water will concentrate on enhancing:

Development of management and applications to secure scarcity water resources. Strong connection to other themes.

- *Water management*
- *Sea/Ocean research*
- *Fish Industry*
- *wastewater management*
- *Protection of natural waters in especially agricultural areas*

Smart Built Environment will concentrate on enhancing:

Development of new applications and new knowledge about the design of a public and private sustainable, inclusive, functional, accessible, aesthetically attractive and resilient built environment.

- *Carbon and biodiversity intelligent solutions for the built green environment*
 - *Systemic changes in green infrastructure*
 - *Carbon and biodiversity gardeners*
- *Nature-based solutions for the green infrastructure*
 - *Run-off water management*
- *Sustainable eco-friendly materials in construction industry*
- *Sustainable energy solutions for the built environment*
- *Smart solutions in built environment to enhance sustainability*

5. EIH OBJECTIVES, KPI'S AND INITIATIVES

Through the identification of what the goals, processes and supports EIH in Bioeconomy has influence over, Key Performance Indicators (KPIs) will be established with identified initiatives with milestones and deliverables set to ensure performance and development goals are met. The updated table of objectives and KPI's prepared in previous report (D2.6) is shown in annex V.

Activities supporting the establishment process and objectives (P1-P6) of EIH in Bioeconomy have continued. Research visits, Science Meet Regions conferences, Funding application preparation and common teams' meetings have been tools towards the consolidation of RUN-EU EIH in Bioeconomy. Entrepreneurship (P6) has not been actively promoted but the work of other processes also supports this future perspective. In the EIH's overall strategy, objectives are divided into processes (P's) and supportive actions (S's). Supportive actions that ensure skills, infrastructure and networks on innovation ecosystem have been developed in co-operation with e.g. RUN-EU Plus and will be continued. The status of the processes and supportive actions to meet objectives is shown in Table 1.

Table 1 Status of the processes and supportive to meet objectives

No.	Objective description	Actions Yr. 3
P1	Engage regional partners to identify skills requirements.	Questionnaire for business members, associated partners and regional decision makers in the areas of RUN-EU-partner universities was applied in Science Meets Regions event to identify future skills especially in bioeconomy
P3	Engage regional partners to identify RDI requirements	<ul style="list-style-type: none"> - RUN EIH concept has been introduced and developed in cooperation with regional partners in Science Meet Regions events organized in Hungary (April 2023), Portugal (May 2023) and Ireland (June 2023) - Participation in regional events and funding training in order to promote RUN-EU innovation hubs in bioeconomy. Training courses are intended especially for companies to identify their RDI needs and learn about funding requirements.
P4	Develop innovation-based projects with industry / government / social partners	<ul style="list-style-type: none"> - Workshop with researchers from Food & Biotechnology research cluster to identify interesting and possible funding calls for

		years 2023-2024 has continued. Few applications are in process
P5	Support enhanced collaboration between member region spinouts and SMEs.	Science meet Regions events were organized in Hungary, Portugal and Ireland. SME's and associations of SMEs were actively present in discussions, panels etc. Enterprises are also included in funding applications prepared in EIH
P6	Promote entrepreneurship.	In RUN-Plus: Innovation capacity survey to identify the initial situation of partner universities Workshop together with RUN-plus to develop common strategies

No.	Supporting objective	Actions in year 3
S1	Promote training for research staff	RUN-EU plus has organized trainings which has been offered to Bioeconomy EIH members
S2	Attract top talent	<ul style="list-style-type: none"> There have been several researcher visits which have brought top talent together. These have increased the understanding of our joint goals and future possibilities of co-operation PhD program development has started, and first PhD student was enrolled in joint PhD program (TUS-HAMK)
S3	Capture funding opportunities	<p>Research clusters are meeting regularly searching for European level funding opportunities. Interests are collected into teams. Following applications have been prepared or are under preparation:</p> <p>1. INNOVAlgae - INNOVative solutions for future-looking Algae biorefineries, circular economy production and markets (no success)</p>

		<p>2.HORIZON-CL6-2022-FARM2FORK-01-01: Risk assessment of new low risk pesticides (no success)</p> <p>3. Horizon CL6-2024-FarmtoFork-01-10 (dl 22.2.2024) EU-African Union cooperation on agroforestry management for climate change adaptation and mitigation</p> <p>4. Horizon-CL4-2024-TWIN-TRANSITION-01-01, DL 7.2.24 / 24.9.24</p> <p>Bio intelligent manufacturing industries</p> <p>5. HORIZON-CL5-2024-D3-02-03 DL 21/01/2025</p> <p>Development of smart concepts of integrated energy driven bio-refineries for co-production of advanced biofuels, bio-chemicals and biomaterials</p>
S4	Have up-to-date equipment and infrastructures specific to the EIH area	All available equipment was identified in research area audit D5.1
S5	Promote inter-university international RDI working teams	Workshop and three Science Meets Regions events organized in 2023 were organized to promote inter-university working teams in addition to broader regional co-operating. Researcher visits and regular funding application activities strengthened internal RDI-teams
S6	Ensure fluent communication among all partners	Joint teams and increased personal relationships have strengthened communication among partners. Researchers of RDI cluster in Food and Biotechnology and members of bioeconomy EIH are working as a one group.

S7	Formal agreements between the alliance member regions	RUN-EU Knowledge Transfer Template Agreements
S8	Raise societal awareness on the thematic area	The purpose of Science Meet Regions has been to raise societal awareness on each thematic area. Societal awareness is also included in funding applications written within bioeconomy hub

6. STRATEGIC IMPLEMENTATION PLAN AND NEXT STEPS

The development and consolidation of the bioeconomy hub will continue as part of the RUN-EU 2.0 activities. Innovation hub development continues are part of WP3 RUN-ERA (RUN European Research Area). Objectives suggested for the next cycle are listed in Table 2.

Table 2 Suggested next steps of the processes and supportive to meet objectives.

No.	Objective description	Actions in RUN-EU 2.0
P1	Engage regional partners to identify skills requirements.	Questionnaire for business members, associated partners and regional decision makers in the areas of RUN-EU-partner universities to identify future skills especially in bioeconomy
P2	Adopt common approach to Masters, PhD and post-doctoral programs in cooperation with business, government and social partners.	Together with RUN plus: - Strengthening joint research program (PhD and MSc) in sustainability - Consolidating training for supervisors in partner universities and business - Funding opportunities with companies are continuously discussed and PhD program is advertised
P3	Engage regional partners to identify RDI requirements	- RUN-EU EIH concept has been introduced and developed in cooperation with regional partners in Science Meet Regions events. These events are developed further to meet the needs of all stakeholders - Funding training in cooperation with regional partners will be continued. Training courses are intended especially for

		companies to identify their RDI needs and learn about funding requirements.
P4	Develop innovation-based projects with industry / government / social partners	<ul style="list-style-type: none"> - Workshop with researchers from Food & Biotechnology research cluster to identify interesting and possible funding calls for years 2023-2024 and to decide responsible leaders and group. Few applications are in process - Ensure the commitment of each partner university to search partners from RUN-EU when planning EU-level funding applications with their partners. The aim is also to increase the competence further to write successful EU funding applications.
P5	Support enhanced collaboration between member region spinouts and SMEs.	Science meet Regions events were organized in Hungary, Portugal and Ireland. SME's and associations of SMEs were actively present in discussions, panels etc. Enterprises are also included in funding applications prepared in EIH
P6	Promote entrepreneurship.	<p>In RUN 2.0 ERA and ESEC: Support actions towards RUN-EU 'self-made' start-up activities.</p> <p>In RUN-EU plus: Support and increasing capacity towards entrepreneurship</p>
S1	Promote training for research staff	RUN-EU-plus research career training program continues and transfers into RUN Immersive Research Institute
S2	Attract top talent	Training of top talent by own RUN-EU PhD program and supervisor training
S3	Capture funding opportunities	Active and regular funding tracking in research clusters by researchers
S4	Have up-to-date equipment and infrastructures specific to the EIH area	Visible 'Toolbox' containing equipment, infrastructures and expertise available for bioeconomy research
S5	Promote inter-university international RDI working teams	RDI working teams will be formed around the four thematic teams withing EIH in bioeconomy as part of ERA
S6	Ensure fluent communication among all partners	Cloud of Knowledge portal and regular meetings and info letters
S7	Formal agreements between the alliance member regions	Agreements to support RUN-EU Innovation hub and research activities also by co-funding the activities would be desirable.

S8	Raise societal awareness on the thematic area	A survey on practices to raise societal awareness in different partner universities
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European Innovation Hub 3 – Social Innovation



1. EXECUTIVE SUMMARY

The Regional University Network – European University (RUN-EU) will strive to secure its regions' and stakeholders' sustainable economic, social, cultural and environmental progress. RUN-EU will implement this mission by delivering on the future and advanced skills necessary for its students and regional stakeholders to successfully meet the challenges of the future, engage in societal transformation and promote active citizenship, thereby leading to the creation of a new type of multinational interregional alliance, a European Zone for Interregional Development (EZ-ID).

One of the key goals of the RUN-EU mission will be achieved through the development of European Innovation Hubs (EIHs) across the RUN-EU partner network. This goal is the creation of collaborative, regionally oriented and novel mobility-led education, research and innovation. RUN-EU sees EIHs as unique educational platforms where joint interregional research, innovation and regional stakeholder engagement activities will be created and nurtured. EIHs will seek collaborations with associated partners in government, business, and society and uniquely with the OECD Secretariat of Higher Education and its Labour Market Relevance and Outcomes (LMRO) initiative. It is envisaged that the outcomes of this collaborative approach will not only feed back into education, research and innovation development opportunities within the regions of the alliance through RUN-EU training models such as Short Advanced Programmes (SAPs), Future Advanced Skills Academies (FASAs), but could also inform innovative solutions for labour market relevance and outcomes which would be adaptable to different regions of Europe.

The principal aim of establishing European Innovation Hubs is to promote collaborative teaching and research excellence through the development of student-centred cutting-edge pedagogical, research, innovation and engagement activities, using the strong links between the alliance members and their local ecosystems and businesses. It is envisaged that this collaborative method will nurture and stimulate the student body of RUN-EU and other regional stakeholders to adopt a sustainable approach to the economic, social, cultural and environmental progress of the member regions. It is envisaged the creation of innovative mobility opportunities through new multinational academies and hubs will improve the national and international competitiveness of the associated regions and their academic community, thus allowing them to: (i) complement existing capital and large city regions; (ii) retain and attract young talent and (iii) correct existing unfavourable bias in development trends in peripheral European regions.

RUN-EU partners have committed to establishing European Innovation Hubs focusing on the three overarching thematic areas of: 1) Future and Sustainable Industries, 2) Bioeconomy, and 3) Social Innovation. **This Strategic Plan refers to the EIH in Social Innovation.**

The working group on the establishment of EIHs has carried out an initial audit on current Research Clusters, Associated External Partners, Associated Hubs and Facilities that exist across the network as part of delivering Task 2.1, which informs this Strategic Plan on each partners' readiness levels for joining an EIH in Social Innovation. This audit will be conducted annually to

catalogue the progress of each EIHS' development and individual RUN-EU partners interactions and growth as a result.

The audit has provided graphical insight into the partners clarifying main interests and providing a primary focus point for the initial establishment of the EIHS under a shared Mission and Vision. The graphic also directly connects the RUN-EU members with their own external partners, providing an extra layer in the audit, which will help the partners not only to reach their primary shared goals within the network, but also to act for our external partners as a turntable of knowledge. The external partners are facilitated to contact / connect with other external partners with the help of RUN-EU members, to reach goals initially out of reach of our RUN EU-network.

One of the interesting, if not thrilling, results of this process is the emerging cooperation between our institutions based upon curiosity, shared values, complementary skills and experience. Knowing each other does not just affect the described areas – it goes much deeper and will have a long-term impact beyond the formal end of the RUN-EU programme. These structured interactions through RUN-EU always start with curiosity, of staff members looking for interactions to enhance programmes or create new research areas. They find their way to network with partners through colleagues already involved in the programme. These structured yet more or less spontaneous interactions are already an important side effect of the RUN-EU programme, which cannot be underestimated and will be thoroughly utilised to make RUN-EU a success.

This Strategic Plan aims to align RUN-EU to Regional, National and European Strategy for driving Innovation to (a) bring about societal change and economic sustainability, (b) address global challenges including meeting Sustainable Development Goals, and (c) prepare Europe for the challenges of the coming decade and beyond. This Strategic Plan was prepared by the following members from the RUN-EU Partner Institutions:

Ana Sargento - Polytechnic of Leiria, Portugal
 Pedro Morouço - Polytechnic of Leiria, Portugal
 Paivi Sanerma – HAMK, Finland
 Frank Houghtin – TUS, Ireland
 Michael Himmer – FH Vorarlberg, Austria
 Margarita Koehl - FH Vorarlberg, Austria
 Barbara Harold - FH Vorarlberg, Austria
 Natasha Doshi - FH Vorarlberg, Austria
 Katrin Paldan - FH Vorarlberg, Austria
 Janneke Metselaar – NHL Stenden, The Netherlands
 Petra Szakonyi - Szecheny Istvan University, Hungary

Alexandra Malheiro - Polytechnic of Cávado and Ave, Portugal

2. MISSION AND VISION FOR THE ESTABLISHMENT OF AN EUROPEAN INNOVATION HUB IN SOCIAL INNOVATION

2.1 Mission Statement

EIH in Social Innovation fosters joint synergistic interregional research, innovation and regional stakeholder engagement activities. Departing from existing members' regional innovation ecosystems and ensuring their expansion to an interlinked and collaborative network involving associated partners from each country, drawn from enterprises, NGOs, regional and local government entities is aimed to reach society as a whole. This holistic EIH framework will be deeply complementary as it will foster shared open access to knowledge, innovation and infrastructure exchange for stakeholders, end-users and beneficiaries associated with respective expertise from each region.

2.2 Vision Statement

The inter-university EIH in Social Innovation to be created will constitute one of the central pillars of the envisaged European Zone of Interregional Development (EZ-ID). Strong links between the alliance members and their local ecosystems and businesses will be used to define and provide collaborative future-proofed skills-based educational opportunities, joint research and knowledge exchange. Thus, promoting a sustainable approach to the member regions' economic, social, cultural and environmental progress.

2.3 EIH Identity

The strategy of each EIH follows the overarching strategy. To obtain a better understanding of what an EIH looks like, the major guidelines are fundamental. However, critical alignment to relevant Policies from each RUN-EU partner organisations will be considered, as each EIH evolves.

Appearance

The EIH in Social Innovation is a virtual entity. One of the most significant elements of WP2 will be the network element and each of the hubs themselves. By describing the EIH as virtual, the essence of being a network is emphasized. To express and support this network, we will research

the possibilities of developing and implementing a digital environment. This environment will be an essential and sustainable element of the EIH in Social Innovation.

Branding

The name of each hub itself will reflect the domain of the hub. The names can be considered sub-labels of the RUN EU label, and as such be part of the more extensive RUN EU brand. Since RUN EU is aimed to be sustainable in itself, the critical element of 'sustainability' with the EIH's will be derived from the leading brand.



The EIH Collaborative development and sub-themes

For an activity to be described and branded as an EIH activity by RUN-EU, it needs formal confirmation from the EIH director. Furthermore, each EIH activity cooperates with at least two of the RUN EU partners and is connected to at least one of the regional ecosystems per RUN EU HEI, preferably covering the quadruple helix. At least one senior staff member should confirm commitment per RUN EU HEI.

As Social Innovation is a broad theme, there is no rigid definition of which sub-themes are susceptible to be considered. However, linked to the WP5 scientific areas, some topics will be privileged, such as: Health and wellbeing, Culture and Creative Industries; Tourism; Social Science and Social Transformations; Education.

Governance

The governance model proposed to the EIH in Social Innovation is shown in Figure 1.

Activities developed within this EIH will be grouped into five programmes, as depicted below. Each programme will have a nominated Programme Director, named by distinct RUN-EU members, who compose the Executive Board. Besides these 5 members, the Executive Board will include two other members, to be comprised of one representative from each RUN-EU member. One EIH Director will be elected, among the Executive Board members, every 2 years, to assume the leadership of the EIH in Social Innovation. His/her responsibility will be to ensure the execution of programmes, control objectives' attainment, prepare due reports and annual plans, integrate with the remaining operational structures of EIH and WPs of RUN-EU.

Whether each EIH will be a legal entity is to be discussed once the structure has been finalised. Attention will be given to the points of entrance procedures: where do we start activities, how do we proceed with this, etcetera.

The connection between WP2 and WP5 will be emphasized and clarified to ensure smooth understanding and cooperation. Integration of overarching goals into secondary goals of other work packages such as WP3 – FASA, WP4 – SAP; WP 5 Research; WP6 – Mobility and MP7 – Joint / Double Degrees will be identified as part of each EIHs establishment and aligned to the overall RUN-EU strategic goals.

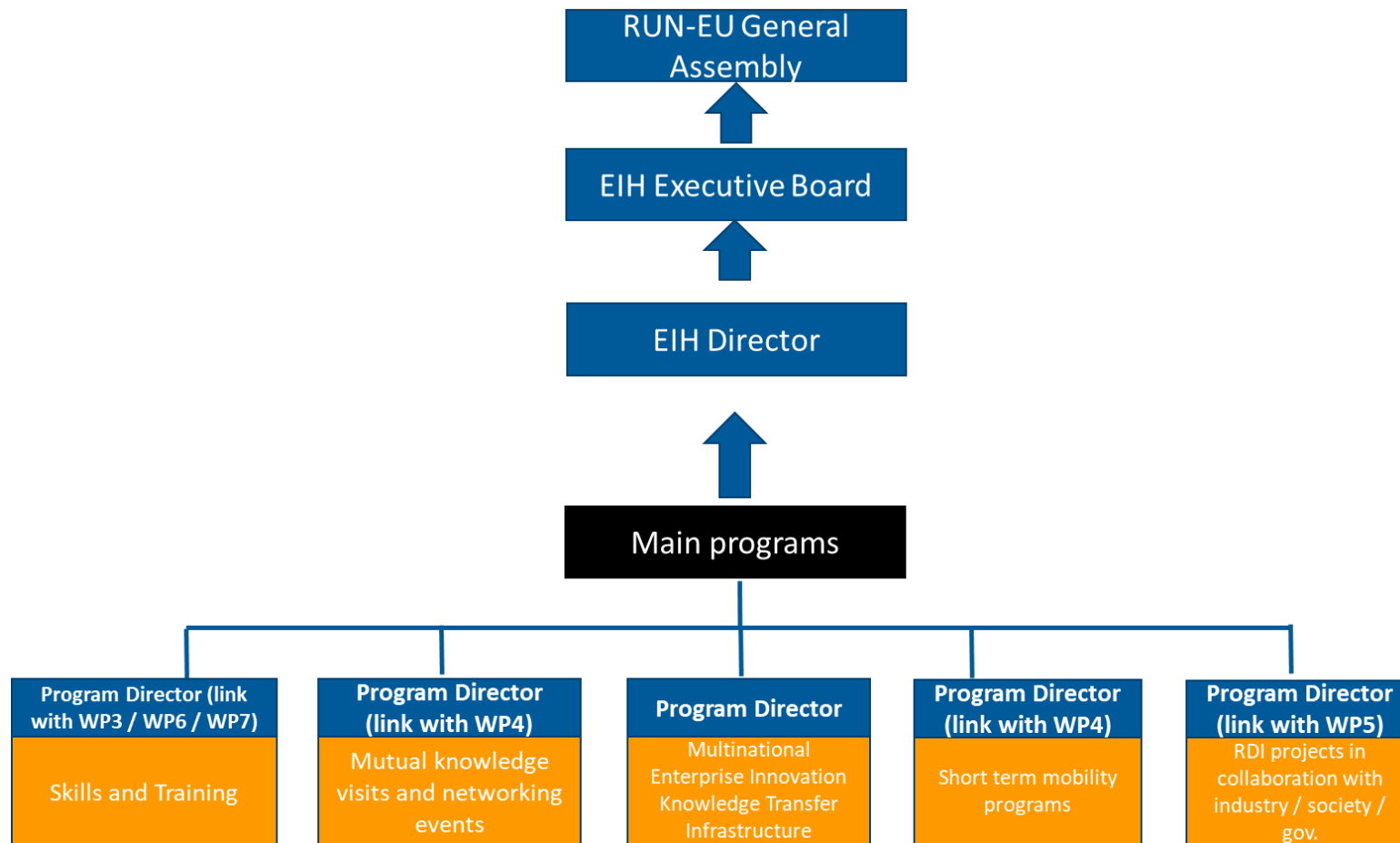


Figure 7 – A Proposed EIH Governance Structure

3. EUROPEAN INNOVATION HUBS WITHIN THE RUN-EU PROJECT.

European Innovation Hubs constitute the ultimate output envisaged by work package 2 (WP2), within the generic work plan of RUN-EU (Figure 2).

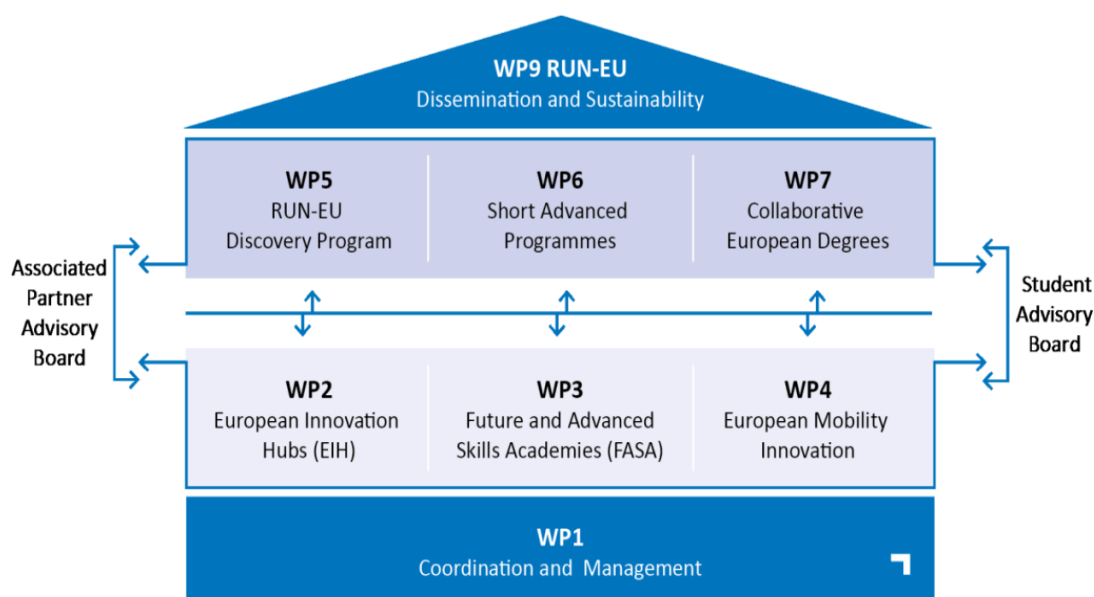


Figure 8 – The work plan for RUN-EU alliance

In WP2, inter-university European Innovation Hubs will be created, by using the strong links between the alliance members and their local ecosystems and businesses in the definition and provision of collaborative future-proofed skills-based educational opportunities, joint research and knowledge exchange; thus, contributing to adopting a sustainable approach to the economic, social, cultural and environmental progress of the member regions.

This alliance believes the existing members' regional innovation clusters and the collaborative European Innovation Hubs to be developed from them, constitute one of the central pillars of sustainable regional development. It will therefore underpin the joint activities designed within this European University.

The principal output of these hubs will be the delivery of interregional Research, Development and Innovation (RD&I) activities designed to deliver on societal transformation requirements, within the framework of the relevant Smart Specialisation Strategies (RIS3) and the UN goals for sustainable development. The European Innovation Hubs will support and influence the members' regions global economic competitiveness, environmental responsibility and inclusive

social policies, as well as guiding higher education strategies, future skills programmes, interregional activities and joint applications to European research and innovation calls by alliance members.

Figure 3 provides a diagrammatic description of the operating principles of the European Innovation Hubs.

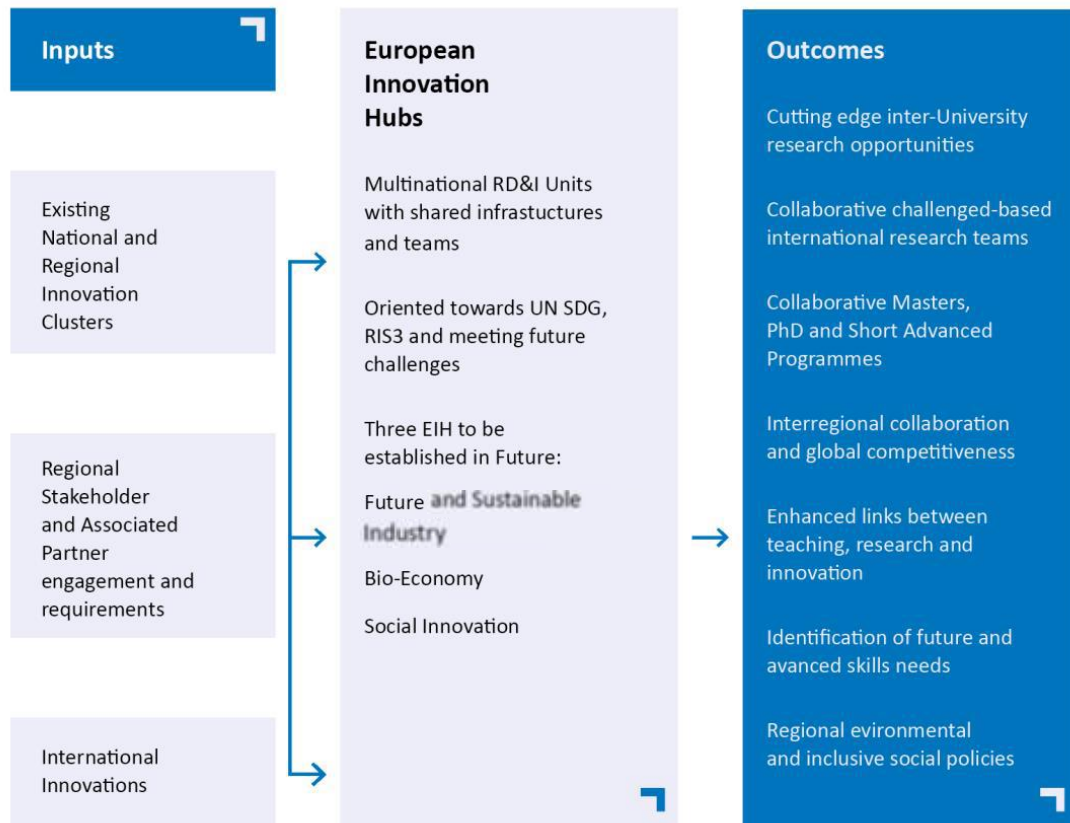


Figure 9 – European Innovation Hubs Operating Principles

4. SOCIAL INNOVATION EIH - STRATEGY MAP

Mission: The EIH in “Social Innovation” constitutes an interregional network dedicated to the development of collaborative research and innovation processes within the areas of Social Innovation, jointly with and prompted by the needs of businesses (fostering the growth of the very small and pushing for a sustainable evolution of the very large), public sector and civil society, utilising a quadruple helix approach.

Vision: EIH in “Social Innovation” will be recognized as an European reference in research with regional impact, in this thematic area, using a human-centered approach and the strong links between the alliance members and their local ecosystems and businesses in the definition and provision of collaborative future-proofed skills-based educational opportunities, joint research and knowledge exchange, thus contributing to adopting a sustainable approach to the economic, social, cultural and environmental progress of the member regions. It will constitute one of the central pillars of the European Zone of Interregional Development (EZ-ID) envisaged by RUN-EU

This thematic EIH will have a bespoke focus on socially impactful businesses and community, to serve as Regional and European change makers for society as a whole. Social Innovation is wholly aligned with the European Strategy for innovation. The main objectives established by the European Commission on this topic include: “promoting social innovation as a source of growth and jobs; sharing information about social innovation in Europe; supporting innovative entrepreneurs and mobilising investors and public organisations” [OBJ]. Complementary funding streams will be available mainly through funding programs under Horizon Europe, which considers Social Innovation explicitly as one of its 8 Strategic Plan horizontal topics. Besides, it is directly and indirectly comprised of its four critical strategic orientations, particularly “Creating a more resilient, inclusive and democratic European society”.

All RUN-EU EIHs have direct and immediate opportunities and responsibilities to meet EU and regional needs for change to meet the 17 Global Sustainable Development Goals.

Figure 4 illustrates the strategy map layout for this thematic EIH to accomplish this planning process. These initiatives will also include input and output points with the other work-packages of RUN-EU to inform the development of critical skills, training programmes and opportunities for innovative learning with associate partners and regional stakeholders.

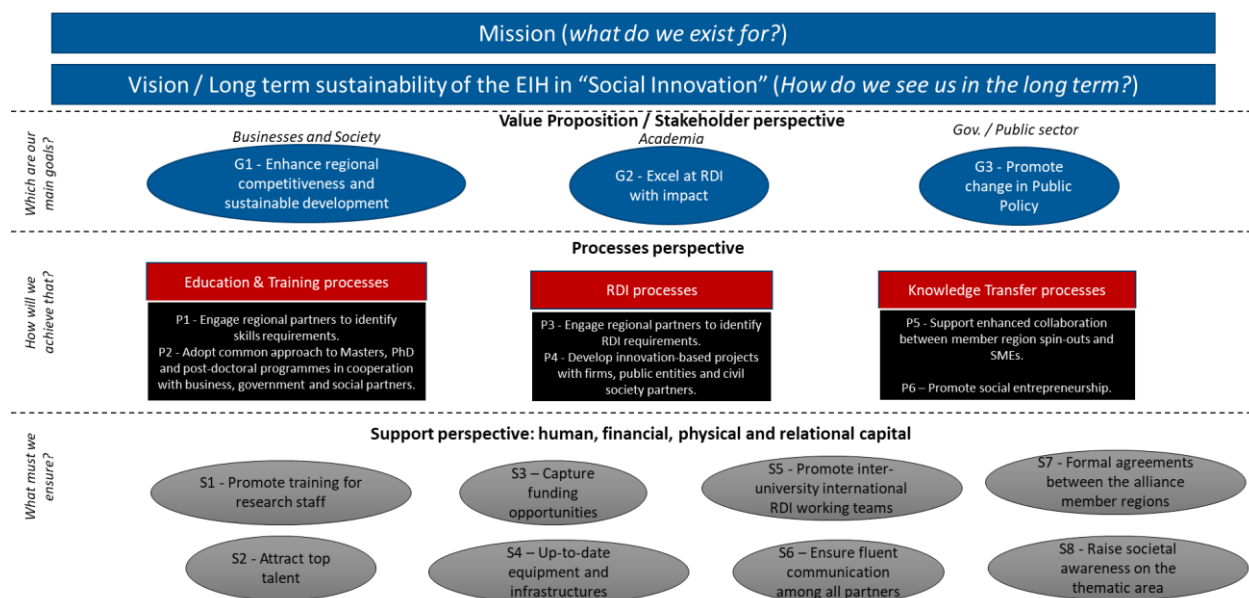


Figure 10 – Overarching Strategy Map for the EIH in Social Innovation

The strategy map is also informed by Task 2.1 deliverable², the EIH audit report which assigned all active research clusters, hubs and associated partners from each RUN-EU member, related to Social Innovation. The following “wheel” sums up the result of this audit and characterizes the point of departure for this EIH in Social Innovation.

² Deliverable D2.1, EIH Research Cluster, Hub and External Stakeholder audit is available upon request and through the RUN-EU repository.

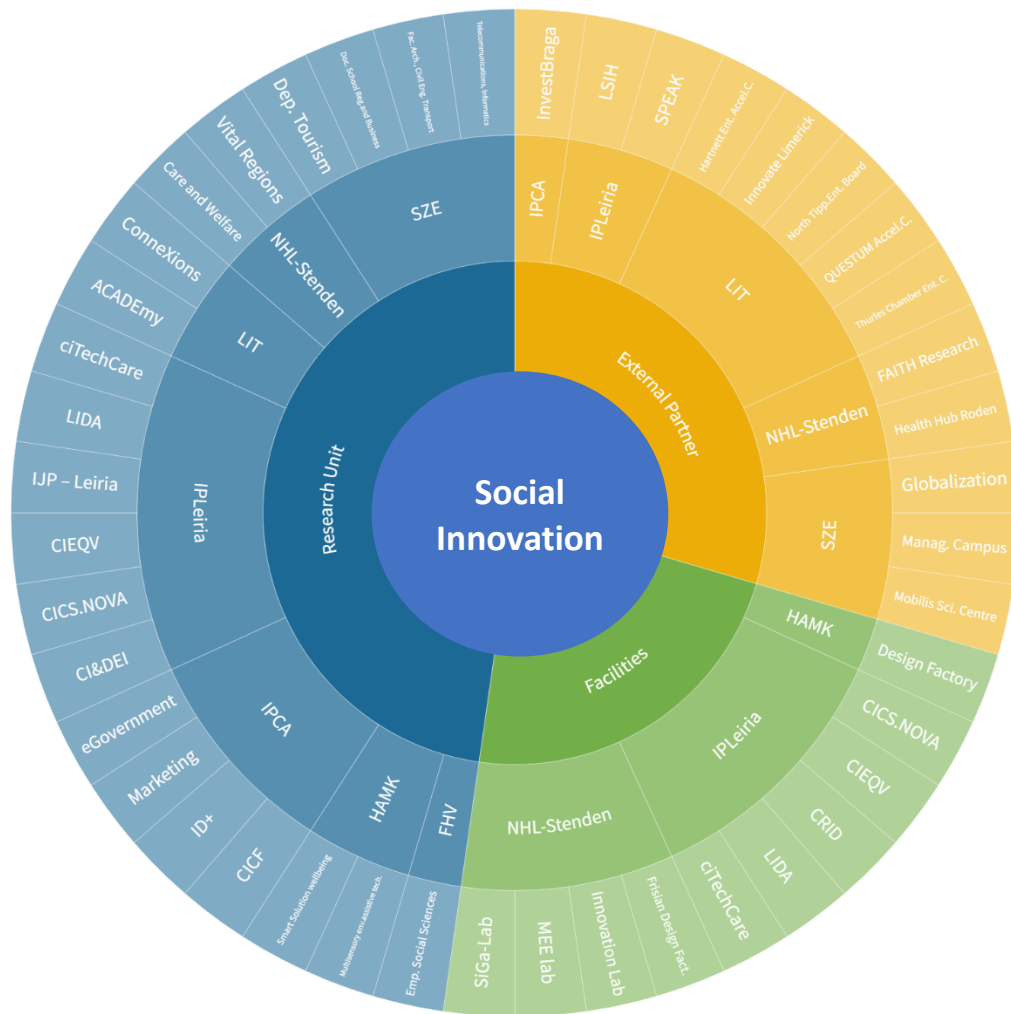


Figure 11 – Research Cluster, Hub, External Partner Audit output for EIH 3: Social Innovation

Utilising this audit output, this thematic EIH leads will establish a virtual network for all hub communications and dissemination of current activities and calls for further funding. Inter EIH links will be identified to determine mutually beneficial overlap in activities in thematic areas.

4.1. SOCIAL INNOVATION EIH OBJECTIVES, KPI'S AND INITIATIVES

The following table details the Objectives and KPIs that this thematic EIH needs to address and examples of Initiatives to accomplish them. Objectives, KPIs and Initiatives will be reviewed annually to ensure the EIH targets are addressing RUN-EU, Regional and European needs.

No.	Objective description	KPI	Initiative
P1	Engage regional partners to identify skills requirements.	No. partners engaged in the identification of skills requirements.	Establish, each year, a consistent program of exploratory visits and networking events with external partners (quadruple helix approach: industry representative bodies, SMEs, national and regional entrepreneurial and innovation agencies, regional government agencies, regional and national social innovation and cultural bodies and agencies)
P2	Adopt common approach to Masters, PhD and post-doctoral programmes in cooperation with business, government and social partners.	No. Double / joint degrees developed in cooperation with business, government and social partners	Articulate initiatives and programmes with WP3
P3	Engage regional partners to identify RDI requirements	No. partners engaged in the identification of RDI requirements.	Establish, each year, a consistent program of exploratory visits and networking events with external partners (quadruple helix approach: industry representative bodies, SMEs, national and regional entrepreneurial and innovation agencies, regional government agencies, regional and national social innovation and cultural bodies and agencies)
P4	Develop innovation-based projects with firms / government / social partners	No. innovation-based projects with external partners.	Short term mobility program to bring together multidisciplinary and international teams working with industry / government / social partners (articulate with WP4)

P5	Support enhanced collaboration between member region spinouts and SMEs.	No. projects developed involving both spinouts and SMEs	Establish a multinational Enterprise Innovation knowledge transfer infrastructure
P6	Promote entrepreneurship.	No. entrepreneurship projects supported / mentored through projects involving RUN-EU members' collaboration	Establish a multinational Enterprise Innovation knowledge transfer infrastructure

No.	Objective description	KPI	Initiative
S1	Promote training for research staff.	No. Short duration CPD directed for staff training, in the thematic area of the EIH	Articulate initiatives and programmes with WP6
S2	Attract top talent.	No. new researchers hired	Articulate initiatives and programmes with WP5
S3	Capture funding opportunities.	No. approved joint projects involving RUN-EU members	Articulate initiatives and programmes with WP5
S4	Have up-to-date equipment and infrastructures specific to the EIH area.	No. identified locations of available resources and agreements in place to use them	From WP5 Audit report... share specialised equipment / infrastructures (physical or virtually)
S5	Promote inter-university international RDI working teams.	No. thematic international teams working in common projects	Short term mobility program to bring together multidisciplinary and international teams working with industry / government / social partners (articulate with WP4)
S6	Ensure fluent communication among all partners	No. workshop dissemination events	Articulate initiatives and programmes with WP8
S7	Formal agreements between the alliance member regions	No. formal agreements involving RUN-EU members and / or external partners of RUN-EU regions	Establish, each year, a consistent program of exploratory visits and networking events with external partners (quadruple helix approach: industry representative bodies, SMEs, national and regional entrepreneurial and innovation agencies, regional government agencies, regional and national social innovation and cultural bodies and agencies)

S8	Raise societal awareness on the thematic area	Survey inferring societal awareness on the thematic area (in two moments in time, separated by N years)	Structured Program for awareness raising engagement and demonstrative activities related to each thematic area, directed to diverse targets (e.g.: community groups, local gov. entities, SMEs, HEI students). Articulate with WP8.
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5. EMBEDDING EIH OVERARCHING TASKS AND DELIVERABLES

The Social Innovation EIH will be responsible for meeting the overarching tasks of work package 2 and developing the deliverable outputs including annual reports on EIH activity and production of dissemination material. To do this, the Social Innovation EIH has developed an individual strategic plan utilising this overarching strategic plan as a template.

The main tasks and deliverables which the Social Innovation EIH has embedded into this Strategic Plan include:

Task 2.3 Identification of Interregional RDI Activities and embedded Postgraduate and Post-doctoral Training Programmes

- Identifying and creating inter-institutional RDI teams with relevant RDI activity goals and funding targets
- Development of a common structured Master, PhD and post-doctoral training programmes

Task 2.4 Sustainable, Regional and Interregional Innovation and Development

- Build an Interregional Sustainable Innovation and Development Network with All Associated Partners to stimulate and drive the creation of a future European Zone for Interregional Development

Task 2.5 Interregional Education & Training Opportunities and Future Skills Needs (liaising with WP3-7)

- Establishment of a working group to identify Future Skills needs and disseminate to other RUN-EU groups for sustainable regional skills development including structured mobility CPD for research students and staff (D2.4).

The Social Innovation EIH will also embed into the strategic plan an interconnectivity with the RUN-EU Plus Horizon2020 project which primarily focuses on enhancing the development of R&I with and for Society through the development and deployment of collaborative professional practice-based research degrees across the RUN-EU alliance.

6. STRATEGIC PLAN IMPLEMENTATION AND NEXT STEPS

To successfully meet the deliverables for work package 2, this thematic EIH will need to develop an EIH start-up strategy. Accordingly, three important topics have been identified:

Networking events

Visibility of the community is important, as this can help in demonstrating the expertise and experience of its members which can then lead to new projects / initiatives. Thus, networking events are an important first step to take. In this respect, the initiative **Science Meets Regions**, approved by the European Commission, to be carried out in the **last quarter of 2022**, will constitute an important opportunity to engage with relevant external partners: social businesses, social entrepreneurs and incubators / accelerators, local governments, NGOs, and so on. It will also be an important moment to researchers in this area, to know each other better.

In a society that is in constant development, the discovery of "new" scientific and technological knowledge must (i) progress at an incredibly fast pace, (ii) target a wide audience, and (iii) have a practical impact in the society. Network must integrate beneficiaries and partners of the non-academic sector that will actively contribute for the education, training, research, and entrepreneurship. Therefore, these networking events must create the conditions for the long-term development of scientific and applicable knowledge within an international framework, involving key international research and societal partners, as well as other stakeholders, enabling the sustainable development of new processes and strategies for social innovation.

Channels for internal and external communication

Regarding the size of the EIH and the link between the various participants, the communication shall be made in a simple and direct way and supported by information and communication technologies such as email and video conferencing. All face-to-face meetings will have associated drafts stating the related decision making, with the following fields: date, location, topics discussed and major decisions. A collaborative area will be created in the cloud for the common information storage (deliverables, reports, etc.), allowing editing and document review.

This EIH will carry out of a set of added-value activities through the exchange of knowledge between the partners, that will culminate in the improvement of the knowledge level, and it will also contribute for smart specialization strategy for the development of sustainable and outstanding activities. Therefore, major efforts should be developed to proper dissemination of these activities. A comprehensive dissemination and communication campaign will be designed and implemented, which is related to the dissemination of the EIH with the aim of maximising the public disclosure of the results by any appropriate means (other than resulting from protecting or exploiting the results), including by scientific publications in any medium. In addition, innovative dissemination/exploitation tools and distribution channels will be identified

through the involvement of selected stakeholders focus groups. The plan will contain a Dissemination and Exploitation Roadmap (e.g. calendar of potential events to be attended).

Resources

As previously mentioned, EIH in Social Innovation comprises a vast group of people interested in promoting activities to strength its importance for the society. To do so, it relies on the resources that each partner can allocate to the hub, plus the resources that can be requested upon calls.

EIH will try to be associated to each national agency related to the government, exploiting synergies to the group. Furthermore, it will provide strong basis to applications in funding programs (e.g. Horizon Europe and each National Agency).



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