E³UDRES²

Engaged and Entrepreneurial European University as Driver for European Smart and Sustainable Regions

5.6. Report on Human Centered Innovation for Smart and Sustainable Regions around E³UDRES² universities

Work Package 5

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Overview

Deliverable nr.	Deliverable name	Person responsible	Corresponding HEI
D 5.6.	2nd Report on Human Centered Innovation for Smart and Sustainable Regions around E³UDRES² universities	WP5 Lead	MATE

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I. Introduction

1. Highlights of the E³UDRES² project

Background and aims of the E³UDRES² project

Innovative ecosystems that take into account the unique opportunities, peculiarities, problems of their regions, must be developed so that it could improve the economic potential as well as the standard of living of their residents.

To support these ideas, E³UDRES² aims to provide intense, open, innovative, intercultural, international, multidisciplinary, intersectoral, and open environment for learning, teaching, research, and innovation. These spaces would promote gender equality and social inclusiveness while greater sense of achievement, curiosity, impact orientation, societal engagement, challenge-based open innovation, and entrepreneurial attitudes.

E³UDRES² is dedicated to achieve results in four main areas of activity, focusing on an encouraging, open, agile, holistic, and inclusive academic culture:

- Challenge-Based Education
- Mission-Oriented Research
- Human-Centered Innovation
- Open and Engaged Knowledge Exchanges

In I-Culture, I-Living Labs, I-Research Centers, and I-cubator, all four areas are strongly connected and stimulate one another in response to local concerns, resulting in resonating cycles of invention that make the knowledge square a reality.

Work Package Description

Since E³UDRES² strives for a strong interrelation of challenged-based education, mission-oriented research, challenge-based innovation and open and engaged knowledge exchange, the main output of WP5 (Innovators and Entrepreneurs) is to establish an I-cubator as the E³UDRES² Innovators and Entrepreneurs Programme.

In order to achieve the project's goals and to convert the results of scientific research into real innovation, it is necessary to improve the knowledge and technology transfer activities of higher education institutions, to develop incubation services and services to help start-up spin-offs. In addition, it is essential to develop the relationship between higher education, vocational training, the business sector, and to channel training, research capacities and the knowledge base into the formulation and implementation of regional economic and settlement development strategies.

2. Background of the 'Second Report on Human Centered Innovation for Smart and Sustainable Regions around E³UDRES² universities' report

Aims and methods of the report

The aim of the 'Second Report on Human Centred Innovation for Smart and Sustainable Regions around E³UDRES² universities' is to assess the regional innovation ecosystem of the region of the six participating universities, identify local best practices at each participating university that contributed to a flourishing innovation ecosystem.

In 2021 WP5 created the First Report on Human Centred Innovation for Smart and Sustainable Regions around E³UDRES² universities' as D 5.1. (the first deliverable) of the work package. The first report aimed to find the correlation between specialities of the different regions and university innovation management systems. The 2022 report is focusing on the changes regarding the universities innovation management systems and the regional ecosystems that can be observed and assessed since the last (first) report.

Key findings and results of the report are based on a general questionnaire completed by each participant.

Besides the analysis these changes and development, three extra units were introduced to the report: 'Teaching Innovation and Entrepreneurship', 'Preparing and Supporting Entrepreneurs', 'Knowledge Exchange and Collaboration within the members of the regional ecosystem' which will be described later on.

Structure of the report

The report starts with the 'Introduction' section to describe the background and the methodologies of the report. As for the structure of the report it has three major parts which are as it follows:

The 'Regional assessment chapter's aim is to introduce the region's innovation ecosystem including the key players and key leaders building and managing a working innovation ecosystem in the regions; the largest industries, their involvement in the regional ecosystems; the links between small and medium-sized cities and their rural environment; sustainability and smart systems / technologies in the regions and their impact on society and economy; the regional start-up ecosystems.

The second major chapter is the 'University assessment'. This chapter was intended to present the Universities' innovation ecosystem, innovation related activities and innovation management processes.

Third major chapter is the 'Ecosystem assessment'. The aim of this unit was to introduce and provide detailed information about the links between the region's innovation ecosystem (including the key players, the largest industries, small and medium-sized cities and their rural environment) and the E³UDRES² university.

As it was stated earlier, some parts of these units are updated of the first report to reveal any possible changes that the universities and the regions have undergone. However, three extra units were introduced in the report:

Unit 'Teaching Innovation and Entrepreneurship' describes the knowledge transfer processes that universities apply to improve the entrepreneurship-related competences of their student and researcher.

Unit 'Preparing and Supporting Entrepreneurs' focuses on the methodologies how universities help their own students to become entrepreneurs.

Unit 'Knowledge Exchange and Collaboration within the members of the regional ecosystem' describes the knowledge transfer processes and knowledge-related collaboration methodologies between universities and regional key-players.

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II.   Regional Assessment

The aim of this unit is to introduce the region's innovation ecosystem including the key players and key leaders building and managing a working innovation ecosystem in the regions; the largest industries, their involvement in the regional ecosystems; the links between small and medium-sized cities and their rural environment; sustainability and smart systems / technologies in the regions and their impact on society and economy; the regional start-up ecosystems.

To get the right inputs for this chapter, the following questions were applied and analysed:

- *How do you assess the region's innovation ecosystem?*
- *How do you assess the development of the region's innovation ecosystem with regard to small and medium-sized cities and their rural environments?*
- *How sustainability and smart systems / technologies appear in the regions?*
- *Give some examples. What are their impact on society and economy?*
- *How smart and sustainable technologies developed and become more widespread in the region since the last report (since 2021. November)?*
- *What key changes can be observed since the last report (since 2021. November)?*

STPUAS: St. Pölten Region

The region around St. Pölten is characterised by a large number of SMEs and an important regional education location with four HEIs, numerous compulsory schools, secondary schools for economic professions and technical schools. The most dominant industries of the region are manufacturing in packaging, wood, paper and stell production; health (Niederösterreichische Landeskliniken-Holding = organization that mergers all hospitals and training sites for nursing staff operated by the province of Lower Austria) and retail and service industry. Furthermore, St. Pölten is a relevant training and education hub for the Austrian Railway Company including some smaller companies and industries related to railway technology.

The region´s innovation system is supported by the above mentioned school system which includes more and more innovation system related education and formats (co-creation formats, collaboration with HEI, Open Days, Events,Youth Entrepreneurship Week, Citizen Science Formats, Open Lectures and similar formats).

One new task force at St. Pölten UAS focuses on improving sustainability internally in all three related pillars (ecology, economy, social). Since the very first days St. Pölten UAS put focus on the development of smart technologies. This combined expertise is shared with companies through cooperation in research and education (case studies, bachelor and master thesis).

Three examples:

1. „#fitspiration", an application that identifies fake fotos of teenagers with super body outfit in order to highlight dishonest communication on social media and redefine the importance of the acceptance of a natural body in order to prevent illnesses like anorexia.
2. „Vis4Schools" (Supporting students in learning how to read, understand, and construct data-visualizations) which improves visual data literacy across the region.
3. "SoniVis" (Data Analytics using Sonification and Visualization) is another example that helps society and economy to better deal with data sonification and visualization.

The development of the region's innovation ecosystem is positive especially due to additional co-creation activities that are supported by E³UDRES² specific formats – as E³UDRES² iResidency, Bootcamp and Hackathons.

Key changes since the last report are on the one hand side a more specific key interest in innovation and innovative formats especially from the local innovation ecosystem (regional government, regional stakeholders,..) – and a starting PULL-effect.

IPS: The Setúbal Península

The Setúbal Península (IPS region of implementation) encompasses 9 municipalities and a mix of industrial and rural areas. There's a strong focus on automobile industry (centred on the Volkswagen plant) and the region investment and business revenue is highly concentrated under 6 big companies (more than 30%). For that matter, innovation ecosystem is fragmented and difficult to assess. There are some development agencies that act as triggers for rural, coastal and urban innovation. One of the most important one is ADREPES, that defined in 2016, alongside with IPS and other regional stakeholders, a strategic view for the region. Nevertheless, that effort, the several forums and presentations that took place by the time the report was made, a clear dissemination throughout the region is not clear yet.

The Setúbal region has a diversified industrial structure, very much alike the national type, being commerce and service support activities the most representatives. As a specify it encompasses a strong concentration of business under the biggest four companies (much bigger than the countries' average – more than 30% against less then 5%). The added value of the region's industrial activity counts for around 5% of the countries' value. The largest companies are:

- Autoeuropa (Volkswagen) with around 4.000 workers: automobile industry;
- Infraestruturas de Portugal with around 4.000 workers: land transport infrastructure management;
- Hospital Garcia da Horta with around 3.000 workers: public central hospital.
- Navigator with around 500 workers: pulp and paper industry;
- SECIL with around 500 workers: cement industry,
- Ascenza, with around 500 workers: agroquimical industry.

In 2015, IPS created an interface for collaborative efforts towards regional innovation, designated as IN2SET. This interface had the goal to network all innovation forces of the region, alongside with the knowledge base, and contribute, as one of the main areas, to collect, analyse, publish and disseminate statistical information from the region to the region. It's still a work in progress and besides the network, few projects were delivered.

Entrepreneurial activities run in an ad hoc basis, being ADREPES as one of the main triggers, acting as the biggest regional funding agency (with 32 million euros invested in 509 projects)[1]. Some of the 9 municipalities have entrepreneurial support activities, but none of them has very distinctive activities.

At the Setúbal Península lacks a sense of network towards entrepreneurship and innovation between the rural, coastal and urban territories, but the territory already has a network structure in place, that can be called out to develop and implement new approaches.

There is no systematized information about sustainability actions or smart systens/technologies in the region. There might be some organizations that encompass some

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[1] Information available at www.adrepes.pt

actions towards sustainability, but it's all under the respective organizations or the specific activities. The most important organizations that takes part in the formulation of the regional innovation ecosystem:

- ADREPES- regional development agency;
- IPS – higher education instituition;
- AISET- industrial association for the Setúbal region.

There is no specific regional and regular assessment of the startup ecosystem.

MATE: Gödöllő Region

About 30 kilometers northeast of the city center, in Hungary's Pest County, is the town of Gödöllő. According to the 2010 census, it has 35,000 residents and is expanding quickly. The town's economy has seen significant change recently. More employment are created as new enterprises relocate to Gödöllő, and the Gödöllő Business Park presents a solid investment opportunity for potential long-term investors.

The most significant corporations in terms of employment and revenue are those run by the Hungarian chemical business BorsodChem, which has a technical support and R&D facility in Gödöllő. Since 2006, the town has been the home of GlaxoSmithKline, a British pharmaceutical corporation. Since 2017, the American technology company Itron has operated a separate R&D facility there. Production facilities are located in Gödöll for the Hungarian flavor and essential oil producer FOOD BASE, the Hungarian chemical firm Chemico, the Italian blood plasma distributor Kedrion, the American cosmetics brand Avon, and the American automobile manufacturer Caterpillar Inc. In addition, a lot of big businesses run their production or R&D facilities in the nearby cities, such GE's Aviation and Gas Power facilities in Veresegyház. However, a number of agriculture-related businesses are operating in the area and engaged in manufacturing, production (inputs, fertilizers, machinery, etc.), and/or R&D operations for a variety of educational, historical, and economic reasons (like Syngenta Hungary Ltd.).

The region is still growing in terms of R&D activity, as this corporate and industrial diversification implies. The educational program of MATE University, which provides a wide range of institutions and faculties, reflects the diversity of the region.

The National Research, Development, and Innovation Office (NKFIH, a division of the Ministry of Technology and Innovation), a link between academia, business, and government, is a significant participant in the innovation ecosystem. Since 2020, the Office has offered higher education institutions a first-rate range of innovation management services. To boost the innovation efforts of Hungarian universities, the Office started a program called the university RDI ecosystem. The Regional Innovation Platform (TIP) network, a regional corporate alliance, was also introduced at the same time by the Office. As a result, a clear paradigm governs how the government, educational institutions, and business sector all operate.

Budapest's capital city's proximity is both a chance and a danger. Compared to the nearby capital, the region invests less in innovation, which prevents many residents from using the technologies. It is challenging to overcome competitive disadvantages when some of the enterprises in the region lack the skills to absorb and implement suitable advancements, such as digital technologies, into their everyday operations.

Undoubtedly, increasing, rationalizing, and using innovation is the key to development. Since incubators and startups relocate there, the local startup ecosystem is underdeveloped.

Although smart and sustainable technologies are uncommon in the region's daily life, they have frequently been the focus of R&D efforts by the corporate and academic sectors for some time. People's daily lives are not overrun by cutting-edge technologies since the public has limited access to such advancements. On the other hand, the university has been working with the business community to develop clever and environmentally friendly solutions that may improve people's daily comfort, safety, or entertainment or may result in a significant change in how the business community operates on a daily basis, regardless of the industry, size, or location. Such technologies have not yet been widely embraced and incorporated into daily life.

UCLL: Limburg Region

Four major megatrends created an economic challenge: climate change, globalization, digitalization and diversity. As a result, the Limburg Strategic Action Plan has been set up in Limburg with concrete priorities and ambitions. The clear focus of this plan is on the development of a competitive, sustainable, digital and inclusive Limburg. We see that this plan is widely supported in the region and different stakeholders are actively working with it. This gives u the opportunity to strengthen our connection with the region.

The 3 largest dominant industries in the region are logistics, care and creative sector. Limburg has many logistical advantages such as its central location in Western Europe, multimodal access with a direct connection to the Port of Antwerp and the availability of business land. The logistics sector is already very important to the Limburg economy today and also has considerable growth opportunities.

Health care is a crucial sector in the Limburg economy. Almost 1 in 5 Limburgers is employed there, for Limburg women this is even 1 in 3. In addition to the need for qualified personnel, the social importance of quality care cannot be underestimated. The construction sector is of great importance to the Limburg economy. Relatively speaking, Limburg has more turnover, employers and employees in the construction industry than in the rest of the country.

In the region there are a number of players whose role is to accelerate innovation in the region: local authorities, clusters, chambers, companies & SMEs participating in those organisations. Limburg is an SME landscape within the entrepreneurial network is well developed. The region is the most dense area of whole Belgium with incubators and therefore growth opportunity and innovation. There are many support services to accelerate this innovation. The strong network of starters community with 7 incubators on specific sectors (limburg startup) – 46 partners – 230 coaches – 300 startups – 1000 FTE – 7800 new starters in 2020. These incubators and it's start-ups & scale-ups are growing rapidly and in need of new talents and knowledge.

The region is open to smart and sustainable technologies. A couple of years ago S-Lim has been set up (Smart Region Limburg) in the region. S-Lim unites the Limburg municipalities to enable the region to develop into a smart region through cooperation. Based on the needs of both rural and urban authorities, s-Lim offers technological and software applications to promote the prosperity, well-being and quality of life of Limburgers.

UCLL also takes part in developing the regional innovation ecosystem. The university, for instance, is involved in the projects of SALK turbo, where a prototyping centre is being developed. The XP lab that started with the partnership of UCLL is located at one of the incubators in the region, Corda Campus. Having this hub at the Corda Campus creates a cross-pollination between UCLL, the region and entrepreneurs which stimulate innovation and career opportunities.

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UPT: Timisoara Region

With 319,279 inhabitants at the 2011 census, Timișoara is Romania's third most populous city, after Bucharest and Cluj-Napoca. It is home to almost half a million inhabitants in its metropolitan area, while the Timișoara–Arad conurbation concentrates more than 70% of the population of Timiș and Arad counties. Timișoara is a multicultural city, being the home of 21 different ethnicities and 18 religions. Interculturality has long been a special characteristic for the western part of the country.

Timișoara is one of the most dynamic economic centres in Romania. Based on its proximity to the western border, Timișoara has managed to attract many foreign investments in recent years, forming, together with Arad, the second largest area in Romania in terms of economic outcome. By the mid-2000s, the foreign investments in Timișoara reached €753 per capita, compared to €450 per capita at Timis county level. Most of these investments come from the EU countries, especially from Germany, Italy and France. Similar to other growth poles in Romania, the services sector has developed significantly in recent years, accounting for half of the revenues.

Among the strengths of the region is the existence of a strategy at regional level for sustaining innovation ecosystem (West Regional Development Agency - https://adrvest.ro/) and the existence of specialised infrastructures to encourage innovation and technology transfer (Tehimpuls Association - https://www.tehimpuls.ro, Nokia Romania Garage, INCUBOXX, Banat IT, etc.). In this line, INCUBOXX is the biggest business incubator in IT&C in Romania. Nokia Innovation Garage is a business incubator in Communications Technologies, that regularly organises the European researchers Night. Banat IT is a non-profit association that regularly organises Hack TM, the biggest hackathon in Eastern Europe. These innovation goals have been sustained by a highly specialised workforce due to the 4 state universities in Timisoara of which UPT is a prominent institution.

The most dominant industries are the IT, automotive, and construction industry. On the other hand, the key players of the innovation ecosystem are universities, municipalities, county councils, Chamber of Commerce Industry and Agriculture Timis, West Regional Development Agency, international companies (Continental, Nokia, Hella, BanatIT, Flex, etc.), Regional Cluster for Information and Communication Technology, Automotivest – Regional Automotive Cluster, ROSENC – Romanian Sustainable Energy Cluster.

A huge opportunity of the region is the implementation of local and regional development strategies of which the government's program for encouraging students to become entrepreneurs (InnoTech Students) shall be highlighted. The development of the West Region Digital Innovation Hub, with the core on Industry 4.0 shall also be mentioned among the relevant initiatives. Starting with 2021, West Regional Development Agency set up the 2021-2027 West Regional Program, in line with the five objectives of the European Comission: an intelligent, green, connected, social and citizens supporting Europe. In addition, starting with 2022 through the Recovery and Resilience Plan, the West Regional Development Agency will finance health, social and education related projects.

Inside the region, Politehnica University of Timisoara (UPT) is also active in managing the innovation ecosystem. UPT organises regularly the competition International Digital Multimedia Student Contest that encourages joint student project implementation using smart technologies, TechTalk and Flight Festival.

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VIA: Vidzeme Region

Vidzeme is the northern region of Latvia. Territorially it is the largest region in the country, occupying 23.6% of the territory. The impressive features of this place are splendid nature, fresh air, extensive forests, beautiful cities and towns, and a unique cultural landscape. Vidzeme is known as the cradle of the Latvian culture. There is a diverse and rich cultural and historical heritage, which represents not only Latvian, but also European cultural values. Vidzeme is the exact place of origin of the national ag of Latvia and the tradition of the Song Festival. Vidzeme is the place where talent, creativity and knowledge can grow and realise in an outstanding natural and cultural environment. The picturesque old valley of the Gauja river, national parks and nature reserves are the values that have developed and have been preserved for many centuries.

Vidzeme's strategic objective is to promote balanced social, economic and territorial development of the region by implementing a exibility-oriented policy of integrated cross-sector development that ensures use of the region's economic and territorial benets for welfare of the population and the increase of securitability.

Among the strengths of the region is its closeness, short physical and network distances, ability to adapt and react quickly. In terms of innovation management the region's opportunity is its openeness to different type of cooperation; access to international know-how; potential for start-up and spin-off development, especially R&D spin-offs and technology start-ups. Within the region there are several ongoing projects and initiatives which are usually fragmented and end with the end of the project. There are some joint initiatives among university and municipality in research. The key players and key leaders building and managing a working innovation ecosystem are companies, SMEs, local authorities, legislators, innovators, clusters, and chambers.

The development planning documents also state three horizontal principles to be followed in order to achieve region's strategic targets and priorities:
1. ACCESSIBILITY – performance of purposive actions for identication, establishment and development of reachability solutions;
2. MANAGEMENT – by 2030, efective and innovative public management solutions oriented on the regional area specics will be introduced in the region. Invitation of dierent involved parties and institutions for joint actions will have become a common practice;
3. SMART SPECIALISATION – Vidzeme will especially focus on the development of smart specialisation areas, ensuring compliance of activities in all the priorities.

Examples of good practice in the region - SIA Dores is successfully operating in Ieriķi, which manufactures wooden design houses, cooperating with the most talented of Latvia architects. The woodworking company SIA "Staļi" is working maximally efficient, using wood in the window and doors, as well as glued products - boards, slabs in preparation – and chips by pressing wood chips in pellets, which can be further used for fuel. SIA "Very Berry" is located in Gaujienas, Apes district in the parish and is engaged in berry growing and
recycling, as well as organization of excursions. The company grows and processes cranberries, blueberries, raspberries, aronia, sea buckthorn, quinces, currants, rhubarb, earth and cherries. The products are produced without preservatives, additives, flavorings and dyes. IT area under the auspices of Valmiera business incubator several new companies in this field are operating. How to, for example, SIA "Enventor", SIA "Fastr", which creates speed reading applications for iOS devices - iPhone, iPad. SIA "FunGenerationLab".

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Strengths	Weaknesses
Vidzeme attracts talented and active people, is well connected, internally integrated and safe a region that can flexibly adapt to challenges, is competitive and strives for excellence in certain areas of smart specialization in the region.	Keeping the average population low income and considerable social and economic inequality, large societies part will still be focused on economic benefit. At the same time the needs of certain population groups will increase for inner peace and the desire to live in a socially responsible way in a just and sensitive society.
Opportunities	**Threats**
PEOPLE. To improve legal capacity and quality of life of citizens of Vidzeme Region. ECONOMICS. To increase Vidzeme Region's economic value by improving the business environment and increasing economic sustainability. TERRITORY. To improve Vidzeme Region's accessibility, approachability and attractiveness. To maintain and develop Vidzeme's unique cultural space. To build a sustainable and well-functioning Vidzeme urban network based on mutual cooperation and complementarity principles	Lack of political support for regional business center development. Inability to attract tallents due to lack of housing in Valmiera and other regional cities.

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III.   University Assessment

In a connected digital world, the top scientific universities in Europe compete globally. Therefore, scientific universities tend to concentrate on particular theoretical academic questions, value their scientific publications, and other established performance indicators over regionally anchored, applied professional skills, cross-disciplinary, cross-sector, and cross-actor innovation for smart and sustainable regions, as well as their social and economic impact within regional ecosystems.

Given the foregoing, higher education institutions ought to play a significant role in resolving the issues raised above. They could be key players in regional innovation ecosystems, drivers of rural development, and fundamental components of progressive regional policies through their work in higher education and training, mission-driven research and innovation, as well as multidirectional knowledge exchange. Innovation and entrepreneurship must be prioritized as key subjects in an institution's strategic planning in order to meet these objectives.

The overall objective of EUDRES universities is to gain widespread acclaim for their innovative methods to challenge-based higher education, mission-oriented research, human-centered innovation, and engaged knowledge exchange; therefore, they give particular consideration to this in their institutional development planning. There are some minor variations noted in those issues' approaches and specifics.

The executive summary that follows further demonstrates how crucial and influential each alliance partner is to the local innovation ecosystem. There are existing driving initiatives and cooperation in place, but they may use enhancement in efficacy, greater partnering and influencing, and new partnerships with larger regional areas.

1. Leadership and governance: Strategic planning regarding innovation activities, goals and development; Innovation management processes

This chapter is intended to present the Universities' innovation ecosystem, innovation related activities and innovation management processes. In this part we also discuss the Institution's motivation systems to catalyse the implementation of innovative ideas by students / teachers / researchers, their working processes on utilization of results, R&D activities and strategic planning. Within this chapter two units were implemented to access the universities' strategy in fostering entrepreneurship. To get the right inputs for this chapter, the following questions were applied and analyzed:

- *Does the university have a strategy / vision related innovation and entrepreneurship? Does the university have a clear implementation plan to achieve its strategy and vision with clear objectives and key performance indicators?*
- *Does the university have an effective model for coordinating and integrating innovative activities across the institution?*
- *Which unit (s) are responsible to implement the institutions innovation strategy?How is the organization integrated into the university's operational structure? How does the organization work? What activities is the organization responsible for? (coordination, administration, liaison,…) What resources does the organization manage? (human, financial, data, infrastructure, etc.)*

- *How does the university help and support faculties and units to act entrepreneurially?*
- *What changes can be observed in this issue since the launch of the EUDRES project?*
- *What changes can be expected in the near future? Are any of these changes due to the EUDRES project?*

STPUAS: St. Pölten University of Applied Sciences

The St. Pölten UAS has worked out a well-thought strategy 2025 that focuses on the following six themes:

1. We create added value for society.
2. We promote student centered teaching and learning.
3. We strengthen staff members and teams.
4. We expand our research.
5. We recognise and use our market opportunities.
6. We are a European University.

All of these themes have a strong innovation component for our institution as much as for our region. The institution´s quality management system has clear structures for ensuring that the strategy (and other long-term plans) gets implemented. It builds on quality cycles based on the PDCA-approach to quality management (plan – do – check – act) and has clearly defined cycles for yearly plans / activities / follow-ups as well as for plans & implementation phases covering several years.

The operationalisation of the UAS-wide strategy into more specific strategies (down to yearly objectives) is carried out:

- in workplans and target agreements specific to organisational units (academic units as well as support units)
- some substrategies specific to organisational units (e.g. research institutes and centres)
- substrategies and plans specific to overarching topics (e.g. Gender Equality Plan, sustainability strategy, Erasmus Policy Statement etc.)

In the current strategy period (2022-2025) we do not have a specific substrategy for innovation because this is strongly embedded in the six main strategy themes.

The internal service unit „Research and Knowledge Transfer" does primarily implement the above mentioned themes. Departments, study programmes and research institutes implement the academic aspects of innovation.

The position „Associate to the Executive Board for Innovation in Higher Education and Strategic Development" focuses on embedding innovation in strategic development.

Since the launch of the E³UDRES² project more awareness and visibility for all our innovation activities has been risen not only in our institution but across the region even across Austria; Most of the changes happened thanks to the E³UDRES² project as they are either developed in the framework of E³UDRES², or in the framework of E³UDRES²-related projects.

The development and implementation of a Stakeholder Relationship Management concept is planned.

St. Pölten UAS considers itself as platform for collaborative innovation. This means, that it is embedded in a strong network of different actors including research partners, startups, companies, administration, individuals, society, etc. and closely collaborates with them. Furthermore, it also acts as intermediary to connect the different stakeholders.

IPS: Polytechnic Institute of Setúbal

IPS strategic plan includes a pilar dedicated to innovation and entrepreneurship and also encompasses a series of direct mentions to several innovation activities, either at pedagogical and research path.

The positioning of IPS in the E³UDRES² alliance reinforced IPS's strategic vision regarding consolidating itself as an Entrepreneurial Higher Education Institution.

Belonging to the alliance strengthens IPS in terms of skills and capabilities for a more effective implementation of its mission in the areas of education, R&D and relationship with regional stakeholders, based on what is the quadruple helix.

This framework only confirms the importance of promoting entrepreneurial skills, not only for researchers and students, but also for other internal community stakeholders, aiming to translate, effectively, the generated knowledge into real solutions and developing the necessary resilience and innovation for the societal challenges that are imposed.

The institution defines below effects, improvements by supporting innovation and entrepreneurial mindset and actions:
- By creating incentives for pedagogical innovation and promotion of good pedagogical practices, namely through reflection, shared workshops or prizes;
- By supporting innovation and entrepreneurship it is intended to enhance the interconnection between research activities and their applications within industrial or business scope;
- By promoting the entrepreneurial, creative and innovative culture embedded in the education system, it should enhance the development of the appropriate skills to the creation or management of SMEs;
- By ensuring the conditions to operationalize the support structures for the Research Centers it promotes the development of research activities in a multidisciplinary way and articulating research with teaching and enhancing student learning;
- By paying a particular attention to teaching, curricula and improvement of laboratory infrastructures it promotes mechanisms that articulate teaching, research, technology and innovation.

Beyond "entrepreneurship opportunity", IPS tends to promote and consolidate opportunities for valuing initiatives, capacities of students and teachers. Activities intend to stimulate the creation, development and application of innovations that are socially useful and respond to the needs of the community, entities and companies. An emphasis is also put in supporting the development of programs that consolidate relations with companies and entities of the community and training human resources that are early involved in experimentation activities, project work and in the guided practice of research activities.

IPS has a well built and strongly functioning ecosystem. Their strengths are preparing and supporting entrepreneurs and knowledge exchange and collaboration.

On the other hand, IPS networks are not locally limited, with a strong culture of internationalization, multiculturalism, and transdisciplinary approaches, based on international partnerships. The E³UDRES² alliance reinforces this positioning, placing IPS in an international identity, along with the other partners that enhance this culture and all the open innovation potential that it promotes.

At IPS there are teams dedicated to supporting R&D, innovation and entrepreneurship that centralizes de contacts concerning project management and entrepreneurship for all the Schools of IPS (multidisciplinary). These teams fully assists researchers and entrepreneurs in their activities and projects. It does not work as an independent organization in the sense of having dedicated budget. When managing projects, it's under these teams premisses to also manage project budget (in the strict sense of the project) as well as the human resources (scholarships). They acts as a liaison with other IPS services, such as human resources or financial, and have different roles: coordination when it comes to the Incubator; administration when it comes to funded projects and IP; and liaison when it comes to TT and industrial links issues. It works in a centralized and transversal way to all IPS structure. Currently it covers different areas of support:

- Management of structured and funded projects (internal, national and international);
- Supports IPS Research Centers;
- Manages Intellectual Property (IP) and Technology Transference (TT) issues;
- Manages the Academic Business Incubator (IPStartUp);
- Links to the industrial stakeholders.

Through IPStartUp (the academic business incubator), IPS supports the development and acceleration of business ideas from graduates, students and teachers, giving rise to startups (either technological based or not) and spinoffs. The promotion of regional innovation is increasingly based on dynamization of the regional quadruple helix, through of the existing interactions between the education system higher education, companies and public institutions, associated with civil society. (IPS)

This Institution is a funding associate of the regional organizations that are part of the innovation ecosystem (e.g. ADREPES, AISET) and joins their activities. Also, it is part of several innovation actions and projects, either as a leader or as a partner. In the region, IPS is recognized and is a credible partner with a close proximity to several regional stakeholders and is involved with several projects.
Regarding new business initiatives, such as the creation of startups, IPS leads by starting its own incubator, but also joins regional initiatives that conduct to such results (e.g. municipalities initiatives).

Through the E³UDRES² alliance, it has been possible to integrate new approaches into its strategic planning, including those that lead to closer proximity to other stakeholders in Setúbal region – a fact pointed out as an opportunity for improvement in the previous report. However, networking and alignment of the different goals and interests between IPS and regional stakeholders is something that takes time to achieve effective results.

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Recognizing the IPS growth in recent years and, in particular, with its participation in the E³UDRES² alliance, some structural changes are taking place.

One of these changes occurs precisely in R&D, innovation and entrepreneurship support services, and mobility and internationalization support services that have now joined a single division this November. After the necessary strengthening of properly qualified human resources for the functions, the Division for Research and International Cooperation now has 14 elements that will join forces for an integrated approach. This step arises from the recognition that the international positioning of IPS is transversal to the different activity areas, which must be increasingly aligned with the most varied internationalization processes.

MATE: Hungarian University of Agriculture and Life Sciences

The Institution is undergoing an integration and reorganization process. Rules, regulations, policies of the new Institution are currently being developed by the legislative bodies and management board of the University. It certainly supports innovation and entrepreneurship and gives those a central role in the Intitution's strategic plan. It defines innovation activities in different areas, e.g.: professional development, cooperation with different stakeholders, regional devlopment.

The university has 5 campuses and 22 different institutions including Economics, Technology, Crop Science, Food Science, Horticulture, etc. Thus, the university's added value lies in its opportunity to generate multidisciplinary projects and cooperation by merging the characteristics and specialties of different areas. Also, the University is responsible for the implementation of some key elements of the Hungarian Government's Digital Agricultural Strategy and some connected governmental programs like Artificial Intelligence Strategy's Agriculture Unit, the 5G Strategy's Agriculture Unit, etc., what means the university has the opportunity to develop its innovation ecosystem in these aspects.

The aim of the university is to transform the operation of the organizational units, the thinking of professors and researchers into an innovation-driven one, to enable and support the innovation of researchers' and students' ideas, and the utilization of intellectual creations.

Hungarian University of Agriculture and Life Sciences has a dedicated department (Innovation Centre - hereinafter, "IC") to deal with innovation-related services and activities. This department is responsible for administration, coordination as well as the daily operation of the university's innovation activities.

The Innovation Center carries out its activities in close cooperation with the university management. The center always makes its decisions involving the highest levels according to the specific topics. In administrative matters, the IC consults with the general director of coordination; in education and training matters, with the vice rector for education; and in innovation matters, with the scientific vice rector. Every single decision of the Innovation Center (personal, professional, etc.) is approved or made by the rector of the university. The institution's rector appoints the Center's staff and the experts to be included in the programs (e.g., the Proof of Concept program, etc.).

The Innovation Center prepares its strategic plan for each year, detailing its objectives and most important tasks. Based on these, the Center formulates its goals for the following areas:
- Intellectual property management
- Coordination of R&D&I data service, development, and operation of the R&D&I decision support system
- R&D utilization, knowledge management, and technology transfer management
- operation of a target group-specific service portfolio

The IC employs a lawyer to review intellectual property utilization contracts and to regulate innovation activities. The IC also employs an intellectual property expert. One of the "divisions" of the Innovation Center is based on the expertise of two expert colleagues and deals with intellectual property issues (support for the creation of new intellectual property, utilization, consulting, etc.) and knowledge transfer processes.The other part of the organization is responsible for the service portfolio managed by the Innovation Center and recommended for university citizens, which includes the Proof of Concept Fund, student programs, competitions, and research training.

The Innovation Center carries out significant work in each of the above areas (4 strategic goals), and its tasks are as follows:
- Assessing and evaluating the university's R&D activities, infrastructure, etc.
- Managing the university's innovation services, and intellectual property portfolio
- Creating the communication strategy towards any university departments that are involved in innovation activities, etc institutions, campuses, student organizations, etc.
- Creating the administrative system and processes to record R&D related activities at the university.
- Organising student programmes, like hackathons, education programs, bootcamps
- Organising programmes for researchers and lecturers, like trainings
- Communicating with the corporate sectors, strengthening ties with local enterprises, SME-s, etc.
- Developing regional ecosystems by connecting relevant actors, generating projects, etc.
- Coordination of the processes aimed at obtaining patents (idea generation, university application processes, counseling, assessment, coordination of the Intellectual Property Evaluation Committee, the entire process of obtaining patents)
- Administration of cases related to the maintenance of patents, payment of official fees
- Management of patent issues by the coordination of the Intellectual Property Evaluation Committee
- Coordination of activities supporting marketing and utilization of the elements of the IP portfolio
- Monitoring and follow-up of exploitation results and income generated from patents;
- Central registration based on the mandatory provision of institutional data
- Maintaining a central register based on required institutional data provision

As for human resources the Centre has 4 dedicated colleagues who gained expertise in different fields of innovation management and intellectual property, and has part-time colleagues dealing with proposals, data-management, etc. Based on the knowledge of its employees and co-workers, the Centre develops marketable services for the corporate sector.

The centre has the right to check and control all business related activities of any institutes and campuses. As for finance, the Centre maintains itself for government support (calls) and incomes of R&D activities.

UCLL: University College Leuven Limburg

The mission statement of UCLL (University Colleges Leuven – Limburg), is "Moving Minds". Moving Minds are inspiring, innovative, and enterprising professionals who contribute to a sustainable and just society, based on an authentic personality and a broad, engaged view of the world and their profession. To create Moving Minds, UCLL wants to motivate people and set ideas in motion. From specific courses around entrepreneurship and hackathons to StartMinds, an advanced program to support entrepreneurial students, interdisciplinary entrepreneurship is rooted in UCLL's activities. The 9 pillars we use to maintain, secure and validate this DNA are:

- Educate the moving mind mindset
- Research, co-create and share knowledge
- Active engagement in creating equal, high quality coaching
- Stimulate global citizenship
- Strengthening regional roots
- Quality assurance
- Talent development
- Digital transformation
- Lifelong learning

Embedded in ecosystems with connections to business networks and incubators, and through its carefully selected campus locations (from a campus located in a business park to one located in a rural, green environment) UCLL aims to have local impact with solutions that can be shared globally.

As a University itself, UCLL continues to challenge itself, looking for better ways to embed entrepreneurship within the institution. UCLL has a dedicated unit called Research & Expertise (R&E). UCLL R&E is the launch and landing base for innovative practical research and services for the 5 faculties (Teacher Education, Health, Social work, Management and Technology) and 8 campuses in the region of Limburg and Flemish-Brabant that coordinates research & innovation activities. It builds on a network of local & international players. It has 8 centres of expertise active in welfare & health sectors, education, ICT, sustainability & technology and business. All 8 expertise centres have focus lines around which their research projects are submitted. With the involvement of 450 employees they work as a team on:

- Administrative & financial support
- Advise for project management
- Communication
- Business development
- Valorisation support
- Startup ecosystem support (UCLL StartMinds)

- Coordination (also a member of the direction staff of UCLL)

There is 1 overall coordinator & 1 adjunct-coordinator for R&E, together with the 8 R&E experts there is a two-weekly management meeting. UCLL R&E has a team who coordinates central tasks like administration, financial 22 support, communication, project management, business development, valorisation , startup support for all 8 centres of expertise. The centres of expertise are active in all different type of research, set up services based on research projects and continuing education for professionals, build on an external network.

UCLL R&E manages their own resources and function as an independent organisation within UCLL. They have their own budget to make strategical choices on all aspects of their business. There is also an investment of R&E resources in 'VODO', it's a Dutch word meaning intertwining education & research activities. The results of projects has to influence, bring innovation within the education programs, that is an important goal of UCLL R&E. Also building an external network is such an important goal because centres of expertise has to cooperate. Communication is key on this and that is why the communication person works in the communication team of UCLL. UCLL is an active partner in many projects that are started up and rolled out in the region. All practice-oriented research projects are always started in co-creation with the professional field. A valorisation centre that supports research groups in this.

Because E³UDRES² is launched during the Covid-19 pandemic, it has been a challenge to get E³UDRES² under the attention of the different UCLL stakeholders, internal and external. The change that we observed in the most recent phase is the growing involvement of these different stakeholders. They experienced E³UDRES² during live events like the hackathon, bootcamp, International engagement circus and extra mini events like the I Living Lab showdowns and have a better understanding of our goals and vision. Hence that experience and knowledge the different stakeholders understand the overlap in the UCLL and E³UDRES² vision and this stimulates more co-operation and integration.

UPT: Polytehnica University Timisoara

One of the main goals of the Politehnica University of Timisoara (UPT) strategic plan for 2020-2024 is to create an innovative environment for a professional development of students, in agreement with the tradition of the university. The Chapter 4.3 - Scientific research, innovation and technology transfer of this strategic plan underlines the need to extend the access to research funds, to develop the partnership with the private sector and to operationalize the Centre for Innovation and Technology Transfer.

UPT deploys innovation activities on several directions. Three organizations/structures are in charge with the management of innovation process:
   (i)   The Research & Development Department through the Office for Research Valorisation,
   (ii)   The Centre for Innovation and Technology Transfer Politehnica 2020,
   (iii)   Research Institute for Renewable Energies (ICER).

UPT has 30 research centres under the umbrella of the Research Institute for Renewable Energies, each centre concentrating its activity on a certain specific field of research such as: Research Centre for Multimedia, Research Centre for Engineering and Management,

Research Centre for Mechatronics and Robotics, Research Centre for Thermal Machines and Equipment, Transportation and Environmental Pollution Control, Research Centre for Smart energy conversion and storage, Research Centre for Computers and Information Technology, Research Centre for Intelligent Signal Processing etc. Each research centre has a director who collaborates with the vice-rector responsible for the Research and Development activity, prof. Liviu Marșavina (http://www.research.upt.ro/).

The Research & Development Department represents an administrative structure inside the university. Within this department, the Office for Research Valorisation integrates a Unit for Innovation and Technologic Transfer and a Unit for spin-off and start-up development. The main activities of the Research & Development Department through the Office for Research Valorisation are: technology dissemination, know-how transfer, intellectual property rights, spin-off and start-up development. The Innovation and Technology Transfer Office was accredited in January 2022, after being provisionally authorized in November 2020. The mission of CITT is the general stimulation of the collaboration activity between the Research Centers within the Politehnica University of Timișoara and the economic and industrial environment, by supporting and encouraging the technological transfer, in order to introduce in the economic circuit the research results transformed into new or improved products, processes and services. CITT is developing a major project, "Increasing the competitiveness of UPT by establishing the Politehnica 2020 Center for Innovation and Technology Transfer", through the European Fund for Regional Development. The Research & Development Department manage human resources only.

The Centre for Innovation and Technology Transfer Politehnica 2020 represents a new structure within the Research Institute for Renewable Energy, which will facilitate collaboration with SMEs for technology transfer. The Centre is coordinated by a professor of UPT who is subordinated to the vice-rector responsible for the Research and Development activity. The Research Institute for Renewable Energies (ICER) is the materialization of an ambitious project of the Politehnica University of Timișoara. This entity is crossing an ongoing accreditation process by the Ministry of Education and Research. The Centre for Innovation and Technology Transfer Politehnica 2020 manage human resources, European funded projects, collaboration projects with SMEs.

The mission of the Research Institute for Renewable Energies is to sustain and perform RDI activities, including formation and perfection of highly qualified human resource in the domain of engineering sciences, aiming for excellency in strategic multidisciplinary domains of development of the society, in a quest for progress in technology, scientific fundamentals, technical solutions, processes, materials, infrastructure and competencies. R&D priorities are: (i) Energy sources (ES): renewable energies; conventional energies; energy conversion; power grids; (ii) Energy efficient materials and technological processes (EEMTP): advanced materials (composite, ceramic, magnetic nanofluids); automotive; equipment and installations; robotics and automation; artificial intelligence; (iii) Climatic changes and sustainable development (CCSD): the impact of climatic changes on the built environment; protection and rehabilitation of the built environment; waste management; materials, solutions and technologies for energy efficient buildings. The ICER Institute manage human resources, partnerships with national and international R&D bodies: universities, large companies and high-tech SMEs, European/national funded projects etc.

Politehnica University of Timisoara represents a key player in the regional innovation ecosystems. The strength and weaknesses as well as the opportunities and threats are shown in below SWOT table:

Strengths	Weaknesses
Highly specialised teaching staff in new technologies, smart manufacturing, innovation and technology transfer Updated list of bachelor and master specialisation, with a focus on smart technology and industry 4.0 applications Good collaboration with the industry and local authorities. Innovation infrastructure Human resources	Small capacity to underline the institution's competencies to support the regional innovation ecosystems Lack of efficiency in the spinn-off implementation
Opportunities	Threats
Involvement in different projects as Innotech Student to promote start-up activities among students Involvement in European projects promoting new/smart technologies: Cloud computing, IoT, Blockchain technologies, Big Data and Open Data, Augmented and Virtual Reality etc. New funding schemes at European level through the National Plan for Recovery and Resilience European Universities initiative	The lack of coordinated actions at the university level Economic crisis triggered by COVID-19 and Ukraine War, with negative budgetary impact at national level.

All the above-mentioned innovation structures are connected with the UPT objectives related to the EUDRES project. As a result of EUDRES project, the innovation activities involve to a higher extent the UPT students. They are part of the institutional and regional innovation eco-systems, participating in ILL, hackathons, bootcamps and i-Residencies.

VIA: Vidzeme University of Applied Sciences

Due to changes in National legislation regarding higher education (HE), HE institution governance and rector elections, till this moment ViA has been working with previous strategic document. However new strategy – "ViA strategy 2023 – 2027", including vision, mission, objectives and KPIs, will be developed during the first moth of 2023 and will be approved by Latvian Ministry of Education and Sciences by the December of 2023.

Knowledge and Technology Centre (KTC). KTC is also responsible for implementation of innovation strategy and activities related to innovation transfer, lifelong learning as well as project administration capacity. Activities regarding intellectual property are in responsibility of vice rector for sciences until the commercial interests are touched. KTC is a structural unit whose direct authority is rector. This structure might change soon due to structural reorganisation of university. KTC manages human resources and information on stakeholder

network. KTC is coordinating and administrating innovation projects on national and regional level, as well as innovation service contract and process coordination.

Currently ViA with Valmiera Development agency and other stakeholders is implementing project Vidzeme Innovation Program for Students (VIPS) aim of which is to solve challenges related to business and municipalities in Vidzeme region. Main activities regarding this project are hackathons, learning and prototyping activities and presentations of students solutions and prototypes. Main issue regarding innovation program implementation is the lack of experience in companies in conducting such activities – hence lack of trust in successful cooperation.

KTC provides project management and coordination support and facilitates activities regarding innovation projects.

Since the start of EUDRES there have been more activities regarding innovation and integration of project-based learning in the study process. It must be noted that such activities in interdisciplinary groups provide new learnings for students. For example – communication skills between engineering students and students form social sciences background.

2. Motivation system, implementation of innovative ideas, assessment and management of innovative and entrepreneurial outcomes

This chapter describes how E³UDRES² universities created their own motivation systems to foster and help the implementation of innovative ideas, and what systems and methodologies they use assess the results of their innovation-support activities. To get the right inputs for this chapter, the following questions were applied and analysed:

- *How key resources (such as funding and investments, people, expertise and knowledge) and incentive systems are managed to sustain and grow the university's capacity for entrepreneurship?*
- *How entrepreneurial objectives are supported by sustainable funding and investment sources? Does the organisation engage with funders and investors to secure financial resources to deliver on its objectives?*
- *Are (and in what ways) staff, both academic and administrative, are a key and necessary resource required to deliver on all elements of the institution's entrepreneurial agenda, including the delivery of entrepreneurship education, provision of support for business start-ups, development of partnerships with other external stakeholders and supporting local and regional development? (Staff trainings, policy for career development, measure of staff progress, rewarding system, etc.)*
- *How does the university monitor and assess the innovative and entrepreneurial performance of the different units (faculties, research groups)?*
- *How does the university / innovation department / faculties / other units manage (collect, store, communicate) and utilize the entrepreneurial and innovative outcomes?*
- *What changes can be observed in this issue since the launch of the EUDRES project?*
- *What changes can be expected in the near future? Are any of these changes due to the EUDRES project?*

STPUAS: St. Pölten University of Applied Sciences

St. Pölten UAS focuses per definition on Applied Sciences, Applied Research and Applied Education. The focus lies on cooperations with industry partners rather than with administrative

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entities. That allows a natural multi-directional knowledge and technology exchange. That exchange and insights in a day-to-day industry life motivates staff to start new businesses.

The institution does not offer certain incentives for entrepreneurial activities for staff and students in general. There is an occasion-related decision which incentives can be offered to staff and students.

The institution monitors and assesses the innovative and entrepreneurial performance across the institution once a year. The entrepreneurial and innovative outcomes are used at open lectures and classes as well as in research. A format that is called "Innovation Call" allows staff (academic and non-academic) to further develop and implement an innovative idea/concept/project with a specific budget during the period of one year. This option clearly motivates staff to invest resources in the implementation of their proper ideas and develop entrepreneurial thinking.

Students can participate in the creative pre-incubator programme. This programme supports them throughout of one academic year with trainings and coaching on their way to found their own startup. The participation in the creative pre-incubator programme can be included in the regular curricula (upon acceptance of the academic director), which also presents an incentive to follow students' business ideas.

In 2022 a new internal workshop format called "InnoTechTrans" was offered internally to all employees at St. Pölten UAS. The aim is the strengthening of the understanding and clear expansion of the action repertoire regarding the terms: innovation/technology transfer/exploitation/entrepreneurial thinking as well as strengthening of motivation in order to enable active and sustainable action. This means a clear competence expansion of the staff members.

At St. Pölten UAS the exploitation of results, innovations and R&D activities are shared via scientific publications, open access platforms, at conferences, workshops, discussion rounds, following research projects as well as for creating spin-offs (currently work in progress for two specific projects). St. Pölten UAS supports open access and open source as one possible option for the exploitation of outcomes.

Since the start of the E³UDRES² project more staff members are motivated to work on new, innovative co-creation, international formats. Successful examples foster more and more innovative thinking within groups of employees who are not so much exposed to change and innovation so far.

IPS: Polytechnic Institute of Setúbal

IPS is integrated into an extensive network of regional stakeholders and through its innovation and entrepreneurship support offices manages key resources such as funding instruments, and human capital in order to promote its entrepreneurial capacity. In addition to Portugal Ventures, other important private and government stakeholders, such as Banco Santander, the National Agency for Research (FCT) the National Innovation Agency, and the Agency for Competitiveness and Innovation, allow IPS to pool financial resources to support various entrepreneurial, institutional and integrated initiatives in specific innovation and entrepreneurship projects. Concerning human capital, the whole range of teachers, external

partners, alumni, and specialized technicians to support entrepreneurship, but also organizations at the national and international level, enable the exchange of knowledge and experiences, many of which are realized in research projects and pedagogical projects in co-creation.

Through the nine IPS research centres initiatives and projects, students are invited to participate. Most of initiatives are research base, but there are already some initial work towards the creation of spinoffs, with the involvement of the Incubator.

Some collaboration R&D projects like the ERASMUS + projects KABADA – Knowledge Alliance of Business idea Assessment: Digital Approach; DiGiTOOL_to_CE - Inclusive Digital Education - a Tool to Understand Circular Economy; International Business Week Network and International Business Games have been developed through education activities relating entrepreneurship and innovation.
Regarding staff engagement, people are invited to propose some innovative ideas and projects, especially under sustainability innovation on the campus.
All of these projects and activities remark on the importance of academic and administrative staff as important stakeholders. In this sense, the E³UDRES² alliance has been very important in enhace capacity building, especially under the E.I.N.S. - Entrepreneurship and Innovation Network for Smart and Sustainable European Regions project, which is providing entrepreneurship training and promoting networking and knowledge exchange.
All these activities and projects are monitored under the IPS' quality system, which is linked with our strategic and annual plans, monitoring IPS performance on innovation and entrepreneurial activities and outcomes.

MATE: Hungarian University of Agriculture and Life Sciences

The researcher motivation system introduced and managed by the Innovation Center at the university has many elements. Motivating researchers and making them interested in research utilization processes plays a decisive role in the mapping of new research opportunities. To put this into practice, the most important tasks are the creation of a clear, unambiguous, and stimulating regulatory environment and predictable financing that promotes utilization activities as well as competence development.

In 2021, our university established the Proof of Concept (hereinafter, POC) fund (POC micro-grant program) for early-stage innovations. The purpose of the program is to help the university's researchers in the implementation of their innovative ideas, to provide support for the evaluation and validation of ideas, the development of prototypes, and, in the case of research results and prototypes, to mark the path to utilization and to bring the technologies to a stage where they can either be licensed or spun off, which is also suitable for raising capital through the establishment of a company. The POC program's other goal is to hasten the preparation of the utilization route plan, the utilization process, and the mapping of the potential uses of the research results produced at the Hungarian University of Agriculture and Life Sciences so that they can reach new milestones in the area of product or service development and testing.

Only projects (based on research results with utilization potential) established at the Hungarian University of Agriculture and Life Sciences could be entered in the tender, in which one or more intellectual works could be identified and patented. The project proposal had to target

the next phase of technology and product development, or their testing, as well as the demonstration of the usability of the intellectual creation, thus supporting the utilization strategy.

The Intellectual Property Financing Fund is a financial hub that was formed by the Innovation Center in collaboration with the university's department of economics. The Fund's goal is to support industrial property protection procedures for inventions and plant varieties that were developed as part of a tender but cannot be tied to a tender indicator, meaning that the funding for the patenting procedure cannot come from a tender.

Following the integration processes, the university's Innovation Center assessed the entire university's intellectual property portfolio, supplemented by the intellectual property portfolios of the newly joined campuses, faculties, and organizational units. In order to outline and determine the potential of intellectual property portfolio elements in terms of their market potential, the center also scheduled discussions with the directors of the institutes.
Thanks to this approach/process and the "single point" system, the Innovation Center, in cooperation with the institutes, defined three priority activities related to utilization:

- Identification of intellectual works, patents, know-how, plant varieties, and protections with exploitation potential
- Organization, support, and conclusion of new utilization contracts for the utilization processes of the university's intellectual property, especially plant varieties
- Review of existing utilization contracts and utilization processes

The university established the Intellectual Property Evaluation Committee. Tasks of the Committee:
- commenting on intellectual works and inventions notified (offered) to the university, as well as proposing their use and the establishment of a university service company
- Provisions related to the maintenance and renewal of patent protections owned by the university, as well as making a decision on the payment of the related official fees
- A proposal and decision on the use of the resources of the Intellectual Property Financing Fund of the Hungarian University of Agricultural and Life Sciences

The Innovation Center's mission is to develop a data-driven, objective, and informed "decision support" system for R&D decision-making. As part of the system, KPIs (Key Performance Indicators) for evaluating the institutes' performance were defined for monitoring and evaluating key activities and defining R&D strategic goals (investment, HR, institute development, etc.). This system is suitable for measuring and evaluating the innovation, research, and development activities of institutes.

UCLL: University College Leuven Limburg

5 years ago the institution set up UCLL StartMinds. StartMinds is a flagship platform to inspire, coach and connect entrepreneurial students. Students receive personal advice from external experts through StartMinds cheques, have access to physical and digital facilities, and can request a special student-entrepreneur status, which allows for a flexible study program. StartMinds also advises on the development of new curricula on entrepreneurship and drives

interdisciplinary cooperation through its umbrella function. They do this with 1 to 1 coaching, group sessions, hackathons, bootcamps, innovation programs are setup for students & teachers about different themes. Also Small Business Projects (SBP's) are setup in nearly all programs, where students setup their own start-up in an 'safe' environment. StartMinds is strongly connected to the region and it SME landscape.

To reinforce the Moving Minds philosophy and encourage entrepreneurial projects, UCLL presents each year the Moving Minds Awards to the most promising student projects. The student or team that wins this award receives a cheque of €2500,00. They can choose how they want to invest this amount, by realising the concept, get coaching, invest it in the (potential) company or donating it to charity.

Next to the Moving Mind Award we also have the Moving Minds Foundation. The Moving Mind Foundation gives extra chances to develop and expand projects or activities that stimulate the social commitment in the region. The foundation focusses on projects that involve teenagers and young adults, social wellbeing in the region and the global south. This gives students or alumni the opportunity to get involved in these project or apply for the foundation themselves.

In recent years there has also been more attention for 'soft skills' within the various programs. For example, 'soft skills with 3 ECTS' will be implemented for industrial engineers from next year. It is also possible for students to take part in E³UDRES² as a board- or team member and receive ECTS for this. In direct coordination with their study coach we organize a framework that fits and benefits their study course. This framework mostly consist of balanced a set soft- and hard-skills.

Also multidisciplinary projects are gaining more influence in the programs. For example, the 'Technology in healthcare' project has brought a lot of positive flow within the organization. UCLL also involves students in many of their research projects, such as the 'wanderful stream project' that works on circular design. Students participate in hackathons and bootcamps together with designers and technical people. Marketable ideas of research results are followed up by the valorisation service that was set up 3 years ago. From the beginning of new research project there is a lot of effort in the valorisation part. A team of experts within UCLL is dedicated to this task. 1 FTE is dedicated to the task of valorisation within all programs and she is surrounded with a team of experts within the organisation.
UCLL strongly committed to interweaving research in education. For example, they ensure that education is up to date, but they also believe it is important that their teachers include research activities.

UPT: Polytehnica University Timisoara

Politehnica University of Timisoara has in place internal programs to support the research and development activities of teachers and PhD students (e.g. publication grants and awards, „Ioan de Sabata" prizes, other awards). UPT also participates to the national annual competition for teachers in terms of awards allocated for innovation patents. In addition, the ANIS partnership between industry and academia offers scholarships to support young teachers in integrating innovative teaching methods and new technologies into the university curriculum.

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Politehnica University of Timisoara supported the start-ups through an incubation program before 2018 (a list of spinn-offs and start-ups cand be consulted here http://www.upt.ro/Informatii_spin-off_481_ro.html). The development of start-ups within the university is still an ongoing process. Two entities created by UPT (UPT.EVENT and UPT.HR) will offer support to this process. The graduates of UPT are also sustained to set up start-ups and spin-offs. The most successful spin-off is BeeSpeed Automatizari SRL Timisoara founded in 2007. BeeSpeed offers technical solutions – turn-key projects – for automation and performance improving in different industrial processes, reduces levels of electrical energy and raw materials used by equipment conceived, realized, and tested in compliance with environment settlements and legislation, work health and security. Today, BeeSpeed – the automotive component – is part of ZF Friedrichshafen AG group.

The students are equally motivated to develop innovation activities and they are part of the UPT entrepreneurial movement. They have participated in different events like Innovation Labs, FameLab, Interactive Digital Media Student Contest, Tech Talks, Open Education Weeks or Timișoara Open Culture Hackathon. In terms of entrepreneurial attitude, the students actively participate in entrepreneurial projects as Build Your Future through Internships or Secure Your Future through Education and Entrepreneurship.

Students' entrepreneurial profile is also sustained by the activities of Student Entrepreneurial Society in UPT, or "InoHub-UPT". This structure is established based on the principle of the right to assistance and complementary services in higher education, with the aim of organizing activities that ensure the development of the entrepreneurial skills of UPT students and graduates and ensuring the necessary consolidated support for the operation of UPT in an entrepreneurial concept based on good governance. Several activities have been established in 2022. For example, in partnership with CoWork Timisoara (one of UPT stakeholders inside the EUDRES project), InoHub UPT organized a competition of student entrepreneurial ideas in the form of a hackathon based on a presentation session, encouraging the innovative side, demonstrating the acquisition of skills, teamwork and the coordination side.

The students interest for innovation and entrepreneurship raised since the launch of the EUDRES project. They are motivated to become more involved in the socio-economic life of the region, through projects like SUS-RURAL and StartUPT, where the most innovative ideas and best business plans are financed by UPT using national funds. For example, "StartUPT" is a project co-financed by the European Social Fund, through the Human Capital Operational Program (POCU) within the "Innotech Student" financing line, between December 2021 and December 2023. StartUPT is a business accelerator targeting students from all over the country who want to establish a start-up in any of the regions of the country, except Bucharest-Ilfov. The ideas the project is looking for must be part of areas such as IT, creative industries, tourism, health, energy. A business plan competition was held and 26 entrepreneurs received up to 60,000 euros for their business.

Last but not least, UPT have made during the last couple of years important steps in the digitalisation of management processes. These steps refer to the general management issues (electronic registration system of documents) or student management and supporting issues (electronic student grading system, virtual campus). The eLearning Center of UPT has organized 30 webinars in the series Together Online during the pandemic times in 2020-2021. These webinars have been dedicated to online education, strategies, methodologies, good practices but also touched the topic of innovation and entrepreneurship.

VIA: Vidzeme University of Applied Sciences

Innovations and entrepreneurial activities and performance are monitored by vice rector of sciences and administrative vice rector as well as KTC. Innovation performance regarding research is monitored via scientific publications, masters and PhD thesis's as well as post doctoral research project activities reports. Entrepreneurial and applied research is monitored via project cash-flow and number of attracted projects. Each activity is communicated internally and in case of necessity to general public. Radical changes in this field can not be seen.

3. Teaching Innovation and Entrepreneurship

The development and promotion of an innovative and entrepreneurial attitude, innovation in pedagogical and research curricula, and connecting ground breaking research with industrial applications depends on the methodologies that the institutions apply. This chapter intends to find the answer for the question, how the curricula and the less formal education programs support the innovative and entrepreneurial mindset. To get the right inputs for this chapter, the following questions were applied and analysed:

- *Does the university provide diverse formal and informal learning opportunities to develop entrepreneurial mindsets and skills?*
- *Does the university provide support and training to staff in creating new curriculum related to entrepreneurship? Does it introduce new mechanisms for supporting students, including experiencing starting new ventures within the students' formal education or delivering entrepreneurship education with practising entrepreneurs?*
- *Does the university co-design and deliver the curriculum with external stakeholders? Does it integrate external stakeholders' experience and expertise into the development and delivery of extracurricular learning activities and support services?*
- *What changes can be observed in this issue since the launch of the EUDRES project?*
- *What changes can be expected in the near future? Are any of these changes due to the EUDRES project?*

STPUAS: St. Pölten University of Applied Sciences

Several courses and programs (e.g. iLab, CPI) provide basic knowledge about innovation and entrepreneurship. In addition students get informed about entrepreneurial events, conferences, awards etc. by the platform "Career Center – Jobteaser". St. Pölten UAS collaborates in addition with a large network supporting the development of entrepreneurial mindsets (e.g. female founders, Austrian Startups, accent/CERN, Knowledge Transfer Center East). Another example would be the event format "Successful Business Start-Up" that offers personal exchange/ coaching with financial-, funding- and marketing-experts for a broad audience once a semester at St. Pölten UAS. St. Pölten UAS offers moreover co-operative

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education (combining classroom-based education with practical work experience, direct relationship between the classroom and employment).

Within the framework of university development, the contents of the degree programs are evaluated and adapted to new requirements. This ensures a current improvement of the entrepreneurial education inside the deegree programmes at the institution.

Courses such as "Project Semester" and "iLab" that include numerous expert talks and direct expert exchange during classes ensures the close connection to industry and companies and the top relevance of the topics, knowledge transfer and focusing areas. As a University of Applied Sciences, a large network of company contacts is available and an intensive exchange on all levels takes place.

The institution does successfully integrate the external stakeholders´ experience and expertise into the development and delivery of extracurricular learning activities and support services such as the direct exchange on newly created educational formats like Hackathons, Bootcamps, iResidencies, iLivingLab, iLabs etc. With the start of the E³UDRES² project a fruitful exchange with other European institutions on this matter increased disproportionally; as well did the learning curve of the team being operationally responsible for design and implementation of the educational formats.

In the near future St. Pölten UAS will increase the implementation of valid and useful input from partner institutions and improve its innovation and entrepreneurship education on a continuous basis.

IPS: Polytechnic Institute of Setúbal

1. Summer School Design Thinking

The Summer School in Design Thinking, launched in the summer of 2020, was founded by Portuguese National Agency for Research (FCT) and allows to develop a set of activities involving students, teachers and partners organizations. The results are 4 projects developed by students' teams with partners from industry, social sector and public administration. These projects were presented in posters in a final workshop involving several stakeholders. The assessment of this week suggest that students developed some relevant competencies such as creativity, time management, team building, communication etc . The partner local organizations also are consensual about the importance of reinforce the linkages with IPS and the possibility to have motivated students working in them to solve real problems.

2. Summer School on Technological Entrepreneurship

Launched in 2020, this initiative allowed for students to develop entrepreneurial competencies while researching a specific theme, with a technological basis. All students engaged with a senior researcher (IPS teachers) and a specific laboratory, either alone or in teams. During 3 months and receiving a scholarship, they discovered the business perspective of the research and evolved from a research base mindset to an integrated research-business mindset. 16 students engaged.

3. Demola

IPS developed since 2021 an International Project to promote pedagogical innovation, involving teachers from IPS, teachers from professional schools, students and companies. This project applied Demola methodology for co-creation. Demola is an international innovation challenge platform (about 50 universities, 750,000 students around the world) that brings together students and leading brands. With Demola, global and local organizations

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challenge university students to co-create solutions. The first edition of this project has ended in IPS and included 9 facilitators (teachers from IPS and professional schools) about 50 students from IPS and from another national and international universities, 6 companies and 2 municipalities. The students' teams are multidisciplinary, and this project is articulated with Poliempreende, to develop entrepreneurial competencies and eventually new business ideas. Regarding Demola the main focus remains, among other itens, on the connection between the IPS and the local/regional partners. Until the present moment there were 23 institutions that cooperated with the IPS.

Abegoaria dos Frades Turismo, S.A.	Nokia Portugal
ANIMEPAF.ORG	Organifarm
Apetro	PERFORMANCE KEY ENGINEERING - PROJETOS DE ENGENHARIA AUTOMÓVEL, UNIPESSOAL LDA
ASCENZA	PROComSom
Câmara Municipal de Setúbal	S. ENERGIA
Câmara Municipal do Barreiro	Secil, SA
Carmona SLTC SA	Sinalcabo
Cibersur	Tomar Natural
CRIBB - Centro Dos Reformados E Idosos Da Baixa Da Banheira	Ultra Aventura
IMEGUISA PORTUGAL - INDÚSTRIAS METÁLICAS REUNIDAS, SA	União das freguesias de Grândola e Santa Margarida da Serra
Introsys	Valorsul - Valorização e Tratamento de Resíduos Sólidos das Regiões de Lisboa e do Oeste, S.A
Living Box, Lda	

Besides the integration of curricular units (uc) focused on entrepreneurship and innovation in the study plans (about 30% accordingly with an internal study), regarding pedagogical methods, there has been a major concern on introducing new approaches and giving the teachers the tools to support their work. For instance, the use of Demola methodology in uc of Process Optimization of the Master of Biological and Chemical Engineering or the creditation of Demola in the uc portfolio of the course of Biotechnology (3rd year) is considered an innovation.

Under E.I.N.S. E³UDRES² project, not only academics are being trained on innovation and entrepreneurship, but also it links these knowledge to their lectures, promoting a better integration into the curricula.

MATE: Hungarian University of Agriculture and Life Sciences

The Innovation Center of the Hungarian University of Agriculture and Life Sciences supports the R&D&I activities of the university community by providing services to support the process of knowledge and technology transfers, operate the intellectual property protection system, and take care of innovation talent management.

A prominent element of the service portfolio is the differentiated researcher-student training system. In addition to formal training programs, the training system's goal is to provide a dynamically changing training program that is specific to market and individual needs.

This informal portfolio identifies three levels, as follows:

- Basic level (A): basic innovation knowledge material for the widest range of teachers, researchers, research groups, and students.
- Advanced level (H): generator of supporting knowledge material for innovation project development, owner of a validated project idea, to expand the knowledge of lecturers, researchers, research groups, and PhD students performing assistant activities in the project, in order to facilitate the advancement to the "J" level.
- Advanced level (J): continuing education material for instructors, researchers, and research groups with at least 1-3 years of independent project management experience.

The training levels build on each other and are available to anyone as needed. The topics of the trainings are developed with external stakeholders and education development companies.

UCLL: University College Leuven Limburg

The institution provides the student with several platforms and a network to develop their entrepreneurial mindset and skills.

- Technology in health care: The student does research together with professionals from different disciplines like technology, nurses, remedial educationalist, product designers and the client. To make sure that the designed solution is ready to be implemented.
- STE(A)M: students from UCLL develop together with companies, activities for children until the age of 14. These activities vary from workshop to DIY boxes that focus on science, technology, engineering, art and mathematics.
- Sustainable extraction of component in waste streams: Students work together with companies on a solution for re-using waste. The project knows 4 phases:
  1. Research
  2. Process optimalisation
  3. Application development
  4. Proof-of-concept
- AI & machine learning: Students and researches work together on a solution for a SME company that has a question or challenge around digital transformation. This project knows 3 phases:
  1. Static analysis and data visualisation
  2. Textual analysis by using AI
  3. IoT and Edge Computing
- Pukkelpop: Partnership with a major festival where students promote innovative and sustainable projects.
- Events with external partners from regional ecosystems, local business organizations, and incubators, such as PitchPlease (https://www.pitchplease.be/) and Le(j)on (https://www.leuvensejongeondernemers.be/).
- POP-UP markets, Hackathons, Transdisciplinary Co-creative course units, elective courses on entrepreneurship, international collaborations around entrepreneurship, and much more.

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The institution is also stimulating the staff to create new curriculum related to the entrepreneurial mindset and entrepreneurship. One of those new curriculum is called 'The third way', where they are aiming to educate students about social entrepreneurship. The Third way will be embedded in the standard curriculum to reduce the gap between traditional entrepreneurial curriculum and the growing group of social entrepreneurs. The project also aims to raise the awareness and knowledge about social entrepreneurship.

A new initiative has been sparked between JAGA company and a UCLL programme director of technology during one of our E³UDRES² events in Belgium, The International Engagement Circus. The aim of the International Engagement Circus was to connect the different stakeholders within E³UDRES² but also to connect with our region. To show all the great opportunities we offer as E³UDRES² and to stimulate collaboration internal and external. We got together with all different work packages, visited different locations in our region and worked on the next steps for E³UDRES². On of those next steps is to develop a new curriculum around the topic of circular economy that is equally based on quality education and demand from the region/field.

UPT: Polytehnica University Timisoara

UPT provides diverse formal and informal learning opportunities to develop entrepreneurial mind-sets and skills for students and staff.
For example, the course on Entrepreneurship and Digital Innovations for Business takes place in the 2nd year of the master's program Technologies, Systems and Applications for eActivities. The specific objectives of this course are:
1. 	The course presents notions regarding innovation and digital entrepreneurship, about value creation through entrepreneurship and innovation.
2. 	The aim of the course is to introduce innovative technologies and how they can be used in companies, to present notions of digital entrepreneurship and start-ups in the IT field.
3. 	The theme of the course will address various types of e-entrepreneurship, innovative technologies used in entrepreneurship, methods and models for virtual enterprises, eTurism, Web 3.0, ERP.

TraCCE is an Erasmus+ project, coordinated by the West University of Timisoara, where UPT is a partner. TraCCE adopts a transnational & multi-stakeholder approach in order to build a think-tank in CCE through a cross-country blending of complementary expertise towards developing (through open innovation & quadruple/quintuple helix co-creation): a higher education CCE Curriculum and a CCE Train the Trainers Toolkit that will be offered to the CCE community (open access) through a virtual learning environment and piloted through four international workshops. A curriculum has been developed, which is going to be integrated in an optional course proposed for adoption in UPT. Course material has been developed and is currently available as an online course.

In the period 16.11-19.11.2021, 40 teachers from UPT participated at an online training program of 16 hours entitled "The entrepreneurial university. The role of academic spin-off and start-ups" in the project "Securing Your Future through Education and Entrepreneurship – AVEA",contract: POCU/ 379/6/21/123900.The training was held by the Politehnica University of Madrid.

In march 2020 UPT organized a postgraduate course of 56 hours entitled „Innovative entrepreneurship" for 81 teachers from the ten faculties of UPT. The course was organized in the project "Securing Your Future through Education and Entrepreneurship – AVEA" contract: POCU/ 379/6/21/123900. In the project entitled „Build Your Future Through Internships" (http://conpract.aut.upt.ro/) in 2018-2020, UPT organized workshops "From idea to patent" with 150 students involving firms as Open Mind Consulting (entrepreneur and consultant in Start-Up and Blockchain).

VIA: Vidzeme University of Applied Sciences

In all study programmes at least 3ECTS are dedicated to entrepreneurship and business study courses. However as mentioned above, so far courses were more theoretical. With start of EUDRES this has changed, and students have more opportunities to learn by doing and participating in real challenge solving activities. Several project were conducted regarding staff training of new teaching methods and content creation, as well as guest lecturers from partner universities were invited to train students and staff on entrepreneurial and design thinking methodologies. There has been made several points that will be included in the ViA strategy regarding staff and student support for starting new businesses to participate in business incubator.

University regularly meets stakeholders and experts form industries to update curriculum. Such meetings are planned at least one a year.

Parallel to other activities and EUDRES entrepreneurial mindset and training in all study programmes will be implemented in new ViA strategy – and EUDRES has given more deeper understanding on how this can be formulated and achieved.

4. Preparing and Supporting Entrepreneurs

At all universities, there is a common practice of working with stakeholders from a variety of fields, including students, lecturers, alumni, scientists, developers, industry specialists, business angels, and decision-makers. Unit 'Preparing and Supporting Entrepreneurs' gives a summary how such cooperation help students' and researchers' transition towards entrepreneurship.To get the right inputs for this chapter, the following questions were applied and analysed:

- *Does the university increase awareness of the value of entrepreneurship and stimulate the entrepreneurial intentions of students, graduates and staff to start-up a business or venture? How does the university support its students, graduates and staff to move from idea generation to business creation?*
- *Does the university provide Mentoring and other forms of personal development services by experienced individuals from academia or industry?*
- *Does (and in what ways) the university facilitate access to financing for its entrepreneurs?*
- *Does (and in what ways) the university facilitate access to business incubation?*
- *What changes can be observed in this issue since the launch of the EUDRES project?*

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- *What changes can be expected in the near future? Are any of these changes due to the EUDRES project?*

STPUAS: St. Pölten University of Applied Sciences

"7 steps to Startup" from St. Pölten UAS/Austria bundles its numerous activities to promote entrepreneurial thinking and acting in students in this model which covers any aspect of entrepreneurship across the life of a student at the campus. It offers personal coaching, expertise knowledge, mentoring, a broad network of competent supporters (companies, associations, organizations), event formats, budget – briefly any support that is needed to successfully establish a start-up that will survive on the market.

Please find below examples of formats that support the "7 steps to Startup" at St. Pölten UAS:

7 Starting the Business
As St. Pölten UAS cooperates with accent within the „Creative Pre-Incubator", it encourages teams with interesting business ideas to apply for their incubation program. The university has various possibilities to support start-ups and spin-offs.

6 Network & Promotion
The university established contacts and collaborations with business angels, investors, start-up associations, innovation hubs and others and enables direct interactions between these stakeholders with students, alumni and staff members.

5 Develop & Enhance
As a unique support action for students and alumni St. Pölten UAS and accent GmbH, Lower Austria's founding agency, started the „Creative Pre-Incubator" in 2014. Selected teams get individual coaching and support, advice on business plans, workshops tuned to specific needs as well as free office in a co-working space.

4 Discover & Encourage
St. Pölten UAS hosts several events to present ideas to colleagues, industries and a wider public. E.g. Golden Wire, Projekte Vernissage

3 Experiments & Concepts
Various commonly project-oriented courses serve as playground for students to experiment and develop ideas and concepts. E.g. European Project Semester, interdisciplinary study programmes.

2 Motivation & Ideas
To develop innovative ideas the university cooperates with various organizations discussing different points of view on societal and economic problems.

1 Basics of Entrepreneurship & Innovation
Several courses provide basic knowledge about innovation and entrepreneurship.

See also: Raffaseder.H., Permoser, G. (2016): Towards a Platform for Collaborative Innovation: A roadmap for a small University of Applied Sciences; In: Practitioners Proceedings of the University Industry Interaction Conference, Amsterdam, 2016

www.fhstp.ac.at

Ad1 Basics of Entrepreneurship & Innovation
- Numerous faculty programs have specific modules to stimulate entrepreneurship and entrepreneurial thinking. In example the faculty of Digital Business & Innovation offers courses such as: Start-up Management & Business Plan, Business Simulation, Corporate Project

Ad2 Motivation & Ideas
- SmartUp: central platform to support students, faculty members and extra-institutional founders to develop their business case, topic-specific workshops on communication, coding, financing and other topics are offered for free, a scholarship is made available

Ad3 Experiments & Concepts
- iLAB (30 ECTS) offers an interdisciplinary learning environment for students who are motivated to solve real-world problems and foster innovation

Ad4 Discover & Encourage
- Project Preview: fair for student projects (practice-based projects or research proposals)

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Ad5 Develop & Enhance
- CERN BIC Week: knowledge transfer format onsite in CERN

Ad6 Network & Promotion
- Digital Makers Hub, Digital Innovation Hub OST, Digital Innovation Hub Work

Ad7 Starting the Business
- Creative Pre-Incubator: start-up program for students (15 ECTS)

At St. Pölten UAS the service unit "Research and Knowledge Transfer" offers Technology Transfer Support and Expertise. Personal Mentoring is directly provided to Researchers and Teaching Staff who plan to found their own business.
Since the launch of the E³UDRES² project the overall motivation to dig into entrepreneurship increased. Due to the current recession entrepreneurial acitivites will decline now however in about 3-4 years entrepreneurship will be on vogue again. Now students and staff aquire the fundament to think and act entrepreneurial in the future.

IPS: Polytechnic Institute of Setúbal

IPS has a strong history of entrepreneurship initiatives embedded in its activities. Two of the most emblematic programs are the Poliempreende competition and the academic incubator – IPStartUp.

IPS is part of a National business-oriented ideas competition (Poliempreende), that started in 2001 and currently involves 21 Applied Sciences Universities, being an example of partnership and cooperation between institutions. The development of Poliempreende includes several workshops, culminating in the delivery of business and financial plans of each of the participating teams. These business ideas are presented to a jury of external entities linked to financial or business areas. The use of teaching methods that foster creativity and innovation contributes to the development of skills and competences among students, teachers and alumni. Despite being a business plan competition, Poliempreende is based on a methodology of motivation and entrepreneurial education. Poliempreende has provided remarkable results and impacts in the academic and business community, with the creation of companies and records of patents. Every year there's a significant number of students, teachers and alumni who benefit from the training provided.

In 2011, Poliempreende was the national winner of the European Business Promotion Awards (Portuguese stage) in the category of "Investment in entrepreneurial skills." IPStartUp links directly to Poliempreende, as the latest one is the first door of entrance to the Incubator.Starting in 2015, IPStartUp already supported more than 50 projects and around 13 companies.

Students are called to participate after passing Poliempreende or any other competition. Since 2018 the incubator runs a project called "IPS junior consultant" that calls for students, from any knowledge areas to join the incubator or the startups and helps their development. In 2021 there are 5 students engaged.

In 2020 a new funded project was prepared (+business-waste), to run under curricular units and to strengthen innovation and entrepreneurial competencies among students, in the circular economy area. 400 students already engaged.

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Until this date IPS utilized the results mostly for research use. Strategic plans foresee innovation and R&D results as a ground base for spinoffs and technology transfer processes (such as licencing or commercialization). Intellectual Property and spinoffs regulation are now in force at IPS, supporting this policy.

MATE: Hungarian University of Agriculture and Life Sciences

The Innovation Center of the Hungarian University of Agriculture and Life Sciences operates the coordination of knowledge and technology transfer processes, the intellectual property protection system, the financial support system, and the innovation talent management system. These activities support the R&D&I activities of the university community, the utilization of ideas, and, in certain cases, students and researchers becoming entrepreneurs.

To support university citizens' successful knowledge utilization and innovation activities (e.g., project idea management, use of grant funds, intellectual property protection, etc.), the university offers the option of acquiring related knowledge as a free service through regular consultations, trainings, briefings, workshops, raising awareness of intellectual property protection, startups, and in the framework of entrepreneurship.

For this, the university has developed a free service portfolio available to anyone, which includes:
- facilitating the generation and implementation of innovative ideas and projects;
- mapping the potential applications of the research findings;
- coordinating the validation of the inherent individual innovation potential in research and ideas;
- the marketability of the research results, the resulting technologies, the development of the utilization route plan, and the utilization process;
- orientation in intellectual property rights matters, identification of financing options for covering related expenses;
- the opportunity to gain knowledge about the innovation process through trainings, information, workshops, and consulting;
- introducing the resources allocated to cover the implementation of innovative ideas.

UCLL: University College Leuven Limburg

The mission statement "Moving Minds" determines the view on teaching, working, and studying at UCLL, where creativity and interdisciplinary entrepreneurship are rooted in all its activities. Therefore students, staff and graduates are aware of the value of entrepreneurship. To stimulate them to actually take the step as an entrepreneur or stimulate this mindset even more, we have projects as mentioned before 'StartMinds' and 'The Third Way'. As a result of the StartMinds support platform, UCLL managed to:

- Increase the entrepreneurial attitude amongst staff members and students
- Grow awareness amongst program managers of the importance of entrepreneurial skills and entrepreneurship, resulting in more curricular activities (e.g. various programs have electives on entrepreneurship)

- Grow the number of student-entrepreneurs who effectively start their own business during their studies or upon graduation
- Increase the diversity of students starting their own business. Student-entrepreneurship is no longer limited to the Business & Management programs
- Increase the visibility of entrepreneurial activities and competencies within the own institution
- Activate and strengthen the network with external partners to stimulate entrepreneurship
- Stimulate multidisciplinary collaboration

Key numbers:
- 377% increase in intake and coaching interviews for entrepreneurial students vs. last year.
- > 60 StartMinds Academy sessions yearly (a micro-credential where participants receive custom coaching and gain knowledge on topics related to starting a business)
- > 41 E³UDRES² events where the focus lies on collaboration with entrepreneurs or the added value of entrepreneurship (I Living Labs, Hackathon, Bootcamp, International Engagement Circus, iResidence).
- > 525 researchers that transform challenges into practical solutions
- 8 research and expertise centra such as Smart Organisations and Digital Solutions

To increase these numbers, UCLL want to create a HUB for students located outside the university and in the heart of entrepreneurial region at the incubator Corda Campus. Students have the possibility to work on their own projects that relate to E³UDRES², an entrepreneurial concept or research. UCLL facilitates the space and opens a door to a new network of entrepreneurs, start-ups and companies. This gives the students the possibility to gain real-life experience and put their knowledge into practise. On the other hand will entrepreneurs have access to new talents and knowledge. This win-win situation will give E³UDRES² new input for the challenge based activities that we organize.

To reinforce the Moving Minds philosophy and encourage entrepreneurial projects, UCLL presents each year the Moving Minds Awards to the most promising student projects. The student or team that wins this award receives a cheque of €2500,00. They can choose how they want to invest this amount, by realising the concept, get coaching, invest it in the (potential) company or donating it to charity.

Next to the Moving Mind Award we also have the Moving Minds Foundation. The Moving Mind Foundation gives extra chances to develop and expand projects or activities that stimulate the social commitment in the region. The foundation focusses on projects that involve teenagers and young adults, social wellbeing in the region and the global south. This gives students or alumni the opportunity to get involved in these project or apply for the foundation themselves.

UPT: Polytehnica University Timisoara

In the project „Securing Your Future through Education and Entrepreneurship – AVEA",contract: POCU/ 379/6/21/123900, 20 competitions were organized, including "The best business plan" for 629 students with financial awards. In November 2021, UPT organized

a competitions "Stop thinking, start acting! Academic start-up" for 658 students. There were created 5 academic start-up in the field of IT, construction, starting from the students' ideas developed in their thesis. The students were guided in order to establish their firms by volunteer teachers. Also teachers provided guidance for the financial operations of the company.

In 2021 there were held workshops for students focusing on different European programs supporting the development of start-ups. The companies are still active nowadays: ALPHA TECH NATIVE SRL; TOPOPRIME CORPORATION SRL, ARSOFT INNOVATIONS SRL., ARADIA GIS SRL, KAB SOFTWARE SOLUTIONS SRL-D.

In February 2022 there was organized the Innovation Lab Hackthon in order to empower students and teachers to build digital innovative solutions and the next global companies.

From UPT, two professors were among the winners with the idea of 2 spin-offs: NEURO KANO SOFTWARE and GREEN TECH. Also the most successful start-up established by a UPT student is BLUME (https://www.blume.ro/), which was established in 2022 and has profit.

Innovation Labs is another university anchored program implementedby UPT together with 17 academic partners.

"StartUPT" is a project co-financed by the European Social Fund, through the Human Capital Operational Program (POCU) within the "Innotech Student" financing line. The project is implemented by the Politehnica University of Timișoara as the Beneficiary, together with fonduri-structurale.ro (DCG Development Consultancy Group SRL) as a partner, between December 2021 and December 2023.

UPT has an entrepreneurial course of 45 hours acreditated by the Minister of Labour and Social Protection and will organize free courses for high school students.

VIA: Vidzeme University of Applied Sciences

There is no particular stimulation towards entrepreneurship to non-business students. However, each thesis must contain a chapter regarding economic evaluation and impact of particular solution, and in some cases students present a simplified business model with economic proof. There also are some activities such as student excursion and some guest lectures to give students more understanding about the business in different industries and their specifics. Only few students choose to develop their thesis as starting point for new business.

One of universities stakeholders and partners in VIPS project is Valmiera development agency and Valmiera Business incubator. Recently, in context of EUDRES, there have been set new goals to develop a program for students to become better entrepreneurs and to develop new solutions for startups to be more successful in long term business development.

IV.   Ecosystem Assessment

The aim of this unit is to introduce and provide detailed information about the links between the region's innovation ecosystem (including the key players, the largest industries, small and medium-sized cities and their rural environment) and the EUDRES universities.

1. Involvement of the EUDRES Universities in the regional innovation ecosystem

To get the right inputs for this chapter, the following questions were applied and analysed:

- *Is the university a driving force for entrepreneurship and innovation in regional, social and community development. If yes, please give some examples!*
- *Does the university support start-ups and / or established companies in the region to enhance innovation and growth*
- *Does the university have strong links with incubators, science parks and other external initiatives? If yes, please provide more information regarding the way of cooparation*
- *Are some actors in the region connected and cooperate in the field of innovation and entrepreneurship? In which areas does the Institution have an R&D and Business Development-related relationship with the economic and civil ecosystem of the region?*
- *What are the key activities that the Institution conducts with representatives of the ecosystems of the region? (companies, SMEs, local authorities, legislators, innovators, clusters, chambers).Please list some players and some examples on the connections (what way they link to the institution).*
- *What changes can be observed in this issue since the launch of the EUDRES project?*
- *What changes can be expected in the near future? Are any of these changes due to the EUDRES project?*

STPUAS: St. Pölten University of Applied Sciences

St. Pölten UAS is a keyplayer in the regional innovation ecosystem and represents a central hub for open innovation formats, co-creation formats and entrepreneurship.
The institution cooperates with local, regional, national and international companies, networks and stakeholders such as the city government of St. Pölten, Lower Austrian Regional Government, Ecoplus Business Agency of Lower Austria, Riz up research-to-value & venture capital), Accent (tech incubator) as well as international companies like ABB, HP, Mayr-Melnhof, Palfinger, Greiner Packaging, Nestlé, ACP IT Solutions.

Start-Up initiatives, research projects, student projects, commissioned research, operating digital innovation hubs, innovation challenges, creating citizen science projects, organizing hackathons, bootcamps, workshops on entrepreneurship, knowledge transfer workshops, I-Labs are living examples of the driving force of St. Pölten UAS activities.

The institution developed it´s own pre-incubator together with Accent.
The regional innovation and start-up initiative SMARTUP is on behalf of the city of St. Pölten coordinated by St. Pölten UAS. Digital Innovation Hub East, Digital Makers Hub, Digital

Innovation Hub Work and House of Digitalisation Hub offer sustainable knowledge transfer for a successful digitalization strategy throughout the regional business landscape.

Since the launch of the E³UDRES² project the Austrian government honored St. Pölten UAS with the Spin-Off Austria award (2021). An international consortium honored the institution with the Triple E Award (2022).

The Lower Austrian Government invited the institution to participate in a Sandpit Workshop and cooperated as challenge owner in the E³UDRES² Hackathon 2021.
A regional stakeholder workshop has increased visibility of E³UDRES² and St. Pölten UAS.

Due to the current economic situation St. Pölten UAS expects more difficulties to establish cooperations with industry partners, less motivated and risk-averse students and staff members who hesitate to found their own business. Additional funding pots will be needed in order to ensure proper growth. The E³UDRES² partner institutions will have to intensify work on joint acquisition of funding to support startups. A stronger networking with venture capital firms and business angels will be one of the main focal points in this regard.

IPS: Polytechnic Institute of Setúbal

In 2019 IPS launched an initiative to fund R&D projects from the IPS internal funds in a yearly call. This program will have its 3rd edition later this year. Within its 2 first editions, a total of 5 R&D projects and 8 exploratory research projects were awarded funding in the following areas: Additive Manufacturing, Materials Science, Buildings Energy, Circular Economy, Sustainable Food Production, Integrated Management of Natural Resources, Wine and Sea Tourism, Tourism Management, Digital Literacy and Digital Inclusion, Wellbeing & Ageing and health ICT applications. All these projects encompassed partners from industry or social sector.

In the region specialised services provided to business and organizations, which aim is to promote their resilience and competitiveness through science and technology projects developed in co-creation and that, indirectly, contribute to the economic development of the region and to employment creation.

Key activities by the university and the representatives of the regional innovation ecosystem include visits from companies to university labs, visits from the university to the companies, joint conferences, joint workshops, joint training programmes, joint courses, joint master dissertations, internships, summer schools (design thinking and technological entrepreneurship), open classes with speakers from the industry, juris for ideas competition, joint laboratories for study and research.

There are some remarkable examples for the university's and further regional players' cooperation in the field of sustainability and smart technologies / systems.

Externally funded R&D projects, such as Tesse2b and SCORES (H2020) or DECIDE, WISDOM, AGIR, SPLIT and MyBack (National) that have successfully developed innovative solutions and products in the areas of sustainable energy, water management and health. These projects have in common a strong involvement of final users and/or stakeholders that helped developing technologies well suited to the needs of the prospective users or buyers and can be further used to fuel cooperation and growth inside the region.

Community intervention projects in areas such as environment (Ostraqual & IPS-Eco), social inclusion (Recriar-se) or social entrepreneurship and innovation (Knowledge Aliances projects:

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Co-Care, KABADA and DiGiTOOL_to_CE). Whyle some of these projects run with European partners, its results can be profitable for the region and IPS can be an important player in bringing innovation to the region.

Incubation Services: IPStartUp incubates new science- or technology-based projects or startups that result from work either developed in the above-mentioned R&D projects or as result of applied projects that are part of the curriculum of a number of classes in all courses that the IPS offers (PBL). Through the establishment of new companies, the Setúbal region can profit from their innovation.

Specialised services to business and organizations, which aim to promote their resilience and competitiveness through science and technology projects developed in co-creation with us and that, indirectly, contribute to the economic development of our region and to employment creation.

As for startup programs, at this date there are some collaboration in a starting point. Some of the municipalities are preparing their own programmes for startup support and are contacting IPS to be a partner. As a starting point, IPStartUp may assist in sharing practices about incubation program.

MATE: Hungarian University of Agriculture and Life Sciences

For a variety of reasons, the corporate side actively collaborates with the university in the Gödöllő region. On the one hand, the university serves as a source of human resources for the region's diverse portfolio of businesses. MATE also has faculties and institutes related to business, human resources, finance, agriculture, and food sciences, which provide an excellent talent pool for the region's businesses. On the other hand, the university's R&D capacities (laboratories, etc.) provide a stable foundation for collaborations: the university earns a significant income from marketing its unused R&D capacities.

There are also other ways to collaborate with businesses, such as joint educational programs, university-corporate consortiums at R&D calls, and so on. Finally, the outcomes of the university's R&D activities are frequently used by the corporate sector, which has a strong incentive to launch new projects. Corporate actors are expected to collaborate and develop their innovation processes with universities as a result of the government's "innovation call structure." The disadvantage of the university's size and diversity is that these collaborations and their outcomes are not always transparent.

As previously stated, the National Research, Development, and Innovation Office (NKFIH, a department of the Ministry of Technology and InnovationRegional)'s Innovation Platforms, which serve as a bridge between the university, the corporate sector, and the government, are another key player in the innovation ecosystem. Since 2020, the Office has provided a comprehensive portfolio of innovation management services to higher education institutions, assisting universities in making the best use of and marketing their R&D resources to the corporate sector, resulting in a thriving innovation ecosystem.

MATE also actively participates in the Hungarian government's Digital Agriculture Strategy implementation. To support R&D activities in the region, the university established its Agriculture Data Center.

As incubators and spinoff companies relocate to the neighbouring capital city due to better opportunities, the region's startup ecosystem will be strengthened. Despite this, MATE has been running its own incubation program for a few years; however, it operates at the university level rather than the regional level.

UCLL: University College Leuven Limburg

Since the academic year 2021, UCLL R&E have focused strongly on business development from the 8 ECs. For example, the university become strategic partners with whom the institution set up collaborations that on the one hand benefit their research & service activities but can also stimulate educational activities. These cooperation areas include health, Digital, well-being, education, business, circular economy.

UCLL works with a professional field committee that provides input on their education program on a regular base. At university classes the institution works with real-life cases where students meet stakeholders. They also work in co-creation with the ecosystem for their research projects, they are also part of the research board. In close relation with the chambers, UCLL works on Social Media Mondays for SME's in the region. Also, UCLL works closely with the nearest & biggest cities in Limburg: Hasselt and Genk for research & educational projects, like HasselAIR – where they are working on real-time air quality measurement in Hasselt. Also a research project called Co-Circ on circular hubs the university works with Hasselt.

A project to stimulate entrepreneurship with students in cooperation with these cities is called 'Pitch Please'. The local authority projects are also in close relation with UCLL as a partner: XP lab for example or the 'prototyping centre'.

The university is in a close collaboration with the limburg startup network, in which UCLL supports startups in their operation with students. They actively participate in the community and also have their place at the incubator. Because of E³UDRES² we recently strengthened our partnership with the Corda Campus which is a business community which also has an incubator on their site. UCLL also regularly conducts studies into the start-up climate in the region. UCLL also takes part in some innovation related-regional projects, like S-Lim (detailed earlier), 'Hack The waste', 'Wanderful.stream' and strongly connected to our moving mind DNA we also have a partnership with 'The Shift', where companies and education work together on a inclusive and sustainable society.

1. www.limburgstartup.be/
2. www.ucll.be/international/short-programmes-international/virtual-projects/hack-waste
3. www.wanderful.stream/nl/
4. www.cordacampus.com/

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UCLL is highly involved in the wellbeing and circular economy of the region. We try to improve on those topics with technology tools, research and innovation. One of the our most long lasting projects is together with the music festival Pukkelpop. For 6 years in a row students work on different challenges around the circular economy topic. www.pukkelpop.be/

- 2015: making a stage energy neutral
- 2016: re-use the plastic drinking cups to 3d-print gadgets
- 2017: use energy that is generated during dancing
- 2018: create awareness around waste and how to reduce
- 2019: mobile energy unit in cooperation with TU Eindhoven
- 2022: green energy for transport

One of the more tangible examples that shows that UCLL is a driving force for entrepreneurship and innovation is COLAB. COLAB is an initiative of 3 students that participated in our bootcamp in Austria in July of 2022. During the bootcamp this team of 7 people created a concept for a platform that stimulates collaboration between universities, students and companies. After the bootcamp 3 students remain that want to take the next steps to build and launch this platform. We have had several meetings with one of the Belgium team members at the Corda Campus to coach and provide tools that will help them to realise their concept. In the near future we will have more (digital) meetings to guide the team in the process of launching their platform.

Another tangible example took place during the last hackathon we organized. One of the hackathon HUBs was located at the UCLL campus in Diepenbeek. Here we hosted over more than 60 students and 10 staff members over a period of 36 hours. The Belgium director of Book.care who provided us with a challenge for the hackathon offered 2 flex jobs to students who worked on his challenge. UCLL aims on stimulating these opportunities and let the amount of spin-offs grow in the near future.

UPT: Polytehnica University Timisoara

The regional actors, including Politehnica University of Timisoara are connected and jointly develop research and institutional projects, conferences and other innovation and entrepreneurial events. Conferences and other events are co-organized in partnership with the regional IT companies and local municipalities (e.g. Hack TM, HackTalks, Upgrade My City, InnoMatch exhibition, webinars #onlinetogether, etc.)

Research and development projects are carried out in partnership with the local municipalities (e.g. Electric, Electronic and Green Urban Transport Systems) or the Chamber of Commerce, Industry and Agriculture Timis (e.g. Social surveys, Economic activity dynamics, Social-demographic dynamics for Ghiroda community, Timis County – Ghiroda and Giarmata-Vii villages. Also, the university provides services for study regarding the regional impact analysis of business supported by the project SIA VEST - Support for Entrepreneurial Initiatives, etc.). UPT puts huge efforts in the curricula adaptation to the industry needs (The Advisory Committee of the university includes 15 CEOs from the main companies in the region).

UPT also takes part in some regional and international project with huge importance, like Electric, Electronic and Green Urban Transport Systems (Interreg - Danube Transnational Programme, DTP1-454-3.1 eGUTS) in partnership with the local municipalities. They support studies regarding transport system, Mobility for Transport for Ghiroda community, Timis County – Ghiroda and Giarmata-Vii villages (partnership with the Chamber of Commerce,

Industry and Agriculture Timis). The university participates in the co-creation of the plans to transform Timisoara into a Smart City, through the project UpGrade My City (https://www.upgrademycity.ro/).

The university plays an active role in the regional startup ecosystem. INCUBOXX is a regional business incubator for the IT&C sector. The Student Entrepreneurial Society from UPT, together with INCUBOXX organized in 2018 the event "Entrepreneur 21".

VIA: Vidzeme University of Applied Sciences

As the most influential and central HEI ViA is actively involved in development and implementation of the local and regional innovation end entrepreneurship strategies. University together with such stakeholders as Valmiera development agency, Vidzeme Planning region and Valmiera business incubator currently is one of the driving forces for regional entrepreneurship and innovation. Several social and community building projects were developed such as "Boosted" and "Sempre" in past few years.

University cooperates with local co-working and co-creation space, provides open lectures and "open university" concept – a type of micro-credential approach to life long learning for all members of society to take any course in ViA.

There is no direct support for startups, however ViA provides services to startups and other businesses that require research and can be supported by LIAA (Latvian Innovation and development agency) by means of "Innovation Vouchers".

2. Knowledge Exchange and Collaboration within the members of the regional ecosystem

All institutions have established connection between commerce, industry, businesses and academics which is essential to the expansion and sustainability of the region as well as to the creation and development of an innovation ecosystem. This chapter focuses on the way and methodologies of cooperation among such actors. To get the right inputs for this chapter, the following questions were applied and analysed:

- *Is the university actively involved in the development and implementation of the local, regional and / or national innovation and entrepreneurship strategies?*
- *Has the university established structures to exploit knowledge exchange and collaboration opportunities, and encourage staff to engage in such activities?*
- *How committed is the university to collaboration and knowledge exchange with industry, the public sector and society?*
- *How does the university Involve external stakeholders in the work of the institution through governance, teaching, research, support for student activities and positions with institutes and centres?*
- *How does the university engage with the external environment? What innovative activities are applied? (networking events, more formalised initiatives including internships, learning factories, collaborative research and entrepreneurship projects?*
- *How does the university provide general access to the facilities and other resources of the institution to others in the wider community?*

- *Does the university provide opportunities for staff and students to take part in innovative activities with business / the external environment?*
- *What changes can be observed in this issue since the launch of the EUDRES project?*
- *What changes can be expected in the near future? Are any of these changes due to the EUDRES project?*

STPUAS: St. Pölten University of Applied Sciences

St Pölten UAS was actively involved in the development of the recent regional Research-, Technology- and Innovation-Strategy of the state of Lower Austria.

The Institution´s Chief Innovation Officer accompanied the head of Provincial government in 2022 at a trip to the US that was initiated to visit Silicon Valley in order to implement and improve the regional innovation ecosystem in Lower Austria.

The regional government invited the institution to a Sandpit Innovation Call of the regional government of Lower Austria. On a local level St. Pölten UAS contributed actively in the strategic planning and the implementation of the City´s Masterplan (strategic direction). On a national level the Institution´s Chief Innovation Office participated actively in the Open Innovation Strategy of the Austrian Government.

The Institution realised an Open Call for the Strategy 2025. All institutional employees were invited to participate with concrete input.

St. Pölten UAS is very much committed to collaborate with industry. In the past years the Institution collaborated with around 300 external industry partners through research projects, commissened projects and projects in Higher Education Teaching.

The institution is strongly committed to its societal responsibility to maintain and promote active exchange with the public. Citizens are regularly invited to not only inform themselves about the research undertaken and innovation taking place at SPUAS, but also to contribute.

There are co-working spaces provided for free to start-up teams in order to facilitate their successful development in the start-up ecosystem.

The Institution generally provides a 24hours access to the facilities and labs for their own students and employees. A co-working space is available for free for individual regional Start-Ups that ask for office space.

The E³UDRES² project was the initiator and motivator for the successful submission of additional funded projects such as EINS and ENT-R-E-NOVATORS.

The Institution expects more pro-active input from employees on all levels. Especially non-academic staff shall get the possibility to grow in terms of international working experience and multicultural understanding, innovation and entrepreneurial thinking and acting.

IPS: Polytechnic Institute of Setúbal

IPS is an important regional stakeholder. Is one of the most relevant Higher Education Institution of Setúbal region, engaging students, businesses, public entities, and civil society from the entire region, and embedded in many activities and projects aiming the regional development.

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Collaboration and knowledge exchange with industry, the public sector and society is a *sine qua non* of IPS existence. This relationships with the external stakeholders, holds on internal governance, trough the promotion of a strong culture of IPS identity, as well as an open organization where staff, academics, students, and other internal stakeholders have a word to say in terms of institutional governance.

This approach relies in a natural environment, and is formally institutionalized with policies, structures, and internal rules. One of the most relevant is the IPS statuary rules, which includes a principal structure – the General Committee – with students, academics, researchers, staff e external stakeholders.

The engagement with external stakeholders occurs within different channels:

<u>Education</u> - It bets on practical teaching, focused on the needs of the labor market. There is a close relationship with the business world:

- At IPS many teachers are also industry stakeholders;Teachers use to invite industry stakeholders to teach specific "open classes";
- There are many projects which links courses goals with industry challenges and promotes cocriation work between students and industry partners, e.g.. DEMOLA project; Design Thinking Course;
- All IPS students have internships in regional companies preparing them to be professionals of excellence and many of them becomes those companies' employees, After the internship.

All this interaction ensures high rates of employability as well as institutional notoriety.

Another important way of promoting these links with external community is through <u>research and technology transfer mechanisms</u>.

Most IPS research projects[2] engage other HEIs but also industry and other society stakeholders, within a collaborative approach. As an applied science institution, delivering project results to the industry is a main concern which guides research goals from the beginning.

IPS has a pool of regional stakeholders, which contracts research from IPS. Regarding the regional economic context, mostly compost with micro and small enterprises, IPS research capabilities and resources are used to provide knowledge and technology developments required from those companies.

These interactions occur regularly and in a more challenging context, like the covid pandemic.

During the whole course of the covid pandemic, IPS developed a network of collaboration with several institutions to come to solutions to fight the spread of the virus. One example of this was the collaboration from the School of Technology from IPS with the Ermelinda Freitas Winery to exchange knowledge and produce alcohol based handwash products. Another example is the collaboration of the School of Technology Innovation Lab with LAUAK Aeronautics, Zircom Engineering, Beze and City Print to produce face shield masks to protect workers from covid. Those face shields were later donated to several institutions in the Setúbal region.

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[2] http://www.ips.pt/ips_si/web_base.gera_pagina?P_pagina=41282

MATE: Hungarian University of Agriculture and Life Sciences

From the point of view of the performance and competitiveness of the regional innovation ecosystem, it is crucial that the relationships between the actors—politicians, higher education and research institutions, businesses, and professional organizations—are strengthened at the local level as well. For this reason, the university created the Regional Innovation Platform, which promotes information flow, knowledge transfer, cooperation, and professional relationship building with a new approach.

The Regional Innovation Platform brings together the most important innovation players in the region: universities, research institutes, large companies, SMEs, startups, clusters, incubators, accelerators, business angels, and national chamber networks.

The aim of the initiative is to create a regional organization based on university knowledge bases that simultaneously provides an opportunity to learn about innovation policy directions directly, to strengthen cooperation between actors in the local innovation ecosystem, and to create new professional foundations.

Since the university is clearly suited to be a central player in the innovation ecosystem, and it is especially important that university knowledge be open to local small and medium-sized enterprises, the Regional Innovation Platform intends to operate as a kind of regional knowledge center that supports the practical use of research results, the building of partnerships for more effective technology transfer, the development of innovation processes in the region, and their effective exploitation.

UCLL: University College Leuven Limburg

Just like its students, UCLL is always on the move and motivates students, staff and community to grow into Moving Minds. Moving Minds are inspiring, innovative, and entrepreneurial professionals who contribute to a sustainable and just society, based on an authentic personality and a broad, engaged view of the world and their profession.

This vision was formed when UCLL was founded and the Moving Mind DNA feeds through everything UCLL does. This means a top-down approach where management strongly encourages and supports entrepreneurial activities, as well as a bottom-up approach with initiatives driven by staff, entrepreneurial alumni, and external partners to develop a program based on relevant issues faced by students. Besides specific courses and activities on entrepreneurship, UCLL also puts a strong emphasis on interdisciplinary learning and developing entrepreneurial soft skills.

As a University itself, UCLL continues to challenge itself, looking for better ways to embed entrepreneurship within the institution. Its 8 Research & Expertise centra offer practice-based research and services, connecting professionals, researchers, and students. UCLL is actively growing their network and strengthening their partnerships with Corda Campus, VKW Limburg, LSU, Pukkelpop, JAGA, Cegeka, Pitch Please, etc. Initially, UCLL will further increase entrepreneurship in less evident study programs. Student entrepreneurs from these programs

will serve as ambassadors to be recognisable role models and inspire future generations of entrepreneurs.

UPT: Polytehnica University Timisoara

At regional level, together with CoWork Timisoara, InoHub UPT organized a competition of student entrepreneurial ideas in the form of a hackathon based on a presentation session, encouraging the innovative side, demonstrating the acquisition of skills, teamwork and the coordination side. The best projects were rewarded with equipment and devices.

At national level, Innovation Labs 2022 is a program organized in Bucharest, Cluj-Napoca, Iași, Sibiu și Timișoara, managed by Tech Lounge and implemented together with Transilvania IT, Asociația Calemis, EduHub și Cowork Timișoara, with the support of BRD – Groupe Société Générale, UiPath, Microsoft, AROBS Transilvania Software, Atos, Carrefour România, Orange, VTEX, Elrond, having Romanian - American Foundation as a strategic partner, POLITEHNICA University of București as a university strategic partner, and in collaboration with Executive Unit for the Financing of Higher Education, Research, Development and Innovation (UEFISCDI). The program teams are offered support from UPT local partners: Adobe, Keysight Technologies, NXP, Fitbit, BearingPoint, Eximprod Grup, Deloitte Romania, Ortec, PSS Prosoft Solutions, PentestTools, Simple Capital Labs, Bware Labs, Knosis.ai, BRD Mindcraft in Bucharest, Electrolux România (main partner in Cluj-Napoca), Linnify, Wolfpack Digital in Cluj-Napoca, Sevio Solutions in Iași, Amazon, Growceanu and Birou Reglabil High-End Office in Timisoara.

VIA: Vidzeme University of Applied Sciences

It is one of ViA missions to educate and inform society. One of ViA activities involving researchers and academics is participation in TV show production regarding innovations and research topics and results on national level TV stations ReTV.

University involves Valmiera business incubator and Valmiera development agency in teaching and communication activities, and takes part in Vidzeme Innovation Week activities to communicate to society latest topics on innovation and possibilities that ViA provides to regional entrepreneurs, NGOs and other organisations.

Rather large number of students thesis are dedicated to challenge solving and industry needs, hence connecting academic and research to regional and national industries. EUDRES can provide wider research and resource network for regional companies.

V. Key findings and conclusions

E³UDRES² institutions play a key role in the regional ecosystem in each region. The innovation organizations of the universities lead a high number initiatives and networks related to R&D, besides working with a wide range of stakeholders. This way universities could be key figures in regional innovation ecosystems, drivers of rural development, and components of progressive regional policies through their work in higher education and training, mission-driven research and innovation, as well as multidirectional information exchange. Innovation and entrepreneurship must be prioritized as key subjects in an institution's strategic planning in order to meet these objectives.

Several actors are pursuing ongoing initiatives to create and support interconnected ecosystems in research, education, and the economy, knowledge transfer, talent promotion (e.g., innovation weeks, hackathons), establishing open innovation and co-creation concepts (e.g., open laboratories and facilities), interacting with current networks or connecting with other cities or networks, and all innovation forces of the region, alongside the know-how. Such programs ought to be used as models, modified, and implemented in other regions.

Universities are key hubs for knowledge development, information transfer, and the development of the regional innovation ecosystem. All institutions agreed that establishing a connection between commerce, industry, and academics is essential to the expansion and sustainability of the region as well as to the creation and development of an innovation ecosystem.

Universities provide a source of human resources for a wide range of businesses operating in the area, but they also offer a firm foundation for collaboration through their R&D capabilities (laboratories, etc.) because they generate significant revenue from selling their underused R&D resources.

With the key figures in the innovation ecosystem, partnerships are formed as well as collaboration and cooperation. The city, regional government, business and development agencies, clusters, chambers, entrepreneurship or start-up centers, incubators, and businesses that are actively contributing to the establishment of a successful and resilient ecosystem are examples of these that present in all regions.

Start-up initiatives, research projects, commissioned research, citizen science initiatives, company visits to university labs, or vice versa; innovation challenges, hackathons, and bootcamps; and workshops on entrepreneurship and knowledge transfer are the main activities that are very similar in all regions.

The development and promotion of an innovative and entrepreneurial attitude, innovation in pedagogical and research curricula, and connecting groundbreaking research with industrial applications are all part of the institution's innovation strategy. At all universities, there is a common practice of working with stakeholders from a variety of fields, including students, lecturers, alumni, scientists, developers, industry specialists, business angels, and decision-makers.