

# E<sup>3</sup>UDRES<sup>2</sup>

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

## 5.11. Report on the “E<sup>3</sup>UDRES<sup>2</sup> Innovators and Entrepreneurs Programme”

Work Package 5

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## Overview

Deliverable nr.	Deliverable name	Person responsible	Corresponding HEI
D 5.11	Report on the “E <sup>3</sup> UDRES <sup>2</sup> Innovators and Entrepreneurs Programme”	WP5 Lead	MATE

## Table of contents

I.	Overview .....	4
II.	Background and aims of the “E <sup>3</sup> UDRES <sup>2</sup> Innovators and Entrepreneurs Programme” ...	5
III.	Methods, principles and components of the Programme.....	7
	Methods to create the Innovators and Entrepreneurs Programme .....	7
	Key pillars of the Innovators and Entrepreneurs Programme .....	9
	Summary of the planning phase.....	12
IV.	STAGE 1: Implemented and tested components of the “E <sup>3</sup> UDRES <sup>2</sup> Innovators and Entrepreneurs Programme” .....	13
	Stakeholder involvement.....	13
	Programme development.....	16
	Provided support services.....	18
	Tested networking platforms .....	19
	Maximise impact and results.....	20
	Key findings of STAGE 1; Problems, conclusion, needs .....	24
V.	STAGE 2: Model for the E <sup>3</sup> UDRES <sup>2</sup> Innovators and Entrepreneurs Programme .....	26
	Context and framework.....	26
	Programme development.....	28
	Support services .....	30
	Recognition system of the Programme .....	31
	Coordination of the Programme .....	31
VI.	Closing remarks.....	33

## I. Overview

Since E<sup>3</sup>UDRES<sup>2</sup> works for the interrelation of challenged-based education, mission-oriented research, challenge-based innovation and open and engaged knowledge exchange, one of the most important outputs of WP5 (Innovators and Entrepreneurs) is to create a programme that analyses, links all the results and key findings of the work package and takes all the findings of the project into consideration. The aim of WP5 was to create a Programme that shares and pools knowledge, maps regional opportunities, links challenges with motivated innovators, supports co-ideation processes and helps the implementation of possible solutions. For this, WP5 involved various stakeholders (students, staff, entrepreneurs, innovators, SMEs, ventures, policy makers) in co-ideation/co-design of its activities and linked services.

As a result, the “E<sup>3</sup>UDRES<sup>2</sup> Innovators and Entrepreneurs Programme” focuses on the European dimension of innovation and entrepreneurship, supports regional innovation ecosystems with knowledge and experience from the E<sup>3</sup>UDRES<sup>2</sup> network and encourages talents to transform their ideas into real solutions that are regionally anchored.

The core idea of the Innovators and Entrepreneurs Programme is to connect local and E<sup>3</sup>UDRES<sup>2</sup> initiatives into one chain and to propose a unique ‘innovators’ lifecycle’ for the participants with the integration of different types of programme elements for the different stages of innovation.

Also, the Programme includes proposal for special services based on the real needs of the participating stakeholders assessed with a survey completed by E<sup>3</sup>UDRES<sup>2</sup> students.

In order to achieve the WP5 goals and to convert the results into a real programme, it was necessary to make a stakeholder analysis to get a deep insight in the needs and innovation approach of students, university management, regional businesses, incubators, local municipalities. Understanding the processes, goals and expectations different players of the regional innovation ecosystem, WP5 found it important to organise, test and finetune different program types to serve as platforms for co-ideation and collaboration among connected entities of the E<sup>3</sup>UDRES<sup>2</sup> universities. This way WP5 tested different types methodologies in the form of hackathon, bootcamp and the so-called iResidency programmes, with the active involvement of external stakeholders. These activities were accompanied with a bunch of innovation-related services, like mentorship, skill-development, consultancy.

During the project all aspects of organized activities were assessed, including the satisfaction of involved stakeholders as well as the evaluation of project ideas. Thus, WP5 steering group had the opportunity to analyse the impact of its many programmes, the motivation and satisfaction level of involved companies / challenge owners and hundreds of students. This analysis provided the necessary bases to create the “E<sup>3</sup>UDRES<sup>2</sup> Innovators and Entrepreneurs Programme” which includes and integrates all the ideas, finetuned results achieved during the three years of the project. The Programme development processes divided into three stages, of which STAGE 1 was the implementation phase during the project while STAGE 2 is the recommended long term Programme (STAGE 0 includes the goals and plans defined before the launch of the project.)

## II. Background and aims of the “E<sup>3</sup>UDRES<sup>2</sup> Innovators and Entrepreneurs Programme”

### WP5 aims regarding the “E<sup>3</sup>UDRES<sup>2</sup> Innovators and Entrepreneurs Programme”

E<sup>3</sup>UDRES<sup>2</sup> aims to promote and develop new methods for knowledge production and innovation. WP5 is committed to support human-centred innovation and work with tech-transfer offices, incubators, accelerators and different types of stakeholders who are closely linked to their regional innovation ecosystems. During the project, Work Package 5 (WP5) strived to share and pool knowledge, experience and good practice towards innovation for smart and sustainable European regions.

To achieve the project objectives WP5 established its steering group to support researchers, companies, students and entrepreneurs to share, pool and further develop knowledge, experiences, resources and best practices as well as to link promising ideas with similar approaches.

At the beginning of the project, WP5 members gained a deep insight into their own and each other's regional innovation ecosystems due to an analysis created as a deliverable of the project. Understanding the processes, goals and expectations different players of the regional innovation ecosystems, WP5 found it important to organise, test and finetune different programme types (hackathons, iResidency programmes, Bootcamps) to serve as platforms for co-ideation and collaboration among connected entities of the E<sup>3</sup>UDRES<sup>2</sup> regions and ecosystems. These activities were accompanied with a bunch of innovation-related services, like mentorship, skill-development, consultancy.

WP5's aim was to involve different players of the regional ecosystems into the implementation of its activities for maximized impact. WP5 established continuous interaction between the coordinators of technology transfer centers, innovation centers, (pre-)incubators / accelerators and initiatives to support regional innovation ecosystems. Various stakeholders (students, staff, entrepreneurs, innovators, SMEs, ventures, policy makers, etc.) were involved in coideation/co-design of workshops and to implement and run all its activities to promote challenge based and human centered innovation for smart and sustainable regions. Different roles for different stakeholders were defined (Challenge Owners, Experts, Mentors, etc.) to test the level and methods of involvement of various stakeholders.

During the programmes a special emphasis was dedicated to the assessment of all aspects of organized activities, including the satisfaction of involved stakeholders as well as the evaluation of project ideas. Thus, WP5 steering group could analyse the impact of six core programmes, the motivation of dozens of companies / challenge owners and the level of satisfaction of hundreds of students. This analysis provided the necessary input to create one of the exemplary programme for innovators and entrepreneurs to further developing smart and sustainable regions. “E<sup>3</sup>UDRES<sup>2</sup> Innovators and Entrepreneurs Programme” includes all the ideas, finetuned results achieved during the three years of the project and gives recommendations for the sustainability of the achieved results.

To develop and define the exact Innovators and Entrepreneurs Programme, several aspects and actors of the innovation ecosystems were analysed, including regional attributes, students' needs and motivation, and also a stakeholder analysis was created.

## Establishment of a E<sup>3</sup>UDRES<sup>2</sup> Open Innovation Model

It was also clear, that the Innovators and Entrepreneurs Programme has to be a clear open innovation model that is understood at the same way in all regions by different stakeholders. Since the involvement of companies, incubators, SMEs, startups was also a priority, WP5 wanted to create an open innovation programme where co-creation takes place in different parts of the innovation ecosystem and requires knowledge exchange and absorptive capacities from all the actors involved, whether businesses, academia, public authorities or citizens.

New trends in innovation management such as digitalisation, mass participation and collaboration enable the establishment of new open innovation models. In general, digitalisation accelerates and transforms the way innovators collaborate and also enables new innovation processes. This basic principle was taken into consideration during the development of the WP5 programs since – somehow – members, participants, actors had to be connected and motivated in their collaboration processes.

Drawing on these trends, and principles the aim of the WP5 programmes was to combine the ideas and knowledge from different actors to co-create new business concepts and find solutions to business challenges by utilizing the opportunities offered by trends such as digitalisation, mass participation and collaboration.

The practical steps that WP5 took to create Innovators and Entrepreneurs Programme are grouped in three broad areas or pillars, described below:

- Define the key stakeholders of the programme, analyse their needs, possible involvement and maintain an active connection with them
- Prototype, test and implement programme types and connected elements to motivate stakeholders, analyse results of programmes
- Maximise impact with continuous development of programmes and services

Collaborations with external stakeholders and involving them in an open innovation Programme represent important sources of knowledge and challenges. It provides access to a larger pool of competences, resources and skills and it contributes to positive impacts on the quality of WP5 programmes. Thus, the open innovation approach and principles were expected to bring a huge load of opportunities. Besides E<sup>3</sup>UDRES<sup>2</sup> Universities aimed to play a key role in the regional innovation ecosystems, not only as knowledge producers (as earlier), but also – due to the opportunities of the E<sup>3</sup>UDRES<sup>2</sup> programme - as co-creators and generators of new networks.

### III. Methods, principles and components of the Programme

Innovators and Entrepreneurs Programme was designed to be model for an international co-ideation network that has the purpose to develop a European innovation ecosystem. The Programme connects six nodes (universities) in Gödöllő, St. Pölten, Timisoara, Setubal, Leuven, and Vidzeme.

Innovators and Entrepreneurs Programme has the mission to build and develop a strong innovation ecosystem interconnecting universities with their external stakeholders as well as their knowledge and needs in terms of product and service development. The Programme facilitates co-creation projects between university students and companies, either locally or regionally across the whole network to pursue innovation. To achieve these goals, members of the WP5 defined the core principles and methods.

#### Methods to create the Innovators and Entrepreneurs Programme

At the beginning of the project, WP5 defined and developed the methodologies that proved necessary not only to complete Deliverables, but also to organize them into a comprehensive programme. The methodology divided these planning and implementation stages into three main stages.

STAGE 0 is the planning stage. Before the launch, implementation and fine-tuning of the programmes at STAGE 1 it was necessary to have a co-design phase. In this phase, WP5 defined which areas and topics will be the key elements of the Programme, and which resources are required for implementation. STAGE 0 is therefore the state before the implementation and testing of the programme, during which the ideas, definitions, ideas, etc. were formed.

STAGE 1 is the state at the end of the project. The period between the start and end of the project (3 years) provided an opportunity to implement and conduct the ideas and programs defined for STAGE 1. During the implementation of the project, individual programme elements were tested, various stakeholders were involved, and digital platforms for online collaboration were tested. The results and good practices of STAGE 1 are consistent with the planning phase of STAGE 0.

STAGE 2 includes future opportunities and development proposals of the Programme beyond the project. The implementation of the recommendations of STAGE 2 can contribute to the long-term sustainability of the Programme. STAGE 2 was designed by taking into account and evaluating the results of STAGE 1.

The initial idea for the method and process of developing the Programme within WP5 was:

STAGE 0 (General concept)	<p>WP5 aim was to create a working model at the beginning of the project that aligns with the core E<sup>3</sup>UDRES<sup>2</sup> values with the following goals:</p> <ul style="list-style-type: none"> <li>• Define and clearly communicate Programme goals, vision and opportunities from the beginning of the project</li> <li>• Involve and test the level of engagement of different types of stakeholders</li> </ul>
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	<ul style="list-style-type: none"> <li>• Develop, implement and finetune different programmes for co-ideation and co-creation</li> <li>• Provide support services to participants of WP5 programmes</li> <li>• Create and strengthen networks with the integration of a digital platform that enables collaboration</li> <li>• Continuous analysis of results and feedback of participants / stakeholders</li> <li>• Support the management of innovative ideas, projects, concepts developed within the WP5 programmes</li> </ul>
STAGE 1	<p>Implement and test the framework defined at STAGE 0. Thus the following principles were defined and activities were implemented and tested during the E<sup>3</sup>UDRES<sup>2</sup> project by WP5:</p> <ul style="list-style-type: none"> <li>• Define and clearly communicate goals, vision and opportunities</li> <li>• Stakeholder involvement</li> <li>• Programme development</li> <li>• Provide support services</li> <li>• Network / Platform development</li> <li>• Maximise impact and results</li> <li>• Support in idea management</li> <li>• Recognition of participation</li> </ul>
STAGE 2	<p>STAGE 2 analysed the results and best practices achieved during STAGE 1 and created its proposed long-term model.</p>

During the planning phase WP5 defined the key objectives of the Programme:

- Professionally plan, manage and execute the key deliverables, link the different WP5 events (hackathon, iResidency, Bootcamp), and find the best method to build a comprehensive Programme
- Analyse and test a platform for collaboration and to strengthen international co-ideation networks and project teams
- Offer services (courses, lectures, etc.) to project owners / participants to develop skills that might contribute to smooth project management
- Take part in the identification of the regional sustainable development needs, convert them into challenges
- Involve different types of stakeholders into the Programme and test their level of engagement and the ways of cooperation

## Key pillars of the Innovators and Entrepreneurs Programme

The practical steps that WP5 took during the planning phase (STAGE 0) to create Innovators and Entrepreneurs Programme was to define the core pillars of the Programme which are the followings:

- Stakeholder Involvement
- Programme development
- Provided support services
- Tested networking platforms
- Maximize impact

For these pillars WP5 defined exact goals and aims for the project:

### **Stakeholder Involvement**

WP5 intended to involve various stakeholders in coideation/co-design workshops, to run hackathons, bootcamps and also, to functionate as challenge owners.

Since the WP5 programmes were organized as pilot programmes (or prototypes), WP5 aim was to involve a wide scale of stakeholders in the collaborations: startups, local and regional governments, incubators, SMEs, large companies, and other educational and research institutions. With this principle, the goal was to test how flexibly can different types of stakeholders be involved and how they can cooperate with WP5. Besides types are regarding the arenas of cooperation, WP5 also wanted to test what role stakeholders can play in the implementation of the programmes, and what type of resources they can make available for the programme.

WP5 therefore sought to be comprehensive in terms of the engagement and involvement of the stakeholders. Various roles were established for the stakeholders, which were as follows:

- Challenge Owner
- Jury
- Expert
- Mentor
- „Innovator”

The Challenge Owners are typically companies that bring real problems / corporate challenge to the WP5 programmes for which the participants seek solutions during the implementation phase.

The jury is a board made up of experts familiar with innovation and business issues, with the ability of providing appropriate and usable feedback on innovation ideas and project plans. The jury members of E<sup>3</sup>UDRES<sup>2</sup> programmes typically consist of leaders, directors, CEOs and high-ranking decision-makers of stakeholder organizations.

Experts include those experts who can contribute to the development of participants' soft or hard skills related to the given programme in the form of a presentation or consultation. Mentors are soft skill experts who can be appointed to support the dynamics of future teams, to strengthen the cohesion between team members, and to monitor and support the progress of the projects.

Innovators are the participants of the E<sup>3</sup>UDRES<sup>2</sup> programme who have some kind of innovative idea or participate in the development, elaboration, and planning of an innovative idea.

One core aim of WP5 was to test these types of roles along with stakeholder involvement and engagement within the Innovators and Entrepreneurs Programme.

## Programme development

During the project, WP5 designed, implemented and tested different programme types, with the different types of involvement of stakeholders. The type of programmes implemented during the project are:

E<sup>3</sup>UDRES<sup>2</sup> Hackathon: A 36-hour event in which interdisciplinary teams of international students, university staff and citizens coming from various countries and backgrounds got the chance to really dig deep into real-life challenges provided by local companies and other stakeholders. A programme with individual mentoring, mini-challenges as well as plenty of time to come up with a creative solution to the selected challenge. Working in international teams and being coordinated by experienced members to find solutions to European regions problems for example the efficient collection of biodegradable waste, sustainable farming, optimization of sustainable farming, increasing the wellbeing of smart cities inhabitants or using AI to find the right talent for regional companies.

Bootcamp: An opportunity for someone with an idea, or with very little experience to get involved in learning what the process is to nurture an innovative idea and build a business upon the results. The specific E<sup>3</sup>UDRES<sup>2</sup> Bootcamp is generally a 5-day event where students from E<sup>3</sup>UDRES<sup>2</sup> higher education institutions come together to find solutions to a challenge. It is a unique occasion to develop their ideas in an innovative environment and offer creative solutions for current regional challenges. Over the course of five days, students are working in small teams with other E<sup>3</sup>UDRES<sup>2</sup> students to co-create a concept that contributes to a smarter and more sustainable society.

iResidency: The E<sup>3</sup>UDRES<sup>2</sup> iResidency gives students the chance to dive deeper into the local communities of the E<sup>3</sup>UDRES<sup>2</sup> regions. For one week, students stay in one of these regions and get to know the challenges connected to the lifestyle outside of big metropolises. During this time, participants meet up with stakeholders, such as local politicians, company owners or community associations, and get an insight into real local challenges. Together with a small team of students and researchers, students work on common solutions that can be transferred to all E<sup>3</sup>UDRES<sup>2</sup> regions. The challenges tackled in an iResidency are rooted in the local community, but the team working on it is equipped with a multidisciplinary and international background. Participating in the iResidency enhances students teamwork and problem-solving skills and deepen their understanding of challenges and the way of life in rural areas.

## Providing support services

WP5 realised that its core deliverables (hackathons, iResidency programmes, bootcamps) shall be accompanied by different knowledge sharing forums, lectures, presentations so that maximized impact could be achieved. To make the most out of the programmes, linked

services need to be developed and implemented. Thus, WP5 developed a methodology to define complementary services and programmes. For this, the programmes' (iResidency, Hackathon, Bootcamp) goals, length, types and the participants' study background was taken into consideration. This way, the possible "services" were listed, as it follows:

- Provide mentorship services to the participating students to improve team dynamics, cohesion and the operation of the team, and to support communication between team members
- Develop and provide support for co-ideation processes as well as mediate between challenge owners and teams / participants.
- Create a pool of topics (and make it accessible) that could be integrated in the programmes to help teams managing and developing their projects. Such topics were:
  - o Business modelling
  - o Design thinking
  - o Strategic positioning and value proposition development
  - o Marketing, personal selling, and customer acquisition
  - o Pitching
  - o Time management

However, it was also defined that support services shall not only provided by the WP5 team, but by the involved, external stakeholders, challenge owners, etc. It was clear that to resolve and work with challenges defined by stakeholders, the hardskills, and special expertise of companies need to be integrated in the programme and shared with participants.

### **Testing networking platforms**

In order to include multiple perspectives in the co-creation process it is necessary to include a diverse group of participants, both within the academic field and outside, moreover, this diverse group of participants shall include members of the WP5 universities what can be a bit difficult.

It was clear from the beginning of the programme that WP5 needed an online platform that would provide the opportunity to build networks and support collaborations among participants. Initially cost-effective, conferencing and networking platforms were assigned to be used during the project, like Discord, Teams, etc.

WP5 goal was to test as many platforms as possible and create an analysis of possible platforms to be used in the future.

### **Maximise impact and results**

So that maximize impact could be achieved, WP5 aim was to continuously evaluate the programme elements, get the feedback of participants, analyses results and finetune the programmes based on the needs and opinion of stakeholders.

Also, the aim was to develop a motivation system to convince students and other stakeholders to be involved in the programme. The elements of this motivation system was continuously emphasized during the communication of the programmes. Such elements were:

- Emphasizing the positive impact of participation on personal development and career opportunities
- Recognition with ECTS credits
- Prizes
- Opportunities to join a new professional network to start their own business

During the communication phase of the programmes these opportunities were communicated to potential participants so that reactions could be tested.

### Summary of the planning phase

At the initial stage of the project, WP5 defined the key areas it would like to focus during the implementation of the Deliverables and activities. The key areas were:

- Stakeholder Involvement
- Programme development, implementation and finetuning
- Provide support services
- Testing networking platforms
- Maximise impact and results

STAGE 1 of the Programme was planned to be executed and implemented according to these pillars.

#### IV. STAGE 1: Implemented and tested components of the “E<sup>3</sup>UDRES<sup>2</sup> Innovators and Entrepreneurs Programme”

STAGE 1 is the working / execution phase of WP5 during the E<sup>3</sup>UDRES<sup>2</sup> project, when all deliverables are completed, tested, evaluated. The achievements of this stage are analyzed as different – fragmented but also linked – prototype elements of the final Programme. The period between the start and end of the project (3 years) provided an opportunity to implement and conduct the ideas and programmes defined for STAGE 1. During the implementation of the project, individual programme elements were tested, various stakeholders were involved, and digital platforms for online collaboration were tested. The results and good practices of STAGE 1 are consistent with the planning phase of STAGE 0.

During this phase the core pillars defined during PHASE 0 were tested, the results, outcomes, key findings are listed below.

##### Stakeholder involvement

At the start of the project, the consortium partners assessed their regions’ innovation ecosystem, including the key companies and possible future stakeholders of the E<sup>3</sup>UDRES<sup>2</sup> programme. For the first Deliverable of WP5, the partners prepared an analysis of the regional ecosystems, dominant industries, main actors of business life, startup scene and incubators for the '1st E<sup>3</sup>UDRES<sup>2</sup> Report on Human Centered Innovation for Smart and Sustainable Regions'. When planning the different WP5 programmes, WP5 members took into account the identified actors, stakeholders and the points of cooperation along which the existing and newly formed cooperation could be planned.

Since the WP5 programmes were organized as pilot programmes (or prototypes), various stakeholders were involved in the collaborations: startups, local and regional governments, incubators, SMEs, large companies, and other educational and research institutions. With this principle, the goal was to test how flexibly can different types of stakeholders be involved and how they can cooperate with WP5. Besides types, regarding the arenas of cooperation, WP5 also tested what role stakeholders can play in the implementation of the programmes, and what type of resources they can make available for the programme.

In terms of cooperation, key stakeholders are regional incubators, as potential supporters and “absorbers” of WP5 programmes. The following table introduces the key incubators involved during the Programme.

University	Stakeholders involved
STPUAS	TecNet; Regional Governmental Business Agency for Research Institutes and Tech Start-ups
IPS	Humus Farm; Rural Incubator IPStartUp; Academic Incubator
UPT	Cowork; accelerator
MATE	NAK TechLab

	Agri-Talent Network
VIA	Valmiera Development Agency Valmiera Business Incubator

WP5 defined the most important aspects of cooperation with the key incubators as it follows:

- Continuous information exchange between WP5 and incubators regarding the WP5 programmes and activities organized by the partner organization
- Communicating the incubators' programmes and further opportunities towards E<sup>3</sup>UDRES<sup>2</sup> teams
- WP5 informs incubators about innovation results of its own programmes
- Incubators help E<sup>3</sup>UDRES<sup>2</sup> universities and teams by offering study visits

For the whole E<sup>3</sup>UDRES<sup>2</sup> programme the active participation of incubators, accelerators could be observed. For instance, Valmiera Business Incubator was the key stakeholder for the 2<sup>nd</sup> E<sup>3</sup>UDRES<sup>2</sup> iResidency programme, while NAK Tech Lab (Hungary) was the challenge owner at the 2<sup>nd</sup> E<sup>3</sup>UDRES<sup>2</sup> Bootcamps besides delegating experts to the programme. TecNet NÖ Accelerator (Lower Austria) acted as jury member at the first E<sup>3</sup>UDRES<sup>2</sup> Hackathon.

Various roles were established for the stakeholders, which were as follows:

- Challenge Owner
- Jury
- Expert
- Mentor
- „Innovator”

Mostly companies were asked to work as Challenge Owners who had to define real, region-level problems / corporate challenge to the WP5 programmes for which the participants seek solutions during the implementation phase. During the Programme, different types of business entities were involved, from startups through SMEs to chambers.

All WP5 events / activities were closed with the assessment of the projects. Thus, a board of experts (The jury) was defined and involved. The jury – mostly - is a board made up of experts familiar with innovation and business issues, with the ability of providing appropriate and usable feedback on innovation ideas and project plans. The jury consisted of leaders, directors, CEOs and high-ranking decision-makers of stakeholder organizations.

To several programmes so-called Experts were involved. The role of the expert was to contribute to the development of participants' soft or hard skills related to the given programme.

During the implementation of the E<sup>3</sup>UDRES<sup>2</sup> programmes, mentors were appointed to support the participating teams.

Finally, Innovators were the participants of the E<sup>3</sup>UDRES<sup>2</sup> programmes who have some kind of innovative idea or participate in the development, elaboration, and planning of an innovative idea.

The following table shows the individual stakeholder roles and their groups:

Challenge Owner	Primarily a company, but also a local or regional municipality, other organization (chamber, research institute, educational institution)
Jury	Leaders, decision makers of different stakeholder organization
Expert	University or corporate expert gained expertise in a special topic
Mentor	WP5 members, delegates of E <sup>3</sup> UDRES <sup>2</sup> universities
„Innovator“	students, researchers

During the implementation of WP5 programmes, several types of stakeholders were involved and tested in several roles. During the E<sup>3</sup>UDRES<sup>2</sup> Bootcamp - since it is a longer, 5-day event - it is possible to involve more experts and challenge owners. On the other hand, during a hackathon there is only a very limited possibility to involve experts. Of course, there may be overlaps in the case of individual roles. During the second E<sup>3</sup>UDRES<sup>2</sup> Bootcamp, for example, the challenge owners were also jury members. Of course, a challenge owner can also be an expert, since he is an expert on the given topic.

Below, we present in detail which stakeholders the WP5 members involved in the case of the Programme. The following table consists the list of the stockholders involved by WP5 throughout the duration of the project:

University	Stakeholders involved
STPUAS	<ul style="list-style-type: none"> <li>• Regional Government of Lower Austria</li> <li>• TecNet</li> <li>• N´Cyan</li> <li>• Fürst Möbel GmbH</li> <li>• Mayor, City Government St. Jakob in Deffereggen</li> <li>• Tourism Association East Tyrol</li> <li>• Grammer School Melk</li> <li>• Commercial Academy Waidhofen/Ybbs</li> <li>• Local Government Mayor Waidhofen/Ybbs</li> <li>• Waste Material Connection Center Waidhofen/Ybbs</li> <li>• Beta Campus</li> </ul>
IPS	<ul style="list-style-type: none"> <li>• IBM</li> <li>• Humus Farm</li> <li>• SPLIT</li> <li>• IPStartUp</li> <li>• AVIPE</li> </ul>
UPT	<ul style="list-style-type: none"> <li>• Cowork</li> <li>• CityRadar</li> <li>• Nokia Timisoara</li> </ul>
MATE	<ul style="list-style-type: none"> <li>• Lissé Édességgyár Ltd.</li> <li>• Hungarian Chamber of Agriculture</li> <li>• NAK TechLab</li> <li>• Innomine DIH Nonprofit Ltd.</li> <li>• Munch Europe Ltd.</li> <li>• supp.li Ltd.</li> <li>• Profikomp Inc.</li> <li>• Medifood Ltd.</li> </ul>



VIA	<ul style="list-style-type: none"> <li>• Valmiera Development Agency</li> <li>• Valmiera Business Incubator</li> <li>• University of Tartu Parnu College (Estonia)</li> <li>• Parnu County Development Centre</li> <li>• Latvian Rural Advisory and Education Centre</li> </ul>
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The stakeholders were involved at different levels during the planning and implementation of the WP5 programmes. It was typical that the individual stakeholders were already involved in the planning phase. This was particularly necessary because, due to the novelty of the programmes, it was justified that startups, companies, incubators monitor the development and progress of the programme right from the initial planning phase. In the case of the three main programme types, the levels of stakeholder involvement differed. The table below shows the levels at which each stakeholder was involved in the case of each programme type.

	<b>Hackathon</b>	<b>Bootcamp</b>	<b>iResidency</b>
Challenge Owner	coideation, implementation	coideation, implementation	coideation, implementation
Jury	implementation	implementation	implementation
Expert	coideation, implementation	coideation, implementation	coideation, implementation
Mentor	coideation, implementation	coideation, implementation	coideation, implementation
„Innovator”	implementation	implementation	implementation

After the conducted programmes, of course, we asked for feedback on the programmes and the established collaborations. Companies, startups, SMEs all saw excellent opportunities in the programmes. According to the feedback, there are several cases where the company really received an innovative idea and project plan (as a challenge owner) that can be implemented and incorporated into the company's portfolio in the long term. In cases where a startup has been designated as a challenge owner, the startup has in many cases received usable feedback regarding its specific technology, which has designated a new level of product development.

### Programme development

Core activity of WP5 included the planning and organising 6 events during the project as key Deliverables. These events are one important pillar of the Programme. The events parameters, results and tested components are the following:

	<b>Date</b>	<b>Stakeholders Involved</b>	<b>Tested components</b>
Hackathon 2021	23rd to 24th of September 2021	<ul style="list-style-type: none"> <li>• ProfiKomp</li> <li>• Politehnica University Timisoara and Cowork of Timisoara</li> <li>• Latvian Rural Training and Advisory Centre</li> </ul>	<ul style="list-style-type: none"> <li>• Hybrid format, Online execution</li> <li>• Mentor services</li> <li>• Assessment and evaluation method</li> <li>• Digital platform</li> <li>• The Hackathon was the first E<sup>3</sup>UDRES<sup>2</sup> co-creation format,</li> </ul>

	Date	Stakeholders Involved	Tested components
		<ul style="list-style-type: none"> <li>• Federal Government of Lower Austria</li> <li>• ABN Cleanroom Technology</li> <li>• Associação de Viticultores do Concelho de Palmela</li> </ul>	<p>that has been designed equally within the 6 partner institutions.</p> <ul style="list-style-type: none"> <li>• Project Mgmt for co-creation formats</li> </ul>
Hackathon 2022	13th to 14th of October, 2022	<ul style="list-style-type: none"> <li>• Das Fokus by N'Cyan</li> <li>• Project SPLIT</li> <li>• Medifood Ltd.</li> <li>• Book.care</li> <li>• Nokia Romania Timisoara</li> <li>• Valmiera Development Agency</li> </ul>	<ul style="list-style-type: none"> <li>• Link to other programme (Bootcamp)</li> <li>• Mentor and consultancy services</li> <li>• Expert talk services</li> <li>• Assessment and evaluation method</li> <li>• Digital platform</li> <li>• Project Mgmt for co-creation formats</li> </ul>
iResidency 2022	16th to 22nd of November, 2022	<ul style="list-style-type: none"> <li>• Grammer School Melk</li> <li>• Commercial Academy Waidhofen/Ybbs</li> <li>• Local Government Mayor Waidhofen/Ybbs</li> <li>• Waste Material Connection Center Waidhofen/Ybbs</li> <li>• Beta Campus</li> </ul>	<ul style="list-style-type: none"> <li>• Mentor and consultancy services</li> <li>• Expert talk services</li> <li>• Case study introduction</li> </ul>
iResidency 2023	15th to 19th of May, 2023	<ul style="list-style-type: none"> <li>• Valmiera Development Agency</li> <li>• Valmiera Business Incubator</li> <li>• University of Tartu Parnu College</li> <li>• Parnu County Development Centre</li> </ul>	<ul style="list-style-type: none"> <li>• Mentor and consultancy services</li> <li>• Expert talk services</li> <li>• Case study introduction</li> </ul>
BootCamp 2022	11th to 15th of July, 2022	<ul style="list-style-type: none"> <li>• E<sup>3</sup>UDRES<sup>2</sup></li> <li>• Das Fokus by N'Cyan</li> <li>• Mayor, City Government St. Jakob in Defferegggen</li> <li>• Tourism Association East Tyrol</li> </ul>	<ul style="list-style-type: none"> <li>• Mentor and consultancy services</li> <li>• Expert talk services</li> <li>• Assessment and evaluation method</li> <li>• ECTS credits</li> </ul>

	Date	Stakeholders Involved	Tested components
BootCamp 2023	3rd to 7th of July, 2023	<ul style="list-style-type: none"> <li>Innomine DIH Nonprofit Ltd.</li> <li>Munch Europe Ltd.</li> <li>Hungarian Chamber of Agriculture</li> <li>Suppli Ltd.</li> <li>Lissé Édességyár Ltd.</li> </ul>	<ul style="list-style-type: none"> <li>Link to other programme</li> <li>Mentor and consultancy services</li> <li>Expert talk services</li> <li>Assessment and evaluation method</li> <li>ECTS credits</li> <li>Digital platform</li> </ul>

In case of these programmes not only the events themselves were tested. WP5 put a big emphasis on the assessment and evaluation of the programmes from the participants, challenge owners and organizers perspective. This analysis helped the improvement of the programmes.

Also, we also tested the possible linking methods of linking the programmes. For instance winners of the Hackathon 2022 were automatically qualified themselves to the Bootcamp 2023. This way organizers got inputs regarding the innovation idea lifecycle, and the sustainability of the programme.

Besides, types of recognition and methodologies to improve motivation was also tested during the programme elements, including ECTS credits, prizes, etc. Furthermore, many other linked activities were also tested, e.g.: mentorship services, onboarding phases, stakeholder involvement, digital platforms for collaborations, etc.

All the findings were integrated into the recommendations detailed in STAGE 2 unit.

### Provided support services

As it was stated earlier, WP5 realised that its core deliverables (hackathons, iResidency programmes, bootcamps) shall be accompanied by different knowledge sharing forums, lectures, presentations so that maximized impact could be achieved. Thus, WP5 developed and tested complementary services and programmes which are the followings:

- Mentorship services to the participating students to improve team dynamics, cohesion and the operation of the team, and to support communication between team members
- Support for co-ideation processes as well as mediation between challenge owners and teams / participants
- Available presentations, lectures for the programme

Also, support services were provided by the involved, external stakeholders, challenge owners, etc in the form of study visits, consultancy, case study introduction.

The tested presentations, lectures, topics were the following:

- How to pitch expert talk
- Brainstorming and Value Creation expert talk
- Time Management expert talk
- Project Management expert talk
- Time Management expert talk

- Creativity and Brainstorming Methods expert talk
- Team Dynamics and Conflict Management expert talk
- Business Canvas Models expert talk
- Intercultural Communication expert talk
- Case Study presentations (on different challenges, topics)
- Study visits, field visits

All the findings were integrated into the recommendations detailed in STAGE 2 unit.

### Tested networking platforms

It was clear from the beginning of the programme that we needed an online platform that would provide the opportunity to build networks and support collaborations among participants. Several cost-effective platforms were tested at the programmes implemented during STAGE 1, of which Discord proved to be the most effective in terms of functions. (Video conferencing, messaging, sharing files, etc.).

However, due to long-term sustainability, it is necessary to introduce a collaboration platform in the future with features going beyond the above-mentioned Discord. Therefore, WP5 made an analysis of the most popular Open Innovation Platforms, taking into account the peculiarities of the E<sup>3</sup>UDRES<sup>2</sup> programme. Besides the desktop research, many consultations took place with platform providers on how each platform can fit into the E<sup>3</sup>UDRES<sup>2</sup> framework. Due to this analysis two platform proved to be the most useful for the Programme: Demola and Pozi.io.

The Demola platform ([www.demola.net](http://www.demola.net)) is an international organization that facilitates cocreation projects between university students, companies and researchers, both locally and internationally. Demola is a co-creation concept that is geared to solving real challenges. Every project has an outcome – be it a new concept, a demo, or a prototype. Contracts, intellectual property rights, licensing models, and other legal requirements are in place and meet international business standards and practices.

Pozi.io has the opportunity to functionate as an independent “white label” product. Also, the platform comes with an extensive portfolio of functionalities that align with the aims of the Programme (team selection, event creation, project management, mentor & stakeholder involvement).

However, more platforms were assessed, which is listed below:

Platform name	URL
Pozi	<a href="https://pozi.io/">https://pozi.io/</a>
Demola	<a href="https://www.demola.net/">https://www.demola.net/</a>
Openideo	<a href="https://www.openideo.com/">https://www.openideo.com/</a>
Project Place	<a href="https://service.projectplace.com/">https://service.projectplace.com/</a>
Yammer	<a href="https://www.yammer.com/">https://www.yammer.com/</a>
Discord	<a href="https://discord.com/">https://discord.com/</a>

## Maximise impact and results

### Recognition

Different tools for motivating students' participation were tested during the programme elements. Of these, ECTS credits proved to be the most welcomed one. Since ECTS credits are "provided" in accordance with the institutional policy, the method of issuance is always adapted to the possibilities and regulations of the programme host. An established ECTS credit allocation good practice is presented below:

During the 2nd E<sup>3</sup>UDRES<sup>2</sup> Bootcamp, The Transcript with 3 ECTS credit was issued out by MATE, where BootCamp2023 students' performance was assessed on a three grade scale, with the result "not accepted" being the worst and "excellent" being the best. ECTS Grades for "Future Food" subject corresponds to the following levels of performance:

- Excellent (91-100%), ECTS Grade: A
- Accepted (71 - 90%), ECTS Grade: B
- Not-accepted (under 70%), ECTS Grade: F

BootCamp2023 students' evaluation was based on the following workload:

- presence at online programmes (Expert Online sessions for Onboarding phase)
- work performance during bootcamp
- post bootcamp work (individual assignments and team assignments)

Assignments were evaluated by students' mentors and marks were given by mentors. All 30 students passed successfully. Five students didn't hand in their post bootcamp assignments by the deadline however they performed well during the bootcamp, so those five students got „accepted" grade the other 25 students got „excellent". They all received their signed and sealed Transcripts on 31 August 2023.

All the findings were integrated into the recommendations detailed in STAGE 2 unit.

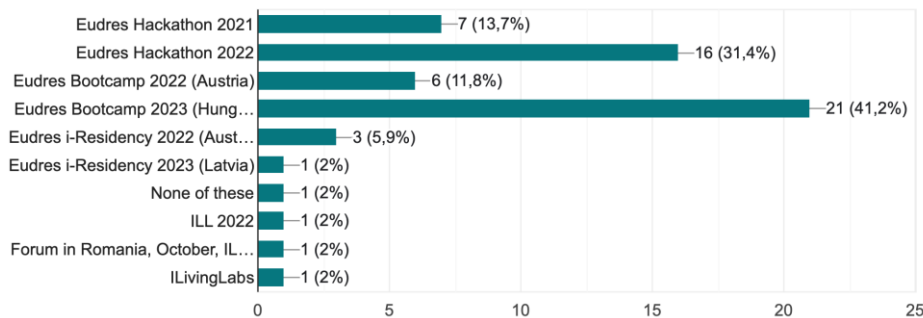
### Analyses of results

So that WP5 can get a better insight in students' motivation and engagement, and can further develop its programmes and services, a survey was created to get a feedback regarding the WP5 activities. This chapter is partly dedicated to introduce and summarize these results. More than 51 students have answered the questionnaire, therefore each following figures visualize the ratio accordingly.

The next figure shows the ratio of the respondents' involvement in the E<sup>3</sup>UDRES<sup>2</sup> programme. As we can see, most of the respondents participated at the Boot Camp 2023 (41.2%), at the Hackathon 2022 (31.4%), at the Hackathon 2021 (13.7%), and at at the Boot Camp 2022 (11.8%). (Thus it shall be taken into consideration, that the following answers will reflect in accordance to this ratio.)

### 1. Which activities of the E3UDRES2 Innovators and Entrepreneurs Programme were you involved in?

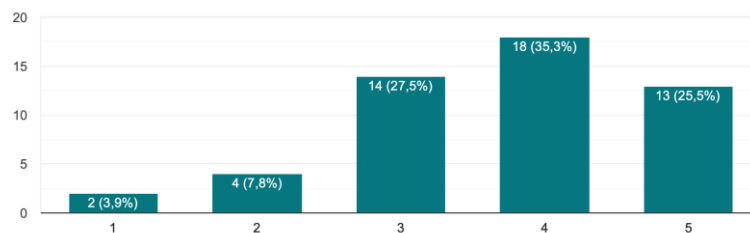
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Open WP5 programmes' aim was to help students and teams with their co-ideation processes, help identifying solutions for challenges defined by different stakeholders. Thus during the project implementation phase, 6 programmes were implemented which aim was to motivate students to come up with innovative ideas. Based on the following figure, 60.8% of the respondents felt that their idea had a high level of novelty.

### 2. How do you judge the novelty of your (your team's) idea you worked on during the program?

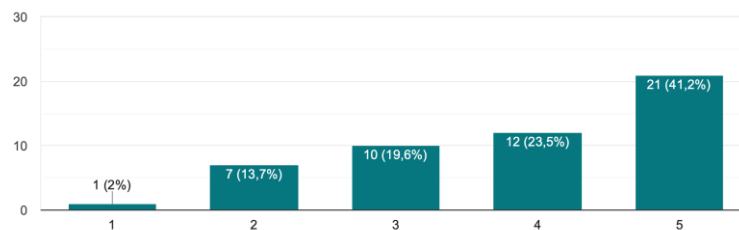
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As it can be seen at the following figure, 64.7% of the respondents felt, that their idea was professionally evaluated, and they got the needed necessary feedback from mentors, jury or challenge owners.

### 3. How clearly and professionally was your idea evaluated? Did you get the necessary feedback from mentors, jury, challenge owners, etc?

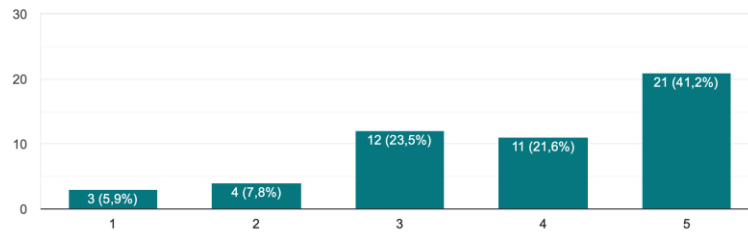
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As the following figure shows, 62.8% of the respondents felt that they picked up a new skill and developed competencies during the programme to be able to implement their idea.

4. Did you pick up new skills and developed competences to be able to implement the idea you developed during the program?

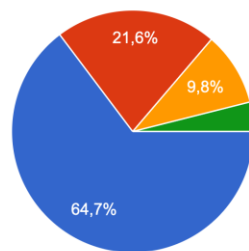
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As it can be seen at the next figure, 64.7% of the respondents felt that 'The E<sup>3</sup>UDRES<sup>2</sup> programme was a great programme, but that's all.', 21.6% thought that 'After the E<sup>3</sup>UDRES<sup>2</sup> programme we have had some meetings with some members of my team to discuss the implementation of the idea, but we decided not to continue.', 9.8% reflected that 'After the E<sup>3</sup>UDRES<sup>2</sup> programme we have had some meetings with some members of my team to discuss the implementation of the idea, we decided to start the implementation phase, but due to several reasons we had to give up.', and 3.9% of them claimed that 'We are already in the implementation phase with our team (or some members of my team).'

5. What "happened to your idea"?

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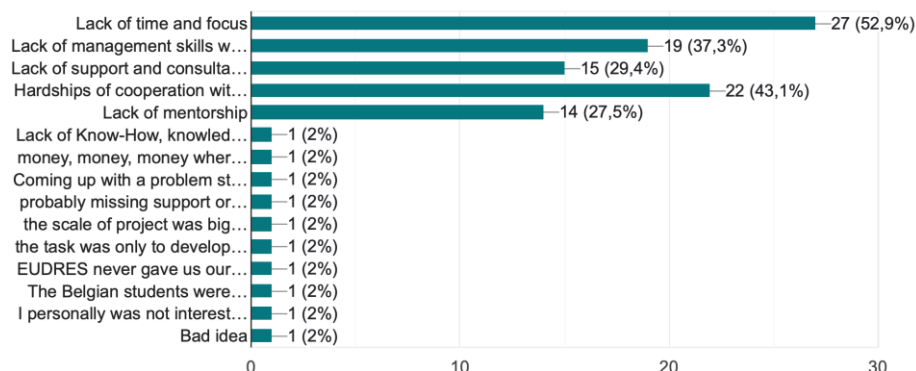


- The Eudres program was a great fun but that's all
- After the Eudres program we have had some meetings with some members of my team to discuss the implementation...
- After the Eudres program we have had some meetings with some members of my team to discuss the implementation...
- We are already in the implementation phase with our team (or some members of my team)

The next figure elaborates the reasons why the respondents felt that they were not able to start or continue the work on their idea. In the following, the top 5 most chosen reasons are highlighted and detailed. 52.9% of them pointed out the 'Lack of time and focus' as the reason to not continue, 43.1% reasoned with 'Hardships of cooperation with an international team', 37.3% of them stated that 'Lack of management skills within the team' was the reason, 29.4% defined 'Lack of support and consultancy services' as the explanation, and 27.5% mentioned 'Lack of mentorship' as the cause.

6. What were the main issues and difficulties to start / continue implementing your idea? Please indicate all the answers that apply to you

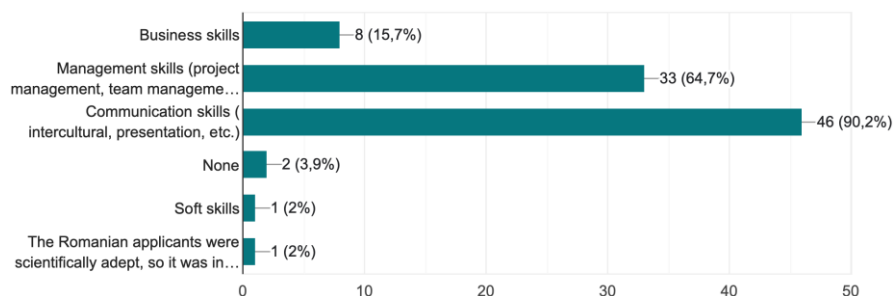
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However, even though some students did not succeed developing their idea, many of them have felt that they have achieved some other advancement participating the E<sup>3</sup>UDRES<sup>2</sup> programmes. The following figure shows the skills, which may have been developed. 90.2% of the participants stated, that their 'Communication skills (intercultural, presentation, etc.)' have developed, 64.7% mentioned that their 'Management skills (project management, team management, etc.)' have improved, and 15.7% indicated that their 'Business skills' have enhanced.

7. What skills have you developed the most during the program? Please indicate all the answers that apply to you

51 válasz



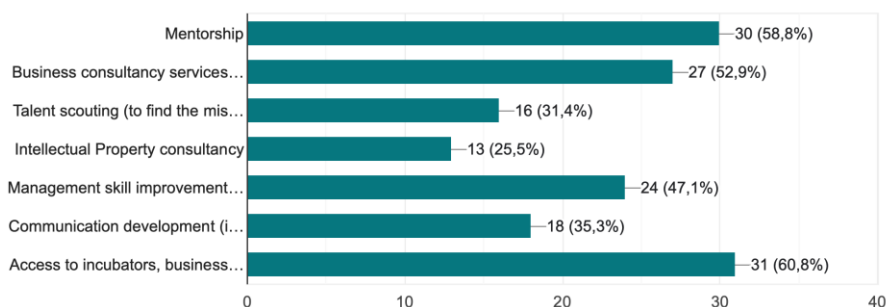
Finally, the next figure demonstrate the respondents choice about which services could help implementing their ideas and develop their entrepreneurial mindset. The respondents could choose among the given seven options:

- Mentorship
- Business consultancy services (e.g.: business modelling, market research, etc.)
- Talent scouting (to find the missing links)
- Intellectual Property consultancy
- Management skill improvement (project management, team management, etc.)
- Communication development (intercultural, presentation, etc.)
- Access to incubators, business angels, venture capital



The following four of the seven options were chosen mostly: 60.8% of the respondents choose the 'Access to incubators, business angels, venture capital', 58.8% of them selected the 'Mentorship', 52.9% of them picked 'Business consultancy services (e.g.: business modelling, market research, etc.)', and 47.1% defined 'Management skill improvement (project management, team management, etc.)' as a potential service helping at implementing their ideas.

8. What services could help the implementation of your ideas and develop your entrepreneurial mindset Please indicate all the answers that apply to you  
51 válasz



The respondents also had the opportunity to elaborate their opinion in detail about if they have any ideas to further develop the activities within Innovators and Entrepreneurs Programme. Respondents feedback are summarized as it follows:

- More emphasis on practical education and short trainings for participants that focus on team dynamics, effective communication within teams, and comprehensive education on hackathons and bootcamps, hence providing participants with a clear understanding of their roles and contributions within a defined timeframe. This can boost their effectiveness and overall experience in the programme.
- Extending the duration of hackathons to allow participants more time to address challenges, by implementing a phased /hybrid structure that involves workshops, capacity-building trainings, and practical team exercises. This approach can facilitate deeper engagement with target audiences, existing entities, and potential stakeholders, resulting in the development of comprehensive prototypes and a richer learning experience.
- Explore the possibility of deriving challenges from a community-focused approach. Firstly, by conducting a situational analysis of target regions and communities to identify specific challenges they face. This strategy aligns the programme's goals with the realities of the communities, enabling participants to work on challenges that closely resonate with local needs. This approach could even be developed as a standalone community outreach project within the E<sup>3</sup>UDRES<sup>2</sup> framework, enhancing both the programme's impact and relevance.

### Key findings of STAGE 1; Problems, conclusion, needs

During the implementation phase of STAGE 1, WP5 continuously analysed the results and the feedback of participants, stakeholders, businesses actively involved in the Programme. The most important conclusions are detailed here.

In order to include multiple perspectives in the co-creation process it is necessary to include a diverse group of participants, both within the academic field and outside, moreover, this diverse group of participants shall include members of the WP5 universities what can be a bit difficult. Thus, a flexible, dynamic platform is needed to support collaboration and transnational cooperation.

In case programme elements (iResidency, Hackathon, Bootcamp) are not connected from the “idea generation to the implementation” aspect, project management dynamics might weaken which would lead to a lower number of project implementation. The Programme can give a framework to the different events, activities so that project members can have the opportunity to manage their projects from coideation to implementation. The Programme shall be aligned with the innovation project lifecycle.

The Programme shall have a proper online platform to showcase and demonstrate project results (innovation solutions, project of the participating teams) for multiple reasons. It would have a marketing value, as curious students could collect more information about the Programme before joining a challenge. On the other hand, project pages can have a feature of joining anytime and sharing ideas and giving feedback of the projects, so that knowledge and feedback of the crowd could also be taken into consideration.

WP5 provided different services during the Programme, but only available at the time of the co-ideation activities. Service portfolio shall be accessible anytime for any project member during the whole Programme.

Regional stakeholders (Challenge owners) are sometimes not interested or lacked the appropriate resources in continuous participation in the Programme as it requires increased dedication and the use of a large amount of resources. It would be preferred - from their perspective – if they could benefit more from the Programme and from the cooperation with participating teams.

A large amount of knowledge is created during the Programme, but – in contrast – it sometimes does not provide enough knowledge to the teams and participants. Either because participants do not find the right content or they do not know how to process it and build it in their work.

Incubators, accelerators might prefer to stay at their regular Programmes instead of joining the WP5 Programme. It would be preferred - from their perspective – if they could benefit more from the Programme and from the cooperation with participating teams.

Comparing the initial ideas and concept of the Programme with the results achieved during the STAGE 1 it was found that a little modifications were needed to finetune the Programme:

	<b>General concept (Plans)</b>	<b>STAGE 1 (Results)</b>
Communication	Define and clearly communicate Programme goals, vision and opportunities from the beginning of the project; Communicate at local level by local institutions	Completed, successful communication campaigns  More applicants than the targeted number.
Stakeholder involvement	Involve and test the level of engagement of different types of stakeholders	Dozens of stakeholders (Businesses, incubators, startups, etc) were involved in different roles.  Different types of companies tested
Programme development	Develop, implement and finetune different programmes for co-ideation and co-creation	Completed. Results, feedback was analysed in all cases

Provide support services	A list of available presentations, mentor services	Completed, but needs finetuning. Continuous availability needed from students' / participants' side
Tested networking platforms	Test and analyse platforms to help networking and co-ideation	Tested online platforms in accordance with the project
Maximise impact and results	Assessment of every programme; Organizers and participants feedback	Completed, methodologies were tested

Apart from the problems discussed above, WP5 positively evaluated the results of the first stage. Due to the implemented, tested elements of the Programme a large portfolio of best practices was achieved. This collection of best practices is summarised in the next chapter as the STAGE 2 Elements.

## V. STAGE 2: Model for the E<sup>3</sup>UDRES<sup>2</sup> Innovators and Entrepreneurs Programme

Innovators and Entrepreneurs Programme has the mission to build and develop a strong innovation ecosystem interconnecting universities with their external stakeholders as well as their knowledge and needs in terms of product and service development. The Programme facilitates co-creation projects between university students and companies, either locally or regionally across the whole network to pursue innovation. To achieve these goals, members of the WP5 defined the core principles and methods which were defined and planned during STAGE 0 and implemented, tested during STAGE 1.

During the STAGE 2 a special emphasis was dedicated to the assessment of all aspects of organized activities. Thus, WP5 steering group could analyse the impact, value of its activities in order that a recommendation for an ultimate programme can be created “E<sup>3</sup>UDRES<sup>2</sup> Innovators and Entrepreneurs Programme” includes all the ideas, finetuned results achieved during the three years of the project and gives recommendations for the sustainability of the achieved results. STAGE 2 includes future opportunities and development proposals of the Programme beyond the project.

The goal of the Innovators and Entrepreneurs Programme is to transform the implemented WP5 programme into a comprehensive, structured programme.

### Context and framework

During the project implementation, WP5 made an analysis on E<sup>3</sup>UDRES<sup>2</sup> regions. It was found that some regions are a mixture of industrial and rural areas, but industry plays a key role everywhere. In the more developed regions the cities of E<sup>3</sup>UDRES<sup>2</sup> universities are the centre of education and research. It should be emphasized that Universities in all regions are important knowledge centres, drivers of knowledge creation, knowledge transfer and the

evolving innovation ecosystem. All institutions recognized that building and developing an innovation ecosystem is essential to the development and sustainability of the region, and creating the link between industry, business and academia is essential. During the analysis a lot of similarities were observed in the field of main industries: manufacturing, engineering, automotive industry plays a significant role in many places. The agricultural and food sectors also appear in several regions, while the chemical and health sector and the creative sector are only present in some regions.

It was also stated that there are significant differences in the level of development of innovation and start-up ecosystems between regions. In less developed systems, the ecosystem is fragmented and difficult to access. Innovation activities are ad hoc, results are scattered. There is no collaboration between stakeholders. In the more innovative regions, start-ups and their development and support are significant.

Several actors are pursuing regular programmes that build and support ecosystems that are interlocking in research, education and economy, knowledge transfer; promoting talents and ideas (e.g. innovation weeks, hackathons); establishing concepts of open innovation and co-creation (e.g. open laboratories and facilities); interaction with existing networks or establishing connections with other cities or network all innovation forces of the region, alongside the knowledge base, and contribute to collect, analyse, publish and disseminate statistical information from the region to the region. Such initiatives should serve as good examples and should be adapted and applied in other regions.

Since there are important differences between the regions not only in terms of economy but also regarding the innovation ecosystem, and as the basis of the Programme is the pool and network of local / regional stakeholders, challenges and other actors, it is important to dive deep in the mapping process and analysis of regional peculiarities. To create a solid basis for the Programme it is vital to assess the opportunities, problems of different regions as much as possible.

The tested iResidency's aim initially was to provide a programme where participants have the opportunity to get an insight in a region's ecosystem from the closest point. iResidency includes a study visit with consultancy, interviews with regional stakeholders, local entities. Thus, iResidency function of idea-generation might be shifted towards a deeper analysis and assessment of the specific region. In case of having a programme element which analyses regional opportunities and challenges, identifies possible challenge owners, the Programme could have a strong bridge between the region, regional stakeholders and the linked teams, students and co-creators, moreover, key findings of the iResidency program can be channelled into the Challenge Bank of the project.

According to the structure of the Programme, the iResidency has the purpose of mapping regional problems and challenges and channel potential Challenge Owners into the Programme. The specific task of iResidency is to identify key regional problems within a given region based on the given topic and to assign the corresponding stakeholders. Thus, the core difference between iResidency and the Bootcamp is that in case of iResidency the participants identify and assess key challenges, while in case of the Bootcamp the challenge owner task is to define problems for the participants.

Formats linking students to regional challenges (bootcamps and iResidencies) could further develop the ties among participants of regional ecosystems. Both formats bring together teams of students for about a week in order to address jointly real-life challenges, work with stakeholders and challenge owners with aim of finding possible solutions and basis for potential further business plan, propose solutions with positive impact on local communities. Both programmes shall end with the validation processes and the presentation of specific project plans to incubators.

The aim of Hackathons is to bring together students, regional stakeholders and experts to collaborate and develop innovative solutions to specific challenges or problems. Method of the successful event includes the setup of a diverse group of European students and regional stakeholders, providing mentorship and research resources and encouraged collaboration within a clear schedule and structure. During Stage 2 the link between the Hackathon and Bootcamps shall be tested more, so that selected Hackathon topics and projects could be dealt with during the Bootcamp, where the detailed development of the project might take place.

It is important to emphasize, that the Programme defines the need for the implementation of an online platform where teams can showcase their projects, recruit more team members, can communicate and network. This way students do not manage to qualify in the Bootcamp can continue their projects.

Participation of the students shall be recognised with ECTS credits as it was tested during the Stage 2. The programme is suitable to be converted into a specialization, while for participation micro-credentials can be granted.

### Programme development

During STAGE 1, WP5 developed, organized and tested three types of programmes: iResidency, Hackathon, Bootcamp. Each programme element was organized two times. WP5 put a special emphasis on the evaluation, assessment of each programme element taking into consideration all the recommendations, feedback of different stakeholders. For STAGE 2 WP5 created a best practice-based scenario, which is introduced here.

The task of the iResidency programme is to identify the main regional problems and challenges in the region on a topic specified by the organizing university, which can be channelled into the Programme. Each organizing university delegates one person to the iResidency. The local activity (survey, in-depth interviews, etc.) is preceded and followed by desktop research. During the iResidency, regional players and programme participants will prepare:

- A regional survey of a specific topic designated by the university by identifying local problems
- Transforming key problems into challenges in cooperation with regional stakeholders to be further used in the Programme; Challenges are uploaded into the Challenge Bank.
- Defined challenges might be re-used during upcoming problems like Hackathons, Bootcamps.

Level of involvement of iResidency participants (iResiders) can be increased by extending their roles and tasks beyond the iResidency programs, since they can functionate as bridges between the region / challenge owners and the Programme.

iResidency this way is a three-stage programme element:

- The first part is the onboarding phase which includes desktop research and participation in a related subject
- Second part is the 'field visit' when participating students have the opportunity to visit a region and make interviews with regional decision makers, stakeholders. The aim is to identify key challenges and channel them into the next, hackathon phase.
- Third part is the outboarding phase, when iResiders create descriptions of challenges, discuss the involvement of challenge owners.

## Hackathon

Hackathons might be in on-site, online or in hybrid mode, generally lasts for 48 hours. The Hackathon is preceded by an online onboarding phase with support programmes tested and developed during STAGE 1.

Hackathon team building methods - depending on the nature of the programme and topics - take place in two ways:

- with the already developed talent test programme
- or on the basis of an application for a topic

So that the sustainability of the projects could be ensured, a digital platform shall be provided for the participants where they can register their projects, can attract new team members, can continue collaboration and share information regarding the project. Due to the digital tool, the E<sup>3</sup>UDRES<sup>2</sup> community can be strengthened.

Communication and application processes are defined centrally, however, both are organized, controlled locally. During the application phase, students get information about the challenges, thus, they can make a decision which challenge to deal with.

Students are organised into teams with the help of the talent management software developed during the project. This way a diverse team of motivated student is ensured.

Hackathon has both an onboarding and outboarding phase. The three phases (onboarding phase, Hackathon, outboarding phase) are key parts of the semester. Hackathon's onboarding phase is a string of online events which aim is to prepare students to the Hackathon itself with presentations and team building activities.

## Bootcamp

The programme set itself the goal of becoming a driving force for the development of intelligent and sustainable regions focusing on open and committed knowledge exchange. Fitting into this concept, Bootcamp is a key element of the Programme with the mission to introduce projects, innovative ideas, business concepts to stakeholders, incubators. Bootcamp's topics and teams derive from the Hackathon, from the Challenge Bank or from newly involved stakeholders.

As in the case of the Hackathon, Bootcamp has both an onboarding and outboarding phase. The three phases (onboarding phase, Bootcamp, outboarding phase) are key parts of the semester. Bootcamp's onboarding phase is a string of online events which aim is to prepare

students to the Bootcamp itself with presentations and team building activities. The Bootcamp's mission is to provide teams the opportunity to dive deep in their projects, have the necessary feedbacks from their challenge owners, as well as to develop their ideas from the business perspective. Bootcamp has a unique evaluation structure. Ideas, project proposals are presented to stakeholders, and to Challenge Owners. Final pitches are suggested to take 3 minutes with a Q&A session.

During the outboarding phase teams are expected to collaborate with their challenge owners regarding feasibility, implementation and business perspective. It is important to emphasize, that the Bootcamp has different outputs:

- Business Plan
- Feasibility study with surveys, analyses
- Pitch (ppt)

The development of a prototype with the involvement of the Challenge Owner is optional. At the end of the semester the team provides a final pitch to local / regional incubators and potential VC companies. The event is organized by E<sup>3</sup>UDRES<sup>2</sup>.

### Support services

As it was stated earlier, WP5 realised that its core deliverables (hackathons, iResidency programmes, bootcamps) shall be accompanied by different knowledge sharing forums, lectures, presentations so that maximized impact could be achieved. Thus, WP5 developed and tested complementary services and programmes during STAGE 1. Now the recommended services are grouped around each programme element. These elements are not obligatory, however, participation is recommended for the ECTS credits. These services are mentorship services and Expert talks (Specialized presentations of E<sup>3</sup>UDRES<sup>2</sup> experts).

Programme	Recommended services
iResidency	<ul style="list-style-type: none"> <li>• Methodology to rural assessment</li> <li>• Study visits, field visits</li> </ul>
Hackathon	<ul style="list-style-type: none"> <li>• Mentorship services</li> <li>• Business Canvas Models expert talk 1</li> <li>• How to pitch expert talk 1</li> <li>• Intercultural Communication expert talk 1</li> <li>• Brainstorming and Value Creation expert talk 1</li> <li>• Time Management expert talk 1</li> <li>• Case Study presentations (on different challenges, topics)</li> </ul>
Bootcamo	<ul style="list-style-type: none"> <li>• Mentorship services</li> <li>• Business Canvas Models expert talk 2</li> <li>• How to pitch expert talk 2</li> <li>• Brainstorming and Value Creation expert talk 2</li> <li>• Project Management expert talk 1</li> <li>• Creativity and Brainstorming Methods expert talk 1</li> <li>• Team Dynamics and Conflict Management expert talk 1</li> <li>• Case Study presentations (on different challenges, topics)</li> <li>• Study visits, field visits</li> </ul>

Support services (Expert talks) are available during the onboarding phase of each programme, and ECTS credits are granted in case of participation.

Mentorship services to the participating students (to improve team dynamics, cohesion and the operation of the team, and to support communication between team members) shall be accessible continuously during the exact programmes.

### Recognition system of the Programme

Participation of the students is recognised with ECTS credits. Tasks and workload of the students are defined in a later chapter, upon which the number of credits can be defined. The Programme is suitable to be converted into a specialization, while for participation micro-credentials can be granted.

### Workload of iResiders

Programme	Workload
iResidency	<ul style="list-style-type: none"> <li>• Desktop research, regional analysis (20 hours)</li> <li>• Participation in organised course (Methodology to rural assessment) (5x2 hours)</li> <li>• Participation in a 5-day iResidency programme (40 hours)</li> <li>• Developing challenges, maintaining contact with stakeholders and challenge owners. (30 hours)</li> </ul> <p>Total: 100 hours</p>
Hackathon	<ul style="list-style-type: none"> <li>• Hackathon onboarding phase participation (10 hours)</li> <li>• Hackathon participation (40 hours)</li> <li>• Creating an action plan for the implementation of the project (upon the results / feedback of the hackathon) (20 hours)</li> </ul> <p>Total: 70 hours</p>
Bootcamp	<ul style="list-style-type: none"> <li>• Bootcamp onboarding phase participation (10 hours)</li> <li>• Bootcamp participation (40 hours)</li> <li>• Creating a business and feasibility plan; preparation of final pitch, participation in presentations (50 hours)</li> </ul> <p>Total: 100 hours</p>

### Coordination of the Programme

Through their activities in higher education and training, mission-oriented research and innovation as well as multidirectional knowledge exchange the E<sup>3</sup>UDRES<sup>2</sup> Universities could be drivers of rural development, important stakeholders in regional innovation ecosystems and essential elements of progressive regional policies.

All the six institution's innovation strategy includes the development and promotion of the innovative and entrepreneurial mindset, innovation in pedagogical and research curricula's, connecting research activities and industrial applications. Collaboration with stakeholders of



every area - students, lecturers, alumni, scientist, developers, industry experts, business angels, decision makers - and multidisciplinary are typical at every institution.

In all regions, E<sup>3</sup>UDRES<sup>2</sup> Universities are playing a strong role in the regional ecosystem. The innovation organizations are collaborating with a wide range of stakeholders – private, governmental and public sector, companies, other institutions, research centres – and leading many innovation projects and networks. They all support entrepreneurs and knowledge exchange and collaborations.

This way E<sup>3</sup>UDRES<sup>2</sup> Universities would be suitable to coordinate the E<sup>3</sup>UDRES<sup>2</sup> Innovators and Entrepreneurs Programme from many aspects. However, universities shall – in some cases – integrate new tasks into their daily operation to successfully manage the Programme. Such tasks and concepts are:

- Develop and offer free innovation and entrepreneurial courses for participants
- Ensure closer cooperation within regional entities
- Take part in the identification of the regional sustainable development needs (challenges)
- Map the innovation ecosystems at a wider regional level (beyond the location of the campuses)
- Have a clear management structure of the regional relations with the regional innovation stakeholders at institutional level
- Evaluate each stakeholder action (with focus groups) and prepare mechanisms for follow and monitoring
- Implement the bank of ideas from the industry and other regional organizations that could be worked under curricular units (multidisciplinary)
- Experiment with small pilot projects in the regions and target national and international students by scaling up the project
- Generate new ideas and work on more cooperation with the ecosystem and make this visible within the organization

These universal actions could have a positive impact on the Programme, since it needs a strong dedication from the universities to strengthen their ties with the region. During STAGE 1 universities tested their abilities for coordination of the Programme. The coordination / management structure involved centralized and local actions. Decision making was executed centrally, meaning that the steering group made decisions on the Programme together, however, some elements (communication, recruitment) were executed locally. This mechanism could be effective in the long run.

## VI. Closing remarks

E<sup>3</sup>UDRES<sup>2</sup> 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 are key figures in regional innovation ecosystems, drivers of rural development. Innovation and entrepreneurship must be prioritized as key subjects and topics in an institution's strategic planning in order to meet these objectives.

For this, ultimate, comprehensive programmes shall be implemented that is organized and managed centrally, but takes local specialities into consideration. The E<sup>3</sup>UDRES<sup>2</sup> Innovators and Entrepreneurs Programme's aim is to create and support interconnected ecosystems / networks in research, education, and the economy by offering an adaptable open innovation and co-creation model that interacts with current networks.

The Programme – detailed in this document – shall be used as a dynamic model, that shall be further modified and implemented in other regions.

Since E<sup>3</sup>UDRES<sup>2</sup> Universities are key hubs for knowledge development, and the development of the regional innovation ecosystem, they shall act as the driving force of the model / Programme with the active involvement of other stakeholders.

As a result of the E<sup>3</sup>UDRES<sup>2</sup> project, the “E<sup>3</sup>UDRES<sup>2</sup> Innovators and Entrepreneurs Programme” focuses on the European dimension of innovation and entrepreneurship, supports regional innovation ecosystems with knowledge and experience from the E<sup>3</sup>UDRES<sup>2</sup> network and encourages talents to transform their ideas into real solutions that are regionally anchored. The core idea of the Innovators and Entrepreneurs Programme is to connect local and E<sup>3</sup>UDRES<sup>2</sup> initiatives into one chain and to propose a unique ‘innovators’ lifecycle’ for the participants with the integration of different types of program elements for the different stages of innovation.