GREENLand

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DELIVERABLE 3.2
REPORT OF A PROJECT INCUBATOR HUB (PIH) AND TECHNOLOGY TRANSFER HUB (TTH)

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Abstract of deliverable:	This deliverable describes establishment and set up of Project Incubator Hub and Transfer Technology Hub at Educons University. Report is structured in 5 subfields, where firstly Educons needs for the HUBs, establishment were explained. It was followed by explanations of PIH and TTH set-up, communication with partners, trainings organised, achieved results and action plan creation. Last part envisaged after project sustainability plan and schematic overview of the PIH and TTH workflow. Main activities of Project Incubator Hub (PIH) are improvement of application for international projects, education of EDU staff by colleagues at AWI and UG, support EDU researchers in their transfer of scientific ideas into the project's main results and outputs, as well as the implementation of projects, reports, deliverables, and milestones. Establishing a Technology Transfer Hub (TTH) is aimed at significant improvement of EDU in transferring scientific ideas to the economy that will be the most important for networking and future cooperating with stakeholders.

Deliverable information

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Version 5	30.08.2024.	Miloš Rajković (EDU)	Final proofreading

LIST OF ABBREVIATIONS

IP	Intellectual property
EDU	Educons University
EU	European Union
AWI	Alfred Wegener Institute
UG	University of Galway
TTO	Transfer Technology Office
TTH	Transfer Technology Hub
PIH	Project Incubator Hub
HRS	Human Resource Strategy

TABLE OF CONTENT

1. Introduction

2.1 Educons needs for Project Incubator Hub (PIH) and Technology Transfer Hub (TTH)

Educons University (EDU) was founded in 2008. Its teaching staff, researchers and students are fully integrated into the academic community of Vojvodina Province and Republic of Serbia, as well as to the country's economic and social structures. Since it was established, researchers of EDU have been involved in participation, implementation and realisation of national and regional projects. In response to global challenges such as climate change, circularity, clean environment and healthy food, the development strategy of EDU respects the priorities in the European Green Deal as well as European Research Area in terms of ensuring our students' and employees' participation in research, innovation, and technology transfer. In line with this ethos, EDU management recognize the importance of establishing units that will help in addressing these challenges.

The main goal of establishing PIH and TTH as organisational units at EDU is to place a strategic focus on excellence in education and research, build strong international cooperation, participate in research projects, develop internationalisation, commit to cooperation with the non-academic sector (industry and government institutions), and to generate knowledge, expertise and technologies for the benefit of society through cooperation with industrial partners, other scientific research and academic institutions, as well as social organisations.

Activities that were undertaken for establishment of PIH and TTH

1. Knowledge-transfer from partners
2. Mapping the necessity for PIH and TTH establishment

2.1.1. Knowledge transfer from partners

Meetings with representatives of partner institutions to gain insight on their institutional organisation and work of project and transfer technology office were held during the visit to University of Galway (UG) and Alfred Wegener Institute (AWI).

During the research visit to UG, Dr. Gordana Racić and Dr. Nataša Stojić met with Dr. Gary Lupton, Head International Programmes at the Research Office of University of Galway. The main aim of the meeting was to gain more information about International Funding Programmes and the role of the Research Office at UG. Dr Racic also met with Susan Nolan, Institute Administrator at the Ryan Martin Institute operation team, who introduced the system that they use to monitor all current projects so as they can create budget reports and provide technical support, if needed.

Three EDU representatives, Dr. Andrea Andrejević Panić, Dr. Jelena Ješić and Jovana Kisin, also visited Alfred Wegener Institute, where they met with Dr. Elimar Precht, Technology Transfer and Innovation Marketing, Imke Fries (Research Support Officer) and Luisa Christini (EU Coordination Manager). During the visit colleagues from AWI completed questionnaires to assist EDU in establishing similar PIH and TTH offices.

To gain first insights in the organisation and workflow of projects, the Department of Research Support and Research Support team at AWI gave an introduction on how department was developed and its structure (funding advice, grants management, EU grants management, EU coordination management). A particular focus was on the Funding Advice Office, its tasks, and pre-awards process. It presented the methods of communication that AWI organize internally and externally. The second part of training (delivered by Imke Fries) was about funding body and call analysis and how to write competitive project proposals, typical proposal elements, project proposal structure, time planning, budget planning, tips and tricks for research support, project applications, particularly within Horizon Europe Programme.

The second part of the training (delivered by Dr. Luisa Cristini, EU project manager) at AWI was dedicated to presentation, discussion and training in project management. This part of the training focused on the post-award phase, project implementation and successful project management. A special focus was on administrative tasks, project plans including workflow and project implementation plan, data management, risks management, team management, stakeholder management, knowledge transfer and innovation, communication, dissemination and exploitation, and the importance of project closure and lessons learnt from project. Dr. Luisa Cristini shared tips, tricks and how-to for project management, and gave suggestions for resources and professional development and education in field of project management.

In addition, during the visit our researchers were trained on technology transfer process at AWI. Questions raised, discussed and addressed were, among others: why it is important, how does it work, TT implementation process, how to develop it, which valorisation pathways exist and what can be a product, how Technology Transfer bridges the gap between Research and Industry, AWI TTO management organization, AWI TTO Services, intellectual property rights, technology readiness

level, importance of transfer culture, and how it was developed at AWI, technology transfer tools that AWI use (such as innovation fund, applications labs), and presentation of several Technology Transfer Examples at AWI.

In August 2024, an online meeting took place between the EDU team and UG TTO office commercialisation executive Ian Gallivan, and Dr. Mark Healy, where an introduction of the workflow of TTO at UG was given.

2.1.2. MAPPING THE NECESSITY FOR PIH AND TTH ESTABLISHMENT

During first year of the project interviews were conducted with EDU management, represented by Dr. Andrea Andrejević Panic, Vice Rector for Science and International Cooperation, which highlighted gaps in relation to:

- creating procedures for institutions to better evaluate ideas,
- developing a clear path for the documentation,
- creating space to work with businesses closely while generating IP,
- promoting EDU as an institution that generates inclusive innovations.

Interviews with researchers were conducted with Dr. Jelena Ješić, coordinator of the Centre for Innovation and Cooperation with Real Sector, which underlined importance of:

- helping researchers understand when the right time is to protect their work,
- helping researchers in IP protection process with national and international IP offices,
- supporting researchers to commercialise their research,
- supporting researchers by providing infrastructure for improvements and start-up development,
- developing clear internal procedures,
- having a contact point through Technology Transfer Hub.

An interview with the start-up owner Dr. Zoran Brljak that stressed the importance of:

- providing contacts with the businesses,
- supporting promotional and marketing activities,
- support in organisation of events.

Each of them gave specific insights and inputs that we used to map the needs of the EDU in the next period.

2.2 Alignment with the Human Resource Strategy

The Human Resource Strategy (HRS) of EDU (Deliverable 3.1), created to set up an efficient and productive workflow at EDU, includes six key strategic priorities: enhancing organisational efficiency; leadership and performance management development; HR attracting, recruiting and retaining; training, skill enhancement and career development; equality, diversity and inclusion; and, strengthening the visibility and capacity of our human resources (HR) through intensifying partnership with the local and regional community.

HRS specifically defined strategic priorities of the work of the Development Centres at the level of University: Centre for the Development of HR, Centre for Innovations and Cooperation with the Real Sector, Centre for Scientific Research and Publishing. It is aligned with the first strategic priority of HRS to support university organisational efficiency. Through the work of these centres, researchers have been trained to use new digital tools. In addition, PIH and TTH have been established. These two units will support competition of EDU for new EU fundings and strengthen the position of EDU among Quadruple Helix actors in Serbia and EU, ensuring our employees' satisfaction in conducting research, innovation and technology transfer. Strengthening the links between academia, industry and society, and establishing PIH and TTH will provide enhanced research management capacities and bridge the knowledge and innovation gaps of EDU researchers, while respecting the priorities of the European Green Deal.

Close cooperation with stakeholders is fostered through the Centre for Innovations and Cooperation with the Real Sector. The Board of Directors for the Faculty of Ecological Agriculture (FEP), Faculty of Environmental Protection (FAZIS) and Faculty of Business Economics (FPE), which consist of the most successful examples of business firms and successful individuals, provide direct support to university management, and represent an important link for networking within the labour market and the academic environment.

2.3 Applied methodology to set up and develop the PIH and TTH

The PIH is a priority for EDU, as such it was decided to anticipate its kick-off to the first 6 months of the project, and starting point was assigning a lead to the PIH. The PIH drew on the expertise of colleagues within the Centre for Innovations and Cooperation with the Real Sector**.** It was necessary to define processes and procedures and people with specific expertise within the employees of EDU.

The first steps included development of the implementation plan for PIH and TTH, which was based on the following steps:

1. Collect best practices from GREENLand project partners through a strategically designed questionnaire. This enables identification of best practices in the other institutes that can best fit EDU's needs,
2. Perform a needs analysis of EDU in terms of project and transfer technology related knowledge to identify the most urgent knowledge gaps. The analysis was performed under task 3.1 for the Human Resource Strategy,
3. Organise training led by GREENLand project partners (UG and AWI) to begging the training process of the PIH and TTH personnel,
4. Select motivated and experienced EDU's personnel (researchers and administrative) to manage the PIH and TTH and to select the PIH manager,
5. Implement training to tackle specific knowledge gaps. These trainings were performed by experts in the specific field. All the information regarding trainings for PIH can be found in chapter 3.3.
6. Set up and maintain a live document containing open calls of interest for all EDU's departments with a special section dedicated to calls that correspond to the participation of the industrial sector,
7. Implement the acquired knowledge to join project proposal consortia in the selected calls of interest,
8. Organise feedback loop sessions to collect best practices and success stories among EDU' personnel,
9. Prepare a post-project sustainability plan for the PIH and TTH.

3. PROJECT INCUBATOR HUB

3.1 PIH OBJECTIVES AND LONG-TERM VISION

3.1.1.PIH OBJECTIVES

The Project Incubator Hub is an important instrument to foster the research and innovation potential of EDU. The PIH's main objective is to increase the capacity of EDUCONS' personnel to apply to and manage EU-funded projects. The PIH was established as part of the GREENLAND project with the following objectives:

- leverage project partners' knowledge on project writing, project management, budgeting, and project financial management to train EDU staff members,
- provide knowledge to EDU's scientists to translate research ideas into research and innovation projects,
- instruct EDU's researchers and other stuff members to prepare project reports, deliverables, and other official documents, ensuring a high quality of the final output, in accordance with the requests from the EU programmes and other funding bodies,

- develop and periodically update a list of open calls for innovation and research projects of interest to the EDU' departments,
- transfer knowledge from project partners on how to involve industry and other key actors in research and innovation projects,
- train EDU' personnel to get a better understanding of key EU policies and programmes, identifying research trends and interests,
- ensure that EDU network of research institutes and other key stakeholders is expanded, resulting in increased staff engagement in consortia and networks.

3.1.2 PIH LONG-LONG TERM VISION

The PIH is expected to become an integral part of EDU's structure in the form of a Support Office that will help any EDU' personnel (both researchers and administrative) in acquiring knowledge with regards to research and innovation projects. This will be achieved in three ways:

- bilateral or small group meetings with the PIH managers to discuss project-related issue,
- regular groups trainings performed by the PIH team to provide EDU's personnel with knowledge on key topic such as project budgeting, project writing, calls scanning, etc.
- creation of Research Support News with the aim to inform researchers about international and national funding opportunities and open calls
- production of videos that will answer the most frequent answers with regards to project management, project proposal writing, R&I programmes, etc. These videos will be stored on the online repository of the university.

To ensure the capacity of EDU university to sustain the PIH, there is a need to:

- significantly increase the participation of EDU in EU and other funded R&I projects. This will both lead to more generous budget availability for funding the office and to more requests of support to the PIH,
- provide regular training to the PIH personnel (selected EDU researchers and administrative staff) to improve their knowledge and keep them up to date. This will be achieved by engaging with experts and joining webinars or workshops delivered by the funding authorities or leading universities.

3.2 QUESTIONNAIRE RESULTS

The questionnaire was developed to collect project partners' best practices at their institutions. It included a set of 16 questions. The answers from UG and AWI are included in the following table.

The results were then analysed to define the set-up strategy for EDU' PIH.

Table 1 Questionnaire on PIH from UG and AWI

UG	AWI
Question 1: How and when the Project office was founded?	
2006	For a long time, these jobs were not systematized and connected into organizational units, split between different divisions of AWI. Over time, the need to create new departments arose and there were numerous organizational changes. The Research Support department was formed 2008, when first coordinated EU project.
Question 2: How many employees are there in the office/department?	
14	Altogether, the research support department has 24 employees. Many of them work part-time, some of them are full-time employees in this department. Additional information: full time equivalent positions (FTEs) To get a more realistic impression of how much work force the department currently employs, here are the FTEs for the different teams within the department: Head of department: 0,75 FTE Team Funding Advice: 1,25 FTE Team EU Grants Management: ca. 6 FTE Team Grants Management: ca. 7,2 FTE Coordination Management: ca. 3,2 FTE
Question 3: Do you have the procedures/rule books for the Project office?	
No but we have process documents for how people should engage in relation to IP, spin out, Licensing, Business supports	AWI doesn't have a rule book for project office / department for research support. There is no standardization, Research support is working on development on that, together with legal department. Foundation for all projects is that research idea must fit AWI mission, and that director must check project idea. Also, project implementation plans are very important for internal communication. There is one and the most important procedure is the "Laufzettel". It is internal bottom-up procedure for projects with an online application form with all project information (especially important if project need to use some of the AWI resources and infrastructure) to be filled in by the researcher preparing the project. Through the online platform, request goes for approval by superiors. For each projects the “Laufzettel” needs to be signed by the section head, the (EU) Grants manager, the Research Support head, and both directors. Only after the Laufzettel has been signed by all of these, the researcher is allowed to submit the proposal.

Question 4: Which job positions are defined within the Office?	
Director of Innovation Commercialisation executive (per sector) Start-up Manager Training Manager Business Development Manager Communication & Engagement Manager Legal contracts person Administration support	Department for Research Support has a head of department who is in charge for 4 units: Funding Advice (2 people) Grants Management (8 people) EU Grants Management (8 people) EU Coordination Management (5 people) No specific job positions within units. The first three units have heads, other staff are officers, and forth unit has project managers.
Question 5: Define organizational structure? How are responsibilities divided?	
Responsibilities are assigned based on roles. For each role, expectations and responsibilities are assigned.	Funding Advice - National, international and EU Programme information and proposal advice, training for young researchers and consulting at post-doc level Grants Management - Budget for non-EU proposals, administrative and financial management of funded non-EU projects EU Grants Management - Budget for EU proposals, administrative and financial management of funded EU projects EU Coordination Management- administrative and financial management of funded EU projects
Question 6: What services and support do they provide?	
The Innovation Office, we provide an ecosystem that enables our spin-outs to scale and grow by providing access to space, expertise, technologies and facilities on campus and the priority here is the relationships we develop with these companies. The Innovation office is available to advise and support all our University lead spin-outs throughout the commercialisation process, from idea generation of a new concept, to protecting the exploitation of that concept as a new company, providing the necessary space and ecosystem to support their expansion plans, investor readiness and business development needs along the way. There is a rich and vibrant entrepreneurial ecosystem on campus that has generated many spin- outs and spin-ins over the last number of years. It is the role of the Innovation office to support whether a spin-out or spin-in from early-stage opportunities to scalable exportable companies as you are part of our start up ecosystem. The Innovation office provide pre- acceleration support through bespoke 1-2-1 workshops and mentoring, covering business models, financial strategies, Intellectual Property,	The team of the Research Support Office supports the scientists at AWI regarding all aspects of financial, legal, and administrative issues during proposal preparation and the project implementation. Main tasks include: Pre-award ● Funding advice - Spreading information and advice about new calls for proposals & Search for funding programmes. ● Individual advice and support in proposal preparation phase (help with formal requirements, help with online submission services, read and feedback on proposal draft), ● Budget calculation and approval Post-award ● Contract negotiation ● Project administration / Grant management / Project management ● Financial management and audit preparation ● Reporting ● Support for electronic submission systems ● International scientific-administrative project management

Commercialisation, networking and Investor readiness. The focus is on research, development and attracting investment.	• Assistance for coordination of collaborative projects
Question 7: How many projects are you currently implementing?	
>20	AWI-coordinated EU projects and ERC grants – 15 projects.
Question 8: How is the office financed?	
50% Government funded through Enterprise Ireland and 50% by the University	Most of AWI´s Research Support team is financed via AWI core funding. The project managers for the coordinated EU projects are funded by direct personnel costs from their EU projects. AWI´s Research Support Department also ask all EU projects in which AWI is the coordinator and all ERC grants to include a small percentage of direct personnel costs for the financial and administrative management (i.e. the work of the EU Grants Management team). AWI´s Research Support team does not get any of the indirect costs (overheads).
Question 9: Does the office organize training for employees?	
Yes, as required. Training agencies are contacted and involved as needed.	Funding Advice unit regularly offers workshops for young researchers. Occasionally, upon request, we also present a similar (shorter) training at a section meeting. In those cases, also the senior researchers of that section are present. Apart from that, the department encourage applicants to make use of the courses and trainings offered e.g. by the National Contact Points on EU programmes, or the EU Info Days.
Question 10: Does the office assist with peer reviewing project documents?	
Yes, supports for all grant applications and business plans and investment documents as part of our role	Yes, funding advice unit does peer reviewing project documents.
Question 11: Do you have any procedures and practices in place for quality assurance (QA)?	
Not individually for the Innovation Office but the University has many we have to adhere to throughout the process.	Funding advice unit: No EU Grants Management and Grants Management: They have standard operating procedures for most financial issues. QA for EU finance reporting is performed by the respective EU Grant Manager. For collaborative projects with AWI as coordinator, the Grant Manager performs the relative finance checks for each partner's financial reports before submission to the European Commission. The checks ensure compliance with the EC's guidelines for

	reporting and organisational procedures for AWI (no other partners). Administrative QA is also performed by the EU Grant Manager, this includes, for example, the collection of signatures to the Grant Agreement and Consortium Agreement. EU project management: QA for project management processes is performed by the project managers but is not (yet) harmonized across projects. Areas where a QA process is in place are preparation and submission of deliverables and milestones, periodic (technical) reporting, drafting of project plans and strategies (e.g., project management, data management, risk management, communication, knowledge management and exploitation). While the details differ for each area, in general, the QA process involves both the project manager and the project coordinator and includes the use of templates to collect information from partners (prepared by the project manager), preparation of guidelines in accordance with the EC requirements (e.g., for technical reporting) and targeted training or Q&A sessions for partners.
Question 12: In terms of potential interest topics, does the Project office look for open calls and initial researchers?	
Yes, as part of our outreach engagement model	Yes, the research support department – funding advice unit – searches for funding possibilities, open calls, sort then within science fields and sends this information to the researchers.
Question 13: Define critical points for a successful project?	
Achieving metrics and making social or economic impact in all we do	In preparation phase ● Communication is key! ● First think, then write! ● Fulfil all formalities - Read the guidelines!!!!! ● Funder perspective ● Review perspective ● Good time planning ● Contingency planning = risk management ● Collect successful proposals. In implementation phase ● Communication is key! ● My project has been funded! – Celebrate! ● Vision of the project – final goal in sight! ● Agile project management, agile team members mindset ● Project management software ● Measuring everything - Importance of metrics!

	• Excellent outreach team! • Need for professional management of all important segments for project implementation – stakeholders, risk, team, conflict, outreach
Question 14: How often do you meet with management and are you independent in your decisions for application on calls and reporting?	
Weekly.	Head of department, Dr. Lars Henning, has a regular "jour fixe" meeting with AWI´s administrative director, once a month. The researchers decide themselves in which calls they are interested. But before they can apply, they need to make sure that 1) the research topic is within the scope of AWI´s research programme and their section, and that 2) the budget and the required resources are checked. These two requests are fulfilled with approval though the internal "Laufzettel" procedure. In some rare cases, when there is a programme where AWI is only allowed to submit a limited number of candidates, the AWI governance board organizes an internal pre-selection of candidates (e.g. for the Helmholtz Young Investigator Groups). For all Young Researcher Groups (including e.g. ERC Starting and Consolidator Grant, DFG Emmy Noether Group), the candidates need to get the approval of their section, their scientific division and the directors before they are allowed to apply.
Question 15: Would you suggest any changes that could improve the office's performance or motivate researchers to apply for more projects?	
Development more strategy-based goals with regular evaluation and less ad hoc proactive work	In order to work well, the project office needs sufficient staff. If your university gets more EU projects in the future, you will need more people to manage them. It helps to convince the directors that you need more staff if you can quantify how much work is needed to manage a certain type of project (coordinated project, partner project, ERC grant etc.). Then you can see how many managers you need for the projects you have and compare this to how many managers you currently have. All members of the team should follow the same procedures and handle things in the same way. If you write down the process descriptions for your activities, you can make sure that this is the case and that new colleagues will also follow these processes. AWI Research Support Department do not really need to encourage AWI researchers to apply for more projects, because they do that anyway. Maybe you could:

	• Send around information about open calls. • If the topic of a call is very well fitting for a certain researcher, you could inform them directly. • Organize information events, e.g. when the new Horizon Europe Work Programmes are published, and highlight which topics might be interesting for EDU researchers. • Young researchers who need funding for their own position might be the ones who are most interested in funding opportunities – maybe organize an information event especially for them.
Question 16: If there are some other important aspects of the project office we did not ask, and you consider important?	
No	Starting a project management office (PMO) presents many advantages and opportunities, such as setting up the right procedures from the beginning.

3.3. TRAININGS FOR THE PIH

3.3.1 PARTICIPATION AT EXTERNAL TRAININGS

To ensure that PIH members and EDU' team members in the GREENLAND project have access to high quality trainings concerning EU-funded projects that can be further shared with all university's researchers and other staff members, participation at market leading workshops and trainings was ensured. Table 2. includes the list of third-party trainings which were attended by EDU members.

Table 2 Trainings attended by EDU members

Title of the training	Organisation	Date	# of participants
Training for the preparation, writing, and management of Horizon Europe projects	European Training Academy	1-2;7-8/02/ 2023	5
Training on Research Data Management and Open Science in Horizon Europe	European Training Academy	22-23/05/2023	2
Training on writing Horizon Europe Twinning projects	European Training Academy	31/08/2023 07/09/2023	2

3.3.2 ORGANIZATION OF INTERNAL TRAININGS

Internal trainings were organised by the PIH to support EDU' researchers and other staff members to acquire valuable knowledge with regards to key aspects of project management, proposal development, and calls scanning.

Table 3 Internal trainings organised by PIH at EDU

Training title	Description	Date	# of participants
Training on capacity building of EDU university -introductory training	Training was held for all employees of EDU University to introduce project GREENLand and possibilities of EU project financing. an introduction to the themes of the new calls within HORIZON EUROPE programmes and gave an opportunity to researchers to think about ideas that can be implemented in future project proposals.	24/05/2024	22
How to read and analyse Horizon Europe Work Programmes and scan for open calls?	The workshop guided EDU' researchers in reading and analysing the latest Horizon Europe Work Programmes, depending on their interest and thematic. The goal is for researchers to be acquainted with the work programme documents and to scan for calls of interest.	19/06/2023	22
Consortium and concept note development	Highly practical training focused on delivering practical suggestions on how to initiate the development of a consortium by means of a complete and compelling concept note.	18/10/2023	Onsite – 5, online - 22
Horizon Europe Proposal Writing	Horizon Europe Proposal Writing training was organised, with the aim of strengthening the capacity of EDU University, train, educate and motivate research staff to transfer their scientific ideas into the projects. Participants learned how to prepare the Excellence and Impact section in Horizon Europe project proposal, how to properly address the expected outcomes and prepare dissemination, communication, and exploitation sub-section. During training, participants had workshops about project objectives, results and indicators. During the break, discussion and Q&A session was opened. Recording and presentation of training is available to employees in Google Classroom.	20/11/2023	11
Budget preparation	Training dedicated to providing step by step approach in the development of a Horizon Europe project budget. Focus especially on personnel costs estimations and purchase costs calculations.	14/02/2024	Onsite – 7, online - 17
EC Funding and Tenders portal and Hop-On call	Workshop to support attendees in exploring the EC Funding and Tenders portal, navigate its menus, especially with regards to funding opportunities. Also, a section of the training was dedicated to managing granted projects on the portal.	12/04/2024	10
Open Science	Four day training that covered all the requirements	03/03/2024	13

	and best practices related to open science and data management under the Horizon Europe programme.	14/03/2024 21/03/2024 22/03/2024	
Content Strategy - Principles and Guide to Social Media Communication Management	EDU staff were trained about principles and guide to social media communication management. Practical work on LinkedIn professional social network and workshop for creation of the GREENLand project content strategy were part of training.	07/06/2024	Onsite - 7 Online - 4

3.4 Achieved results and action plan for second part of the project

3.4.1 Achieved results

The PIH has been established to support all EDU' staff members to participate in and contribute to research and innovation projects.

The PIH works under the supervision of the Vice rector for Science and International cooperation, and it is comprised of the Centre for Scientific Research and Publishing Activities (responsible person Dr. Mirjana Radovanovic), Erasmus Office (Jovana Kisin), Project Office, International Relations Office - ACEU Office (Dr. Simonida Vukadinovic), International Project Office (Dr. Miloš Rajković), Office for Local Development and Project Management (Vladica Vojnović).

Within the first 20 months of the project, positive results were achieved by the PIH, which have been hereafter summarised:

- participated at 11 training and workshops to improve EDU' staff members' skills in relating to proposal writing, budget preparation, project financial management, open science, etc.
- submitted 26 project proposals for EU funded projects where EDU was a project partner. This represents a drastic increase compared to the period before GREENLAND project.
- granted 5 successful proposals: (i) BEAMING Project number: 101137131; (ii) 2023-1-RS01-KA171-HED-000130436, Erasmus+; (iii) 2023-1-RS01-KA131-HED-000112988, Erasmus++;(iv) ECO(RE)ACT Project number: HR-RS00018; (v) Erasmus+ programme, Project number: 2024-1-RS01-KA131-HED-000196883
- defined the organization structure of the PIH.

3.4.2 Action plan for M19-M36

The PIH is a crucial institution for the future growth of EDU. As such, it requires maximum effort to enable its economical sustainability during the project implementation time.

Five key areas of work have been identified that require further effort:

1. Set-up of processes for the PIH

Processes are key to enable scalability and ensure long term impact. The PIH will need to develop its own processes of internal collaboration and collaboration with EDU' staff members and researchers. Examples are management of appointments, management of open calls pipelines, training preparation, etc.

2. Further develop the post project sustainability plan

Upon the already described processes, it is necessary to set in place a sustainability plan for the PIH, ensuring that economic and human resources are well planned to carry on all the required work in the years after project. This will include an update of the initial plan included in this deliverable, further extending on budgeting, definition of economic resources that will fund the PIH, hours of work required to carry on each macro-group of PIH activities, etc.

3. Establishment and maintenance of EDU' open calls pipeline

Continuous work is necessary to submit a satisfactory number of project proposals, year after year. The PIH will establish a shared pipeline of open calls of interest, divided per University's faculty and their key thematic. The pipeline will be updated by researchers themselves, while the PIH will be there to guide the researchers, reply to their questions, and liaise with the NCP when required.

4. Further skills development of EDU' stuff members

Plan the participation at further training to address specific needs of EDU staff members and researchers. Trainings will be defined with UG, AWI and EDU in the next phase of the project.

5. Development of project ideas with researchers' groups

EDU' researchers are keen to actively engage in research and innovative projects. They may need to request support to translate their current research interests into workable project concepts. This process is complex and requires time. Experienced EDU' researchers will support their more junior colleagues in this process. Furthermore, project partners from UG and AWI will deliver a workshop to address these challenges. Finally, lectures about local success stories will be held.

4. TECHNOLOGY TRANSFER HUB

4.1 TTH OBJECTIVES AND LONG-TERM VISION

4.1.1 TTH OBJECTIVES

The TTH at EDU will provide support to researchers in all stages of the technology development and innovation process. Recognizing research results aimed at understanding processes crucial to environmental protection, ecological agriculture, software development and finding the possibility of applying the resulting results outside the laboratory and in everyday life.

The TTH was established as part of the GREENLAND project, based on the following specific objectives. These were to:

- raise the capacity of employees at the University in the field of innovation and transfer technology,
- cooperate with innovators and participate in the development of plans for placing products and services on the market,
- deal with domestic market analysis as well as identifying new markets,
- establish contacts with business partners in the country and abroad through the signing of agreements about business connection,
- follow legal regulations related to technology transfer, innovation, and intellectual property,
- propose regulations and amendments to regulations for more efficient management of technology transfer processes,
- take care of the documentation resulting from the work of the office,
- respect and apply normative acts of the University as well as legal regulations,
- implement the decisions of the University authorities that refer to the scope of the TTH work and take care of their application.

The strategy also defines the appearance of the documentation that will be used at the institutional level for evaluation and decision-making related to initiating the process of intellectual property protection or establishing a spin-off company.

In the field of microplastic research the long-term objective within the GREENLand project is to establish the "Centre for Microplastics" as a well-equipped and functional hub for research and mitigation of microplastics contamination in ecosystems. To verify that the soil and water resources used by farmers and SMEs involved in agricultural production are free from microplastic contamination, certificates will be developed, including a pilot program to validate and refine the certification process. The Centre will promote sustainable

practices, raise awareness, and engage policymakers and stakeholders in addressing microplastics issues in agriculture and adaptation to climate change.

4.2 QUESTIONNAIRE RESULTS

The questionnaire was developed by EDU with dual answer questions, open questions, and multiple-choice questions, for better understanding and further analysis. It has four sections:

1. Internal evaluation
2. Communication and collaboration with stakeholders
3. Technology transfer process
4. Additional information and internal documents and policies

Table 4 Questionnaire on PIH from UG and AWI

UG	AWI
Internal evaluation	
Question 1: Do you have an access TTC for your institution? YES / NO	
If yes, explain if it is a part of your institution or university, region? Yes, part of university	If yes, explain if it is a part of your institution or university, region? Yes, its an integrated part at the Institute.
Question 2: Do you have a person(s) that is working on the TTC? YES / NO	
Explain what their job is. 14 people covering all aspect of TT, legal support, IP management, Business Development, start up support, training management, a business Incubator Centre and admin support etc.	Explain what their job is. Yes, it's a small Unit. The functions are: General Management, IP Management, Innovation Marketing, Industry Relations, Guide for Internal Processes
Question 3: Do you have the procedures/ roll books for the technology transfer? YES / NO	
Give us your or your close colleagues experience with them. We have a set of deliverables with impacts we must achieve yearly	Give us your or your close colleagues experience with them. Yes. The processes were developed by the TTO, however, very often a case-by-case approach is necessary
Question 4: Do you have dedicated spaces for collaborative work and knowledge exchange? YES / NO	
Yes	No
Question 5: Do you have procedures for Intellectual property management in place? YES / NO	

UG	AWI
How are these procedures organized? Yes Can you provide a number of patents, technological solutions, or spin-offs? 15 patents per year, 20 licenses per year, 5 spin off per year.	How are these procedures organized? Yes Can you provide a number of patents, technological solutions, or spin-offs? There is a dedicated Patent engineer taking care of IP Management. Protection of IP is decided based on estimated value and strategic reasons. No of patent families: approx. 25 active, spinoffs and spinouts approx. 10 in the last 15 years
Question 6: Do you have training for your institution on technology transfer? YES /NO	
Who is organizing these trainings? The Innovation Office What are the key topics you cover in training? Impacts series – early-stage researchers considering Innovation commercialisation. Impact accelerator – taking idea through a commercial pathway with steps to achieve. Impact Start – company formation and start up supports. Are they mandatory? 3 training programmes run each year.	Yes Who is organizing these trainings? The PhD student office together with the TTO What are the key topics you cover in training? Innovation, Entrepreneurship, IP, Industry project acquisition Are they mandatory? No
Communication and Collaboration with stakeholders	
1. Do you have an active role in your local / regional community? YES / NO	
Can you elaborate on how this collaboration is organized? Yes, part of many regional, national, and international initiatives	TTO: Yes, through regional industry networks Can you elaborate on how this collaboration is organized?
2. Do you have some dedicated work for governmental institutions? YES / NO	
How did you get that assignment? -	Institute: yes. Knowledge Transfer, contract research for regional ministries, consultancy for federal ministries How did you get that assignment? Direct collaboration
3. Do you work with NGOs? YES / NO	
What is the capacity of this collaboration? Some but not so common	Sometimes. I have no details. Probably on contract research base. Some work is done by researchers, but no initialized. What is the capacity of this collaboration? Small
4. Do you work with local or international businesses? YES / NO	
Do you have a person, office or other infrastructure to support work with businesses? How many agreements do you have with industry?	Both Do you have a person, office or other infrastructure to support work with businesses?

UG	AWI
50 agreement and collaboration with industry each year	The TTO supports scientist if wanted or needed. How many agreements do you have with industry? 40+
Technology Transfer Process	
1. Do you have a process of defining new technology? YES / NO	
Describe the process of researchers/innovators informing institutions of the new result of their work? Do you use templates, or do you have a free form? IDF for - Identification Disclosure Forn – 1st step in the commercialisation process	Describe the process of researchers/innovators informing institutions of the new result of their work? Do you use templates, or do you have a free form? There is a form for scientists to report an invention, which is then assessed by the IP manager.
2. Do you assess the market potential of the new technology? YES / NO	
Who is the person working on that: the researcher/innovator or TTC personnel? How is it organized? Is it in the form of a business plan? Are there mechanisms in place for continuous market intelligence gathering? Do you evaluate business plans over time? Yes, patent searches and Market research experts as well as our own knowledge in the team.	Who is the person working on that: the researcher/innovator or TTC personnel? TTC personnel, usually after consulting the researcher. How is it organized? Is it in the form of a business plan? No. Not at this stage. Are there mechanisms in place for continuous market intelligence gathering? Case by case base. Market intelligence is gathered, but not always continuously, as the no of inventions and patents is not huge. Do you evaluate business plans over time? Business plans become important in the spin-off phase and are usually the responsibility of the spinoff teams who become more and more independent of the institute.
3. Do you have other criteria in assessing new technology? YES / NO	
4. Do you gather feedback from stakeholders involved in technology transfer? YES / NO	
What mechanisms are in place for gathering feedback from stakeholders involved in technology transfer? How is working on the process: the researchers or the TTC stuff? Do you develop an annual reporter on technology transfer? Yes, Enterprise Ireland and the University gather the metrics achieved each year to be reported	What mechanisms are in place for gathering feedback from stakeholders involved in technology transfer? Licensing The license fees have to be assessed once a year. There is no general standardized feedback form. How is working on the process: the researchers or the TTC stuff? Dependent on the case. Do you develop an annual reporter on technology transfer? Yes, there are several reports per year for the ministries, scientific advisory board, etc.
5. Do you have financial incentives for running the TTC?	

UG	AWI
Is it subsidized by the regional or local authorities? Does your institution cover the costs? Do you have any indication about the annual cost of the TTC? Staff cost & Operations Costs – 50% paid EI other 50% University. Training & start up supports supported by the University.	No. However, part of the license fees goes into the TTO budget (if this would exceed the TTO base budget). Is it subsidized by the regional or local authorities? No Does your institution cover the costs? The institute pays for the TTO budget. Do you have any indication about the annual cost of the TTC? The main cost are IP costs apart from salaries.
Additional inputs	
	Internal marketing of TT is equally important as external marketing. Developing transfer culture is of major importance. Every transfer case is unique and requires a dedicated approach.

4.3. OPERATIONALISATION OF THE IP STRATEGY

The TTH works under the supervision of the Vice-Rector for Science and International Cooperation, and it is coordinated by Dr. Zoran Brljak, in front of the Office for Technology Transfer. Work of the TTH is described through IP Strategy, delivered in month 15 of the project. The strategy outlines four pillars of the Transfer Technology Hub whose organisational work is described through 4 pillars:

- The first pillar is aimed at supporting mentoring programs, developing modern education concepts and sharing knowledge in the local communities.

- The second pillar will monitor the process of generating intellectual property within the project activities and work on their protection, as well as activities of commercialization and licensing.

- The third pillar aims to deepen existing and create new connections with the economy at the domestic and international level.

- The fourth pillar is focused on Scientific-Industrial Cooperation.

To support 4 pillars envisaged through IP strategy, different events were organized by EDU team to establish connections and cooperation among Quadruple Helix actors. EDU members also participated in events that support academic engagement and entrepreneurship. These are summarised in Table 5.

Table 5 Events organized by EDU

Title of the event	Description	Date	# of participants
Workshop "Adoption of the legal acquisition of the European Union in the field of microplastics into the national legislation of the Republic of Serbia"	The workshop contributed to the realisation of this goal by emphasising the initiative for changes in legislation by the Greenland project through the Initiative for a National Strategy for Microplastics, and at the same time educating the attendees about the current laws that regulate that area, as well as about the impact of microplastics and ways to reduce the amount of microplastics in environment.	01.11.2023.	52
Knowledge transfer to local self-governments of APV - national legislative on microplastics - review and perspectives	The event was attended by representatives of the Provincial Secretariat for Regional Development, Interregional Cooperation and Local Self-Government and associates from local self-government units of the APV. Dr. Dragana Vidojević, in front of the Environmental Protection Agency, gave a lecture on the importance and progress of the initiative for the development of a national strategy in the field of microplastics, in the context of the GREENLand project.	12.02.2024.	29
Knowledge transfer to decision makers in education	Knowledge transfer training was held for representatives of high school education of the schools on the territory of the Autonomous Province of Vojvodina and from Serbia, on the topic of digitalization of the University, but also an information on national regulations in the field of waste management with a focus on microplastics was given. Dr. Gordana Racic, in front of the EDU University and Project Greenland, gave feedback on the importance and progress of the initiative for the development of a national strategy in the field of microplastics, in the context of the GREENLand project.	25.02.2024.	35
Knowledge transfer to the regional academic and research community	Knowledge transfer event to the regional academic and research community was held. Initiative for national strategy in microplastic, creation of scientific roadmap, technology transfer achievements and possibilities of project cooperation was in focus of the visit of colleagues from Bucharest University of Economic Studies in Romania and Institute of agricultural economics, Serbia.	24/04/2024	93
The workshop in science communication and media cooperation for scientists	Workshop of scientific communication and media cooperation for scientists where the lecturer was Dr. Aleksandra Ziembińska-Buczyńska from Silesian University of Technology, Centrum Popularyzacji Nauki Politechniki Śląskiej from Poland with the topic	09/05/2024 10/05/2024	18

	"Scientific communication for environmental sciences – is microplastics "catchy" enough to gain media attention?", as well as two workshops in which researchers from the EDU participated. Every researcher was asked to prepare an oral presentation of their research and to present it in 3 minutes in front of the cameras. After that, Dr. Aleksandra Ziembińska-Buczyńska directed researchers on how to improve their presentation and directed it to be better and more receptive to the media and society.		

Table 6 EDU team participation at events

Title of the event	Description	Date	# of participants
Meeting of Environmental Protection Alliance at NALED (National Alliance for Economic Development)	Prof. Dr. Nataša Stojić presented the goals and results of the GREENLand project at the session of the Environment Protection Alliance, in the National Alliance for Local Economic Development (NALED) to decision makers and representatives of the business sector. The members of the Alliance were particularly interested in the report on the Initiative for the National Strategy on Microplastics, which is the result of cooperation between the EDU team and the Environmental Protection Agency within the GREENLand project.	27/02/2024	24
Freshwater related projects clustering event to showcase demo sites of the EU projects BIOEAST.	During the pitch presentations of the projects, Dr. Gordana Racić presented the GREENLand project, where she highlighted the work in the field of microplastics, and based on the discussion, colleagues praised the cooperation with governmental and non-governmental institutions and pointed out that we have examples of good practice that everyone lacks.	19/03/2024	20
9th International Bled Water Forum	EDU team, Dr. Stojic, Dr. Milosevic, and Dr. Pucarevic, were panellists at the 9th International Bled Water Forum in Slovenia. Their insightful discussion centred on the critical importance of prevention measures, rigorous test procedures, and the necessity of enacting laws to regulate microplastics in the environment, with a special focus on bottled water.	13-14/06/2024	>100
Opening of the innovation incubator of the Faculty of Biology INOBIOM	EDU team was invited to present establishment of PIH and TTH. The event aimed to connect innovators, researchers, teachers and students of several faculties, representatives of the economy and the state sector. Start-up companies that develop biotechnological solutions, as well as representatives of institutions with many years of experience in the application of innovations, were presented.	12/05/2024	>50

4.4 Achieved results and action plan for second part of the project

4.4.1 Achieved results

The TTH has been established and kicked off to support all EDU' staff members to make the knowledge, expertise and technologies acquired through their experience in scientific work available to society through cooperation with industry partners, other scientific research, and academic institutions, as well as social organizations. The TTH should have an active role in providing support to researchers in all stages of the technology development and innovation process. The TTH works under the Centre for Cooperation with Industry and Real Sector.

Since the establishment of the TTH results that were achieved are summarised as follows:

- TTH presented to the University Boards of Directors,
- Cooperation with the Environmental Protection Agency and the Department for Chemicals at the Ministry of Environmental Protection established.
- IP strategy adopted,
- Memorandum of Understanding signed with the four institutions,
- the organization structure of the TTH defined,
- Schematic overview of TTH processes defined,

4.4.2 Action plan for M19-M36

The TTH is a young and promising unit for the future growth of EDU, as such together with PIH it requires maximum effort to enable its economical sustainability during the project implementation time.

Key areas of work have been identified that require further effort:

<u>Set-up of processes for the TTH</u>

Processes are key to make research more relevant and impactful by ensuring it addresses the real needs and concerns of society and industrial sector. The TTH will need to develop its own processes of **internal**, focusing on research, and **external**, focusing on industrial and business sector, collaborations. Examples are appointments with representatives of TTO from other academic institutions, setting up academic entrepreneurship, trainings in the field of knowledge and technology transfer, membership in alliances that support economic growth and development, cooperation with innovation hubs etc.

Further develop the post project sustainability plan

It is necessary to set in place a sustainability plan for the TTH, ensuring that economic and human resources are well planned to carry on all the required work in the years after project. This will include an update of the initial plan included in this deliverable, further extending on profitability, sustainability and accountability of the TTH.

Maintenance of EDU' Board of Directors and establishment of new partnerships

Establishing contacts with new companies and engaging them to joining of the Board of directors with the aim to offer solutions to their initiatives and the challenges they face in their work.

Further skills development of EDU' stuff members

Plan the participation at further training to address specific needs of TTH staff members and researchers in knowledge and technology transfer, procedures for the protection and arrangement of the intellectual property portfolio (patents, "know-how", ...), evaluation and valorisation of technologies and scientific results.

Follow-up of the IP strategy

Asist researchers and students in guidance and assisting in the filing of invention disclosures and patents, evaluation of commercial potential for a new discovery or invention, creation of development and commercialization strategies, identification of licensing opportunities and negotiation of licensing terms to assist in establishing start-ups, ensure compliance with legal regulations regarding university technology transfer, identify technologies and researchers to meet business needs, facilitate on-campus meetings with inventors and other researchers, be a bridge between Researchers and Administration and Researchers and Industry.

5. AFTER PROJECT SUSTAINABILITY OF THE HUBS

The after-project sustainability plan is a key step to ensure long term impact of the PIH and the TTH. They will be developed throughout the second part of the GREENLAND project. They focus on 4 key pillars of sustainability: (i) Economic; (ii) Human Resources; (iii) Knowledge; (iv) Demand for services. Initial plans are included in the upcoming sub-chapters for the sustainability of the PIH and TTH.

5.1 PIH AND TTH SUSTAINABILITY PLAN FOR POST PROJECT EXPLOITATION

The PIH and TTH represent a new and very important organisational unit for EDU, who will play a strategic role in the university growth enabling more participation in EU funding projects and international networking. The sustainability of both hubs will be based on 4 key pillars: (i) Economic; (ii) Human Resources; (iii) Knowledge; (iv) Demand for services. Each are briefly addressed hereafter and will be further detailed in the second part of the project.

Economic: this pillar addresses the capacities of PIH and TTH to be sustained economically by the university over a lengthy period. A specific strategy will be developed firstly quantifying the costs of the hub per year, then by identifying economic resources that can be dedicated to the PIH and TTH.

Human resources: it focuses on planning the human resources to occupy the positions of the PIH and TTH. The strategy will define who will occupy the position in the first years after the project, for how long, and how they will be substituted. It will also contain a list of skillsets that are necessary to occupy each position, their roles and expectations.

Knowledge: this pillar ensures that the knowledge acquired by the PIH and TTH is (i) duly recorded into processes and knowledge repositories for the future PIH and TTH employees; (ii) shared with EDU researchers and other staff members through period training and knowledge sharing activities organised according to the PIH and TTH units.

Demand for services: as EDU is a small university, regular demand for PIH and TTH services is not guaranteed. This translates in the need to frequently communicate with EDU researchers in the advantages and benefits of collaborating with the PIH.

PIH AND TTH schematic workflow overview is presented in the Figure 1., presenting mainstream of both HUBs, and illustrating the connections between them.

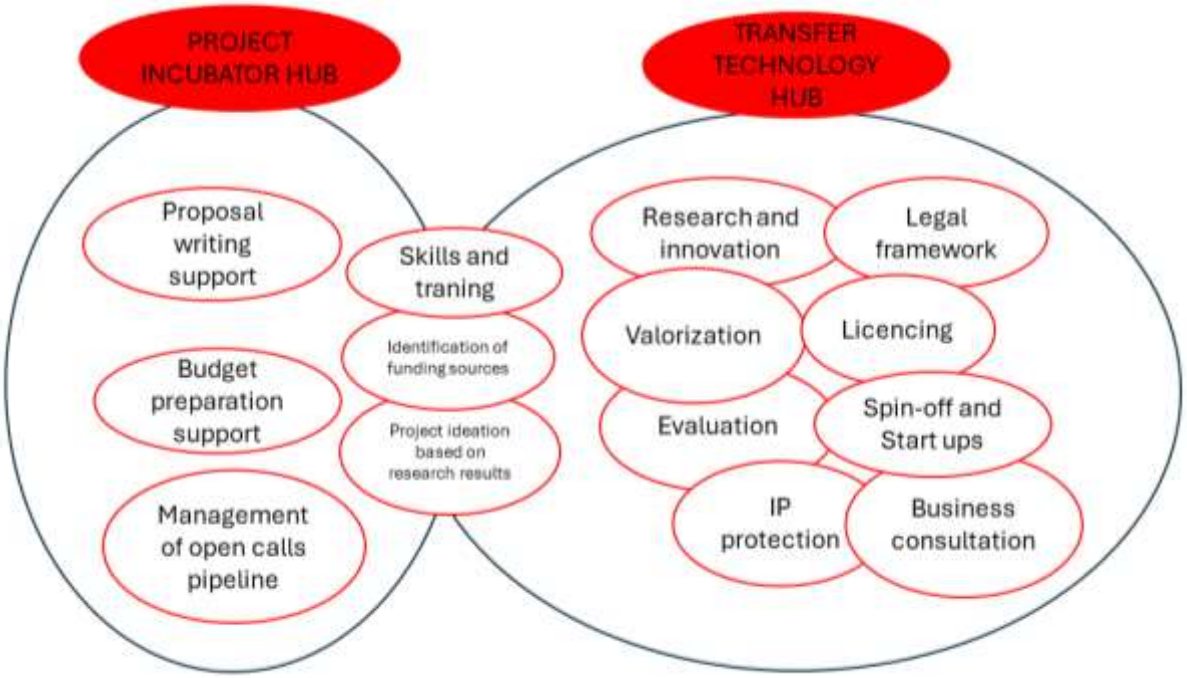

Figure 1. PIH and TTH schematic workflow overview