Innovation Capacity Building for Higher Education



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Innovation Task Forces Operational Guidelines

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Introduction

InnoChange is one of the 23 selected project proposals to receive funding as part of the HEI Initiative as announced on the 15th of July 2021. The HEI Initiative was launched by the European Institute of Innovation and Technology (EIT) and is part of the 2021–2027 EIT Strategy, which aims to help higher education institutions to build the capacity to innovate and to teach innovation and entrepreneurship. More specifically, the initiative aims to encourage these institutions to look at their own practices and develop concrete actions to increase their impact on their ecosystems.

InnoChange aims to increase the entrepreneurial and innovation capacity and attitude of higher education institutions (HEIs). Another objective is to strengthen and better integrate into, and engage with, innovation ecosystems in Central and Eastern Europe (CEE). The project brings together HEIs and other expert partners from various innovation backgrounds, including:

- Eötvös Lorand University (Hungary), (lead partner)
- Babes-Bolyai University (Romania),
- Heriot-Watt University (UK),
- Pavol Jozef Safarik University (Slovakia),
- Plovdiv University Paisii Hilendarski (Bulgaria),
- Startup Wise Guys Foundation (Estonia)

The InnoChange vision for 2030 is to enable a next generation of partner universities, which have a strong local network and codrive their local ecosystems, where innovation is not done in isolation, but in cooperation with customers, within an open innovation space.















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1.1. Why was this guide developed?

This guideline is one of the project deliverables under Work Package 3, entitled "Innovation Task Forces Operational Guidelines".

During the first phase, we will set the scene for the innovation and entrepreneurship education objective by training the local HEI teachers and running a pilot inter-university micro-course. Furthermore, an internal "innovation task force" at each one of the participating universities will be set up and trained, academic staff will receive initial training and mentoring on innovation and services will be provided to support the process from idea to start-up.

By establishing the Innovation Task Forces and equipping them with the relevant knowledge (WP3), we will ensure that there is a monitoring system that scans research projects and publications, identifying potential patentable inventions and business opportunities and assistance for exploitation is provided.

1.2. For whom is the guide intended?

The guide is intended for use by the InnoChange Project partners and key stakeholders such as teachers, mentors, students, and community representatives, but the described procedures and experiences can be further used by other universities.

1.3. What does the guide include?

The guide is meant to describe the InnoChange project partners' approach to organizing the set of actions that the partners are committed to do in order to achieve the project's objectives related to innovation management. It presents the main actions that we believe need to be followed during the first phase of Work Package 3 of the Project with the purpose of building and setting in motion Innovation Management Task Forces at each Project partner university. For each action, concrete recommendations (with explanations and specific actions) are provided.















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Action #1: Build an IMTE

By Innovation Management Task Force (IMTF) we mean a support structure that facilitates and helps turning faculty research projects into validated business ideas, and validated business ideas into reality. The structure comprises innovations scouts, who are assigned to carry on specific tasks described below under Action#2, and a mentor, who is responsible for supervising and coordinating the scouts.

In order to fulfill this action, each partner is requested to find at least 3 people – possibly including one of the implementors of InnoChange at the given university – who are motivated and fit for executing businessrelated tasks, either because they have some relevant past industry/business experience or because they have received business education. Ideally, the future innovation managers also have at least basic knowledge of the technical subject areas that they are covering.

The larger the starting team is, the better, because some team members may drop out of their own accord, and others may in time be let go due to underperformance. Initially, therefore, we encourage all who are interested to join the Innovation Management Task Force (IMTF), but communicate to all comers frankly and openly that after the pilot period of 6-8 weeks, only a subset of the starting team will be re-hired and new members may be involved along the way.

In the longer run, the recommended approach is to select the scouts and the mentor from a larger pool of candidates, and a call for proposal is therefore provided as a template for scouts (Annex 1), and for mentors (Annex 2). However, for the first iteration of the IMTF, in the interest of time, partner universities might decide to nominate the scouts and mentors. We briefly describe the qualifications and skills that the members of the IMTF should possess.

Scouts: recommended candidates: MSc students, PhD students, young researchers.

Qualifications:

- 1) be able to understand research ideas at least in their field(s) of interest, and to evaluate the business potential of these ideas. For this, they should have been exposed to research activities, involved in research teams, and possess necessary knowledge to assess the ideas.
- 2) have some entrepreneurial and innovation acumen: they should at least have an interest in these topics, and be eager to learn and progress. Other aspects that could be taken into consideration: if















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- they have participated in a course or a program in entrepreneurial and innovation education (such as the one provided by WP2 of InnoChange project); if they have business experience (worked at a company, founded a company); if they have been involved in a relevant internship program.
- 3) have excellent communication skills: interviews with research teams are essential in identifying promising ideas and formulating them in business terms is also important.
- 4) are proactive: take the initiative and approach various research teams for potential commercialisation projects.

Mentors: recommended candidates: technology transfer staff, PhD students (with at least 1 year experience), young researchers.

Qualifications:

- 1) be able to understand research ideas belonging to multiple domains, and to evaluate the potential of these ideas. For this, they should have at least a few years of experience and former involvement in several research projects. Also, they should possess the ability to evaluate the applicability and transferability of business ideas to different domains.
- 2) have some proven entrepreneurial and innovation competence: participated in a course or a program for entrepreneurial and innovation education (such as the ones provided by WP4 and WP5 of Innochange project); have considerable business experience (worked at a company, founded a company, etc.); past experience at incubators, accelerators or technology transfer offices.
- 3) communication and leadership skills: be able to communicate with the scouts, provide feedback and find incentives to motivate the scouts in their work.

Action #2: Tasks for IMTF

2.1 Tasks for scouts

Once the scouting teams are up and running, the next action point is to give them specific jobs to be done. Here are the tasks were given to the Task Force members for the first 6-8-week period at some of our universities (as designed by ELTE):

















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- 1. Please write up at least one bilingual (English and local-language) description of an ongoing innovation project that you are part of. Please follow the list of questions that are shared below as a template, so that your description is driven by the "business problem" (rather than the technology, the solution, or the most interesting bit of the research). Please choose a project that seems to you to be the most relevant from our IMTF (innovation management task force) perspective, in the sense that the business problem is real, important, and easily communicable; the solution is powerful and comprehensible for non-tech people; and the role of our university in the project is evident and significant.
- 2. In preparation for our scouting task,
 - 2.a. please collect in a Sharepoint Spreadsheet the projects/groups/research teams that you're monitoring
 - 2.b. identify, within each listed project/group/research team, concrete subprojects worth considering from an innovation management point of view. I.e., start to brainstorm what specific business ideas/projects we could weave out of the projects/groups/research teams that you are monitoring, and how we could go about commercial exploitation in the specific cases.
- 3. Identify one "low-hanging fruit" from the list put together according to the previous point, and start working with it. In other words, make some tangible progress in the coming 6-8 weeks with at least one potential innovation project worth pursuing for commercial exploitation.
- 4. Identify possible real users and discuss with them the selected project. The discussion (interview) should concentrate on user needs and expectations and not on the project / solution. Validate the commercial exploitation prospects of the potential innovation project.

Here is the list of questions mentioned in point 1 above, which (or something similar) can be uses as a template:

- 1. The Business Problem (explained in a way that a lay person can understand it and can relate to it)
- 2. The Solution being developed (in very specific and comprehensible terms), what stage of development is the technology at (e.g. idea stage, prototype developed and tested in the laboratory)
- 3. What are the anticipated market opportunities and size
- 4. Who are the potential customers/buyers/business partners and why
- 5. How Is the Project Beneficial to Customers/Buyers/Business Partners (x new product developed; x EUR extra revenue realized for business partner or the customers of business partner; x new customers acquired by business partner; x EUR saved; development time shortened by x weeks;
- 6. Which Part of the Project Is/Has Been Done by Your University
- 7. Why Has Business Partner Selected Your University as its Partner















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8. Additional Details Worth Sharing (interesting details, exciting bits for story-telling and marketing materials)

2.2 Tasks for mentors

We decided to appoint a mentor at each of our participating universities, someone who would serve as a tutor giving advice and support to the scouts. Here is a list of suggested activities:

- group discussion with scouts (once per month)
- one-to-one discussion with scouts (if necessary)
- setting up a communication channel for task management, discussions, Q&A, announcement of special events (such as Teams, Slack, etc.).

We recommend that mentors foster and help the exchange of ideas and experiences between the members of the consortium.

Additional tasks:

- analyze results obtained by scouts;
- give constructive feedback;
- construct corrective activities if necessary.

If necessary, the mentor should facilitate access to research groups and other I&E units within the university.

Action #3: Building expertise

3.1 Training

Provide training to the members of your IMTF so that they can perform their innovation scouting and management tasks at the highest possible level of quality.













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This should be done combining joint (i.e. InnoChange-level) modules and partner-level modules.

We propose two half-day training sessions (or a one-day session), which will combine theoretical knowledge with hands-on experience. Topics included in these workshops should address: (i) innovation management, (ii) problem validation, (iii) solution and market validation, (iv) value proposition and business model validation, (v) IP protection and management, (vi) prototyping and Minimal Viable Product development, (vii) securing funding, (viii) writing a business plan, (ix) building a team, (x) presentation skills (the list is provisionary).

On the basis of the experience we will have gained at the workshop proposed in the previous point, we should continue with shorter, more targeted follow-up workshops, if and as much as necessary, spanning the time frame of the InnoChange project.

The organization of these sessions will be preceded by a call for participation with the intention to attract scouts and mentors to these activities. A model of such a call is given in Annex 3.

3.2 Building Innovation Force community

The InnoChange project is based on extensive collaboration, shared practices and joint experiences. In this spirit, IMTF from partner universities will thrive to construct a community to exchange ideas and good practices and have Q&A forums. Communication between members of IMTF teams is considered essential in the success of this activity, especially given the diverse level of experience between partner universities. A platform such as Slack or similar can be used.

Action #4: Evaluation of scouting activity and results

Partner-level analysis and evaluation of the early results (project summaries and scouting outcomes) achieved along the three tasks given to the local IMTF members.

To be carried on by each partner between 30.11-4.12.2021.

















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4.1. Evaluation of scouting outcomes:

1.a Quantitative evaluation:

- at least 3 projects analyzed per university in the first established period of the IMTF activity
- recommended: at least one project from each research centre included in a pre-acceleration phase.

1.b Qualitative evaluation:

- In case of 0-1 projects, restart scouting and/or discussions with researchers. Maybe market potential of the projects was overlooked or maybe future project will have to be taken into account at earlier stages the market potential (identifying the problem, and then the solution, rather than the other way around)
- In case of 2+ projects with market potential, a group of experts might help to determine their ranking according to their proximity to "proof of concept" stage and according with their monetary value for a potential user (how low are the "low hanging fruits" and how "sweet" they are)

4.2. Evaluation of scouts activity:

2.a Quantitative evaluation:

- at least 3 projects analyzed
- at least one "low hanging fruit" identified.

2.b Qualitative evaluation:

no	Criterion	Not acceptable	Satisfactory	Good	Very good
1	Did the scout understand the tasks and deliverables?				























2	Did the scout finish the tasks on time?		
3	Did the scout participate in workshops, meetings with mentors, Q&A sessions?		
4	Has the scout succeeded in engaging members of the monitored research group(s) and understanding their research projects?		
5	Has the scout had valuable contribution to the reinterpretation/reorientation of specific research projects into potentially interesting directions of commercialization?"		
6	Were the reports written up by the scout of good quality and structure?		
7	Did the scout interact with possible end-users for the identified project(s)?		

Recommend: Scouts' self-evaluation. Constructing a feedback form and collecting their opinion can improve the next steps in scouting and IMTF management.

Analysis: Mentor of IMTF, research group members and other university staff involved in entrepreneurial and innovation activities should analyze the outcomes and decide:















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- Which ideas are worth of investigation and continue their development (see Action#6)?
- Who were the most successful scouts? Promote their work and give credits.
- Which remedial actions should be made for the next phase of scouting?

Action #5: Aggregation of evaluations between partners

Joint evaluation of the collective results, analysis of lessons learned at the consortium level, drafting of summaries of the results worth communicating. Course-correction if and where necessary.

Self - assessment university evaluation:

Each university will collect the data about evaluated projects and prepare a summary. This summary will be gathered in one master file at the consortium level.

Univ.	Number of projects	No. of marketable projects	Validation with end user (no. of users)	Scientific funded projects (no of projects)	No. of scouts
UBB					

Analysis: The university coordinators should analyze the outcomes and decide:

- Are there enough (any?) marketable projects?
- Is there an interest in developing "marketable" products or the main concern is "purely scientific",
- The entrepreneurial culture is lacking or is oriented in other directions because of the incentives set?

Recommend: Organize a roundtable with partner universities to discuss:

- · Are there overlooked opportunities? (Different from but related to previous point)
- · Are there projects with market potential postponed indefinitely in search for perfection?
- · Are there some "success stories" to replicate?















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- · Are there "too many ideas" (lack of focus)?
- · How real is the problem of lack of financing?

If there are any universities without any marketable project, the partners will try to offer support.

Outcomes:

- organize the next cohort of scouts
- adjust the program according to feedback.

Action #6: Prepare next step to commercial exploitation

Preparatory work for the commercial exploitation of the most promising projects at each partner. Providing business development support to other partners' projects when useful and possible.

6.1 Preparatory work for the commercial exploitation of the most promising projects at each partner collaboration with WP4 via providing InnoChange startups access to the Startup Wise Guys Online Pre-Accelerator (OPA) and WP5 members in order to continue the construct planning for the nominated projects.

6.2 Providing business development support to other partners' projects when useful and possible - identify and collaborate with actors from university that can provide advice and guidance, such as Student Digital Hub (see WP5), Technology Transfer Offices, etc. Use communication strategies and university reputation to attract early funding.

Recommend Organize a consortium focus group discussion to debate about good practices, success stories and experiences. Special focus should be given to issues related to intellectual property.

Risks associated to OP

At this stage of the project, we identified some risks on the road to commercial exploitation. They can be regrouped under the general umbrella of incentives set in which partners operate. There is the possibility of dropping out at some previous steps (addressed in Action#1) or even the lack of economically promising projects (addressed in Action#4).

The successful commercial exploitation can be jeopardized by any dysfunction in the cooperation between the parties involved and by the lack of commitment of any of them.























The current set of incentives pushes researchers to grant higher importance to scientific aspects of their work (publications) compared to small, incremental, commercially viable improvements of someone else's work. We need to find credible ways to reward what they could consider as a distraction from their main activity.

The scouts are a key factor in identifying potential economically viable research and in building a stable coalition between stakeholders. This requires a wide range of competences and abilities and, likely, a significant amount of work. We need to identify some general and some specific incentives to secure their long term commitment.

Commercial exploitation will require at some point a form of legal partnership between researchers, scouts, the university, the investors etc. In order to increase the likelihood of this agreement, it is necessary to have good "expectations management" from the initial stages of the project. A very clear definition of each party's "rights" and a wide negotiation range between the partners are among the necessary ingredients.

Brief Risk Register

No	Risk	Mitigation strategy		
1	Innovation scouts dropout	Careful selection/nomination process; have a larger team (see Action#1)		
2	Lack of potential projects	Restart scouting; concentrate on real life problems not on solutions (see Action #4)		
3	Lack of incentives	Rewards, attract external funding, recognise and disseminate achievements		
Path to commercial exploitation		Request counseling from Technology Transfer Offices, incubators, legal departments		













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Other aspects:

During the implementation of this work package, several aspects will be taken into consideration: Inclusion: selection/nomination of the IMTF members will specially state that the universities are welcoming all candidates and representation of participants from different gender, ethnies and social backgrounds will be taken into consideration.

Sustainability and succession planning: the IMTF will be constantly enlarged, engaging mentors and older innovation scouts to attract and train newer members. In time, the IMTF will become self-sustainable, meaning that the IMTF will possess the capacity to identify and promote research ideas with business potential.

Ethics of research and innovation: Academic conduct should be adopted in all actions regarding ethical aspects of research and value creation. We highlight two aspects:

- Confidentiality: innovation scouts and mentors will respect the confidentiality and be careful not to disclosure of sensitive information about analyzed projects; information that is about to become public will need to obtain validation of the proprietary research group;
- Intellectual property will be respected;
- Value creation: Recognise the contribution of innovation scouts. In case the innovation scouts are
 responsible for value creation related to the potential of research ideas, this should be
 acknowledged and might be invited to join the team that will lead to the future commercial
 exploitation.

IP protection: special attention will be given to guiding the academic teams on the ways to protect their intellectual property in order to increase the chances of successful project commercialisation.

















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Annexes

Annex 1

The InnoChange project aims to increase the entrepreneurial and innovation capacity and attitude of the participating universities and to strengthen and to better integrate into and engage with innovation ecosystems.

To boost the innovation capacity of university research teams, we are planning to train the innovation scouts, according to the HEInnovate "Digital Transformation and Capability" dimension. These innovation scouts will follow the research group's scientific activities, monitor and identify potential business exploitations.

The innovation scouts will form the Innovation Task Force of each university and will receive special training on how to constantly be on the lookout for opportunities of commercial exploitation and coordinating and supporting the commercial exploitation whenever the latter becomes an opportunity of worse sizing. Who is suitable for becoming these innovation scouts?

- Master students, PhD students and young academic staff
- open minded to entrepreneurship and innovation
- we are welcoming all people who have experience in this domain or are eager to learn.

Benefits:

- contribute to capacity building of entrepreneurship and innovation in your university
- acquire entrepreneurial and innovation personal skills through workshops and hands on experience
- working in an international team and being trained on the highest level.

Members of the Innovation Task Force will receive a certificate of participation.













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Annex 2

The InnoChange project aims to increase the entrepreneurial and innovation capacity and attitude of the European universities and to strengthen and to better integrate into and engage with innovation ecosystems.

To boost the innovation capacity of university research teams, we are planning to trainee innovations scout, according to the HEInnovate "Digital Transformation and Capability" dimension. These innovation scouts will follow the research group's scientific activities, monitor and identify potential business exploitations. The innovation scouts will form the Innovation Task Force of each university and will receive special training on how to constantly be on the lookout for opportunities of commercial exploitation, coordinating, and supporting the commercial exploitation whenever the latter becomes an opportunity of worse sizing. For this, they will need a dedicated mentor who can guide them.

Who is suitable for becoming this innovation scouts mentor?

All the PhD students and young academic staff with a minimum of two years research experience and with entrepreneurial abilities.

Benefits:

- Become a leader of entrepreneurial and innovation mindset in your university
- Gain leadership experience working and supervising the team of innovation scouts
- Access to an international team of mentors and advisers to enhance your entrepreneurial skills.

Mentors of the Innovation Task Force will receive a certificate of participation, recognizing their work within the InnoChange project.















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Annex 3

Training is designed to help innovation scouts identify business opportunities within research groups, understand entrepreneurial mindset and perform innovation management activities at the highest possible level of quality.

Will be combined joint modules offered by partners of InnoChange project.

We propose two half-day training sessions, including modules on

- (i) technology transfer,
- (ii) innovation management,
- (iii) problem validation,
- (iv) solution and market validation,
- (v) value proposition and business model validation,
- (vi) IP protection and management,
- (vi) prototyping and MVP development,
- (vii) writing a business plan,
- (viii) presentation skills.















