EIT HEI Initiative

Innovation Capacity Building for Higher Education

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University Business Cooperation (UBC) Strategy
ABCD Deep Tech Project

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ABCD DEEP TECH

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WP4 Proposal
University Business Cooperation (UBC) Strategy

The strategy serves purposes of both academic institutions and companies and startups in deep tech. It reflects a knowledge-exchange relationship between them and it can serve as an important activity in a knowledge society. Various reports[1],[2] accentuate that the cooperation between HEI's and businesses can serve as a source of innovation and talent development. As such it can benefit both the HEI sector and the companies. Collaboration between the university researchers and practitioners can enhance the design and development of innovative processes, products and services.

What are the benefits for students?

- The improvement in learning experiences, developing skills for certain fields and increasing their employment opportunities with better understanding of the world of work. Active participation helps students to enrich their curriculum vitae as well as build a professional self-image. Being engaged in real-life situations whilst being guided and monitored by experienced professionals and supported by university staff can help students to develop confidence and professional attitude. Students will have a better chance of securing a full-time position after they graduate by being offered opportunities to showcase themselves and also build a network of contacts. Each HEI will define the type of the student's engagement with businesses (some possible activities are listed in Stage 4).

What are the benefits for deep tech businesses?

- Businesses can cooperate with HEI's in different ways. Businesses have the opportunities to exploit the knowledge and technologies in common projects. They can utilize the research capacities of universities, utilize the knowledge and skills of university professionals as well as students. By allowing the students to get engaged in certain projects they get insight into the new ideas, perceptions and experiences of new generations. They also increase their visibility and credibility. Businesses can also decrease the expenses in infrastructure investments and personnel specialist hiring and personnel development (in collaboration with HEI).

[1] https://www.ub-cooperation.eu/pdf/final_report2017.pdf.
[2] https://www.oecd.org/education/imhe/46588578.pdf.

What are the benefits for academic and non-academic staff?

- Academic and non-academic staff at the universities are given the opportunities for professional training and growth. Carrying out cooperation activities, they are supposed to update their subject knowledge and get involved in research and implementation projects.

What are the benefits for HEI's?

- Cooperating with deep tech businesses increases the HEI's brand-awareness in RDI activities. HEI's may capitalize on business resources to advance education and research activities, as well as to improve understanding of the challenges in the industry.

Action plan

The action plan is summarized in Table 1.

Phase 1 (September - November 2023)

Stage 1 - Mapping the current stage of deep-tech startups and ecosystem in the home country (including the businesses and prototyping services and infrastructures).
Map the key issues, motives and challenges by using a common methodology (up to 10 questions).
This will help to work on the matching and ecosystem development strategy in Phase 2.

Mechanisms/Instruments

- Conduct an interview and/or online survey and/or focus group with key people from deep tech businesses (students will be involved in the interviews),
- Prepare a white paper on the current state of deep tech startups and ecosystem,
- Document the best practices/ Case studies or Videos/ to create a database (optional),
- Invite speakers to take part in the accelerating modules in WP3.

Stage 2 - Establish/Found/Launch Deep Tech University Business Consortium. The consortium concentrates on integrative research and development of collaborative strategy.

Activities:

- Sign MoU agreements to confirm partnerships with companies and startups, which will be coordinated by the university,
- Establish University Business Deep Tech Consortium (UBDTC),
- Organize an annual meeting of the Consortium.

Three pillars for the Consortium:

1. The consortium will be established based on the integrated pedagogy which means to study and develop solutions, which promote collaboration of RDI and education so as to increase cooperative relationships.
2. Practice-based innovation will encourage students and faculty to combine theory and practice in working on real life problem projects proposed by partner deep tech businesses. Joint and field lectures will be encouraged.
3. Student entrepreneurship will be encouraged and the students will take the initiative in learning and gaining their expertise experiences with an active and result-oriented approach within the selected courses curriculum and relevant projects (WP2).

Phase 2 (December 2023 - July 2024)

Stage 3- Matching/ Designing a cooperation strategy.
Organizing meeting with all ABCD HEI and non- HEI partners and representatives from the established UBDTC. Share the best practices and connect.

One to be held live (in Skopje).

Stage 4- Implementing/ Action

Mechanisms (these will come out from the discussions in Stage 2). Some of the mechanisms are listed below although **this is just an indicative list (each partner can choose upon preference):**

- Series of guest lectures - the HEI's will organize a series of lectures delivered by industry experts on specific topics to enable knowledge sharing,
- Conference on deep tech entrepreneurship - sharing of practices, ideas, experiences of collaboration,
- Idea/ Innovation lab - creating a support system that students can use to develop and test their ideas for deep tech solutions to existing issues. They can receive help from university or businesses,
- Bootcamp - students will receive short term instructions, participate in workshops and work in groups on solving a specific issue of a region, or specific topic of interest. Each group can receive a different challenge to work on. The students are mentored and monitored by university staff, but the issues are presented, and solutions are judged by industry experts,
- Immersive projects - students work collaboratively on presenting a solution for an issue or problem for a specific company. The projects can be done as part of a subject or as standalone activity,
- Final thesis - students can work on developing solutions to issues or problems in their graduation/master thesis in joint mentorship by university and industry professionals,
- Pitch competitions - students presenting their deep tech ideas in front of a panel of university staff and businesses,
- Immersion program - The programme can help students to deep dive into the world of venture capital,
- Internships - guided experiences of students in a company. The students receive support from a HEI mentor as well as a company mentor during a limited time period (2 weeks to 2 months),

- Student Consultancy - organized time bounded experiences where students will work on specific projects within an organization, acting as consultants. The internships can be done alone or in a group of students on specific issues within the company. The students can be mentored by industry professionals and university staff,
- Organize Deep Tech expo as an annual job fair that is entirely organized by students of each HEI. The event is organized to offer networking, learning and employment opportunities with the participation of many different employers and job seekers,
- Some other mechanisms.

Stage 5- Continuous improvement

University Business cooperation to become a pull model in research. This research approach allows the university to come to businesses and ask to help solve the challenges they are facing. Mentor graduate and doctoral students to conduct research in deep tech fields as defined by the Deep Tech Talent Initiative[3]. The HEI's can initiate a series of master and/or PhD thesis on same or similar topics proposed by the industry. Each thesis can focus on different aspects of the same issue or propose different solutions or test the application of solutions in different circumstances (industries, sectors, population etc.). The research will tackle current issues and offer practical solutions. Besides, such an active research model creates many opportunities for students to participate in real-life projects, which become valuable for self- learning and improvement.

KPI indicators:

- Number of interviews with key persons and organizations (up to 10 per university)
- Number of people participating in the round tables or strategy meetings (up to 5)
- Number of companies or startups from deep tech who will be included in the strategy development (invited as industry specials)

[3] https://www.eitdeeptechtalent.eu/the-initiative/what-is-deep-tech/.

Table 1. - Summary of the action plan

Activities	Functions (roles)	Outcome indicators	Time dynamics
Mapping the current stage of deep-tech startups and ecosystem in the home country	All partners (non- HEI will support in finding relevant data for companies and startups)	up to 10 companies answered online survey or interviews or focus group	Phase 1
Preparing an analysis report	HEI partners	White paper (Analysis report on the current state, needs and challenges) based on data gathered from survey or interviews or focus group, one per country	Phase 1
Creating the University Business Deep Tech Consortium (UBDTC)	All partners HEI for coordinating role, Non HEI with support	At least 1 MoU per HEI Established UBDTC	Phase 1
Matching/ Strategy Development	All partners	At least 1 meeting	Phase 2
Implementation	All partners, HEI with coordinating role	At least 1 mechanism implemented	Phase 2
Research (pull approach)	HEI, UBDTC	At least 1 paper or 1 research project or 1 thesis – optional (not obligatory)	Sustainability