EIT HEI Initiative
Innovation Capacity Building for Higher Education

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**Fostering entrepreneurship and startups
in Deep Tech by utilizing University-Business collaboration**

These guidelines are developed in the framework of the activities in the Erasmus ABCD project 2023 - 2024.

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The structure of the Guidelines:

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2. University and selected Schools / Departments / Faculties / Administrative units
3. Relevant businesses and organizations at the Universities proximity
4. Collaborative structure
5. The process and activities

ABCD DEEP TECH

University American College Skopje

1. Introduction:

Fostering entrepreneurship, supporting startups and promoting funding possibilities becomes an important task for the universities as changes evolve in the business aspects of HEI functioning. Fast changes are happening in many fields like engineering fields and especially computation and information sciences which asks for adaptation of how the higher education sector functions, establishes links and changes with the ecosystem. Certain applicative specializations are intrinsically linked to the practical and internship opportunities during studies, but also represent attractive opportunities for early funding and start-up support initiatives.

The ABCD project drafted a University Business Cooperation (UBC) Strategy and proposed to establish the University Business Deep Tech Consortium (UBDTC) to enhance the embeddedness of the HEIs in the local ecosystem, enable practice-based innovation and encourage student based entrepreneurship. The activities should also aim to strengthen the entrepreneurial orientation of the HEIs.

The research with companies done as part of the activities showed that survey participants expressed positive evaluations of the talent pool available from universities, highlighting their digital competencies, expertise in pertinent fields, and commitment to their work. Furthermore, they recognized the value of academic research and researchers, which can be integrated into their operations, particularly in areas of relevant research and consultancy. Additionally, according to their answers universities demonstrate a strong commitment to fostering innovation and the growth of start-ups and scale-ups in advanced technology sectors. This is achieved through collaborative efforts, sharing of best practices, and facilitating connections to a thriving ecosystem that includes mentorship from successful start-ups, potential clients, and investors. Despite this the level of existing collaboration was deemed as inappropriate and there is potential for further improvements.

The aim of these guidelines is to show a possible way of establishing ties between higher educational institutions and the business community in general, but especially businesses offering internship and practice opportunities for the students, as well as examples of activities and initiatives to open the university space towards early funding opportunities and various start-up support possibilities.

If not especially mentioned otherwise the examples of established links and collaborations are taken from the existent experience at the University American College Skopje and the Business Council established and functioning there.

The guidelines are organized with an overview of the University structure, specialization programs and supporting administrative offices in Chapter 2. University and selected Schools / Departments / Faculties / Administrative units, followed by an overview of the relevant businesses and organizations in the university proximity in Chapter 3 and details on the collaborative structure in Chapter 4. The Guidelines end up with Chapter 5 exposing examples of the process of the collaboration and the joint activities that can be organized.

2. University and selected Schools / Departments / Faculties / Administrative units

Main actors in the activities related to Fostering entrepreneurship and funding opportunities for startups in Deep Tech on a University level are: (1) the correspondent Departments / Schools or Faculties (depending on the nomination practice), and (2) the administrative unit(s) responsible for external, collaborative activities or relations with the businesses and having a counseling role for the future career path of the students. The body needs to act coherently in establishing ongoing links with the HEIs ecosystem through engaging with the organizations and public bodies in various types of activities and maintaining communication using various methods and channels (like newsletters, special events, joint activities, etc). The body should aim to implement elements of a Customer Relationship Management system (CRM) to sustain the relationship with the organizations that are part of the UBDTC.

The existence of a consultancy, non-executive body composed of the relevant Business representatives at the university proximity is an excellent practice. This body can be in the format of a UBDTC and an administrative position at the University should be assigned with the responsibility of communication and coordination of the activities. There are several decision making positions and bodies at the university level that can take advantage of such a body.

(1) Firstly at the presidential / rector's level, the strategic planning and related issues will find in the existence of such a body a partner for proper adjustment of the strength and validity of the university top level decisions.

(2) Administratively the links represented by the existence of such a body can be accordingly used in enriching and facilitating the internship offers, guest lectures interventions, promotion of donors events and community services initiatives - activities in the portfolio of the Career Center.

(3) On the academic unit level (faculties) can establish closer links with separate parts of the Business council, for exemple called Finance studies Cluster, Economy and Business studies Cluster, IT Cluster where besides the activities listed in (2) other consultative involvements in study programs promotions and accreditations can be established.

The mission of the administration unit (eg. Career Center) can be defined and realized around the following type of activities:

1. *For students:*

● Building strong employer and community partnerships to create career opportunities;
● Providing students with job & internship opportunities;
● Providing career counseling opportunities;
● Providing advice in job searching strategies;
● Organizing training and seminars to enhance the soft skill development of students;
● Promoting organizations and funds supporting startups and business creation initiatives
● Organizing a Career Fairs.

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2. *For Businesses and the ecosystem:*

- Sharing information about the work of the HEI (eg. newsletters, special networking events etc)
- Providing opportunities for collaboration on various types of projects
- Providing consultancy services
- Providing applied research opportunities or use of space and equipment (laboratories, space for events etc)
- Providing opportunities for University recruitment
- Idea generation and applicative solutions for various issues by students and staff in collaborative activities like bootcamps, hackathons, student projects, thesis etc.

In addition to the companies members of the UBDTC, the body (eg. Career Center) collaborates, on a special track with International Office (enabling visibility of various international projects and actions in mobility, exchange and promotion) and specialized organizations like Innovation Support Funds and business-angels types of organizations promoting early funding and fundraising opportunities.

3. Relevant businesses at the Universities proximity

The existent businesses in the societal proximity of the University represent an important potential for establishing a variety of collaborations on academic, business and research and development level. The University management structure normally approaches the most important businesses through the professional and business associations and through already established collaborative and business links.

This leads towards establishment of the UBDTC body with approximately following mission:

- To create an environment where both academia and business can have mutual communication in order to create better curricula, learning outcomes and learning environment;
- To encourage and support B2B relationships;
- To support the University as an asset for education and consulting in the society;
- To enable internship and jobs for students and;
- To provide – when possible – lecturers from the practice
- To participate in the General Assembly - a body of all business council members
- To collaborate with each academic unit through Clusters (Board of Trustees for each School / Faculty)
- Promoting fundraising, investment opportunities, business incubators creation

There is a wide range of possibilities of maintaining active relations between a University structure and the members of the UBDTC. This is both valid on the level of UBDTC as well as on the level of IT Clusters composed of business entities from the UBDTC closely related and in the areas of particular interest of a particular academic component of the University - School or Faculty. The specific actions assuring the presence of the businesses in the academic life of the universities are organized and managed by the administrative offices like Career Center and International Office.

6. Collaborative structure

The listed actors and components on the University side and on the side of Businesses collaborate on various levels depending on the processes and activities in which they are involved. Some examples include the following:

- Counseling and Management Board participation between UBDTC representatives and University leading decision structures - Rector / President, Rector's council and Senate for the corresponding activities and decisions.
- At the Faculty / School level - Dean's counseling board, Study Program content and directions in strategic meetings before adoption on academic level.
- At the level of course and program clusters in the form of Commissions' work on specific collaborative activities in Internship offer boards, Practical project assignments in specific courses, themed activities done in collaboration and for the purposes of proposing solutions relevant to both business and academia (eg. hackathons, boot-camps etc), Capstone projects collaboration with industry partners.
- Boards and similar bodies for organization of guest lectures and promotional activities, collaboration with educational and practical initiatives organized by established vendors.
- Boards and similar bodies initiating and approving funding and donor organizations events and activities.

Collaborative structures are basically goal oriented, informal bodies whose functioning is based on previous experience in collaboration and thus does not need formal structure in decision making and functioning.

7. **The process and activities**

In this part of the guidelines we will list the details of the possible collaboration schemas reflecting the realization of the goals and the rationale behind the above mentioned collaboration modalities:

7.1. ***Important strategic, business and societal aspects*** of both University and Business organization are subject to decision and counseling bodies composed by the University top management and the leadership of the UBDTC.

7.2. On the academic unit level Faculty or School ***strategic decisions on new academic programs offer, academic and technology content of the curricula*** and similar topics are discussed in mixed and heterogeneous structures of experts both from Academia and the correspondent Cluster of businesses related to the academic unit.

7.3. Permanent and temporary ***call for collaboration in part of teachings, practical and project activities*** in the framework of the University curricula. Examples of this can be: Applied course projects done in collaboration between Universities and companies on a practical issue (relevant to the company); collaborations for usage of databases etc for course activities; hackathons, bootcamps and summer school on certain topics; pitch competitions; career days/fairs etc.

University publishes a call communicating it by priority to the members of the UBDTC and the correspondent Clusters of companies.

7.4. Calls for **guest lectures and other modalities of presence** of Business Council members at the University premises.

University works with the UBDTC in conceptualization of the series of talks, round tables or other forms of forums where members of the UBDTC provide expert opinion and expert presentations. In case of funding and startup support organizations, tripartite boards composed of IT academic programs, Business programs and the external organizations can open the perspectives for tailored training, informative and promotional sessions.

7.5. Calls for **Internship offers** and presentation of the profiles of the potential candidates from the student body.

University prepares a list of profiles of potential Internship eligible candidates and promotes their acceptance to the members of the UBDTC. UBDTC members regularly post internship offers to the office of the Career Center and corresponding Faculty / School bodies.

7.6. Promotion of **presentation and training opportunities for startups and funding opportunities** especially in synergy between Business related courses and for example Computer Sciences students.

7.7. **Calls for specific topic and mentorship for Capstone project** (where available) collaborative realization.

University or the correspondent Faculty distributes a Call for proposal for topic and mentorship for a major Bachelor thesis/Specialist thesis/Capstone project//Master thesis. The companies and individuals are applying with ideas, proposed structure of training and working packages as well as a commitment of realization in a predefined time frame. A Commission created by the Faculty/School evaluates the proposals and approves both the topics and the co-mentorship roles of the participants from the UBDTC. After agreement is reached, a Faculty/School member is assigned to supervise / mentor the process. The benefits of such a practical collaborative scheme are evident both for the educational institution and the involved company or individual.

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This way of involvement of the business community in a realistic academic process brings fresh ideas, problems and technologies in the last stage of academic training of the students. For the businesses and individuals this activity is a realization of a high level of community service and collaboration - often required in the professional growth path of the experts, gives realistic perspective and visibility of the educational profile of the student body before graduation and greatly supports the self-confidence and readiness of the students.