

TOOLS TO PROMOTE THE DEVELOPMENT OF ENTREPRENEURIAL UNIVERSITIES IN BULGARIA

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ABSTRACT: *At the current stage of the development of higher education, increasing importance is given to the development of entrepreneurial skills and innovations. At the same time, there are no established and widely applied methods for assessing universities in terms of the entrepreneurship developed in them. Due to the identification of this problem, this article examines the policies and efforts of the European Union countries in relation to the promotion of entrepreneurship in education as a tool for achieving sustainable economic growth, striving for innovation and increasing the competences of human resources. Various instruments for improving entrepreneurial skills, improving the quality of education and thus increasing the competitiveness of EU member states are analyzed.*

Keywords: *Entrepreneurship, Higher education, Bulgaria, Entrepreneurial skills*

1. Entrepreneurial universities

Part of the EU's competitiveness strategy are the so-called entrepreneurial universities, which "provide environments, cultures, practices, and opportunities to foster entrepreneurship among workers, students, and alumni" [Salem, 2014], "preparing a generation of entrepreneurs with work opportunities" [Labhan, 2018], "provides innovative programs and services in teaching, scientific research, and community service" [Al-Hajjar, 2018] and are "natural incubators" [Etzkowitz, 2003]. This implies the construction and development of entrepreneurial ecosystems that create, support, stimulate innovations, and commercialize them, so that "supports the development and growth of innovative startups and encourages new entrepreneurs and other actors to take the risk of starting, funding, and in other ways helping high-risk businesses" [Nicotra et al., 2018]. Building an effective entrepreneurial ecosystem and achieving their ultimate goal, namely building an entrepreneurial university, is not an easy task. The main problems that accompany the construction of such universities are largely related to "the commitment of the leadership (university administrators)", "creating a structure that will coordinate and monitor the implementation of the measures needed to transform the university into an entrepreneurial one. Raising awareness of the importance of entrepreneurship", aimed at "students, alumni, faculty, administrative staff and the whole community and business environment", with the goal of entrepreneurial education [Greco, Denes, 2017]. To achieve the goal - built entrepreneurial universities, deep integration and good coordination in the actions of all parties interested in achieving it is necessary.

In themselves, entrepreneurial universities are a wonderful idea and a natural response to the development of society, changes in needs and wants in the new global conditions in which we live. In a time of technological revolution with increased requirements for the use of

artificial intelligence, cloud technologies, mass digitalization, etc., questions inevitably arise such as:

- What is the benefit of entrepreneurial universities and how do they contribute to these changes?
- Given the need for such diverse stakeholders - what problems are possible to arise from the development of entrepreneurial universities to realize the idea?

The answers to these questions require a brief retrospective review of the development of higher education in the context of entrepreneurship. For this purpose, a retrospective of the different approaches to education and entrepreneurship in universities was made, which is summarized in this study and presented in Table 1.

Table 1.

Retrospection of the development of entrepreneurship in universities.

Period	Object	Goals
Ancient greek/Rome period	The Academy	Philosophy, Science, History, Arts Lack of entrepreneurial idea
Middle Ages	Catholic high school	Literature, Law, Science, Arts Lack of entrepreneurial idea
First Academic Revolution (IXX century)	Europe, USA	Sharing knowledge, using research to obtain, transmit and integrate new knowledge
XX century	Schumpeter	The role of technical progress, innovation, capitalism is driven by entrepreneurs, "the university as a propitious place for the generation and support to enabled individuals and for the modification of a productive system with a transforming basis, as well as an essential action for the development of economies in the countries" (Klein, Pereira, 2020) in their study Entrepreneurial university: conceptions and evolution of theoretical models
Second Academic Revolution	teaching and research with technology transfer	Generalized economic and social development with a focus on knowledge transfer to already developed missions with intensive participation in technological innovation; academic efforts to originate marketable products; universities combine teaching and research with technology transfer and thus play a more central role in the economy.
Third Academic Revolution	Entrepreneurial Universities, University Alliances	Search for new sources of resources and connection with the environment (Edkowitz, 2003, Edkowitz, Zhou, 2017); integrating scientific discoveries and technologies into real business through students supported by universities. Stimulating entrepreneurship among students through real assistance.

In a "third academic revolution," the entrepreneurial university becomes the center of gravity for economic development, knowledge creation and diffusion in both advanced industrial and developing societies [Viale, Etzkowitz, 2005].

2. University networks

In the form of university alliances, which build on the concept of university networks, collaboration of higher education institutions is aimed and their aspiration to improve the quality of education is shown, by uniting a group of educational institutions in common training programs, which will provide students with better quality education, more opportunities and a broader view of the sustainable development of countries worldwide. All this is a response to the significant and growing globalization of entrepreneurial activity and business. The construction of university alliances and networks plays an important role in improving the quality of education in higher education institutions, improving the relationship between universities and scientific institutions in different countries, exchanging knowledge, experience, technologies and competencies, and ultimately achieving the goal - building entrepreneurial universities. The idea of university connectivity arose as a result of the 2017 Gothenburg Council meeting, when it adopted a position on the establishment of twenty 'European Universities', consisting of bottom-up networks of universities across the EU which will enable students to obtain a degree by combining studies in several EU countries and contribute to the international competitiveness of European universities" [European Universities, 2023]. They are being created to support the development of future-proof skills, entrepreneurial competences of graduates, as well as the co-development of curricula by industry - including SMEs and together with higher education institutions in strategically important industrial sectors, as defined in the updated industrial strategy 6. This clearly confirms the EU's orientation towards sustainability, entrepreneurship, education and the development of key skills.

In support of the concept of Transnational education (TNE), the alliances aim to:

- Promoting high-quality student mobility through joint study programs;
- Promoting cooperation in the creation and implementation of summer schools between a group of universities;
- Providing a platform to improve and facilitate opportunities for transnational education;
- Providing training for new generations of highly qualified European entrepreneurs in the field of knowledge, who can respond to the intensively changing conditions, the needs of society, digitalization, artificial intelligence.

3. Entrepreneurial universities and European universities – link

The review of the relationship between entrepreneurship education, entrepreneurial universities, and European universities suggests the following summary: there is a close relationship between an entrepreneurial university and a European university, as this relationship is primarily predetermined by their close goals and their common external environment. In this case, the unifying goal for universities in the EU is: education that meets modern requirements, which are determined by: (1) External stakeholders: users of personnel and their needs and requirements; the state and its education policy and industry development

strategy; (2) Internal stakeholders: researchers, students, and structures working in the field of intellectual capital and financing of innovative activities. In this regard, for the purposes of this study, the authors accept and consider the two concepts (Entrepreneurial University and European University) as identical in terms of approaches to implementing the idea of their construction and development.

According to Guerrero-Cano et al. an Entrepreneurial University is based both on the commercialization of personalized education courses, consultancy services and extension activities and on commoditization. According to a number of authors, the entrepreneurial university has multiple goals. It creates not only quality human resources, but also creates jobs [Guerrero-Cano et al., 2014, Tripl et al., 2015] carries out technology transfer, while providing the creation of entrepreneurial thinking, which proves its importance for the development of regions.

In scientific publications, research related to the concept of a European University is observed, while at the same time different approaches for their functioning are proposed. Boruck and Pereira carry out a detailed analysis of the concepts regarding an entrepreneurial university, as a result they reach the conclusion that "the systemic approach contributes significantly to the investigation of factors that establish the inter-relationship between the pillars of society: university, education, innovation and regional development, thereby generating the promotion of knowledges and fruitful transformations in society itself" [Boruck, Pereira, 2020]. Other authors emphasize the application of the stakeholder approach, examining the effect of interaction between four distinct groups of stakeholders, namely "knowledge enablers, knowledge creators, knowledge codifiers, knowledge facilitators, as a result [Radko et al., 2022] form a concept of interaction, which can be seen in Fig. 1. The same authors also examine the interactions and their effects on the entrepreneurial university in three university types, reaching the following conclusions:

- Modern universities are seen as "an institution that is a source of technological innovation and economic development is projected, resulting in a trajectory of university transformation;
- The Entrepreneurial University is the improvement of the University of Research;
- the systemic approach contributes significantly to the investigation of factors that establish the inter-relationship between the pillars of society: university, education, innovation and regional development, thereby generating the promotion of knowledge and fruitful transformations in society itself." [Radko et al., 2022].

The aim of this study also requires consideration of the concept of University Alliances. This concept proposes uniting European universities in their efforts to improve the quality of education, increase the competitiveness of alliance participants and, as a result, provide better opportunities for graduates to find employment in the labor market. The initiative to build such alliances was launched in 2017, with the first 17 alliances appearing in 2019, and in 2020 there were already 41, with another 20 alliances added in 2022. In 2020, 24 European universities were approved for participation in university alliances [European Commission, 2020]. After the second call in 2022, there are now 44 European alliances [European Commission, 2022]. By 2022, around 340 higher education institutions, both in the capitals and in remote regions of the EU Member States, are participating, with Iceland, Norway, Serbia and Turkey joining them [European Commission, 2022]. By the end of 2023, the number of higher education institutions

exceeds 700, and the number of alliances exceeds 90.

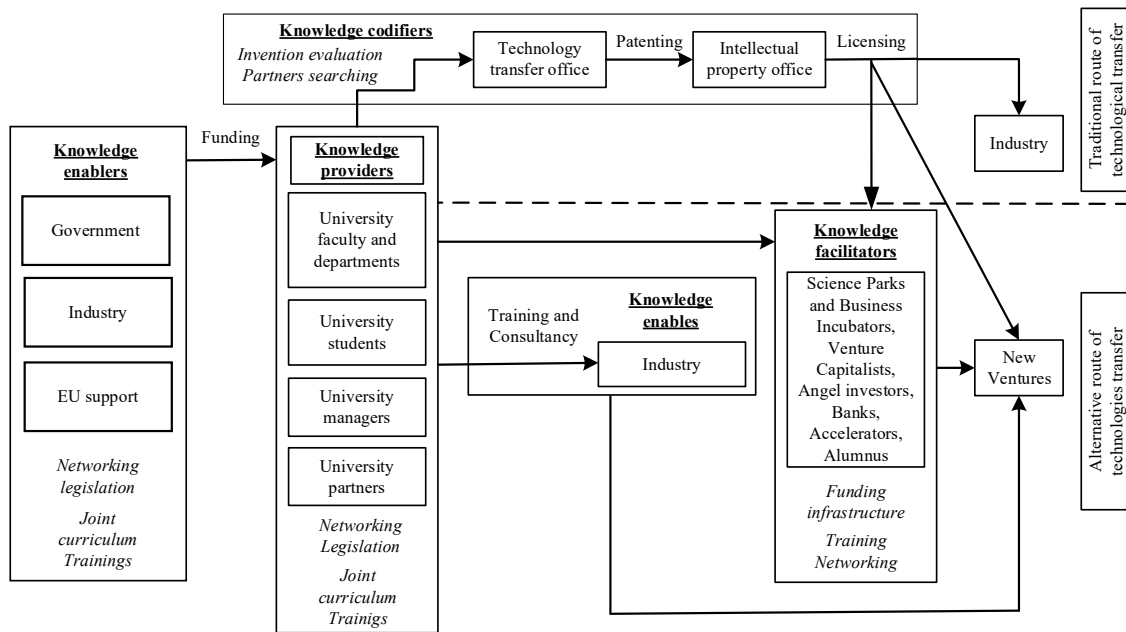


Figure 1. Conceptualisation of the university and stakeholder collaboration process to facilitate knowledge spillover (general conceptualisation)(Radko et al. , 2022).

Of all the universities participating in EU Alliances, only 13 are from Bulgaria, and 27 are from Romania (See Table 2) [European Commission, 2019, 2020, 2022]. The number of alliances and participating universities is expected to increase further in the coming years, as a result of the UK 's return to the Erasmus+ programme in 2026.

Table 2.

Universities participating in EU Alliances

Partners	Periods				
	2019	2020	2022	2023	All
EU Alliances	17	24	20	30	91
EUs	111	156	189	260	716
Bulgarian EUs	0	5	2	6	13
Romanian EUs	3	7	7	10	27

The concept of universities participating in an alliance is to offer uniform curricula for different educational degrees, corresponding to a certain number of credits (ECTS). Training should be carried out in organized mobility depending on the preferred academic disciplines and in a different number of semesters. Despite the approval and subsequent creation of alliances, after the second call under the Erasmus+ program (in 2020), and to this day, these structures still do not work sufficiently fully. They offer a number of trainings, specialized courses, practices within two to four semesters, but from all the websites of these alliances available and researched by the authors, it is not clear: what qualifications do students who study in them graduate with; what competence document do they receive; what status does the created alliance acquire. This ambiguity raises a number of questions, such

as:

- Will there be a leading (coordinating) university in the respective alliance to exercise control, distribute training among participants, and organize work?
- What diploma will the trainees receive and from whom?
- Where and how are the credits used and how are they coordinated with current training?
- Can they then study in doctoral programs?
- How are scientists and professors selected to work at the respective European University?
- What curricula and plans will the students follow?
- How and who will coordinate these curricula and programs?
- In which professional field will the students graduate, given that the universities teaching them may be accredited to teach in different fields?
- Who will evaluate and control the quality of education in this structure?

Currently, in the countries participating in the formation of alliances, there are established structures that carry out this control and provide assessment at the regional level, but with the emergence of European universities and alliances, the question arises: What rules, laws and requirements will each participant in such an alliance work under? How will it be controlled? How will it be assessed? In Bulgaria, such a function is performed by the National Agency for Evaluation and Accreditation (NAEA). Its powers are regulated by the Rules of Procedure of the National Agency for Evaluation and Accreditation, which was adopted by a Decree of the Council of Ministers of the Republic of Bulgaria and promulgated in the State Gazette, in accordance with Bulgarian legislation. The NAEA itself carries out activities to evaluate, stimulate and control higher education institutions at the national level. It also has powers related to foreign universities, but they are very vaguely regulated [NEAA].

The goals and objectives of European Universities largely coincide with those of Entrepreneurial Universities. In terms of stakeholders, both categories of universities have the same goals. There is also a lack of an assessment of the quality of the opportunities offered and one that clearly shows which universities are entrepreneurial and, accordingly, a classification of the level to which they have developed as entrepreneurial institutions.

Regarding university alliances, there are too many ambiguities related to the issuance of diplomas, assessment of the quality of education, and the distribution of rights and responsibilities.

4. Tools for promoting entrepreneurship in education in Bulgaria

Over the past 30 years, the EU has implemented a wide range of policies and used a number of instruments to promote entrepreneurship in education and improve the education-business relationship in the Member States, the most significant of which are summarized in Table 3.

Table 3.
EU Initiatives in Support of Entrepreneurship in Universities (By the Authors)

№	Initiatives	Activity	Aims	Financial Institution	Contribution to supporting the development of entrepreneurial universities: (small/large/medium)
1	Erasmus+	Supporting education, training, youth and sport in Europe.	The current Erasmus+ programme (2021-2027) supports four "horizontal priorities" that apply to all actions in the programme. They reflect shared European values and respond to the main challenges in European societies today. The four "horizontal priorities" are: Inclusion and diversity; Environment and climate action; Digital transformation; Participation in democratic life.	European Union	Small because it has no direct connection to the entrepreneurial capacity in universities, but it provides higher quality education and is focused on digital transformation, ecology and sustainable development, which indirectly supports the development of entrepreneurship towards a circular economy.
2	HEInnovative	Training courses and techniques for developing entrepreneurial attitudes, opportunities for self-assessment of both educational institutions in the form of higher education institutions and the students themselves. (HEInnovate, 2025)	A free self-assessment tool for all types of higher education institution allows access to higher education institutions using a number of statements related to its entrepreneurial and innovative nature (EIT Framework https://www.heinnovate.eu/en/about/heinnovate)	European Commission in partnership with OECD (The Organization for Economic Cooperation and Development), co-financed by the European Union, Innovation Fund	Large because it is directly aimed at increasing the entrepreneurial capacity of students, faculty, and staff.
3	The Marie Skłodowska-Curie Actions	Help build Europe's capacity for research and innovation by investing in the long-term careers of excellent researchers. fund the development of excellent doctoral and postdoctoral training programmes and collaborative research projects worldwide.	Achieving sustainable cooperation in research and innovation; Enhances the creative and innovative potential of researchers, thereby promoting the education-business link (European Commission, 2021)	EU body and an integral part of Horizon Europe	Small because it provides better opportunities for the development of new technologies, innovations and business solutions by supporting research in universities
4	EIT Impact Framework	offers a wide range of innovation and entrepreneurship activities across Europe: entrepreneurial education courses, business creation and acceleration services, and innovation-driven research projects.	Strengthens Europe's ability to innovate by powering solutions to pressing global challenges and by nurturing entrepreneurial talent to create sustainable growth and skilled jobs in Europe (EIT, https://www.eit.europa.eu/about-us/eit-glance)	EU body and an integral part of Horizon Europe	Big because it provides assistance in creating startups based on innovation and sustainable growth.
5	Junior Achievement	Supports the implementation of the objectives of the EU Lifelong Learning Strategy.	Through training and various initiatives; builds key competencies, such as entrepreneurship and initiative in young people.	Non-governmental organization with a non-profit purpose	Medium, because the program is aimed at learners from all levels of education to enhance their competencies.

The following conclusions can be drawn from the instruments presented in Table 3:

- All initiatives to promote entrepreneurship in universities are aimed at improving the quality of education;
- Some of the initiatives stimulate the development of innovations and new scientific achievements, but they are not specifically addressed to the needs of business;
- There are none that stimulate the education-business relationship. In the presence of such close relationships, educational institutions could jointly develop new products with business, develop new technologies and thus meet the needs of the market.
- None of the initiatives is aimed at implementing a business together with students and the university, which would improve the financial capabilities of universities and their financial autonomy.

5. Conclusion

In conclusion, the main goal of the EU and educational institutions is to build such a learning and development environment for future human resources that will stimulate the pursuit of continuous improvement and development of new technologies and innovations. At the same time, educational institutions should attract motivated young people who are willing to accumulate knowledge and look for ways to create new technologies that they can commercialize together with them. Another important goal of universities is to maintain close ties with business by working together in the development of new technologies, training of human resources and opportunities for related training. All these goals will provide an entrepreneurial environment for young people and educational institutions that will significantly increase the entrepreneurial capacity of both the learners themselves and the universities. Through various instruments, the EU and educational institutions collaborate in their efforts to develop entrepreneurial thinking in young people, which will provide quality human resources, creators of new businesses and innovators.

In conclusion, the study conducted by modern educational institutions is expected to continue working towards improving their relationship with business in order to be able to respond more adequately to the needs of the market. The EU, in cooperation with universities and companies, should seek tools to promote entrepreneurship in order to improve opportunities for joint work to initiate new businesses and expand existing ones, joint activities to create new technologies and their commercialization.

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