excellent EXCELLENCY IN ENTREPRENEURSHIP

Entrepreneurial Best Practices Report

Deliverable D3

ExcellEnt: *Excellency in Entrepreneurship: Expanding European entrepreneurship by boosting youth (self) employability and promoting a sharing resources culture*

Horizon Europe Programme, Project number 101100515

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Abbreviations

BA	Bachelor of Arts
EdTech	Educational technologies
EIT	European Institute of Innovation and Technology
EntreComp	The Entrepreneurship Competence framework
FEBA	Faculty of Economics and Business Administration
FMI	Faculty of Business Administration
HEIs	higher education institutions
ICT	Information and Communication Technologies
IEs	Innovation Enablers
IEs	Innovation Providers
KICs	Knowledge and Innovation Communities
MBA	Master of Business Administration
MSc	Master of Science
MVP	Minimum Viable Product
NGOs	Non-governmental Oorganizations
R&D	Research and Development
S2BMM	Science to Business Model
TTO	Technology Transfer Office
TUBITAK	Scientific and Technological Research Council of Turkey
VC	Venture Capital Fund

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Executive Summary

D3 Entrepreneurial Best Practices Report, as part of the ExcellEnt project, showcases the initiative's commitment to enhancing European entrepreneurship through youth employability and a culture of sharing resources. The report bridges the gap between academic institutions and innovation enablers, aiming to align formal educational practices with the dynamic needs of the entrepreneurial sector.

Following a meticulous analysis involving case studies and a SWOT analysis of entrepreneurial ecosystems across the six different regions (Deliverables D1 and D2 of the ExcellEnt project), the report identifies best practices and successful collaborations that can serve as benchmarks for fostering entrepreneurial skills. Key findings emphasize the importance of multidisciplinary cross-fertilization, active engagement with real-world business cases, and the necessity for educational curricula to be both theoretically sound and practically relevant.

Aligned with EU policies and initiatives, this report underscores the critical role of entrepreneurial education in economic development, job creation, and social inclusion. By analysing educational methodologies and their effectiveness in equipping students with entrepreneurial skills, the document contributes to the broader objectives of enhancing entrepreneurial culture, fostering innovation, and nurturing the next generation of entrepreneurs.

The methodology encompassed a detailed review of current practices within Higher Educational Institutions and organizations supporting entrepreneurs, focusing on aligning these practices with essential entrepreneurial competencies. Through partner analysis, feedback on academic curriculum from innovation enablers, and documentation of best practices and case studies, the report offers actionable insights for enhancing collaborative practices in entrepreneurial education.

However, it also acknowledges some limitations due to the selective nature of the organizations interviewed and suggests that the findings offer a directional insight rather than an overall overview of the entrepreneurial ecosystems in question. The report concludes with recommendations for educational institutions, industry partners, and policymakers to consider, in order to advance entrepreneurial education and create a more vibrant, inclusive, and innovative entrepreneurial ecosystem across Europe.

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About the ExcellEnt project

The ExcellEnt project aspires to explore novel ways to capture, preserve, curate, organise and communicate sets of unstructured entrepreneurial experiences, stories, narratives with an emphasis to those of younger audience that is addressing the challenge of (self)employability, so that they can constitute a shared resource that people can augment, and that individuals as well as institutions can delve into, to find inspiration for new ways of conceptualising and promoting entrepreneurship, and how these new ways can be reflected into every-day practices and policies, and foundations for visions of our common European future.

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1. Introduction

1.1 Purpose of the report

The "Entrepreneurial Best Practices Report", conceived in Task 1.3 of the ExcellEnt project, is designed to bridge the gap between academic institutions and innovation enablers. Its purpose is to align the practices of educational institutes with the evolving needs and practices of the entrepreneurial sector. By systematically analysing educational methodologies and their effectiveness in equipping students with entrepreneurial skills, the report ensures that academic curricula are not just theoretically robust but also practically relevant. This alignment is critical in creating a symbiotic relationship where educational institutes and practitioners mutually benefit from shared knowledge and experiences.

1.2 Importance of multidisciplinary cross-fertilization

This report emphasizes the need for multidisciplinary cross-fertilization and active engagement of the entrepreneurial education with concrete business cases. It encourages breaking down the barriers between academic theory and entrepreneurial practice, advocating for a collaborative approach to education. By enabling direct interaction between educators and practitioners and analysing tangible business cases, the report facilitates a comprehensive exchange of knowledge. This interaction aims to enrich the educational experience, offering a well-rounded view of the entrepreneurial sector and contributing to a dynamic educational ecosystem.

1.3 Alignment with EU policies and initiatives related to entrepreneurial educational support

The development of the "Entrepreneurial Best Practices Report" is intrinsically linked to several European Union policies and initiatives that emphasize the significance of entrepreneurial education. These frameworks collectively underscore the importance of this report.

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The European Green Deal[1] sets a forward-looking vision for the EU's growth, underlining sustainability, entrepreneurship, and innovation as pivotal elements for economic development, job creation, and social inclusion. It aims to make the EU the first climate-neutral bloc by 2050, emphasizing the transition towards a sustainable economy. This aligns with the objectives of the report by stressing the importance of fostering entrepreneurial mindsets and skills that are attuned to sustainability and innovation, thereby contributing to the Green Deal's overarching goals.

Following the strategic directions set by the European Green Deal, the Strategy 2020-2024 for Research and Innovation[2] further specifies the EU's commitment to revitalizing entrepreneurship across Europe. This strategy underlines the role of research and innovation in driving the green and digital transformations that the EU is pursuing. By supporting entrepreneurial education and training, this strategy fosters an environment conducive to entrepreneurial growth, resonating with the report's focus on identifying effective educational practices and fostering an entrepreneurial culture.

The Erasmus+ Program[3], known for its support in education, training, youth, and sports, aligns with the report's objectives by funding projects that enhance entrepreneurship education. This program's emphasis on innovation and the dissemination of good practices in education resonates with the report's aim of showcasing exemplary cases and effective collaborations in entrepreneurial education.

Complementing these is the EU's New Skills Agenda[4], which focuses on improving the quality and relevance of skills training to meet the demands of the labour market. The agenda places entrepreneurship as a key competence, advocating for its integration at all educational levels and emphasizing the importance of practical entrepreneurial experiences. The report's analysis and mapping of competencies in entrepreneurial education reflect the agenda's focus and contribute to its implementation.

The Digital Education Action Plan[5] addresses the challenges and opportunities posed by the digital transformation. It emphasizes the development of digital skills, including those relevant for digital

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[1] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en
[2] https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024_en
[3] https://ec.europa.eu/programmes/erasmus-plus/node_en
[4] https://ec.europa.eu/social/main.jsp?catId=1223
[5] https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en

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entrepreneurship, which is likely to be an aspect covered in the report's findings and recommendations.

Lastly, the initiatives by the European Institute of Innovation and Technology (EIT)[6] showcase the union of business, education, and research to foster innovation and entrepreneurship. The EIT's Knowledge and Innovation Communities (KICs) are exemplary in developing new products and services, launching companies, and training entrepreneurs. This initiative, a joint effort of the European Institute of Innovation and Technology community, focuses on empowering Higher Education Institutions become key actors in regional and European innovation ecosystems. It emphasizes enhancing the innovation capacity and entrepreneurial mindset within these institutions and fosters collaboration between academia, industry, research institutions, public authorities, and governmental organizations. Through competitive calls for proposals, it offers non-reimbursable grants to consortia formed by HEIs and their partners, working on various strategic dimensions, including innovation, entrepreneurship, and deep tech. Insights and best practices from these communities could be integral to the report's content.

In summary, the "Entrepreneurial Best Practices Report" responds entirely to the EU's approach to fostering entrepreneurial skills, contributing to broader objectives of economic growth and societal advancement.

2. Methodology

The methodology for the "Entrepreneurial Best Practices Report" is based on a detailed and multifaceted approach, focusing on the intersection of entrepreneurial education and innovation practice. The methodology encompasses several key components, each contributing to a thorough understanding of the current state and potential improvements in entrepreneurial education.

Initially, *a literature review* was conducted, focusing on case studies that illustrated effective collaborations between academic institutions and innovation enablers across different ecosystems. This review aimed to lay the groundwork for understanding the prevailing dynamics in entrepreneurial education and its collaboration with real-world innovation practices.

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[6] https://eit.europa.eu/our-activities/about-eit

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Following the literature review, an *in-depth partner analysis of all six ecosystems participating in ExcellEnt project was undertaken*. Each partner involved in the study meticulously examined their respective national ecosystems, paying particular attention to the practices within higher educational institutions and organizations that support entrepreneurs. This analysis was not only about mapping these practices to the established "EntreComp competences", the EU framework of essential entrepreneurial competencies, but also about identifying additional competencies that might be relevant. The data from the interviewed organizations was organized in two categories: one detailing the academic programs of the Higher Education Institutions, and the other outlining the training programs provided by innovation enablers. Both were aligned with the EntreComp competencies framework. This step was crucial in identifying potential gaps in the academic curricula of HEIs and the training programs offered by innovation enablers, particularly in relation to the most critical competencies identified.

An integral part of the methodology was *obtaining and incorporating feedback on the academic curriculum from innovation enablers*. Partners held interviews with innovation enablers, focusing on their educational experiences in entrepreneurship. A key aspect of this feedback process involved exploring whether a formal correlation exists between education and/or experience and entrepreneurial success, drawing insights from the practitioners' perspectives.

Finally, the methodology included *the identification of best practices, where* partners *presented examples of successful startups or spin-offs*. These are aimed to highlight effective collaborations between academic institutions and innovation enablers. The inclusion of such examples was contingent on their direct relevance to academic education or training by innovation enablers, ensuring that the findings were both pertinent and illustrative of successful entrepreneurial education practices.

Overall, this methodology supported a holistic and insightful analysis of the entrepreneurial educational landscape, combining theoretical understanding from literature with practical insights from ecosystem analysis, practitioner feedback, and real-world best practices.

1.3 Limitations

This report provides an analysis based on interviews with a representative though not so big set of organizations within the Greek, Bulgarian, Turkish, French, Irish, and Ukrainian entrepreneurial

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ecosystems. It is important to acknowledge that these ecosystems comprise a wide range of academic institutions and innovation enablers beyond those interviewed. Given the relatively small sample size of interviewed organizations, it is prudent to clarify that the findings are representative for the national ecosystems in question just to certain extent. Consequently, this report should be interpreted as offering insights into potential areas of focus within each ecosystem rather than a comprehensive overview. The intention is to highlight possible directions for further investigation and development rather than to present definitive conclusions about the state of entrepreneurship across these diverse contexts.

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3. Analysis of best practices in entrepreneurial collaboration

This section includes an analysis of best practices in entrepreneurial collaboration based on the different sources defined in the methodology. The literature review of the successful collaborations and best practices beyond the ecosystems participating in the ExcellEnt project conducted explores the importance of collaboration, inclusivity, and impact-focused strategies in advancing entrepreneurial education. Further, the section includes not only practices discovered through the interviews in Task 1.1. of this project, but it also examines the successful practices that facilitate cooperation between startups, academic institutions, and innovation enablers within the ecosystems of Greece, Bulgaria, Turkey, France, Ireland, and Ukraine. It reviews case studies and success stories from the interviewed organizations, highlighting the key factors that contribute to successful collaborative efforts among startups, academic institutions, and innovation enablers. Also, the section aims to provide actionable insights and recommendations for enhancing collaborative practices, emphasizing the importance of synergy, mutual support, and shared goals in driving entrepreneurial success.

3.1 Successful collaborations and best practices outside of the analysed ecosystems

For the part on successful collaborations and best practices outside the analysed ecosystems, the method employed is a literature review. This review focuses on cases and best practices involving collaboration in entrepreneurial education between academic institutions and innovation enablers in various ecosystems, both within Europe and globally. based on the review and the respective analysis insights into successful collaborations and best practices for mutual engagement between educational institutions and innovation enablers have been outlined. The aim is to broaden the understanding of effective educational partnerships beyond the specific ecosystems directly studied in the report.

The following studies and works provide good baseline outlining effective collaboration methods and practices in entrepreneurial education applied by academic institutions and innovation enablers in Europe and globally.

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In 2012, B. Bozeman et al. [7] published a study in the Journal of Technology Transfer, introducing a framework designed to enhance the efficiency of partnerships between universities and industries. This framework was developed based on insights gathered from a workshop they organized, as well as a comprehensive examination of existing literature on best practices for such collaborations. The article further explores the implications of their findings for those teaching entrepreneurship and for university administrators, providing recommendations for future research. Among the suggestions for enhancing research on collaborations are: 1) focusing on various levels of analysis and their interplay; 2) adopting more precise methods for measuring outcomes rather than just outputs; 3) investigating the 'malpractice' in collaborations, including exploitation; and 4) paying closer attention to the motivations of the collaborating parties.

Another interesting study, titled "Stakeholder collaboration in entrepreneurship education: an analysis of the collaboration of stakeholders from the entrepreneurial ecosystem in entrepreneurship education at European higher educational institutions (HEIs)." was developed in 2017 by K. Bischoff et al., a contribution to the Journal of Innovation and Entrepreneurship. This study fills a research void by exploring how stakeholders within the entrepreneurial ecosystem engage in entrepreneurship education across European higher education institutions. Utilizing stakeholder theory as a lens, the authors delve into the dynamics of stakeholder collaboration in the context of entrepreneurship education and the management of universities. Their research encompasses a cross-case analysis of 20 higher education institutions across 19 European countries, offering insights into the major external stakeholder groups within the HEIs' entrepreneurial ecosystems and their roles in entrepreneurship education. The paper discusses the intensity and coordination of stakeholder collaborations and various strategies for managing stakeholder relationships. Through this analysis, the authors propose a framework for understanding stakeholder involvement in entrepreneurship education at HEIs, underscoring the critical role of stakeholder collaboration in these settings.[8]

A research study titled "Effective Collaboration of Entrepreneurial Teams—Implications for Entrepreneurial Education" (2020), authored by B. Krawczyk-Bryłka et al., was discovered, analyzing the principles adopted by successful entrepreneurial teams and the variations between new and seasoned teams. This paper delves into how the application of these principles by members of

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entrepreneurial teams influences their assessment of business performance and personal fulfilment. The research involved a group of 106 Polish entrepreneurs who operate their ventures as part of entrepreneurial teams.[9]

An additional valuable resource is the book titled "Entrepreneurship education at universities: learning from twenty European cases," authored by Christine K. Volkmann and David B. Audretsch. This book examines 20 instances of higher education institutions throughout Europe, evaluating them against three main criteria to outline the current state and features of entrepreneurship education within European higher education institutions. The results reveal that effective entrepreneurship education is not exclusive to prestigious universities but is also implemented successfully in lesser-known institutions.[10]

The investigated literature on entrepreneurial education highlights the importance of collaboration, inclusivity, and impact assessment in cultivating effective programs. It outlines the necessity of engaging a wide range of stakeholders from academia, industry, and innovation sectors to share knowledge and best practices, thereby enriching the educational experience. The findings emphasize that quality entrepreneurship education is not confined to elite institutions but can be achieved across various universities, enhancing accessibility and diversity. Moreover, it is suggested that a shift towards evaluating the real impact of educational initiatives would help better understand their effectiveness. Additionally, insights into the dynamics of entrepreneurial teams and the application of structured frameworks for university-industry collaboration are identified as key factors in enhancing the practical outcomes for students. By integrating global and European perspectives, the literature suggests that a multifaceted approach, focusing on collaboration, inclusivity, and a commitment to impact, is crucial for advancing entrepreneurship education and nurturing entrepreneurial talent across different contexts.

3.2   Analysis of Current Educational Practices across the Project

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[9] https://files.eric.ed.gov/fulltext/EJ1279870.pdf
[10] https://link.springer.com/article/10.1007/s41959-021-00056-6

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The next step of the methodology for the "Entrepreneurial Best Practices Report" involved a detailed analysis of the current practices in Higher Educational Institutes and organizations supporting entrepreneurs in the six ecosystems. This analysis was structured to align these practices with the EntreComp competences, and any additional competencies and their importance identified in D1.2 "Mapping the entrepreneurial competences" .

Partners in the project conducted this analysis based on the data from interviewed organizations - both HEIs and organizations supporting entrepreneurs. The analysis detailed the academic programs offered by HEIs[11], and outlined the training programs provided by innovation enablers[12], aligning both with the competences framework.

In D 1.2, *Table: List of Importance for EntreComp the competencies across targeted ecosystems*, the competencies were categorized into three groups based on their importance across the six ecosystems (Turkey, Greece, Ukraine, Bulgaria, France, Ireland). These groups ranged from "Very Important Competences" with an average score above 4.0 (like Motivation and Perseverance, Coping with Uncertainty, and Working with Others), to "Important Competences" (such as Planning and Management, Vision, and Mobilising Resources), and finally, "Competences Considered Not So Important" with scores below 3.5.

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[11] The list of all tables of higher education institutions' alignment of academic curricula and competencies in EntreComp Framework as well as the identified emerging competences is provided in Annex 1.
[12] The list of all tables of innovation enablers' alignment of 'training programs and competencies in EntreComp Framework as well as the identified emerging competences is provided in Annex 2.

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EXCELLENCY IN ENTREPRENEURSHIP

Very Important Competences

(Average Score > 4.0)

- **Motivation and Perseverance:** 5.0
- **Coping with Uncertainty, Ambiguity, and Risk:** 5.0
- **Working with Others:** 4.8
- **Learning through Experience:** 4.7
- **Spotting Opportunities:** 4.3
- **Valuing Ideas:** 4.3

Important Competences

(Average Score: 3.5 to < 4.0)

- **Planning and Management:** 3.8
- **Vision:** 3.7
- **Mobilising Resources:** 3.7
- **Financial and Economic Literacy:** 3.5:

Competences Considered Less Important

(Average Score < 3.5)

- **Mobilising Others:** 3.3
- **Ethical and Sustainable Thinking:** 3.2
- **Self-awareness and Self-efficacy:** 3.2
- **Taking the Initiative:** 2.8
- **Creativity:** 2.7

Figure 1. competence Categorization Across the Six Ecosystems (Turkey, Greece, Ukraine, Bulgaria, France, Ireland)

The categorization is based on the average scores derived from the assessments across Turkey, Greece, Ukraine, Bulgaria, France, and Ireland, providing a comprehensive overview of the perceived importance of each competence in these varied environments. For the purpose of this report, the competences considered less important have been excluded from further analysis due to the aim of the report to refer only to the competences identified as "very important" or "important". Further, the extent to which they have been supported in the academic/ training programs of the interviewed organisations is examined: providing three levels 1) entirely covered, 2) partially covered, and 3) not covered at all.

Additionally, new (emergent) important entrepreneurial competences identified by D1.2 beyond the EntreComp Framework, including **resilience, coachability, flexibility and agility, customer centricity, technical or domain specific skills, openness to experience, continuous learning, sales skills, strategic orientation, complementarity in teams**, and **valuing employees** were studied. Partners assessed these competencies within their national ecosystems, determining the extent of their coverage and support by academic and training programs, similarly to the competences from EntreComp Framework.

The outcome of this extensive analysis included a comparison of competence coverage by formal and informal education programs in each country, and an evaluation of the most important competencies with a focus on identifying gaps in the academic curricula of HEIs and training programs for innovation

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enablers. This comprehensive approach provided a nuanced understanding of the alignment between educational curricula and the practical demands of the entrepreneurial sector in different ecosystems.

3.2.1 Greece

HIGHER EDUCATION INSTITUTIONS

EntreComp competences

Following the methodology outlined above, the following results were obtained for the higher education institutes participating in the interviews, i.e. the University of Thessaly and specifically the Business Administration Department, and specifically examining the Business Administration Undergraduate Programme, the Master's in Business Administration Programme and the Interdepartmental MSc in Entrepreneurship of the Departments of Economics and Business Administration Programme:

1. **Entirely Covered Competences**: The following EntreComp competences have multiple courses at various levels that align closely with their descriptions, therefore suggesting full coverage:

   - ***Spotting Opportunities:*** Courses like *Marketing Principles* and *New Technologies in Business Administration* cover this competence.

   - ***Vision:*** *Strategic Management*, *Branding*, *Business Strategy* are some of the multiple courses found in the examined academic curricula that cover this competence.

   - ***Mobilising Resources:*** A variety of courses, such as *Commercial Law*, *Operations Management & Global Value Chains* and *Statistics & Econometrics* cover this competence.

   - ***Financial & Economic Literacy***: This competence is comprehensively addressed at the undergraduate level through a diverse range of courses, including *Portfolio Management*, *Micro-* and *Macro-economics*, *Accounting*, etc.

   - ***Planning & Management:*** Courses like *Operations Management*, *Small and Medium-sized Enterprises Management* and *Principles of Management* fully cover this competence.

   - ***Working with Others***: This competence is covered by a variety of courses, including *Organizational Behavior*, *Sales and Customer Relationship Management* and *Human Resource Management (HRM), Organizational Behavior, Leadership*.

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2. **Partially Covered Competences**: The following EntreComp competences appear at various programmes:

- ***Motivation & perseverance***: While there are elements of the curriculum that touch upon this competence, such as motivation theories in the *Organizational Behavior* course and the role of leadership in fostering a productive work environment in the *Human Resource Management (HRM), Organizational Behavior, Leadership* course, there is room for a more comprehensive approach.

- ***Coping with uncertainty, ambiguity & risk***: Rated at the highest level of importance, it is only partially covered in the examined curricula by courses like *Organizational Change Management* and elements of risk analysis and investment evaluation under certainty and risk conditions in the *Accounting and Financial Analysis* course.

- ***Learning through Experience:*** This area is partially covered. Students primarily gain practical learning through their thesis work rather than through a broader, more holistic approach.

3. **Competences Not Covered**: These competencies do not have any courses at any educational level that align with them, indicating gaps in the curriculum. In the Greek ecosystem, the following EntreComp competences are not covered:

- ***Valuing Ideas:*** Despite its significant importance is absent in the examined curricula. This gap indicates a potential missed opportunity for students to learn how to nurture and develop ideas into viable business concepts, which is a crucial skill in today's dynamic and innovation-driven economy.
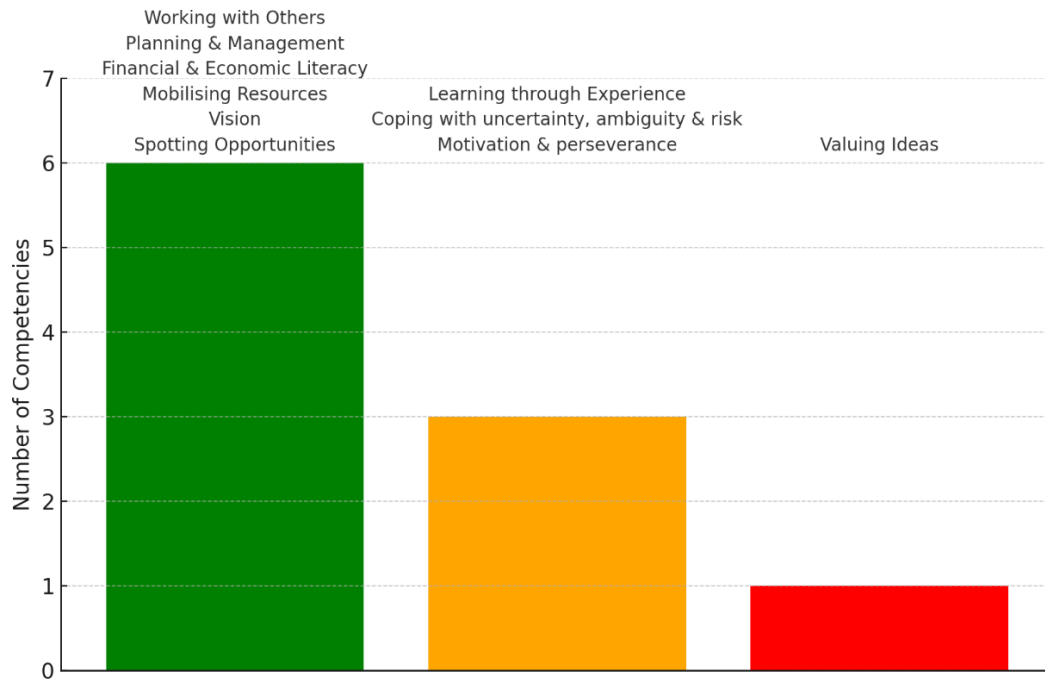
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Figure 2. EntreComp Competences coverage in the academic programs of the HEIs interviewed within the Greek ecosystem

The Greek educational ecosystem, as analysed, shows a robust framework for developing competencies such as *Spotting Opportunities*, *Vision*, and *Working with Others*. These competencies are well-integrated across the educational programs, reflecting a curriculum that values strategic foresight, collaboration, and opportunity recognition. The partial coverage of several critical competencies, as well as the absence of coursework focusing on *Valuing Ideas*, suggests an educational environment that may not fully harness the entrepreneurial potential of students.

Emergent competencies

Concerning **emergent competences**, the results of the Greek ecosystem HEIs are summarized below:

1. **Fully Covered**

   - ***Complementarity in teams***: The curriculum includes multiple courses on management and organizational behaviour, which cover aspects of teamwork and collaboration.

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- *Technical skills / Domain-specific skills*: These skills are covered through various specialized courses.

- *Strategic orientation*: Courses such as Strategic Management and Business Strategy provide a strong foundation in this area.

2. **Partially Covered**

- *Resilience*: Courses like Organizational Behavior might discuss motivation and team dynamics, contributing to resilience.

- *Flexibility & agility*: Agile Management and other courses teach agile methodologies, catering to this competence.

- *Customer centricity*: Courses such as Digital Marketing and Sales and Customer Relationship Management focus on understanding customer needs and behaviour.

- *Valuing employees*: Human Resource Management courses may address the empowerment and valuing of employees.

- *Sales skills*: Courses like Sales and Customer Relationship Management are directly relevant.

- *Continuous learning*: Courses such as Effective Learning and Academic Development, and postgraduate dissertations include concepts of continuous learning.

3. **Not Covered**

- *Coachability*: While courses like Effective Learning and Academic Development may contribute, there is no direct coverage.

- *Openness to experience*: No specific course caters directly to this competence, even though courses may implicitly encourage openness.

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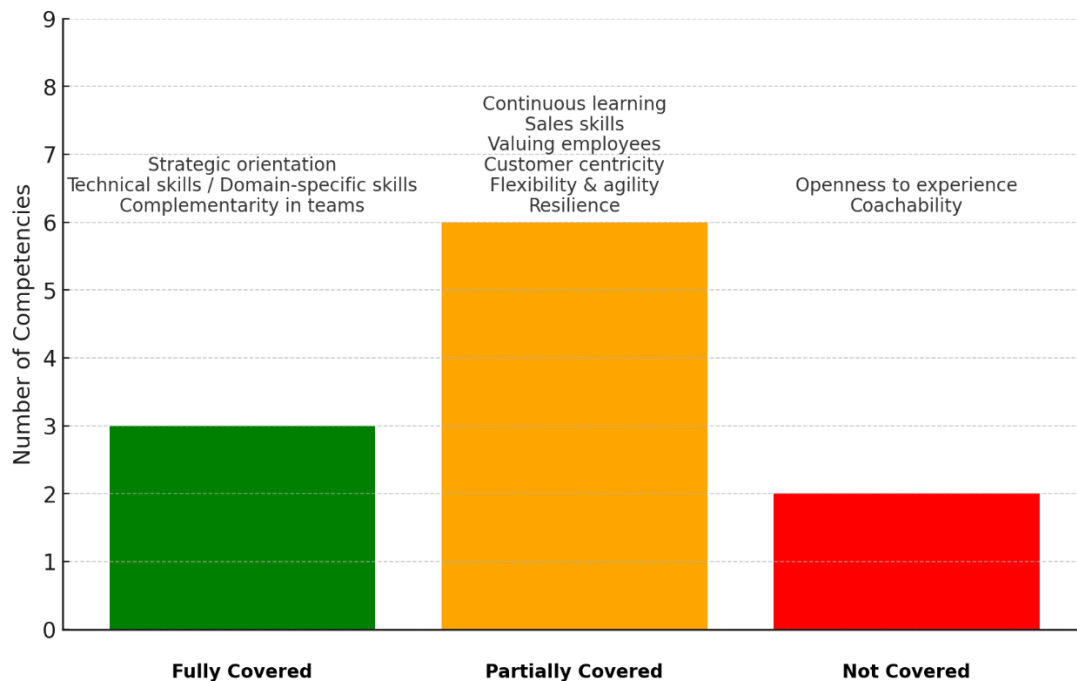D3 Entrepreneurial Best Practices Report

Figure 3. Emergent competencies coverage in the academic programs of the HEIs interviewed within the Greek ecosystem

Concluding, the academic curricula demonstrate a structured alignment with the EntreComp competencies, where several competencies such as *Spotting Opportunities, Vision*, and *Working with Others* are fully integrated. This indicates a strong emphasis on strategic foresight and collaborative skills. However, there are notable gaps, particularly in *Valuing Ideas* and *Creativity*, which are essential for fostering an innovative mindset and entrepreneurship. The partial coverage of competencies like *Motivation & Perseverance* and *Coping with Uncertainty, Ambiguity & Risk*, both highly rated for their importance, suggests a need for curricular enhancements to address these areas more comprehensively.

Regarding emergent competences, the HEIs interviewed show robust coverage in areas like *Technical Skills and Strategic Orientation,* but lack explicit focus on *Coachability, Openness to Experience*, and *Continuous Learning*. This may impact the ability of students to fully engage with continuous improvement processes and adapt to feedback.

INNOVATION ENABLERS

EntreComp competences

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For the analysis of the alignment between the EntreComp and additional competencies and the curricula of innovation enablers in the Greek ecosystem, the following categorisation was obtained:

1. **Entirely Covered Competences**: The following EntreComp competences have courses that align closely with their descriptions, therefore suggesting full coverage:

   - *Vision:* Fully covered by courses *International Competition and Team Advantages*, *Business Model, Strategy, Operational Model Development* and *Corporate Vision, Mission, Values, and Culture Development*.

   - *Financial & Economic Literacy*: Fully covered by courses *Expected Revenue Size*, *Cash Flow Management* and *Accounting Management of New Business*.

   - *Working with Others:* Fully covered by courses *Team Efficiency and Business Model Effectiveness* and *Team Collaboration*.

2. **Partially Covered Competences**: For the following EntreComp competences several aspects are covered, but may not fully address the competence:

   - *Spotting Opportunities*: Covered by course *Market Size/Analysis*.

   - *Motivation & perseverance:* Covered by the *Reward Systems, Employee Benefits, Motivation* course.

   - *Mobilising Resources:* Covered by the *Team Efficiency and Business Model Effectiveness* course.

   - *Coping with Uncertainty, Ambiguity, & Risk:* Covered by the *International Competition and Team Advantages* course.

3. **Competences Not Covered**:

   - *Valuing Ideas*

   - *Planning & Management*

   - *Learning through Experience*

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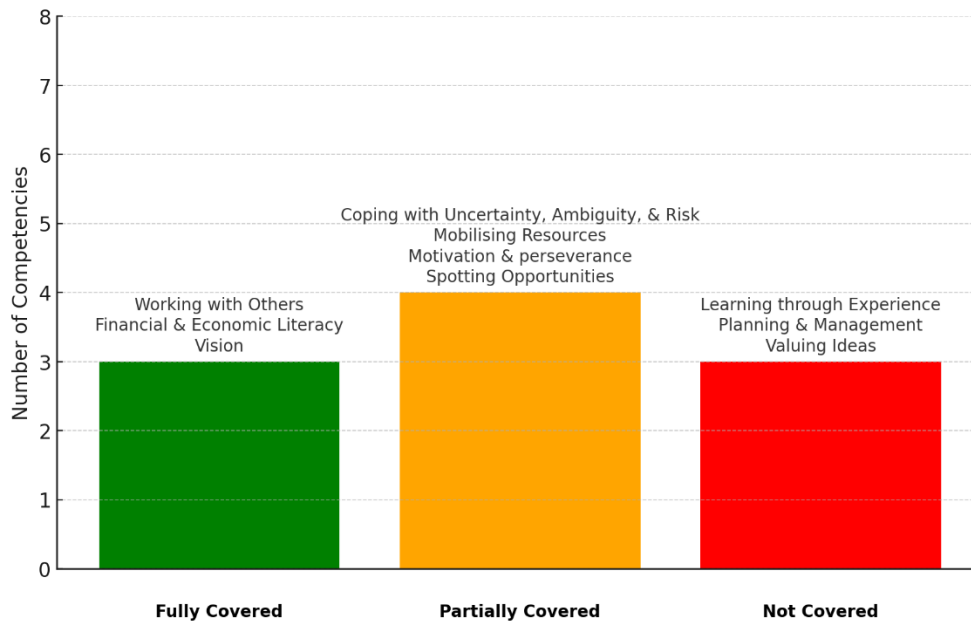*D3 Entrepreneurial Best Practices Report*

Figure 4. EntreComp competences coverage in the training programs of the innovation enablers interviewed within the Greek ecosystem

In the context of the Greek ecosystem for innovation enablers participating in our research activities, and considering the importance of each competence, some oversights in the curricula concerning certain competencies that are essential for entrepreneurial success are observed.

Valuing Ideas, despite its significant importance is absent in the current curricula. ***Learning through Experience,*** which is highly valued, does not have a direct representation in the provided curricula. This gap is noteworthy because experiential learning is crucial for entrepreneurs, as it fosters the ability to adapt and apply theoretical knowledge to real-world challenges, an essential component of effective learning and innovation.

Emergent competencies

Concerning **emergent competences**, the results of the Greek ecosystem innovation enablers are summarized below:

1. **Fully Covered**

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- ***Strategic orientation***: Courses such as Strategy and Decision Making and Development Plan for Business Operations, Marketing, Business Plan align well with strategic orientation.

2. **Partially Covered**

- ***Coachability***: Coachability involves being receptive to feedback, which may be an underlying theme in courses like Emotional Intelligence, but it is not clearly outlined.

- ***Complementarity in teams***: With courses on Team Efficiency and Business Model Effectiveness and Team Collaboration, there is an indication that the curricula support complementary team dynamics.

- ***Technical skills / Domain-specific skills***: The curricula include Innovation Management and other business-related courses that would inherently involve technical and domain-specific knowledge.

3. **Not Covered**

- ***Resilience***: While resilience might be an inherent outcome of navigating some of the courses, there is no explicit mention of it in the curricula.

- ***Flexibility & agility***: These qualities could be inferred from courses that involve strategy and planning but are not directly addressed.

- ***Customer centricity***: Although understanding the market and added value of the product is mentioned, direct customer focus and centric strategies are not evident.

- ***Valuing employees***: No specific course content addresses this competence.

- ***Sales skills***: There are no courses directly mentioning sales or sales management skills.

- ***Openness to experience***: The curricula do not seem to include courses that explicitly encourage openness to diverse interests and open-mindedness.

- ***Continuous learning***: While continuous learning may be an implicit goal of any educational program, it is not specifically outlined in the provided curricula.

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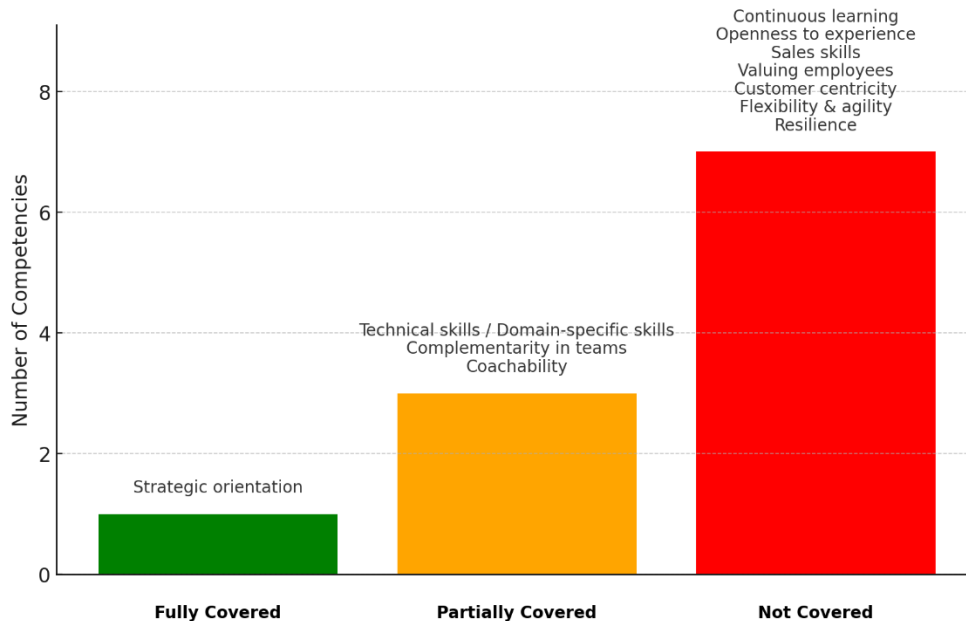D3 Entrepreneurial Best Practices Report

Figure 5. Emergent competences coverage in the training programs of the innovation enablers interviewed within the Greek ecosystem

The innovation enablers' curricula seem to address several EntreComp competencies effectively, such as *Vision*. However, there is a lack of specific courses targeting *Planning and Management* and *Valuing Ideas*, which are critical for innovation-driven entrepreneurship. The partial coverage of competencies related to resource mobilization and coping with uncertainty suggests that while these areas are recognized, they might benefit from deeper and more focused engagement.

Additional competences like *Strategic Orientation* are addressed, but there is a notable absence of explicit content on *Resilience, Flexibility & Agility*, and *Customer Centricity*. These are crucial for responding to market dynamics and maintaining customer relationships, suggesting potential areas for curriculum development.

COMPARISON OF COMPETENCES COVERAGE BY FORMAL AND INFORMAL EDUCATION PROGRAMS OF THE INTERVIEWED ORGANISATIONS IN GREECE

Both HEIs and IEs provide strong coverage in *Vision, Financial & Economic Literacy*, **and Strategic Orientation**. There is a **shared gap in addressing *Valuing Ideas*** within both HEIs and IEs, despite their recognized importance**. *Learning through Experience* is inadequately covered in both contexts**,

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pointing to a need for more hands-on, practical learning opportunities. Additional competences such as *Resilience* **and** *Continuous Learning* **are not prominently featured in either HEIs or IEs**, potentially hindering the development of adaptable and lifelong learners.

The comparison reveals that while Greek HEIs and IEs cover several foundational entrepreneurial competencies, there are areas where both could benefit from curricular improvements. Enhancing coverage of competencies like *Valuing Ideas, Learning through Experience*, and *Coping with Uncertainty* would likely lead to a more rounded and pragmatic entrepreneurial education. Both formal and informal programs have room to evolve, particularly in fostering a culture of innovation, resilience, and continuous learning to fully equip individuals for the challenges of modern entrepreneurship.

3.2.2 Bulgaria

HIGHER EDUCATION INSTITUTIONS

EntreComp competences

Based on the detailed course information provided in the document for the Masters Technology Entrepreneurship in ICT at Sofia University, Masters Technology Entrepreneurship at Technical University, and Masters Management and Entrepreneurship at Sofia, the coverage of EntreComp entrepreneurial competencies categorized as "Very Important" and "Important" can be summarized as follows:

1. **Fully Covered:**

   - **Motivation and Perseverance:** Courses on entrepreneurial mindset, perseverance, and motivation are directly mentioned, indicating a strong focus on developing these competencies.

   - **Spotting Opportunities:** Creativity and innovation courses aim at spotting opportunities by teaching students to find solutions to unstructured problems.

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- **Valuing Ideas:** The focus on creativity, innovation, and technological entrepreneurship suggests that valuing ideas is a central component of the curriculum.

- **Mobilising Resources:** Courses on resource management, including funding startups and technology commercialisation, show a strong emphasis on mobilising resources.

- **Financial and Economic Literacy:** Covered through courses on economic thinking, financial management, accounting, and finance for managers.

2. **Partially Covered:**

- **Coping with Uncertainty, Ambiguity, and Risk:** Innovation management courses that focus on technological change and strategic decision-making likely address these

- **Learning through Experience:** The emphasis on practical experience, such as managing a training company and developing a diploma project, indicates partial coverage.

- **Planning and Management:** While there is mention of strategic and project management, the coverage appears to be more focused on specific areas rather than a comprehensive approach to planning and management.

3. **Not Covered / With Limited Coverage:**

- **Vision:** Although vision is mentioned in the context of strategic business management, the direct focus on developing a forward-looking vision as a distinct competence seems to be less emphasized compared to other areas.

- **Working with Others:** The curriculum provides limited emphasis on direct collaboration and teamwork skills, making this competence less covered compared to others.
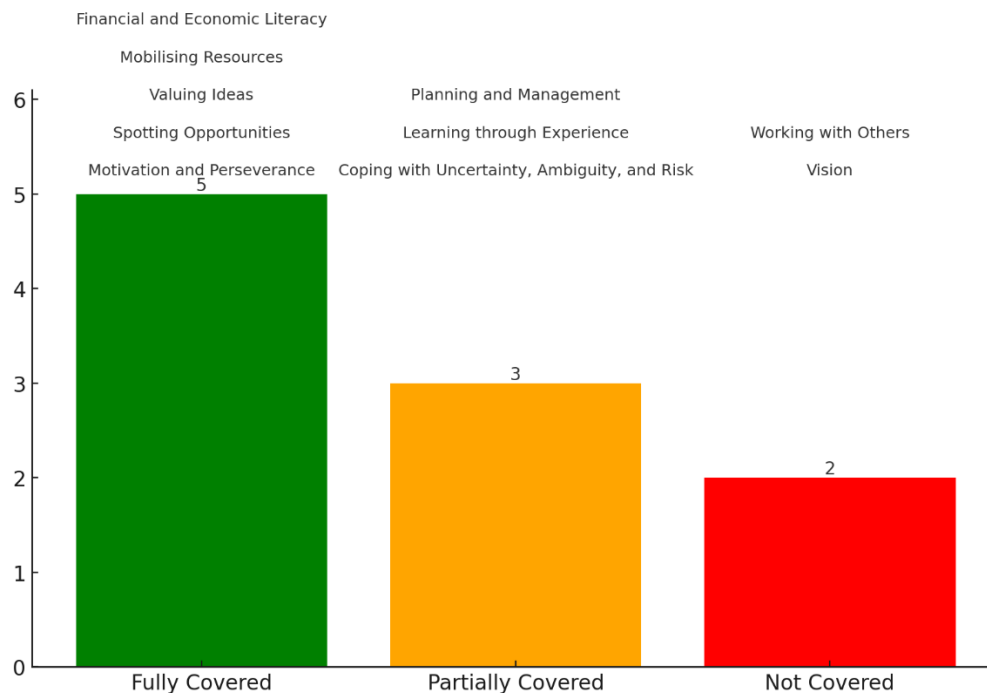
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excellent
EXCELLENCY IN ENTREPRENEURSHIP

Figure 6. EntreComp competences coverage in the academic programs of the HEIs interviewed within the Bulgarian ecosystem

These findings indicate a robust coverage of some competencies, partial coverage of others, and gaps in certain key areas. This provides valuable insights for academic institutions in Bulgaria to potentially refine their curriculum to better encompass all essential entrepreneurial competencies.

Emergent competencies

This analysis aims to bridge the gap between emerging entrepreneurial competences and their incorporation in academic programs within the Bulgarian higher education ecosystem. We focus on emergent competences identified in D 1.2, these are resilience, coachability, flexibility and agility, customer centricity, technical or domain-specific skills, openness to experience, continuous learning, sales skills, strategic orientation, complementarity in teams, and valuing employees. These competencies are vital in shaping well-rounded entrepreneurs who can thrive in today's fast-paced and challenging business environment.

1. **Fully Covered:**

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- **Technical or Domain Specific Skills:** Extensively covered through courses on technology, software systems, and innovation management.

- **Continuous Learning:** Supported by courses encouraging creativity, innovation, and adaptive learning.

- **Openness to Experience:** Supported by courses encouraging creativity, innovation, and adaptive learning.

2. **Partially Covered:**

- **Resilience:** Addressed in the context of coping with uncertainty and risk, though not explicitly labelled as such.

- **Flexibility, and Agility:** Addressed in the context of coping with uncertainty and risk, though not explicitly labelled as such.

- **Coachability:** Implied through courses on leadership and organizational behaviour, suggesting an openness to feedback and learning.

- **Strategic Orientation:** Strategic management courses cover this, but the emphasis on long-term visioning could vary.

3. **Not Covered / With Limited Coverage:**

- **Complementarity in Teams:** Despite courses on working with others and teamwork, explicit focus on building complementary teams is not evident.

- **Valuing Employees:** While there may be indirect references through courses on organizational behaviour and leadership that hint at the importance of recognizing and nurturing team talents, explicit focus on strategies for valuing employees, such as employee development, recognition programs, and fostering a supportive work culture, seems lacking or not prominently featured.

- **Customer Centricity:** Indirectly covered through marketing and customer relationship management courses, though the coverage seems limited.

- **Sales Skills:** Courses on sales management indicate some focus on developing sales skills, but the depth is unclear and therefore this skill is identified as very little covered.
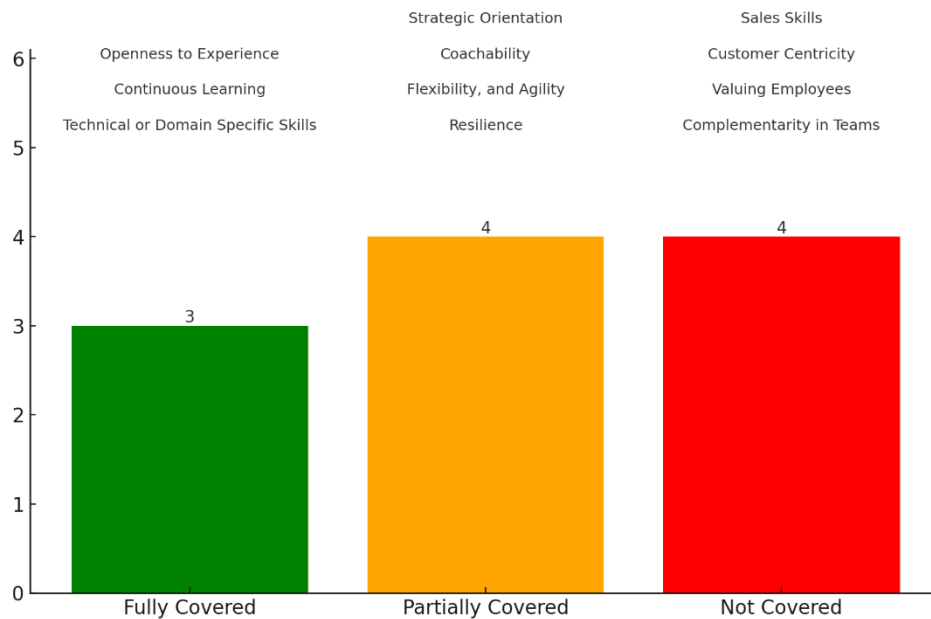
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Openness to Experience — Strategic Orientation — Sales Skills
Continuous Learning — Coachability — Customer Centricity
Technical or Domain Specific Skills — Flexibility, and Agility — Valuing Employees
— Resilience — Complementarity in Teams

Figure 7. Emergent competences coverage in the academic programs of the HEIs interviewed within the Bulgarian ecosystem

Our analysis reveals a varied landscape in the coverage of emergent entrepreneurial competences in Bulgarian higher education institutions. This evaluation highlights a strong emphasis on *Technical or domain-specific skills, Openness to experience,* and *Continuous Learning*, with moderate attention to *Resilience, Flexibility*, and *Strategic thinking.* There's room for more focused coverage on *Complementarity in teams* and *Valuing employees* and deeper exploration of *Sales skills* and *Customer centricity,* which are crucial for fostering a holistic entrepreneurial mindset. This disparity highlights the need for academic curricula to evolve and adapt, ensuring a more balanced and inclusive approach to entrepreneurship education. By addressing these gaps, Bulgarian higher education institutions can better equip future entrepreneurs with the diverse set of skills needed to succeed and innovate in an increasingly complex and competitive global market.

INNOVATION ENABLERS

The analysis below is a comprehensive mapping of how the four innovation enablers in Bulgaria (ABLE Activator - Pre-accelerator, Eleven Ventures - VC, Endeavor - accelerator, LaunchHub - VC) address various competencies. The competencies from the "Very Important" and "Important" categories have been mapped to specific program contents, skills, or activities offered by these enablers. This allows

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for understanding which competencies are fully covered, partially covered, or not covered at all by their training programs.

EntreComp competences

Below is a summary of how the training programs of the interviewed four innovation enablers in Bulgaria cover the competencies outlined in EntreComp framework:

1. **Fully Covered:**

   - **Motivation and Perseverance:** Likely fully addressed through initiatives that foster resilience and dedication.

   - **Learning through Experience:** Programs that emphasize practical involvement and real-world challenges.

   - **Financial and Economic Literacy:** Given attention, especially in budgeting and financial forecasting, also as regards fundraising and networking contexts.

   - **Vision:** Emphasized through creativity, opportunity identification, and vision and leadership building.

2. **Partially Covered:**

   - **Coping with Uncertainty, Ambiguity, and Risk:** While innovation programs often require dealing with uncertainty, the depth of coverage may vary.

   - **Spotting Opportunities:** Encouraged but the extent to which it's developed can be limited by the program's focus areas.

   - **Valuing Ideas:** Likely discussed in the context of innovation but may not be thoroughly explored across all programs.

   - **Planning and Management:** Elements of planning are included, yet they might not comprehensively cover strategic aspects.

   - **Mobilising Resources:** Addressed to an extent, particularly in fundraising and networking contexts.

3. **Not Covered/ With limited coverage :**

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- **Working with Others:** it seems there might be less focus on cultivating deep collaborative skills and teamwork dynamics.
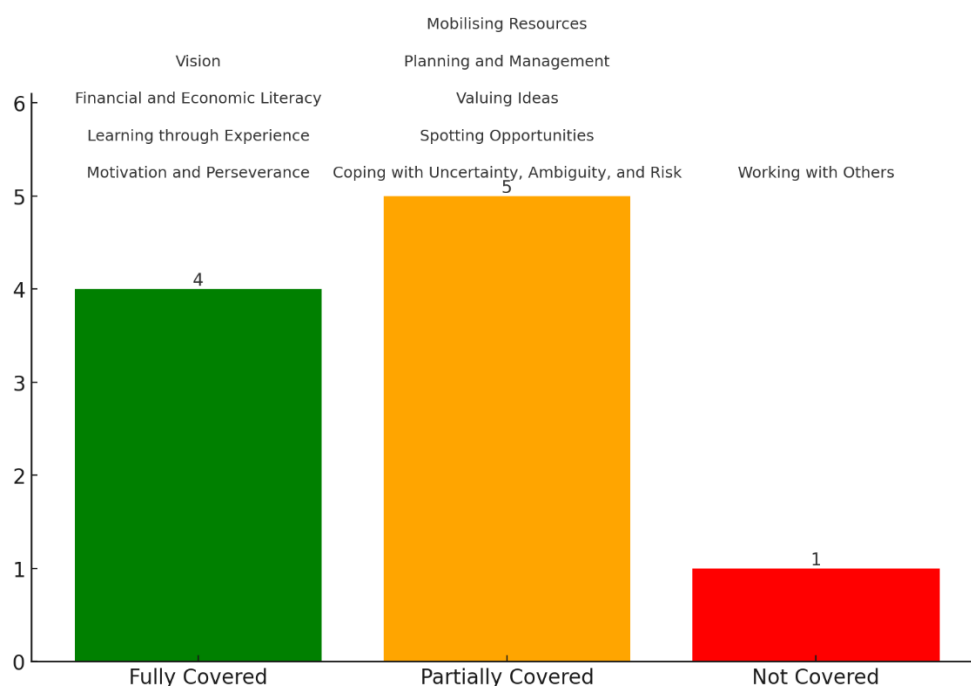
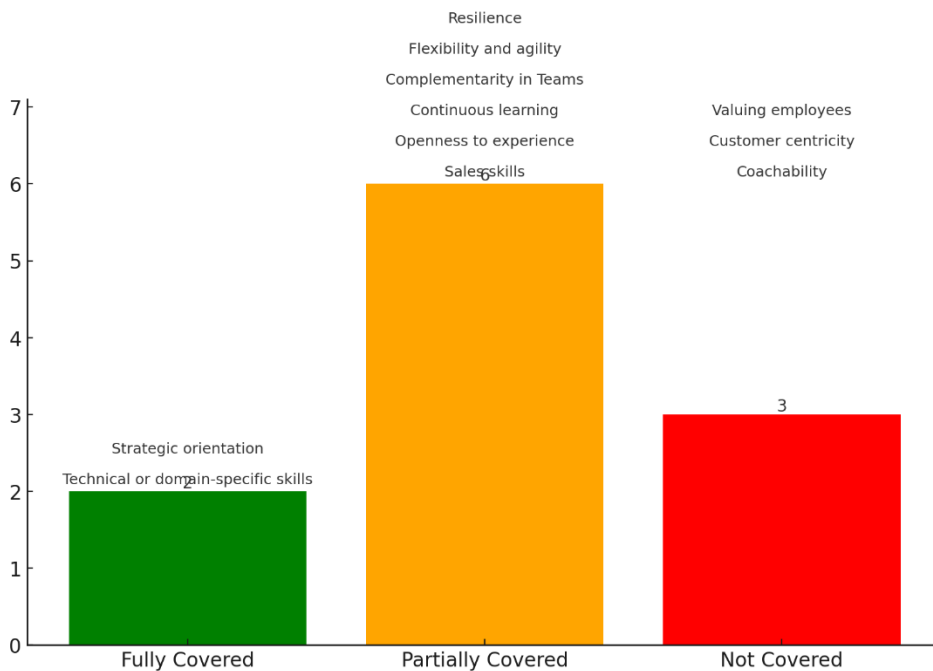*Figure 8. EntreComp competences coverage in the training programs of the innovation enablers interviewed within the Bulgarian ecosystem*

This mapping indicates that while some competencies are comprehensively addressed by the training programs, others are only partially covered or not covered at all, revealing potential areas for enhancement in the Bulgarian innovation ecosystem.

Emergent Competences

The analysis focused solely on the ABLE Activator training program due to the lack of access to the curricula of the other three innovation enablers. The competencies listed in the annexed table are understood to be crucial for entrepreneurial success, emphasizing skills identified as necessary for founders and startups to thrive. This approach ensures a focused review on available data, highlighting the importance of specific entrepreneurial skills without assuming the content of unavailable programs.

1. **Fully Covered**:

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- **Technical or domain-specific skills**: Emphasized through "Tech and Digital Skills," "Product Development and Software Development Skills."

- **Strategic orientation:** Implied through "Vision and Leadership Building," "Business Model Development."

2. **Partially Covered**:

- **Sales skills:** Addressed with "Go-To-Market Sales & Negotiations."

- **Openness to experience:** Suggested through "International experience" and engaging in diverse startup ecosystems.

- **Continuous learning**: Highlighted by "Learning through experience.", though not explicitly mentioned as covered in the training program.

- **Complementarity in Teams:** Mentioned in sections like "Diverse team of co-founders / Team complementarity."

- **Flexibility and agility**: Mentioned explicitly as "Adaptability."

- **Resilience**: Indicated by "Coping with uncertainty, ambiguity & risk."

3. **Not Covered / With Limited Coverage**:

- **Coachability**: Not explicitly mentioned or directly related to any listed content.

- **Customer centricity:** Not directly addressed in the provided program details.

- **Valuing employees:** Although it is indirectly referred to via "Positive Work Environment Creation", it is not evident that it is covered in the program.

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Figure 9. Emergent competences coverage in the training programs of the innovation enablers interviewed within the Bulgarian ecosystem

This visual representation provides an overview of the current state of emergent competences coverage in the training programs of the interviewed innovation enablers in Bulgaria. It highlights the strong emphasis on *Strategic orientation* and *Technical skills* within these programs while pointing out significant gaps in areas like **Customer centricity, Coachability, and Valuing employees.** This information is instrumental for stakeholders in the entrepreneurial ecosystem to identify and bridge these gaps, ensuring that future training programs are comprehensive and aligned with the evolving needs of entrepreneurs.

COMPARISON OF COMPETENCES COVERAGE BY FORMAL AND INFORMAL EDUCATION PROGRAMS OF THE INTERVIEWED ORGANISATIONS IN BULGARIA

- **Overlap in EntreComp competences**: Both formal and informal education programs cover competencies like *Motivation and Perseverance*, *Spotting Opportunities*, *Valuing Ideas,* and *Financial and Economic Literacy* comprehensively. *Learning through experience, Planning and managemen*t, and *Coping with uncertainty, ambiguity, and risk* are partially covered.

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- **Gaps in Formal Education:** Formal education shows gaps in competencies such as *Vision, Working with Others,* as regards EntreComp competences, and *Complementarity in Teams, Valuing Employees, Customer Centricity*, and *Sales Skills,* as regards emergent competences. These areas are less emphasized or indirectly covered, suggesting room for improvement to foster a holistic entrepreneurial mindset.

- **Gaps in Informal Education:** Informal education, represented by innovation enablers like accelerators and pre-accelerators, reveals gaps in deep *Collaborative skills* and *Teamwork Dynamics,* as regards EntreComp competences, and *Coachability, Customer Centricity*, and *Valuing Employees*, as regards emergent competences. These gaps indicate areas where informal programs could enhance their offerings to better prepare entrepreneurs.

- **Emergent competences:** Both sectors show a focus on emergent competences like *Technical or Domain-Specific Skills, Continuous Learning*, and *Openness to Experience*, with informal programs also emphasizing *Strategic Orientation*. However, there's a need for more focused coverage on competences like *Complementarity in Teams, Valuing Employees, Sales Skills*, and Customer Centricity (particularly in formal education), to address the evolving needs of the entrepreneurial ecosystem effectively.

This analysis highlights the strengths and areas for development in both formal and informal education systems regarding entrepreneurial competences in Bulgaria, pointing towards opportunities for enhancing curriculum and program content to equip future entrepreneurs with a comprehensive set of skills.

3.2.3 Turkey

HIGHER EDUCATION INSTITUTIONS

EntreComp competences

The following results were obtained for the higher education institutes participating in our interviews, i.e. Özyeğin University and specifically its BA in Entrepreneurship and Master in Business Administration programs, Sabancı University and specifically its Minor in Entrepreneurship BA

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programme, and Bahçeşehir University and specifically its Master of entrepreneurship and Innovation management programme:

1. **Entirely Covered Competences**: The following EntreComp competences are covered by at least one course in each of the analysed programmes, therefore suggesting full coverage:

   - **Spotting Opportunities**: Several courses such as microeconomics, macroeconomics, entrepreneurship and innovation cover this competence.

   - **Vision**: Strategic management, fundamentals of business, globalization and business strategy are some of the multiple courses that cover this competence in examined curricula.

   - **Valuing Ideas**: This competence is covered by several courses like business model design, business analytics, new venture and business development, entrepreneurship and innovation management, entrepreneurship, social innovation, and entrepreneurship.

   - **Financial & Economic Literacy**: This competence is comprehensively addressed by a range of courses including financial accounting, entrepreneurial finance, financial accounting and reporting, financial management, entrepreneurship and venture capital, financial issues in entrepreneurship, funding and financial management.

   - **Planning & Management:** Courses like operations management, introduction to management information systems, new venture business planning, new venture and business plan development, strategy execution, managing strategy and growth fully cover this competence.

   - **Coping with uncertainty, ambiguity & risk:** Several courses including sectoral practicum in business, business analytics, capstone project, entrepreneurial skills workshop feed this competence.

   - **Learning through experience:** This competence is covered within courses such as capstone project, internship, executive seminar series, entrepreneurial skills works, and entrepreneurial strategy course that focus on out-of-class experiences.

2. **Partially Covered Competences**:

   - **Motivation & perseverance:** This competence is specifically mentioned only in one of the examined HEIs under the leading and managing new ventures course.

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- **Mobilising resources:** This competence is nearly covered by all interviewed HEI's curricula through courses such as entrepreneurial finance, entrepreneurial technology commercialization, entrepreneurship and venture capital, and funding and financial management.

- **Working with others:** This competence is directly covered only through the internship course. However, it is captured by the education methods of some courses such as business model design, entrepreneurship, and social innovation and entrepreneurship that require the students to prepare team projects throughout the term.

3. **Competences Not Covered**: Our analysis did not reveal any EntreComp competence which was not covered by any programme in the interviewed higher education institutions.
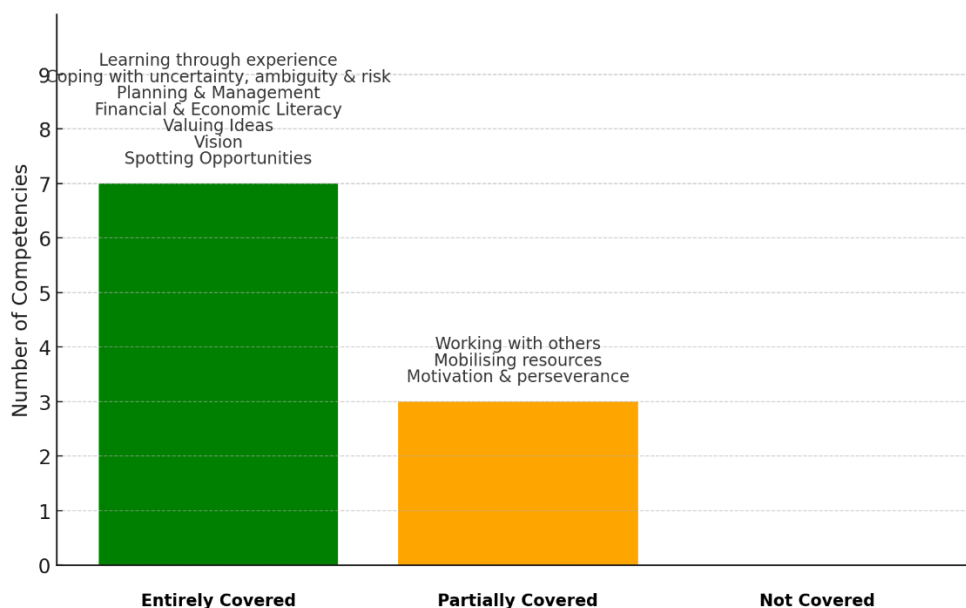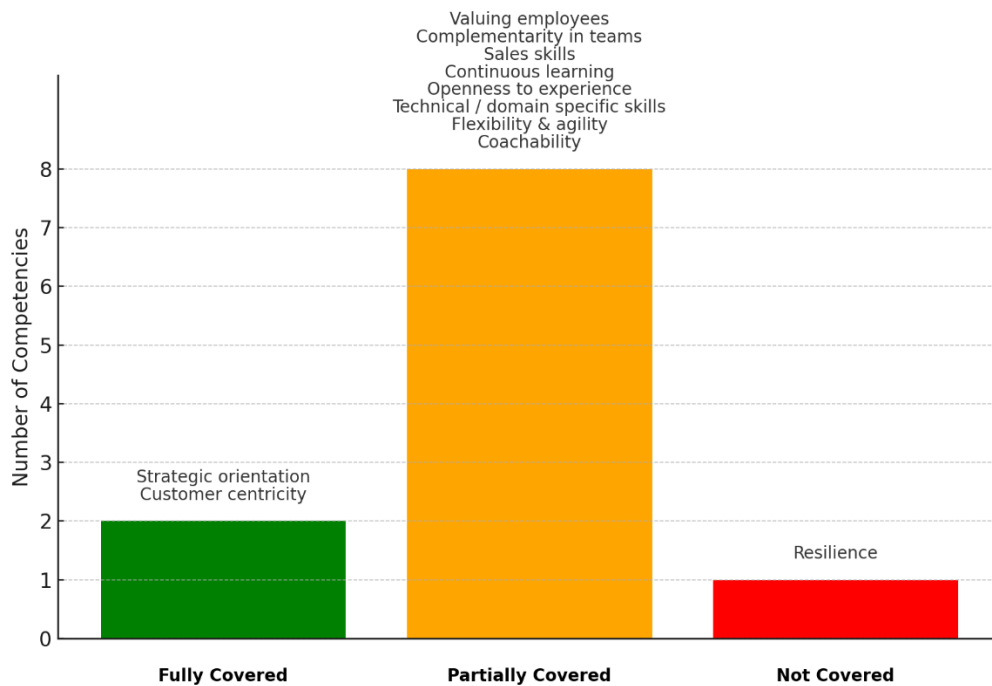

Figure 10. EntreComp Competences coverage in the academic programs of the HEIs interviewed within the Turkish ecosystem

Emergent competences

Concerning the important entrepreneurship competences not included in the EntreComp framework but included in our analysis, the results of the interviewed Turkish HEIs are as follows:

1. **Entirely Covered Competences**:

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- **Customer centricity:** This competence is fully covered through courses like human-centred design, marketing management, consumer behaviour, design-thinking and innovation, business model design.
- **Strategic orientation:** All the examined curricula include courses such as strategic management, strategy, strategic innovation, managing strategy and growth, which cover the strategic orientation competence.

2. **Partially Covered Competences**:

- **Coachability:** This competence is only covered by a course named Sectoral Practicum in Business in the entrepreneurship BA programme of one HEI.
- **Flexibility & agility:** This competence is partially covered by courses on strategy and strategy execution.
- **Technical / domain specific skills**: Curriculum of the examined HEIs do not directly cover technical and domain specific skills with their core courses except for one programme (BA in entrepreneurship) in one HEI that requires students to take several technical courses on e.g., algorithmic thinking for problem solving, probability for social sciences, and introduction to computing for business.
- **Openness to experience:** Human-centred design is the only course found in the curricula that taps into this competence.
- **Continuous learning:** We came across only one course, namely Sectoral Solutions: Local Expertise, which covers the competence of continuous learning.
- **Sales skills:** Sales skills are captured in some of the programmes through courses like Entrepreneurial Marketing, Introduction to Marketing, and consumer behaviour.
- **Complementarity in teams:** This competence is partially covered with the Leading and Managing New Ventures and New venture and Business Plan Development courses.
- **Valuing employees:** This competence is partially covered with the Managing People at Workplace and Leading and Managing New Ventures courses.

3. **Competences Not Covered**:

- **Resilience:** We could not come across any content that specifically covers the resilience competence in the curriculum of the examined HEIs.

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Figure 11. Emergent competencies coverage in the academic programs of the HEIs interviewed within the Turkish ecosystem

INNOVATION ENABLERS

EntreComp competences

The analysis below presents how the two innovation enablers in Turkiye we have interviewed address various competencies mentioned in this report.

1. **Entirely Covered Competences**:
    - **Spotting opportunities:** The incubators fully cover this competence with bootcamps for students, Ideathon and hackathons organized with incumbent firms of incubation centre, pre-incubation program for developing ideas to opportunities, and specialized programs in sectors such as game, fintech, mobility.
    - **Vision:** Interviewed innovation enablers teach about vision and strategic positioning, differentiation and proactiveness, and give support for the internationalization journeys of incumbent startups both with training and through their international offices.

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- **Valuing ideas:** The incubators give training and support on market research, building business models and collecting feedback for the business model from mentors and academics. They also engage in matchmaking of startups and corporations in the same sector or in the same value chain to enable startups to validate their business ideas.

- **Motivation and perseverance:** Interviewees emphasised their efforts to improve the personal traits, especially ambition and persistence, of the entrepreneurs as aligned with this competence

- **Mobilising resources:** Analysed innovation enablers provide special seed fund and office space, as well as opening their labs and other resources to startups for R&D and prototype development. They also offer funding for prototype development, and legal and financial consultancy, in addition to matchmaking with VCs and other startups.

- **Financial and economic literacy:** Training on basics of accounting and finance and consulting services on financial issues help entrepreneurs on this competence.

- **Planning & management:** Training sessions on business model canvas building, strategy, and building a company work to enable this competence, in addition to the mentoring and consultancy services provided by the innovation enablers.

- **Coping with uncertainty, ambiguity & risk:** To help entrepreneurs with this competence, they provide mentoring, as well as matchmaking with companies in the same sector or value chain, through which entrepreneurs can learn to calculate their risks and learn from advice.

- **Working with others:** Teaming and team management was one of the topics emerging from the interviews. Collaborative environment in the provided co-working spaces, collaborations with research centres specialised in big data, artificial intelligence, blockchain, medical technologies, etc., talent fairs to help startups find employees/interns among university students are example practices serving to acquire this competence.

- **Learning through experience:** Innovation enablers included in this study encourage entrepreneurs for listening to experiences of others, including both success and

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failures. They also organise special sessions where startups pitch their ideas to investors and get feedback to learn from investors.

2. **Partially Covered Competences**: The analysis did not reveal any competences not covered by the innovation enablers.

3. **Competences Not Covered**: The analysis did not reveal any competences not covered by the innovation enablers.
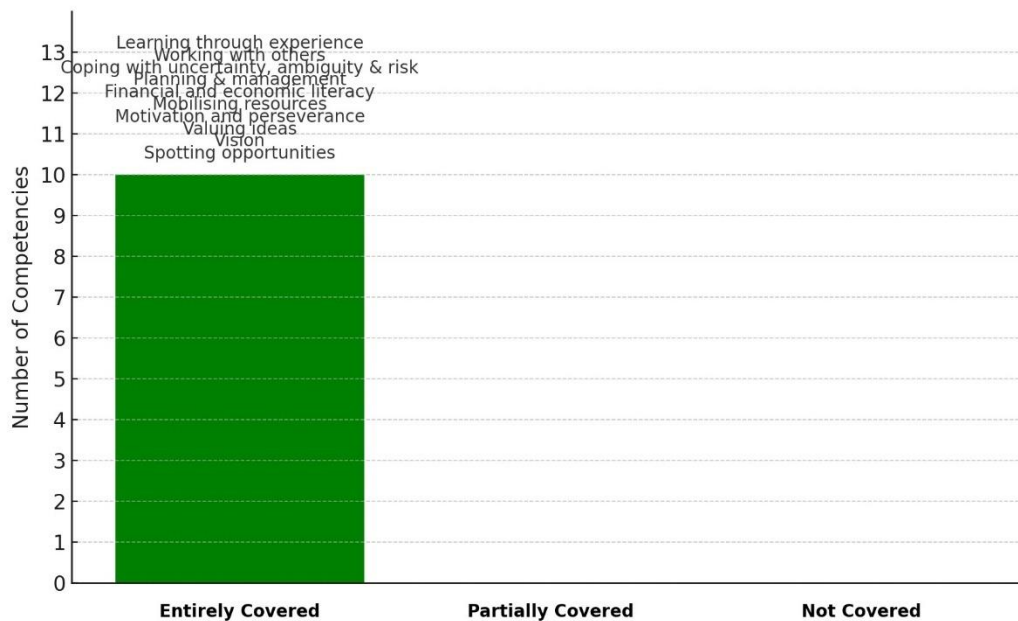
Figure 12. EntreComp competences coverage in the training programs of the innovation enablers interviewed within the Turkish ecosystem

Emergent competences

Concerning the important entrepreneurship competences not included in the EntreComp framework but included in our analysis, the results of the interviewed Turkish HEIs are as follows:

1. **Entirely Covered Competences**:
   - **Coachability:** Interviewees emphasised the importance of accepting feedback and advice by side of the existing and potential entrepreneurs. They basically offer mentoring services to feed the development of this competence.

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- **Technical / domain specific skills:** The incubation centres provide R&D support for product development and deploy support from their hosting universities including the usage of labs and dissemination of academic knowledge.

2. **Partially Covered Competences**:

- **Flexibility & agility:** This competence was mentioned with special emphasis on the importance of adaptability and agility

- **Customer centricity:** This competence is covered in the design-thinking training offered by one of the two interviewed innovation enablers

- **Sales skills:** One of the two interviewed innovation enablers provides training on sales skills as well as support for increasing sales through mentoring and their network.

- **Strategic orientation:** One of the analysed innovation enablers gives training on strategy and building a company to feed this competence.

- **Complementarity in teams:** The need for team members with varied and right skills was a theme revealed in one of the interviews. The incubation centre mentions this competence in their training and mentoring sessions with incumbent and candidate entrepreneurs.

3. **Competences Not Covered**:

Our analysis of the innovation enablers did not reveal specific content covering the **resilience, openness to experience, continuous learning,** and **valuing employees** competences.

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Figure 13. Emergent competences coverage in the training programs of the innovation enablers interviewed within the Turkish ecosystem

COMPARISON OF COMPETENCES COVERAGE BY FORMAL AND INFORMAL EDUCATION PROGRAMS OF THE INTERVIEWED ORGANISATIONS IN TURKEY

- **Overlap in competences**: Both formal and informal education programs in Turkey show a significant overlap in essential entrepreneurial competencies. They comprehensively address key areas such as spotting opportunities, developing a vision, valuing ideas, financial and economic literacy, planning and management, coping with uncertainty, ambiguity, and risk, working with others, and learning through experience. This common ground suggests a well-rounded approach to entrepreneurship education, combining the in-depth theoretical knowledge from formal education with the practical, real-world applications emphasized in informal programs.

- **Gaps in Formal Education**: According to the current methodology, no gaps have been identified in the interviewed higher education institutions belonging to the Turkish ecosystem. At the same time, the formal education programs have room for enhancement in competencies like *Motivation & perseverance* and *Mobilizing resources*. While these areas are

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partially covered, the level of emphasis and practical application could be increased to match the experiential learning provided by informal programs. Additionally, the aspect of *Working with others*, while present, could benefit from more direct coverage and practical engagement to mirror the collaborative environments fostered in informal settings.

- **Gaps in Informal Education**: According to the current methodology, no gaps have been identified in the interviewed innovation enablers belonging to the Turkish ecosystem. Informal education programs, while excelling in practical application, could possibly further strengthen their offering by incorporating more structured learning pathways.

- **Emergent competences**: In addressing emergent competences, there is a notable distribution of emphasis between formal and informal education. Informal education places stronger focus on *coachability, flexibility, agility*, and the practical aspects of *customer centricity*, *sales skills,* and *team complementarity*. Formal education, conversely, tends to provide more in-depth coverage of *technical/domain-specific skills*, a thorough understanding of *customer centricity, strategic orientation,* and the importance of *valuing employees*. While both sectors address these emergent competences, each could benefit from integrating the strengths of the other to offer a more comprehensive entrepreneurial education.

This structured approach provides a clear understanding of how each education type contributes to entrepreneurial competence development, highlighting their strengths and areas for potential collaboration to ensure a more rounded entrepreneurial education ecosystem in Turkey.

3.2.4 France

HIGHER EDUCATION INSTITUTIONS

EntreComp competences

Based on the methodology defined by the task leader, the analysis of the entrepreneurial curricula proposed by the higher education institutes in France we have interviewed – namely the *Entrepreneurship Center of ESSEC Business School* and the *Institute Mines Telecom* (through the perspective offered by its incubator *IMT Starter* that was considered in the pool of innovation enablers/intermediaries as it allows the transition from higher education to entrepreneurship), we

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have tried to establish formal correlations with the EntreComp framework and understand the extent to which its structure and areas were considered in the design of the entrepreneurship programs and courses by these institutions. To complete the analysis, we have integrated in our approach, in addition to the information collected through the interviews, the analysis of 2 academic syllabus of the University 1 Pantheon Sorbonne[13] and Paul Cézanne University of Aix-Marseille[14]. It is important to mention that, considering the density of entrepreneurial educational programs proposed by higher education institutes in France, working with such a small sample size is likely to induce important biases but allows nevertheless to reflect the stakeholder's opinion at the regional level (Ile-de-France area) and establish a baseline for the correlation between frameworks like EntreComp and academic programs of such higher education institutions. Globally, the analysis highlights that, although some of the stakeholders are aware of the EntreComp framework, it is not formally considered in the establishment of the entrepreneurial curricula. The analysis allows to reveal the following mapping between EntreComp and the curricula of the higher education institutions included in our analysis:

1. **Entirely Covered Competences**: The following EntreComp competences are reflected through courses of the HEIs analysed, allowing to consider a rather complete coverage:

   - *Financial & Economic Literacy*: The financial competences are an integral part of all entrepreneurial programs, reflected through courses on *Finance*, *New Ventures finances and financing*, *Cost analysis*, *Project financing and innovation*, *Business taxation*, *Financial engineering and Business Plan development* etc.

   - *Planning & Management:* The managerial competencies are also at the core of the entrepreneurial programs proposed by the French higher education institutes and are materialized through courses on *Project Management*, *Change Management*, *Crisis Management*, *Cross Cultural Management* …

   - *Working with Others*: This competence is covered by courses on topics such as *Human Resources*, *Team Building and Leadership*, or *Collaborative work in team and network*.

   - *Coping with uncertainty, ambiguity & risk*: This pool of competencies are covered through courses on *Spotting opportunities and "de-risking" a project*, *Crisis Management*, or more indirect topics like *Feasibility Studies and Plan*.

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[13] www.pantheonsorbonne.fr
[14] www.univ-amu.fr

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2. **Partially Covered Competences:** these competencies are either covered partially or indirectly in the courses of the HEIs interviewed or analysed in the scope of the project.

- *Learning through Experience:* This competence is not formally included in the education programs we have analysed, however it is an intrinsic part of the pedagogic framework as in most cases, during the entrepreneurial curriculum, the students work in parallel on their entrepreneurial project with the objective to create a startup.

- *Spotting Opportunities:* This competence is partly covered, explicitly in the curriculum of one of the HEIs through a course on *potting opportunities and "de-risking" a project*, while in the others indirectly through topics such as *"Thinking outside the box"*, *Design Thinking* or *Entrepreneurial Thinking*, or *Entrepreneurship Awareness Raising* .

- *Mobilising Resources:* This competence is covered indirectly in all the curricula analysed, either through the financial perspective (presented in **Financial & Economic Literacy**), through the Human Resources perspective (presented in **Working with Others**) or related topics like *Growth Hacking*, *Growth Processes Management*, or *Ecosystems and Social Innovation* .

- *Vision:* This competence is covered indirectly through courses on *Leadership*, *Entrepreneurial Thinking*, *Thinking Outside the Box*, *Strategy* or *Creativity*.

3. **Not Covered Competences**: these competences are in many cases considered implicit or indirectly covered, without being explicitly mentioned, in other broader or more generic courses.

- *Motivation & perseverance*: these competences seem to be inherently associated to the entrepreneurial mindset and are not directly mentioned in the curricula we have analysed. They could be addressed through topics like *Risk Management* or *Vision*, but our analysis did not allow to reveal explicit mentions about these topics.

- *Valuing Ideas:* This competence seems to express a vague concept, not tackled explicitly in the curricula we have analysed but rather indirectly through topics related to ideation (such as Design Thinking) or innovation management.

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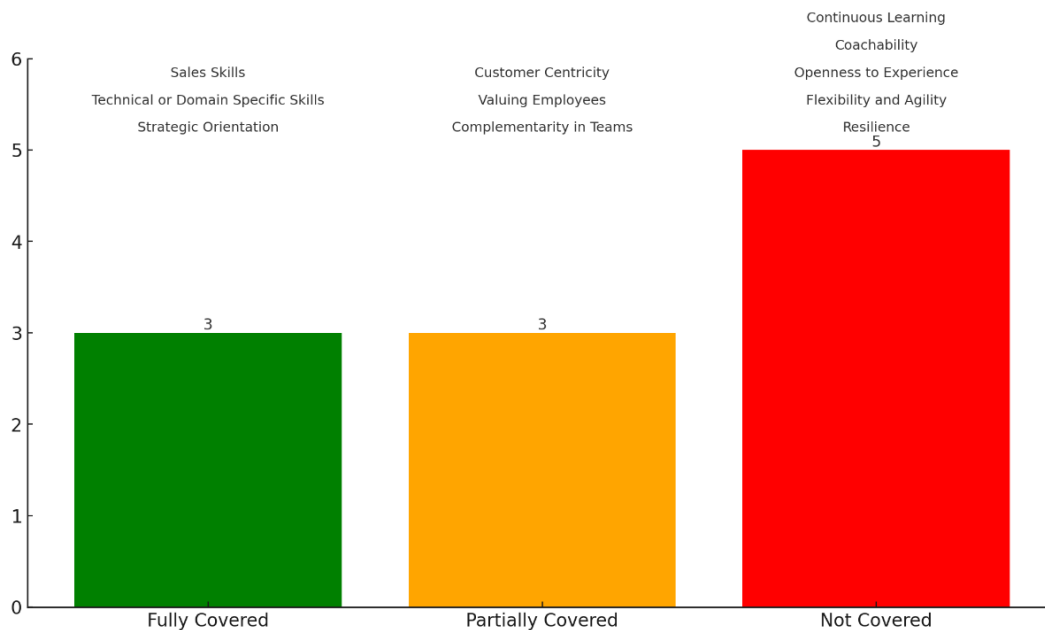*D3 Entrepreneurial Best Practices Report*
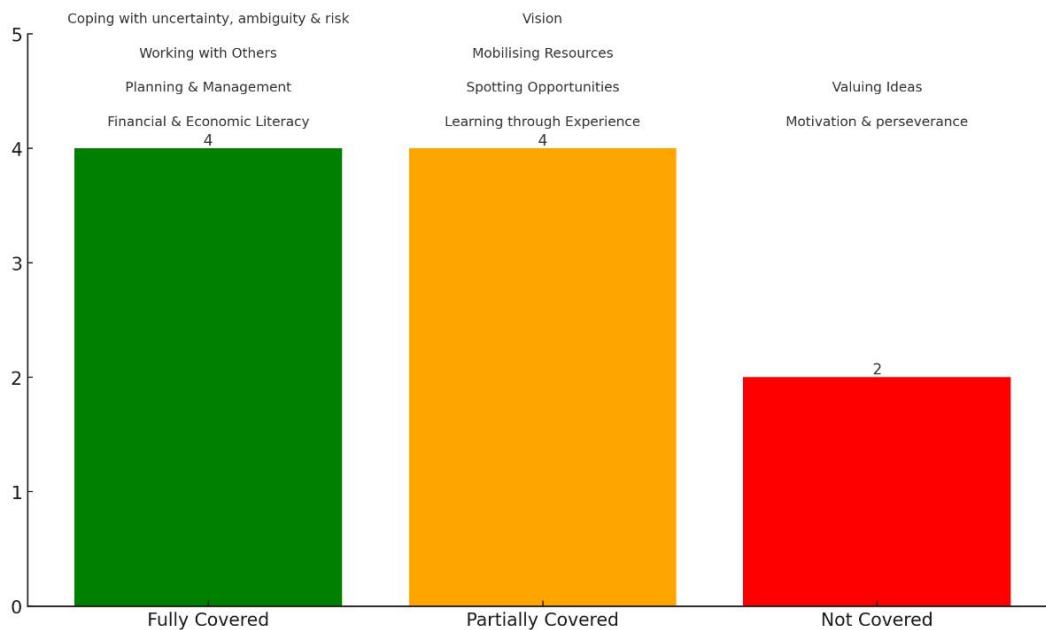
Figure 14. EntreComp Competences coverage in the academic programs of the HEIs interviewed within the French ecosystem

Emergent competences

With respect to the entrepreneurship competences not included in the EntreComp framework but identified as important and thus included in our analysis, the interviews with the French HEIs and the additional analysis of complementary entrepreneurship curricula allowed to highlight that:

1. **Fully or Almost Fully Covered:**

   - **Strategic Orientation**: this pool of competencies is explicitly addressed through courses on *Strategy*, *Innovation Strategy* or associated operational competencies on *Business Planning* and *Management*.

   - **Technical or Domain Specific Skills**: technical competencies are inherent to STEM diplomas, such as the ones offered by IMT, who simultaneously offer the possibility to join an entrepreneurship major. There is a large diversity of technical and domain specific skills covered by the French HEIs and Universities.

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- **Sales Skills**: Sales competences are recurrent in the entrepreneurship programs of the French organisations interviewed or analysed and cover topics like *Digital Marketing*, *Innovation Marketing*, *Business Planning* or indirect topics like the *Art of pitch*.

2. **Partially Covered:**

- **Complementarity in Teams**: These competencies are associated inherently with the Human Resources topics that are covered by the EntreComp framework.

- **Valuing Employees**: As the previous competence, "valuing employees" does not appear as a topic per se but probably tackled in the wider Human Resource Management topics through leadership, management and incentivization related courses.

- **Customer Centricity**: The customer orientation is associated with the topics related to sales skills and does not appear as a standalone topic in the curricula we have analysed .

3. **Not Covered / Limited Coverage:**

- **Resilience**: The resilience topic does not appear in the curricula we have analysed but is probably reflected in areas related to management, and more particularly risk and crisis management topics also covered by the EntreComp framework.

- **Flexibility and Agility**: Although flexibility and agility are important entrepreneurial attitudes, they are not addressed through specific courses but mostly managed in an indirect way through management related topics.

- **Openness to Experience**: This competence is not explicitly mentioned but considered an inherent characteristic of successful entrepreneurs as the process is very often based on a trial and error and learning from mistakes approach.

- **Coachability**: The coachability is directly related to the 2 previous topics, more generally related to the "open mindedness" that is generally addressed through the broader soft skills panel.

- **Continuous Learning**: the topics of continuous learning is not explicitly mentioned in the curricula we have analysed but rather implied either through dedicated programs

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for professionals who want to become entrepreneurs or in the initial entrepreneurial education through generic soft-skills related topics.

Figure 15. Emergent competencies coverage in the academic programs of the HEIs interviewed within the French ecosystem

INNOVATION ENABLERS

The competencies analysis was also performed and mapped from the perspective of the innovation enablers from the French ecosystem and correlated to their educational and support programs to allow the assessment of their coverage and a comparative analysis with the academic curricula.

EntreComp competences

We have analysed, according to the methodology defined by the task leader the competencies considered as **Very important** or **Important** based on the interviews with the French Innovation Enablers presented in detail in deliverable "*D1.1 Compendium of interview with entrepreneurial ecosystem stakeholders*" and "D1.2 Mapping of the key entrepreneurial competences".

1. **Entirely Covered Competences**:

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- **Financial & Economic Literacy:** it is very often one of the pillars of the incubation or support programs, as a part of investment readiness programs that entrepreneurs go through before being introduced to investors.

- **Planning & Management:** although basic management competencies are considered acquired, the support programs include areas particularly related to the elaboration of a sound business plan.

- **Coping with uncertainty, ambiguity & risk**: risks are tackled in the broader scope of the strategy and management of entrepreneurial projects and concretely materialise at the phase of the elaboration of market and feasibility studies and business plans .

- **Learning through Experience:** the incubation and support programs are considered to be immersive, experiential by nature, where entrepreneurs are supported to "learn by doing", applying the knowledge acquired to their entrepreneurial projects. To "learning through experience" topic is however not formalised as such.

- **Mobilising Resources:** as a part of the support offered to increase their technology readiness and achieve investment and market readiness, the entrepreneurs are supported to develop a "resourceful mindset", allowing them to identify and attract the necessary resources for their development.

- **Spotting Opportunities:** these competencies are inherently related to the phase of business plan definition and market analysis, the entrepreneurs are coached through methods like the Design Thinking to identify development opportunities.

2. **Partially Covered:**

- **Vision:** this competence is often considered to be inherent in the entrepreneurial journey although through role models and peer learning, innovation enablers support entrepreneurs to refine their vision.

- **Working with Others:** this competence is also supposed to be inherent but sometimes the support offered by innovation enablers emphasises the importance of multidisciplinarity and teamwork.

- **Motivation & perseverance:** this is also considered to be a native competence of entrepreneurs and the support offered focuses on helping entrepreneurs to plan accurately and overcome challenging times**.**

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- **Valuing Ideas:** the topic is not really addressed as such but rather through brainstorming and ideation workshops for problem solving or the definition of the positioning and business model.

3. **Not Covered Competences**: our analysis did not allow to identify competences that were not at least in part covered through the educational and/or support programs of the innovation enablers in the French ecosystem.
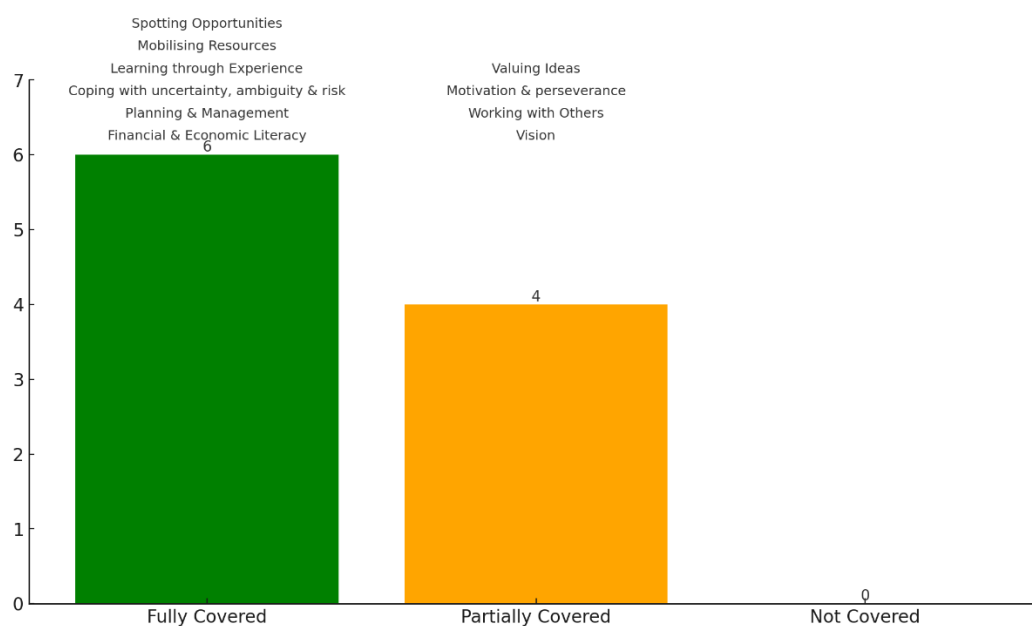
Figure 16. EntreComp competences coverage in the training programs of the innovation enablers interviewed within the French ecosystem

Emergent competences

The analysis of the entrepreneurship competences not included in the EntreComp framework but identified as important and thus included in our previous analysis allowed to reveal that:

1. **Fully or Almost Fully Covered:**

   - **Strategic Orientation**: the strategy review is systematically a part of the Business Model and Plan definition prepared in the scope of incubation programs.

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- **Sales Skills**: through support for pitch deck preparation and the preparation of their business plan, prior to the introductions to business partners, the innovation enablers help entrepreneurs refine their sales skills.

- **Customer Centricity**: as a part of the sales skills development and market readiness, the customer centricity and continuous feedback loop are fundamental to achieve the product-market fit and develop a MVP.

- **Resilience**: the resilience capacity is tackled as a part of the strategy, management and business planning topics.

2. **Partially Covered:**

- **Coachability**: the innovation enablers consider the entrepreneurs joining their programs natively have an open-minded attitude and willing to learn and receive support; in some cases, the importance of an open attitude is emphasised, without representing a topic per se.

- **Flexibility and Agility**: these competences are in particular reflected through the support offered to adapt to the market needs and the preferences of customers. Participants to support programs are encouraged to adopt an agile approach in their initial development stages to be able to accelerate the process.

- **Openness to Experience**: this characteristic is considered native for an entrepreneur and the innovation enablers often create the conditions to allow entrepreneurs experiment with their ideas and solutions rather than acquire a "theoretical" competence.

- **Continuous Learning**: although this competence is considered fundamental, it is not explicitly addressed, but rather indirectly covered through the content of the support programs themselves and the attitude and mindset it cultivates.

- **Complementarity in Teams**: multidisciplinarity is considered essential in the support programs of innovation enablers and some of the existing programs help entrepreneurs find co-founders and/or team members.

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- **Valuing Employees**: this topic is indirectly covered in the scope of Human Resources related topics, although the importance of attracting and retaining talents is emphasised in almost all programs.

3. **Not Covered / Limited Coverage:**

- **Technical or Domain Specific Skills**: The development of technical skills is often out of scope for the programs offered by innovation enablers although within their ecosystem the entrepreneurs can get access to facilities and technical/scientific expertise and support.
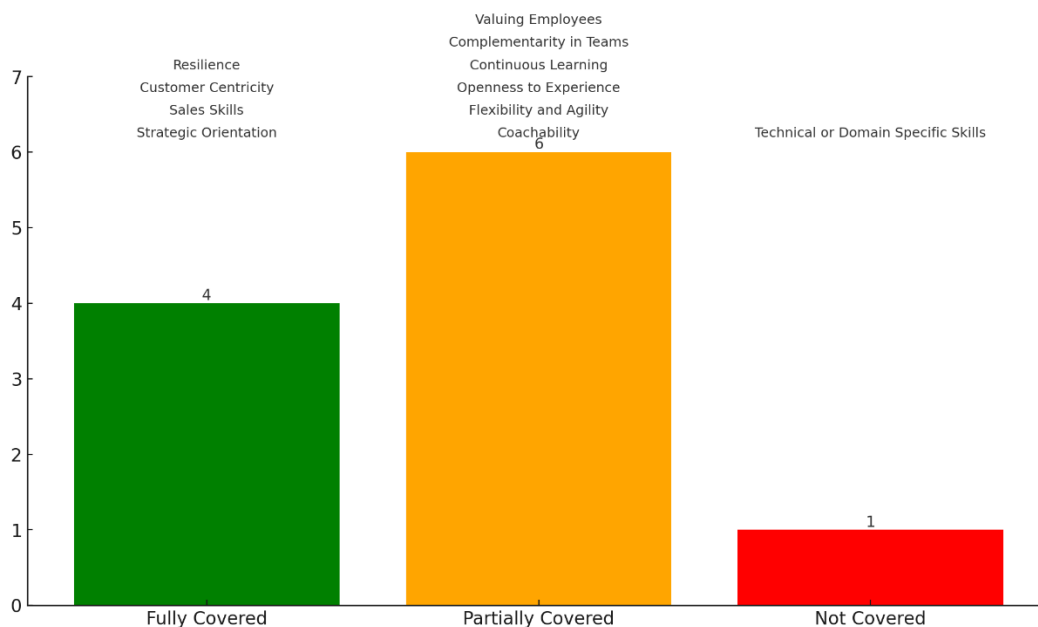
Figure 17. Emergent competences coverage in the training programs of the innovation enablers interviewed within the French ecosystem

COMPARISON OF COMPETENCES COVERAGE BY FORMAL AND INFORMAL EDUCATION PROGRAMS OF THE INTERVIEWED ORGANISATIONS IN FRANCE

The analysis of the French ecosystem allowed to reveal a high degree of overlap of the key entrepreneurial competences between the HEIs and innovation enablers supporting entrepreneurs. More precisely, our analysis allowed to reveal the:

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- **Overlap in competences**: in terms of *Financial literacy*, *Business Planning* and *Sales* that are formally covered by both formal and informal education programs*.*

- **Gaps in Formal Education**: the formal education programs revealed gaps at the level of generic, intangible topics such as *Motivation and perseverance,* or *valuing ideas*.

- **Gaps in Informal Education**: support programs offered by innovation enablers cover all the palette of entrepreneurial competences, albeit in many cases implicitly as many of these competences, such as *Motivation and perseverance*, *Vision*, *Spotting opportunities* or *Working with others* are expected to be inherent and the programs rather offer possibilities to test and strengthen such competences. However, they do not explicitly focus on the development of technical skills which are supposed to be a part of the background of the entrepreneurs.

- **Emergent competences**: Both programs cover emergent competencies like *Strategic orientation, Sales,* and *Customer centricity*, but consider implicit soft-related skills like *Continuous learning, Coachability* or *Openness to experience*.

The analysis of entrepreneurial competencies within the formal and informal educational programs of the interviewed organisations from the French ecosystem reveals that both educational approaches converge on key entrepreneurial topics such as **Financial literacy**, **Strategy and Business Planning**, including the **Access to resources**. Both categories of programs do not cover in an explicit way soft skills and competences (*Motivation*, *perseverance*, *openness* …), that are in many cases supposed to be a part of the mindset and attitude of the entrepreneurs. Although the contact with peers and role models allows to emulate and unconsciously develop such soft skills, formalising lectures or TedX like talks from inspirational speakers, as it is very often done in the US ecosystem, could have a major contribution on strengthening the entrepreneurial mindset and improving the attitudes of French and, more generally, European entrepreneurs.

3.2.5 Ireland

Higher Education Institutions

EntreComp competences

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Based on the detailed course information provided in the document for the MSc in Entrepreneurship & Innovation at Trinity Business School, the coverage of EntreComp entrepreneurial competencies categorized as "Very Important" and "Important" can be summarized as follows:

1. **Entirely Covered Competences**:

   - **Spotting Opportunities:** Courses like 'Technological Entrepreneurship and Innovation' and 'International Entrepreneurship' cover this competence.

   - **Valuing Ideas:** Addressed by courses such as 'Social Entrepreneurship'.

   - **Vision**: Covered by courses such as 'Strategic Entrepreneurship'.

   - **Planning and Management**: Addressed by courses like 'Research Methods for Entrepreneurial Studies'.

   - **Motivation and Perseverance**: Courses like 'Entrepreneurship and Corporate Venture in Practice' cover this competence.

   - **Financial and Economic Literacy**: Courses like 'Financing Entrepreneurship and Innovation' cover this competence.

   - **Working with Others**: Courses like 'Corporate Innovation' cover this competence.

2. **Partially Covered Competences**:

   - **Learning Through Experience**: Not explicitly covered in the listed courses however can be seen as part of the practical project assignments.

   - **Mobilising Resources**: same as above, not explicitly covered in the listed courses but be seen as part of the practical project assignments and also indirectly – partly addressed by other courses in the curriculum.

3. **Not Covered Competences**:

   - **Coping with Uncertainty, Ambiguity, and Risk**: There are no specific courses listed that focus on this competence.

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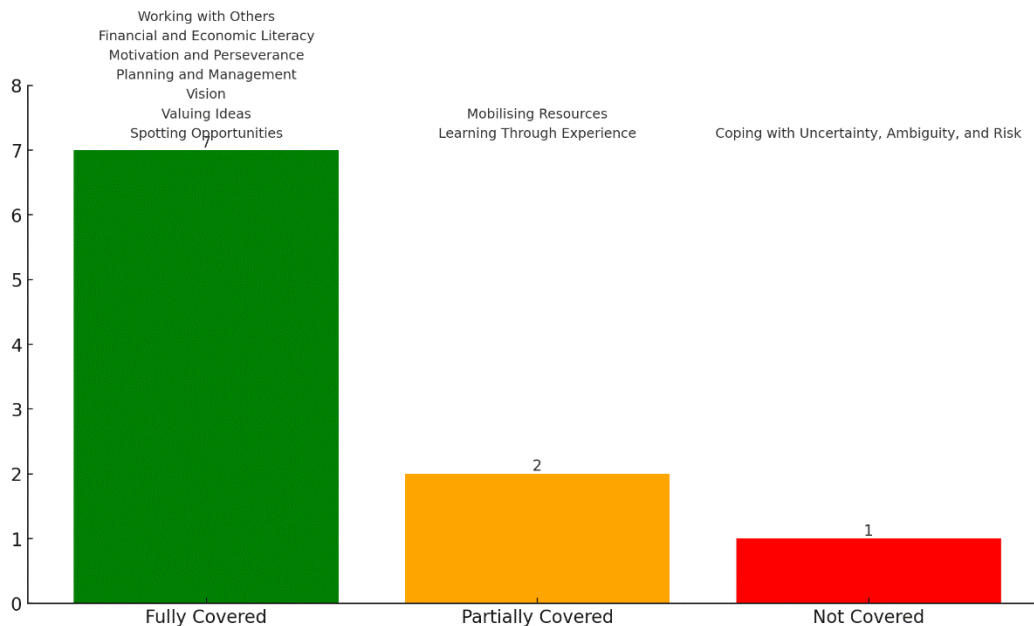
Figure 18. EntreComp Competences coverage in the academic programs of the HEIs interviewed within the Irish ecosystem

The findings as we have been also able to cross-check and examine with offerings in other countries that are not covered by the ExcEllent project demonstrate that while academic institutions build their curricula on established pathways, it is also part of their own culture to choose purposefully and deliberately to pose importance to some subjects, while entirely leave out or suboptimally serve some other ones. Though this needs further grounding, it is highly probable that it is the people (members of the Faculty) that shape the profile of the Programmes and, consequently, the teaching offers, either building on their own knowledge fields and fields of expertise, or by watching trends in other countries and in leading educational institutions.

Emergent competences

Linking of emergent competencies to their inclusion in academic education is more complicated as several of these emergent competencies may be almost in some indirect or 'shadowy' ways (e.g. partial coverage of aspects to this competence) served by the offered courses.

1. **Fully or Almost Fully Covered**: Complementarity in teams; Customer centricity; Valuing employees; Sales skills; Strategic orientation. These are directly addressed through specific courses in the programs.

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2. **Partially Covered**: Coachability; Resilience; Flexibility & agility. These competences are likely addressed but not as the main focus of the courses. Same also for Technical skills / Domain-specific skills that depends on the study path and trajectory of the individual students who can make use of optional offerings.

3. **Not Covered / Limited Coverage**: Openness to experience; Continuous learning. There seems to be less emphasis or specific courses on these competences in the provided document.
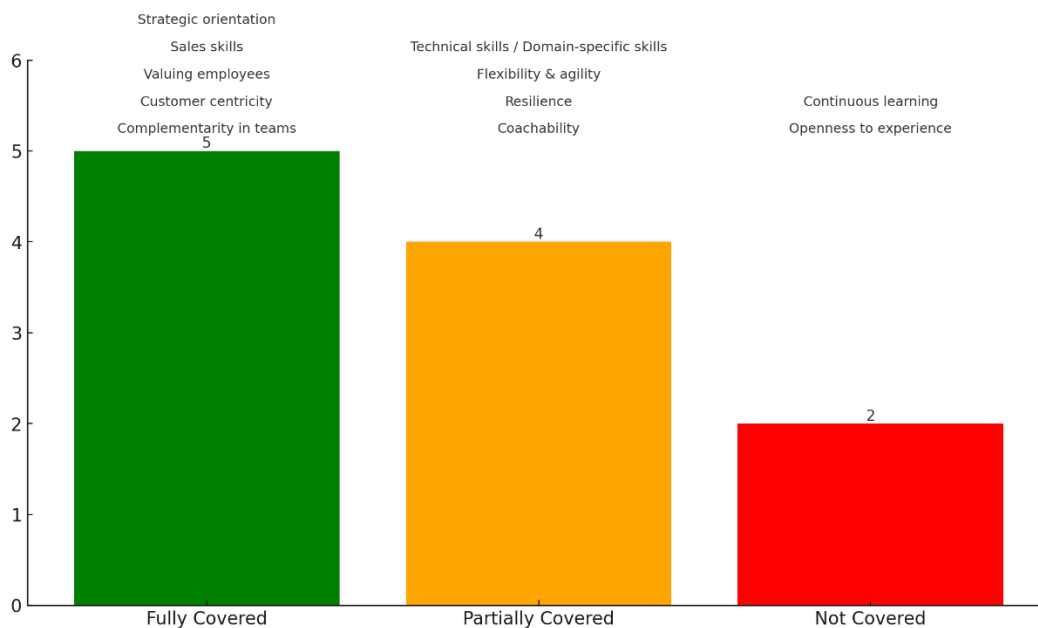
Figure 19. Emergent competencies coverage in the academic programs of the HEIs interviewed within the Irish ecosystem

INNOVATION ENABLERS

The analysis below is a comprehensive mapping of how LaunchBox, an innovation enabler in Ireland that is part of Tangent's Student Accelerator, which is a summer accelerator run by Trinity College Dublin addresses various competencies. The competencies from the "Very Important" and "Important" categories have been mapped to specific program contents, skills, or activities offered by these enablers. This allows for understanding which competencies are fully covered, partially covered, or not covered at all by their training programs.

EntreComp competences

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Below is a summary of how the training programs of Launchbox covers the competencies outlined in EntreComp framework:

1. **Fully or Almost Fully Covered Competences:** *Spotting Opportunities, Vision, Valuing Ideas, Mobilising Resources, Working with Others, Learning through Experience*

2. *Partially Covered Competences:* *Coping with Uncertainty, Ambiguity, and Risk, Planning and Management*

3. **Competences Not Covered / With Limited Coverage**: *Motivation and Perseverance, Financial and Economic Literacy*
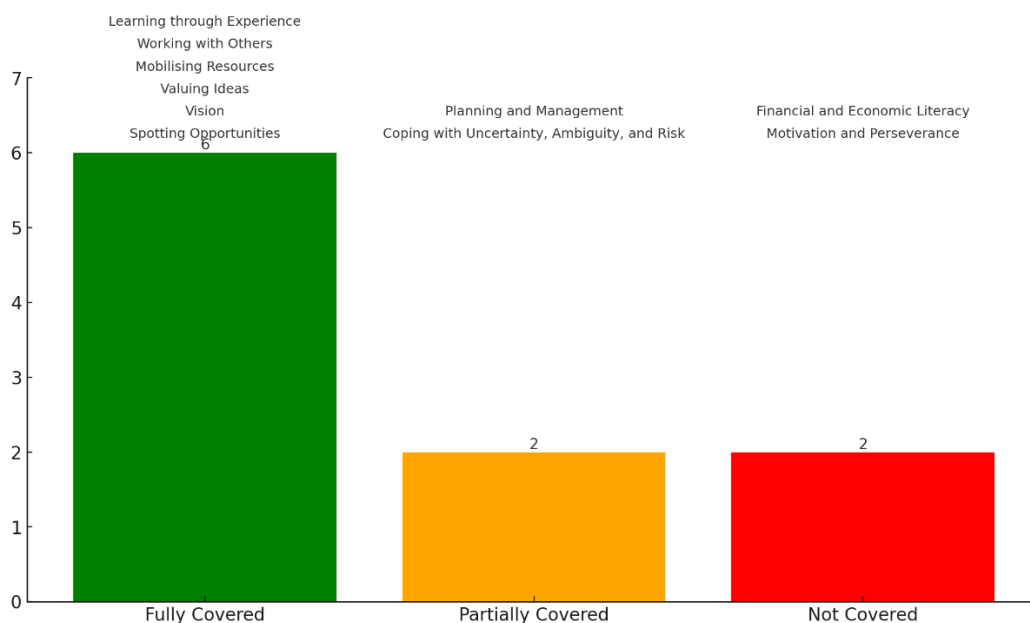
Figure 20. EntreComp competences coverage in the training programs of the innovation enablers interviewed within the Irish ecosystem

While for the prioritisation in the case of Higher Education Institutions reasoning was related to the supply side of the different teaching offers, for the case of the innovation enablers we consider that an explanation may mainly relate to the needs that are identified for the trainees. In many cases the offerings by IEs may change much faster as they can include components in their offerings in a much more agile way than HEIs.

Emergent competences

1. **Fully or Almost Fully Covered**: *Coachability; Resilience; Flexibility & agility; Complementarity in teams; Technical skills / Domain-specific skills; Sales skills*.

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2. **Partially Covered**: *Customer centricity; Strategic orientation*.

3. **Not Covered / Limited Coverage**: *Valuing employees; Openness to experience; Continuous learning.*
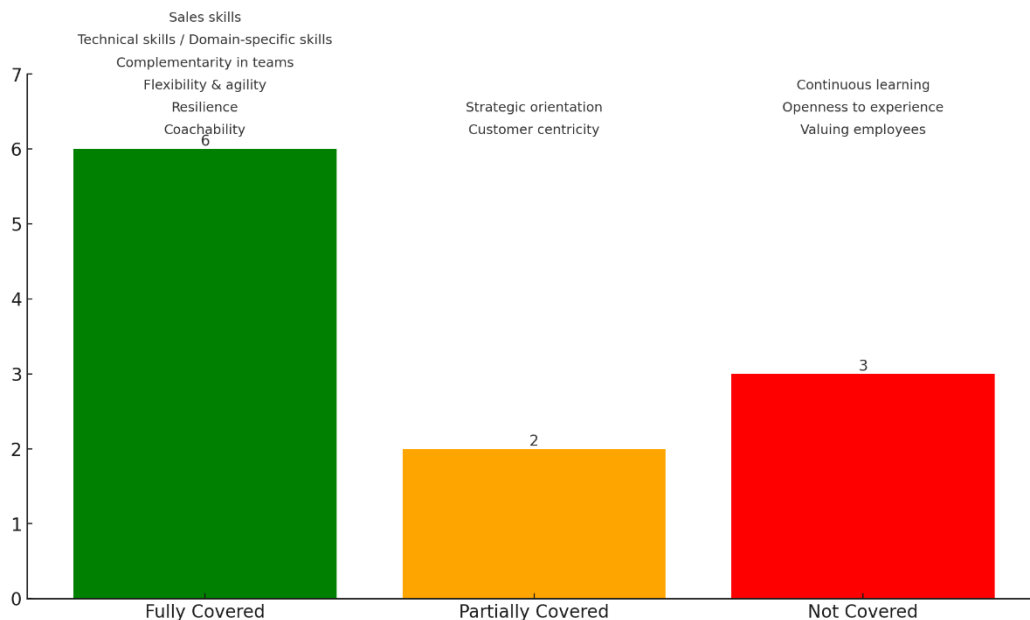
Figure 21. Emergent competences coverage in the training programs of the innovation enablers interviewed within the Irish ecosystem

COMPARISON OF COMPETENCES COVERAGE BY FORMAL AND INFORMAL EDUCATION PROGRAMS OF THE INTERVIEWED ORGANISATIONS IN IRELAND

- **Overlap in competences**: Both formal and informal education programs in Ireland show strong coverage in competencies like *Spotting opportunities, Valuing ideas; Vision.*

- **Gaps in Formal Education**: Formal education programs lack coverage in competencies related to *Learning through Experience* and *Mobilising Resources.*

- **Gaps in Informal Education**: Training programs by innovation enablers have limited coverage in areas such as *Motivation and perseverance and Financial literacy*.

- **Emergent competences**: Both types of programs partially cover emergent competencies like *Coachability; Resilience; Flexibility & agility*, and have notable gaps in *Openness to experience; Continuous learning*.

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We see a high-powered and dynamic setting not only to support education and hands-on training but also to guide entrepreneurship. Changes in the Zeitgeist regarding entrepreneurship with implications on the broader understanding of its nature in the society and the economy, aspects especially related to boosting youth and self-employability and promoting new paradigms for it are, as expected, reflected in what is taught, what is used as teaching material and how the teaching process in itself is regarded.

It is true that several of the emergent competences can be seen as related to or, in certain other cases, as specialisations of competences covered by the EntreComp framework. *Flexibility & agility*, for instance, are highly related to *Planning and Management* of the EntreComp framework but can be also strongly related to *Working with Others* and *Mobilising Resources*.

What can truly create or add value is to treat competences as living assets that can dynamically evolve in nature and to which HEIs and IEs can learn to make best use of them, in order to increase the quality of their offerings to future entrepreneurs.

3.2.6 Ukraine

HIGHER EDUCATION INSTITUTIONS

EntreComp competences

Based on the detailed course information provided in the document for the Master of Cyber Defence at SET University, Master of Computer Science and Innovation Engineering at SET University, Masters in International Economic Relations in Lviv Polytechnic University and Business and Finance Economics at Kyiv School of Economics, the coverage of EntreComp entrepreneurial competencies in Ukrainian ecosystem can be summarized as follows:

1. **Entirely Covered Competences:** The various levels of courses available for the following EntreComp competences closely align with their respective descriptions, indicating comprehensive coverage.

   - **Spotting opportunities:** Covered by courses *Research and Development Activities, Scientific Research and Seminars on Their Topics.*

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- **Planning & Management:** Covered by courses *Cybersecurity Risk Management, Cybersecurity Business Management, Project Management, Data and Database Management, International Strategic Management, International Financial Management, Investment Portfolio Management.*

- **Learning through experience:** Covered by courses *Startup Incubator & Entrepreneurship Track, Practice on the Topic of Master's Qualification Work, Execution of Master's Qualification Work, Internship, Capstone Project, Preparation and Defence of Master's Degree.*

2. *Partially Covered Competences:*

- **Vision:** Covered by course *Leadership and Digital Transformation.*

- **Coping with uncertainty, ambiguity and risk:** this competence is covered by *Global Challenges Course.*

- **Working with others:** Covered by course *Professional Communication and Academic Writing.*

- **Financial and Economic Literacy:** this competence is covered by such courses as *Global Economy, International Venture Capital Activity, Econometrics in International Business, Macroeconomics, Microeconomics, Statistics and Econometrics.*

3. *Not Covered Competences:* These competencies do not have any courses at any educational level that align with them, indicating gaps in the curriculum. In the Ukrainian ecosystem, the following EntreComp competences are not covered:

- **Valuing Ideas:** There are no specific courses listed that focus on this competence.

- **Mobilising Resources:** There are no specific courses listed that focus on this competence.

- **Motivation and perseverance:** Despite the importance of this competence, no educational program on motivation has been found in Ukrainian higher education institutions.

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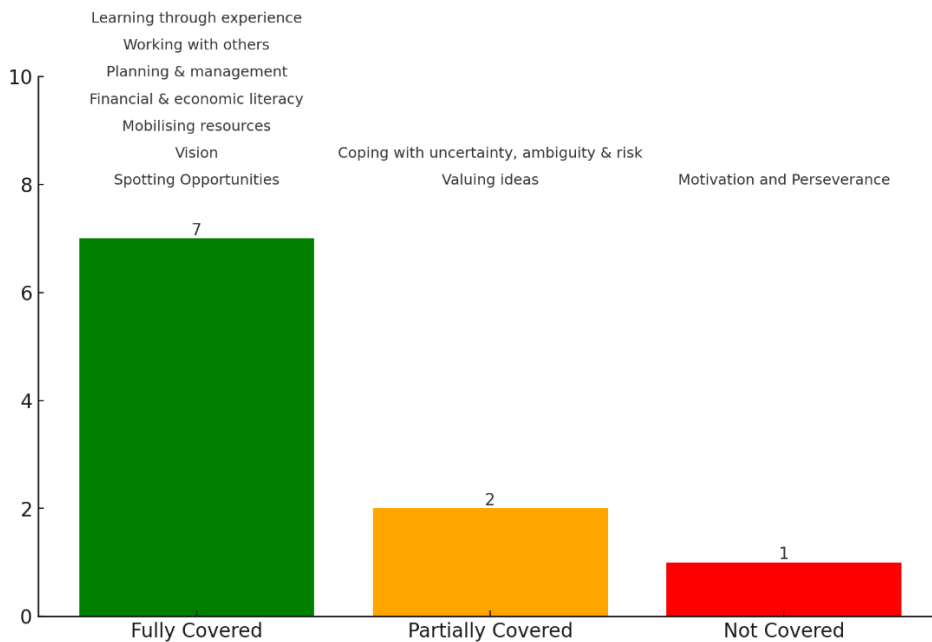D3 Entrepreneurial Best Practices Report
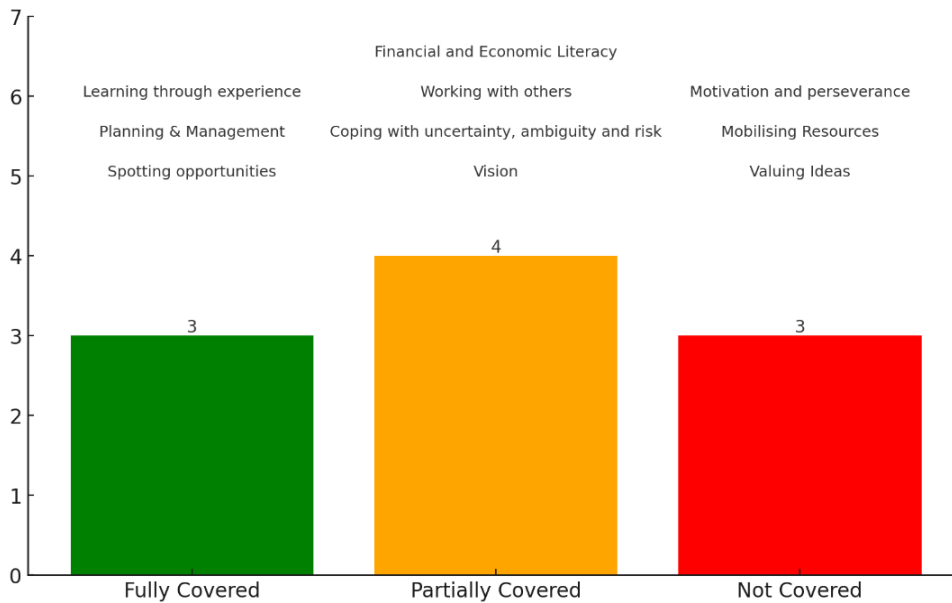
Figure 22. EntreComp Competences coverage in the academic programs of the HEIs interviewed within the Ukrainian ecosystem

Emergent competencies

Based on the detailed curriculum of the entrepreneurial programs offered by the Ukrainian Higher Education Institutions, the emergent competencies are covered the following way:

1. **Fully Covered:**

   - **Technical or Domain Specific Skills:** Courses in cybersecurity, database management, machine learning, and blockchain technologies directly contribute to this competence.

   - **Continuous Learning:** Emphasized through modules on self-learning, master's thesis development, and internships that encourage ongoing knowledge acquisition and skill development.

2. **Partially Covered:**

   - **Resilience:** Indirectly through challenges in startup incubator experiences.

   - **Coachability:** Through startup incubator experiences and master's qualification work, where feedback and adaptation are inherent.

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- **Flexibility and Agility:** Addressed in project management, and cybersecurity management courses that require adaptive and innovative problem-solving approaches.

- **Openness to Experience:** Fostered by a broad curriculum that includes global challenges, international strategic management, and various electives.

- **Strategic Orientation:** Seen in courses on international strategic management and investment portfolio management, focusing on long-term vision and market analysis.

3. *Not Covered /Limited coverage:*

- **Sales Skills:** While not directly covered, elements related to market analysis and competitive management could contribute to this competence, but rather the coverage is limited.

- **Customer Centricity:** Implicit in courses on entrepreneurship and innovation, but as they are not explicitly stated, they fall under this category.

- **Complementarity in Teams:** Rather not covered.

- **Valuing Employees:** There's little to no explicit mention of courses focusing on HR practices, employee engagement, or organizational behaviour that would directly address this competence.

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Figure 23. Emergent competencies coverage in the academic programs of the HEIs interviewed within the Ukrainian ecosystem

Ukrainian HEIs demonstrate a commendable emphasis on hard skills within their business programs, but there appears to be a notable gap in addressing the equally crucial realm of soft skills. The EntreComp framework underscores the importance of a holistic skill set that includes not only technical proficiency but also interpersonal and entrepreneurial competencies. To enhance the effectiveness of business education in Ukraine, it is imperative for HEIs to recognize and integrate the significance of soft skills development. A balanced approach, incorporating both hard and soft skills aligned with the EntreComp framework, will better equip students to thrive in the dynamic and collaborative landscape of entrepreneurship, fostering a new generation of well-rounded and resilient business professionals.

INNOVATION ENABLERS

EntreComp competences

The analysis below is a comprehensive mapping of how the three innovation enablers in Ukraine (Accelerator 1991 - accelerator for startups, YEP - Incubator, accelerator and university, TSUS - accelerator) address various competencies outlined in EntreComp framework:

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1. ***Entirely Covered Competences:*** The following EntreComp competences have full coverage:

   - **Spotting Opportunities:** A variety of courses, such as *Introduction and Goal Setting, Bootcamp* cover this competence*.*

   - **Vision:** Covered by courses *Company Culture, Ideation & LEAN Approach.*

   - **Mobilising resources:** A variety of courses, such as *Product Development and MVP, Operations and Scalability, Product Development, Design Thinking, Marketing Part2 and Sales* cover this competence*.*

   - **Financial & economic literacy:** Covered by courses *Finance and Fundraising, Fundraising, VC & Fundraising, Investments, Finances, Budgeting, Financial Planning and Forecasting.*

   - **Planning & management:** A variety of courses, such as *Business Model Outline, Business Development, Go-to-market Strategy, Business Model Canvas, Problem-solution Fit, Management Technology and Strategy, Business Strategies and Innovations* cover this competence*.*

   - **Working with others:** Covered by *Investor Relations and Board Management, Mentors Support, Investors Feedback, Networking, Communications, Negotiations, Personal Brand and Networking.*

   - **Learning through experience:** Covered by courses *Demo Day, Pitch Training, Pitchdeck.*

2. ***Partially Covered Competences:*** The following EntreComp competences have limited coverage:

   - **Valuing ideas:** Covered by courses *Idea Thinking, Idea Validation.*

   - **Coping with uncertainty, ambiguity & risk:** Covered by *Risk Management.*

3. ***Competences Not Covered:*** The following EntreComp competences have no coverage:

   - **Motivation and Perseverance:** Training in motivation competencies was not found in the programs of practical innovators.

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Figure 24. EntreComp competences coverage in the training programs of the innovation enablers interviewed within the Ukrainian ecosystem

Emergent competencies: These competencies, separate from the EntreComp framework, are presented in programs of Innovative practitioners.:

1. ***Fully Covered:***

   - **Technical or Domain Specific Skills**: Directly addressed with modules on product development, design thinking, and technology, ensuring deep technical knowledge.

2. ***Partially Covered:***

   - **Resilience, Flexibility, and Agility**: Fostered through coping with uncertainty and lean methodologies, highlighting adaptability.

   - **Customer Centricity:** Highlighted in customer research, development, and portraits, aligning products with user needs.

   - **Continuous Learning:** Promoted via mentorship and feedback, for skill enhancement.

   - **Sales Skills:** Developed through marketing and sales training, preparing for market challenges.

   - **Strategic Orientation:** Built through training in business strategies and management, focusing on competitive positioning.

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3. *Not Covered / With Limited Coverage:*

- **Coachability, Openness to Experience, Complementarity in Teams, Valuing Employees**: These personal and team development skills are not explicitly targeted, indicating gaps in these areas within the innovation ecosystem's training programs.
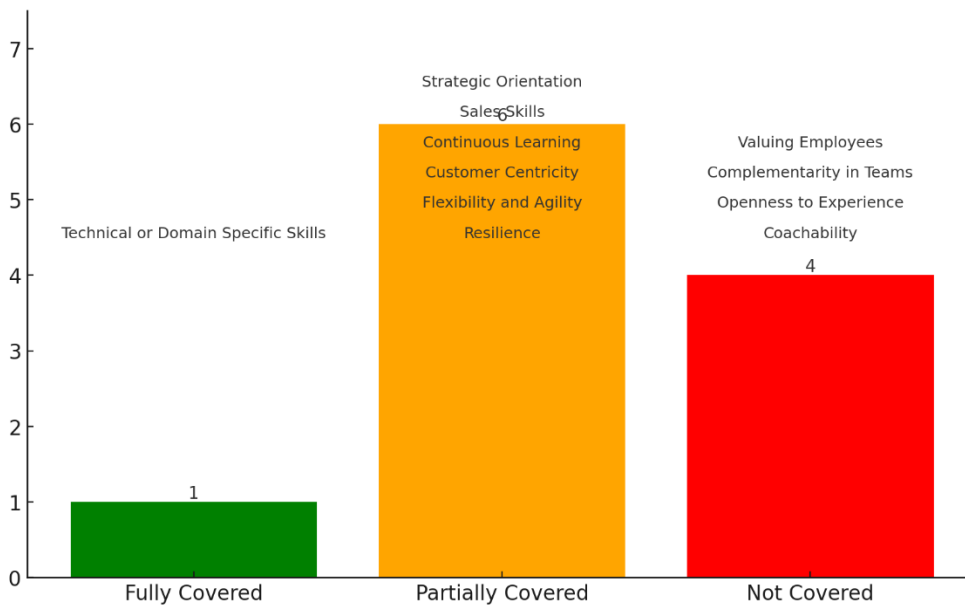
Figure 25. Emergent competences coverage in the training programs of the innovation enablers interviewed within the Ukrainian ecosystem

COMPARISON OF COMPETENCES COVERAGE BY FORMAL AND INFORMAL EDUCATION PROGRAMS IN THE UKRAINIAN ECOSYSTEM

Summarizing the results of the study, we can say that Ukrainian higher education institutions focus more on hard skills, such as financial literacy, a variety of technical competencies (from knowledge of programming languages to cybersecurity and architecture), planning and management, and experiential learning. As for soft skills, Ukrainian universities focus on spotting opportunities, learning through experience and visionary thinking.

Formal education through HEIs offers comprehensive coverage in technical and domain-specific skills, continuous learning, and partially addresses resilience, coachability, flexibility, agility, openness to experience, and strategic orientation. However, it lacks in areas such as valuing ideas, mobilising resources, motivation, perseverance, sales skills, customer centricity, complementarity in teams, and

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valuing employees. Focusing on hard skills during university studies is crucial for aspiring entrepreneurs as it provides industry-specific knowledge, analytical problem-solving abilities, and a foundation for innovation. Acquiring hard skills, whether in technology, business operations, or finance, is essential for making informed decisions, managing risks, and adapting to evolving industry trends. These skills not only enhance credibility and build trust among stakeholders but also contribute to the entrepreneur's capability to lead and differentiate their business. Furthermore, a strong grasp of hard skills facilitates the formation of a competent and diverse team. While hard skills are paramount, cultivating soft skills is equally important, ensuring a well-rounded entrepreneurial skill set that encompasses effective communication, leadership, and teamwork. This combination positions aspiring entrepreneurs for success in navigating the complexities of the business landscape.

Informal education, represented by innovation enablers like accelerators and incubators, **fully or almost fully cover the EntreComp framework.** For example, there is a full coverage in spotting opportunities, vision, mobilising resources, financial and economic literacy, planning and management, working with others, and learning through experience. It partially addresses valuing ideas and coping with uncertainty, but lacks in motivation and perseverance. There is a partial coverage of emergent competencies like resilience, flexibility, agility, customer centricity, continuous learning, and strategic orientation, yet showing gaps in coachability, openness to experience, complementarity in teams, and valuing employees.

The programs of these institutions cover the full range of competencies required for an entrepreneur. However, they have a less technical focus than Ukrainian universities. All three of the interviewed practical innovators teach soft skills and entrepreneurship mostly. Developing soft skills is crucial for aspiring entrepreneurs for several reasons. Effective communication is vital for conveying ideas, building relationships, and negotiating deals, which are essential aspects of entrepreneurship. Leadership skills enable entrepreneurs to inspire and guide their teams, fostering a positive work environment. Strong interpersonal skills contribute to networking and relationship-building, crucial for partnerships and business growth. Adaptability and resilience, key soft skills, help entrepreneurs navigate uncertainties and setbacks inherent in the business world. Teamwork and collaboration are essential for building a cohesive and efficient team. Additionally, empathy and emotional intelligence contribute to understanding customer needs and creating products or services that resonate. Overall,

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a well-developed set of soft skills enhances an entrepreneur's ability to lead, communicate, collaborate, and navigate the dynamic challenges of the entrepreneurial journey.

In conclusion, while formal education in Ukraine effectively addresses hard skills and some aspects of continuous learning and technical expertise, it falls short in soft skills and some emergent competencies critical for entrepreneurship. Informal programs through innovation enablers complement these by offering practical experience and covering a broader range of entrepreneurial competencies, yet both systems show gaps in essential soft skills and specific emergent competencies, highlighting the need for a more integrated approach to competence development.

3.2.2 Overall Analyses of Current Educational Practices in the Six Ecosystems

Based on the detailed analysis provided in Section 3.2.2 it is evident that there are significant gaps and partial coverage of competencies in both Higher Education Institutions and training programs provided by innovation enablers across the six ecosystems studied (Greece, Bulgaria, Turkey, France, Ireland, Ukraine). This analysis is grounded on the alignment of these educational practices with the EntreComp competencies framework categorized in D1.2 as very important and important, as well as with the identified in the same document emergent competences, with an emphasis on identifying the competencies that are not fully covered or are partially covered.

To draft a conclusion focused on these uncovered and partially covered competencies, and to divide them according to their origin from HEIs' curricula or from the training programs of innovation enablers, we have synthesized the findings across all ecosystems mentioned.

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Figure 26. EntreComp competences, sorted by partially covered or with limited coverage according to type of training provider (HEIs or IEs) for all 6 ecosystems

Figure 26 illustrates a comparative overview of the coverage of the defined very important and important EntreComp competences within the programs of Higher Education Institutions and Innovation Enablers. We have decided that the best approach is to cumulatively sum both partially covered and not covered competences, to identify a broader set of gaps.

What stands out from the analysis is that both HEIs and IEs have identified ***Motivation and Perseverance*** and ***Coping with Uncertainty, Ambiguity and Risk*** as the least covered competences. This shared observation shows a mutual recognition of the significance of these competences and a similar challenge in adequately incorporating them into their programs.

For HEIs, two additional competences, ***Learning Through Experience*** and ***Mobilising Resources***, are also highlighted as being underrepresented. This suggests that while HEIs may be acknowledging the importance of hands-on learning and resource management, these areas are not receiving sufficient

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coverage in their curricula. On the side of IEs*, Valuing Ideas* emerges as an additional competence needing greater inclusion, which is also next in line for HEIs based on the reported coverage. This points to a potential undervaluing of ideation and creativity in the entrepreneurial training provided by IEs.

The parallel between HEIs and IEs in recognizing the same competences as least covered could reflect a broader trend in the educational sector concerning the challenges of imparting these complex, behaviourally-oriented skills. It may also signal an opportunity for both types of institutions to collaboratively address these gaps, leveraging each other's strengths to enhance curricular offerings.
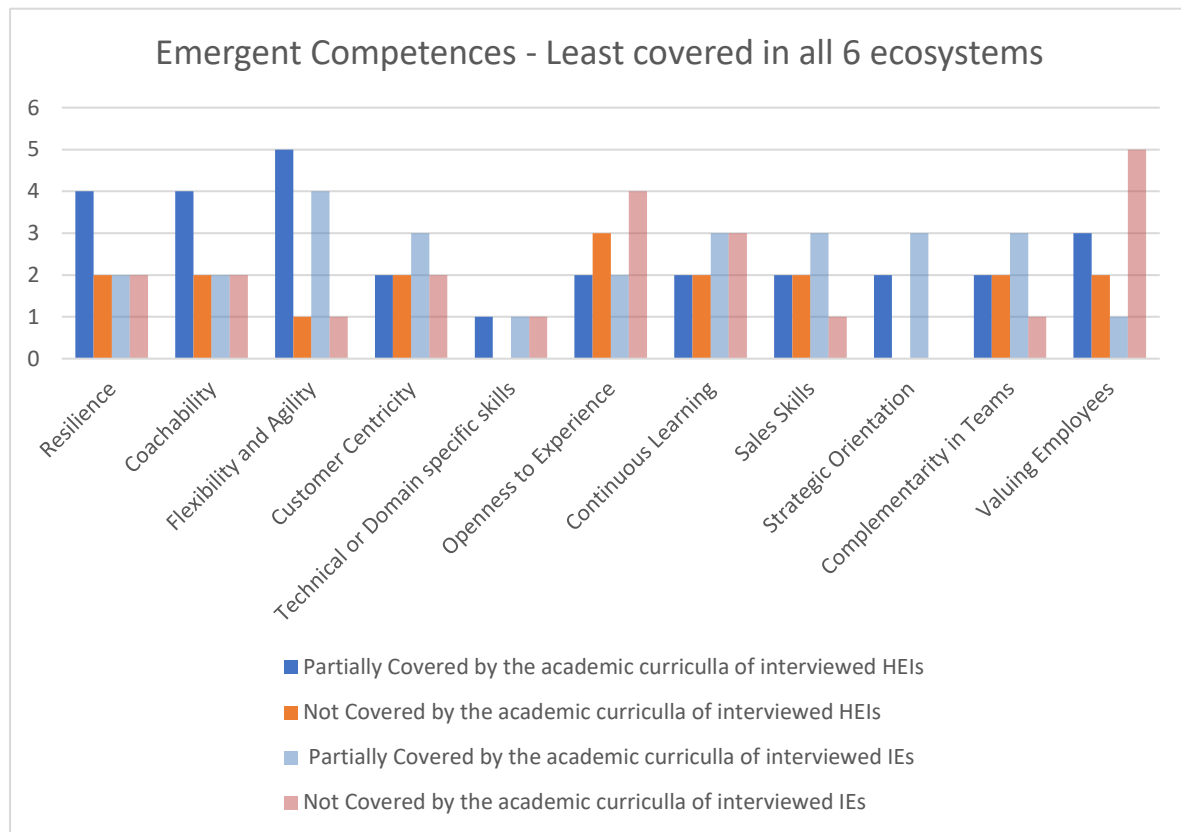
Figure 27. Emergent Competences, sorted by partially covered or with limited coverage according to type of training provider (HEIs or IEs) for all 6 ecosystems

Similarly to Figure 26, Figure 27 offers a comparative look at the coverage of competences, this time the ones, identified as "emergent" by the project participants- by HEIs and IEs. Based on the cumulative summation of both partially covered and not covered competences, the three competences least covered by HEIs, are *Resilience, Coachability*, and *Flexibility and Agility*. These

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competences are essential for adapting to change, learning from experiences, and navigating complex situations, but they appear to be the areas that are most often overlooked in higher education settings according to the graph. These areas are highlighted as critical gaps where HEIs could focus their developmental efforts to enhance their curricular offerings.

For the training programs of IEs, **Openness to Experience, Continuous Learning,** and **Valuing Employees** are identified as competences requiring attention, as indicated by the combined measure of partial and non-coverage. These areas are crucial for improvement to ensure that IEs provide a comprehensive skill set necessary for the evolving demands of the entrepreneurial ecosystem.

The **Strategic Orientation** competence appears to be one of the better-covered competences in the academic curricula of both Higher Education Institutions and Innovation Enablers. This suggests that there is a general acknowledgment of the importance of strategic orientation in both types of institutions.

The trend across the graph indicates that while both HEIs and IEs have room for improvement in covering emergent competences, HEIs display a more inclusive approach by partially covering more competences than IEs. Conversely, IEs tend to have a more significant number of competences that are not addressed at all in their programs.

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EntreComp competences that need further development

Figure 28. Identified gaps in EntreComp competences in the programs of all interviewed HEIs and IEs across the six ecosystems

The graph above (Figure 28) outlines identified gaps in the programs of both HEIs and IEs for EntreComp competences. It represents the accumulated values for all EntreComp competences partially covered and these with limited coverage, considering all interviewed HEIs and IEs across the six ecosystems. The number on the Y-axis shows how many organisations have identified a competence as partially or not adequately covered. The graph brings to light areas that require significant development to better equip individuals for the entrepreneurial and professional world.

Prominently, *Motivation and Perseverance* and *Coping with Uncertainty, Ambiguity, and Risk* are acknowledged as competences where both HEIs and IEs show considerable room for improvement. This suggests a universal recognition of the importance of these skills for driving initiatives forward. *Valuing Ideas* is another competence that is marked as a substantial gap, pointing to a potential underemphasis on innovation and ideation in current educational and training frameworks. Similarly, the ability to *Mobilise Resources* effectively stands out as an area needing more robust curricular integration. Furthermore, the competences of *Working with Others* and *Learning Through Experience* are flagged as not being adequately covered, underlining the necessity for more focus on collaborative skills and experiential learning within academic and training settings.

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While **Planning and Management** and **Vision** are indicated as needing further attention, they are considered slightly less of a gap, yet still essential for strategic operational and visionary capacities. Finally, **Spotting Opportunities** and **Financial and Economic Literacy** appear lower on the gap scale but are still recognized as areas where enhancement in curricular coverage could be beneficial.

The graph provides a critical perspective for educational and training institutions to consider, suggesting that they need to reassess and enrich their programs to encompass these key competences fully.
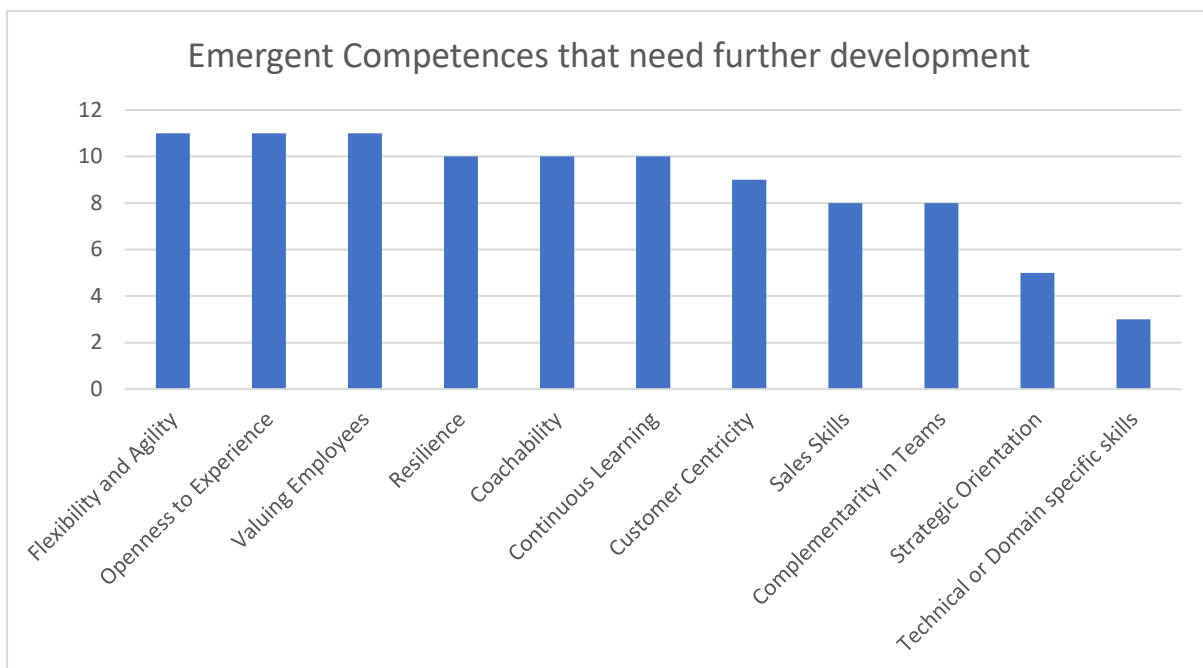
Figure 29. Identified gaps in emergent competences in the programs of all interviewed HEIs and IEs across the six ecosystems

Figure 29 presents a list of emergent competences with identified gaps that require further development in the programs of both HEIs and IEs. It shows the accumulated values for all EntreComp competences partially covered and these with limited coverage, considering all interviewed HEIs and IEs across the six ecosystems. The number on the Y-axis shows how many organisations have identified a competence as partially or not adequately covered. At the top of the list are **Flexibility and Agility**, **Openness to Experience**, and **Valuing Employees**, all marked as high-priority areas where both HEIs and IEs could improve their educational and training offerings. The emphasis on these competences underscores a growing need for adaptability in professional environments, a willingness to embrace new ideas, and a culture that appreciates the contributions of all employees. Following closely are

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Resilience, ***Coachability***, and ***Continuous Learning***. These competences are central to the ability to withstand challenges, receive and act on feedback, and engage in lifelong learning—skills that are indispensable in the face of rapid technological and societal changes. ***Customer Centricity*** is the next in the scoring and also appears as a significant gap, suggesting a need to instill a stronger focus on understanding and meeting customer needs within educational curricula. ***Sales Skills*** and ***Complementarity in Teams*** are identified as well, indicating the importance of commercial acumen and the ability to work effectively within diverse team settings.

Lower on the scale but still recognized as needing attention are ***Strategic Orientation*** and ***Technical or Domain Specific Skills***. While these competences may be somewhat addressed, the graph points out the need for a more systematic approach to strategic planning and technical expertise within the educational context.

The graph conveys a clear message that HEIs and IEs should consider these identified gaps as opportunities for curricular enhancement. By integrating these competences into their programs, institutions can better prepare individuals to thrive in an increasingly complex and fast-paced world.

4. Feedback on academic curriculum received by innovation enablers

The process for obtaining feedback on academic curricula from innovation enablers involved partners conducting interviews, centred around a critical question: "*Is it possible to establish a formal correlation between education and/or experience and entrepreneurial success?*" This inquiry aimed to analyse the general attitudes of innovation enablers towards education. The outcome of this method included a summary of the feedback received, identifying areas of the curriculum needing improvement, and suggesting changes or additions to better align with the needs of the entrepreneurial ecosystem. This feedback is crucial for understanding how academic programs can evolve to support entrepreneurial success more effectively.

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4.1 Greece

In the context of the Greek ecosystem, it's evident that while there is potential for establishing a correlation between education, experience, and entrepreneurial success, significant obstacles remain. Key among these challenges is the complexity of integrating entrepreneurial studies into the traditional academic framework. As one innovation practitioner highlighted, creating a major or a comprehensive entrepreneurship program is not straightforward. The process requires a departure from conventional academic methods, urging educators and institutions to move beyond their comfort zones. This transition from traditional textbook teaching to a more dynamic, market-oriented approach presents a considerable challenge.

The Greek educational system, having undergone a prolonged period of crisis, faces additional hurdles. This period has impeded the development of advanced educational structures seen in other countries, thereby necessitating a careful examination of international models. There's an expressed need for collaboration with organizations and institutions abroad to learn from their experiences and adapt successful strategies to the Greek context. This approach advocates for not reinventing the wheel but rather adapting what has worked elsewhere, tailoring it to fit the unique challenges and opportunities within Greece.

The innovation practitioner's insights also stress the importance of balancing academic integrity with market relevance. It's a delicate act of preserving the academic character of universities while also ensuring that they do not operate in isolation from the market's realities. This balance is crucial in developing programs that are both academically sound and practically applicable in the real world of business and entrepreneurship.

The path forward for Greek universities involves navigating these challenges with a policy of careful but swift action. The goal is to cultivate a culture that fosters entrepreneurial thinking within the academic setting, while also ensuring that such education is relevant and responsive to market needs. This dual focus is essential in shaping an educational ecosystem that not only imparts knowledge but also prepares students and researchers for successful entrepreneurial endeavours in the dynamic Greek and global markets.

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4.2 Bulgaria

In the Bulgarian entrepreneurial ecosystem, the feedback on academic curricula from various innovation enablers offers a comprehensive insight into the current state and potential improvements needed to foster entrepreneurial success. The overarching sentiment among these enablers is the critical need for an academic curriculum that not only imparts theoretical knowledge but also emphasizes its practical application in real-world scenarios. This emphasis stems from a recognition that while theoretical understanding forms a strong foundation, the true essence of entrepreneurship lies in applying this knowledge to solve real-world problems and innovate.

A recurring theme in the feedback is the importance of soft skills development. Skills such as *leadership, persuasion, sales,* and *opportunity recognition* are often overlooked in traditional academic settings. However, they are vital for entrepreneurial success. These skills, developed through practical experience, are as important as academic knowledge. Hence, the suggestion is to embed these skills into the curriculum, perhaps through experiential learning modules or projects that mimic real-life entrepreneurial challenges.

Moreover, the feedback underscores the significance of fostering an entrepreneurial mindset and personal traits such as resilience and risk-taking within the academic curriculum. This focus goes beyond the mere acquisition of knowledge and delves into preparing individuals psychologically for the rigors and uncertainties of the entrepreneurial journey. It's suggested that educational institutions should integrate aspects like *technology transfer* and *real-world problem-solving* into their programs, thus enabling students to experience the entrepreneurial process firsthand.

Another aspect highlighted is *the role of networks and connections*, which are invaluable in the entrepreneurial world. Leveraging university networks and connections can provide budding entrepreneurs with the necessary resources and opportunities. This approach calls for a more integrated system where academia and industry collaborate closely, providing students with exposure to real-world entrepreneurial environments.

The feedback also points towards a shift from a theory-centric approach to one that is more practical and hands-on. For example, programs that encourage students to develop and apply their ideas in a startup-like environment are deemed more beneficial than traditional lecture-based learning. This

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shift would not only equip students with the necessary skills but also provide them with a taste of what it takes to be an entrepreneur.

In conclusion, the Bulgarian entrepreneurial ecosystem, through its various innovation enablers, suggests a transformative approach to academic curricula. This approach involves a balance between theory and practice, a strong emphasis on soft skills, the development of an entrepreneurial mindset, leveraging networks, and a shift towards practical, hands-on learning experiences. These changes and additions are seen as essential to better meet the needs of the entrepreneurial ecosystem and to prepare individuals for the challenges and opportunities of entrepreneurship.

4.3 Turkey

In the context of the Turkish ecosystem, it can be observed that there is a correlation between education, experience, and entrepreneurial success, especially among the young generation of entrepreneurs. TUBITAK (Scientific and Technological Research Council of Turkey) and the Ministry of Industry and Technology started to assess entrepreneurship and innovation performance of Turkish universities twelve years ago. The Entrepreneurial and Innovative Universities Index is prepared to rank all universities in Turkey. Turkish universities are evaluated according to 23 indicators under 4 main themes (scientific and technological research competence, intellectual property pool, collaboration and interaction, and contribution to economy and commercialization). The contribution of the index to the development of entrepreneurship and innovation ecosystems within and around universities. Due to its prestige, most of the universities invest in developing their entrepreneurship ecosystem to climb higher rankings in this index. By the impact of this index, the entrepreneurship education, training, and support mechanisms for students and academics who are planning to start their new venture have been accelerated for the last decade. Special grants provided by TUBITAK to improve entrepreneurship education and establishment of special support programs such as TTOs, incubators and accelerators at Turkish universities empower the universities in the ecosystems. While there are still some challenges such as limited human capital in academia to deliver entrepreneurship and innovation courses and training, and to be active in support mechanisms, the role of universities and other HEIs has been rising for the last decade.

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In the Turkish entrepreneurial ecosystem, the feedback on academic curricula from various innovation enablers offers a comprehensive insight into the current state and potential improvements needed to foster entrepreneurial success. Enablers agree on the changing role of the universities in the ecosystem and emphasise that the ecosystem requirements push universities to be more innovative and entrepreneurial; universities should craft their strategies to lead innovation and entrepreneurship ecosystems. One of the most critical demands from the universities is to improve academic curriculum that combines theoretical knowledge and practice that makes students more prone to learn through experience and learn by doing. Collaboration between universities and other innovation enablers in the ecosystem would enable the exposure of students to real world scenarios during their education.

Although most innovation enablers value theoretical knowledge on entrepreneurship and entrepreneurial processes, they emphasise that the success of entrepreneurs requires a departure from conventional theoretical and academic methods, combining theoretical knowledge with practice that encourage entrepreneurial mindset and experiential learning. A shift from solely traditional textbook teaching to an experiential learning, and market-oriented approach is necessary for creating an effective entrepreneurship ecosystem, yet it is challenging.

The innovation enablers in the context of Turkey, mostly acknowledge the importance of theoretical knowledge especially in business management, strategy, finance when they face challenges of the real-world in starting and running their business. One innovation practitioner explains that an MBA degree would be valuable to build a theoretical framework with practical experience. One of the most important challenges of Turkish universities and other HEIs is to achieve that shift from textbook entrepreneurship education to practice-based, experimental education in entrepreneurship.

Furthermore, the feedback highlights the importance of fostering an entrepreneurial mindset and personal traits such as resilience, coping with uncertainty and risks, flexibility and agility within the academic curriculum. Integration of learning-by-doing and learning through experience methods into the academic curriculum enable students to acquire these traits and the entrepreneurial mindset to better cope with the uncertainties of the entrepreneurial process. One of the suggestions of innovation enablers is to expose students to the real-world problems through case studies, case competitions, experience sharing that bring practitioners and students closer.

For the last decade the university education as well as the role of universities in the entrepreneurship ecosystems has been changing worldwide. Approaches such as triple-helix, quadruple-helix highlight

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the importance of links, interactions and collaborations among academia, industry, government and community. For the Turkish entrepreneurship ecosystem, there is an expressed need for collaborations and synergy between universities and other institutions and organisations. Innovation enablers underline the importance of collaboration and networking in the ecosystem. Improving the networks of universities to other ecosystem actors and making the universities the locus of innovation and entrepreneurship ecosystems are valuable to enable entrepreneurs to access necessary resources and network. This requires universities to be more proactive in their ecosystem.

Despite the challenges, Turkish universities and other HEIs have been well adapted to the proliferation of entrepreneurial universities. The government policies and initiatives encourage and support universities to take action and invest in entrepreneurship education and training as well as support mechanisms and strategies. Still there is a long way to go to achieve a culture fostering entrepreneurial mindset in the academic setting, to create an entrepreneurship curriculum that advocates experiential learning, learning-by-doing, and equips students with competences that enable them to understand and respond to market needs, and most importantly to ensure interaction and collaboration between academia and other institutions and organisations. Achieving these goals is essential for preparing students and researchers for successful entrepreneurial endeavours in the local and global markets.

In conclusion, to achieve such a transformation requires an upgrade in academic curricula. Feedback from innovation enablers offer an upgrade that involves the integration of theoretical and practical knowledge to expose students to the real world problems and challenges of entrepreneurial process, emphasis on learning through experience and development of certain competences such as resilience, coping with uncertainties, ambiguities and risks, flexibility, openness. Leveraging networks, close relations with industry and other ecosystem partners are also crucial to build and run this upgraded academic curricula and make entrepreneurs access necessary resources within the ecosystem. These are some of the changes that are essential to better meet the needs of the entrepreneurial ecosystem and to prepare individuals for the challenges and opportunities of entrepreneurship.

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4.4 France

Taking a look at the French ecosystem, a new series of facts about entrepreneur characteristics has been observed during our interviews and analysis of the curricula in the formal education system and informal (VET related) , that also includes interaction among the main actors as well.

The main focus is to evaluate the French entrepreneurial education programs, more specifically how they can simultaneously create entrepreneurial knowledge, skills and competencies, as well as new ventures and jobs. This is a particular challenge for universities that are keen to align with government policies and demonstrate impact. The tendency is for a novel approach to enterprise and entrepreneurship education that integrates training/learning with new venture creation by operating as an entrepreneurial ecosystem (EE). To outline a comprehensive EE framework and apply this model using an exploratory case study of an EE centred around an innovative academic unit is already present in the French University curricula. They offer entrepreneurial education, research and new venture development as an integrated portfolio (Pantheon Paris Sorbonne). This analysis shows that an academic unit can be developed as an EE building from local resources and expertise, aligning with macroeconomic policies and priorities, and leveraging partnerships to provide access to other entrepreneurial players, resources and networks.

The entrepreneurial ecosystem is a fascinating area of study that explores the complex interactions between education, experience, and entrepreneurial success.

Some relevant elements concerning France:

- *Entrepreneurial Education:*

Entrepreneurial education plays a vital role in preparing future entrepreneurs. It aims to develop knowledge, skills and abilities specific to entrepreneurship.

In France, some universities have adopted an innovative approach by integrating training for business creation within an entrepreneurial ecosystem, by offering entrepreneurial education, research and new business development as an integrated portfolio. This approach allows students to acquire practical skills while working on real projects, thus promoting the transition to entrepreneurship.

- *Experience and Entrepreneurial Success:*

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Professional experience is often a key factor in entrepreneurial success. Seasoned entrepreneurs generally have a better understanding of challenges and opportunities. In France, entrepreneurial networks and incubators provide learning and mentoring opportunities for new entrepreneurs. These interactions with peers and experts help strengthen the experience and promote success (through incubators, accelerators etc.).

- *Correlation with the Study Programs*:

Curriculum plays a crucial role in preparing entrepreneurs. In France, universities seek to align their programs with government policies and demonstrate their impact. Integrating entrepreneurship into curricula can help train a new generation of competent entrepreneurs. In short, the French entrepreneurial ecosystem is constantly evolving, with innovative initiatives aimed at combining education, experience and entrepreneurial success.

In France, as elsewhere, there are *barriers and gaps in the entrepreneurial ecosystem*. The **key points** to consider:

Correlation between education, experience and entrepreneurial success:

- **Education**: Entrepreneurship education programs must balance theory and practice. A solid education can provide essential knowledge, skills and networks for business success.

- **Experience**: Practical experience is crucial. Entrepreneurs must learn by doing, by experimenting and by failing. Field experience complements formal education.

- **Entrepreneurial success**: Success depends on many factors, including perseverance, creativity, risk management and the ability to seize opportunities.

Entrepreneurial education curriculum and programs:

- Universities play a key role in training entrepreneurs. They must adapt their programs *better and faster to meet changing market needs.*

- Courses should include topics such as *management, marketing, finance, technology and innovation.*

- **Practical projects and internships** are essential for applying theoretical knowledge in a real-world context.

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- Collaborating *with companies, incubators and accelerators* allows students to gain real-world experience.

Entrepreneurial ecosystem in France:

- France has a dynamic ecosystem with incubators, investors and business clusters.

- However, there are barriers such as *bureaucracy, complex taxation and lack of financing for young businesses.*

- Partnerships between universities, businesses and government are essential to filling the gaps.

In short, entrepreneurial education must be *holistic, integrating theory, practice and real-world experience*. Universities and the entrepreneurial ecosystem must collaborate to train the next generation of French entrepreneurs based on *stronger alliances between academia and industry.*

4.5 Ireland

Same as for other partner countries (e.g. Turkey), one may observe a correlation between education, experience, and entrepreneurial success, especially among the younger generations of entrepreneurs. This has to do also with the fact that the educational offerings increasingly take a hands-on and experiential approach, which gives more importance to transferable skills that include, amongst others, soft skills like communication, leadership and teamwork, to name only a few.

A common element we have been able to identify in our communications but is also evident in the public information provided by the institutions that offer academic curricula related or dedicated to entrepreneurship is that there is an obvious shift towards engaging persons with first hand experiences in the subject of entrepreneurship, either entrepreneurs themselves or what one might call 'innovation enablers'. These carry experiences from not only the bright side of entrepreneurship and its success stories, but also from the several darker sides related to all different types of pitfalls and failure stories. While textbook-taught entrepreneurship might focus on mastering academic skills with no real-world validation or what one could call a reality check, curricula now have a practical orientation where practice is not only the aim but also offers the necessary background for learning.

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Especially regarding the question whether it is possible to establish a formal correlation between education and/or experience and entrepreneurial success, the inputs we received as part of the interviews conducted provide sufficient insight to the nature of the problem, which we summarise below:

- There are several cases of founders succeeding without having had any educational background in entrepreneurship but were willing to learn on the job and were able to have an open mindset. This practically meant that the founders needed to be coachable, and they needed to be willing to learn and learn from their mistakes and take it on.

- The aforementioned lack (on some type of 'formal' educational background in entrepreneurship) was possible to be equalled out from the other side, namely the people comprising the teams of mentors and experts to support the founders. Many of them apart from having years of experience in the field, they had received formal education or, in several cases, were teaching courses so there had been some solid educational knowledge assets that were deployed to support start-ups and these were twofold, namely related to both the theory of entrepreneurship, but they were also applied as well, which is the best way that all entrepreneurship programmes apply namely a mix of theory and application.

- As resilience is definitely one of the core competencies of successful entrepreneurs, expecting future entrepreneurs in order to become successful, to also be resilient and understand the challenges, it is the exposure to real business settings that can teach this aspect, especially for people who have no other own professional experiences.

4.6 Ukraine

Analysing the educational opportunities in Ukraine that have emerged since the country's independence (32 years), it can be claimed that the quality of education provided by public higher education institutions and the quality of education provided by private institutions is different. Nowadays, in private universities, this quality is much higher. This is influenced by the ongoing war, the lack of focus on education in the state, outdated information, corruption, reduced or stopped supply of public funds, ineffective educational programs, and poor training of teachers of a favourable

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age. However, the quality of technical competencies in public Ukrainian universities still stays on a sufficient level.

Private educational institutions offer completely different approaches. Such as: high quality information in line with modern trends, flexible schedules, variety of practical training, stronger connections with industry partners.

A study conducted with practical entrepreneurs found that the ***lifelong learning*** concept of education is one of the factors in business success.

Lifelong learning is the ongoing, voluntary, and self-motivated pursuit of knowledge for personal or professional development throughout one's life. It involves acquiring new skills, updating existing ones, and staying informed about advancements in various fields. Lifelong learning recognizes that education is not confined to formal institutions and emphasizes continuous learning beyond traditional educational stages. It enables individuals to adapt to evolving technologies and societal changes, fostering personal growth and career advancement throughout their lives.

Entrepreneurs claimed that gaining a university degree is very important but it's not a direct indicator that your business will be successful. Instead, ***higher education plus advanced training plus educational courses plus insights from networking plus knowledge through practice create one of the keys to success.***

"I think I have a great mix: I have a technical and management education. If I had only a technical education, I think it would be very difficult for me to run a company. If I had only a management education, I suppose it would be difficult to understand the details of management," — Oleksandra Boguslavska, Data Science UA.

"The experience [students] get [at universities] is one of the best in project management and any relations possible. I don't know how it is explained, but yes, it is coming from the background. This is why I'm saying that despite universities being useless, you have to have yours. You have to finish university because you have to. No matter what specialization you will get, you will change it five times during your lifetime. But you will study to study, and you have to do that," — Valerii Iakovenko, FarmFleet.

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5. Case Studies and Success Stories

To showcase practical applications of entrepreneurial education, partners provided examples of successful spin-offs or collaborations between academic institutions and innovation enablers within their national ecosystems. These examples specifically focus on collaboration in academic education or training by innovation enablers. The outcome of this approach included a compilation of best practices from universities and supporting organizations, highlighting successful university spin-offs and collaborations between academia and innovation enablers. The section also highlights how innovation enablers were involved in curriculum design and educational processes, particularly in student courses, and the benefits of this involvement.

5.1 Greece

Thinc - Thrace Incubator at Democritus University of Thrace represents a significant collaboration between academia and industry. It integrates entrepreneurial elements into the academic curriculum, involving innovation enablers in designing and delivering educational content through guest lectures, case studies, and workshops. This approach provides students with practical experience in business development, enhancing their academic learning with entrepreneurial insights.

Thinc supports the transformation of academic research into commercial ventures, notably through the encouragement of university spin-offs. It facilitates collaborations between university researchers and local businesses, fostering innovative solutions that contribute to the local economy of Eastern Macedonia and Thrace. Additionally, Thinc promotes sustainable practices and circular economy principles, educating start-ups about environmentally friendly and economically sustainable business models.

The incubator also focuses on developing entrepreneurship as a vital skill, offering courses and seminars on business planning and risk management. Interactive events like hackathons and start-up weekends encourage community engagement and shared learning. Thinc is a prime example of the benefits of academia-industry collaboration, enhancing education, fostering innovation, boosting the regional economy, and promoting sustainable business practices.

Orange Grove plays a pivotal role in the "Masterclass Series: The Entrepreneurial University." This program aims to impart practical entrepreneurial knowledge to university management and teaching

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staff, drawing on expertise from the Dutch university ecosystem and other global institutions. The series focuses on experiential learning through case studies and hands-on tools, enabling participants to understand and implement entrepreneurship activation programs and design courses across various faculties. Orange Grove's contribution is critical in guiding universities to set up Technology Transfer Offices and understand diverse university incubator business models. By doing so, it assists in building in-house capacities and facilitates the creation of sustainable entrepreneurial ecosystems within academic institutions. Additionally, the program emphasizes connecting universities to local and international entrepreneurial networks, enhancing the global exchange of ideas and collaboration in the academic sector. Through these efforts, Orange Grove significantly fosters the development of entrepreneurial capabilities within universities, benefiting the wider economic and innovation landscape.

5.2 Bulgaria

The "Best Youth Startup in Bulgaria" competition, held annually since 2022, represents a significant collaborative effort between academic institutions and innovation enablers in Bulgaria. Organized jointly by the Faculty of Economics and Business Administration (FEBA) at Sofia University "St. Kliment Ohridski" and the Fund of Funds, the competition aims to foster entrepreneurial culture among young people in Bulgaria.

This competition is open to students and young people under the age of 29, including 11th and 12th graders. It welcomes innovative business ideas from various fields and at different stages of implementation, from the conceptual phase to advanced stages. This inclusivity shows a dedication to nurturing ideas at all levels of development.

A key feature of the competition is its comprehensive training and mentoring program, which spans several weeks. This program is tailored to the age of the participants and the development stage of their projects. Participants benefit from over 40 online and in-person mentoring sessions, covering topics such as business plan preparation, team building, idea validation, and securing financing. This extensive training reflects a commitment to not just select winners, but to also impart practical skills and knowledge.

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The competition culminates in a Pitching Day, where the ten best concepts are presented to competition partners and investors. This opportunity for real-world exposure and feedback is invaluable for young entrepreneurs. The strongest projects have the chance to receive direct investment or attract financing at a later stage.

The collaboration between the Fund of Funds, FEBA, and various partners from the investment and startup environment, including over 30 financing institutions, sector associations, and organizations from scientific and academic circles, demonstrates a strong network supporting young entrepreneurs. This partnership model provides a comprehensive support system for participants, offering resources that span across academia, industry, and finance.

This initiative highlights the growing synergy between academic education and practical innovation training in Bulgaria. Notable among the successful companies that participated in these competitions are Vodoraslo, Vavakada 3D, Foodobox, Agron, Young Inventor, Anti-tremor glove, and PosseyPay. These companies represent a diverse range of fields including fintech, e-commerce, recycling, virtual reality, applications of artificial intelligence, electromobility, education, agro-technologies, and urban agriculture. Some of these companies have even showcased their innovative potential at major international exhibitions like the Web Summit and Slush. This indicates the competition's role not only in fostering local talent but also in elevating Bulgarian innovation on the global stage.

Overall, the "Best Youth Startup in Bulgaria" competition is a prime example of effective collaboration between academic institutions and innovation enablers, aimed at enriching the entrepreneurial ecosystem in Bulgaria.

Another example, **the Innovation Academy** in Bulgaria is a significant public-private educational partnership encompassing organizations from the private, academic, public, and NGO sectors. The Academy started in 2014 in partnership with one university in Sofia. Over the years, it expanded to include collaborations with 14 other Bulgarian universities and training centres. This wide network of academic partnerships plays a critical role in sourcing participants and integrating academic knowledge into entrepreneurial projects. The Academy targets students from these universities, aiming to develop their entrepreneurial skills. The involvement of students from a diverse range of academic backgrounds is a key aspect of the program. Its primary aim is to cultivate entrepreneurial skills among students and offer financial backing for their early business concepts. The core of this initiative is the annual Bulgaria Innovation Hackathon, which has become a cornerstone event over

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the years. This Hackathon blends programming and prototyping elements in a competitive yet collaborative environment. The topics covered in the competition range across various academic disciplines, including natural sciences, humanities, social sciences, technology, engineering, business administration, economics, and arts. This broad scope of topics indicates a deep integration of academic subjects into the program.

The program's framework is multifaceted, including mentorship where experts guide and advise students, knowledge creation through session panels and materials for successful idea implementation, and skill development focusing on entrepreneurship and innovation during the prototyping phase. This comprehensive approach ensures students receive a well-rounded experience, equipping them with the necessary tools to transform ideas into viable projects.

Lecturers and members of the jury for the Innovation Academy include experts from many Bulgarian universities. This involvement of academicians ensures that the projects are evaluated and guided with a high level of academic rigor and expertise.

This dynamic setting enables students to create and refine their business projects, fostering a practical learning experience. Winning teams from the Academy are rewarded with funding and opportunities for further mentorship and inclusion in accelerator programs, such as the Innovation Starter Accelerator. These awards and support mechanisms are crucial in transitioning theoretical ideas into operational businesses.

The Academy's impact is evident in its impressive track record, having trained over 4,680 participants in more than 737 teams, with more than 15% of these teams successfully launching entrepreneurial ventures like leARn, Vodoraslo, Vendy+, CheatBurger, HealthIt, Edu-Bots, Your Sofia, CityIT, Adventure Squad, ParkNShare, StudyHub, Space Division, Hub-Ground, OSimplants and WomanIcer. Such outcomes highlight the Academy's role in nurturing a startup culture among students.

Beyond initial training and support, the Academy offers participants access to valuable networks and ongoing mentorship, vital for early-stage startups. It has garnered recognition for its contribution to entrepreneurial skill development in students, receiving accolades from the Ministry of Economy of the Republic of Bulgaria and the European Commission.

With a diverse network of partners, including various European institutions, academia, financial organizations, and private sector companies, the Innovation Academy provides a rich ecosystem for

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aspiring entrepreneurs. This collaboration is instrumental in bridging the gap between academia and the world of incubators and accelerators in entrepreneurship education in Bulgaria.

5.3 Turkey

Best practice example 1:

Techno parks are initiatives designed to encourage the establishment and development of industrial companies based on information and advanced technology in official or activity-based relations with one or more higher education institutions and research centres. They have a management function that provides support to the tenant companies in matters such as technology transfer and business administration. The startup ecosystem in Turkey is marked by a rapidly increasing level of collaboration and networking among various stakeholders including the universities, state, NGOs, and private companies. The techno parks are a prime example of this collaboration. While the state provides tax benefits and R&D support for the companies operating in techno parks, the universities support the structure with incubators and accelerators programs as well as providing linkages between the academics and product developers in startups. While most techno parks in Turkey are on university campuses, there are also different structures.

Established with the partnership of state organisations, NGOs, and universities, **Teknopark Istanbul** integrates the research capabilities of the universities in Istanbul and its surrounding, qualified workforce, and experience of the regional industry. It hosts more than three hundred local and international companies engaged in R&D for high technology development. Teknopark Istanbul includes a Technology Transfer Office (TTO) that provides services on the patenting and commercialization of the R&D projects carried out in the facility. It also hosts five clusters: Istanbul Defence and Aerospace Space Cluster Association, R&D Centres Communication and Cooperation Platform, Istanbul Health Industry Cluster, Turkiye Cyber Security cluster, and Turkish Maritime cluster. There are more than 90 deep-tech startups carrying out R&D studies on deep-tech based business ideas in the Cube Incubation Centre of Teknopark Istanbul. In addition to branding training, entrepreneurs in also benefit from the Biocube Laboratory installed on an area of 300 square metres,

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Clean Rooms installed on an area of 100 square metres, the Post Incubation Area and the Prototyping Centre planned to be installed on an area of 400 square metres for free or at a very low cost.

Best practice example 2:

Sabanci University has been ranked second in the Innovative and Entrepreneurial University Index across Turkiye and ranked first among the universities in Istanbul. The university provides students with an Entrepreneurship Minor Diploma programme and various courses on entrepreneurship and innovation. Every year more than 200 students register these entrepreneurship courses. Sabanci University has MBA programs for professionals and provides more specialized master programs such as Master in Finance, Master in Marketing.

The university has a special unit, **Inovent,** which aims to support startups, especially those created by Sabanci University academics and students, and provide some seed investment. Through its technology transfer office (TTO), Inovent also helps the academics of the university issue several patents each year. The university also runs incubation and acceleration programs under the name of SuCool, recently a new incubation centre at the campus was launched. One of the programs run by SuCool is **TUBITAK BIGG**, TUBITAK's support program for the technology startups which is designed to run with the partnership of established incubators for the initial selection and training stages. SuCool has been a partner since the inception of the program 8 years ago and has mediated numerous entrepreneur applications that were able to get financial support from TUBITAK. Starting in 2023, TUBITAK has also started investing in the selected startups under the program by buying %3 shares of the companies. SuCool forms fruitful collaborations with other ecosystem actors for special events and programmes. One example has been the Inospark programme (See Inospark.org) covering cybersecurity, fintech, and legaltech fields. The partners included ecosystem actors with specific experience and knowledge in these fields including Marmara Teknopark with its specific experience in the cybersecurity field, Akbank at the fintech side, Kalvak Law office from the legal field, and SuCool incubation Centre of Sabancı university which also hosted the hackathon event and provided the training through the university faculty. Partners not only brought in their own knowledge and experience, but they also mobilised their network for the communication of the programme to reach wide audiences and brought in mentors and jury members from their pools.

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One of the spin-offs supported by Inovent was a start-up named Auto Train Brain, founded by a PhD student and two professors at the university in the field of computer science. Auto Train Brain helps individuals who have learning difficulties, without leaving their homes and without lowering their self-confidence, safely, with a mobile phone application and headset. The company's vision is to be the first choice that comes to mind as a scientific, easy-to-use solution as soon as the child is diagnosed with dyslexia in Turkey and in the world. They further aim to eliminate dyslexia diagnoses with early intervention and enable the children to continue their lives integrated with academic education, also eliminating the financial and moral losses of families by struggling with this problem. Founded in 2017 in Turkey, Autotrainbrain now operates also in Germany and is entering the U.S. market.

5.4 France

Paris-PARC is a strategic infrastructure project spearheaded by Sorbonne University, aimed at fostering the growth of **spin-offs from university labs** as well as branches of innovative enterprises. This new 15,000 m² building, constructed from 2019 to 2021, serves as a multifaceted hub, offering an **incubator**, an **accelerator** for emerging start-ups, and a **"hôtel d'entreprises"** for growing companies. Additionally, Paris-PARC is instrumental in providing entrepreneurial training for students and plays a significant role in the economic development propelled by Sorbonne University. Located strategically in the heart of Paris, and adjacent to university labs, Paris-PARC melds academic prowess with the practical application of academic knowledge into tangible economic value. This initiative effectively meets the increasing needs of innovative companies seeking access to sophisticated research infrastructures and a rich pool of skilled personnel on campus, including potential interns and top-tier graduates. Paris-PARC is a beacon for innovation and entrepreneurial activities, nestled in a vibrant ecosystem.

Another exemplary instance of successful academia-industry collaboration in France is highlighted by the partnership between **Klaxoon** and the **University of Rennes 1** in 2018. Klaxoon, a leading light in the EdTech sector, has redefined digital learning and training methodologies[15]. Their collaboration with the University of Rennes 1 has set a benchmark in the use of digital technology in education. They

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[15] https://klaxoon.com/klaxoon-recognized-in-g2

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offer a suite of digital tools that enable remote collaboration, brainstorming, and training. Klaxoon's tools are designed to be intuitive and user-friendly, making it easy for teams to work together and achieve their goals. Klaxoon became **an award-winning collaborative tool,** adopted by millions of teams in the world. The company has designed an unrivalled range of solutions that helps organisations to easily run efficient and productive workshops. From Fortune 500 companies to NGOs, universities, public authorities and small businesses, millions of teams use Klaxoon to allow their teams to thrive. The platform has also been named to G2's 2023 Best Software Awards[16].

The French Ministry for Education and Research has initiated a project named **PEPITE** to foster innovation among students, with a focus on engineers. This move, also supported by accreditation agencies, underscores the belief that innovation is crucial for economic development.

In line with this, French universities, including business and engineering schools, are offering comprehensive training in entrepreneurship and innovation. Notably, **IÉSEG** offers a Masters in Entrepreneurship and Innovation, equipping students with the necessary tools and knowledge to evaluate new business ideas. This includes a focus on technology entrepreneurship, business modelling, design thinking, and innovation management[17].

French universities are also home to incubators that aid students in starting their businesses. For example, the **University of Strasbourg** boasts an incubator named **Pépite Create**, which assists students in developing their business ideas. Furthermore, the **"RENDEZ-VOUS EN FRANCE" TO START A COMPANY WHILE STUDYING** program[18] is gaining traction across HEIs, supported by the Ministry and CampusFrance.

The objective here is to cultivate entrepreneurs, managers of small and medium-sized enterprises, and other key business roles through a variety of educational programs. French universities deliver courses on project management and entrepreneurship, with the French "Instituts d'Administration des Entreprises" offering a wide range of courses spanning from business creation to management. Additionally, business and management schools integrate entrepreneurship into their general curricula, offering specialized programs and diplomas, including Master's degrees certified by the

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[16]https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/how-six-companies-are-using-technology-and-data-to-transform-themselves

[17] https://www.ieseg.fr/en/programs/specialized-ma

[18] https://www.campusfrance.org/en/rendez-vous-en-france-to-start-a-company-while-studying

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French "Conférence des Grandes Ecoles". Importantly, engineering curricula in France also encompass entrepreneurship, blending it with international and managerial aspects.

Moreover, the proliferation of incubators in French universities is indicative of a growing emphasis on empowering students to create their own businesses. Any student or young graduate aspiring to be trained in entrepreneurship and innovation can seek support from a **"PEPITE"**. These centres, spread across France, are inclusive and integrate a network of higher education institutions, local businesses, and associations, providing comprehensive support and the opportunity to achieve **the national "Student-Entrepreneur" status.**

5.5 Ireland

RDI Hub in Killorglin[19], Ireland, is an award-winning, world-class, custom-built, centre of excellence which fosters entrepreneurship and business growth, aiming to bring together corporates, SMEs and startups to innovate and scale for the future. They are a 'diverse, sector-agnostic, curated community of startups, scaleups and corporates' – from home-grown Irish companies to fast-growing international tech startups relocating from Singapore, the US, Mexico, the UK, Germany and Croatia. They offer Training Programmes which vary from Internal Lunch & Learn Sessions through to World Renowned Speakers & Trainers and offer access to a network of people who help their members bring their business ideas to the next level.

The whole vision and mission in the RDI HUB is to support startups, scale ups, SMEs and corporates to scale and grow to create new products and services in the southwest of Ireland. RDI HUB had a really good success story that is both representative of the types of innovation that they aim to support, which is a company called **HR Buddy[20]**.

The company was started by Damien McCarthy, who joined RDI Hub as an individual back in November 2020. He had an idea which was HR Buddy which was basically a kind of a consultancy service to support companies on employment law and employment contracts and he's now grown to seven people. The company describes itself as 'born out of a passion for helping businesses thrive through

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[19] https://rdihub.com/
[20] https://www.hrbuddy.ie/

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effective HR management. With years of experience in the field, our team recognised the need for a partner who could simplify HR processes, provide expert guidance, and offer customized solutions for organizations of all sizes'.

From the coaching and mentoring team of RDI HUB what was important and a catalyst for the success was the passion that the founder of the start-up exhibited in terms of how well he knew their space, being a subject matter expert but also how passionate about being successful and passionate about that problem statement that the company was trying to address.

5.6 Ukraine

The approach to education in each country is primarily formed at the state level. Recent initiatives aimed directly at business and education cooperation include the **Science to Business** platform. In 2022, the Ministry of Education of Ukraine developed the **Science to Business** platform. It is an online platform for communication and effective interaction between business and the scientific community. The platform enables businesses to find the scientific results they need for their development, and scientists to realize their own scientific potential and commercialize the results of their research. The program's goals include the development of an innovative economy in Ukraine and the creation of an attractive, competitive, and high-quality business environment for investors focused on the practical use of research and development by Ukrainian scientists. S2BMM was created within the framework of the EU-Ukraine Association Advisory Fund project implemented in Ukraine by the federal company Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ).

Scientists (employees of universities and research institutions) are able to:

- Commercialize scientific results;
- Introduce innovative products;
- Find partners;
- Gain access to research and innovation infrastructure;
- Attract investments;
- Generate income from the transfer of rights to use intellectual property.

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Business opportunities:

- Reduced research costs at the early stages;
- Access to the best scientific and engineering solutions in specific areas;
- Strengthening competitiveness by manufacturing high-tech products;
- Attracting investments.

In conclusion, the Science to Business Ukrainian governmental program facilitates a synergistic relationship between scientists and the business sector, aiming to bridge the gap between academic research and commercial applications. Overall, the initiative creates a conducive environment for collaboration and mutual benefit, fostering innovation, economic growth, and the development of a knowledge-based economy.

At the level of higher education institutions, there is also a link between business and education. Among the innovators surveyed, every second has completed an MBA program. University-based business schools are a common format in Ukrainian higher education institutions. Ukraine's key higher education institutions offer business education in addition to classical education. Among them: Ukrainian Catholic University Business School, Kyiv Mohyla Business School, KSE Business School. Their programs:

University-based business schools provide students with interdisciplinary learning opportunities, integrating business education with insights from various academic disciplines. Access to extensive research resources and faculty expertise allows students to stay abreast of the latest developments in the business world. The diverse and inclusive campus environment, along with robust alumni networks and extracurricular activities, enhances networking opportunities and contributes to a well-rounded education.

Moreover, several spin-offs between academic institutions and innovation enablers also exist in Ukraine. Among them:

Tech Startup School by Lviv Polytechnic University

The mission of Tech StartUp School is to create a comfortable innovative environment for the production and implementation of creative ideas and successful start-ups to help innovators, under

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the guidance of business coaches and mentors, go from the idea of a start-up to building a business model, seeking investment and commercializing an innovative project.

The educational organization offers a variety of courses and competitions to help you create and implement your own project. The experience of coaches and mentors, high-quality technical support, a comfortable environment for reflection and work, a technology park with production capabilities for the manufacture of commercial samples and prototypes in partnership with leading organizations, the creation of thematic laboratories and state-of-the-art equipment

Startup School "Sikorsky Challenge" by Kyiv Polytechnic University

Startup School is an environment where creative young people get the perfect conditions to realize their ideas. Here they acquire theoretical knowledge and practical skills in creating innovative technology startups. The "Sikorsky Challenge" was launched at Igor Sikorsky Kyiv Polytechnic Institute in February 2014. Today, 22 startup schools from 25 universities in Ukraine have joined it.

Training at Startup School takes place in several stages: Stage 1. Training under the Innovative Entrepreneurship and Startup Launching Practice program, where students gain basic knowledge and skills in developing a startup project. Stage 2. Incubation. At this stage, startup projects are prepared for investment. At the 3rd stage, the selected teams participate in startup competitions in the city/region. At the 4th stage, startup projects are accelerated.

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6. Recommendations

Based on the detailed analysis provided in the previous sections here are some recommendations and suggestions for future actions to fill in the gaps identified:

1. **Enhance practical experience in education.** There's a consistent emphasis on the value of blending theoretical knowledge with practical experience across various case studies within this report. Universities and educational institutions should continue to integrate real-world entrepreneurship experience into their curriculums, leveraging models like France's PEPITE centers and Turkey's innovation assessments to foster practical learning environments. This could include more internships, live projects with companies, and entrepreneur-in-residence programs.

2. **Strengthen entrepreneurial ecosystems through cross-sector collaboration.** The analysis, feedback provided and success stories from different countries highlight the importance of strong collaboration between academic institutions and industry. Like the RDI Hub in Ireland, creating sector-agnostic communities that bring together diverse stakeholders can significantly impact entrepreneurial success. Such models should be encouraged and replicated to enhance innovation and growth. Moreover, future efforts should focus on enhancing these collaborations to provide more comprehensive support for entrepreneurs, including easier access to funding, mentorship, and business networks.

3. **Address curricular gaps:** Higher Education Institutions and innovation enablers should focus on filling the gaps identified in their curricula and training programs respectively. This involves a more comprehensive integration of entrepreneurial competencies as identified in Section 3.2 of this report.

4. **Leverage indices and benchmarks:** Following Turkey's example, other ecosystems could benefit from developing and utilizing indices to assess and motivate improvements in entrepreneurship and innovation performance within academic institutions.

5. **Adopt academia-industry collaborative platforms.** Initiatives like Ukraine's Science to Business (S2BMM) program, encourage the commercialization of academic research and fosters innovation, directly benefiting the educational sector through the provision of

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practical, real-world applications for students and researchers. By enhancing the economic landscape and integrating experiential learning with entrepreneurial and scientific endeavours, such initiatives enrich educational outcomes. Such platforms can serve as a model to prepare students for future challenges by aligning education with market needs and opportunities.

6. **Foster innovation through competition and awards.** Competitions and awards, such as the "Best Youth Startup" in Bulgaria, not only stimulates creativity and entrepreneurial spirit among the youth but also plays a crucial role in education by providing experiential learning opportunities. Moreover, it encourages collaboration, offering a platform for networking, team building, and cross-sector partnerships. Similar initiatives should be encouraged across other regions to provide young entrepreneurs with the platform to showcase their ideas and access mentorship and funding opportunities.

7. **Support early-stage entrepreneurship**. Incubators and accelerators play a crucial role in supporting early-stage startups. There should be increased support and funding for these entities, especially in regions where entrepreneurial ecosystems are still developing. Highlighted instances include the proliferation of incubators in French universities, such as the "PEPITE" centres, which offer comprehensive support for students and young graduates aspiring to create their businesses, as well as other examples, as the Thinc - Thrace Incubator at Democritus University of Thrace in Greece that enriches academic learning with practical entrepreneurial experience, supports the commercialization of academic research, and encourages collaborations that benefit the local economy.

8. **Using education for cultural and mindset shift towards entrepreneurship.** This entails embedding entrepreneurial principles into the curriculum, promoting experiential learning, case studies and addressing cultural attitudes towards failure and risk-taking. By doing so, education can play a pivotal role in preparing students not just to enter the job market but to reshape it, creating new opportunities and driving economic growth through innovation and enterprise.

9. **Promote academia-industry collaboration.** Building on the collaborative models observed in the previous section, there should be a continued effort to foster synergies between academia and industry to support entrepreneurial education and ecosystem development effectively.

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10. **Leveraging technology for entrepreneurial education.** The rapid advancement of digital technologies offers unprecedented opportunities for entrepreneurial education. This recommendation is supported through examples such as Techno Parks in Turkey and the Science to Business Platform in Ukraine, which showcase the integration of digital technologies with educational initiatives to foster entrepreneurship. These examples, including virtual incubators, techno parks, and online platforms, highlight the role of technology in facilitating access to entrepreneurial resources, enhancing knowledge exchange, and enabling collaboration across global ecosystems. The use of digital platforms not only makes entrepreneurial education more accessible but also supports the commercialization of research and fosters innovation by connecting businesses with the scientific community, illustrating the potential of technology to significantly enhance the quality and reach of entrepreneurial education.

Further research should explore the long-term impact of these collaborative and experiential learning models on entrepreneurial success rates. Additionally, studies could investigate the effectiveness of specific curricular enhancements and the role of technology in facilitating entrepreneurship education.

These recommendations aim to address existing shortcomings and enhance current educational methods, both formal and informal. They are designed to positively influence the continued growth of dynamic, inclusive, and sustainable entrepreneurial ecosystems, which are crucial for driving economic expansion and innovation.

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7. Conclusion

Based on the detailed analysis and case studies presented in the previous sections, the conclusion draws together the key findings and insights from across Europe, emphasizing the critical role of educational institutions, incubators, accelerators, and governmental initiatives in fostering entrepreneurial ecosystems. The report underscores the importance of integrating practical experience, theoretical knowledge, and networking opportunities into entrepreneurship education to prepare the next generation of entrepreneurs for the challenges and opportunities of the modern business world.

The analysis highlights the diversity of approaches and successes in various countries, from France's strategic infrastructure projects like Paris-PARC to Ukraine's Science to Business platform, each contributing uniquely to the entrepreneurial landscape. These examples illustrate the significance of collaborative efforts between academia, industry, and government to create environments that not only supports innovation and startup growth but also contributes to economic development and the creation of a knowledge-based economy.

Furthermore, the report acknowledges the evolving nature of entrepreneurship education, which now emphasizes not just the acquisition of business skills but also the development of resilience, creativity, and the ability to leverage technological advancements. It points out the growing synergy between academic education and practical innovation training as key to nurturing future entrepreneurs capable of navigating and succeeding in an increasingly complex and dynamic global market.

In conclusion, the report suggests that fostering a successful entrepreneurial ecosystem requires a multifaceted approach. It calls for a sustained commitment to fostering entrepreneurial ecosystems through education, collaboration, and innovation. It advocates for policies and practices that support the seamless integration of entrepreneurial education into broader educational frameworks, the expansion of access to mentorship and investment, and the encouragement of a culture of lifelong learning and innovation. By doing so, it envisions the creation of a vibrant, inclusive, and sustainable entrepreneurial ecosystem that not only cultivates the next generation of entrepreneurs but also contributes to the broader social and economic well-being.

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Annexes

Annex 1: Academic curricula of the involved HEIs:

- Annex 1.1: Academic Curricula of the entrepreneurial programs offered by the interviewed HEIs from the Greek ecosystem
- Annex 1.2: Academic Curricula of the entrepreneurial programs offered by the interviewed HEIs from the Bulgarian ecosystem
- Annex 1.3: Academic Curricula of the entrepreneurial programs offered by the interviewed HEIs from the French ecosystem
- Annex 1.4: Academic Curricula of the entrepreneurial programs offered by the interviewed HEIs from the Irish ecosystem
- Annex 1.5: Academic Curricula of the entrepreneurial programs offered by the interviewed HEIs from the Turkish ecosystem
- Annex 1.6: Academic Curricula of the entrepreneurial programs offered by the interviewed HEIs from the Ukrainian ecosystem

Annex 2: Training programs of innovation enablers:

- Annex 2.1: Training Programs offered by the interviewed innovation enablers from the Bulgarian ecosystem
- Annex 2.2: Training Programs offered by the interviewed innovation enablers from the Greek ecosystem
- Annex 2.3 Training Programs offered by the interviewed innovation enablers from the French ecosystem
- Annex 2.4 Training Programs offered by the interviewed innovation enablers from the Irish ecosystem
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EntreComp / Additional Competence	Business Administration Undergraduate Programme at University of Thessaly		Master in Business Administration at University of Thessaly		Interdepartmental MSc in Entrepreneurship of the Departments of Economics and Business Administration at University of Thessaly	
	Course Title	Explanation	Course Title	Explanation	Course Title	Explanation
Spotting opportunities	Greek and European Economy	Understanding of the Greek economy's framework within the EU and its main issues, problems, and prospects. This aligns with the ability to identify opportunities for creating value by exploring the social, cultural, and economic landscape, a key aspect of the "Spotting Opportunities"	New Technologies in Business Administration	Understanding digital transformation and new technologies, which is fundamental for identifying new business opportunities and innovative ideas in a rapidly evolving digital landscape.	Management of Innovation and Technology	Understanding and managing innovation and technology within businesses. It includes identifying sources of innovation and evaluating their potential, which is essential for recognizing and valuing opportunities.
	Marketing Principles	Understanding market segmentation, product and service selection, targeting and market positioning, and brand management. The ability to identify opportunities for creating value in the market, recognizing customer needs, and developing innovative marketing strategies is central to this competence.				
	Digital Marketing	Understanding consumer behavior in digital platforms, and exploring how digital and social media affect marketing strategies. Spotting Opportunities involves recognizing and seizing opportunities to create value by exploring the digital landscape and understanding consumer needs and challenges.				
Creativity	Digital and Urban Innovation	The course's focus lies on innovation management, particularly in the areas of digital and urban ecosystems. The aspects of the course that deal with design thinking, developing new methods for urban innovation (like living labs), and analyzing business cases in digital and urban environments, all require a high degree of creativity. Students in this course are likely to be encouraged to think creatively about how digital technologies can be applied innovatively in			Technological Strategy	Utilizing and influencing technological advancements, as well as understanding the dynamics of technological change, aligns with the need for innovative thinking and creativity in adapting to and leveraging new technologies.
Vision	Strategic Management	strategic thinking about a company's long-term direction, understanding its current position, and developing ways to achieve sustainable competitive advantage.	Operational Strategy	The course includes elements like corporate strategy, project management alignment with corporate strategy, and managing changes in the corporate environment.	Business Strategy	To develop an understanding of business dynamics on both domestic and international levels. It involves planning for strategic changes and understanding the impact of external factors on business operations, aligning with the competence of developing a vision for a business's future direction and growth
	Digital and Urban Innovation	Analyzing the local ecosystem and defining strategic requirements for smart, sustainable, and resilient cities aligns with this competence. Vision involves imagining the future and developing a clear strategy to turn ideas into action, which is central to planning and implementing innovative solutions in urban environments.			Branding	This course emphasizes understanding market dynamics and consumer behavior, crucial for developing a strong brand vision that resonates with customers' needs and desires.
Valuing ideas						
Ethical and sustainable thinking	Civil Law	Understanding legal relations at both national and European levels, particularly in the context of the transactional relations of economic agents and the organization of economic institutions, aligns with acting responsibly and assessing the consequences of ideas, opportunities, and actions.	Special Topics in Management	The course's focus on business ethics, corporate social responsibility, and the ecological concerns of business activities aligns well with this competence.		
	Business Ethics and Corporate Social Responsibility	Understanding ethical issues in business activity, ethical dilemmas, decisions, and responsibilities towards various stakeholders, and the ecological problem in the context of economic development. It involves reflecting on the consequences of actions and decisions in terms of social, cultural, and environmental impact, and acting responsibly.				
	Commercial Law	Understanding the regulatory framework of commercial Law, including aspects like company law, securities, business reorganization, and bankruptcy law. Ethical and sustainable thinking involves assessing the consequences and impact of business actions and decisions in a legal context, and acting responsibly within the commercial legal framework.				
Self-awareness	Effective Learning and	The course content on evaluating personal goals, characteristics, and learning				
Motivation & perseverance	Organizational Behavior	The course's coverage of motivation theories and building teams connects well with this competence. It involves staying focused, being resilient under pressure, and being determined to turn ideas into action.	Human Resource Management (HRM), Organizational Behavior, Leadership	The course's focus on understanding employee motivation and the role of leadership in fostering a productive work environment aligns with the ability to stay focused and persistent in achieving objectives.		
Mobilising resources	Marketing Principles	The course's focus on utilizing various marketing tools and strategies, such as communication channels (including sales advertising, sales promotion, public relations, and online marketing), and managing distribution channels (wholesale and retail), correlates with the competence of gathering and managing the resources needed to turn ideas into action.	Statistics & Econometrics	The course emphasizes the analysis of economic and business data, which involves the effective use of statistical tools and methods, representing a form of resource mobilization in a knowledge-intensive area.	Operations Management & Global Value Chains	This course focuses on understanding and managing the complex systems that produce and distribute a company's products or services, involving the effective utilization of resources across global supply chains.

	Accounting I	The aspect of the course that involves preparing financial statements, correcting accounting errors, and valuing assets ties in with this competence. It entails the effective management of material and non-material resources, which is a critical part of accounting as it involves managing and reporting on			Product, Service, and Systems Development	This course covers project management, contemporary information systems, and product design methodologies, equipping students with the skills to effectively mobilize and manage resources for successful project execution.
	Commercial Law	knowing the procedures and techniques for the establishment, operation, and termination of commercial enterprises, including the drafting of necessary documents, aligns with the competence of gathering and managing the resources needed to turn ideas into action. This includes understanding and effectively utilizing legal and regulatory resources in the context of business operations.				
	Financial Management I	The course content on managing different forms of financing, such as leases, preferred shares, warrants, and convertible bonds, aligns with this competence. It involves understanding and effectively managing material, non-material, and financial resources, crucial for the effective financial				
	Managerial Accounting	The aspect of the course that involves making cost-based management decisions, working with budgeting, and adapting to changes in production costs ties in with this competence. It includes effectively managing material, non-material, and financial resources, which is a critical part of managerial accounting as it involves planning and utilizing resources efficiently for				
	Services Management	he course's emphasis on implementing services, measuring service performance, and optimizing operations aligns with this competence. It involves gathering and managing the necessary material, non-material, and human resources to turn service ideas into successful and efficient operations.				
	Project Management	using project management tools and methodologies to manage projects successfully aligns with this competence. It involves effectively managing material, non-material, and human resources to achieve project objectives efficiently.				
	Enterprise Resource Planning System	understanding and managing various modules of a Business Information System (BIS), including production, warehouse, and supply chain systems. It involves effectively managing material, non-material, and digital resources within an organization, which is central to the effective implementation and use of ERP systems.				
	Digital Marketing	using various digital marketing tools and strategies, such as SEO, PPC, social media marketing, and email marketing, aligns with this competence. It involves effectively managing digital resources to turn marketing ideas into successful campaigns.				
	Management Information Systems	understanding and utilizing various types of business information systems, such as Human Resources Information Systems (HRS), Enterprise Resource Planning (ERP) systems, and Customer Relationship Management (CRM) systems. It involves effectively managing digital resources to support and enhance business operations.				
Financial & economic literacy	Greek and European Economy	Understanding the main historical points of the Greek economy, its basic features, structures, and policies, both economically and socially, aligns directly with the competence of developing financial and economic know-how. The ability to understand and analyze economic environments and policies is central to this competence.	Business Economics	key economic concepts, financial management, risk analysis, and investment strategies, which are central to understanding and managing business economics.		
	Microeconomics	essential economic concepts such as economic models, supply and demand curves, price elasticity, consumer choice, market structures (like monopoly and oligopoly), and the effects of state intervention in promoting	Administrative Accounting & Financial Management	understanding and managing financial aspects in a business context. This includes analyzing costs, budgeting, and financial decision-making.		
	Accounting I	This competence directly aligns with the course's focus on understanding and applying accounting principles and practices, such as balance sheets, income statements, journal entries, inventory records, and valuing business assets.				
	Macroeconomics	key macroeconomic concepts and issues such as income, inflation, financial systems, monetary policy, fiscal policy, public debt, and exchange rates. Understanding these concepts is crucial for developing financial and				
	Financial Management I	This competence is directly relevant to the course's focus on understanding financial statements, managing bonds, studying the correlation of risk and return, market efficiency, and various aspects of corporate financing.				
	Managerial Accounting	understanding different costing concepts and problems, distinguishing between cost categories, applying costing in practical scenarios, and drawing up budgets. These elements are integral to financial and economic literacy, especially in the context of making informed financial decisions and understanding financial implications in business operations.				

	Portfolio Management	understanding the investment process, assessing risks and returns of portfolios, identifying efficient portfolios, and applying portfolio evaluation measures. Financial and economic literacy involves developing financial know-how and the ability to make informed financial decisions, which are central to effective portfolio management.				
Mobilising others	Human Resources Management	understanding recruitment, selection procedures, personnel training and development, and performance evaluation. Mobilizing Others involves inspiring, enthusing, and getting others on board, which is central to effective human resources management.				
Taking the initiative	Operations Management	Proactive decision-making and problem-solving in operations management. It includes taking initiative in various operational scenarios, dealing with unforeseen changes in production or service delivery, and actively seeking solutions to operational challenges.	Marketing Management	strategic marketing, market segmentation, pricing, promotion, sales, and product life cycle, all of which require a vision to create effective marketing strategies and plans.		
	Strategic Management	applying strategic management techniques, making strategic decisions, and evaluating strategic options aligns with this competence.	Supply Chain Management & Operations Management	The course aims to develop skills in proactive problem-solving and decision-making in supply chain and operations management, resonating with the competence of initiating		
	Organizational Change Management	implementing strategic changes, applying change management models, and leading organizational transformations aligns with this competence. Taking the initiative involves initiating processes that create value, acting independently to achieve goals, and addressing challenges proactively, which				
Planning & management	Principles of Management	understanding the basic functions of administration, organizational planning, the role of control in effective organization operation, and project planning and management. These elements directly align with setting goals, defining priorities, organizing, and following up.	Business Administration	The course's focus lies on understanding the business environment, organizational planning, and control processes.		
	Operations Management	Project planning and management, understanding production systems, process design, programming and control functions, and operations optimization.				
	Services Management	designing service delivery systems, developing operations strategies, and managing service delivery processes. Planning and management involve setting goals, defining priorities, and organizing resources effectively, which				
	Project Management	project planning, time scheduling, and managing project costs. It involves setting goals, defining priorities, organizing resources, and adapting to unforeseen changes, which are key aspects of project management.				
	Small and Medium-sized Enterprises Management	understanding strategic planning, organizational structure and culture, and the audit process. It involves setting long-, medium-, and short-term goals, defining priorities, and managing resources effectively, which are crucial for the management of small and medium-sized enterprises.				
	Health Care Management	planning and programming in health services, understanding organizational structures in healthcare, and managing human resources specific to the health sector. It encompasses setting goals, defining priorities, organizing resources, and managing operations, all of which are crucial in health care				
	Tourism Business Administration	organizing and managing main tourism enterprises, including hotels, tour operators, travel agencies, and transport services. It involves setting goals, defining priorities, organizing resources, and managing operations, all of which are key in tourism business administration.				
	Supply Chain Management	making strategic and tactical decisions in supply chain management, including supply network design and performance management, aligns with this competence. It involves setting goals, defining priorities, organizing resources, and adapting to changes, which are key aspects of effective supply				
Coping with uncertainty, ambiguity & risk	Organizational Change Management	understanding, planning, and managing changes in business environments, which often involve dealing with uncertainty and ambiguity. It involves making decisions in uncertain circumstances and adapting to evolving situations, which are key aspects of managing organizational change.	Accounting and Financial Analysis	risk analysis and investment evaluation under certainty and risk conditions, which are crucial aspects of entrepreneurial decision-making in uncertain environments.		
Working with others	Principles of Management	The course places a strong emphasis on teamwork, working in an international and interdisciplinary environment, cooperation skills, interpersonal skills, and respect for diversity and multiculturalism.	Human Resource Management (HRM), Organizational Behavior, Leadership	The course emphasizes teamwork, group dynamics, and collaborative leadership, which is crucial for effective human resource management and organizational success.	Individual, Group and Organisational Dynamics	This course focuses on understanding individual and group behavior within organizations, fostering collaboration, negotiation, and communication skills, and designing effective human resource management policies and
	Organizational Behavior	understanding the role of teams in organizational effectiveness, cooperation skills, communication, and conflict and negotiation. Working with Others involves collaborating and cooperating with others to develop ideas and turn				
	Sales and Customer Relationship Management	personal sales, teamwork, recruitment, training, and motivation of sales personnel aligns with this competence. It involves collaborating and cooperating with others, including managing customer relationships and teamwork within the sales department, to develop ideas and turn them into successful sales strategies.				

	Human Resources Management	cooperation skills, interpersonal skills, and teamwork aligns with this competence. It involves collaborating and cooperating with others to develop ideas and turn them into action, which aligns with the course's focus on organizational cultures and strategic HR management.				
Learning through experience	Effective Learning and Academic Development	The course objectives align with this competence, particularly focusing on understanding personal learning styles, resilience, coping with failure, and empathy. It encompasses using personal and academic experiences as a foundation for learning and development, which is a key aspect of this course.	Postgraduate Thesis	Thefinal thesis emphasizes personal research, critical assessment of subject matter, and systematic application of research methodologies, aligning with learning through direct experience and reflection.		
	Agile Management	The course's focus lies on understanding and applying agile methodologies, including SCRUM and KANBAN, in various business contexts. Agile management involves learning from practice, adapting processes based on feedback, and continuously improving project management approaches,				
Technical competences	Quantitative Methods	Data Interpretation: Skills in interpreting the results of various quantitative analyses and translating these into actionable insights.				
	Digital Marketing	Digital Marketing Proficiency: This includes skills in search engine optimization (SEO), pay-per-click (PPC) advertising, social media marketing, email marketing, content marketing, and utilizing digital analytics tools. It involves understanding and applying various digital marketing tactics to engage consumers, drive traffic, and increase brand visibility online.				
Analytical and Critical Thinking	Statistics	The course, with its focus on descriptive statistics, probability theories, sampling distributions, hypothesis testing, and regression analysis, inherently develops strong analytical and critical thinking skills. These skills are essential				

EntreComp / Additional Competence	Masters Technology Entrepnreneurship in ICT at Sofia University		Masters Technology Entrepnreneurship at Technical University		Masters Management and Entrepnreneurship at Sofia University	
	Course Title	Explanation	Course Title	Explanation	Course Title	Explanation
Spotting opportunities	Methods to Support Creative Thinking in the Innovation Process	Introduces methods to support creative thinking in innovation. Students develop skills to find solutions to unstructured problems and tasks.	Entrepreneurial thinking and behavior	Developing an entrepreneurial mindset and behaviors.		
	Marketing Management	Introduces strategies for introducing high-tech products in competitive markets. Students learn about marketing mix, market opportunity assessment, and resource management in marketing.	Marketing management of high technology	Marketing strategies and skills tailored for high-tech industries.	Strategic Marketing	Involves planning and implementing marketing strategies.
			Social entrepreneurship	Principles and practices of entrepreneurship with a social impact.	Marketing	Covers marketing principles and strategies.
Creativity	Methods to Support Creative Thinking in the Innovation Process	Introduces methods to support creative thinking in innovation. Students develop skills to find solutions to unstructured problems and tasks.	Entrepreneurial thinking and behavior	Developing an entrepreneurial mindset and behaviors.	New Product Creation and Innovation Management	Focuses on developing new products and managing the innovation process.
Vision	Strategic Management	Teaches strategic business management, differentiating between strategic and operational management. Students acquire skills in building a vision, mission, strategic goals, and strategies for companies.	Strategic management of entrepreneurial activity	Strategic planning and management skills in entrepreneurship.	Strategic Management	Involves developing and implementing organization-wide strategies.
			International Business	Understanding and navigating international business environments.		
			Social entrepreneurship	Principles and practices of entrepreneurship with a social impact.		
Valuing ideas	Technological Entrepreneurship in Information Technology	Builds on competencies in technological entrepreneurship, with a focus on starting and managing an IT company. Enhances skills in business model and plan development.	Production technologies	Understanding of various production technologies in business.	Entrepreneurship	Focuses on starting and managing new business ventures.
			Knowledge management	Skills in managing and leveraging organizational knowledge.	Corporate Entrepreneurship and Innovation	Focuses on innovation and entrepreneurial strategies in corporations.
Ethical and sustainable thinking	Legal Aspects in Technological Entrepreneurship	Addresses legal concepts in e-commerce and online business. Students learn about the legal challenges and regulations in the digital marketplace.	Engineering for added value	Engineering principles aimed at adding value to products/processes.		
	Technology Transfer and Commercialisation of Technology	Discusses commercialization of technological knowledge. Students evaluate technologies for commercial potential and study intellectual property management.	Intellectual Property	Knowledge about intellectual property rights and their management.		
Self-awareness & self-efficacy			Project management	Competencies in planning, executing, and managing projects.		
Motivation & perseverance			Entrepreneurial thinking and behavior	Developing an entrepreneurial mindset and behaviors.		
			Leadership	Developing leadership skills for organizational success.		
	Technological Entrepreneurship	Develops innovation and entrepreneurship competencies, skills in starting a business, entrepreneurial thinking and behavior, and basics of IT company management. Students gain practical experience in creating and operating a startup.	Graduate Design	Advanced integration of various aspects of technology entrepreneurship.	Marketing	Covers marketing principles and strategies.

Annex 1.2

Academic Curriculla of the entrepreneurial programs offered by the interviewed HEIs from the Bulgarian ecosystem

Category	Course	Description	Course	Description	Course	Description
Mobilising resources	Technological Entrepreneurship in Information Technology	Builds on competencies in technological entrepreneurship, with a focus on starting and managing an IT company. Enhances skills in business model and plan development.	Designing business models	Skills in creating and analyzing business models.		
	Marketing Management	Introduces strategies for introducing high-tech products in competitive markets. Students learn about marketing mix, market opportunity assessment, and resource management in marketing.	Production technologies	Understanding of various production technologies in business.		
Financial & economic literacy	Life as an Entrepreneur - 1	Provides insights into entrepreneurship lifecycle and practices. Students analyze and discuss management and financial strategies of successful companies.	Funding of start-ups	Skills in securing and managing funding for start-up ventures.	Accounting and Finance for Managers	Provides knowledge of financial management and accounting in a business context.
	The Economic Way of Thinking	Explores micro- and macroeconomic analysis and planning. Students develop skills in economic methods and processes.	Engineering for added value	Engineering principles aimed at adding value to products/processes.	Sales Management	Focuses on strategies and techniques for effective sales management.
					Economics	Basic principles of economics and their application in business.
					Startup Financing	Teaches about financial strategies and sources for startup businesses.
	Financial Management and Venture Capital	Covers financing new businesses, investment concepts, and financial planning for startups. Students develop skills in identifying investment needs and company valuation.	Financial Management	Fundamentals of financial management and budgeting.	E-commerce	Covers online business strategies and digital marketplaces.
Mobilising others	Organizational Behavior	Introduces issues in organizational dynamics. Students develop teamwork skills and understand aspects like motivation, leadership, and organizational culture.	Business English for entrepreneurs	English language skills for entrepreneurial contexts.	E-commerce	Covers online business strategies and digital marketplaces.
	Customer Relationship Management	Focuses on practices and technologies for customer relationship management. Students learn how to improve customer relationships using various information sources.	Presentation and communication skills	Effective presentation and communication in professional settings.	Sales Management	Focuses on strategies and techniques for effective sales management.
	Fundamentals of eGovernment	Discusses ICT in governance and management issues. Students learn about managing tasks that affect various stakeholders' interests.	Customer Relationship Management for Startups	Techniques for managing customer relationships in startup contexts.	Human Resource Management	Focuses on managing a company's workforce effectively.
			Leadership	Developing leadership skills for organizational success.		
Taking the initiative	Technological Entrepreneurship	Develops innovation and entrepreneurship competencies, skills in starting a business, entrepreneurial thinking and behavior, and basics of IT company management. Students gain practical experience in creating and operating a startup.	Leadership	Developing leadership skills for organizational success.	Entrepreneurship	Focuses on starting and managing new business ventures.
Planning & management	Organizational Behavior	Introduces issues in organizational dynamics. Students develop teamwork skills and understand aspects like motivation, leadership, and organizational culture.	Lifecycle Management of the product	Understanding and managing product lifecycles from inception to end.	Strategic Marketing	Involves planning and implementing marketing strategies.
	Life as an Entrepreneur	Provides insights into entrepreneurship lifecycle and practices. Students analyze and discuss management and financial strategies of successful companies.	Project management	Competencies in planning, executing, and managing projects.	Corporate Entrepreneurship and Innovation	Focuses on innovation and entrepreneurial strategies in corporations.
	Business Process Management	Teaches about innovative business processes and models. Students acquire competencies in business process management and innovation.			Top Business Management Tools	Teaches about tools and techniques for effective business management.
					Family Business	Deals with the unique dynamics and management of family-owned businesses.

					Business Planning and Control	Involves strategic planning and operational control in business.
					Management and Development of New and Small Firms	Involves strategies and techniques for managing and growing new and small businesses.
Coping with uncertainty, ambiguity & risk	Innovations and Innovation Management	Focuses on technological change, industry evolution, technological pattern recognition, and strategic decision-making in ongoing technological change. Enhances skills in technology analysis.	Innovation management	Skills in managing and fostering innovation in organizations.	New Product Creation and Innovation Management	Focuses on developing new products and managing the innovation process.
					Corporate Entrepreneurship and Innovation	Focuses on innovation and entrepreneurial strategies in corporations.
Working with others						
Learning through experience	Entrepreneurship "Training Company - SAR"	Offers practical experience in managing a training company. Students develop skills in small business management, marketing, and business planning.				
	Development of a Pre-Diploma Course Project	Assists in developing and defending a diploma project in software engineering and technology entrepreneurship. Focuses on innovation and commercialization strategies.	Diploma design	Application of learned skills in a comprehensive project or thesis.	Career Counseling	Involves guidance on career planning and development.
Technical competences	Architectures of Software Systems		3D printing and rapid prototyping	Skills in 3D printing and rapid prototyping technologies.		
	Service-Based Software Systems		Design of high-tech products	Principles of designing high-tech products.		
	Internet Technologies and Web Programming		Computer-aided design of complex form-forming surfaces	Use of CAD software for designing complex shapes and surfaces.		
	Models of Software Systems		Computer design of technological equipment	Skills in computer-aided design for technological equipment.		

EntreComp / Additional Competence	Innovation Technology Management & Entrepreneurship at University 1 Panthéon Sorbonne Paris		DESU BECOME AN ENTREPRENEUR at Paul Cézanne University of Aix-Marseilles	
	Course Title	Explanation	Course Title	Explanation
Spotting opportunities	Professionalization	Entrepreneurship workshops and creativity	Sensitisation to Entrepreneurship	Raising awareness about the creation of activities
	Technologies and innovation	Data engineering and computer science	Study of feasibility	carrying out the feasibility study of the activity project
	Tools and methods fundamentals	Marketing of innovation and digital communication	Collaborative work in team and network	This phase will make it possible to reinforce entrepreneurial behavior among young people and to build their professional integration path through the use of a collaborative exchange and work platform.
Creativity	Professionalization	Agility, creativity and design thinking , Creativity and workshop animation	Study of feasibility	Creativity and organization of teams based on ideas proposed by young people – alternation of presentation of tools and team work on the selected project
Vision	Tools and methods fundamentals	Economic intelligence , strategic knowledge management and process engineering	Collaborative work in team and network	Teamwork:Recruitment techniqueUnderstand the key points of team management. Management by facilitationKnow how to create the conditions for motivation, collaboration and innovation.
	Professionalization	Soft skills development	Knowledge control modalities	Oral presentation of the student project ,Presentation of the student's professional project to a committee of experts
Valuing ideas	Specialization by options	Entrepreneurship workshops and creativity	Collaborative work in team and network	Disseminate good practices and exchanges between young people and educational teams in the European network to promote academic exchanges and mobility of young people
	Tools and methods fundamentals	Project management and development of innovative products	Feasibility study	Creativity and organization of teams based on ideas proposed by young people – alternation of presentation of tools and team work on the selected project
Ethical and sustainable thinking	Tools and methods fundamentals	Information and IP in the company law	Validation and support of project	Determination of the legal status of the activity according to the social position of the creator, the nature of the activity, the desire to associate, the patrimonial organization, the financial needs, the functioning of the company, the regime social security of the entrepreneur and his tax regime.
	Tools and methods fundamentals	Sustainable business	Validation and support of project	The business plan to be provided will include: a financing plan, an income statement, a cash flow plan, the calculation of the break-even point with the forecast balance sheet for the start of the activity
Self-awareness & self-efficacy	Tools and methods fundamentals	Innovation and knowledge economy management	Sensitisation to Entrepreneurship	In-depth seminar : Leadership; Self-confidence ; 3-day Business Action Plans. 1 day per seminar, for 8 people maximum
Motivation & perseverance	Tools and methods fundamentals	Entrepreneurial management	Sensitisation to Entrepreneurship	Creation of multi-disciplinary project groups if possible: 8 people maximum, carried out at the University
	Tools and methods fundamentals	HR performanvce and managemenrt skills		
Mobilising resources	Technologies and Innovation systems	Deep tech, AI and machine learning	Study of feasibility	Mastery of feasibility tools
	Technologies and Innovation systems	IoT and Smart manufacturing	Feasibility study	Presentation of the work and presentation of additional tools (defining objectives, risk analysis, value analysis, functional analysis / definition of the service offering). Each team has a work plan to carry out.

resources				
	Technologies and Innovation systems	Deep tech, Blockchain	Feasibility study	Presentation of the work and presentation of complementary tools (project management and basic profession).
	Technologies and Innovation systems	Growth hacking and no-code tools		
Financial & economic literacy	Tools and Methods fundamentals	Project financing and innovation	Financial engineering and Business Plan development	Understand financial fundamentals
	Tools and Methods fundamentals	Business taxation, International economics and business strategy	Financial engineering and Business Plan development	Carry out the financial diagnosis of a company
	Tools and Methods fundamentals	Regulatory policy and competition	Financial engineering and Business Plan development	Project financing
			Financial engineering and Business Plan development	Development of the business plan
Mobilising others	Tools and methods fundamentals	Advertising and marketing communication	Collaborative work in team and network	To put the student profile in several languages (this will allow, for example, a bilingual student to promote themselves in 2 languages).
	Tools and methods fundamentals	Management English		
Taking the initiative	Tools and methods fundamentals	Financial analysis and decision making investment	Legal and economic environment of the company	1. Market analysis and entrepreneur decision process 2. Contracts associated with the creation of activity or takeover of businesses
Planning & management	Tools and methods fundamentals	Investigation technics in Management	Validation and support of project	Day-to-day management: monthly administrative management of the company in the form of dashboards makes it possible to set realistic objectives, particularly in terms of turnover, and to help manage the company by setting up indicators of results, costs and activities involving corrective actions.
	Tools and methods fundamentals	Management research	Feasibility study	The students study the main components of an innovative project to create activities from the technical, regulatory and economic feasibility study to the presentation of a summary preliminary project (APS) validated by an ethics committee
	Tools and methods fundamentals	Entrepreneurship		
Coping with uncertainty, ambiguity & risk	Specialisation by options	Project evaluation	Feasibility Plan	Presentation of the work and presentation of additional tools (defining objectives, risk analysis, value analysis, functional analysis / definition of the service offering). Each team has a work plan to carry out.
	Specialisation by options	Project and program assessment		
Working with others	Professionalisation	Business game or hackathon or entrepreneurship challenge	Collaborative work in team and network	To exchange know-how between the different participants of different cultures
Learning through experience	Professionalisation	Defense thesis	Feasibilty study	"Presentation of preliminary projects and validation by an ethics committee which will direct towards the scenario to finalize the project if this is the wish of young people"
Technical competences			Feasibility study	Each team evolves "the Formula" of its project activity with the contributions of each tool in order to refine the project in a collaborative internet based platform
Additional Competences			Collaborative team and network	the Students create a profile and a mini-CV that can be used through a project exchange in network

EntreComp / Additional Competence	MSc in Entrepreneurship & Innovation at Trinity Business School	
	Course Title	Explanation
Spotting opportunities	Technological Entrepreneurship and Innovation	This course covers the core principles of technology entrepreneurship, focusing on how entrepreneurs utilize science and technology to generate value. It includes topics such as idea development, identifying commercial prospects, resource acquisition, market entry strategies, and ethical considerations. Students gain practical experience through industry-specific projects. The course also explores specialized and global innovations like Bitcoin, the Dark Net, etc.
	International Entrepreneurship	Introduces students to entrepreneurship, combining theory with practical insights and emphasizing leadership, strategic thinking, and cultural awareness essential for entrepreneurs. It covers theoretical concepts and practical strategies for entrepreneurial ventures, start-ups, and small to medium-sized enterprises (SMEs) in both domestic and international markets.
Creativity	Business Model Innovation	The primary task of a start-up is to search for a winning business model (BM). A winning BM: creates superior value for customers by meeting their needs; delivers that value more effectively and efficiently than competitors/alternatives; and makes a sustainable profit. The process of business model innovation (BMI) is an entrepreneurial process. The aim of this module is to provide students with an understanding of the BMI process and practically apply key tools and techniques with potential customers and investors.
Vision	Strategic Entrepreneurship	Start-ups focus on finding a successful business model (BM) that offers superior value to customers, operates efficiently, and generates sustainable profits. Business model innovation. This module aims to help students grasp the BMI process and apply essential tools and techniques with customers and investors.
Valuing ideas	Social Entrepreneurship	Helps understand social entrepreneurship, its approaches, opportunities, and challenges on a global scale
Ethical and sustainable thinking	Well-Being for Entrepreneurs and Intrapreneurs	It explores Entrepreneurial Wellbeing. Explains how short-term decisions can conflict with long-term interests. The course focuses on three key areas: personal development, effective leadership, and building a healthy organizational culture.
Self-awareness & self-efficacy		
Motivation & perseverance	Entrepreneurship and Corporate Venture in Practice	The 'Entrepreneurship in Practice' Workshops comprise six sessions Led by seasoned entrepreneurs, consultants, and professors, these workshops emphasize real-world buslness dynamics. Students will actively engage in group work.
Mobilising resources	Entrepreneurship and Corporate Venture in Practice	The 'Entrepreneurship in Practice' Workshops consists of six workshops featuring relevant topics in the field of Entrepreneurship that are not addressed in-depth by core or electives modules. Each workshop will be delivered by experienced entrepreneurs, consultants and international professors and will place specific emphasis on real business dynamics. Departing from and building on the topics discussed through the workshops, students will be asked to work in groups in class and after class.
Financial & economic literacy	Financing Entrepreneurship and Innovation	This course deals with important aspects of financing the start, the orderly development and the growth a new or emerging enterprise. We begin by defining entrepreneurship and exploring the elements of a classic successful bootstrap entrepreneurial experience. With this as background, we examine the financial issues (including investor return and capital structure concerns) that confront entrepreneurs as they consider financing options such as venture capital, convertible debt, private equity, in various case
Mobilising others		

Academic Curriculla of the entrepreneurial programs offered by the interviewed HEIs from the Irish ecosystem

Taking the initiative	Go-To-Market Strategy	Explores key digital strategy frameworks for businesses, covering traditional models and the latest organic and paid traffic sources like Search Engines and Paid Advertising. It analyzes digital strategies in both B2C and B2B markets, with a focus on User Personas and Customer Journey patterns. Students will assess how companies vary their approaches based on factors like size (SMEs vs. big corporations) and marketing goals (branding vs. lead generation). The module also examines specific digital marketing assets,
Planning & management	Research Methods for Entrepreneurial Studies	Students will become familiar with the key research methods used in entrepreneurial studies encompassing both quantitative and qualitative analyses. The module will support students' development of different research skills through a series of practical seminars in which existing research outputs will be examined and assessed in class.
Coping with uncertainty, ambiguity & risk		
Working with others	Corporate Innovation	This module explores corporate innovation strategies and their underlying mechanisms. It covers various innovation types and their strategic implications, followed by an examination of the innovation development process, market entry, and monetization methods for firms.
Learning through experience		

EntreComp / Additional Competence	Özyeğin Üniversity - BA in Entrepreneurship		Özyeğin Üniversity - Master in Business Administration (see also below the table for elective courses)		Sabancı University - Entrepreneurship Minor Undergraduate Program		Bahcesehir University - Master of Entrepreneurship and Innovation Management	
	Course Title	Explanation	Course Title	Explanation	Course Title	Explanation	Course Title	Explanation
Spotting opportunities	Microeconomics	Covers basic microeconomics concepts such as demand, supply, elasticity, profit maximization, market equilibrium, competition, market power, and comparative advantage. Explains how households and firms interact in a market and make choices. Introduces alternative market structures such as monopoly, oligopoly and monopolistic competition	Macroeconomics for Global Economy	provides a unified framework that can be used to analyse macroeconomic issues such as growth, inflation, monetary policy, fiscal policy, quantitative easing and financial crises. The course is a mixture of macro theory and real-world applications.	Business Strategy	The subjects covered are: competitive strategies; techniques for analyzing industries, competitors, and companies from a strategic perspective; strategy formulation and implementation; strategy in new business development.	Entrepreneurship and Innovation Management	In this course; basic concepts of entrepreneurship, social and economic significance of entrepreneurship, the process to become an entrepreneur, new business ideas, venture capital and other capital discovery methods, types of entrepreneurship and entrepreneurial culture, stories of successful entrepreneurship, management, production, human resources, public relations and finance functions of small business administration are taught.
	Introduction to Business II (Entrepreneurship)	the entrepreneurial mindset, some basic tools and techniques widely used in the entrepreneurship ecosystem, starting up a new business are introduced.	Economics for Managers	Reviews microeconomic concepts such as supply and demand, production, cost, perfect competition and monopoly. Shows how economics affects main business decisions such as compensation, pricing, and market entry. Game theory and strategy.	Entrepreneurship	The course addresses management challenges associated with starting and successfully running a new venture. it introduces the primary tasks and decisions that are required to turn an idea into a sound business opportunity, discusses how business plans are created to define the business opportunity and the common problems faced in implementing the business plan.	Innovative Approaches in Marketing	Course introduces the principles of creative thinking, idea management and innovation strategy. The purpose of this course is to provide theory and applied models to design an effective framework of creative thinking, form innovative ideas and convert ideas into innovation
	Social entrepreneurship and social innovation	syllabus could not be reached	Strategic Management	Core concepts and tools of strategic management, such as resources, capabilities, environmental interaction, company and business model evolution, organization and portfolio of innovation, knowledge and stakeholder management, value creation, sustainable competitive advantage, performance impact, and strategic fit. Strategic analysis of a real-world company.	Social Innovation and Entrepreneurship	This course introduces students to the fields of social innovation and entrepreneurship and aims to empower them to create positive social and environmental change by providing necessary knowledge, skills, and abilities. Students also work in groups to develop a social business plan for a social entrepreneurial opportunity they see	Innovation strategy and Management	Introduces tools and concepts that will help students to understand the role of advanced technology in framing corporate strategy as well as the role of technological development in society at large, assessing managerial implication of different types of emerging technologies, identifying opportunities and possibilities for competitive advantage through innovation.
	Human-Centered Design	Introduces the basic principles of interaction, service, product, and system design with a focus on people's needs, choices, and experiences. Introduces tools and techniques such as co-designing, envisioning, testing, and prototyping, role-playing and touchpoints. A series of hands-on, class-based exercises on the methodology of creating products and services.	Marketing Management	Addresses analytical concepts and techniques relevant for marketing decision making, with an emphasis on creating, capturing, and sustaining customer value. It provides a forum (both written and oral) for presenting and defending own marketing decisions, and for critically examining and discussing the recommendations of others.	Strategic Innovation	reviews the unique characteristics of industries characterized by frequent innovation, and explores how strategies in these industries are (or are not) different from other contexts. The course also focuses on the process of managing innovation, both internally and externally		
	Corporate Entrepreneurship	Theories, practices, and challenges related to corporate entrepreneurship. Tools and methods for identifying opportunities and gaps in the market. students analyze real-world cases, draw conclusions, and come up with a firm-level entrepreneurial project proposal.			Introduction to Marketing	Role of marketing, consumer behaviour, business-to-business markets, marketing research, segmentation and targeting are described and discussed. Managerial aspects of marketing such as product and service development, pricing, promotion, advertising, selling, and distribution are covered.		
	Business Model Design	Focuses on the business model design and formulation processes at the early stages of a startup. starts with understanding the customer needs or problems and value proposition. Students work as a team to formulate and design the whole business model of their new venture idea.						
Creativity	Creativity and Ideation	Addresses the related concepts and theories of creative problem solving and idea generation. Students are also introduced to relevant tools and skills by the analysis of realworld applications and hands-on exercises			Social Innovation and Entrepreneurship	Social innovation and entrepreneurship introduction. Positive social and environmental change creation by providing necessary knowledge, skills, and abilities. Develop a social business plan for a social entrepreneurial opportunity.	Innovative Approaches in Marketing	The principles of creative thinking, idea management and innovation strategy. Theory and applied models to design an effective framework of creative thinking, form innovative ideas and convert ideas into innovation.
	Human-Centered Design	Introduces the basic principles of interaction, service, product, and system design with a focus on people's needs, choices, and experiences. Introduces tools and techniques such as co-designing, envisioning, testing, and prototyping, role-playing and touchpoints. Hands-on, class-based exercises on the methodology of creating products and services.			Entrepreneurship	Management challenges associated with starting and successfully running a new venture. Explains primary tasks and decisions that are required to turn an idea into a sound business opportunity, discusses how business plans are created to define the business opportunity and the common problems faced in implementing the business plan.	Breakthrough Thinking, Creativity and Innovation	Challenges leadership to learn to solve problems and build innovations in more unique ways, to become more creative in their decision making processes. It builds in the learner new methods to achieve leadership in an age of change - breakthrough thinking, creativity, and innovation.
Vision	Fundamentals of Business	Key concepts and processes such as value proposition, primary (production, logistics, sales, marketing) and supporting (accounting & finance, IT, R&D, innovation, human resources) business functions, business performance, success and impact definitions and discussions.			Business Strategy	The subjects covered are: competitive strategies; techniques for analyzing industries, competitors, and companies from a strategic perspective; strategy formulation and implementation; strategy in new business development.	Globalization and Business Strategy	Advanced coverage of the development and transformation of business enterprise within the global economy, by focusing on the business strategy and dynamics of institutional and organizational change.
	Macroeconomics	Introduces basic concepts such as GDP, inflation, unemployment, savings, investment, and interest rates. discusses basic tools and insights to develop an understanding of how the economy functions. Also covers basic monetary and fiscal policy analyses, current account balance, exchange rates and financial crises...			Strategic Innovation	Reviews the unique characteristics of industries characterized by frequent innovation, and explores how strategies in these industries are (or are not) different from other contexts. The course also focuses on the process of managing innovation, both internally and externally	Innovation strategy and Management	Focuses on the role of advanced technology in framing corporate strategy as well as the role of technological development in society at large, assessing managerial implication of different types of emerging technologies, identifying opportunities and possibilities for competitive advantage through innovation.
	Sectoral Solutions: Local Expertise	Conducting an industry analysis. Identifying and evaluating general and sector-specific performance metrics. Determining the forces that have direct and indirect effect on the key performance indicators of selected sectors in Turkey. Analyzing and critically evaluating the dominant business models in selected sectors. Mapping alternative industry/firm growth scenarios.			Technology Management	The focus of the course is on the key concepts, models, and methods that enable managers to effectively manage the development and utilization of technologies. The goal is to develop an awareness of the range, scope, and complexity of the phenomena, issues, and problems related to economics and management of technology and technological innovations		
	Strategy	To develop students' abilities to identify, analyze and evaluate a firm's existing strategies and to formulate new strategies in order to gain and sustain competitive advantage. Crafting a vision and mission statement, identifying and balancing the needs and expectations of various stakeholders, conducting an analysis of the external and internal environments of the firm, and formulating strategies at the business unit and...	Strategic Management	Core concepts and tools of strategic management, such as resources, capabilities, environmental interaction, company and business model evolution, organization and portfolio of innovation, knowledge and stakeholder management, value creation, sustainable competitive advantage, performance impact, and...	Strategy Execution	Formulating strategy under uncertainty, scenario planning for strategic action, strategic decision-making, organizational design, role of networks in strategy, managing strategic change, strategy execution in emerging markets. Case studies supported by simulations, exercises, projects and lectures.		
Valuing ideas	Business Model Design	Business model design and formulation processes at the early stages of a startup, understanding the customer needs or problems and value proposition. Students work as a team to formulate and design the whole business model of their new venture idea. They are expected to talk to...	Business Analytics	Introduces a set of quantitative tools and techniques for analyzing and interpreting data as well as measuring and modeling uncertainty.	Entrepreneurship	Management challenges associated with starting and successfully running a new venture. it introduces the primary tasks and decisions that are required to turn an idea into a sound business opportunity, discusses how business plans are created to define the business...	Entrepreneurship and Innovation Management	Basic concepts of entrepreneurship, social and economic significance of entrepreneurship, the process to become an entrepreneur, new business ideas, venture capital and other capital discovery methods, types of entrepreneurship and...
	Capstone Project	This experience-based learning course is designed for students to bring their new business idea or a renovated old idea from a design stage to a business plan stage. It helps students design, test and deliver solutions to market needs or problems by understanding patterns of value creation and the context.	Strategic Management	discusses selected core concepts and tools of strategic management, such as resources, capabilities, environmental interaction, company and business model evolution, organization and portfolio of innovation, knowledge and stakeholder management, value creation, sustainable competitive advantage, performance impact, and strategic fit. During the course students make a strategic analysis of...	Technology Management	Key concepts, models, and methods that enable managers to effectively manage the development and utilization of technologies. The goal is to develop an awareness of the problems related to economics and management of technology and technological innovations.	Consumer Behavior	Course aims to provide students a more comprehensive view regarding final consumers. It teaches to look deeper into consumers' world by focusing on the psychological, sociological and cultural aspects of consumption.
	Social entrepreneurship and social innovation	syllabus could not be reached			Social Innovation and Entrepreneurship	Introduces students to the fields of social innovation and entrepreneurship and aims to empower them to create positive social and environmental change by providing necessary knowledge, skills, and abilities. Develop a social business plan for a social entrepreneurial opportunity.		
					New venture and Business Plan Development	Covers how to develop a business plan for a new firm or a new product in a firm. The course integrates finance, accounting, operations management, human resources, marketing and strategy to develop a successful business plan for success.		

Category	Course	Description	Course	Description	Course	Description	Course	Description
	Introduction to Business II (Entrepreneurship)	the entrepreneurial mindset, some basic tools and techniques widely used in the entrepreneurship ecosystem, starting up a new business are introduced.			Entrepreneurial Technology Commercialization	Provides the skills that are necessary to assess ideas and technologies for their technical merit and commercial potential. Real life high impact success stories are covered with cases. Intellectual Property, Venture Capital, Technology Entrepreneurship and Technology Transfer industries are discussed.		
Ethical and sustainable thinking	Fundamentals of Business	key concepts and processes of business. A special attention to the innovative, ethical, socially responsible, and sustainable operation of the business.	Business Ethics & Corporate Social Responsibility	Through theoretical approaches, critical (self-) reflections, and real business cases, this course provides a scientific framework for ethics in business.	Entrepreneurship	The course requests students to complete group projects focusing on Social Development Goals (SDGs). These projects focuses on current problems identified by SDGs and develop entrepreneurial opportunities to solve these current challenges. Business models and go-to-market strategies.	Research Methods and Ethics	Course aims to make managers have a deeper understanding of research methods and research process in order to help decision-making process in managing marketing budget of their organisations optimumly, and demonstrating ethical dimensions associated with research.
	Introduction to University	seminars offered by the faculties and student development units, peer and academic advisor activities, social responsibility and library activities, and safe living/environmental tests.			Social Innovation and Entrepreneurship	Social innovation and entrepreneurship introduction. Positive social and environmental change creation by providing necessary knowledge, skills, and abilities. Develop a social business plan for a social entrepreneurial opportunity.		
Self-awareness & self-efficacy	Introduction to University / Social Skills Management	syllabus could not be reached / Aims to ensure the adaptation of new students to university life, to increase The course aims to build competency development for career discovery. It						
Motivation & perseverance	Leading and Managing	focuses on the issues, obstacles, and challenges in building and managing an effective entrepreneurial team						
	Entrepreneurial Marketing	marketing concepts, methods, tactics, and strategies for new ventures. guides students to get the most significant return from a start-up's limited resources and to maximize the productivity of its limited marketing budget. discovery and development of the customer, pricing and other marketing-related key topics from the lens of a new venture.			Entrepreneurship and Venture Capital	Introduces the methodologies used in entrepreneurial finance and employs the case method to study VC deals. New venture deals are discussed from the perspective of different agents including entrepreneurs, angel investors, and VC fund managers.	Funding and Financial Management	Course aims to provide students with the tools to understand fundamentals of finance, financial statements and analysis, time value of money, risk and return concepts are tought to develop the theoretic background for students Skills in analyzing alternative business investments.
Mobilising resources					Entrepreneurial Technology Commercialization	Provides the skills that are necessary to assess ideas and technologies for their technical merit and commercial potential. Real life high impact success stories are covered with cases. Intellectual Property, Venture Capital, Technology Entrepreneurship and Technology Transfer industries are discussed.		
					New venture and Business Plan Development	covers how to develop a business plan for a new firm or a new product in a firm. The course integrates entrepreneurship, finance, accounting, operations management, human resources, marketing and strategy to develop a successful business plan for success.		
	Entrepreneurial Finance	(1) raising and sourcing finance for entrepreneurial companies, (2) selection of entrepreneurial companies by investors for financing, (3) sources of financing, such as business angels, corporates, banks, grants, and venture capital, (4) deal structuring, (5) actionable metrics of a start-up?s			Social Innovation and Entrepreneurship	This course introduces students to the fields of social innovation and entrepreneurship and aims to empower them to create positive social and environmental change by providing necessary knowledge, skills, and abilities. Students also work in groups to develop a social		
	Financial Accounting	fundamental accounting concepts and principles underlying the preparation and use of financial statements, with an emphasis on how financial information is used in resource allocation decisions by users internal and external to the firm	Financial Accounting and Reporting	The course emphasizes (1) the concepts and conventions that underlie financial statements, (2) the methods that are used to record, summarize and report the effects of economic activities in financial statements, (3) the interpretation and analysis of financial	Entrepreneurship and Venture Capital	introduces the methodologies used in entrepreneurial finance and employs the case method to study VC deals. New venture deals are discussed from the perspective of different agents including entrepreneurs, angel investors, and VC fund managers.	Financial Issues in Entrepreneurship	Location and market analysis; legal and tax aspects; sources of financing; financial analysis and planning for personnel and organizational structure; the legal form of organization; intellectual property and copyrights; buy-sell agreements are
Financial & economic literacy					New venture and Business Plan Development	covers how to develop a business plan for a new firm or a new product in a firm. The course integrates entrepreneurship, finance, accounting, operations management, human resources, marketing and strategy to develop a successful business plan for success.		
	Entrepreneurial Finance	(1) raising and sourcing finance for entrepreneurial companies, (2) selection of entrepreneurial companies by investors for financing, (3) sources of financing, such as business angels, corporates, banks, grants, and venture capital, (4) deal structuring, (5) actionable metrics of a start-up?s performance and (6) deal management, in particular, investor involvement and exit.	Financial Management	focuses on the financial tools and methods necessary for managers to make intelligent investment decisions.	Entrepreneurial Technology Commercialization	provides the skills that are necessary to assess ideas and technologies for their technical merit and commercial potential. Real life high impact success stories are covered with cases. Intellectual Property, Venture Capital, Technology Entrepreneurship and Technology Transfer industries are discussed.	Funding and Financial Management	Course aims to provide students with the tools to understand fundamentals of finance, financial statements and analysis, time value of money, risk and return concepts are tought to develop the theoretic background for students Skills in analyzing alternative business investments.
Mobilising others	Leading and Managing New Ventures	focuses on the issues, obstacles, and challenges in building and managing an effective entrepreneurial team. also covers motivating successful startup teams, resolving issues and conflicts, and evaluating performance.			New venture and Business Plan Development	covers how to develop a business plan for a new firm or a new product in a firm. The course integrates entrepreneurship, finance, accounting, operations management, human resources, marketing and strategy to develop a successful business plan for success.	Managing People at Workplace	Syllabus could not be reached
Taking the initiative	Leading and Managing New Ventures	focuses on the issues, obstacles, and challenges in building and managing an effective entrepreneurial team. also covers motivating successful startup teams, resolving issues and conflicts, and evaluating performance.			Entrepreneurial Technology Commercialization	provides the skills that are necessary to assess ideas and technologies for their technical merit and commercial potential. Real life high impact success stories are covered with cases. Intellectual Property, Venture Capital, Technology Entrepreneurship and Technology Transfer industries are discussed.	Entrepreneurship and Innovation Management	In this course; basic concepts of entrepreneurship, social and economic significance of entrepreneurship, the process to become an entrepreneur, new business ideas, venture capital and other capital discovery methods, types of entrepreneurship and entrepreneurial culture, stories of successful entrepreneurship,
	Capstone Project	This experience-based learning course is designed for students to bring their new business idea or a renovated old idea from a design stage to a business plan stage. It helps students design, test and deliver solutions to market needs or problems by understanding patterns of value creation and the context.			Strategy Execution	The subjects covered are: formulating strategy under uncertainty, scenario planning for strategic action, strategic decision-making, organizational design, role of networks in strategy, managing strategic change, strategy execution in emerging markets. The main learning method in the course is case studies supported by simulations, exercises, projects and lectures.	Innovative Approaches in Marketing	Course introduces the principles of creative thinking, idea management and innovation strategy. The purpose of this course is to provide theory and applied models to design an effective framework of creative thinking, form innovative ideas and convert ideas into innovation
	Sectoral Practicum in Business	students work in teams to address a real world problem or challenge of an organization under the mentorship of their instructor(s). Students evaluate the given problem/challenge by utilizing theories, methods, and concepts from the core program education. They gather data and apply knowledge to generate, evaluate and select solutions for the problem.			New venture and Business Plan Development	covers how to develop a business plan for a new firm or a new product in a firm. The course integrates entrepreneurship, finance, accounting, operations management, human resources, marketing and strategy to develop a successful business plan for success.		
	Operations Management	introduction of the key operations functions in service and manufacturing organizations: operations strategy, forecasting, supply chain management, quality management, capacity planning, inventory management, and project management.	Operations Management	covers process analysis and design, quality management, capacity planning, inventory management and just-in-time systems. Emphasis is on the application of these concepts to real companies from a variety of sectors.	Technology Management	The focus of the course is on the key concepts, models, and methods that enable managers to effectively manage the development and utilization of technologies. The goal is to develop an awareness of the range, scope, and complexity of the phenomena, issues, and problems		
	Sectoral Solutions: Local Expertise	Conducting an industry analysis. Identifying and evaluating general and sector-specific performance metrics. Determining the forces that have direct and indirect effect on the key performance indicators of selected sectors in Turkey. Analyzing and critically evaluating the dominant business models in selected sectors. Mapping alternative industry/firm growth scenarios to			Strategy Execution	scenario planning for strategic action, strategic decision-making, organizational design, role of networks in strategy, managing strategic change, strategy execution in emerging markets. The main learning method in the course is case studies supported by simulations, exercises, projects and lectures.	New Venture Business Planning	Syllabus could not be reached
Planning & management	Strategy	To develop students' abilities to identify, analyze and evaluate a firm's existing strategies and to formulate new strategies in order to gain and sustain competitive advantage. crafting a vision and mission statement, identifying and balancing the needs and expectations of various stakeholders, conducting an analysis of the external and internal environments of the firm, and formulating strategies at the business unit and			Strategic Innovation	reviews the unique characteristics of industries characterized by frequent innovation, and explores how strategies in these industries are (or are not) different from other contexts. The course also focuses on the process of managing innovation, both internally and externally	Managing Strategy and Gowth	Intellectual Capital and the Resource Based View are the two main frameworks utilised to examine the dynamic relationships. The course adds to the information gained in other courses such as, marketing and financial management and presents students with an opportunity to acquire the knowledge and skills needed to complete another aspect of a comprehensive business plan.
	Introduction to Management Information Systems	provides an overview of information systems (IS) and their strategic use in business. Topics include data and information concepts, components of IS, information technology infrastructure, main IS categories (Enterprise Systems, Supply Chain Management Systems, Customer Relationship			New venture and Business Plan Development	covers how to develop a business plan for a new firm or a new product in a firm. The course integrates entrepreneurship, finance, accounting, operations management, human resources, marketing and strategy to develop a successful business plan for success.		

Category	Course	Description	Course	Description	Course	Description	Course	Description
					Social Innovation and Entrepreneurship	This course introduces students to the fields of social innovation and entrepreneurship and aims to empower them to create positive social and environmental change by providing necessary knowledge, skills		
Coping with uncertainty, ambiguity & risk	Sectoral Solutions: Local Expertise	Conducting an industry analysis. Identifying and evaluating general and sector-specific performance metrics. Determining the forces that have direct and indirect effect on the key performance indicators of selected sectors in Turkey. Analyzing and critically evaluating the dominant business models in selected sectors. Mapping alternative industry/firm growth scenarios to	Business Analytics	introduces a set of quantitative tools and techniques for analyzing and interpreting data as well as measuring and modeling uncertainty.	Entrepreneurial Skills Workshop I-II	Course is designed to provide seminars, conferences, and workshops to entrepreneurial students in order to foster their teamwork and professional skills before they initiate their career	Research Methods and Ethics	Course aims to make managers have a deeper understanding of research methods and research process in order to help decision-making process in managing marketing budget of their organisations optimumly, and demonstrating ethical dimensions associated with research.
					Strategy Execution	The subjects covered are: formulating strategy under uncertainty, scenario planning for strategic action, strategic decision-making, organizational design, role of networks in strategy, managing strategic change, strategy execution in emerging markets. Case studies.		
	Sectoral Practicum in Business	students work in teams to address a real world problem or challenge of an organization under the mentorship of their instructor(s). Students evaluate the given problem/challenge by utilizing theories, methods, and concepts from the core program education. They gather data and apply knowledge to generate, evaluate and select solutions for the problem.	Capstone Project	analyzing the current situation both within and outside the organization and identifying alternatives for action. The project includes a report that covers all aspects of the project and the presentation of an 'executive version' of the project to the involved instructors. In addition, students prepare a 'lessons learned' report.	Strategic Innovation	reviews the unique characteristics of industries characterized by frequent innovation, and explores how strategies in these industries are (or are not) different from other contexts. The course also focuses on the process of managing innovation, both internally and externally		
Working with others	Introduction to Business II (Entrepreneurship)	Students are expected to practice the concepts, tool, and techniques discussed, in a term project in which they formulate and present the business model for a new venture idea they propose as a team			Entrepreneurship	The course requests students to complete group projects. Students create their own teams to discover and pursue their business idea. These projects expose students to teaming and working with others.	Innovative Products and Services	Course is designed to expose students to the process of new product and service development and marketing's role in working with other functional areas such as R&D, finance, and manufacturing to develop products and services that customers want and need.
	Business Model Design	Students work as a team to formulate and design the whole business model of their new venture idea.			Social Innovation and Entrepreneurship	This course introduces students to the fields of social innovation and entrepreneurship and aims to empower them to create positive social and environmental change by providing necessary knowledge, skills, and abilities. Students also work in groups to develop a social business plan for a social entrepreneurial opportunity they see		
	Internship I	4-week internship in a for-profit or not-for-profit organization. students learn about work in a specific organization, a specific sector and a specific department by observing practical work situations.						
Learning through experience	Internship II	a four-week internship in a for-profit or not-for-profit organization. students learn about work in a specific organization, a specific sector and a specific department. they analyze a small-scale practical problem for the organization. Students are expected to reflect on how their learnings shape their future career.	Executive Seminar Series	a series of seminars where critical decision makers and top executives share their views, experiences and business practices with the students. These seminars are designed also to have room for discussion so that students are able to ask critical questions to the executive speaker about the seminar subject.	Entrepreneurial Skills Workshop I-II	Course is designed to provide seminars, conferences, and workshops to entrepreneurial students in order to foster their teamwork and professional skills before they initiate their career	Entrepreneurial Strategy	Focuses on out-of-the-classroom experience. Teams of four to five students and a faculty advisor engage with the entrepreneur for 12 weeks to solve real issues facing the organization. Students benefit from dialogues with guest entrepreneurs who share stories of their journeys.
					Social Innovation and Entrepreneurship	This course introduces students to the fields of social innovation and entrepreneurship and aims to empower them to create positive social and environmental change by providing necessary knowledge, skills		
					Strategy Execution	scenario planning for strategic action, strategic decision-making, organizational design, role of networks in strategy, managing		
	Capstone Project	This experience-based learning course is designed for students to bring their new business idea or a renovated old idea from a design stage to a business plan stage. It helps students design, test and deliver solutions to market needs or problems by understanding patterns of value creation and the	Capstone Project	analyzing the current situation both within and outside the organization and identifying alternatives for action. The project includes a report that covers all aspects of the project and the presentation of an 'executive version' of the project to the involved instructors. In addition, students prepare a 'lessons learned' report.	Entrepreneurship	The course requests students to complete group projects. Students create their own teams to discover and pursue their business ideas. These projects culminate with a business pitch. They are encouraged to listen customers and validate their idea and business model by following the method of lean entrepreneurship		
Resilience	General							
Coachability	Sectoral Practicum in Business	students work in teams to address a real world problem or challenge of an organization under the mentorship of their instructor(s). Students evaluate the given problem/challenge by utilizing theories, methods, and concepts from the core program education. They gather data and apply knowledge to generate, evaluate and select solutions for the problem.						
Flexibility and agility	Strategy	To develop students' abilities to identify, analyze and evaluate a firm?s existing strategies and to formulate new strategies in order to gain and sustain competitive advantage.			Strategy Execution	scenario planning for strategic action, strategic decision-making, organizational design, role of networks in strategy, managing strategic change, strategy execution in emerging markets. The main learning method in the course is case studies supported by simulations, exercises, projects and lectures.		
Customer centricity	Business Model Design	focuses on the business model design and formulation processes at the early stages of a startup. starts with understanding the customer needs or problems and value proposition. Students work as a team to formulate and design the whole business model of their new venture idea. They are expected to talk to customers and competitors and simulate how a new venture starts up.	Marketing Management	addresses analytical concepts and techniques relevant for marketing decision making, with an emphasis on creating, capturing, and sustaining customer value. It provides a forum (both written and oral) for presenting and defending own marketing decisions, and for critically examining and discussing the recommendations of others	Entrepreneurship	The course addresses management challenges associated with starting and successfully running a new venture. it introduces the primary tasks and decisions that are required to turn an idea into a sound business opportunity, discusses how business plans are created to define the business opportunity and the common problems faced in implementing the business plan. (human centered design	Consumer Behavior	Course aims to provide students a more comprehensive view regarding final consumers. It teaches to look deeper into consumers' world by focusing on the psychological, sociological and cultural aspects of consumption.
	Human-Centered Design	introduces the basic principles of interaction, service, product, and system design with a focus on people's needs, choices, and experiences. Introduces tools and techniques such as co-designing, envisioning, testing, and prototyping, role-playing and touchpoints. Students, individually and as a team, experience a series of hands-on, class-based exercises on the			Social Innovation and Entrepreneurship	This course introduces students to the fields of social innovation and entrepreneurship and aims to empower them to create positive social and environmental change by providing necessary knowledge, skills, and abilities. Students also work in groups to develop a social business plan for a social entrepreneurial opportunity they see	Design Thinking and Innovation	Syllabus could not be reached
					Introduction to Marketing	Role of marketing, consumer behaviour, business-to-business markets, marketing research, segmentation and targeting are described and discussed. In addition, managerial aspects of marketing such as product and service development, pricing, promotion		
Technical / domain specific skills	Introduction to Computing for Business	focuses on extracting, visualizing, and interpreting data in a given business context. teaches developing effective formulas in spreadsheets for business problems						
	Probability for Social Sciences	provides analytical tools and skills necessary to make efficient statistical analysis and to introduce students to the basic concepts of probability, to how to do computer applications with the theory, and to how to use these tools to execute statistical analysis						
	Introduction to Management Information Systems	provides an overview of information systems (IS) and their strategic use in business. Topics include data and information concepts, components of IS, information technology infrastructure, main IS categories (Enterprise Systems, Supply Chain Management Systems, Customer Relationship Management Systems, Knowledge Management Systems, e-commerce applications) and their role in business and decision making processes, and IS						
	Algorithmic Thinking for Problem Solving	explains key components in computational thinking such as decomposition, pattern recognition, abstraction, and algorithm design. introduces algorithm design using pseudocodes and flowcharts. applies algorithmic thinking in practice by using a programming language						

Openness to experience	Human-Centered Design	introduces the basic principles of interaction, service, product, and system design with a focus on people's needs, choices, and experiences. Introduces tools and techniques such as co-designing, envisioning, testing, and prototyping, role-playing and touchpoints. Students, individually and as a team, experience a series of hands-on, class-based exercises on the methodology of creating products and services.				
Continuous learning	Sectoral Solutions: Local Expertise	Conducting an industry analysis. Identifying and evaluating general and sector-specific performance metrics. Determining the forces that have direct and indirect effect on the key performance indicators of selected sectors in Turkey. Analyzing and critically evaluating the dominant business models in selected sectors. Mapping alternative industry/firm growth scenarios to				
Sales skills	Entrepreneurial Marketing	marketing concepts, methods, tactics, and strategies for new ventures. guides students to get the most significant return from a start-up's limited resources and to maximize the productivity of its limited marketing budget. discovery and development of the customer, pricing and other marketing-	Introduction to Marketing	Role of marketing, consumer behaviour, business-to-business markets, marketing research, segmentation and targeting are described and discussed. In addition, managerial aspects of marketing such as product and service development, pricing, promotion,	Consumer Behavior	Course aims to provide students a more comprehensive view regarding final consumers. It teaches to look deeper into consumers' world by focusing on the psychological, sociological and cultural aspects of consumption.
Strategic orientation	Sectoral Solutions: Local Expertise	Conducting an industry analysis. Identifying and evaluating general and sector-specific performance metrics. Determining the forces that have direct and indirect effect on the key performance indicators of selected sectors in Turkey. Analyzing and critically evaluating the dominant business models in	Strategy Execution	scenario planning for strategic action, strategic decision-making, organizational design, role of networks in strategy, managing strategic change, strategy execution in emerging markets. The main learning method in the course is case studies supported by	New Venture Business Planning	Syllabus could not be reached
	Strategy	To develop students' abilities to identify, analyze and evaluate a firm's existing strategies and to formulate new strategies in order to gain and sustain competitive advantage. crafting a vision and mission statement, identifying and balancing the needs and expectations of various stakeholders, conducting an analysis of the external and internal environments of the firm, and formulating strategies at the business unit and	Strategic Innovation	reviews the unique characteristics of industries characterized by frequent innovation, and explores how strategies in these industries are (or are not) different from other contexts. The course also focuses on the process of managing innovation, both internally and externally	Managing Strategy and Gowth	Intellectual Capital and the Resource Based View are the two main frameworks utilised to examine the dynamic relationships. The course adds to the information gained in other courses such as, marketing and financial management and presents students with an opportunity to acquire the knowledge and skills needed to complete another aspect of a comprehensive business plan.
			New venture and Business Plan Development	covers how to develop a business plan for a new firm or a new product in a firm. The course integrates entrepreneurship, finance, accounting, operations management, human resources, marketing		
Complementarity in teams	Leading and Managing New Ventures	focuses on the issues, obstacles, and challenges in building and managing an effective entrepreneurial team. also covers motivating successful startup teams, resolving issues and conflicts, and evaluating performance.	New venture and Business Plan Development	covers how to develop a business plan for a new firm or a new product in a firm. The course integrates entrepreneurship, finance, accounting, operations management, human resources, marketing and strategy to develop a successful business plan for success.		
Valuing employees	Leading and Managing New Ventures	focuses on the issues, obstacles, and challenges in building and managing an effective entrepreneurial team. also covers motivating successful startup teams, resolving issues and conflicts, and evaluating performance.			Managing People at Workplace	Syllabus could not be reached

EntreComp / Additional Competence	Master of Cyber Defense at SET University		Master of Computer Science and Innovation Engineering at SET University		Masters in International Economic Relations in Lviv Polytechnic University		Business and Finance Economics at Kyiv School of Economics	
	Course Title	Explanation	Course Title	Explanation	Course Title	Explanation	Course Title	Explanation
Spotting opportunities	Research and development activities	Covering the basics of scientific research, starting from the definition of the problem and methodology and ending with the verification of the results. Organization of computer science.	Research and development activities	Analyzing the basics of scientific research in the field of intelligent technologies of the decentralized data economy.	Scientific research and seminars on their topics	Ability to conduct research and/or innovation in the field of international economic relations		
					Special course on scientific research of the specialty	Ability to conduct research and/or innovation in the field of international economic relations		
					Workshop on the preparation of scientific publications, conference materials and presentations; scientific reports	Ability to conduct research and/or innovation in the field of international economic relations		
					Educational and research practice	Ability to conduct research and/or innovation in the field of international economic relations		
Creativity								
Vision			Leadership and digital transformation	Covering strategies for managing projects and programs for the development of intelligent decentralized systems. SLeadership Models; Competencies and Skills; Leadership Mindset and Leading teams.				
Valuing ideas								
Ethical and sustainable thinking	Intellectual Property	Ethical and legal aspects of information protection in product development			Intellectual Property			
Self-awareness & self-efficacy								
Motivation & perseverance								
Mobilising resources								
Financial & economic literacy					Global economy	Ability to apply cumulative knowledge, scientific achievements, information technologies in the implementation of research in the field of international technologies in conducting research in the field of international economic relations	Macroeconomics	Macroeconomics examines the overall performance and behavior of an economy, focusing on key indicators such as GDP, unemployment, and inflation to understand and analyze economic phenomena at a national or global level.
					Customs services for international economic activity	Ability to apply cumulative knowledge, scientific achievements, information technologies in the implementation of research in the field of international technologies in conducting research in the field of international economic relations	Microeconomics	Microeconomics studies the economic behavior of individual agents, such as consumers, firms, and markets, analyzing how their decisions regarding resource allocation, pricing, and production impact the overall economic system.
					Econometrics in international business	Ability to apply cumulative knowledge, scientific achievements, information technologies in the implementation of research in the field of international technologies in conducting research in the field of international economic relations	Statistics and Econometrics	This subject teaches students the essential statistical tools and techniques used in economics, enabling them to analyze and interpret data, and apply econometric methods to model and test economic theories.
					International venture capital activity	Ability to apply cumulative knowledge, scientific achievements, information technologies in the implementation of research in the field of international technologies in conducting research in the field of international economic relations		
Mobilising others					Social responsibility	Ability to carry out teaching activities in higher education using modern methods and technologies, appropriate communication techniques, with the use of social and psychological principles of communication in a group, principles and methods of establishing productive and ethical interaction.		
Taking the initiative								
Planning & management	Cybersecurity Risk Management	Learning the key principles of information security analysis, assessment, and risk mitigation based on qualitative and quantitative data methods.	Data and database management	Intelligent database management systems. The concept of database management systems; Features of relational DBMS; DBMS MySQL, PostgreSQL, SQLite, Oracle Database; Non-relational database management systems; DBMS MongoDB.	International strategic management	Ability to predict trends in the development of international markets, taking into account	Investment Portfolio Management	This subject covers the principles and strategies involved in constructing and managing investment portfolios, including risk assessment, asset allocation, and the evaluation of financial instruments to optimize returns for investors.
	Cybersecurity business management	Analyzing the key concepts and best examples of cybersecurity risk management in a business context. Consideration how operational processes are related to data security and quality. Executive managers, roles, responsibilities, skills; Executive Leadership for Information and Chief Security Officers; Decision making styles; etc.			International financial management	Ability to predict trends in the development of international markets, taking into account		
	Project Management	Considering the key strategies of technical project management and software development processes. Analysis of the skills and competencies necessary for managers. Applying Project Management to Cybersecurity; Project phases, engagement models, Project Methodology, Areas of project management; Leadership Models, Competencies and Skills.			International competitiveness management			
	Data and database management	Data and database management and knowledge discovery for secure and reliable systems Multi-faceted discipline that covers data governance, integration, architecture, quality, security and other critical topics;						

Category	Course	Description	Course	Description	Course	Description	Course	Description
Coping with uncertainty, ambiguity & risk							Global Challenges	Global Challenges examines contemporary issues that have a significant impact on the global economy, such as climate change, geopolitical tensions, and technological advancements, providing students with a broad perspective on the challenges faced by economies worldwide.
Working with others							Professional Communication and academic writing	This course focuses on developing effective communication skills, both in a professional setting and through academic writing, to prepare students for clear and persuasive expression of economic concepts and ideas.
Learning through experience	Startup incubator	Summer practical work on a startup/technology project that will become the basis for further master's work. Mentorship.	Startup incubator & Entrepreneurship track	Summer practical work on a startup/technology project that will become the basis for further Master's work. During this module, mentors will guide you through the process, providing advice, seminars, and lectures on all aspects of startup launching.	Practice on the topic of master's qualification work	Ability to self-learn, maintain an adequate level of knowledge, readiness to master new level of knowledge, improve their professionalism and qualification level.	Internship	The internship component provides students with practical, hands-on experience in a real-world economic or business environment, allowing them to apply theoretical knowledge, develop practical skills, and gain insights into industry practices.
	Master thesis	Developing a startup or project that corresponds to the general direction of your chosen master's program.	Master thesis	Further development of a startup or project that represents the general direction of the chosen Master's program.	Execution of master's qualification work	Ability to self-learn, maintain an adequate level of knowledge, readiness to master new level of knowledge, improve their professionalism and qualification level.	Certification	The certification course involves obtaining recognized certifications relevant to the field of economics, enhancing students' credibility and employability by providing them with
	Capstone project	Capstone project	Capstone project	Development and presentation of a course project related to one or more disciplines.	Capstone project	Development and presentation of a course project related to one or more disciplines.	Preparation and Defence of Master's Degree	This subject guides students through the process of preparing and defending their master's thesis, providing them with the necessary skills to conduct independent research, critically analyze findings, and present their work effectively.
Technical competences	Quantum cryptography	Analyzing modern mathematical methods and means of ensuring data quality and security.	Machine learning Engineering	Intelligent analysis of decentralized systems and data.	Selective block "International investment and innovation activities"	Management of international innovation systems; International investment and innovation programs and projects of enterprises; Management of international innovation systems (KP); International investment and innovation programs and projects of enterprises (KP)	Data Analysis and Visualisation	This course focuses on the practical aspects of handling and analyzing data, teaching students statistical techniques and visualization tools to extract meaningful insights from datasets, facilitating informed decision-making.
	Design and development of high-quality and security computer systems (Pentesting)	Development of cyber security systems in accordance with international standards: GDPR, PCI DSS, Privacy Shield	Introduction to Web3	Learning about modern approaches to modeling, formalization and development of WEB3 technologies.	Selective block "International Business"	International competitiveness management; Infrastructure services for international economic activity; International Competitiveness Management (IC); Infrastructure services for international economic activity (KP)	Online Data Collection and Network Analysis	Exploring modern research methods, this subject covers techniques for collecting data online and analyzes network structures, offering insights into how economic and social interactions manifest in the digital realm.
	Intelligent Security Systems	Introduction to Intelligent Security Systems; Machine Learning and Artificial Intelligence for Security; Intrusion Detection and Prevention Systems; Adaptive and Self-Learning Security Systems	Blockchain technologies	The module is dedicated to the development of decentralized software (Dapps). DAO & Blockchain; S DAO Types; Governance Tokens; Voting (Onchain, Offchain);	Selective block "Economics of customs activities"	State management of customs activities; Business planning of export-import activities; State management of customs activities (KP); Business planning of export-import activities (KP)	Financial Markets and Instruments	This course delves into the structure and functioning of financial markets, examining various instruments and their roles, providing students with a comprehensive understanding of the complexities within the financial system.
	Security coding	Fundamentals of secure coding; protection against input/output-related attacks, input validation and filtering; Defense against attacks s; Security in concurrent programming; Code security auditing and static analysis.	Knowledge management and data mining	Working on the key principles of decentralized organization and the blockchain platform. Data Mining task; Practical application of Data Mining; Methods of Data Mining; Data Mining Models; The process of discovering knowledge; Knowledge Management; Data Mining Tools.			Advanced Financial Economics: Financial and Real Options	Building on financial theory, this subject explores advanced concepts such as financial options and real options, allowing students to assess complex investment decisions under uncertainty and dynamic conditions.
			Cryptoeconomy				Analysis of Economic Policy	Students study the impact and effectiveness of economic policies, analyzing their implications on various economic indicators, fostering an understanding of the role of policy in shaping economic outcomes.
			Cybersecurity and cryptography	Security of Smart Contracts. Cryptographic protocols; Cryptographic methods; Cryptographic algorithms; Cryptographic algorithms; Secure communication			Analysis of Agricultural Markets and Economic Policy	Focusing on the agricultural sector, this subject explores market dynamics, policy influences, and the economic challenges facing agriculture, providing insights into the complexities of agricultural economics.
			Machine learning Engineering	Intelligent analysis of decentralized systems and data. Data collection and preparation; Construction of features; Model training; Evaluation of the model; Deployment; Implementation, monitoring and maintenance.			Transport Economy	This course examines the economic aspects of transportation systems, covering topics such as infrastructure, pricing, and policy, enabling students to understand the economic implications of transportation decisions.

Annex 2.1

Training Programs offered by the interviewed innovation enablers from the Bulgarian ecosystem

EntreComp / Additional Competence	ABLE Activator - Pre-accelerator (a combination between program content and skills from the report)	Eleven Ventures - VC (as there is no available program, the list is taken from the interview)	Endeavor - accelerator (as there is no available program, the list is taken from the interview)	LaunchHub - VC (as there is no available program, the list is taken from the interview)
Spotting opportunities	Opportunity Identification	Identifying genuine problems		Understanding the Market
	Critical Thinking	Ability to identify opportunities		
	Effective Marketing (program content)	Deep understanding of the market		
Creativity	How to design and test your prototype (program content)		Creativity	
	Idea Formation & Hackathon			
	Encouraging Creativity and Initiative			
	Effective Marketing (program content)			
Vision	Product-Market-Fit (program content)	Global perspective		Vision and Idea Selling
	Vision and Leadership Building	International experience		
	Business Model Development			
	Effective Marketing (program content)			
Valuing ideas	Value Creation and Feasibility Testing		Presentation Skills	Openness to Feedback
	Encouraging Creativity and Initiative			
Ethical and sustainable thinking	Industry Regulations Awareness			Integrity and Ethical Conduct
	Critical Thinking			
Self-awareness & self-efficacy	Character & Leadership Building			
Motivation & perseverance	Risk-Taking and Determination	Tenacity	Leadership	
		Energy		
		Work ethic		
		Second-time founders or multiple businesses		
Mobilising resources	Effective Resource Management	Technological or domain expertise	Financial Acumen	
	Tech and Digital Skills			
	Product Development and Software Development Skills			
	First steps to secure funding (program content)	Business or commercial expertise	Technological Skills	
Financial & economic literacy	Financial Management	Business or commercial expertise	Financial Acumen	
	Startup Financing (program content)			
Mobilising others	Team Leadership	Leadership	Leadership	Vision and Idea Selling
	Community/ Network Building	Persuasion	Presentation Skills	Team complementarity
	Effective Marketing (program content)	Sales	Communication Skills	
Taking the initiative	Encouraging Creativity and Initiative		Decision-Making	

Annex 2.1
Training Programs offered by the interviewed innovation enablers from the Bulgarian ecosystem

Planning & management	Pitching sessions for initial funding (program content)	Experience in the startup or scale-up ecosystem	Leadership	
	Business Model Development	Diverse team of co-founders / Team complementarity		
	Effective Resource Management			
	Marketing and Operations Understanding			
Coping with uncertainty, ambiguity & risk	How to handle tough Q&A (program content)		Decision-Making	Decision Making Under Uncertainty
	Decision Making in Uncertainty			
	Adaptability			
	Critical Thinking			
Working with others	Team Motivation		Ability to Work in a Team and Find Compromise	Leadership and Team Management
	Communication Skills			
	Positive Work Environment Creation			
Learning through experience	Go-To-Market Sales & Negotiations	Experience in the startup or scale-up ecosystem		Entrepreneurial and Industry Experience
		International experience		
		Second-time founders or multiple businesses		
Technical competences				
Legal knowledge	How to prepare for investors from a legal standpoint (program content)			
Adaptability	Adaptability			
Understanding of the market	Market Knowledge (Local, Regional, Global)			
Complementarity of the team		Diverse team of co-founders / Team complementarity		Diverse Founders' Profiles / Team Complementarity
Self-promotion	Pitching sessions for initial funding (program content)			
Emotional intelligence	High EQ			

Training Programs offered by the interviewed innovation enablers from the Greek ecosystem

EntreComp / Additional Competence	Th.E.A. Athens Business Incubator
Spotting opportunities	Market Size/Analysis
Creativity	
Vision	International Competition and Team Advantages
	Business Model, Strategy, Operational Model Development
	Corporate Vision, Mission, Values, and Culture Development
Valuing ideas	
Ethical and sustainable thinking	Legal Form for New Business
	Intellectual Property Issues
Self-awareness & self-efficacy	Emotional Intelligence
Motivation & perseverance	Reward Systems, Employee Benefits, Motivation
Mobilising resources	Team Efficiency and Business Model Effectiveness
Financial & economic literacy	Expected Revenue Size
	Cash Flow Management
	Accounting Management of New Business
Mobilising others	
Taking the initiative	Employee Evaluation Systems
Planning & management	
Coping with uncertainty, ambiguity & risk	International Competition and Team Advantages
Working with others	Team Efficiency and Business Model Effectiveness
	Team Collaboration
Learning through experience	
Technical competences	
Innovation	Innovation Management
Value Proposition	Added Value of the Product
Financial Resource Management	Funding Tools Availability and Usage
Planning and Management	Development Plan for Business Operations, Marketing, Business Plan
Strategic Thinking	Strategy and Decision Making
Leadership	Leadership, Administrative Skills
Organisational Skills and Competences	Organizational Structure and Role Planning

EntreComp / Additional Competence	SAT- Lutech (France)	PEPITE PROVENCE (within Pepite Cluster France)
Spotting opportunities	Connect researchers to businesses	Raise awareness among students and doctoral students of the spirit of entrepreneurship and support projects in their structuring.
	Innvestment strategy to select the best innovative ideas	Creativity workshops, hackathons, masterclasses, meetings with business leaders, serious games, trade fairs and forums, etc
	Business and Financial Support typically in the Deep Tech sector, including the future of medicine (MedTech, BioTech), sustainable mobility, renewable energy, the energy transition	It supports all students and young graduates, whether at the stage of the desire to undertake, the idea to mature, the project to be secured or the company to be made sustainable.
	Working with Sorbonne University and other French HEIs	The network of correspondents and referents present in each institution allows students to have local information and advice within their study institution.
Creativity	From idea to prototyping in industrial environments	Students have the opportunity to participate in many events, challenges, master classes, conferences during which they will have the opportunity to meet professionals, students, young entrepreneurs who have embarked on the
	Go-to-Market support	ÉPITE Provence provides training in the concepts of business creation, innovation and knowledge of the region's entrepreneurial ecosystem. This system is based on a particular Teaching Unit called UE Esprit d'Entreprendre, students will have
Vision	Three steps: 1st.Proof of concept to forward it to a company; 2nd: Project formalisation that includes the analysis and legal aspects (IPR); 3rd: Project evaluation (Best transfer strategy). Evaluation phase: Technical, IP, legal and socio-economic	Autonomy, innovation, decision-making and leadership. In the medium term, the objective is to be able to stimulate more entrepreneurial initiatives in the South Region. Training in the concepts of business creation, innovation and knowledge of the region's entrepreneurial ecosystem. A real project accelerator, it offers students and young graduates training adapted to their needs, personalized
Valuing ideas	Maturation and Transfer of knowledge, value analysis	It allows the students to arrange their training course according to their projecty. Thus, there are 3 types of paths within the PEPITE: Emergence – Launch – Growth. Objectives: Verify feasibility (human, technical, legal and market level) Validate the trio of problem – solution – target, Define your business model and test it.
	Anticipation and Growth	
Ethical and sustainable thinking		It is a part of the "Emergency Pathway" training
Self-awareness & self-efficacy	Leadership buiding	It is a part of "Launch path" training
Motivation & perseverance	Giving Motivation to get funding for world-class researchers	11 sessions are under this Training: Entrepreneurial spirit / Ice breaker, The project environment, Business Model, Design Thinking, Prototyping, Market & Target Customer, Competition & Strategy, The network, Financial viability, Pitch /Pitch final.

Training Programs offered by the interviewed innovation enablers from the French ecosystem

Mobilising resources	Necesssary VC for the best scientists/entrepreneurs	Two conditions are necessary to apply: Hold a bachelor's degree or equivalent in level, Have an idea for a formalized project.
Financial & economic literacy	Financial support from SATT Lutech as accelerator to the selected scientists/entrepreneurs	Launch Path Validate the viability of the project and launch the business, Seeking funds and financial aid
Mobilising others	Team- working	PÉPITE Provence supports its students with the National Student Entrepreneur Status (SNEE). This status is aimed at students and young graduates with a realistic and motivated entrepreneurial project (idea, project, registered company).
	Strong links to academia and industry	
Taking the initiative	Supporting the whole value chain.	The PEPITE cluster is certified by the Ministry of Higher Education, Research and Innovation as a reference pole to raise awareness, initiate and support young people in their desire to become entrepreneurs.
Planning & management	Systematic analysis of the high value research and innovation concepts	Growth Path For Students & Graduates Activity already operational and company created The objectives: Knowing how to manage your business, Control the ramp-up of the business, the turnover and control the cash flow, Develop a new business
	developing and accelerating transfers of knowledge	
	Strategic marketing	
Coping with uncertainty, ambiguity & risk		Each steps are mentored to avoid the uncertainty
Working with others	Active HEI and Business sector collaboration	This system acts in its capacity as a public service actor and supports all students and young graduates, whether at the stage of the desire to undertake, the idea to mature, the project to be secured or the company to be made sustainable.
Learning through experience	Direct industrial experiences	Participate in an information meeting: this allows the student to discuss the project (before applying or a maximum of two weeks before the engagement committee).
Technical competences	Capacity for prototyping	Capacity for prototyping

Training Programs offered by the interviewed innovation enablers from the Irish ecosystem

EntreComp / Additional Competence	LaunchBox, Tangent's Student Accelerator, is a summer accelerator run by Trinity College Dublin
Spotting opportunities	Launchbox is a competitive summer programme that provides office space; funding; mentorship; access to alumni, partner and investor networks; and the ideal collaborative environment to launch new
	Opportunity Identification and support for critical thinking
Creativity	Ideation - basic aspects of prototyping - build concept and meaning - communication to capitalise on 'creativity out there' with other 'stakeholders'
Vision	Hands-on' exposure to concepts related to business model innovation, implementation of a vision, technology vs market vs business readiness
Valuing ideas	Aspects related to valorisation of knowledge and know-how with use of example use cases
Ethical and sustainable thinking	Codes of conduct, ethics and social responsibility aspects, New Green Deal
Self-awareness & self-efficacy	
Motivation & perseverance	
Mobilising resources	Effective Resource Management
	Pitching and fund raising basics
Financial & economic literacy	
Mobilising others	Team building
Taking the initiative	PRomoting a culture for initiative- and ownership-taking
Planning & management	Team management and roles
Coping with uncertainty, ambiguity & risk	Learning from (other people's) mistakes
Working with others	Effective Resource Management
	Leadership styles and paradigms
Learning through experience	Working on hands-on use / business cases
	Supporting the path from ideas towards their implementation

Training Programs offered by the interviewed innovation enablers from the Turkish ecosystem

EntreComp / Additional Competence	Anonymous incubator 1	Anonymous incubator 2
Spotting opportunities	Bootcamp for students	Specialized programs in education, game, and deep tech
	Pre-incubation program for developing ideas to opportunities	Pre-incubation program for developing ideas to opportunities
	Specialized programs in sectors such as game, fintech, mobility	Ideathon and hackathons organized with incumbant firms of incubation centre
	Hackathons / talent fair	
Creativity	Trainings in design thinking and user-centric design	
	Bootcamp encouraging new ideas, support ideation phase	
Vision	Strategic positioning	Support for internationalization/ international programs and hub
	Support for internationalization/ international offices	Differentiation/ proactiveness
	Differentiation/ competitive advantage	
Valuing ideas	Market research	Matchmaking of startups and corporations in the same sector or in the same value chain to enable startups validating their business ideas
	Building business model and collect feedback for the business model from mentors and academics	Business model trainings and support
Ethical and sustainable thinking	Encouraging university-industry projects	Support for patent applications
		Technology transfer office
Self-awareness & self-efficacy	Wide range of training for entrepreneurs such as sales,marketing, finance	Scholarship for entrepreneurs who want to pursue a master's or PhD degree
		Entrepreneurship trainings
Motivation & perseverance	Consideration of personal traits- especially ambition	Persistency
		Continuing to work despite ups and downs
Mobilising resources	Some tax exemptions for startups	Co-working space
	Office space	Opening labs and other resources to startups for R&D and prototype development
	Special seed fund managed by the incubator and its affiliated university	Funding for prototype development, legal and financial consultancy
	Making startups to meet national and international investors	Matchmaking with VCs and other startups
Financial & economic literacy	Trainings on basics of finance	Consultancy for accounting / finance

	Consultancy for accounting / finance	
Mobilising others	Mentor networks/pools	Providing academic knowledge / collaboration with research centres
	Bridging startups and university academics	Mentor networks/ pool
Taking the initiative	Support for product development and sales	Product or prototype development support
Planning & management	Training on business model canvas building	Commercialization potential
	Training on sales and marketing	Consultancy
	Training on strategy and building a company	
Coping with uncertainty, ambiguity & risk	Design thinking training	Mentoring
	Adaptability / agility	Matchmaking of startups and corporations in the same sector or in the same value chain to enable startups validating their
	Mentoring	Matchmaking with VCs
Working with others	Teaming and team management	Collaborative environment in co-working spaces
	Bringing university students and startups in talent fairs to help startups finding employees/interns	Collaboration with research centres specialized in big data, artificial intelligence, blockchain, medical technologies, etc.
Learning through experience	Encouraging entrepreneurs listen to experiences of others- both success and failures	Encouraging entrepreneurs benefiting from others' experiences
		Learning through pitching investors. Special sessions where startups pitch their ideas to investors are organized to let startups learn from investors
Resilience		
Coachability	Accepting feedback and advice	Taking advice and benefit from mentors' experience
Flexibility & agility		
Customer centricity		
Technical competences	R&D support for product development	R&D support and funding for prototype development
	Support from the hosting university for labs and other technical resources	Support from the hosting university including the usage of labs and dissemination of academic knowledge
		Support to academic entrepreneurs
Openness to experience		
Continuous learning		
Sales skills		
Strategic orientation		
Complementarity in teams	Team members with varied and right skills	
Valuing employees		

Annex 2.6

Training Programs offered by the interviewed innovation enablers from the Ukrainian ecosystem

EntreComp / Additional Competence	Accelerator 1991 (Accelerator for Startups)	YEP (Incubation, Acceleration, University)	TSUS (Acceleration program for startups)
Spotting opportunities	Introduction and goal setting	Market & Competition	
	Bootcamp		
	Market and competitor research		
Creativity	Branding and marketing	Marketing Basis	PR and reputation management
	Marketing		
Vision	Company culture	Ideation&LEAN approach	
Valuing ideas		Idea thinking	Idea validation
		Idea validation	
Ethical and sustainable thinking	Law and intellectual property	Legislation aspects	
	Legal framework for project work		
Self-awareness & self-efficacy			
Motivation & perseverance			
Mobilising resources	Product development and MVP		Marketing part1
	Operations and scalability	MVP	Marketing part2 and sales
	Product development	Design thinking	
Financial & economic literacy	Finance and fundraising	VC & Fundraising	Budgeting, financial planning and forecasting
	Fundraising	Investments, finances	Investments
	Financial models and startup valuation	Perks & Grants	
Mobilising others	Team and culture	Startup's team dynamics	
	Hiring and firing		
Taking the initiative			
Planning & management	Business model outline	Business model canvas	Business model
	Sales and revenue model	Problem-solution fit	Business strategies and innovations
	Business development	Customer portrait	Management technology and strategy
	Go-to-market strategy	Customer development	
Coping with uncertainty, ambiguity & risk		Competitors analysis	Risk management
Working with others	Customer research	Mentors support	Target audience
	Investor relations and board management	Investors feedback	Communications, negotiations
		Networking	Personal brand and networking
Learning through experience	Demo day	Pitch training	Pithing training part1(presentation)
		Pitchdeck	Pithing training part2 (pitch deck)

Technical competences	Technology		