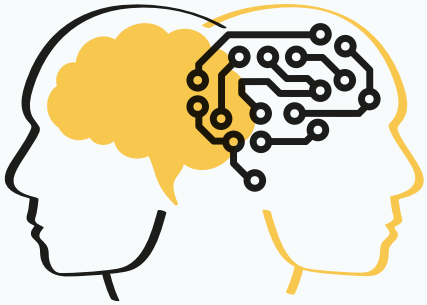


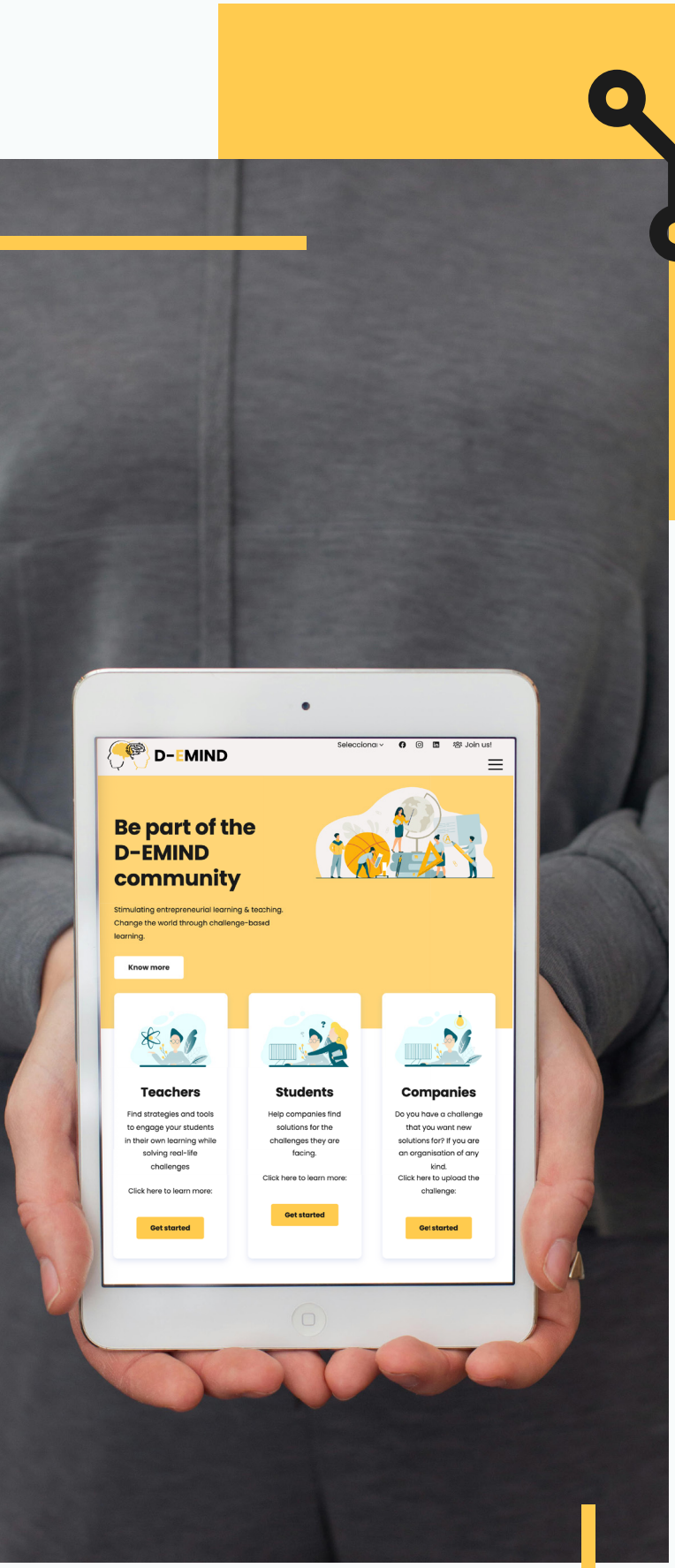
D-EMIND

PROMOTING DIGITAL ENTREPRENEURIAL MINDSETS IN HIGHER EDUCATION

2021-1-ES01-KA220-HED-000032185

David Rodríguez-Gómez (coord.), Aleix Barrera-Corominas, Marisol Galdames, José Luís Muñoz Moreno, Cecilia Inés Suárez

Funded by the European Union



THE PROJECT 'D-EMIND

Promoting digital entrepreneurial mindsets in Higher Education', coordinated by the Centre for Research and Studies on Organisational Development (CRIEDO: www.criedo-uab.cat) at the Autonomous University of Barcelona, has been funded by the European Union under the Erasmus+ KA220-HED Cooperation partnerships in higher education programme (2021-1-ES01-KA220-HED-000032185).

The EU support to produce this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

www.demind.eu

EDO-SERVEIS
(www.criedo-uab.cat/edo-serveis)

1ST EDITION
September 2025

EDO-SERVEIS
(Universitat Autònoma de Barcelona)

ISBN 978-84-09-78394-6
(ddd.uab.cat/record/320796)

DESIGN, GRAPHICS AND LAYOUT:
El Catering de la Comunicació
(www.elcateringdelacomunicacio.com)

FUNDING:

Funded by the European Union

COORDINATED BY:

CRiEDO UAB

UAB Universitat Autònoma de Barcelona

PARTNERS:

UCN

Hochschule Düsseldorf University of Applied Sciences HSD

UAB Universitat Autònoma de Barcelona

UCLL University of Applied Sciences

THE D-EMIND TEAM

Leading partner and coordinator

Universitat Autònoma de Barcelona, Spain:
David Rodríguez Gómez, *Associate Professor*.

University College North, Denmark:
Anni Stavnskær Pedersen, *Head of UCN Innovation*. Daniel Bloch, *Associate Professor*. Merete Langeland, *Project Coordinator*.

Universitat Autònoma de Barcelona Spain:
David Rodríguez-Gómez, *Associate Professor*. Aleix Barrera-Corominas, *Associate Professor*. Diego Castro Ceacero, *Associate Professor*. Joaquín Gairín, *Full Professor*. Marisol Galdames, *Lecturer*. Cecilia Inés Suárez-Rivarola, *Lecturer*. José Luís Muñoz Moreno, *Associate Professor*.

University Colleges Limburg, Belgium:
Annelies Schrooten, *Researcher*.
Ilse Fraussen, *Researcher*.

Chamber of Commerce and Industry Csongrad - Csanad County, Hungary:
Zsuzsanna Traserne Olah, *Secretary of the Chamber of Commerce and Industry of Csongrad - Csanad County*. Eva Durovic, *project manager*. Eva Mezo – Zadori, *assistant*. Regina Laurinyecz, *assistant*.

Hochschule Dusseldorf, Germany:
Julian Spratte, *researcher*. Dominik Kretschmar, *researcher*.

TABLE OF CONTENTS

INTRODUCTION

According to UNESCO (2017), within the framework of the Sustainable Development Goals (SDGs), quality education — which involves fostering the development of skills and knowledge to address economic, social, and environmental challenges — is the cornerstone of all other SDGs. The COVID-19 pandemic has accelerated the need for higher education systems to adapt to digital transformation, emphasizing the integration of digital tools by both students and teachers. This shift aims to promote more attractive and innovative teaching and learning approaches and to find ways to collaborate transnationally without physical travel, in alignment with broader societal changes.

Entrepreneurial competence is a central focus of European Union (EU) policy. It features prominently in the Strategic Framework for Education and Training and is emphasized in various recent policy documents. The Council Recommendation on Key Competences (European Commission, 2018) highlights the importance of "promoting entrepreneurial mindsets" and urges Member States to foster "entrepreneurship competence, creativity, and a sense of initiative, especially among young people." Despite these policy imperatives, current higher education (HE) models are facing significant challenges. Many young people question whether attending university yields the expected benefits, employers are increasingly skeptical of universities as primary sources of talent and innovation, and some policymakers doubt the value of increasing funding for HE given its perceived limited impact on social and economic development.

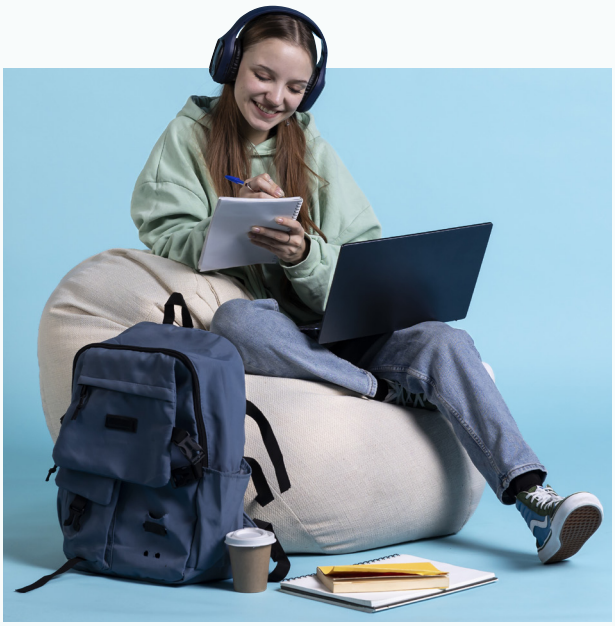
In this context, challenge-based learning (CBL) emerges as an innovative educational methodology rooted in experiential learning. It emphasizes applying students' knowledge to real-world challenges and represents a powerful approach not only to developing creativity and entrepreneurial competences but also to addressing societal issues—such as those outlined in the UN SDGs. CBL integrates self-directed learning, interdisciplinary and cross-national teamwork, and intensive use of technology.

Building on the outcomes of a previous project (ref. 2019-1-DK01-KA203-060193) that focused on on-site entrepreneurship education—and recognizing the need to foster online and digital co-creation and entrepreneurial ecosystems in response to the challenges brought about by the COVID-19 pandemic—the primary aim of the D-EMIND project was to design, develop, and test a digital challenge-based learning methodology, along with related strategies and tools, to promote an entrepreneurial mindset in higher education. Its specific objectives included:

1. Developing and promoting a trans-European platform for CBL, innovation, and peer-to-peer learning among students and teachers;
2. Facilitating real-world challenges wherein students, as part of their formal education, collaborate with external organizations to help address these challenges;
3. Integrating CBL with entrepreneurship education, thereby advancing both;
4. Preparing students for professional lives that increasingly transcend physical and digital borders, enhancing their capacity to work at the EU and international levels;
5. Strengthening collaboration between higher education institutions and external stakeholders (e.g., companies, public administration, NGOs) to co-create projects that promote entrepreneurship.

Many of today's challenges—such as youth unemployment, social and economic inequality, sustainability, and digital transformation—are complex and require collaborative, co-creative approaches. Higher education can play an active role by providing learning environments that empower students to generate and co-develop solutions while still enrolled. Engaging with real-life problems has significant potential for cultivating students' real-world competencies and enhancing their employability. This reflects the core mission of D-EMIND: to develop an online methodology and set of resources that support real-world projects in higher education across disciplines, curricula, and national borders. Internships and students' final degree projects are key areas where D-EMIND could serve as a valuable tool for success.

The D-EMIND Project is part of a longstanding trajectory of research and innovation initiatives led by the Centre de Recerca i Estudis pel Desenvolupament Organitzatiu (CRiEDO). These initiatives have focused, on one hand, on student performance and progress in higher education, and on the other, on processes of innovation and improvement in educational organizations. Notable examples include the following:



CHECK ALL EXAMPLES HERE

COIIN – Intergenerational Culture in Research Centers and Teams at Spanish Universities (ref. PID2023-148993NB-I00):

This project aims to analyze the relationship between intergenerational organizational culture and the functioning and performance of research centers and teams in university settings. In addition to its research component, the project includes an innovation objective: the development of a model to promote intergenerational organizational culture within these environments.

RE-CREAT – Re-creating Challenge-Based Learning at the UAB: Challenges and Benefits:

Although challenge-based learning (CBL) is becoming increasingly prevalent in university education, there is limited empirical data available to evaluate its benefits and associated challenges. The RE-CREAT project seeks to analyze the advantages and difficulties identified in various CBL pilot programs and experiences currently being implemented at our university.

FUESE – Strengthening University Extension in the Social Ecosystem of Central American Universities (ref. 101128947):

FUESE is grounded in the concept of a Culture of Equity, which can be realized through university extension policies and practices. The project aims to foster the development of socioeconomic capabilities in culture, community engagement, employability, and entrepreneurship among objectively vulnerable groups. By leveraging the university's capacity for knowledge transfer and innovation, and through collaboration with the private sector, the project seeks to enhance the social impact of higher education institutions.

PRUNAI – University and Intergenerational Learning (ref. PID2019-107747RB-I00):

This project combined research and innovation to analyze intergenerational learning (IGL) processes among university faculty. It also sought to validate an IGL model among teaching staff that supports organizational learning and development.

The findings not only deepened understanding of how intergenerational learning unfolds in universities—particularly its connections with informal learning, organizational development, and knowledge management—but also provided practical tools and guidance for decision-making. These outputs support the effective implementation of IGL strategies, contributing to improved institutional functioning and, ultimately, to the overall quality of higher education.

ForEMLink – For Entrepreneurial Mindsets Link (ref. 2019-1-DK01-KA203-060193)

In response to growing concerns about the perceived declining relevance of traditional university education—where students question its value, employers doubt its effectiveness in talent development, and policymakers question increased funding—the ForEMLink project sought to offer solutions. It aimed to develop an educational approach that provides students with practical, relevant learning experiences, enhances their entrepreneurial competencies, and supports the creation of viable business ventures.

This contribution aims to provide a synthesis of the Project and its most significant outcomes, offering a general overview of the work undertaken and achievements made, while also informing about the mechanisms available for accessing the accumulated knowledge. The objective is not only to disseminate the Project and its results but also to encourage and equip university leaders and managers with tools to enhance their intervention processes in the area addressed.

The purpose is to contribute to the necessary transformation of our higher education institutions, should we wish to respond effectively to the demands of both society and the students themselves.

None of the accomplishments and outcomes would have been possible without the involvement of all individuals who participated in the Project, the institutions that supported them, and the resources provided by the European Union. To all of them, we extend our gratitude and our openness to receiving any suggestions deemed relevant or any questions that may arise.

European Comission (2018).
Council Recommendation of 22 May 2018 on key competences for lifelong learning (2018/C 189/01).

VIEW DOCUMENT

United Nations. (2017).
The Sustainable Development Goals report 2017.

VIEW DOCUMENT

David Rodríguez-Gómez
General Coordinator of the D-EMIND project
September, 2025

THE ERASMUS + PROGRAMME AND ITS KA220-HED COOPERATION PARTNERSHIPS IN HIGHER EDUCATION

The KA220-HED action within Erasmus+ represents a strategic tool for transforming higher education in Europe and beyond. By promoting structured cooperation, innovation, and capacity-building, it helps institutions address contemporary challenges and prepare learners for an increasingly complex, interconnected, and rapidly changing world. As such, Cooperation Partnerships not only contribute to institutional excellence but also reinforce the broader mission of higher education as a driver of social progress, economic development, and democratic resilience.

The Erasmus+ programme, established by the European Union, is one of the most significant instruments for promoting international cooperation, innovation, and mobility in education, training, youth, and sport. Among its various actions, KA220-HED (Key Action 2 – Higher Education), which supports Cooperation Partnerships in Higher Education, plays a pivotal role in fostering institutional collaboration, enhancing educational quality, and aligning higher education institutions (HEIs) with European and global priorities.

VIEW DETAILS

European Commission

KA220-HED is designed to strengthen cooperation between organizations in the field of higher education across Erasmus+ Programme countries and partner countries. The primary objective is to enhance the quality and relevance of higher education through collaborative and innovative practices. The action aims to support institutions in developing and implementing joint initiatives that respond to common challenges, improve learning outcomes, modernize curricula, and promote the development of digital, entrepreneurial, and green competences in line with broader EU strategies such as the European Education Area (EEA) and the Digital Education Action Plan.

Cooperation Partnerships under KA220-HED are characterized by flexibility and a bottom-up approach, allowing participating organizations to define the themes, objectives, and activities most relevant to their needs. The typical partnership involves at least three organizations from three different Erasmus+ Programme countries. The project duration can range from 12 to 36 months, with funding provided based on unit costs for project management, implementation, and other activities.

Projects are expected to involve activities such as:

Developing, testing, and implementing innovative teaching and learning practices, including digital and blended learning approaches;

Creating or modernizing curricula and academic programmes aligned with labor market and societal needs;

Promoting inclusion, diversity, and sustainability in higher education;

Enhancing staff development through training, peer learning, and capacity-building;

Encouraging internationalization strategies, including joint degrees and transnational cooperation mechanisms.

KA220-HED places strong emphasis on the development of transferable results, such as open educational resources (OERs), policy recommendations, digital tools, and models for collaboration, ensuring that project outcomes extend beyond the participating institutions.

Cooperation Partnerships are expected to generate meaningful and sustainable impacts at the individual, institutional, and systemic levels. For students and academic staff, these projects foster the development of key competences, including digital, intercultural, and entrepreneurial skills. For institutions, they offer an opportunity to enhance international cooperation, modernize governance and pedagogy, and increase competitiveness and innovation capacity.

One of the key strengths of KA220-HED is its alignment with EU priorities, particularly the twin digital and green transitions. The action encourages the integration of sustainable development goals (SDGs) into teaching and learning, and supports projects that address pressing societal challenges such as climate change, social inclusion, and democratic engagement. Moreover, it promotes digital transformation in higher education through the adoption of virtual collaboration tools, digital pedagogies, and data-driven decision-making.

ENTREPRENEURIAL EDUCATION AND CHALLENGE-BASED LEARNING IN HIGHER EDUCATION: A CALL FOR CHANGE

In today's world, higher education is facing new and urgent challenges. The fast pace of technological innovation, global crises like climate change, and the increasing complexity of social and labour environments require universities to go beyond traditional academic training. Education must prepare students not only with knowledge but also with the ability to adapt, collaborate, and solve real-world problems.

Historically, universities have been places where disciplinary knowledge is transmitted from professors to students. But in the 21st century, this model is no longer enough. Higher education institutions are now expected to foster students' capacity to navigate uncertainty, embrace complexity, and act with purpose. This means shifting from a model focused on content delivery to one that emphasizes active participation, personal development, and social responsibility (Gyldendahl et al., 2023; Mayorga et al., 2024).

Active learning methodologies are key to this transformation. They shift the center of gravity from the teacher to the student, recognizing learning as a social, contextual, and dynamic process. In these approaches, students don't passively absorb content, they co-construct knowledge through interaction, experimentation, and collaboration. As Paños (2017) points out, these methods foster deeper learning, greater motivation, and long-term skill development.

Project-based learning, flipped classrooms, cooperative learning, and problem-based learning are examples of active methodologies

that support cognitive, emotional, and social engagement. For instance, López and González (2025) show that problem-based learning enhances not only conceptual understanding but also intrinsic motivation and students' sense of efficacy. This, in turn, helps them develop key skills for innovation and entrepreneurship.

In addition, active learning can promote educational equity. By adapting to different learning styles and using digital tools to personalize instruction, universities can create more inclusive and participatory environments. This is especially relevant for preparing students from diverse backgrounds to succeed in an ever-changing world.

In this context, entrepreneurship education becomes more than just a professional skill, it becomes a mindset. Entrepreneurial education supports creativity, leadership, strategic thinking, and initiative. It helps students recognize opportunities, manage uncertainty, and create value, skills that are useful not only in the labour market but also in civic life and personal development (European Commission, 2016; Morris et al., 2013).

Importantly, entrepreneurial education does not aim to turn every student into a business owner. Instead, it promotes a proactive and reflective attitude that empowers students to improve their communities and imagine new futures. When integrated into the curriculum with active methodologies, entrepreneurship becomes a powerful tool for personal and social transformation.

The challenge for universities is to align their teaching methods with these emerging goals. This requires institutional support, updated curricula, and faculty development. As Gyldendahl et al. (2023) and Mayorga et al. (2024) argue, real change in higher education depends not only on adopting new pedagogies, but also on redefining the role of both teachers and students in the learning process.

STUDENT-CENTERED AND ACTIVE METHODOLOGIES IN HIGHER EDUCATION

In traditional education, the teacher is usually seen as the main source of knowledge, and the student's role is mostly passive listening, taking notes, and repeating information. However, this model has been increasingly questioned. Research shows that students learn better when they are actively involved in the process and when learning is connected to real-life problems (Paños, 2017; Pepin & Kock, 2021).

As a result, student-centered and active learning approaches have become central to innovation in higher education.

Student-centered learning puts the learner at the heart of the process. This does not mean that the teacher disappears, but rather that their role changes: instead of transmitting information, they become facilitators, mentors, or guides. They help students take responsibility for their own learning and support them in asking questions, exploring ideas, and working through challenges (Gyldendahl et al., 2023).

Active methodologies include a variety of teaching strategies that share the same goal: to engage students in doing, thinking, and reflecting. These approaches encourage learners to construct knowledge through experience, interaction, and critical thinking. Among the most common active methodologies in higher education are problem-based learning (PBL), project-based learning (PjBL), challenge-based learning (CBL), cooperative learning, design thinking, and flipped classrooms.

One of the key strengths of active learning is that it allows students to develop both academic knowledge and transversal skills, such as collaboration, communication, resilience, and decision-making. These skills are vital in today's world, where professionals need to constantly adapt and solve complex, interdisciplinary problems (Gaskins et al., 2015; Dieck-Assad et al., 2021).

For example, when students work on real-world challenges in teams, they must learn how to organize tasks, share responsibilities, deal with conflicts, and evaluate results. In doing so, they move beyond memorization and engage in meaningful learning experiences that connect theory to practice. As Van den Beemt et al. (2023) highlight, this connection helps students retain knowledge longer and apply it more effectively in their future careers.

These methodologies also make learning more inclusive. Students with different learning styles, backgrounds, and abilities benefit from flexible, interactive environments where participation is valued and diverse perspectives are welcomed. Moreover, digital tools and online platforms can enhance access, collaboration, and creativity, making learning more dynamic and personalized.

Importantly, student-centered learning also changes the way teachers assess learning. Instead of relying only on exams, teachers often use portfolios, presentations, self-assessment, and peer feedback. This provides a richer and more realistic picture of what students know and can do. As Franco et al. (2023) argue, it also helps learners become more aware of their own progress and more motivated to keep improving.

In sum, active and student-centered methodologies prepare students not just to pass courses, but to thrive in uncertain, changing environments. They equip them with the tools to think critically, work collaboratively, and contribute meaningfully to society, qualities that are essential in both personal and professional life.

ENTREPRENEURIAL EDUCATION AND THE ENTRECOMP FRAMEWORK

Active, student-centered methodologies not only empower young people to successfully complete their studies, but also prepare them to navigate confidently in an uncertain and ever-changing world. By fostering critical thinking, collaboration, and the ability to actively contribute to society, these methodologies lay the foundation for a more holistic education.

In this context, entrepreneurship education appears as a natural evolution, as it goes beyond the traditional objective of training business entrepreneurs. Its purpose is to empower people to develop a creative, proactive, and problem-solving mindset, capable of generating value in multiple areas of social, economic, and educational life (European Commission, 2016). This connection between active methodologies and entrepreneurship education is key in higher education, where students are prepared to lead and transform their environment.

The European Commission has supported this vision with the development of the EntreComp Framework short for Entrepreneurship Competence Framework (Bacigalupo et al., 2016). EntreComp defines entrepreneurship as a set of skills, knowledge, and attitudes that enable individuals to transform ideas into action. It focuses on three main areas: Ideas and Opportunities, Resources, and Into Action, which are broken down into 15 key competences.

These competences include, for example: spotting opportunities, creativity, vision, ethical and sustainable thinking, mobilizing others, learning through experience, and working with others. As Morris et al. (2013) suggest, these dimensions are not just about being enterprising in a business sense, they are about being proactive, adaptable, and purpose-driven in any context.

EntreComp has been used across Europe to design courses, assess student progress, and support the development of entrepreneurial mindsets in many sectors. In higher education, it helps educators move from abstract ideas to practical implementation. It supports the integration of entrepreneurial learning across different subjects and disciplines, not only in business schools.

Recent studies show that entrepreneurial education increases students' confidence, motivation, and willingness to take action. For example, Galdames-Calderón et al. (2024) found that future educators trained through challenge-based learning became more aware of their potential to lead change in educational settings. Similarly, González-Serrano et al. (2019) demonstrated that students with entrepreneurial training felt more capable of proposing innovations in their workplaces, a process known as intrapreneurship.

It is important to highlight that entrepreneurial education is closely related to social entrepreneurship. This means not just seeking profit, but also creating positive social or environmental change. As García-González et al. (2020) explain, social entrepreneurship includes values like empathy, responsibility, and commitment to the common good. In education, this is especially relevant, since many students are motivated to improve their communities, schools, and environments rather than to create traditional businesses.

Another key point is that entrepreneurial competence can and should be taught. It is not something people are born with, but something they can develop through experience, reflection, and guided learning. This is where pedagogical approaches like challenge-based learning (CBL) come into play. CBL allows students to explore real challenges, work collaboratively, and apply their ideas to solve problems that matter to them and their communities.

Thus, entrepreneurial education and frameworks like EntreComp are essential tools to prepare students for the future. They help individuals not only to find jobs, but also to create meaningful projects, lead initiatives, and contribute to society in a sustainable and innovative way.

CHALLENGE-BASED LEARNING IN HIGHER EDUCATION

Challenge-Based Learning (CBL) is an innovative and student-centered methodology that connects academic content with real-world challenges. It encourages students to become active participants in their own learning by identifying meaningful problems, investigating possible solutions, and taking action. As highlighted by Gallagher and Savage (2020) and Gyldendahl et al. (2023), CBL helps students build essential 21st-century skills such as critical thinking, creativity, collaboration, and communication.

The CBL approach is rooted in experiential learning and aims to prepare students for complex and uncertain futures. Unlike traditional teaching, which often focuses on memorization or theoretical knowledge, CBL creates opportunities for students to apply what they learn in practical and often interdisciplinary ways. According to Pepin and Kock (2021), this method transforms students from passive recipients of knowledge into proactive agents of change.

One of the key features of CBL is its structure, usually divided into three phases: Engage, Investigate, and Act (Tang & Chow, 2021). In the Engage phase, students identify a big idea and select a challenge that is relevant to their context. In Investigate, they explore the topic deeply, gather data, and analyze the problem. Finally, in the Act phase, they develop and implement a solution, reflecting on its impact and how it could be improved.

Teachers play an essential role in this process, not as traditional instructors, but as facilitators or learning coaches (Agüero et al., 2019; Van den Beemt et al., 2023). They support students in setting goals, managing group work, and navigating through complex tasks. As shown by Franco et al. (2023), this shift in teaching roles helps build trust and autonomy among students, making the learning process more meaningful and empowering.

CBL also supports the development of entrepreneurial competences, particularly when aligned with frameworks such as EntreComp. For example, it enhances students' ability to spot opportunities, take initiative, and turn ideas into action. Galdames-Calderón (2024) and Gudoniene et al. (2021) found that students involved in CBL projects reported growth in areas such as resilience, creativity, and value creation. Skills that are fundamental for both entrepreneurship and civic engagement.

In the context of Higher Education, CBL has been applied across many disciplines, from education and social sciences to engineering and business. It allows institutions to address global challenges such as climate change, inequality, or digital transformation, while also meeting local needs. It also opens opportunities for interdisciplinary collaboration, partnerships with communities, and inclusion of diverse voices in the learning process (Dieck-Assad et al., 2021; Piccardo et al., 2022).

However, implementing CBL is not without challenges, as its successful application requires careful planning, teacher preparation, and flexible learning environments (Galdames - Calderón et al., 2024). Educators must be trained not only in facilitation techniques but also in how to guide students through uncertainty and ambiguity. Moreover, assessment strategies must adapt to evaluate both the process and the outcome of learning, including teamwork, creativity, and impact.

In summary, Challenge-Based Learning is a powerful methodology that aligns with the goals of entrepreneurial education. It empowers students to take action, work collaboratively, and develop solutions to real problems, preparing them not just for employment, but for responsible and impactful citizenship in a changing world.

In closing, it is possible to say that in an increasingly complex and dynamic world, higher education must go beyond traditional teaching approaches to foster essential skills such as creativity, initiative, and problem-solving. Entrepreneurial education, supported by frameworks like EntreComp, offers a powerful way to develop these competences. When combined with active and student-centered methodologies such as CBL, the potential impact is even greater.

CBL not only connects students with real-world problems, but also empowers them to take ownership of their learning, collaborate with others, and generate meaningful solutions. It shifts the educator's role from information provider to learning facilitator and aligns well with the goals of fostering entrepreneurial mindsets and social responsibility.

In this sense, CBL is a promising approach for higher education institutions aiming to prepare students for uncertain futures. However, its implementation requires careful planning, teacher preparation, and supportive institutional cultures. As higher education continues to evolve, investing in methodologies like CBL will be key to shaping innovative, resilient, and proactive graduates ready to contribute to both society and the economy.

REFERENCES

Agüero, M., López L., & Pérez, J. (2019)
Challenge based learning as a professional learning model. Universidad Euro-pea and Comunica +A program case study. Revista de Comunicación, (149), 1-24.
VIEW DOCUMENT

Bacigalupo, M., Kampylis, P., Punie, Y., & Van den Brande, G. (2016).
EntreComp: The entrepreneurship competence framework. Luxembourg: Publications Office of the European Union.
VIEW DOCUMENT

Dieck-Assad, G.; Ávila-Ortega, A.; & Peña, González (2021).
Comparing competency assessment in electronics engineering education with and without industry training partner by challenge-based learning oriented to sustainable development goals. Sustainability 13(19), 10721.
VIEW DOCUMENT

European Commission (2016).
EntreComp: The entrepreneurship competence framework. Publications Office of the European Union.
VIEW DOCUMENT

Franco, E; González-Peño, A; Trucharte, P; & Martínez-Majolero, V (2023)
Challenge-based learning approach to teach sports: Exploring perceptions of teaching styles and motivational experiences among student teachers. Journal of Hospitality, Leisure, Sport & Tourism Education 32, 100432
VIEW DOCUMENT

Galdames-Calderón, M., Stavnskær Pedersen, A., & Rodriguez-Gomez, D. (2024).
Revisiting Challenge-Based Learning Teaching Practices in Higher Education: A Systematic Review. Education Sciences, 14(9), 1008.
VIEW DOCUMENT

Gallagher, S. & Savage, T. (2020)
Challenge-based learning in higher education: an exploratory literature review. Teaching in Higher Education, 28(6), 1135-1157.
VIEW DOCUMENT

García-González, A., Ramírez-Montoya, M., Romero-Rodríguez, J. M. & Romero-Rodríguez, L. M. (2020).
Validation of instruments to measure social entrepreneurship competence. The OpenSocia-lLab project. Artículo de conferencia.
VIEW DOCUMENT

Gaskins, WB; Johnson, J; Maltbie, C. & Kukreti, AR (2015)
Changing the Learning Environment in the College of Engi-neering and Applied Science using Challenge Based Learning. International Journal of Engineering Pedagogy (iJEP), 5(1), 33-41.
VIEW DOCUMENT

González-Serrano, M. H., Valantine, I., Štědroň, B., & Hervás, J. C. (2019).
Entrepreneurship in sport sciences university students: A comparative study between Spain, Lithuania and the Czech Republic. Education + Training, 61(7/8), 888-900.
VIEW DOCUMENT

Gudoniene, D; Paulauskaite-Taraseviciene, A; Daunoriene, A; & Sukacke, V (2021)
A Case Study on emerging learning pathways in SDG-Focused Engineering Studies through applying CBL. Sustainability 13(15), 8495;
VIEW DOCUMENT

Gyldendahl, C., Georgsen, M. & Dau, S. (2023).
A systematic review of concepts related to reflective practice-based learning with a focus on theoretical positions. In Georgsen, M., Dau, S. & Helverskov, L. (2023). Proceedings for the European Conference on Reflective Practice-based Learning, pp. 31- 51. Aalborg University Press.

López, K. L. y González, J. R. (2025).
ABR una estrategia innovadora para despertar el espíritu emprendedor. Revista Espacios, 46(1), 158-166.
VIEW DOCUMENT

Mayorga, M. J.; Tagua, A. E.; Muyulema, D. G.; Velastegui, R. S. (2024).
Estudio sobre la implementación de metodologías activas en la Educación Superior: beneficios y desafíos. 593 Digital Publisher CEIT, 9(4-1), 196-208.
VIEW DOCUMENT

Morris, M. H., Webb, J. W., Fu, J., & Singhal, S. (2013).
A competency-based perspective on entrepreneurship education: Conceptual and empirical insights. Journal of Small Business Management, 51(3), 352–369.
VIEW DOCUMENT

Paños, J. (2017).
Educación emprendedora y metodologías activas para su fomento. Revista Electrónica Interuniversitaria de Formación del Profesorado, 20(3), 33-48.
VIEW DOCUMENT

Pepin, B. and Kock, Zj. (2021)
Students' Use of Resources in a Challenge-Based Learning Context Involving Mathematics. International Journal of Research in Undergraduate Mathematics Education 7, 306 327.
VIEW DOCUMENT

Piccardo, C; Goto, Y; Koca, D; Aalto, P; & Hughes, M (2022)
Challenge-based, interdisciplinary learning for sustainability in doctoral education. International Journal of Sustainability in Higher Education 23(7), 1482-1503.
VIEW DOCUMENT

Tang, ACY. & Chow, MCM. (2021)
Learning Experience of Baccalaureate Nursing Students with Challenge-Based Learning in Hong Kong: A Descriptive Qualitative Study. International Journal of Environmental Research and Public Health 18(12), 6293.
VIEW DOCUMENT

Van den Beemt, A; Vázquez-Villegas, P; Puente, SG; O'Riordan, F; Gormley, C; Chiang, FK; Leng, CT; Caratozzolo, P; Zavala, G; & Membrillo-Hernández, J. Taking the Challenge: An exploratory study of the Challenge-based Learning context in Higher Education institutions across three different continents. (2023).
Education Sciences 13(3), 234..
VIEW DOCUMENT

D-EMIND

THE D-EMIND PROJECT

The D-EMIND project (Promoting digital entrepreneurial mindsets in Higher Education) with ref. 2021-1-ES01-KA220-HED-000032185, like all large-scale transformation projects, has a history, objectives and actions, which we summarise below.

www.demind.eu

BACKGROUND

As mentioned in the introduction, UNESCO (2017) identifies quality education, developing skills to address economic, social and environmental challenges, as foundational to achieving all SDGs. COVID-19 pandemic hastened the need for digital transformation in education, requiring innovative teaching methods and transnational collaboration with reduced physical mobility. Additionally, The EU prioritizes entrepreneurial competence, with the European Council (2018) urging member states to cultivate "entrepreneurial mindsets" and foster "creativity and initiative among youth". The traditional university model is increasingly perceived as less relevant for the future. Young people question whether higher education delivers the anticipated benefits; employers doubt whether universities remain the primary source of talent, and policymakers debate the efficacy of increasing funding for higher education. In response, challenge-based learning (CBL), an innovative experiential methodology focused on solving real-world challenges, has emerged as an effective approach. CBL not only develops creativity and entrepreneurial competencies but also addresses contemporary societal challenges.

The D-EMIND project approach has been (and is) highly innovative, as it proposes an online or digital approach to CBL methodology, strategies, and tools for promoting entrepreneurial mindset in HEd, supporting co-creation among students, teachers, and external organisations. The project has capitalized the knowledge and good practices of previous projects undertaken by the 5 partner institutions involved and benefits from the complementarity expertise between them, as the project has come up with activities which complement previous and current actions.

All HEI partners adopt different tools to deliver on-site curricula linked to entrepreneurship and have experience working, teaching and researching about topics directly related to CBL and/or entrepreneurship (e.g., change management, innovation, knowledge management, communities of practice, creativity, co-creation, start-ups). D-EMIND has complemented this by bringing stakeholders in the partner institutions – external organisations, teachers and students – together to create a common online methodology and digital toolbox.

Whilst various methods and tools exist, COVID-19 pandemic accentuated the need to rethink and "recreate" them for online environments. The new digital approach and tools developed within D-EMIND provide a digital space in which companies across the five partner countries may upload real-life challenges which HE students in all five countries are able to access and tackle in national or transnational teams. The methodology developed, using CBL and cocreation approaches, support, manage, and sustain this process. The D-EMIND results and, in particular, the Digital Toolbox and Platform are open access and negate the impact of national frontiers in the matchmaking process. It is not sector specific and therefore is usable by students from different academic and vocational disciplines. The common feature is that the platform focuses on developing entrepreneurial mindsets, regardless of vocation or academic interest. In developing the PRs the partners extracted valuable learning from other initiatives like the European Entrepreneurship Competence Framework and EU projects focus on on-site entrepreneurship (e.g., GETM3, INTRINSIC or BEYONDLIMITS, among others). Partners also identified the following additional innovative contexts for the D-EMIND project:

VIEW MICROMOULE

VIEW CHALLENGES

PROFESSIONAL DEVELOPMENT

The D-EMIND Methodology (PR1), the Learning and Teaching package (PR3) and the MOOCs (PR4) are clearly an asset to educators involved in delivering Entrepreneurial Education in higher education in the 5 partner countries and beyond. The MOOC were complemented by the learning, teaching and training event (C1) which provided a space not only for testing the D-EMIND PRs, but also for professional networking and comparison of current approaches.

The D-EMIND PRs have attract the attention of a second EU university alliance, that's ECIU University, which not only has promote a micromodule based on D-EMIND, but has also involved some of D-EMIND experts on one of their challenges.

EUDRES.EU

DEMIND PLATFORM

LOCATION

D-EMIND Toolbox and Platform is a tool that supports a transnational dimension to challenge-based learning across countries and involving four direct user groups: students, teachers, mentors and external organisations.

It has attracted the attention of other EU consortiums as is the case of EUDRES, interested in using the D-EMIND platform for their own activities. EUDRES and UAB have also use D-EMIND platform for sharing some of their own challenges.

CRIEDO UAB

SUSTAIN-ED

HEROES UNIVERSITY

GATE

INSTITUTIONAL APPROACHES

Since the traditional role of HEIs is being questioned more closely than before by different sectors of our society, the four outputs of the project and its underpinning rationale – providing real-life learning to enhance the development of students' entrepreneurial mindsets, engaging with employers on practical problems which confront them and providing professional development for educators of all disciplines for whom the topic is relevant – is a concrete demonstration of how the participating HEIs are prepared to embrace the modernization agenda.

Finally, it is important to highlight the D-EMIND project have promoted the emergence of other projects, some of them already in operation (e.g., Co-CREAT & RE-CREAT; SustainEd; HEROES; GATE.

D-EMIND

OBJECTIVES AND METHODOLOGY

Building upon the outcomes of previous projects and addressing the need to foster online co-creation and entrepreneurial ecosystems in response to the challenges highlighted by the COVID-19 pandemic, the primary aim of D-EMIND was to design, develop, and test a digital, challenge-based learning (CBL) methodology, along with corresponding strategies and tools, to promote an entrepreneurial mindset within higher education.

The specific objectives were to:

1. Develop and promote the use of a trans-European platform for CBL, innovation, and peer-to-peer learning among students and teachers;
2. Facilitate real-world challenges in which students, as part of their formal education, collaborate with external organizations to address these challenges;
3. Integrate challenge-based learning with entrepreneurship education, thereby advancing both approaches;
4. Prepare students for a professional environment that transcends physical and digital borders, enhancing their capacity to work at the EU and international levels;
5. Strengthen the link between higher education institutions and external organizations to co-create projects that foster entrepreneurship.

These objectives align with two horizontal priorities of the Erasmus+ programme as well as two sectoral priorities for higher education:

HORIZONTAL
Addressing digital transformation in higher education through the development of digital readiness, resilience, and capacity.

HORIZONTAL
Fostering inclusion and diversity across all fields of education, training, youth, and sports.

SECTORAL
Rewarding excellence in learning, teaching, and skills development.

SECTORAL
Stimulating innovative learning and teaching practices.

To achieve the objectives of D-EMIND, five main categories of activities were implemented: project management, a Project Management Handbook, external oversight provided by a Project Advisory Group (PAG), actions related to project results, and dissemination activities.

Project Management was structured around three core working principles to ensure effective coordination and communication among all project partners: (1) distributed leadership, (2) cooperation, and (3) knowledge management. Moreover, the project operated at two levels of collaboration: intra-national and international. This dual-level structure guaranteed the internal coherence of the project and the external dissemination of its outputs. The project plan capitalized on each partner's expertise and adhered to the principle of complementary skills and competencies among consortium members.

The project leader was responsible for coordinating and delivering each project result (PR), producing and monitoring a detailed action plan with clear milestones and targets, and maintaining effective communication channels within the consortium and with EU stakeholders. Robust communication systems were established to organize, document, and report meetings as required, ensuring transparency and accountability. A comprehensive agenda of meetings and progress reports was prepared, accompanied by a dissemination strategy.

Work Packages (WPs) served as the fundamental units of project coordination. Each WP was structured at three levels:

WP LEADER
Responsible for planning, overseeing activities, outputs, and resource allocation.

COORDINATION TEAM (CT)
Composed of representatives from each partner institution to ensure coherence and coordination across phases and tasks.

LEADER PARTNER REPRESENTATIVE
Ensured compliance with the programme requirements and provided overall project reporting.

The main project activities were organized into seven WPs:

WP1. PROJECT MANAGEMENT AND MANAGEMENT TOOLS
Leader: *UAB |* ***Duration****: Month (M) 1 to M36*

This WP ensured the effective implementation of the project, including financial management, progress monitoring, meetings, and report preparation. It defined procedures for joint decision-making on major issues and relied on regular meetings of the Coordination Team, Microsoft Teams, and email communication. It also included the development of the project website and setup of collaborative tools.

WP2 / PR1. DIGITAL METHODOLOGY AND SELF-ASSESSMENT TOOL FOR ENTREPRENEURSHIP
Leader*: UCN |* ***Duration****: M1 to M9*

This WP focused on developing the digital dimension of the on-site Atom Model and the corresponding self-assessment tool.

WP3 / PR2. DIGITAL TOOLBOX AND PLATFORM
Leader: *HSD |* ***Duration:*** *M10 to M18*

Partners collaborated through meetings to co-design the Digital Toolbox and prototype of the platform. Proposals were discussed within the CT and local teams.

WP4 / PR3. CAPACITY BUILDING: D-EMIND TRAINING PACK
Leaders: *UCLL and UAB |* ***Duration****: M19 to M24*

This WP developed a learning and teaching plan and materials to promote the use of the online CBL and entrepreneurial methodology. The training pack formed the basis for the capacity-building programme (C1) and PR4.

WP5 / PR4. Capacity Building: D-EMIND MOOC
Leaders: *UCLL and UAB |* ***Duration:*** *M25 to M36*

As part of the capacity-building framework, this WP involved designing, producing, and piloting two MOOCs, hosted on Coursera and the D-EMIND Platform.

WP6. COMMUNICATION AND DISSEMINATION
Leader*: CSKIK |* ***Duration****: M1 to M36*

This WP entailed designing a communication and dissemination strategy for the project. It leveraged social media and the project website to share progress, coordinated internal dissemination within partner institutions and the PAG, presented results at national and international events, organized a final multiplier event, and conducted a communication campaign targeting stakeholders to advance digital entrepreneurship education.

WP7. QUALITY ASSURANCE, ETHICS, AND IMPACT EVALUATION
Leader*: UCLL |* ***Duration****: M1 to M36*

This WP established internal monitoring and quality assurance procedures through a Quality Assurance Committee (QAC). It defined the QAC's roles and responsibilities, developed ethics guidelines for data collection, testing, communication, and dissemination, and designed evaluation tools to assess best practice selection and ensure compliance with copyright requirements for the PRs.

The project was systematically monitored to ensure compliance with deadlines, achievement of operational objectives, and timely delivery of outputs. Tools were employed to optimize processes and project results as needed, with continuous oversight in place. The Project Management Handbook consolidated all relevant information related to project management.

Quality assurance measures were implemented throughout the project's duration, including:

QUALITY PLAN (QP)
Developed at the kick-off meeting to define roles, tasks, and partner responsibilities for project monitoring and evaluation; it forms part of the Project Management Handbook. UCLL led quality assurance activities.

INTERNAL EVALUATION OF PRS
Conducted according to the QP, generating internal reports based on collected data, which were integrated into project documentation.

EXTERNAL ASSESSMENT
An independent Project Advisory Group (PAG) was established to conduct external evaluations of all PRs. Details of the D-EMIND PAG members can be found at:

DEMIND.EU/PARTNERS

The monitoring strategy provided both interim and final feedback on project progress and results, focusing on adherence to proposal targets, PR quality, partner engagement, impact on target groups, and effectiveness of dissemination efforts.

Extensive dissemination activities were undertaken, reaching a large and diverse audience beyond the immediate target groups. Overall, dissemination efforts aimed to inform stakeholders and the public about D-EMIND, promote its results widely, and engage stakeholders with potential to replicate and transfer the PRs to new contexts.

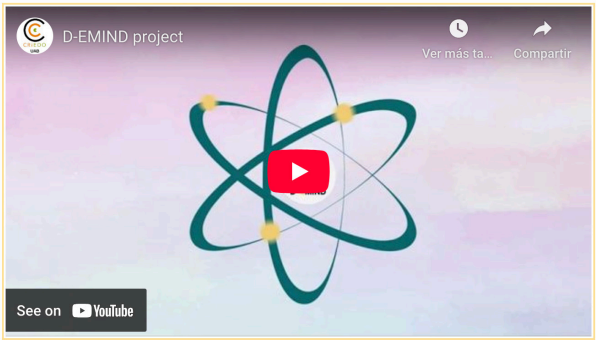
Although a detailed account is provided in the Dissemination Report, key dissemination activities and channels included:

- D-EMIND social media channels
- The D-EMIND website
- Partner institutions' websites with D-EMIND information
- Partners' social media channels
- Direct emails and online/ in-person meetings
- D-EMIND newsletters
- D-EMIND webinars
- External platforms (e.g., EPALE)
- Promotional videos

VIEW VIDEOS

D-EMIND

Between Month 7 and Month 33, a total of **103 dissemination activities** were carried out, reaching an estimated audience of at least **629,793 individuals**, covering all major project milestones and results.



What is D-EMIND?

Click the image or button below to see the video

VIEW DOCUMENT

TARGET GROUPS & PROJECT IMPACT

The project involved the participation of four main categories of stakeholders:

STUDENTS

A diverse and substantial number of students participated in or utilized the D-EMIND Toolbox and related activities. These students were primarily drawn from cohorts already engaged in similar initiatives at each partner university (e.g., EUDRES, STARMINDS, NEXT STEP, ECIU University) or were students enrolled in courses taught by staff participating in the C1 training activity. Although it is challenging to determine the precise number of students reached, it is estimated that approximately 3,250 students were involved: 1,050 from UCN, 1,780 from UCLL, 250 from HSD, and 240 from UAB.

At UAB, for example, the involvement of both faculty and students was facilitated through the Co-CREAT project, which engaged teaching staff and student groups from the Faculty of Education in various challenge-based learning (CBL) experiences. During the final semester of the D-EMIND project (September 2024 to February 2025), the D-EMIND methodology was also applied to address a real-world challenge proposed by the consumer cooperative SomConnexió (https://somconnexio.coop/). In addition, the MOOC (PR4) recorded 884 visitors and 227 enrolled students in its first semester (September 2024 to February 2025).

TEACHERS

According to the original project proposal, each partner institution committed to engaging a minimum of ten teachers in the use of the D-EMIND Toolbox and related activities. The teachers who participated were primarily those already involved in comparable projects and initiatives. Participation was voluntary, allowing teachers to choose their level of engagement. Data collected across institutions indicate that a total of 248 teachers were involved: 167 from UCN, 6 from HSD, 65 from UCLL, and 10 from UAB.

Additionally, five teachers from each partner institution participated in the capacity-building training activity (C1).

MENTORS

Engaging mentors proved to be one of the more complex aspects of the project. Overall, ten external experts participated: two from HSD, five from UCLL, and three from UAB. In some cases, these mentors served as reviewers for D-EMIND project results through their involvement in the Project Advisory Group (PAG); in other cases, they contributed directly to specific project results. For instance, the MOOC featured contributions from successful entrepreneurs and experts specializing in entrepreneurial training and mentoring.

EXTERNAL ORGANISATIONS

Similar to mentor involvement, engaging external organizations presented certain challenges, as participation was voluntary and based on self-selection. Nonetheless, several external organizations actively collaborated on project challenges, while others have expressed interest in adopting the D-EMIND solutions.

Regarding the impact of D-EMIND, while the entrepreneurship education approaches traditionally employed by the partner institutions remain relevant, D-EMIND has significantly broadened and enriched these practices by creating opportunities for co-created learning based on authentic, work-based challenges.

This has notably increased the relevance and engagement of external organizations in higher education.

Pictures on right: Teacher working during the C1
October, 2023

PROJECT RESULT 1 (PR1)

Has influenced both teaching staff and higher education institutions (HEIs) by: prompting a critical review and reflection on existing approaches to entrepreneurship education, and fostering a collaborative, transnational framework for defining the core elements of Digital Entrepreneurship Education (DEE) that best leverage real-world challenges.

THE D-EMIND DIGITAL TOOLBOX (PR2)

Has had a direct impact on all target groups by providing an innovative, challenge-based learning (CBL) platform that supports DEE and co-creation. It has also indirectly benefited external organizations by giving them access to a wider talent pool capable of addressing real-life problems and challenges.

THE D-EMIND TRAINING PACK (PR3)

Has directly supported teachers and HEIs by delivering a well-structured plan, along with open educational resources and materials, to advance DEE and integrate co-creation as a core practice.

THE D-EMIND MOOCS (PR4)

Have demonstrated a broad and sustained impact on capacity building among users, extending well beyond the partner HEIs. By their nature, MOOCs aim for unlimited participation and open online access, which accounts for the wide reach and significance of this project result.

The impact of all these outputs on educators and students has been further strengthened through the joint staff training course (C1).

As documented in the Dissemination Report, the project's impact on external organizations and institutions has been further amplified through multiplier events and webinars. In summary, the project has generated impact in the following ways:

EMPOWERMENT

Equipping students, teachers, and HEIs to effectively implement DEE (Digital Entrepreneurial Education) and co-creation practices, thereby enhancing the quality of higher education.

CAPACITY BUILDING

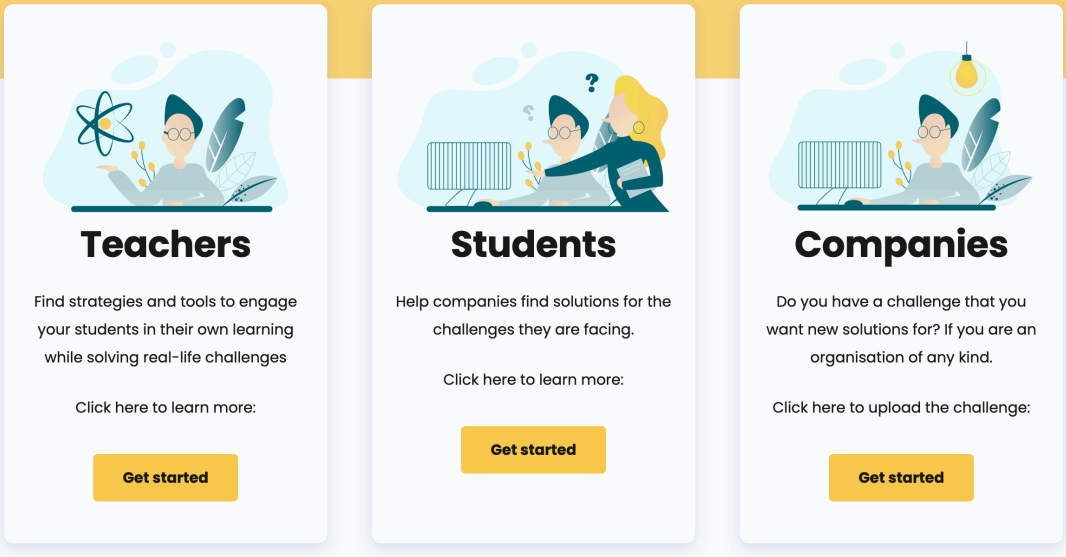
Strengthening knowledge and skills related to DEE, co-creation, and CBL. By providing stakeholders with the four key project results, D-EMIND has enhanced their ability to collaboratively address real-world challenges posed by local and international organizations. In the longer term, this capacity building is expected to drive institutional transformation: the "Impulse Groups" established within each partner institution are designed to create a snowball effect within their organizations and, through their networks, to influence other HEIs and local communities.

NETWORKS AND AWARENESS

The project not only leveraged existing networks of teachers and HEIs but also reinforced and expanded them by integrating D-EMIND project results into broader European networks such as ECIU University and EUDRES.

ECIU.EU

EUDRES.EU



The D-EMIND target groups

Visit the website to furder information

DEMIND.EU

At LOCAL, NATIONAL/REGIONAL levels and, to some extent, EUROPEAN/INTERNATIONAL levels, the D-EMIND Methodology and Self-Assessment tool (PR1) have not just expanded the range of approaches available to educators in the field of entrepreneurship education (EE) in higher and advanced vocational education, but also, offered something distinctive and innovative that has practical as well as theoretical learning embedded within it: online CBL and EE.

At LOCAL and NATIONAL/REGIONAL levels, the D-EMIND Toolbox and Platform (PR2) have made a direct contribution to entrepreneurship education resources in HEd, offering teachers and HEIs a Digital to foster engagement with external organizations. It is also offering students in HEd a mechanism for participating in real-life challenge-based learning. As we have already mentioned some external organizations and some other HEIs have already expressed their interest in using the D-EMIND platform.

At NATIONAL/REGIONAL levels and, to some extent, EUROPEAN/INTERNATIONAL levels, the DEMIND Training pack (PR3) and MOOCs (PR4) do not only describe an approach to promote the adoption of a more pro-active means of engaging with external organizations and demonstrating the value of HEd, but also have encouraged trans-national and interdisciplinary co-creation.

Additional impact at EUROPEAN/INTERNATIONAL level is appreciated, since projects such as D-EMIND, contribute to raising awareness of the significance of entrepreneurial competence in Member States' economies and in the European economy.

The project, also, is also contributing to other efforts to increase and modernize entrepreneurship education in HEd which is consistent with the priorities of ET2020 (Improving the Quality of Education and Training; Enhancing Creativity and Innovation, including Entrepreneurship, at all levels of Education and Training), the New Skills Agenda for Europe (European Entrepreneurship Competence Framework) and aiding delivery of the European Commission's Entrepreneurship Action Plan.

Additionally, the characteristics of the PRs (e.g., open, accessible) and especially the PR4 (MOOC), and the wide network of contacts in Europe and Latin America (e.g., www.redage.org/formacion) of the members of the consortium, an impact much beyond the participating countries and the European context has been identified with participants in the MOOC coming from Africa (6,55%), Asia (17.03%), North America (11.35%), Oceania (1.31%) and South America (4.37%).

PROJECT RESULTS

In this section, we review the main outcomes achieved over the three years of the D-EMIND project. A brief summary is provided first, followed by a detailed description of the specific features of each result.

1 D-EMIND METHODOLOGY AND SELF-ASSESSMENT TOOL FOR ENTREPRENEURSHIP (PR1).

After reviewing and analysing the existing practices in the various institutions and analysing what kind of activities could be applied in online environments, we proceeded with the development of the 'D-EMIND Methodology', incorporating the Digital Sphere to the ATOM Model, as well as a theoretical review on what implies the development of methodologies based on Design Thinking and Challenge-based learning in online environments. The D-EMIND methodology is available on the **project website**, and in the **UAB Digital Document Repository**. Based on the ATOM model and on other similar instruments (e.g. EntreComp), a self-assessment test was developed offering users a profile of their competences. It is also, as indicated in PR3, the starting point for training based on the D-EMIND approach:

PROJECT WEBSITE

UAB DIGITAL WEB REPOSITORY

SELF ASSESSMENT TOOL

2 D-EMIND DIGITAL TOOLBOX AND PLATFORM (PR2).

The "open free section" houses the ATOM Model and all its associated activities:

ATOM MODEL

The Digital Repository provide various tools and resources that may be of interest to anyone interested in CBL, co-creation and design thinking. Finally, the D-EMIND intranet (aka D-EMIND platform) was developed with an opensource WordPress-based platform and allow user (i.e., students, teachers, companies) to interact, share documents and solve challenges.

DEMIND.EU

OTHER RESOUCES

3 D-EMIND TRAINING PACK (PR3).

The D-EMIND training plan and the additional resources that configure the D-EMIND training pack are openly available on the project website:

TRAINING PACK

4 D-EMIND MOOCS (PR4).

Several MOOCs have been developed: (1) MOOC with COURSERA-UAB for STUDENTS AND TEACHERS; (2) MOOC available from the D-EMIND platform targeting external agents (mentors) and teachers. Both MOOCs can be accessed from the project's website:

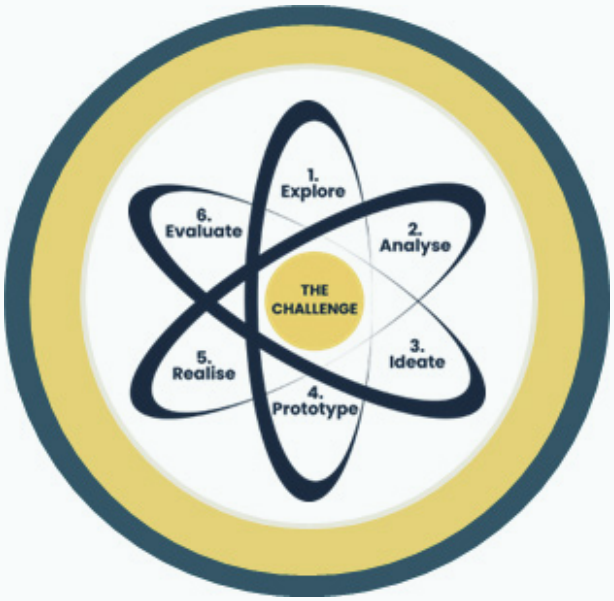
PROJECT WEBSITE

Additionally, another online course has been developed for the ECIU University consortium of 13 universities:

ECIU UNIVERSITY CONSORTIUM

D-EMIND METHODOLOGY AND SELF-ASSESSMENT TOOL

In this section we present Atom Model, the methodology we adopted and improved within the project D-EMIND for developing students' entrepreneurial mindsets and action competencies while encouraging the application of theoretical perspectives and reflection.



The Atom Model

Visit the atom's model section to more details.

SEE MORE

The Atom Model is designed to be adaptable to various curricular and educational frameworks, supporting the integration of entrepreneurship into teaching plans. It begins with a practice-oriented challenge, preparing students to address real-world problems through innovation.

Its flexible structure allows educators to select specific elements or activities aligned with course objectives and curricular requirements. This modularity enables the model to be tailored to different subject areas, didactic approaches, and available time, making it a versatile tool for Higher Education contexts.

The Atom Model is designed to be flexible, allowing educators to select and adapt activities according to curricular needs and subject-specific didactics. This modularity supports the integration of entrepreneurship into diverse learning contexts and timeframes.

Students engage with a clearly defined, open-ended challenge that anchors the entire innovation process. Working in stable groups, they explore the challenge through the six elements, embracing uncertainty, risk-taking, and iterative learning. The process encourages creativity, ownership, and the development of entrepreneurial competencies.

The model reflects the complexity of real-world contexts faced by graduates, promoting skills highly valued in multidisciplinary and dynamic professional environments. Its emphasis on adaptability and innovation makes it relevant across study programmes and essential for preparing students for the evolving labour market.

The following sections summarize the main components of the Atom Model. Readers interested in exploring each phase in greater depth, as well as accessing the various strategies designed and adapted for their implementation, are encouraged to consult the document "METHODOLOGY D-EMIND: Digital Entrepreneurial Mindset", available at the following link:

READ FULL ARTICLE

THE MENTAL SPHERE

The Mental Sphere fosters the entrepreneurial mindset needed to engage with the six elements of innovation. This mindset—based on creativity, possibility thinking, and proactivity—is key to addressing the challenge at the core of the Atom Model.

To develop these skills, activities are designed to support students, especially those less familiar with entrepreneurial thinking. Improvisation is used as a strategy to promote openness and collaboration through the "yes, and..." approach.

Students are encouraged to see challenges as opportunities rather than obstacles, reinforcing resilience and adaptability within academic boundaries.

THE LEARNING SPHERE

The Social Learning Sphere supports the interpersonal dynamics needed for students to engage confidently in the innovation process. Trust and psychological safety are central, enabling students to share ideas and propose creative solutions.

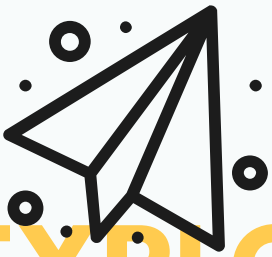
This sphere emphasizes collaboration and positive social relations, which enhance participation and engagement with the six elements of the Digital Atom Model. Lecturers play a key role in fostering group cohesion and providing constructive feedback.

Strong social bonds are essential as students work in stable teams throughout the process, offering the emotional and cognitive support needed to navigate uncertainty and innovate effectively.

THE CHALLENGE

At the heart of the Atom Model is the challenge, which guides the entire innovation process. Rooted in real-world contexts, it serves as both the starting point and reference throughout the learning journey.

In the Digital Atom Model, students work in stable groups on a single challenge across all six elements, ensuring coherence and depth. The challenge may be defined by the teacher or co-created with students, but it remains central to driving learning within a challenge-based framework.



1. EXPLORE

The exploration phase aims to deeply understand the challenge and its context, ideally through direct or virtual engagement with the field. Drawing on research methods and social technologies, this step helps uncover less obvious insights that can drive innovation.

In remote settings, such as in D-EMIND, exploration may rely on second-hand data, limiting the ability to verify information through personal experience. While this affects assumptions during the process, it does not compromise the core challenge or the final solution

3. IDEATE

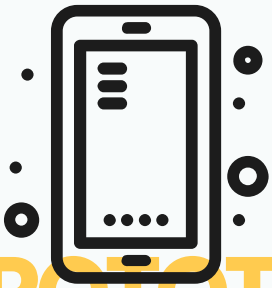
The ideation phase focuses on generating innovative solutions to the identified challenge. Using creativity-enhancing methods—such as design thinking, lateral thinking, arts-based approaches, and co-creation techniques—participants are encouraged to develop a wide range of ideas.

Following idea generation, a selection process is conducted to evaluate and choose the most relevant concepts based on the challenge and its specifications. Throughout this phase, the challenge remains central, guiding both students and teachers in maintaining focus and coherence.

2. ANALYSE

The analysis phase seeks to deepen the understanding of the challenge by examining collected data and integrating theoretical perspectives. This process helps clarify the core, open-ended question that drives the project.

The objective is to identify patterns and avoid superficial solutions, ensuring a thoughtful and informed approach to the challenge.



4. PROTOTYPE

The prototyping phase focuses on giving form to selected ideas, enabling their visualization and validation. Through collective exploration, participants refine concepts and gather the necessary knowledge to qualify the prototype.

The goal is to bridge the gap between idea and action by materializing solutions in a way that others can understand, test, and provide feedback on—ideally within the field context.

5. REALISE

In the implementation phase, a realistic and detailed plan is developed to bring the prototype into practice. This involves defining concrete steps, identifying key actors, and aligning the prototype with feasible conditions through dialogue with external stakeholders.

Depending on the context, the outcome may be a full implementation or a comprehensive blueprint. The goal is to ensure the prototype can be effectively realized within the given constraints.

6. EVALUATE

The evaluation phase concludes the innovation process and includes both external and internal components. Externally, feedback is gathered from stakeholders—such as the organization that proposed the challenge or the end-users of the solution—regarding the proposed ideas or action plans.

Internally, students and teachers reflect on the process and outcomes. This evaluation may adopt a forward-looking perspective, focusing on future improvements and learning, rather than solely assessing past performance.

THE SELF-ASSESSMENT TOOL

Aligned with the conceptual framework of the Atom Model, the D-EMIND project has developed a self-assessment tool aimed at measuring creativity and entrepreneurial culture among Higher Education students. This instrument is designed to collect data on key entrepreneurial competencies, including ambiguity management, planning, creativity, teamwork, and innovation. Its implementation provides valuable insights into the impact of the Atom Model methodology on students' entrepreneurial development.

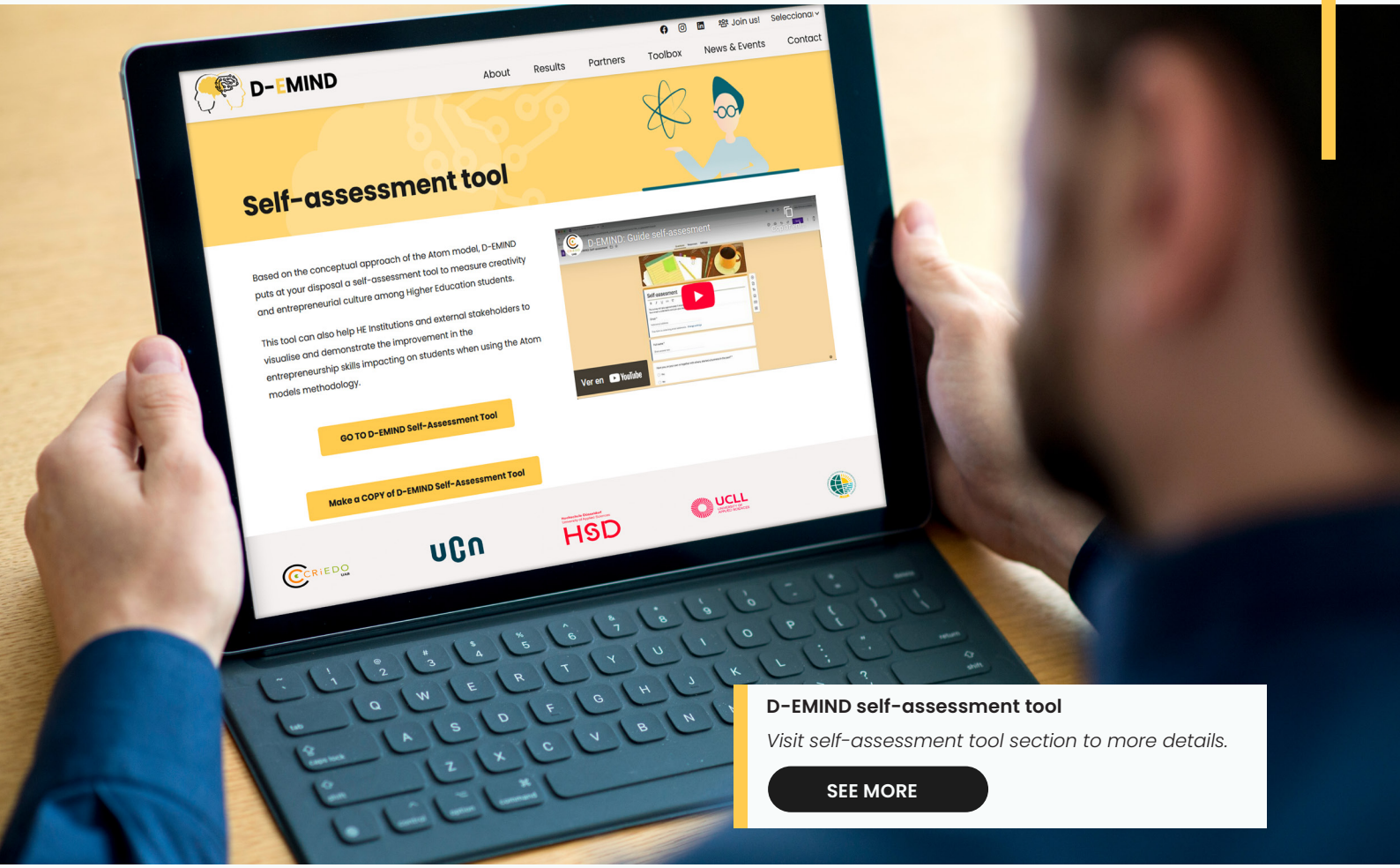
The tool serves not only as a diagnostic instrument but also as a reflective resource, enabling students to visualize their progress and identify areas for growth. By quantifying changes in entrepreneurial skills, it supports evidence-based evaluation of the learning process and reinforces the pedagogical value of challenge-based learning.

Furthermore, the self-assessment tool offers relevant feedback for educators. It enables analysis of the teaching strategies employed to foster creativity and entrepreneurship, as well as the attitudes and approaches adopted by teachers to enhance student engagement. This dual perspective—student and teacher—contributes to a more comprehensive understanding of how educational practices influence entrepreneurial learning outcomes.

The tool is particularly useful in contexts where innovation and adaptability are essential, and it complements the Atom Model by reinforcing its emphasis on self-regulated learning, reflection, and continuous improvement.

The self-assessment tool is available here:

GET THE TOOL



D-EMIND self-assessment tool

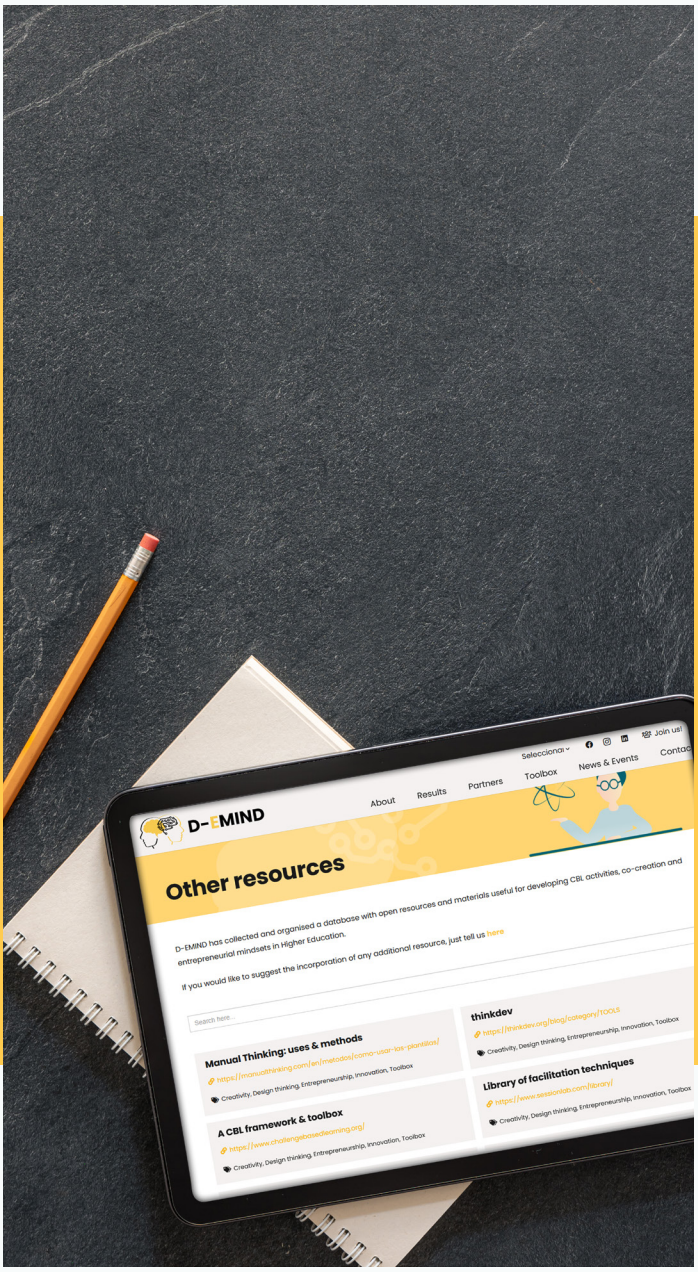
Visit self-assessment tool section to more details.

SEE MORE

D-EMIND Platform and Toolkit

The D-EMIND platform and toolbox is designed to foster entrepreneurial thinking in higher education through a digital, challenge-based learning (CBL) methodology.

While other platforms may support certain aspects of the D-EMIND methodology, their approaches are often limited in scope and typically focus on in-person CBL, co-creation, or entrepreneurship initiatives without offering a comprehensive digital framework.



D-EMIND provides a suite of digital tools and resources that facilitate cross-border collaboration among students, facilitators, and external stakeholders. It empowers facilitators to adopt innovative pedagogical strategies, thereby enriching the student learning experience through a dynamic, experiential approach. For companies, the platform presents an opportunity to have their real-world challenges addressed by diverse, multidisciplinary student teams. Facilitators, in turn, benefit from the structured support and resources provided by the D-EMIND Toolbox.

Overall, the project establishes a mutually beneficial ecosystem that bridges the gap between higher education and industry, equipping students with the competencies needed to navigate the demands of an increasingly globalized and digital workforce.

THE D-EMIND TOOLBOX

The D-EMIND Toolbox is an open digital repository designed to promote entrepreneurial mindsets in higher education. Aligned with the D-EMIND methodology, the consortium has developed, curated, and organized a comprehensive collection of online resources to support digital challenge-based learning (CBL).

This repository includes interactive activities and applications that foster creativity, critical thinking, and design thinking in virtual environments. In addition, it offers open-access materials and resources for planning and implementing CBL activities, as well as marketing strategies and tools that assist students in promoting their prototypes and entrepreneurial ideas.

The D-EMIND Toolbox

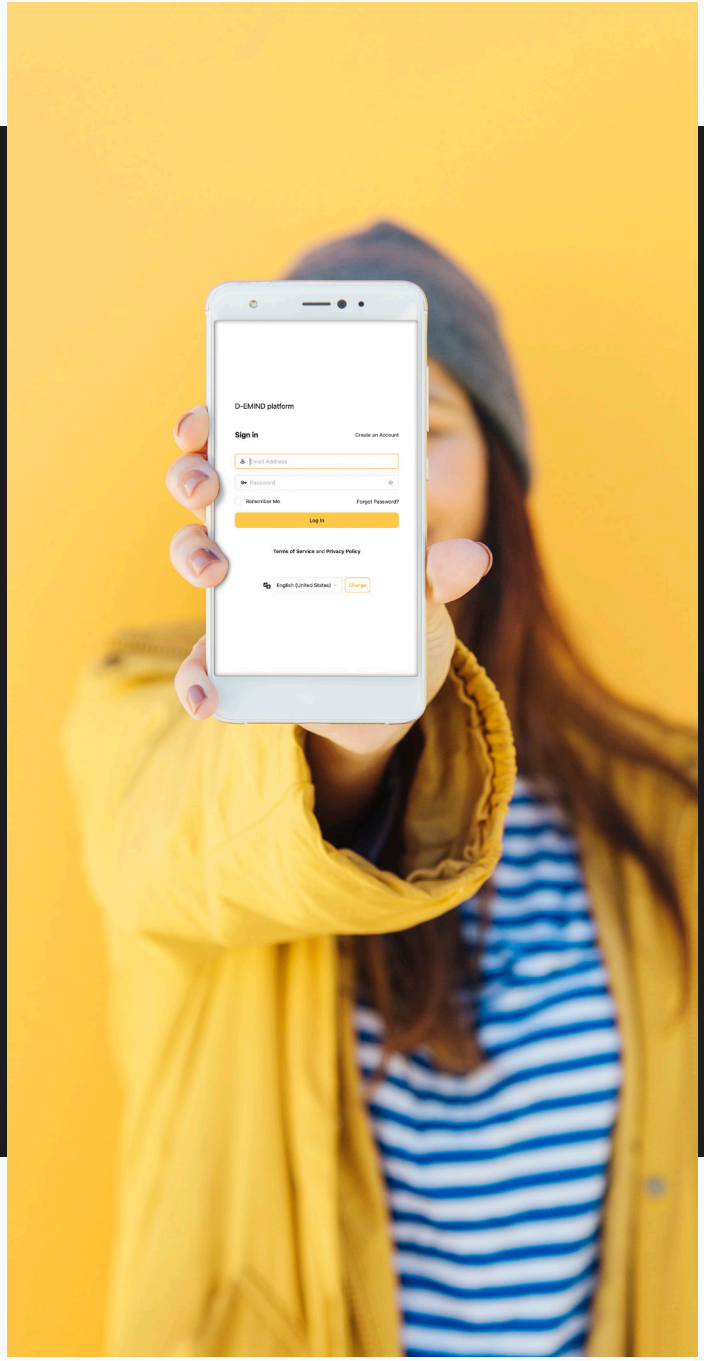
Visit other resources section to more details.

SEE REPOSITORY

THE D-EMIND PLATFORM

The D-EMIND platform represents one of the key outcomes of the D-EMIND project. It enables companies, universities, and other stakeholders to create and upload challenges addressing urgent societal issues such as climate change, energy efficiency, and sustainable development.

The platform has had a notable impact by providing students with opportunities to engage in real-world problem-solving. It effectively bridges the gap between theoretical knowledge and practical application, fostering essential competencies such as innovation, critical thinking, teamwork, and adaptability—skills that are increasingly valued in today's dynamic labor market. Additionally, the platform contributes to the digital transformation of higher education by promoting the use of online collaboration tools and digital problem-solving methodologies.



Welcome to D-EMIND Platform

Join D-EMIND project by login on our platform .

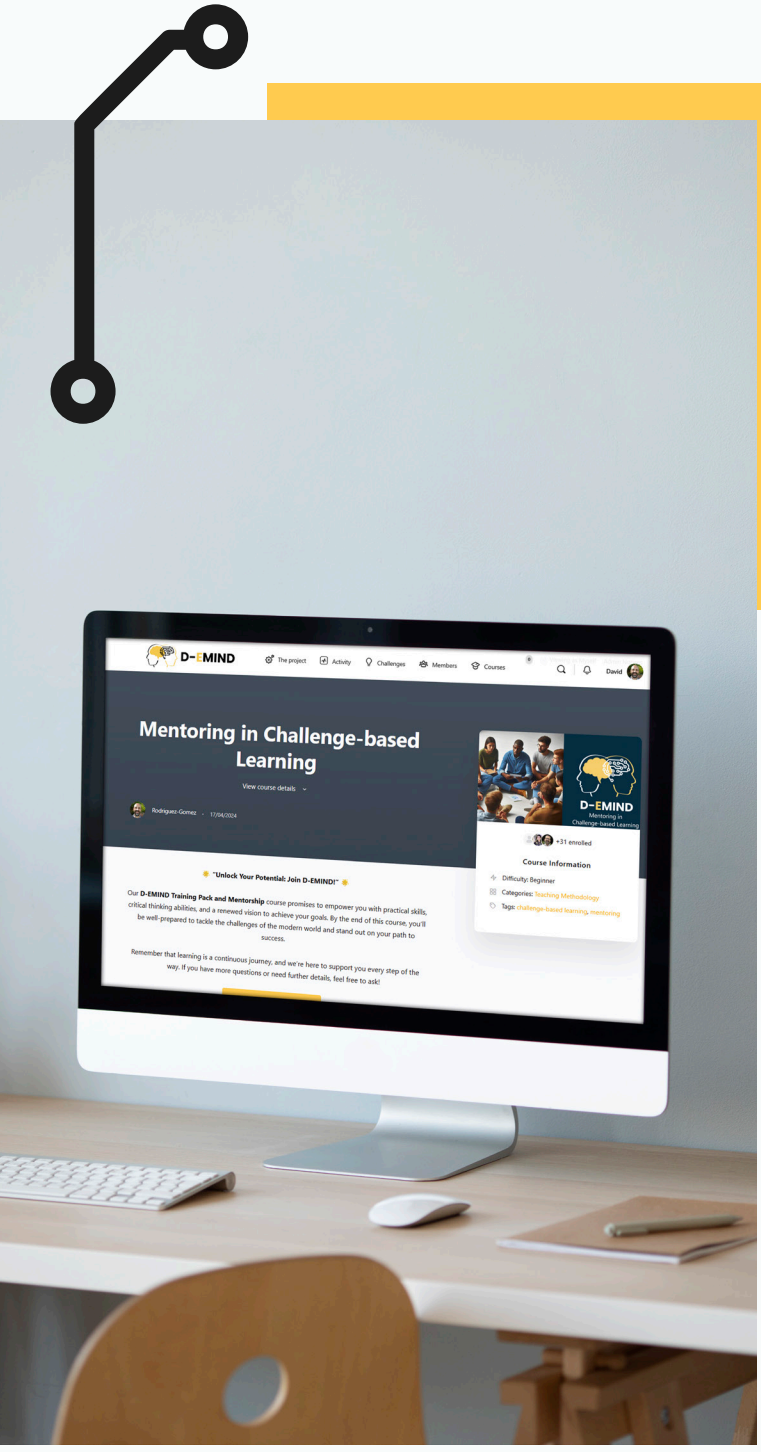
GET READY

As a digitally native generation, today's students are highly engaged in virtual environments. The D-EMIND platform leverages this familiarity by functioning similarly to social networking platforms, offering an intuitive and interactive space for connection and collaboration while addressing contemporary global challenges.

A core innovation of the platform lies in its seamless integration of digital technologies with collaborative educational practices. It facilitates easy interaction among companies, educators, and students, reducing institutional barriers and fostering a more open, practice-oriented learning environment. By linking academic content to real industry challenges, the platform shifts the traditional classroom model towards a more applied and experiential approach.

Furthermore, the platform's digital format ensures broad accessibility across regions, supporting transnational collaboration without the need for physical mobility. This has proven especially beneficial in the post-COVID-19 context, where digital and remote learning have become integral to educational continuity and innovation.

Creating a challenge is a structured process that enables the design of targeted learning activities aligned with the United Nations Sustainable Development Goals (SDGs). The D-EMIND platform offers a brief online course that introduces key elements of the D-EMIND methodology and provides a step-by-step guide to support users in successfully developing their own challenges.



D-EMIND TRAINING PACK

The PR3 D-EMIND Training Pack (available in English, Hungarian and Spanish) provides practical and applied guidance on the D-EMIND project, its outcomes, and the interrelation between these results. This D-EMIND training pack contributes to build the capacity of teachers, students and mentors to autonomously implement the D-EMIND methodology in their HEIs. The training pack is actually the base for building up the training program C1 and the D-EMIND MOOCs.

The initial, more theoretical, chapter explores the concept and significance of entrepreneurial education, the principles and rationale behind challenge-based learning (CBL), the project's emphasis on implementing CBL within a digital learning environment, and the evolving role of educators in this context.

Additionally, a brief explanation of the Atom Model—previously introduced in the PR1 methodology—is included, with a reference to Annex 1 for a comprehensive theoretical analysis of each phase of the model.

The second chapter adopts a more practical approach, presenting the individual training modules, each corresponding to a phase of the Atom Model. It offers guidance on how to implement these elements effectively in a digital classroom setting, drawing on the activities outlined in the methodology and on the project website. For each module, detailed templates have been developed, outlining objectives, learning outcomes, competencies, activities, suggested timing, assessment tools, practical tips, and recommended further reading. Furthermore, PowerPoint presentations have been created for each module, enabling educators to apply the D-EMIND methodology directly in their teaching practice.

D-EMIND course introduction

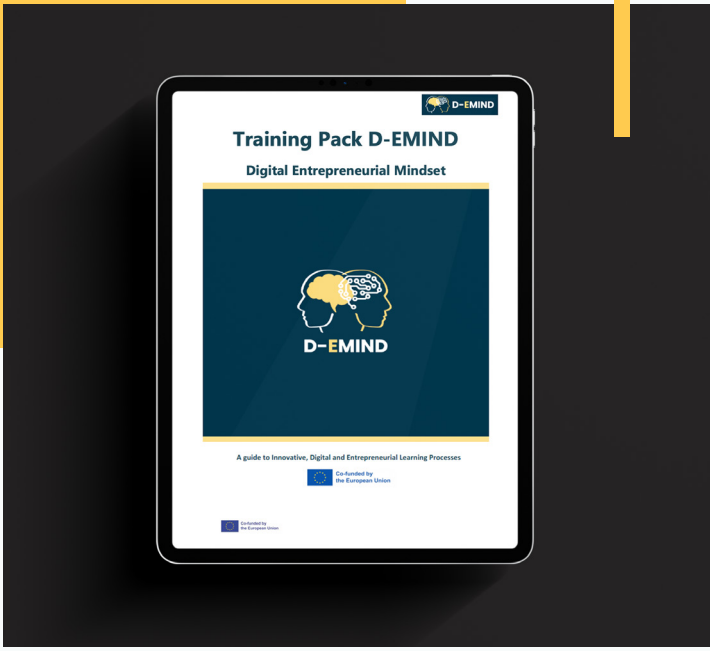
Get more information about course introduction.

LEARN MORE

D-EMIND

The Training Pack comprises six modules—each corresponding to one element of the Atom Model—designed to facilitate the practical implementation of the model. An additional introductory module (Module 0) is included to support educators in setting the stage and presenting the challenge to learners.

Each module offers a structured overview of suggested activities that can be employed within a digital classroom to address the specific element in focus. Accompanying PowerPoint presentations provide supporting materials, including a brief explanation of the element's purpose and relevance, as well as a curated selection of activities. These resources are intended to assist educators in developing and delivering their own challenge-based learning sessions within a digital learning environment.



The D-EMIND training pack

Check out full training pack on our website.

TRAINING PACK

THE CONTENT MODULES

The Training Pack comprises six modules—each corresponding to one element of the Atom Model—designed to facilitate the practical implementation of the model. An additional introductory module (Module 0) is included to support educators in setting the stage and presenting the challenge to learners.

Each module offers a structured overview of suggested activities that can be employed within a digital classroom to address the specific element in focus. Accompanying PowerPoint presentations provide supporting materials, including a brief explanation of the element's purpose and relevance, as well as a curated selection of activities. These resources are intended to assist educators in developing and delivering their own challenge-based learning sessions within a digital learning environment.

STRUCTURE OF THE D-EMIND TRAINING PACK

MODULE	CONTENT
Module 0	Setting the stage: Planning of the CBL Finding a challenge Setting up the teams Learning spheres (social & mental) Present the challenge
Module 1	Explore the challenge
Module 2	Analyse
Module 3	Ideation
Module 4	Prototype
Module 5	Realize
Module 6	Evaluate

The following table synthetize the list of activities we could use in each one of the seven modules:

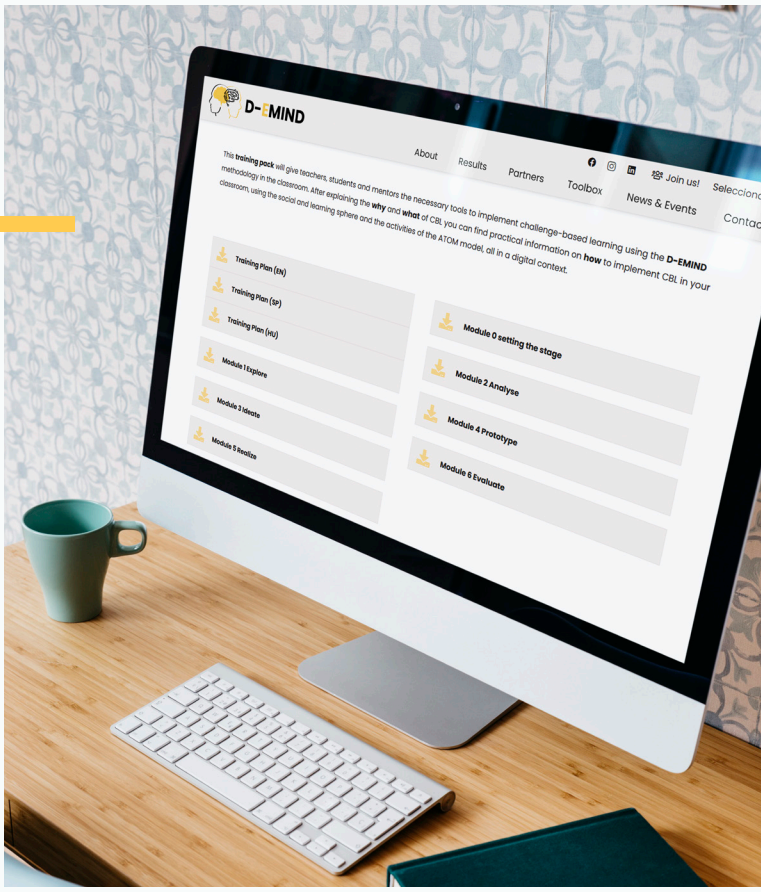
MODULE	ACTIVITIES	ESTIMATED TIME	STUDENT GROUP
MODULE 0 Setting the stage: Mental sphere	1. Party time	10-20 min	16
	2. Alternative presentation	5-10 min	2-40
	3. Giving presents	20-30 min	16
	4. Backwords Focus	5-10 min	16
	5. When are you creative	10-15 min	16
	6. The paperclip	10-12 min	15
	7. The 30 circles	10-12 min	15
	8. Complete the Incomplete Figure Test	20-30 min	15
	9. Backwards Focus	5-10 min	16
	10. Yes. I've Made a Mistake	5-10 min	16
	11. One minute paper	5-10 min	16
MODULE 0 Setting the stage: Social sphere	1. Code of Collaboration	1-2 hours	16
	2. Check-in	20-30 min	2-40
	3. What is Your Childhood Dream?	20-30 min	2-40
	4. If I were a...	5-10 min	5-30
	5. Anecdote – the story	30 min-1 hour	5-10
	6. The object box	20-30 min	5-6
	7. Yes, But vs Yes, And	5-10 min	2-40
	8. Keep talking behind my back	20-30 min	5-6
	9. From 16 down to 1	90-120 min	
	10. Know their role	90-120 min	

MODULE	ACTIVITIES	ESTIMATED TIME	STUDENT GROUP
MODULE 0 Setting the stage: The challenge	1. The 5 Why's	10-20 min	2-5
	2. Formulation of a challenge	10-20 min	5-30
	3. Find your challenge	10-20 min	2-30
	4. Where to find a challenge	2 hours-2 days	Class or groups
	5. The challenge and group formation	2-3hours	Groups
MODULE 1 Explore	1. Target group interview	30-60 min	2-40
	2. What? How? Why?	2-3 hours	15
	3. Station to station	20 min	15
	4. My ever changing mood	20 min	15
	5. What do I even know?	60 min	
MODULE 2 Analyze	1. The 5 Why's	10-20 min	Even number
	2. Formulation of a challenge	10-20 min	2-5
MODULE 3 Ideate	1. Adapt a role	30-60 min	5-10
	2. User journey map	60 min	5-10
	3. Conceptual blending	20-30 min	2-5
	4. Reverse brainstorm	20-30 min	2-5
	5. Sticky dots	5-10 min	2-10
	6. Pressure cooker	30-60 min	9-30
	7. Use the word	10-20 min	2-40
	8. The idol	5-10 min	5-40
	9. Picture Boost	10-20 min	2-40
	10. Countless obstacles	30-60 min	2-40
	11. Pass it on	10-20 min	2-40
	12. Idea minimization	30-60 min	2-35
	13. Gyro Gearless	10-20 min	2-30
	14. Idea ABC	20-30 min	2-40
	15. Blooming ideas	60 min	Project groups
	16. Extreme measures	60 min	Project groups
	17. In my (un)biased opinion	60 min	Project groups

MODULE	ACTIVITIES	ESTIMATED TIME	STUDENT GROUP
MODULE 4 Prototype	1. Get real	10-20 min	2-5
	2. One MVP builder based on group instructions	10-20 min	5-30
	3. Build your own MVP		
MODULE 5 Realize	1. The elevator pitch	20-30 min	Project groups
	2. The network map	30-60 min	15
	3. Marketing	5-10 min	Project groups
	4. Stepping stones	1 day	
	5. Step-in	1 day	
	6. Pitching game	30-60 min	
MODULE 6 Evaluate	1. Feedback and evaluation from the external partners	30-60 min	2-40
	2. Feedback panel	20-30 min	2-40
	3. Self-assessment	3-4 hours	2 groups
	4. Get-a-grip	3-4 hours	5-30
	5. One minute paper	30 min	Project group

Modules and Activities

Tables from page 42 to 44; complete list of activities per module.



Finally, the D-EMIND website provides access to the complete training plan in multiple languages—including English, Hungarian, and Spanish—as well as PowerPoint templates for each module.

These templates are intended to support teachers and facilitators in implementing the training within their own institutional contexts.

Additional resources

More information from the D-EMIND training pack.

LEARN MORE

D-EMIND MOOC

In this section, we present the D-EMIND MOOCs "Co-creation and challenge-based learning in Higher Education" and the "Mentoring in Challenge-based Learning" started in June 2023 and was launched in September 2024.

The MOOCs are part of Project Result PR4 of the D-EMIND project. The "Co-creation and challenge-based learning in Higher Education" is aimed at students and teachers and initially, it was going to be structured into six main units, one for each component of the Atom Model. However, the final version comprises four Modules but covering the same content that was planned in the D-EMIND Project. Additionally, a second MOOC was internally developed in the D-EMIND platform and focusing on mentoring: Mentoring in Challenge-based Learning.The participation and collaboration from all the partners in the D_EMIND Project were crucial, to develop the previous PR helping to achieve the PR4.

This PR is directly linked to the PR3 – D-EMIND Training Pack, which has contributed to building the capacity of teachers, students, and mentors to autonomously implement the D-EMIND methodology in HEIs.

The two MOOCs are a good resource for students and professionals who are interested in the CBL methodology and who want to start working on this approach.

At the same time, those MOOC indirectly fosters equity, and equality, since the MOOCs aim, by definition, at unlimited participation and open access via the Coursera platform and D-EMIND platform, improving, therefore, the outreach to people with fewer opportunities as well as people living in rural and remote areas, people facing socio-economic difficulties or any other potential source of discrimination. The two MOOC reaches a wide range of people not limited to those who are at university or want to be professionals in the entrepreneurial industry.

OBJECTIVES

The main goals of these two MOOC are:

1. Understand the characteristics of student-centered teaching models in higher education.
2. Analyse the role of teachers when using an active methodology such as Challenge-based learning in online environments.
3. Understand the importance of Challenges in a CBL approach in Higher Education.
4. Understand the main characteristics of the 6 elements that make up the Atom Model.

The innovative features of the MOOC are Self-regulated and Flexible, International perspective, Online, and Free Access. The MOOC was coordinated by UAB, but all the partners were responsible for one or more Modules, guaranteeing a collaborative process.

The final version was edited by the UAB's MOOC office, but all the partners recorded their videos at their institutions, securing the same format in all the MOOCs. Since was launched in September 2024, the COURSERA MOOC has a total of 199 students, evidencing its impact and importance for learning the CBL methodology.

DEVELOPMENT

The first MOOC was named "Co-creation and challenge-based learning in Higher Education" and it was developed with technical support from UAB's MOOC office and second MOOC entitled "Mentoring in Challenge-based Learning" was internally develop by the partnership. The MOOC coordination was assumed by the UAB Team, creating an initial structure of both MOOC. However, all the partners participated in developing the content, selecting references, developing the evaluation surveys, recording the videos at their institutions, and sending the materials to the UAB afterward, to be adapted to the platform requirements. This process was challenging but successful in the end, creating two MOOC with a collaborative process.

The two MOOC also involved external people, such as experts in the field of CBL, to give different perspectives on the topics explained. The development of this PR was also closely followed by email and during the monthly meetings, to guarantee communication and collaboration during the process.

The process to develop the MOOC started in June 2023 and was launched in September 2024, once all the requirements from the Coursera platform were met. The two MOOC were disseminated in the D-EMIND social media, webpage, and in the courses taught by the professors involved in the MOOC, inviting graduate and undergraduate students to be part of it. The MOOC was also disseminated at the Final Conference of the D-EMIND Project, presenting its innovative aspects.

METHODOLOGY

The two MOOC were designed following a typical Massive Open Online Course (MOOC) structure to facilitate accessibility and online learning. The duration was established in four weeks with an eight-hour dedication each week, to promote participation and engagement from the participants. At the same time, the language was English, aiming to an international community of Lecturers of Higher Education Institutions, Administrative staff of Higher Education Institutions, Teachers from other educational levels, Staff of companies participating in CBL, and People interested in Challenge Based Learning.

The Coursera MOOC goals were defined as follows:

1 UNDERSTAND THE CHARACTERISTICS OF STUDENT-CENTERED TEACHING MODELS IN HIGHER EDUCATION.

- Identify the importance of entrepreneurial education in higher education today.
- Analyse the role of soft skills in university training plans.
- Understand the origin and development of challenge-based learning.

2 ANALYSE THE ROLE OF TEACHERS WHEN USING AN ACTIVE METHODOLOGY SUCH AS CHALLENGE-BASED LEARNING IN ONLINE ENVIRONMENTS.

- Deepen their understanding of the concept of entrepreneurial education.
- Identify the main characteristics of the ATOM Model.
- Understand the functions of the mental and social spheres.

3 UNDERSTAND THE IMPORTANCE OF CHALLENGE IN A CBL APPROACH IN HIGHER EDUCATION.

- Know strategies to help identify the right challenge.
- Formulate, clearly and attractively, the challenge.

4 UNDERSTAND THE MAIN CHARACTERISTICS OF THE 6 ELEMENTS THAT MAKE UP THE ATOM MODEL.

- Identify activities and strategies associated with each of the 6 elements.
- Reflect on the integration of the activities of the 6 elements of the Atom Model in their teaching in higher education.

GOALS

The goals of the D-EMIND platform MOOC were as follows:

- Identify the different disciplines that make up the field of professional personal development services.
- Know the responsibilities and expectations of a mentor, as well as the code of ethics to mentoring
- Develop a review of the scientific literature according to the subject matter.
- Set goals, develop a mentoring plan and follow up on the process.
- Active listening, effective communication and conflict management.
- Analysis and problem solving: Through case studies you will be able to analyse real situations and apply what you have learned to solve problems.
- In-depth understanding of mentoring: Understand what mentoring is, how it differs from other forms of professional support and what the benefits are.
- Understanding of CBL: Principles and methodologies of challenge-based learning.
- Self-assessment and reflection: Measuring your own learning and reflecting on your professional development.
- Evaluation of challenge-based learning: Knowing techniques and tools to evaluate progress and learning outcomes.

The final version of the Coursera MOOC was comprised of four Modules, providing content related to the four objectives presented before:

Modules

See all MOOC's modules on the following table:

MODULE 1	MODULE 2	MODULE 3	MODULE 4
Entrepreneurship and challenge-based learning in Higher Education.	Entrepreneurship and challenge-based learning in Higher Education.	Entrepreneurship and challenge-based learning in Higher Education.	Entrepreneurship and challenge-based learning in Higher Education.

The D-EMIND platform MOOC was structured in 6 modules:

MODULE 1
The DEMIND project

MODULE 2
The Challange based learning (CBL)

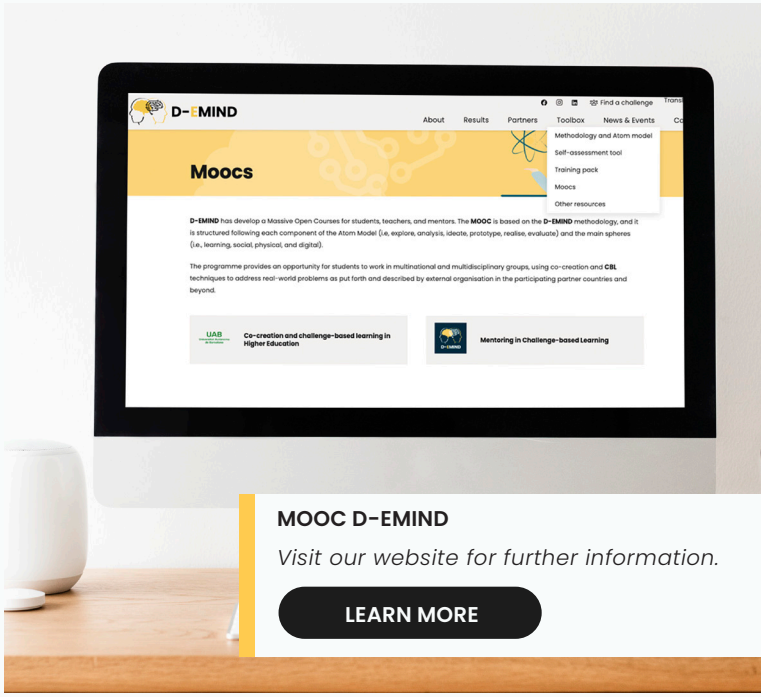
MODULE 3
The Atom Model

MODULE 4
The Training pack

MODULE 5
Mentoring

MODULE 6
D-EMIND Platform

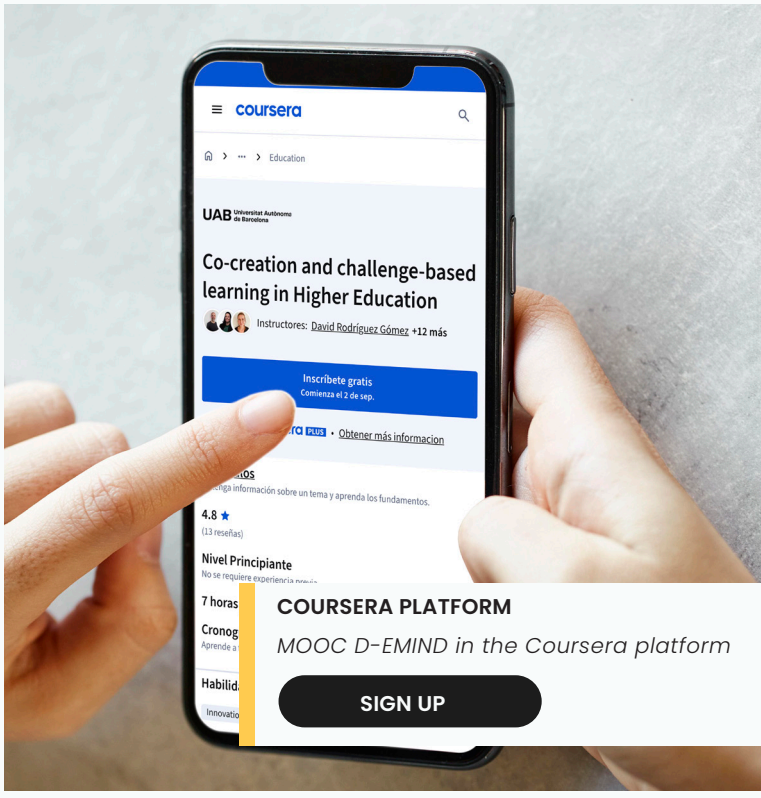
The MOOC are allocated in the D-EMIND webpage to facilitate access and visibility:



Each Module in both MOOC has the same structure, to avoid confusion and to promote students' learning:

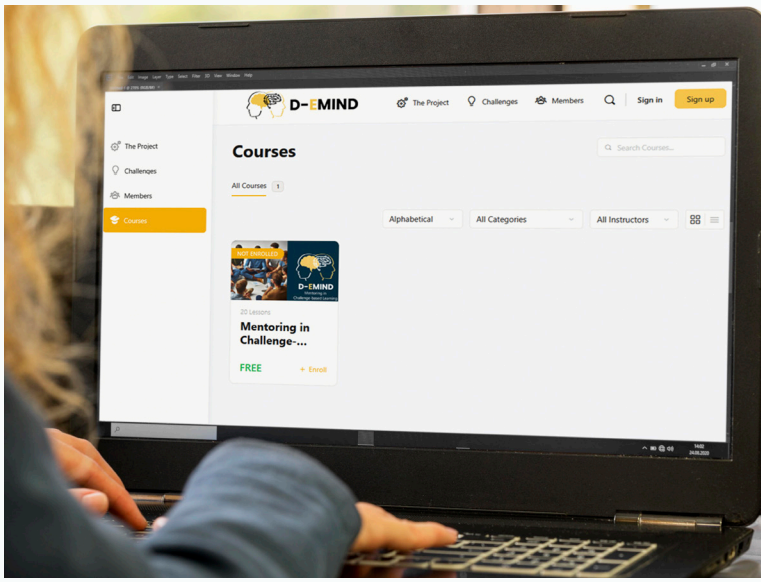
- Videos (lectures, interviews, experiences, etc.), with the participation of teachers and professors from the D-EMIND project but also invited experts and speakers to provide variety in the content
- Recommended and complementary documents, articles, and reports to be read by the students and to complement the lectures given in the videos
- Other learning resources, to support the learning process and provide sources of inspiration on the topic of CBL
- Self-evaluation surveys, that help the student to check their learning autonomously.

At the same time, the Coursera MOOC can be accessed using the Coursera platform, as shown in the images below:



D-EMIND

The D-EMIND MOOC could be accessed from the main page of the D-EMIND platform.



D-EMIND PLATFORM

MOOC D-EMIND in the Coursera platform

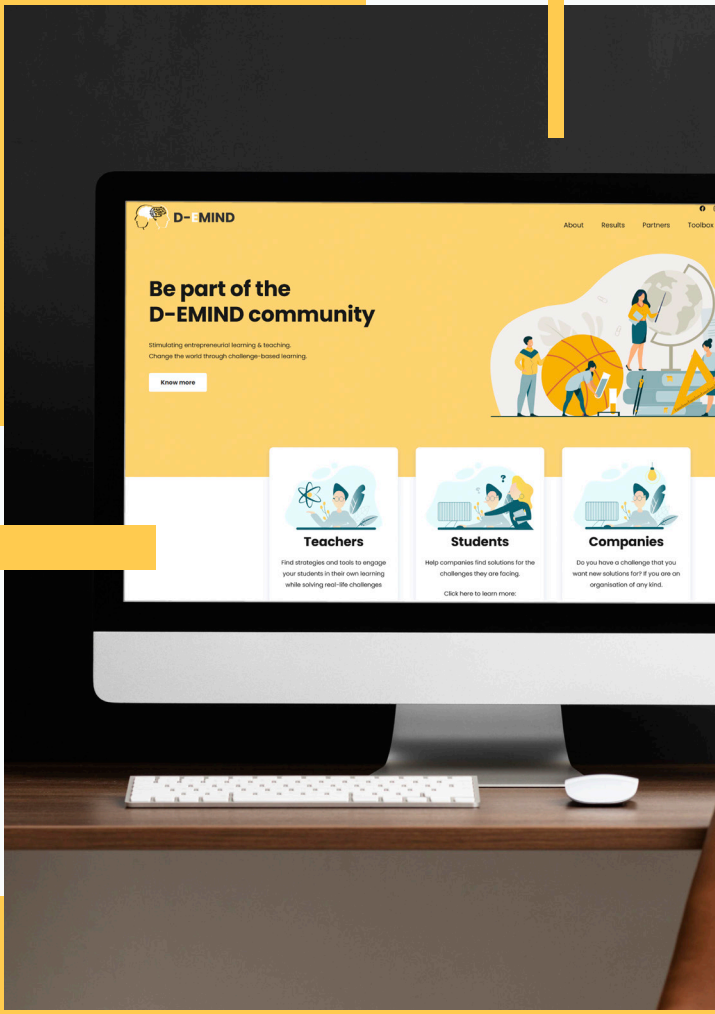
LEARN MORE

RESULTS

The innovative character of the MOOC is given by the following features:

- Self-regulated and Flexible, to help the students to do the course at their own pace, without time constrains.
- International perspective, open to synergies with organizations active in different fields or other socio-economic sectors, with partners from other countries, other fields of education, training and youth and/or other socio-economic sectors.
- Online, which is a more attractive training program, in line with individual needs and expectations, use of participatory approaches and digital methodologies.
- Free Access, to guarantee access to the content in a dynamic learning environment
- Final certification, provided by the Coursera platform.

D-EMIND



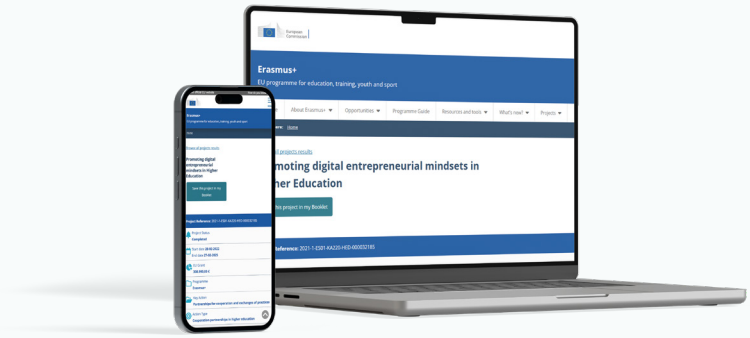
OTHER DOCUMENTS AND RESOURCES

This section identifies the most relevant sources of information about the Project, its development and results. It also covers other aspects of interest that have arisen as a result of the Project.

DEMIND WEBSITE

The project website presents the most significant aspects of the initiative and its development in Spanish, Catalan, Danish, English, Portuguese, German, French, and Hungarian. It provides detailed information about the project's objectives, methodology, processes, and outcomes. Additionally, the website includes relevant resources related to the promotion of entrepreneurship in higher education, the use of the challenge-based learning methodology, and the scientific and dissemination events carried out throughout the project.

WWW.DEMIND.EU



ERASMUS + PROJECT RESULTS PLATFORM

All the results of the project have been uploaded in the platform in order to make it available to other organisations interested in Entrepreneurship, not only from higher education, but also from other sectors that might learn from our work and results:

D-EMIND PLATFORM

MOOC D-EMIND in the Coursera platform

LEARN MORE

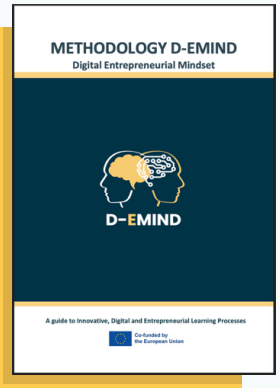
SOME PUBLICATIONS

The following section presents publications that synthesize significant aspects of the project, including theoretical foundations, practical experiences, and reflections and debates related to its core themes.

TITLE: Methodology D-EMIND. Digital Entrepeneurial Mindset

COORDINATORS:
David Rodríguez Gómez

Year: 2022
ISBN: 978-84-09-50289-9
Language: English
Pages: 102

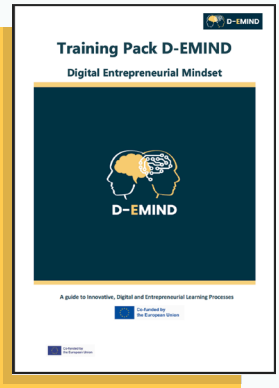


AVAILABLE HERE

TITLE: Training Pack D-EMIND. Digital Entrepreneurial Mindset A guide to Innovative, Digital and Entrepreneurial Learning Processes

COORDINATORS:
Annelies Schrooten and Ilse Fraussen

Year: 2023
ISBN: 978-84-09-70430-9
Language: English
Pages: 49



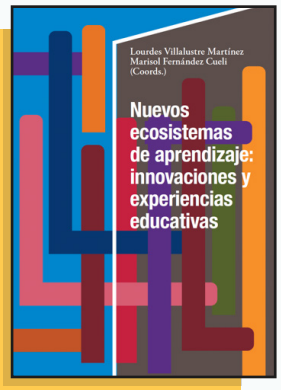
AVAILABLE HERE

TITLE: Three newsletters of the project

COORDINATORS:
Eva Đurović

Year: 2022, 2023 and 2024
Language: English
Pages: 17

AVAILABLE HERE



TITLE: Fomentando el emprendimiento mediante el Aprendizaje Basado en Retos en la Educación Superior

COORDINATORS:
David Rodríguez-Gómez, José Luís Muñoz-Moreno and Aleix Barrera-Corominas

Year: 2024
ISBN: 978-84-19900-81-4
Language: Spanish
Pages: 11

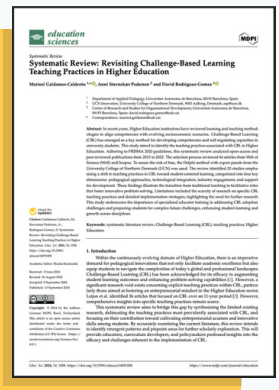
AVAILABLE HERE

TITLE: Emprenedoria i Aprenentatge basat en reptes a l'Educació Superior

COORDINATORS:
Aleix Barrera-Corominas, José Luís Muñoz-Moreno and David Rodríguez-Gómez

Year: 2023
ISBN: 2385-6203
Language: Catalan
Pages: 6

AVAILABLE HERE

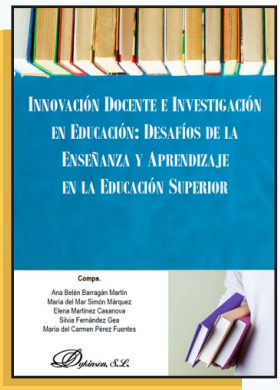


TITLE: Systematic Review: Revisiting Challenge-Based Learning Teaching Practices in Higher Education

COORDINATORS:
Marisol Galdames Calderon, Annie Stavnskær Pedersen and David Rodríguez-Gómez

Year: 2024
ISBN: 2227-7102
Language: English
Pages: 20

AVAILABLE HERE



TITLE: Uso de estrategias formativas para el fomento de la creatividad en los estudios de educación

COORDINATORS:
Marisol Galdames Calderon, Aleix Barrera-Corominas and David Rodríguez-Gómez

Year: 2024
ISBN: 9788410709270
Language: Spanish
Pages: 11

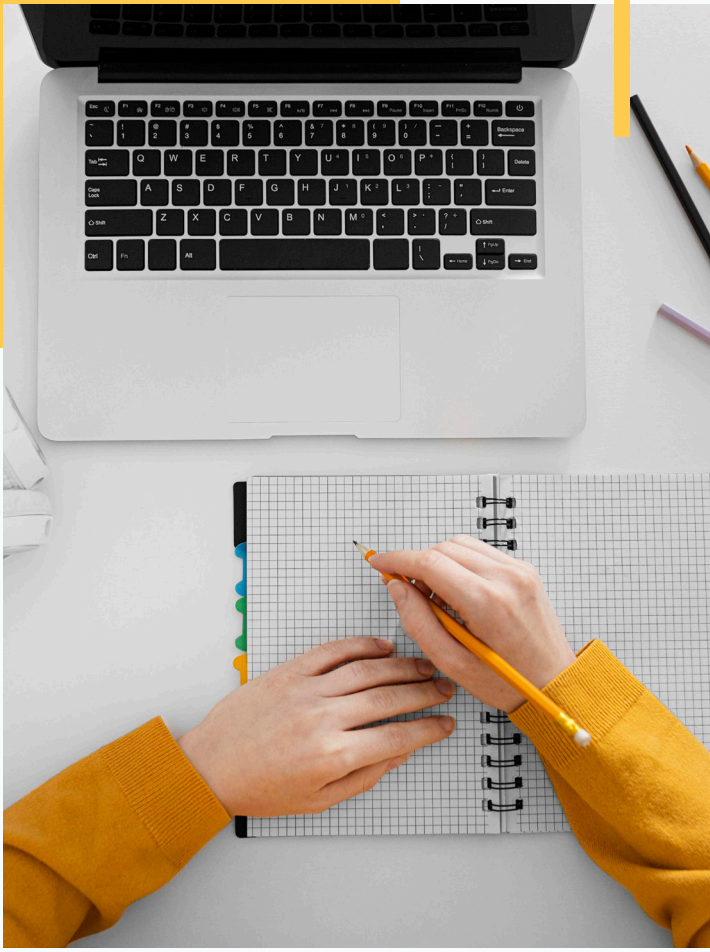
AVAILABLE HERE

ALSO IN VIDEO HERE

D-EMIND

Futhermore, information of the Project has been published in at EPALE platform. EPALE is an open membership community of adult learning professionals and contributes to promote more and better learning opportunities for all adults.

The information about the Project that appeared in this platform are:



D-EMIND project webinar

VIEW HERE

D-EMIND webinar on Challenge Based Learning

VIEW HERE

D-EMIND Final Conference

VIEW HERE

D-EMIND general information

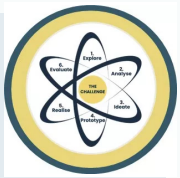
VIEW HERE

D-EMIND toolkit

VIEW HERE

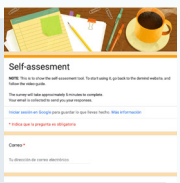
D-EMIND Challenged based learning in international teams

VIEW HERE



D-EMIND methodology and selfassessment tool

VIEW HERE



D-EMIND Mentoring Challenge Based learning course

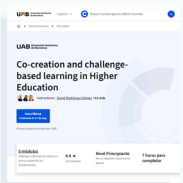
VIEW HERE

Interview to David Rodríguez (D-EMIND coordinator)

VIEW HERE

D-EMIND MOOC information

VIEW HERE



WEBINARS

The following section presents webinars that synthesize significant aspects of the project.

TITLE: D-EMIND, Webinar 1: Promoting entrepreneurial skills in Higher Education.

COORDINATORS: David Rodríguez Gómez

Year: 2023

Language: English

AVAILABLE HERE

TITLE: D-EMIND: Webinar 2: Promoting entrepreneurial skills in Higher Education.

COORDINATORS: David Rodríguez Gómez

Year: 2024

Language: English

AVAILABLE HERE

TITLE: D-EMIND: Webinar 3: Promoting entrepreneurial skills in Higher Education.

COORDINATORS: David Rodríguez Gómez

Year: 2025

Language: English

AVAILABLE HERE

TITLE: D-EMIND: Final Conference: Promoting entrepreneurial skills in Higher Education.

COORDINATORS: David Rodríguez Gómez

Year: 2025

Language: English

AVAILABLE HERE

SOME RELATED REFERENCES

Active Teaching in Higher Education

1. Alvarado, L. F. (2025). *Design thinking as an active teaching methodology in higher education: A systematic review. Frontiers in Education, 10, 1462938.*

READ HERE

2. Martínez, M. E., & Gómez, V. (2025). *Active learning strategies: A mini review of evidence-based approaches. Acta Pedagogia Asiana, 4(1), 43–54.*

READ HERE

3. Pérez-González, C., & Ortega-Sánchez, D. (2025). *Active teaching and learning: Educational trends and practices. Education Sciences, 15(6), 714..*

READ HERE

Student-Centered Methodologies in Higher Education

1. Bhardwaj, V., Zhang, S., Tan, Y. Q., & Pandey, V. (2025). *Redefining learning: Student-centered strategies for academic and personal growth. Frontiers in Education, 10, 1518602.*

READ HERE

2. Hoidn, S., & Klemenčič, M. (Eds.). (2020). *The Routledge international handbook of student-centered learning and teaching in higher education (1st ed.). Routledge.*

READ HERE

3. Klemenčič, M., Pupinis, M., & Kirdulytė, G. (2020). *Mapping and analysis of student-centred learning and teaching practices: Usable knowledge to support a more inclusive high-quality higher education. NESET Report.*

READ HERE

Entrepreneurship Competences and Education in Higher Education

1. Ferreras-Garcia, R., Sales-Zaguirre, J., & Serradell-López, E. (2021). *Developing entrepreneurial competencies in higher education: A structural model approach. Education + Training, 63(5), 720–743.*

READ HERE

2. Ncube, T., & Mhlanga, W. (2024). *Entrepreneurship competencies and entrepreneurial intention among South African students: The role of entrepreneurship education. Journal of Entrepreneurship Education, 27(2), 1–15.*

READ HERE

3. European Commission. (2025). *Integrating entrepreneurial competences in higher education curricula. European Education Area.*

READ HERE

Challenge-Based Learning in Higher Education

1. Gallagher, S. E., & Savage, T. (2020). *Challenge-based learning in higher education: An exploratory literature review. Teaching in Higher Education.*

READ HERE

2. Robles, L., & García-Peñalvo, F. J. (2023). *Challenge-based learning in higher education: A systematic mapping study. Education and Information Technologies, 28(2), 1235–1256.*

READ HERE

3. Robledo-Rella, V., Neri, L., García-Castelán, R. M. G., Gonzalez-Nucamendi, A., Valverde-Rebaza, J., & Noguez, J. (2025). *A comparative study of a new challenge-based learning model for engineering majors. Frontiers in Education, 10, 1545071.*

READ HERE

1

2

4

5

3

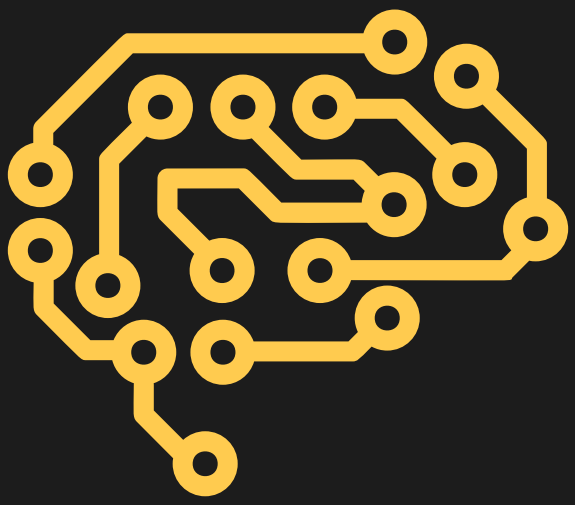
1. The D-EMIND team at the kick-off meeting at the UAB *(Barcelona) - March, 2022*

2. The D-EMIND team at the Innovation House, UCN *(Aalborg) – September, 2022*

3. The D-EMIND team at the University of Applied Sciences Düsseldorf *(Germany), March, 2023*

4. The D-EMIND team at the Corda Campus from UCLL *(Belgium) – March, 2024*

5. The D-EMIND team at The Csongrad-Csanad County Chamber of Commerce and Industry *(CSMKIK) (Hungary) - September, 2024*



Funded by
the European Union