

D4.2 Series of workshops to support ecosystem development in partner institutions

“To strengthen the learning ecosystem of managers, teachers, students, developers, researchers and industry and society partners in building capacity to sustain change in educational systems.

Each partner will develop a transferable model for innovative education-industry collaboration. These models are presented at the joint workshop and later disseminated as open-access resources. “ (EMBRACE Proposal p.63)

OBJECTIVE:

Develop a transferable model for innovative education-industry collaboration

METHODOLOGY:

- Collaborative work in institutional teams
 - ↳ Co-create the institutional innovative ecosystem using different tools
- Collaborative work between all teams
 - ↳ Give/receive constructive feedback
- Use feedback to review/improve the ecosystem (iterative cycle to improve)

Each partner must recruit/select of:

- Participating teachers
- Participating students, at least 50 per institution
- Participating companies/employers, at least 2 per institution
- Identity/define courses to be worked with in WP4 (“test grounds” for piloting models)
- And include the development/piloting of the collaboration models as part of the academic year planning.

Guidance for Development Work of the Ecosystem: April to September 2025

“Workshops involve management, work-life and society partners, teachers and students. Workshops are delivered in English and translated according to participants’ needs in Portuguese and Spanish. “ (EMBRACE proposal, p.63)

The guidance workshops continuous the work start in WP4 Kick-Off in Pereira: Worklife Collaboration, where was introduced a thought model of a learning ecosystem; worked in the self-assessment of the current situation education-industry in each HEI, broadened the understanding of ecosystem thinking, discusses how ecosystem can support educational institutions and business ending with a draft of a learning ecosystem. It was asked to each partner to present one slide, in five minutes, on HOW to Map the needs of companies/stakeholders involved. ([to see the slides](#))

The first joint online workshop, with all partners, expands on the mapping exercise and strengthens work-life collaboration with research-based innovation. It was schedule to 28th April but to Blackout in Portugal it was reschedule to 5th May.

In this session each HEI presented their slide and it was recalled the purpose and the methodologies of this online guidance sessions. At the end of the session, it was shared a presentation with a set of tools to help each partner to achieve the aim. ([to see the slides](#))

During May, June and July the mentoring sessions per HEI were discussion on the needs and doubts of the participants. We also use WhatsApp and email for pontual questions and doubts.

The second joint online workshop, in July, to facilitate the collaboration between partner institutions, reviews the progress and sets the next steps for the development work revealed impossible to combine agendas and time zones. The feedback was mostly obtained by the IPB team in session by partner.

The final workshop focuses on partner institutions presentations, of the models developed in the learning ecosystem for strengthening collaboration between university an industry and society partners, and ingraining these models as permanent part of the organisational ecosystem, nominated Institutional Dissemination.

AREANDINA

Guidance sessions [19/05; 24/06; 3/07; 21/07]

Areandina notice that the connection between the university and the world of work does not always develop smoothly, resulting in a significant gap between the competencies acquired in university training and the real demands of the productive sector. Particularly, in the Logistics Technology program this gap is reflected in the need to integrate research, academic training, and the resolution of business problems within a pedagogical frame work that responds to the demands of the logistics sector.

Thus, the guidance sessions focused on advancing the Professional Master’s proposal submitted to the Ministry, addressing key questions related to partner engagement, challenge definition, multidisciplinary team formation, and expert involvement. Discussions emphasized the importance of building trust between companies and academia, beginning with a thorough understanding of organizational contexts and fostering faculty engagement aligned with industry backgrounds. It was identified a gap

The sessions also outlined the structure of the upcoming Hackathon, that didn’t took place, deciding to maintain the attention and the developed activities logistics-focused challenges and scheduled presentations, and included the presentation and analysis of the proposal “Integración Universidad–Empresa: Proyecto de Relacionamiento entre Universidades y el Mundo Empresarial,” aimed at strengthening collaboration frameworks between higher education institutions and the business sector.

Proposal and piloting

Considering the Logistics Technology program, it was proposed a Professional Master’s programme, and during the process was developed and piloted an *innovative educational model based on challenge-based learning (CBL)*, bringing together the university, industry, and the community. The project was structured in four fases:

- Participatory diagnosis: listening to the territory
- Collaborative design: co-creating
- Implementation: piloting solutions
- Evaluation: measuring the impact

In an initial phase, four faculty members and twenty-seven students were involved, working together with entrepreneurs from twelve companies. Thirteen challenges were designed, and the students—organized into teams of two or three—developed and co-created solutions using a multidisciplinary approach.

The projects addressed a broad set of challenges involving university–industry–community collaboration, including the development of integrated management models for supply, inventory, and logistics operations in military, agricultural, and industrial contexts; the design and implementation of digital systems to enhance inventory control, process traceability, and operational efficiency in companies across Colombia; the optimization of import procedures and the analysis of freight cost variations in different risk zones; the creation of information-flow and order-tracking systems for commercial operations; the logistical coordination of academic events; and market analysis initiatives such as the study of consumer trends in the specialty coffee sector in Antioquia. In the second phase of the project, an additional thirty-three challenges were designed and seventy students were involved, directly impacting more than forty-four companies and social organizations.



Figure 1: Quantitative results



Figure 2: Challenge Design

Institutional Dissemination [13th March- Webinar]

The results were shared by the webinar “Socialization of the university–industry engagement model of the Fundación Universitaria del Área Andina.” (institutional dissemination activity in WP4) that took place online on 13th March with 43 participants (Table 1: participant in the WP4 institutional dissemination).

The aim of the seminar is the *Engagement with the Business Sector – Logistics Technology Program* presenting present the proposal for the innovation ecosystem designed to strengthen engagement with the labor market during the pilot phase at the Fundación Universitaria del Área Andina. The model integrates the university, industry, and the community through a challenge-based learning approach. The initiative seeks to reduce the gap between academic training and the real needs of the productive sector, promoting sustainable development and knowledge transfer. This is achieved through international partnerships and applied projects within the Logistics Technology program, where students address operational problems in real organizations. (in Areandina Report Session)

To develop the learning ecosystem, it was proposed the creation of elective subjects on disruptive technologies aligned with identified needs, and the co-creation of projects based on the competencies of students and the demands of partners.

Proposal and Piloting

It was proposed a *one-day annual event*, held in the first semester, aims to engage the entire academic community and key external stakeholders, particularly industry representatives. Its purpose is to promote knowledge transfer, strengthen employability, and build strategic alliances. The initiative addresses the need to disseminate the institutional model, present the university's innovation ecosystems, gather external feedback, develop a database of industrial mentors, and identify shared challenges within the regional business sector. The program includes dynamic working sessions, expert discussion panels, structured networking, a project exhibition, and a co-creation workshop to map the needs of companies in the Eje Cafetero and outline potential collaboration projects. Expected outcomes include a catalogue of UTP's services and capabilities for industry, a database of mentors, the identification of common challenges and opportunities, and the strengthening of at least one strategic partnership with local companies. The evaluation will be done by a survey.

An *annual meeting with university leadership* is proposed to secure administrative and financial support, align the project's objectives with the institution's mission, and establish an interdepartmental framework of action. The goals of this meeting are to ensure the long-term viability of the model, optimize administrative processes for collaboration, and define institutional KPIs. The session will include an executive presentation, a Q&A segment, and a review of success cases, leading to the project's formal approval and the creation of a monitoring committee. Evaluation will be based on the meeting minutes and commitments, management KPIs, and an internal satisfaction survey.

The proposal also includes *offering an elective course on advanced AI* in both semesters for undergraduate and master's students facilitated by staff responsible by the Master in Management of Human and Organizational Development. This initiative seeks to integrate AI into the graduate curriculum and promote active collaboration with industry. Its objectives are to develop competencies in AI and data analytics and to generate thesis projects with real industrial impact. The course will apply a design-based learning methodology, combining practice-oriented classes, direct collaboration with companies, and expert mentoring sessions. Evaluation will be based on company feedback and a public presentation of results.

The elective course was implemented as a pilot elective course coordinated by the Center for Computer and Educational Resources (CRIE), in which postgraduate

students applied AI tools to solve problems in the partner organizations and faculty members explored how AI could support teaching, assessment, and research. The methodology combined experiential learning, academic consulting, and exploratory interviews. Students applied AI for sentiment analysis, process optimization, thesis development, and organizational climate improvement, generating insights that supported decision-making in their companies. The initiative strengthened students' strategic AI skills, helped faculty identify opportunities to integrate AI into academic practice, and enabled the university to consolidate a replicable model of collaboration with industry supported by emerging technologies.

Institutional Dissemination [7th March, hybrid]

The institutional dissemination on 7th March was held with master students, onsite and online, and was showed the Institutional Development Plan 2020-2028 (Figure 5) and presented the process, reflecting on the achievements and difficulties.



Figure 5: UTP Institutional Development Plan 2020-2028

The cross-cutting nature of AI enables impact on both organizational management and learning processes, with master students acting as bridges between the university and companies, while co-creation among faculty, students, and industry strengthens curricular relevance and expands cooperation through a living-laboratory model that integrates disruptive technologies.

Profile	Number of participants
Professor/Coordinator	7
Students	8
Total	15 (9F + 6M)

Table 2: participants in institutional dissemination

IFES

Guidance sessions [27/05; 17/06]

The guidance sessions are used to share the identified needs and discuss the best practices for the proposed activities.

AGIFES (Innovation Agency and Incubator) and the NIT (Technological Innovation Center) identified the absence of a structured model to represent the innovation ecosystem, as well as the need to increase the visibility of their activities. To address this gap, the EMBRACE team will develop a model that will be made accessible to the entire community. Among the current challenges faced by the incubator, the need to strengthen faculty collaboration in entrepreneurship development stands out. A prospecting day with VALE on 27 June 2025, involving 10 to 20 engineers and covering themes such as environment, automation, metallurgy, and circular economy. Within the scope of “Innovation City,” a multidisciplinary space with approximately 200 participants — including undergraduate and postgraduate students — a three-stage dynamic will be carried out: in the morning, VALE experts will present the challenges; in the afternoon, researchers will define and present applied research proposals for validation; and, once approved, resources will be allocated. For the second semester, new challenges are expected from the Health Operator and the Vale Natural Reserve.

Proposal and Piloting

The Ifes Innovation Hub hosted the event *The Unimed 2025 Hub Connection*, a meeting aimed at identifying applied research demands in partnership with Vale, focused on the Pelletizing area. There were presented real challenges faced by the company and brought Ifes researchers closer to concrete opportunities for technological development. The event involved 73 participants, including: 12 Vale engineers, 40 professors, 19 students, 2 vice-rectors, 3 research directors, and representatives from 6 campuses.



Figure 6: VALE HUB connection-collaboration between university and industry

The program included lectures and discussion panels to support the development of technical proposals. After the event, the Innovation Hub will assist the groups in preparing Work Plans and budgets, which will then be submitted to Vale, responsible for defining the investment model for the research projects.

The *Unimed 2025 Hub Connection* is a similar event to the previous one on prospecting strategic health demands is a training program for public servants to develop Technical Proposals for Applied Research in public-private partnerships. The Innovation Hub carries out this action through its Human Resources Training Program, facilitating a closer relationship between Federal Institutions of Higher Education (IFES) and the private sector.



Figure 7: UNIMED HUB connection-collaboration between university and industry

The event involved 25 participants, including: 6 Unimed collaborators, 17 professors, 2 students, and representatives from 1 campuses.

Institutional Dissemination [6th March, webinar]

The webinar took place on March 6th and, due to changes in the institution's governance, the opportunity was used to present the EMBRACE project, the activities developed, results, and impact in each work package. Regarding WP4, the objective and results of the developed modules were presented, and the upcoming HUB connections were also announced.

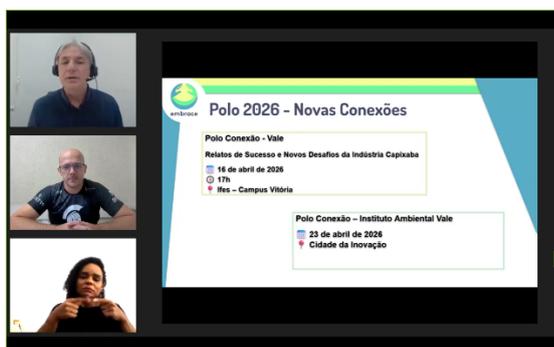


Figure 8: HUB connection-next semester

Profile (of attendees in the room)	Number of participants
Pro-rector	2
Internationalization Coordinator (current and former)	2
Directors (Cefor and Innovation HUB)	2
Internal EMBRACE participants	2
Other institution EMBRACE participants	2
Attendees in conference room	14 (10 F+4 M)
YouTube	65
Total	79

Table 3: participants in institutional dissemination

IFSP

Guidance sessions [19/05; 26/05; 24/06; 08/07; 29/09]

The mentoring sessions starts with clarification of the possibilities for co-creation not only with industry, nor in the technological field, but also with the community and the social sphere. Identification of examples of projects already developed and new possibilities. Co-creation among campuses, industry, communities, and the social sphere reflects an innovation ecosystem that goes beyond technology, reaching cultural and educational dimensions.

After were pointed examples of cocreated projects, with the participation of students, professors, and external stakeholders from industry of community, such as converting TV boxes into mini PCs, Paideia Digital, the Telecentro initiative, the Mulheres do RESEDÁS program, and ANACA demonstrate how diverse actions can generate social impact, inclusion, and knowledge valorization. Events like CONICT expand visibility and stimulate new possibilities for action.

Proposal

Considering all the activities already carried out by IFSP across its 37 campuses, the creation of an Ecosystem Observatory was proposed, and in addition, the social challenges planned for October and November will strengthen this collaborative network, involving students, institutions, and external partners.

Institutional Dissemination [26th February, presential at IFSP]

The institutional dissemination was held on 26th February presential, included in the extended programme of the Embrace Final seminar hosted by IFSP.

In the session *The IFSP Innovation Ecosystem and its Connection with the Productive Sector: Integrating Academia, Industry, Government, and Society*, the federal IFSP network and its mission were presented, along with descriptions of the existing entrepreneurship and innovation environments and their main activities. The Embrace project was introduced, including its objectives and results. Regarding the relationship between the university and the world of work, the observatory that was created was presented, as well as the INNO-ECO ecosystem and its five pillars.



Figure 9: Five pillars in the INNO-ECO ecosystem

The observatory developed under WP4 is a research group dedicated to identifying, documenting, and disseminating pedagogical and management innovations across the various IFSP campuses.



Resultados e Produtos
Criação do OIE IFSP e Mapa de Inovação
 Observatório de Inovações Educacionais do IFSP

O observatório é um grupo de pesquisa que visa identificar, documentar e divulgar inovações pedagógicas e de gestão nos diferentes campi do IFSP. Através da criação de um painel digital interativo e da realização de encontros colaborativos, o projeto tem como objetivo o intercâmbio de experiências entre docentes, gestores e outros agentes de inovação, fortalecendo uma cultura de aprendizado contínuo e colaborativo. Ao conectar as iniciativas existentes e fomentar novas ações, o projeto contribuirá para a perenização das boas práticas institucionais já existentes e para a proposição de ações inovadoras já validadas em ambientes análogos.

OIEIFSP

<http://mapadeinovacaoioifsp.com.br/>

Figure 10: IFSP Innovation Map

By creating an interactive digital dashboard and organizing collaborative meetings, the project aims to promote the exchange of experiences among faculty members, administrators, and other innovation agents, fostering a culture of continuous and collaborative learning. By connecting existing initiatives and encouraging new actions, the project supports the long-term sustainability of the institution's established best practices and the development of innovative approaches already validated in similar environments.

The session held at the São Paulo campus had 93 participants, mostly students.

Profile	Number of participants
Pro-rector	1
Internacional Office	1
Directors	3
Cooperation Coordinator	1
Professors	9
Specialist	1
Students	77
Total	93 (24F+59 M)

Table 4: participants in institutional dissemination

UFABC

Guidance sessions [26/05; 23/06]

The mentoring sessions focused on defining the bureaucratic, pedagogical, and collaborative foundations of an educational initiative designed to connect students, professors, technicians, and industry partners. The first session explored the administrative structures required to formalize partnerships with companies, including the creation of contracts that safeguard students' authorship and intellectual property while enabling future collaboration should their projects evolve beyond the classroom. It also outlined the types of documents needed and the essential information they must contain. The second session shifted toward program design, emphasizing the goal of the ecosystem "Construir pontes" in mitigating the gap between academia and industry through a hybrid online model running from 30 June to 30 August.



Figure 11: Module *Construir Pontes* in the Learning Ecosystem

Key components included mapping the needs of professors and students, planning activities involving all faculty members, and preparing for the participation of 60 students, who would use AI-supported methods for team formation and project development.

Proposal and Piloting

The learning ecosystem model, expanding UFABC's impact and consolidating a space for innovation, engagement, and shared learning among all participants. All three actor groups (students, facilitators, and external actors) recognized the value of connecting academic learning to real challenges and the collective construction of solutions.



Figure 12: External stakeholders

The journey of co-creation was structured in six progressive main activities, combining synchronous and asynchronous moments:

- **Mapping Relations:** Participants completed diagnostic questionnaires to map their experiences, needs, challenges, and expectations regarding university–workplace collaboration, identify gaps and scenario-problems, and simultaneously familiarize themselves with the Moodle VLE that would support the co-creation process.
- **Individual Skill Recognition (InnoCard):** Participants used an adapted InnoCard-based competence model to reflect on their innovation skills, identify strengths and gaps, and produce short reports that later informed group formation, role allocation, and challenge selection.
- **Pitch Construction:** Participants produced short multimedia pitches to present their identity, competencies, and aspirations, making themselves visible as potential collaborators within the ecosystem.
- **Ecosystem Match:** Students self-organized into multidisciplinary groups, selected and validated real-world challenges with external partners, and established the foundation for collaborative solution development.
- **Ideation and Prospecting of Approaches:** Groups applied Design Thinking to deeply explore their chosen challenge, generate and refine ideas, and build

early prototypes with ongoing support and feedback from facilitators and external partners.

- Final Proposal Presentation and Evaluation: Students delivered consolidated proposals evaluated by external partners for clarity and feasibility, closing the process with a shared feedback loop that strengthened the ecosystem's learning and future improvement.

Active and asynchronous methodologies were applied, including the creation of videos and reflective records, digital forum discussions, brainstorming, and online questionnaires, and design thinking methodology to guide the process up to the development of the group proposals.

Institutional Dissemination [18th March, webinar]

(this section cite the UFABC Learning Ecosystem Dissemination Event Report)

The workshop *Dissemination of the EMBRACE UFABC Learning Ecosystem*, held on March 18, was an online event aimed at the internal community of UFABC, with the objective of presenting the results of Work Package 4 (WP4), focused on collaboration between university and industry within the scope of the EMBRACE Project.

The event was opened by Prof. Dr. Carolina Carvalho (UFABC), who presented the general context of the EMBRACE project, including its objectives, as well as the goals of Work Package 4, "Industry-University Cooperation." Following this, Prof. Dr. Inês Barbedo (Instituto Politécnico de Bragança – IPB, Portugal) delivered a presentation on the importance of cooperation between industry and academia, highlighting strategic aspects of this collaboration in higher education.

Subsequently, Prof. Dr. João Sato (UFABC) presented the EMBRACE UFABC Learning Ecosystem, detailing its objectives, structure, and main results. The initiative aims to reduce the gap between the university and the world of work by fostering interaction among students, faculty members, and external organizations.

The workshop also included a roundtable session, moderated by Prof. Dr. João Sato (UFABC), with the participation of nine members of the UFABC learning ecosystem:

Student Representatives:

- Theo Palhano
- Marília Rizzo

Facilitators:

- Prof. Julio César Teixeira- CECS/UFABC
- Prof^a. Renata Simões - CCNH/UFABC

External Stakeholders:

- Representative from Startup Viver: Maria Aparecida Cormedi;
- Representative from Startup Neurux: Renan Schiavolin Recio;
- Representative from Santo André Municipality: Erica Marques Barboza and Randal Romão Bueno
- Representative from Mauá Municipality: Vera Lucia Scudeiro Santana

During the roundtable, the main lessons learned, challenges, and perspectives regarding collaboration between the university and society were discussed, based on the experiences developed within the UFABC Learning Ecosystem.

The initiative involved 84 participants, including students, facilitators, and representatives from external institutions, promoting the development of solutions based on real-world challenges and strengthening collaborative networks between the university and its surrounding community.

Profile	Number of participants
Professors (IPB+UFABC)r	1+11
Students	7
External stakeholder	7
Administrative Staff	4
Unspecified role	6
Attendees in conference room	36 (20M+16 F)
YouTube	52
Total	84

Table 5: participants in institutional dissemination

Lessons Learnt

The proposals for strengthening the connection between the university and the world of work reveal a robust set of lessons that highlight the importance of well-structured innovation ecosystems, namely:

- **Knowledge and strengthening of the ecosystem:** It became evident that there is a need for greater understanding of the existing ecosystem and its potential, expanding the visibility and dissemination of activities both inside and outside the institution.
- **Strategic alliances as the foundation of innovation:** The project showed that strong partnerships between the university, companies, and the community—supported by participatory diagnostics, pedagogical co-creation, collaborative implementation, and continuous evaluation—are essential to fostering innovation, social impact, and sustainability.
- **Integration of AI and co-creation:** The articulation between artificial intelligence, students, faculty, and companies, through co-creation

processes, simultaneously enhances organizational innovation, curricular relevance, and new forms of university-industry cooperation.

- **Strategic role of the Hub:** The need emerged for the Hub to assume more direct coordination with students and partners, connecting courses, companies, and incubated ventures, structuring continuous support, and more strategically promoting technological offerings to transform isolated interactions into long-term collaborations.
- **Structured models and the quadruple helix:** The modules demonstrated that well-defined innovation models, combined with multisector partnerships in the quadruple helix format, enable applied research and co-creation to be transformed into scalable solutions aligned with regional and national priorities.
- **Students as protagonists:** Placing students at the center of solving real-world challenges, in collaboration with external partners, develops essential technical, transversal, and socio-emotional skills, while generating applied solutions valued by all stakeholders and reinforcing the university's social role.

The partners also emphasized the importance of working collaboratively and highlighted the value of mutual feedback in improving practices and strengthening the overall quality of the work carried out.

In summary, the proposed modules demonstrate the wide range of possibilities for strengthening and expanding learning ecosystems, consolidating the university as an active agent of innovation, territorial development, and social transformation.



EVIDENCES of guiding sessions

[Zoom Report of May](#)

[Zoom Report of June](#)

[Zoom Report of July](#)

[E-mail sent at 17_04_2025](#)

[E-mail sent at 30_04_2025](#)

[E-mail sent at 05_05_2025](#)

[E-mail sent at 20_06_2025](#)

