Tknika

KATAPULT

CALL FOR PARTNERS

Basque and Dutch VET & Higher VET schools are looking for partners for upcoming **Erasmus+ KA210-VET and KA220-VET projects**.



Interested?

Each project's concept note includes a contact email to reach out directly.

January 2027
26-27-28

Crescendo CVO,
Vaartdijk 86,
2800 Mechelen

How to Join

1. **Choose** a project from the concept notes.
2. **Contact** the Project Coordinator to express your interest.
3. **Draft Together:** Accepted partners (by the coordinator) will join the coordinator for a project drafting session.

Important Info

Participants cover their own travel, accommodation, and meals (Erasmus+ KA1 funds can be used).

Organised by: TKNIKA and KATAPULT

Tknika
Euskadiko LHren Ikerketa Aplikatuko Zentroa
Centro de Investigación Aplicada de FP Euskadi
Basque VET Applied Research Centre

EUSKO JAURLARITZA GOBIERNO VASCO
HEZKUNTZA SAILA DEPARTAMENTO DE EDUCACIÓN

Fp EUSKADI LANBIDE HEZIKETA

Basque VET/HVET project proposals

nº	School	Project name	Topic
1	**Ciudad Jardín LHII**	AAdi! Human Firewall	AI and cybersecurity, with a focus on recognising and preventing phishing, vishing, social engineering and deepfake attacks.
2	**Emilio Campuzano LHII**	ColorIN Europe: Design Labs for Inclusive Cities	Inclusive design and accessible visual communication, particularly for people with colour vision deficiencies.
3	**Mendizabala LHII**	ROBOLUTION TECH VET	Physical AI, robotics and industrial automation.
4	**Txurdinaga LHII**	Quantum-Safe Europe	Quantum cybersecurity, including post-quantum cryptography (PQC) and quantum key distribution (QKD).
5	**Irudika LHII**	Beyond the Screen	Digital wellbeing, social media use, self-esteem, body image and healthy online habits.
6	**Barakaldo LHII**	EUROPRENEUR: From Students to European Changemakers	Entrepreneurship, innovation in education and the development of business skills.
7	**Izarraitz LHII**	Bridging VET and Industrial Reality through Practical and Inclusive Automation Challenges	Practical industrial automation challenges, with an emphasis on inclusion and sustainability
8	**Don Bosco LHII**	InCoDiLearn Factory	Inclusive and collaborative learning factories, Industry 5.0 and learning through practical challenges.
9	**Don Bosco LHII**	CYBERVET	Industrial cybersecurity and the protection of IT and OT systems, including simulated cyberattacks.
10	**Don Bosco LHII**	Intelligent Virtual Environments and Personalised Learning (VR and AI)	The use of Virtual Reality and Artificial Intelligence to support personalised learning in VET.
11	**Derio Nekazaritza Eskola LHII**	Innovative and Sustainable Forest Management	Sustainable forest management, biodiversity, climate resilience and fire prevention.
12	**Zubieta LHII**	NEIGHBOURWHOD: Community VET	Community-based learning, social inclusion, citizen participation and sustainability.
13	**BirtLH**	AR-ADAPT	Augmented Reality and adaptive learning for distance education.
14	**BirtLH**	TRUSTAI4VET	Responsible use of Artificial Intelligence, AI literacy and the European AI Act.
15	**Somorrostro Training Center**	Inclusive and Sustainable Snoezelen Space	Sensory stimulation and inclusive spaces in social and healthcare education, using sustainable construction.
16	**Plaiaundi LHII**	Green & Digital VET Labs	Sustainability, the circular economy, digital skills and applied research.
17	**Laudioalde LHII**	Open Physical AI Factories	Physical AI, robotics and industrial automation, with a focus on sharing technology with SMEs.
18	**EASO Politeknikoa LHII**	International Interdisciplinary VET Competition	International cooperation, interdisciplinary learning and practical technological challenges.

Dutch VET/HVET project proposals

nº	School	Project name	Topic
1	**Waterwijs**	WaterWise Europe – European Water Skills for a Climate-Resilient Future	Water management and vocational skills for a climate-resilient future, including drought, flooding, water quality, aquatic ecology, smart water systems and sustainable infrastructure.
2	**OASIS**	CREATE – European Creative Technology & Cross-Sector Innovation Ecosystems	Creative technologies and cross-sector innovation, applying immersive media, AI-assisted production, virtual production and digital simulations to challenges in sectors such as healthcare and manufacturing.
3	**Beyond**	Beyond – Sustainable Employability in Medtech Logistics	Medtech logistics and lifelong learning. Upskilling and reskilling current and future employees in AI, digitalisation, robotics and data, while improving access to employment.
4	**WE-IT**	WE-IT International – International Work Experience as an Add-on to Lifelong Learning	International IT work experience and lifelong learning. Participants work in international teams on real AI and IT assignments, developing technical, language, digital and intercultural skills.
5	**Windesheim University of Applied Sciences,**	COLD SPRAY: Enabling Additive Manufacturing for Circular and Hybrid Manufacturing	Advanced and additive manufacturing. Developing cold spray technology for component repair, remanufacturing and hybrid production, with a focus on material efficiency and circularity.
6	**Yuverta**	Inner Development for Food System Transitions	Combining sustainable food systems and the Inner Development Goals (IDGs) through practical, reflective learning activities for VET learners.

1 Ciudad Jardín LHII

AAdi! Human Firewall

Project Title	**AAdi! — Human Firewall: turning VET students into the first line of defence against AI-powered social engineering** An open-source, gamified simulation platform where locally run AI agents generate multimodal social-engineering attacks (phishing, vishing and deepfakes), tailored to VET students' professional contexts. An AI Tutor provides immediate pedagogical feedback.
Background	**Ciudad Jardín LHII** (https://www.icjardin.com/en/) is a public VET centre offering Commerce and Marketing, Administration and Management, and Computing and Communications (EQF 4-5). Around 500 students and 100 teachers annually; strong links with companies through dual VET. **Context and rationale** The human factor is involved in **85% of security breaches** globally, and generative AI has made social engineering attacks exponentially more sophisticated and harder to detect. VET students across **all professional families** (IT, administration & management, healthcare, industrial trades) will enter SMEs (pymes) where they will be the first — and often only — line of defence. **Challenges, needs and gaps the project addresses** Generative AI is making social-engineering attacks more convincing through voice cloning, deepfakes and synthetic documents. VET graduates may become SMEs' first — and sometimes only — line of defence, yet training remains largely theoretical and based on outdated warning signs. Existing tools are often generic, costly, cloud-based and disconnected from sector workflows. AAdi! will provide affordable, contextualised, practical training, accessible to technical and non-technical teachers, with dashboards and sector-specific scenarios. Partners will adapt scenarios to different languages, business cultures and sectors. Inclusive design will promote gender balance and female role models in technical and leadership roles.
Project objectives	**O1-Research:** Identify and validate at least 12 AI-driven social-engineering scenarios (three per initial family: IT, administration, healthcare and industry). **O2-Sovereign AI:** Deploy locally hosted AI agents (Attacker, Profiler and Tutor) to generate text, image, voice and video attacks with dynamic difficulty. **O3-Learning platform:** Create a gamified simulated workplace with sector interfaces, three difficulty levels, teacher dashboard and immediate AI Tutor feedback. **O4-Pilot and evaluation:** Test with at least 100 VET students across partner countries; target +40% correct attack identification and 75% perceived improvement. **O5/O6-Transfer and inclusion:** Publish open-source code, manuals, teaching guides and workshop kits; carry out a gender audit and use inclusive language and role models.
WPs/ planned	**WP1 — Management & coordination** **WP2 — Research on AI-driven attacks & sector scenarios**

activities	Technology watch; analysis of ≥50 real attack cases; threat database; co-creation with sector experts. Key outputs: Threat database, 12 validated scenarios, vigilance report "Social Engineering 2.0" **WP3 — Platform & AI infrastructure** Local server deployment; AI-agent orchestration; sector interfaces; dynamic difficulty; teacher dashboard; synthetic documents, voice and deepfake modules; multilingual adaptation; security testing. Key outputs: Working platform (open source), 4 sector interfaces **WP4 — Pilot & validation** Pilots with ≥100 students; pre/post assessment; usability tests; focus groups; company and expert validation; improvements. Key outputs: Pilot report, evaluation report, v1.0 platform **WP5 — Dissemination & transfer** Key outputs: Repository, guides, webinars, ≥5 workshops **Methodologies:** Simulation-based & gamified learning; project-based learning; agile development (Scrum, pair programming); co-design with sector experts and companies; pre/post experimental validation; edge/sovereign AI (local LLMs with guardrails); RAG with local corpora; inclusive design methodology.
Target groups	VET students in IT, administration, healthcare and industry; teachers from any family; SMEs; other VET centres; and, indirectly, school administrative and management staff.
Expected outcomes	Open-source AAdi! simulator deployable on local servers; 12+ validated scenarios and red-flag guides; threat database and vigilance report; four sector teaching guides and awareness kit; evaluation report; code, Docker images and manuals; multilingual scenarios (including Euskara); European community of practice.
Partners	Two VET schools/organisations from EU or associated countries, especially in healthcare and industry, but also in logistics/transport, energy, commerce or agriculture. They will contribute sector cases, localise and co-create scenarios, and disseminate results. Teacher-training/research centres and cybersecurity/AI SMEs may also contribute.
Project timeline	Duration: 24 month: estimated start September 2027 – August 2029 Indicative grant: €60,000 (KA210 VET)
Contact information	Itziar García de Vicuña **Email:** itziar.gve@icjardin.com international@tknika.eus

2 Emilio Campuzano LHII

ColorIN Europe: Design Labs for Inclusive Cities

Project Title	**ColorIN Europe – Design Labs for Inclusive Cities**
Background	**Emilio Campuzano LHII** (www.atxuri.net) is a public integrated VET centre offering programmes across seven professional fields. Its **Graphic Arts** department is a reference in Bizkaia and the Basque Country, as the only centre offering all the vocational programmes in this field. **ColorIN Europe** builds on the Erasmus+ KA210 project ColorIN, developed with Escola Artística de Soares dos Reis and ColorADD, in which students and teachers were trained in colour vision deficiency, accessible visual communication and the ColorADD code, and tested accessible design proposals with users and professionals. The experience showed the educational potential of addressing inclusion through real-life design projects and the need for a more structured, transferable methodology. The new project aims to turn students into active agents of change. After a common training phase, they will audit and improve the accessibility of their own schools and then apply the methodology to real challenges with external organisations in their cities, working through **ColorIN Inclusive Design Labs** (real-life challenges, co-design, prototyping, user testing and European peer review). The progression is: **LEARN → TRANSFORM OUR SCHOOLS → CONNECT EUROPE → TRANSFORM OUR CITIES → TRANSFER**. The main Erasmus+ priority addressed is **Inclusion and Diversity**, by removing barriers in visual communication for people with colour vision deficiency. The project also contributes to innovation in VET through challenge-based learning, user participation and stronger links between schools and external organisations.
Project objectives	The overall objective of ColorIN Europe is to develop, test and transfer a European learning methodology that integrates colour accessibility and inclusive visual communication into design education through real-life projects implemented in educational institutions and professional and social contexts. The specific objectives are: 1. To raise awareness and provide training for students, teachers and school communities on colour vision deficiency, colour accessibility, inclusive visual communication and the appropriate use of ColorADD. 2. To develop and validate a common and transferable inclusive design methodology for identifying, analysing and solving accessibility problems related to the use of colour. 3. To transform participating schools into more inclusive environments through accessibility audits, redesign proposals and awareness campaigns. 4. To apply the methodology to real external challenges, working with companies, institutions and organisations from different sectors and incorporating co-design and user-testing processes. 5. To strengthen European collaboration among students and teachers through exchanges, peer review and ColorIN Inclusive Design Labs. 6. To create open and transferable educational resources that enable other European institutions to integrate the ColorIN methodology into their educational programmes.
WPs/ planned activities	**WP1 – Project Management, Coordination and Quality** **WP2 – Training and Awareness.** All participating institutions will implement a common introductory training phase covering colour vision deficiency and colour

	perception, barriers in visual communication, inclusive design principles, the functioning and applications of ColorADD, and an introduction to user-centred design and co-design. General awareness sessions for the wider school community will be combined with specific practical training for design students. A common ColorIN Training Pack (training materials, exercises, examples, questionnaires and teaching resources) will be developed for all participating institutions. **WP3 – Inclusive Schools.** Each institution will audit its own visual communication to identify colour-related barriers, which will constitute the first ColorIN Inclusive Design Lab, held in a familiar and controlled environment. Students will analyse elements such as signage, wayfinding, recycling, shared spaces, printed and digital materials, documentation, websites, social media and other visual communication systems. Selected elements will be redesigned to improve accessibility, incorporating ColorADD where appropriate, and the proposals will be tested with users and refined before implementation or final presentation. In parallel, students will develop an awareness campaign for the wider school community. At the end of this phase, one ColorIN Inclusive Design Lab will bring together students from the different countries to share the problems identified, the solutions developed and the lessons learned, compare European educational contexts, carry out peer reviews and strengthen the international dimension of the project. **WP4 – Inclusive City Challenges & ColorIN Inclusive Design Labs.** After testing the methodology within their own institutions, each partner will develop design challenges linked to external organisations in their local environment, in sectors such as healthcare, transport, culture, sport, retail, industry, fashion, tourism or public services. Each institution will select a limited number of challenges to ensure quality and feasibility. **WP5 – Transfer and Dissemination**
Target groups	● VET students and students in design and visual communication programmes; ● teachers from participating institutions; ● school communities; ● people with colour vision deficiency; ● design and communication professionals; ● companies, institutions and external organisations; ● other European educational institutions interested in integrating inclusive design into their curricula. Indirectly, the project will also benefit users of the environments, services and communication systems analysed or improved during the project.
Expected outcomes	**Tangible outputs:** ● a common **ColorIN Inclusive Design Labs methodology**, developed, tested and validated in different European contexts; ● a **ColorIN Training Pack**; ● a common visual accessibility audit tool; ● co-design and user-testing materials; ● accessibility audits in all participating institutions; ● improvement proposals developed and implemented or prepared for implementation; ● awareness campaigns; ● real-life design challenges developed with external organisations; ● a European collection of case studies; ● an open and transferable **ColorIN Inclusive Visual Communication Toolkit**. **Expected impact:** ● increased awareness and understanding of colour vision deficiency and inclusive visual communication;

	● students better prepared to integrate accessibility from the beginning of the design process; ● teachers equipped with new resources and methodologies; ● more accessible educational institutions; ● stronger involvement of users in design processes; ● stronger international collaboration among students and teachers; ● greater awareness of accessibility among external organisations; ● progressive integration of inclusive design into vocational education related to visual communication. In the long term, the project aims to contribute to a change in design education whereby accessibility is no longer understood as an adaptation added at the end of the process, but as an integral part of good design from the beginning.
Partners	We are looking for **3 additional VET schools or organisations from EU or Erasmus+ associated countries**, active in graphic design, visual communication, inclusive design or related creative fields, with experience in project-based learning, accessibility or user-centred design, to **co-develop, pilot and validate the ColorIN Inclusive Design Labs methodology**, in return for access to shared training resources, international collaboration opportunities for students and teachers, and a transferable methodology that can be integrated into their own educational practice.
Project timeline	An approximate project duration of **30 months** is initially proposed. The project will progress from an initial phase of preparation and training, through the implementation of the Inclusive Schools and Inclusive City Challenges, to the development, validation and transfer of the ColorIN Inclusive Design Labs methodology and final project results.
Contact information	proyectocolorin@atxuri.net international@tknika.eus

3 Mendizabala LHII

ROBOLUTION TECH VET: An Inclusive and Open Path to Physical AI

Project Title	**ROBOLUTION TECH VET: *An Inclusive and Open Path to Physical AI***
Background	**Mendizabala LHII** (www.mendizabala.eus) is a public VET centre in Vitoria-Gasteiz (Basque Country, Spain) with over 1,100 students and 140 staff. Its Middle and Higher VET programmes combine intensive workshop training with a three-month dual placement in companies, either locally or abroad through Erasmus+. It also runs lifelong learning courses with industry. It covers fields from Electricity, Electronics and Mechatronics to Vehicle Maintenance, Graphic Arts and Personal Image, and offers specialisations in Hybrid and Electric Vehicles and 5G Networks. The centre works with over 200 local companies, the Basque Government, Confebask, IKASLAN and TKNIKA. It holds ISO 9001/14001 certification, the EFQM Silver Q and the National Award for Quality in Education, and as an Erasmus Charter holder sends 3% of its students abroad each year. Its Electrical-Electronic department offers the Higher VET programme in Industrial Automation and Robotics, covering the latest technologies in the field of industrial automation. **CONTEXT AND RATIONALE OF THE PROJECT:** Europe is falling behind: in 2024, 54% of the 542,000 industrial robots installed worldwide went to China, while European installations fell by 8%. VET curricula have not kept pace. Robotics training still relies on traditional programming, teachers lack up-to-date training, and women and non-technical students remain excluded. This project brings Physical AI into European VET, connecting VET providers with expert research organisations. Through teacher training, open MOOCs, a digital twin and a real robotic pilot, it addresses the Erasmus+ priorities of digital transformation, labour market relevance and innovation in VET. **CHALLENGES, NEEDS, GAPS, THE PROJECT SEEKS TO ADDRESS:** • Make Physical AI accessible to VET through simple and affordable tools. • Connect robotics research with VET classrooms. • Update VET teachers' skills in Physical AI. • Engage women and non-technical students in Physical AI.
Project objectives	The main objective is to bring Physical AI into European VET in a simple, open-source and low-cost way, preparing teachers and students for a labour market shaped by intelligent robots. The project will have **three phases:** • **Training:** project VET teachers learn Physical AI, from experts. • **Learning resources:** creation of Open MOOCs and a digital twin for first steps in Physical AI. • **Real-world application**: A robotic pilot that identifies donated medicines and helps assemble emergency kits. All results will be open to any European VET centre, focusing on women and non-technical students.
WPs/ planned activities	**WP1: Project Management:** Coordination, monitoring, quality and financial management. **WP2: Train the Trainers: Physical AI in Robotics:** Basic and advanced Physical AI training for VET teachers. • **Basic training event:** Hands-on fundamentals with open-source tools. • **Advanced online training:** Expert organisations share cutting-edge robotics knowledge in recorded, public sessions.

	• **Beginners' masterclass:** Introduction to Physical AI for non-technical students. **WP3: Open learning resources** Turns WP2 knowledge into two MOOCs and a digital twin, built with simple open-source tools any VET centre can adopt. • **MOOC 1 – Tech:** Robot kinematics, basic controls and environment perception. • **MOOC 2 – Non-tech:** Physical AI in healthcare, logistics and services, plus AI literacy and ethics. • **Digital twin:** Open-source simulation for practising MOOC 1, including the WP4 application. • **Teachers' guide:** How to use the MOOCs and digital twin in class. • **Pilot testing:** In partner classrooms and a blended mobility, with feedback-based improvements. **WP4: Physical AI Pilot: Robotic Emergency Medical Kit Assistant** Applies WP2 and WP3 to a real social challenge: a low-cost, open-source robotic arm that identifies donated medicines, selects suitable ones and assembles emergency kits, developed by teacher-student teams. • **Pilot design:** Requirements, decision criteria and safety/ethical framework. • **Robot training:** Arms trained on GPU stations to sort medicines. • **Pilot testing:** Each partner builds and tests a station. • **Physical AI Challenge:** International teams improve and present their stations. • **Replication Kit:** Open guide, code and datasets. **WP5: Dissemination and exploitation of the results:** ensures the visibility and uptake of results through a dissemination plan, branding, a multilingual website, social media, EU platforms, one multiplier event per partner and at least 3 international events.
Target groups	• **VET teachers:** trained in Physical AI, they will create open resources for teachers across Europe. • **Students:** they will test the MOOCs and digital twin, build the pilot and join mobilities. All students will benefit from the open resources and the trained teachers.
Expected outcomes	• VET teachers trained in Physical AI, with expert sessions recorded, publicly available. • Two open MOOCs and an open-source digital twin, ready for any VET centre. • A robotic pilot per partner to sorts donated medicines, plus an Replication Kit. • More women and non-technical students in robotics.
Partners	We are looking for **1 x reference organisation in Physical AI** (university, research centre, company, association), **1 x VET center with expertise in industrial robotics** and **1 x non-technical VET center** (e.g., healthcare or social care)
Project timeline	**24 Months** (starting December 2027) / **240.000 €**
Contact information	Daniel Ruiz (danielruiz@mendizabala.eus) international@tknika.eus

4 Txurdinaga LHII

Quantum-Safe Europe: Hands-On Learning in QKD and PQC Standards

Project Title	Quantum-Safe Europe: Hands-On Learning in QKD and PQC Standards
Background	**Txurdinaga LHII** (https://fptxurdinaga.eus/) is a public VET centre in Bilbao, Spain, with approximately 800 students and 130 staff members, offering training across six vocational fields. As the Cybersecurity reference centre within the Basque VET system, we coordinate the Basque VET Quantum Technologies Surveillance Node and have led a three-year strategic project on Quantum Technologies. We also have extensive experience in gamified cybersecurity training through our ZiberHub CTF platforms and Cyber Range competitions. Challenges & Needs: The rapid development of quantum technologies creates new cybersecurity challenges and a growing need to integrate quantum-safe cryptography into VET education through accessible, practical learning resources for teachers and students.
Project objectives	OB1: Raise awareness of quantum cybersecurity risks: Develop accessible awareness materials and workshops to help VET students, teachers and companies understand the impact of quantum computing on current cryptography. OB2: Develop a replicable QKD laboratory: Create a hands-on Quantum Key Distribution (QKD) laboratory, including 8–10 teaching units and practical guides that other VET centres can reproduce. OB3: Teach post-quantum cryptography through practical challenges: Develop 5 Post-Quantum Cryptography (PQC) learning modules and 5 Capture The Flag (CTF) challenges to help VET students understand and apply quantum-safe cryptographic standards.
WPs/ planned activities	WP1: Project Management, Coordination and Transnational Kick-off Meeting WP2: Quantum Literacy Digital Platform and Awareness WP3: QKD Laboratory: Implementation, Technical Documentation and Pedagogical Piloting WP4: Post-Quantum Cryptography (PQC) Modules and Simulation Workshop WP5: Official CTF Competition, Lab Validation and Final Dissemination.
Target groups	1. Primary Target Group: VET students 2. Primary Target Group: VET Teachers and Trainers 3. Secondary Target Groups: Institutions and Employers
Expected outcomes	1. A fully operational QKD laboratory with PQC learning modules. 2. CTF challenges and practical cybersecurity activities. 3. Multilingual teaching and learning resources. 4. Enhanced digital safety and cybersecurity competences among learners. 5. Increased capacity among VET teachers. 6. Stronger cooperation between VET institutions and industry partners.

	7. Validated, reusable and transferable results.
Partners	We are looking for one VET institution from any EU or associated country, specialising in Information Technology, with experience in digital communication and dissemination, to co-develop communication materials and promote Q-SAFE project results, in return for gaining expertise in quantum technologies and strengthening European cooperation.
Project timeline	24 months
Contact information	Jaime Corrales Petralanda berrikuntzaz@fptxurdinaga.com Aitor Espinosa De Mena aitor.e@fptxurdinaga.com international@tknika.eus

5 Irudika LHII

Beyond the Screen

Project Title	**Beyond the Screen:** Building Healthy Digital Habits and Positive Self-Perception
Background	**IRUDIKA LHII** (https://irudikalh.eus/ Instagram: Irudikalh) is an educational center specialized in personal image studies. In recent years we have developed different projects related to oncology (Onkologia 360º) and the collection of waste in the sea (OceansCare). **Context and rationale of the project:** Vocational Education and Training (VET) institutions are increasingly concerned about the role of smartphones and social media in students' everyday lives, their engagement in the classroom and their personal wellbeing. Teachers observe that some learners find it difficult to disconnect from their phones, even in learning environments where their use is restricted. At the same time, social media platforms expose young people to continuous social comparison, idealised lifestyles, edited images and unrealistic beauty standards, potentially influencing their self-esteem, body image and perception of themselves. These issues are particularly relevant in VET programmes related to aesthetics, hairdressing and image consulting, where physical appearance and beauty standards are closely connected to students' educational and future professional environments. However, the relationship between digital habits, self-perception and wellbeing may also affect learners from other fields. Despite growing awareness of these challenges, VET teachers may lack the specific training, evidence-informed resources and practical classroom methodologies needed to address digital habits, social media influence, self-esteem and body image in a consistent and educationally appropriate way. **Beyond the Screen** aims to address this gap through European cooperation between VET institutions and psychology or research experts. The project will explore students' digital habits and perceptions across different educational and national contexts, strengthen teachers' capacity to promote digital wellbeing, and co-create practical educational resources that can be integrated into everyday VET teaching. The project will adopt a preventive, inclusive and non-stigmatising approach. It will not aim to diagnose smartphone addiction or mental health disorders, but to improve digital awareness, self-reflection, media literacy, emotional skills and access to appropriate support. **Challenges, needs, gaps, the project seeks to address:** The project addresses four connected needs: a better understanding of students' smartphone use, social media habits and their perceived relationship with self-esteem, body image and wellbeing; more specific teacher training and accessible, evidence-informed classroom resources; opportunities for students to develop critical awareness of online content, unrealistic beauty standards and their own digital habits; and transferable educational materials that can be tested across countries and vocational fields. Cooperation between different VET providers, supported by psychology experts, will combine the expertise needed to respond to these needs.
Project objectives	1. Understand students' needs. Explore smartphone and social media habits, online social comparison, self-perception and perceived wellbeing among students in the participating VET institutions. 2. Empower teachers. Strengthen teachers' knowledge and confidence in addressing digital wellbeing, social media influence, self-esteem and body image through preventive educational approaches.

	3. Develop practical classroom interventions. Create and test participatory workshops that encourage critical media literacy, healthier digital habits, self-reflection and positive body image. 4. Empower students as active contributors. Involve students in creating a podcast that shares perspectives on digital habits, self-image and social media, while developing communication, collaboration and media-production skills. 5. Produce transferable resources. Develop a practical classroom toolkit and a short digital wellbeing challenge that can be used and adapted by other VET institutions.
WPs/ planned activities	**WP1- Project Management and Coordination** **WP2- Exploring Digital Habits and Student Needs** Explore smartphone use, social media habits, online comparison, perceived pressure regarding appearance and self-reported wellbeing by implementing a psychology experts designed questionnaire in the participating institutions. **WP3- Teacher Training and Classroom Workshops** Provide teacher training on digital wellbeing, social media literacy, body image and self-esteem. Design participatory workshops and pilot them in the participating VET institutions, collecting teacher and student feedback to improve the materials. **WP4- Student-Led Podcast** Explore different perspectives on smartphone use, online identity, beauty standards and self-perception. Develop scripts collaboratively and produce a short series of podcast episodes featuring students from the participating institutions. **WP5- Digital Wellbeing Toolkit** Develop a practical teacher toolkit containing workshop plans, student reflection activities and implementation guidance. **WP6- Dissemination and Sustainability**
Target groups	**Primary:** VET students; VET teachers, tutors and educational staff who want to strengthen their ability to address digital wellbeing and self-perception in the classroom. **Secondary:** VET institutions interested in student wellbeing and digital literacy; Psychology professionals and organisations working on youth wellbeing and digital behaviour.
Expected outcomes	1. **European Student Needs Analysis**. A concise report presenting the findings from the participating institutions and identifying common educational needs and relevant differences across vocational profiles and countries. 2. **Workshops** on digital wellbeing and self-perception. 3. **Student-Led Podcast Series**. A short series of podcast episodes raising awareness of digital wellbeing and self-perception through student participation. 4. **Digital Wellbeing Toolkit**. A practical, multilingual resource for VET teachers, including implementation guidance, reflection activities and a short challenge for classroom use.
Partners	We are looking for three partner organisations from any EU or associated country: (1) a VET school specialising in personal image, such as beauty therapy, hairdressing or image consulting; (2) a VET school specialising in audiovisual

	production, sound, video, communication or media creation; and (3) a university department, research organisation or specialised psychology organisation with expertise in youth wellbeing, digital behaviour, self-esteem or body image. We aim to work with partners who can contribute to the student needs analysis, teacher training and classroom workshops, the student-led podcast, and the development and review of evidence-informed educational resources. In return, partners will benefit from international cooperation, the exchange of good practices and transferable resources for their institutions.
Project timeline	24 months
Contact information	Maitane Romatet: mromatet@irudikalh.eus international@tknika.eus

6 Barakaldo LHII

EUROPRENEUR: From students to European changemakers

Project Title	**EUROPRENEUR: From students to European changemakers**
Background	**BARAKALDO LHII** (https://fpbarakaldolh.eus/es/) is a public school for Vocational Education and Training (VET), located in Barakaldo (near Bilbao), within a socially and culturally diverse urban-industrial area. We deliver EQF 2, 4 & 5 courses and lifelong learning. We cover 14 different academic areas and examples of those are: Physical & Sport Activities Animation, Electricity and Electronics, Patternmaking and Fashion, Administration and Management, Mechanical Manufacturing, Healthcare, Fitting and Furnishing, Socio-Cultural Services, Construction and Self-Image Care. We currently serve approximately 1.400 VET learners, mainly young people aged between 16 and 25, alongside adult learners engaged in professional requalification. We have a dedicated Internationalisation Department with a solid track record in Erasmus+ projects. **Project Context:** Young people need professional knowledge, initiative and adaptability to respond to technological change, environmental challenges and evolving community needs. Yet learning about entrepreneurship does not always provide practical experience of creating an enterprise. The project will use collaborative challenges to connect vocational subjects and guide students through identifying needs, developing ideas, testing products and engaging with customers. Teachers from partner countries will jointly design and test a shared enterprise creation model, adaptable to different VET settings. The project will address gaps in coordination between subjects and assessment of entrepreneurial skills, while reducing barriers linked to language, confidence and personal circumstances.
Project objectives	**1.** Develop students' entrepreneurial skills through practical challenges. **2.** Strengthen teachers' ability to deliver and assess entrepreneurship education**.** **3.** Develop and test a transferable enterprise creation model through European cooperation. **4.** Make European entrepreneurship learning more accessible.
WPs/ planned activities	• **Joint planning and needs analysis.** Partners will compare their entrepreneurship teaching practices, identify students' and teachers' needs, and agree on responsibilities, a timetable and simple measures of progress. • **Teacher training and joint design.** Teachers will take part in a practical workshop on collaborative challenge-based learning. • **Local classroom pilots.** Each partner school will test the pathway with a student group. • **European student enterprise fair.** Partners will jointly prepare a small fair in a partner country, bringing together student and teacher delegations. • **Evaluation.** Assess changes in students' skills and confidence, teachers' practice and the usability of the model.
Target	• VET students

groups	• VET teachers • Pedagogical coordinators
Expected outcomes	1. **A challenge-based entrepreneurship pathway.** 2. **A shared approach to assessing** both the learning process and each student's skills progress. 3. **A guide for adapting the approach to different VET settings.** 4. **A European student enterprise fair.** Bring together student enterprises from partner schools to present their products and services, demonstrate their entrepreneurial skills and share their learning experiences.
Partners	We are looking for 2/3 VET schools from any EU or associated country active in entrepreneurship education and innovative teaching with experience in student-led enterprises, inclusive education and entrepreneurial competence assessment. We will co-develop, pilot and validate a transferable challenge-based entrepreneurship pathway together. In return, partners will gain access to jointly developed teaching resources and assessment tools, professional development opportunities for teachers and international learning experiences for students, and the opportunity to strengthen your European networks and entrepreneurship education practices.
Project timeline	24 months.
Contact information	Irati Díaz de Tuesta: international@fpbarakaldolh.eus international@tknika.eus

7 Izarraitz LHII

Bridging VET and Industrial Reality through Practical and Inclusive Automation Challenges

Project Title	Bridging VET and Industrial Reality through Practical and Inclusive Automation Challenges
Background	**Izarraitz LHII** (www.izarraitz.eus) is a public VET centre in the Basque Country with about 600 students and 90 professionals, offering programmes in eight professional fields, including Mechanical Manufacturing, Electromechanics and Information Technologies. Innovation and inclusion are central to its approach: through ETHAZI, a collaborative, challenge-based learning methodology, it develops multidisciplinary projects in its Smart Collaborative Learning Factory, such as the Urban Green Pod and an inclusive bike, and offers adapted vocational training for students with functional and cognitive diversity. The centre works closely with companies through Dual VET and takes part in Erasmus+ KA122-VET and KA131-HED. **Context and Needs:** Industrial training experience has highlighted the need for more practical, accessible automation education linked to real industrial processes. Electrical systems, pneumatics, hydraulics and PLCs are often taught separately, making it difficult for students to understand complete automated systems. The project aims to develop practical exercises based on real industrial automation scenarios, covering different technical fields and difficulty levels. Each exercise will include a step-by-step video solution with subtitles and transcripts, allowing students to review it as often as needed. All resources will be openly accessible and reusable by students, teachers and VET centres through an online platform, anytime and anywhere. The initiative will strengthen technical, digital and problem-solving skills, promote cooperation between European VET centres and companies, and support inclusive, self-paced learning for students with different knowledge levels, abilities and learning needs. Sustainability will be integrated through energy efficiency and resource optimisation, encouraging environmentally responsible technical solutions. Ultimately, the project seeks to bridge vocational education and industrial practice, provide accessible and reusable resources, foster innovative and inclusive learning, promote environmental sustainability and strengthen European VET cooperation.
Project objectives	• To develop practical learning activities in automation. • To structure challenges by difficulty level, adapting them to different VET levels and students' prior knowledge. • To create accessible digital resources. • To integrate sustainability through energy efficiency, compressed-air consumption, component lifetime, resource optimisation and waste management. • To strengthen cooperation between European VET providers and industry, aligning learning activities with current industrial practices. • To equip teachers with training and practical, adaptable teaching resources.
WPs/ planned	WP1: Project Management, Scope & Methodology

activities	WP2: Teacher Training WP3: Digital Support Creation & Technical Execution WP4: Piloting, Testing & Validation WP5: Dissemination & Exploitation
Target groups	• Students of industrial VET programmes, particularly in mechanical, mechatronics, electromechanical, automation and related fields. • VET teachers and trainers responsible for automation, electrical systems, pneumatics, hydraulics and PLC-related subjects. • VET centres that could use or adapt the resources after the project. • Companies and industrial technology providers interested in practical and industry-relevant VET. • VET managers and education professionals interested in innovative, inclusive and practical teaching approaches.
Expected outcomes	• A structured collection of practical exercises and industrial challenges for different VET levels, offering resources with varying levels of difficulty, inclusive learning approaches, and activities that promote sustainability and the efficient use of resources. • Digital learning resources accessible to all users, including practical solution videos with subtitles and transcripts and, where appropriate, sign-language versions. • Increased cooperation between VET providers and companies or industrial technology providers. • Teacher training and knowledge exchange related to current industrial technologies and equipment.
Partners	We are looking for three partners from any EU or associated country: • Two VET centres: both offering training programmes in mechanics, mechatronics or industrial maintenance. One should have expertise in IT, contributing to the development of an accessible digital platform integrating practical exercises and their video solutions; while the other should specialise in digital technologies, contributing to the development and testing of practical exercises and recording step-by-step video demonstrations. • One industrial technology company: with expertise in industrial automation or related technologies, responsible for providing technical advice, supporting the development and validation of practical exercises, and ensuring alignment with current industry practices.
Project timeline	24 Months
Contact information	Contact person: Aitor Aranbarri (Position: Erasmus+ Coordinator) Email: erasmus@izarraitz.eus international@tknika.eus

8 Don Bosco LHII

InCoDiLearn Factory

Project Title	InCoDiLearn Factory: Inclusive, Collaborative and Distributed Learning Factories for VET
Background	**Don Bosco LHII** (https://www.donbosco.eus/) is an Integrated Vocational Training Centre in the Basque Country with over 60 years' experience in high-quality technical education. With a staff of 200 teachers and over 1,500 students, the centre is a pioneer in the VET system and has been designated a National Centre of Excellence in Chemistry. Our educational model, ETHAZI, focuses on high-performance, challenge-based collaborative learning to develop both technical and soft skills. **Context, Gap, and Rationale:** As Industry 5.0 drives smart manufacturing through the Internet of Machines, autonomous robotics, and advanced ICT, vocational education requires cutting-edge tools to deliver market-aligned, personalized training. Organizations like Don Bosco address this gap by combining technical excellence in Generative AI, predictive maintenance, and VR industrial simulations with human-centric learning frameworks like the ETHAZI challenge-based model. By aligning digital innovation with socio-economic needs through SME partnerships and green mobility projects (such as H2FP), the organization turns emerging technologies into accessible educational pathways that promote social inclusion and meaningful community impact. **Main Challenges:** The primary challenge lies in seamlessly translating high-level technical innovations—such as Generative AI, social robotics, and AIoT demonstrators—into practical, inclusive VET learning environments without increasing educational barriers. Instructors and staff must continually bridge complex data science with pedagogical excellence, ensuring that advanced ICT tools like BirtualBot VR simulations directly support diverse learning needs and combat stereotypes (as seen in the AI4Females initiative). Furthermore, projects must balance technical implementation with human-centric design, as demonstrated by the OldBot project, while maintaining strict data privacy, proper teacher supervision, and alignment with real-world market demands.
Project objectives	To develop, pilot and validate a transferable European methodology for Inclusive, Collaborative and Distributed Learning Factories, enabling VET learners from different vocational fields and countries to work together on real-world entrepreneurial challenges across complete value chains.
WPs/ planned activities	**WP1 Project Management, Quality and Evaluation** *Mainstreaming and monitoring of inclusion, digital, green and civic engagement principles across all WPs and project activities.* **WP2: Evidence, Methodology, UDL and Assessment** *2.1 Comparative evidence, practice and state-of-the-art mapping.* Map of needs, practices, gaps, and design requirements Comparative basis for design. *2.2 Co-design of Methodology, UDL and Assessment Protocol.* Draft methodology, UDL/participation protocol, and evaluation protocol – Common method ready for review. *2.3 Peer validation and Methodology v1.0 approval.* Methodology v1.0 and approved protocols. Method validated prior to the Toolkit and pilots.

	WP3: Factory Framework and Challenge Toolkit. *3.1 InCoDiLearn Factory Framework and readiness tool.* Factory Framework and readiness/self-assessment tool Transferable operating architecture. *3.2 Challenge Design Toolkit and Starter Kit development.* Challenge Design Toolkit and Starter Kit with implementation levels – Practical tools for designing challenges *3.3 Accessibility, usability and transfer review.* Framework, Toolkit, and Starter Kit reviewed and approved - Accessible and transferable tools available prior to the pilots. **WP4: Diverse Local Factories and Distributed European Pilots** *4.1 Teacher Academy and pilot readiness* Prepared teachers, local plans, and readiness approval. Prepared pilots with inclusion measures. *4.2 Local multidisciplinary Factory pilots.* 12 documented local challenges, portfolios, and feedback. Evidence from four diverse VET contexts. *4.3 Distributed European collaborative challenges.* 4 transnational challenge cases with complementary roles. Proven distributed European collaboration. *4.4 Comparative evaluation, review and adoption briefs.* Benchmarking, Methodology v2.0, and adoption briefs. Revised model and adoption conditions **WP5: Teacher Academy, Dissemination, Exploitation and Sustainability.** *Continuous communication, dissemination and curation of open resources to ensure visibility, access and uptake of project results.*
Target groups	Primary stakeholders: students, teachers/trainers, and curriculum or VET quality staff. Secondary stakeholders: SMEs, social enterprises, mentors, inclusion organizations, sector networks, VET authorities, and prospective adopters.
Expected outcomes	Co-designing, testing, and revising the same model across different systems, sectors, and student profiles. Distributed European challenges connect complementary stages of the same value chain across countries.
Partners	We are seeking six complementary organisations to work alongside CIFP Don Bosco LHII, combining inclusive VET expertise, non-industrial and green-sector pilot contexts, pedagogical research, entrepreneurship and SME connections, and system-level transfer capacity. Together, they will co-develop, pilot, evaluate and support the wider adoption of the InCoDiLearn Factory approach across diverse VET settings. **P2 – Inclusive VET provider or specialist organisation:** direct work with learners with fewer opportunities; UDL-informed design, learner co-design and accessibility review; co-leads WP2 and runs an inclusive pilot. **P3 – Non-industrial VET provider:** experience in care, wellbeing, hospitality, food, creative industries or another service-facing sector; tests transferability beyond technological manufacturing and co-leads WP4. **P4 – Green/circular VET provider:** active in construction, energy, smart buildings, circular economy or related fields; provides real sustainability challenges, multidisciplinary provision and employer links for a sectoral pilot. **P5 – VET pedagogy, teacher-education or applied-research organisation:** leads methodological co-design, assessment, ethical data collection and comparative evaluation; leads WP2 and supports project quality. **P6 – Entrepreneurship and SME/sector ecosystem intermediary:** connects authentic needs, SMEs and external mentors; supports challenge design, business models and value-proposition validation.

	P7 – VET network, quality body, curriculum/qualification organisation or public authority: supports external validation, curriculum dialogue, the Teacher Academy, institutional adoption and long-term sustainability.
Project timeline	Proposal: 36 months.
Contact information	Raul Martinez Narvarte internationalprojects@donbosco.eus international@tknika.eus

9 Don Bosco LHII

CYBERVET: Preparing VET Students for Industrial Cybersecurity

Project Title	**CYBERVET:** Preparing VET Students for Industrial Cybersecurity
Background	**Don Bosco LHII** (https://www.donbosco.eus/) is an Integrated Vocational Training Centre in the Basque Country with over 60 years' experience in high-quality technical education. With a staff of 200 teachers and over 1,500 students, the centre is a pioneer in the VET system and has been designated a National Centre of Excellence in Chemistry. Our educational model, ETHAZI, focuses on high-performance, challenge-based collaborative learning to develop both technical and soft skills. **Context and Rationale:** Industry 5.0 makes cybersecurity essential for manufacturing resilience as IT and OT networks converge. Following a 56% surge in ransomware attacks targeting manufacturing in 2025, vocational training offers the ideal setting to embed cybersecurity as a cross-cutting skill. By pairing IT and automation training centers, this project transforms real-world incident data into practical simulation scenarios and reusable action plans instead of repeating existing theoretical research. The project targets five core vulnerabilities: bridging the IT/OT gap where IT-only responses fail to address operational disruptions, instilling cyber hygiene across the 80% of European manufacturers using vulnerable OT systems, replacing abstract theory with hands-on classroom simulations, preparing students for tight NIS2 reporting deadlines (24h/72h/1 month), and upskilling technical educators through European cooperation.
Project objectives	**SO1. Learners' skills:** to integrate industrial cybersecurity (IT/OT) into the training of vocational education and training (VET) learners through a training pathway and reusable practical scenarios, aligned with the principles of Industry 5.0 (people, resilience, sustainability). **SO2.** To bring cybersecurity training closer to industrial reality through ' ' scenarios and cyberattack simulations based on real incidents and regulatory frameworks. **SO3. Institutional capacity and knowledge transfer:** to strengthen the capacity of the centre and its teaching staff to cooperate at European level and to disseminate the results openly so that other centres can reuse them.
WPs/ planned activities	**WP1. Management, coordination and evaluation** **WP2. Design of simulation scenarios and action plans** Initial instructor training in industrial cybersecurity, teaching staff collaborate with expert partners to select key incident cases and regulatory frameworks (such as NIS2 and IEC 62443) tailored to mechatronic systems. Based on these references, the team designs realistic cyberattack scenarios targeting automated equipment along with corresponding action plans that specify roles and decision-making criteria across detection, containment, recovery, and prevention. Finally, these scenarios and plans undergo a rigorous validation process—incorporating feedback from partner institutions, external specialists, and direct consultations with industry partners—to refine the materials into actionable classroom resources. **WP3. Training programme and pilot scheme with students** Building on the skills matrix and training program design, students from each school pilot the scenarios and connect through a joint transnational exchange.

	The pilot is then evaluated using rubrics and questionnaires to refine the final materials. **WP4. Dissemination, transfer and sustainability**
Target groups	Students, teachers and the industrial cluster
Expected outcomes	**R1. EO2_WP2: A library of 4–6** cyberattack **simulation scenarios** for mechatronic systems, based on real incidents and regulatory frameworks, with user guides for teachers **R2. EO2, EO3_WP3: Action plans for each scenario** (detection, containment, recovery and prevention) and **a reusable template** enabling other institutions to create new scenarios. **R3. EO1_WP3: Industrial cybersecurity (IT/OT) training pathway,** including a skills matrix and assessment rubric. **R4. EO1_WP3: Pilot evaluation report** with student results and proposals for improvement **R5. EO3_WP4: Good practice guide and open-access materials kit** (open-licence repository) **R6. EO3_WP4: Plan for the continuity and sustainability** of the materials following the project
Partners	We are looking for 2 VET schools and organisations from any EU or associated country active in vocational education and industrial sectors (IT, cybersecurity, and automation), with experience in cybersecurity/networking specialization and industrial cluster representation (NIS2 / IEC 62443 compliance), to co-develop teacher training programs, technical action plans, and pilot classroom simulations while validating project outcomes, in return for access to reusable IT/OT simulation scenarios, capacity building for teaching staff, and international collaboration within a European project led by Don Bosco.
Project timeline	24 Months
Contact details	Primary contact: Raul Martinez Narvarte internationalprojects@donbosco.eus international@tknika.eus

10 Don Bosco LHII

Intelligent virtual environments and personalised learning (VR and AI)

Project Title	Intelligent virtual environments and personalised learning through virtual reality and artificial intelligence
Background	**Don Bosco LHII** (https://www.donbosco.eus/) is an Integrated Vocational Training Centre in the Basque Country with over 60 years' experience in high-quality technical education. With a staff of 200 teachers and over 1,500 students, the centre is a pioneer in the VET system and has been designated a National Centre of Excellence in Chemistry. Our educational model, ETHAZI, focuses on high-performance, challenge-based collaborative learning to develop both technical and soft skills. **Context, Gap, and Rationale** As technical fields like industrial mechatronics and automation demand more adaptive and interactive training, vocational education faces a growing gap between emerging digital technologies and their practical application in inclusive classrooms. Traditional teaching methods often lack the visual support, flexibility, and individualized guidance required to cater to diverse student abilities and learning paces. At the Don Bosco Vocational Training Centre, this project addresses that deficit by leveraging international cooperation to integrate immersive virtual environments and artificial intelligence, exploring how these tools can transform technical instruction into personalized, accessible learning experiences. **Main Challenges** The project confronts the task of strengthening educators' digital and pedagogical skills so they can effectively harness AI for tailored instruction and use virtual spaces to foster hands-on, interactive learning. Simultaneously, it must bridge the gap between complex emerging tech and daily VET practice, ensuring that all digital tools remain fully accessible, safe regarding data protection, and subject to appropriate teacher supervision.
Project objectives	To develop teachers' digital skills so they can integrate virtual environments, IoT sensors and artificial intelligence into teaching and learning processes. To create more interactive and visual learning experiences, particularly in relation to technical content in vocational education and training. To foster international cooperation between educational institutions and organisations specialising in educational innovation, artificial intelligence and immersive technologies.
WPs/planned activities	**WP1. Project management and coordination** **WP2. Mobility, training and exchange of best practice** Through international cooperation with centres and organisations specialising in AI applied to education and in virtual environments, the team will acquire knowledge and skills in these fields. It will identify relevant partners, explore simulation tools that represent technical processes, machines and industrial situations, and exchange experiences on inclusion and Universal Design for Learning (UDL). The tools, methodologies and good practices that can be transferred to Don Bosco will be documented, resulting in trained teaching staff, a compilation of good practices, a selection of tools and a knowledge transfer plan. **WP3. Design and validation of educational proposals**

	This WP turns the acquired knowledge into specific teaching proposals that integrate virtual environments, AI and IoT sensors. The team will create prototypes of virtual environments that allow technical processes to be explored interactively, and design AI-supported activities offering alternative explanations, guided instructions, graded exercises and tailored support. Accessible materials and alternative ways of presenting information will cater for different learning needs. The proposals will be piloted with teachers and, where appropriate, students; their feedback and an assessment of understanding, usability, engagement and pedagogical value will drive the improvements." **WP4. Dissemination, transfer and sustainability of results**
Target groups	• Vocational training teachers, particularly in the fields of industrial mechatronics, automation and digital technologies. • Vocational training students, with different abilities, learning paces and needs. • Teachers and professionals interested in educational innovation, supporting diversity and the application of artificial intelligence. • Educational institutions and partner organisations working on the development of inclusive learning methodologies.
Expected outcomes	• Improved digital and methodological skills among teaching staff. • Greater awareness of the potential of artificial intelligence and virtual environments in education. • Development of educational proposals that enable content and activities to be adapted to different learning needs. • Improved accessibility and student participation in training activities. • Incorporation of new teaching methodologies into vocational training programmes. • Creation of an international cooperation network to share experiences and develop future educational innovation initiatives. • Laying the foundations for the project's evolution towards a more personalised, interactive and inclusive learning model.
Partners	We are looking for 3 VET schools and organisations from any EU or associated country active in vocational education, digital innovation, and immersive learning technologies, with experience in educational innovation, diversity support, and applying artificial intelligence and virtual environments to learning, to co-develop, pilot, and validate innovative AI- and VR-driven pedagogical tools and inclusion strategies, in return for access to cutting-edge digital learning resources, capacity building for teaching staff, and international collaboration within a European educational project.
Project timeline	24 months
Contact details	Primary contact: Raul Martinez Narvarte internationalprojects@donbosco.eus international@tknika.eus

11 Derio Nekazaritza Eskola LHII

Innovative and Sustainable Forest Management

Project Title	Innovative and Sustainable Forest Management: Towards More Biodiverse and Resilient Forests
Background	**Derio Agricultural School** (https://www.nekaderio.eus/) is a public integrated vocational training centre in Bizkaia that has become a reference for agricultural and forestry education in the Basque Country. Innovation is a central part of its work. Context: In this project we want to look for a solution due to Bizkaia´s forest situation. Around 75% of the forest area in Bizkaia is privately owned, mostly in small holdings whose owners have little or no connection to forestry as an economic activity. Generational renewal is practically non-existent, and a growing number of forests are being left unmanaged. This abandonment has real consequences, such as, *Pinus radiata* main production as monoculture on our lands has led to a fungal disease caused by *Lecanosticta acicola* with no other solution that clear cutting. Without active management, forests become more vulnerable to wildfires, as fuel accumulates and continuity between stands increases. They are also more exposed to devastating pests and pathogens, whose impact is growing due to climate change and is aggravated by the lack of management. In addition, forest infrastructure (tracks, firebreaks, water points) deteriorates through disuse, which reduces access for management and emergency response and makes future intervention more costly. Challenges: Good management of the territory requires choosing the right silvicultural method for each species and each stand. Species have different ecological requirements, and there is no single model suitable for all forests. Natural regeneration methods such as the seed-tree method and the uniform shelterwood system are suited to light-demanding and semi-shade-tolerant species, while shade-tolerant species can be managed with continuous cover forestry, which maintains a permanent canopy, protects the soil and favours structural diversity and biodiversity. Our project contributes directly to these priorities by **developing a silvicultural management guide** that brings together the main silvicultural methods, including continuous cover forestry, and explains when and how to apply them. This knowledge supports forest management that enhances biodiversity, strengthens resilience to climate change, wildfires and pests, and maintains the multiple ecological, economic and social functions of forests. Through practical learning activities and the exchange of knowledge and experience, the project will develop sustainability competences, raise environmental awareness and empower students, forest owners and other stakeholders to become active agents of change in the management of their forests.
Project objectives	• Improve knowledge and awareness of innovative silvicultural methods. • Provide practical guidance for students, forest owners and forest managers. • Raise awareness of the consequences of forest abandonment and encourage the involvement of new generations in forest management, especially in areas of small private ownership. • Promote the diversification of species and management approaches, reducing the vulnerability of monoculture plantations. • Highlight the ecological, economic and social value of forests. • Strengthen cooperation between educational institutions, forest owners, public authorities and social and environmental organisations.

	• Promote environmental education and lifelong learning by providing accessible learning materials that develop sustainability skills and encourage responsible forest management across Europe.
WPs/ planned activities	**WP1**: Main purpose is the Project Management and Coordination. **WP2**: Identifies knowledge gaps and defines the key contents of the forest management Guide. To achieve this, it analyses the training needs of students, forest owners, public authorities and environmental organisations in relation to the main challenges facing forests. It also collects and compares examples of CCF and sustainable management practices across partner countries. **WP3**: Development of the Silvicultural Management Guide Develops and validates the SM Guide. The Guide offers accessible content on CCF principles, forest biodiversity, climate resilience and wildfire prevention. It combines practical examples, case studies and illustrations with tailored recommendations for different stakeholder groups. WP3 also translates the Guide into the partners' languages and adapts it to their local contexts. **WP4**: Educational activities and stakeholder engagement which pilots the Guide with students, forest owners, public authorities and environmental organisations through workshops, field visits and practical learning activities. **WP5:** Main purpose is Dissemination, Communication and Sustainability.
Target groups	• Forestry and environmental students and teachers. • Forest owners and managers. Forest owners' associations. Young people and new generations of forest owners and professionals • Public authorities and policymakers. • Environmental and social organisations, Agricultural unions.
Expected outcomes	• A practical and accessible **silvicultural management guide**. • Improved knowledge and skills in active and sustainable forest management. • **Greater awareness** among forest owners, forest owners' associations, agricultural unions and public authorities of the consequences of forest abandonment. • Greater **involvement of young people a**nd new generations of owners and professionals in forest management. • **Wider adoption of silvicultural approaches**. • **Stronger cooperation** and knowledge exchange. • Increased recognition of the ecological, economic and social **value of forests**, and a better understanding of the ecosystem services and positive externalities they provide. • Enhanced environmental awareness and education through **practical learning materials and the exchange of good practices.** • Long-term use and updating of the project results beyond the project's lifetime.
Partners	We are looking for one VET school and organisation from any EU country active in forestry, with experience in sustainable management, to develop or codevelop Innovative and Sustainable Forest Management: Towards More Biodiverse and Resilient Forests, in return for exchanging knowledge.
Project timeline	24 months
Contact information	Iraide Elgezua: erasmus@nekaderio.eus Julene Urrutikoetxea: berrikuntzazuzendaria@nekaderio.eus international@tknika.eus

Project Title	NEIGHBOUR**WHO**D. COMMUNITY VET **Turning Community Needs into Authentic Vocational Learning** *From learning for the community to learning with the community*
Background	**Zubieta LHII** (www.lhusurbil.eus) is a Vocational Education and Training centre offering intermediate and higher-level programmes, as well as training for workers. Innovation, challenge-based learning and close collaboration with companies are central to our educational approach. Our methodology is based on collaborative challenge-based learning, where students work in teams to solve real or realistic problems, developing both technical and transversal skills such as communication, teamwork, autonomy and problem-solving. Through initiatives such as TKgune, projects promoted by the Ministry of Education and Tknika, and Erasmus+ KA1 and KA2 projects, the school strengthens its links with industry, promotes international cooperation and prepares students for the changing needs of the labour market. **Context and rationale of the project:** VET is effective in developing technical skills, but professional life also requires communication, teamwork, adaptability, initiative and the ability to solve real problems in uncertain situations. At the same time, local communities contain needs, knowledge and experience that are often disconnected from VET institutions. COMMUNITY VET connects these two realities by transforming real community needs into authentic vocational learning challenges. The project will develop, test and transfer a European Community Challenge-Based VET methodology, where the community becomes an extension of the classroom and the solutions created serve as a vehicle to develop vocational, transversal, civic and green competences. **Challenges the project seeks to address:** 1. Authentic learning and employability. Real professional situations involve uncertainty, communication, changing requirements and responsibility. These conditions help learners develop not only occupational skills, but also key transversal competences valued by companies, such as teamwork, adaptability, initiative, problem solving, creativity and project organisation. 2. Inclusion, migration and belonging.VET classrooms are increasingly diverse, and for newly arrived or migrant learners, the VET centre can also become a gateway to the local community. Through Community Challenges, learners can discover local organisations, build new relationships and networks, and strengthen their sense of belonging. 3. Gender equality and role models in industrial VE Tstill faces gender imbalance. Through community activities, female learners and teachers can become visible technical role models, help challenge stereotypes and making industrial careers more attractive and accessible to future students. 4. VET-community connection and sustainability. VET schools provide technical resources and expertise, while communities contribute real needs and practical knowledge. COMMUNITY VET connects both through structured challenges

	that, whenever possible, promote repair, adaptation, reuse and transformation instead of creating new products
Project objectives	Overall objective is to develop, test, evaluate and transfer a European Community Challenge-Based VET methodology in which learners acquire vocational and transversal competences by collaboratively responding to real needs identified together with local communities.
WPs/ planned activities	**WP1** – Project Management and Quality **WP2** – Community Challenge-Based VET Framework Analysis of needs and existing practices, identification of barriers, and development of a common European framework connecting community needs with VET learning outcomes, action, assessment and reflection. **WP3** – Community Challenge Labs Each partner will test real community challenges adapted to its local context and VET sectors, documenting the process, competences developed, user involvement, results and lessons learned. **WP4** – Competence and Impact Framework Development of common tools to assess vocational, transversal, civic, intercultural and green competences using learner, teacher, peer and community feedback. **WP5** – Transfer and Dissemination Partners will compare results, refine the methodology and publish an open European toolkit to support its transfer and adoption by other VET organisations.
Target groups	Primary target groups: VET learners and teachers, with particular attention to migrant learners, learners with fewer opportunities and women in industrial VET. Secondary target groups: community organisations, schools, elderly-care and youth organisations, municipalities, NGOs, SMEs and employment/guidance services. Wider beneficiaries: future VET learners, families, employers and local communities.
Expected outcomes	Expected outcomes: a validated Community Challenge-Based VET methodology, a catalogue of tested challenges, and a practical Competence & Impact Toolkit to assess vocational, transversal, civic and green skills. The project aims to improve employability, inclusion, sense of belonging, visibility of women in industrial VET, and cooperation between VET schools, communities and companies. An open European toolkit will support replication by other VET organisations. European added value: the project will test the methodology across different countries, VET sectors and social contexts. This comparative approach will identify which elements are transferable, which depend on local conditions and how the methodology should be adapted, generating evidence that a single-country project could not provide.
Partners	We are looking for three VET schools and organisations from any EU or associated country active in Mechanical Manufacturing, Web Application Development, Education and Pedagogy and Health and Social Care with experience in experience in community or social work, to co-develop the project in return for European Community Challenge-Based VET methodology and the experience acquired.

Project timeline	**Approximate duration of activities** 30 months.
Contact information	• Unai Urkiola Mujika iruurkiola@lhusurbil.eus • Unai Altuna Garmendia irualtuna@lhusurbil.eus • Adur Unanue Camino iraunanue@lhusurbil.eus • international@tknika.eus

13 BirtLH

AR-ADAPT: Accessible AR and adaptive learning in distance education

Project Title	AR-ADAPT: Accessible Augmented Reality and Behavior-Tree-Driven Adaptive Learning in Distance Education KA220 VET | 24 Months | €250,000 lump sum
Background	**Ikaskuntza Birtualen eta Digitalizatuen LHII** (BirtLH - www.birt.eus) is the public Integrated Vocational Education and Training (VET) Center of reference in the Basque Country (Spain) specializing in distance, blended, and digitalized learning. Operating under the Department of Education of the Basque Government, BirtLH is a pioneer in educational digitalization. The rapid evolution of digital technologies, particularly artificial intelligence and industrial cybersecurity, presents an urgent challenge for vocational education systems striving to align with modern industry needs. Many VET institutions currently lack the specialized curricula, technical infrastructure, and pedagogical tools required to train students in threat management, prompt engineering, and ethical system administration. This project directly addresses the growing gap between fast-evolving tech demands and current VET capabilities, ensuring educators and learners are equipped with secure, trustworthy, and future-proof digital skills. The key challenges tackled by this initiative include seamlessly embedding complex AI and cybersecurity content into existing VET curricula and Virtual Learning Environments (VLE); training teaching staff in modern hybrid/asynchronous methodologies and AI literacy; and co-creating standardized, high-quality Open Educational Resources (OER) that can be easily validated, scaled, and transferred across European VET networks.
Project objectives	• Develop an Open-Source Web-Based AR Framework: Create a lightweight, browser-accessible AR platform that allows students to interact with 3D/AR educational content using standard computer cameras (detecting gestures, markerless position, or visual cues). • Implement Behavior-Tree-Driven Adaptive Engines: Design a dynamic control system using Behavior Trees (BTs) that monitors student actions via camera feed and adaptively modifies environment variables (scaffolding level, feedback frequency, task complexity, and learning paths) in real time. • Co-Design and Author Multi-Disciplinary Pilot Modules: Create a library of open educational resources (OERs) featuring interactive AR scenarios across key subjects (STEM, vocational skills, language/humanities). • Empower Educators with Authoring & Pedagogical Toolkits: Build a user-friendly interface enabling teachers to author BT-driven adaptive AR lessons without programming knowledge, accompanied by continuous professional development (CPD) guidelines.
WPs/ planned activities	**WP1**: Project Management & Coordination **WP2**: Technical Framework & Webcam-AR Integration This work package focuses on establishing the core technical framework by developing a browser-based AR interface powered by computer vision libraries such as MediaPipe, OpenCV.js, and WebXR. It also implements camera control mechanisms to enable user interaction through gestures, marker tracking, and spatial interaction. **WP3**: Behavior Tree Engine, Three.js & Adaptive Learning Paths This work package delivers the architecture for the Behavior Tree (BT) decision engine alongside Three.js integration for adaptive learning. It incorporates dynamic environment variables—including automated help prompts, scaling

	difficulty, and task branching—and features a visual BT scenario editor allowing educators to build custom learning paths. **WP4**: Scenario Development & Multi-National Pilots This work package focuses on designing pilot educational modules across partner institutions and field-testing them with student cohorts in distance and hybrid learning environments. The phase concludes by collecting quantitative performance metrics and qualitative user experience data to validate outcomes. **WP5:** Dissemination, Sustainability & Exploitation **Methodologies:** • Agile Project Management & EU Quality Guidelines • User-Centered Software Engineering (Iterative Sprints) • AI-Pedagogy Co-design Framework & Algorithmic Scaffolding • Universal Design for Learning (UDL) & Empirical Pilot Evaluation • Open Educational Resources (OER) Strategy & Policy Outreach
Target groups	Students in secondary, vocational (VET), or higher education engaged in distance or hybrid learning. Teachers, educators, and instructional designers needing accessible digital tools to create dynamic online learning experiences. Educational institutions, policy makers, and open-source EdTech developers looking for scalable, low-cost AR/AI pedagogical models.
Expected outcomes	**Software Platform:** An open-source, web-based AR platform powered by standard computer camera vision. **Adaptive AI Engine:** A modular Behavior Tree plugin that dynamically adjusts environmental variables and learning paths according to student webcam interaction. **Visual Authoring Tool:** A teacher-friendly visual dashboard for creating non-linear AR lessons without coding. **Pilot Curriculum & Scenarios:** Tested, ready-to-use adaptive AR learning modules. **Erasmus+ Teacher Methodological Guide:** Comprehensive training guide on implementing adaptive webcam AR in distance education.
Partners	We are looking for 4 Higher Education Institutions, EdTech SMEs, VET centers, and pedagogical NGOs from any EU or associated country active in educational technology and vocational innovation, with experience in Computer Vision and AI web technologies and pedagogically validate an interactive AR and adaptive learning platform
Project timeline	• 24 months
Contact information	Mikel Aldalur - Email: maldalur@birt.eus international@tknika.eus

Project Title	TRUSTAI4VET**:** Trustworthy AI Skills for VET Trainers: A Practical Guide to Responsible Use and EU AI Act Compliance KA210 VET | 18 Months | €60,000 lump sum
Background	**Ikaskuntza Birtualen eta Digitalizatuen LHII** (BirtLH - www.birt.eus) is the public reference Integrated Vocational Education and Training (VET) Center in the Basque Country (Spain), operating under the Basque Government's Department of Education. As a pioneer in distance, blended, and digitalized education, BirtLH combines custom Virtual Learning Environments (VLE) and high-quality open educational resources (OER) with robust hybrid pedagogy. Its delivery model seamlessly connects flexible, asynchronous online learning with hands-on technical labs and evaluation sessions organized in close collaboration with the regional network of VET institutions. The center holds specialized technological expertise across two critical domains: Artificial Intelligence (AI) and Cybersecurity. In AI, BirtLH embeds emerging technologies into vocational curricula and learning management workflows, driving AI literacy, prompt engineering, adaptive material design, and alignment with European trustworthy AI standards (including the EU AI Act). In Cybersecurity, the institution delivers advanced postgraduate VET specialization courses covering threat management, network defense, ethical hacking, and secure system administration across both Information Technology (IT) and Operational Technology / Industrial IoT (OT/IoT) environments. As a high-value partner for European cooperation initiatives, such as Erasmus+ KA2 partnerships, BirtLH offers direct capacity to deploy cutting-edge digital solutions within real educational and industrial training contexts. Its demonstrated leadership in upskilling VET teaching staff in emerging tech, paired with a proven ability to design, test, and scale transferable digital tools and modular curricula, makes BirtLH a catalyst for sustainable impact across international VET networks.
Project objectives	• Map & Validate Local AI Usage Gaps (Objective 1): Conduct structured consultations with at least 25 VET trainers across Italy and Spain to map actual AI tools in use, compliance awareness gaps, and practical needs for a self-assessment checklist. • Co-Design a Practical AI Literacy & Compliance Toolkit (Objective 2): Develop a practical Toolkit and EU AI Act compliance self-assessment checklist tailored for VET trainers and institutions. • Pilot in VET Classrooms (Objective 3): Field-test draft toolkit materials with VET teachers in Italy and Spain, gathering structured feedback to refine the guide and checklist. • Publish Reusable OERs (Objective 4): Publish an open-access Open Educational Resource (OER) guide and self-assessment checklist for European VET providers.
WPs/ planned activities	**Planned Activities**: Activity 1. Project Management & Coordination (M1-M18): Administrative, financial, and operational coordination, quality assurance, and ongoing risk monitoring. Activity 2. Joint Mapping & AI Literacy Toolkit Co-Design (M2–M8): Structured consultation with at least 25 VET trainers in Italy and Spain to validate classroom AI tool usage, followed by co-design of the Toolkit and EU AI Act Self-Assessment Checklist.

	Activity 3. Piloting & Classroom Validation (M8-M14): Field testing of draft toolkit materials in real VET classroom settings across Italy and Spain, collecting qualitative and quantitative feedback. Activity 4. OER Publication & Dissemination (M12-M18): Publication of the final OER guide and checklist, hosting dissemination webinars, and distributing resources through European educational networks. **Methodologies:** • Participatory Co-Design: Focus groups and consultations with VET trainers to ensure tools reflect real classroom needs. • Field Piloting & Iterative Refinement: Classroom testing in two EU member states with structured evaluation loops. • Peer & Expert Review: Peer assessment by compliance and digital education specialists. • Open Educational Resources (OER): Creative Commons licensing ensuring open digital access.
Target groups	• VET Trainers & Teaching Staff: Require practical, non-technical guidance to understand EU AI Act obligations, evaluate AI software, and integrate AI responsibly into teaching practice. • VET Learners: Benefit from ethically overseen, transparent AI usage and adaptive materials consistent with EU safety and privacy standards. • VET Providers & Institutions: Require a low-cost, structured method to demonstrate Article 4 AI-literacy compliance without commissioned legal consultancy.calable, low-cost AR/AI pedagogical models.
Expected outcomes	• Consultation & Mapping Report: Analysis of survey/interview data from 25+ VET trainers in Italy and Spain detailing tool usage and legal awareness. • AI Literacy & Compliance Toolkit for VET Trainers: A practical guide addressing AI tool selection, prompt ethics, and responsible pedagogical use. • VET EU AI Act Self-Assessment Checklist: A practical checklist enabling educators and managers to evaluate AI tools prior to classroom deployment. • Piloting Evaluation Report: Consolidated feedback from pilot testing in Italian and Spanish VET institutions. • Reusable OER Package: Open-access guide and checklist published digitally for European VET institutions.
Partners	We are looking for **1 EdTech SME** and **1 VET center** active in educational technology and vocational innovation to collaborate on the ethical design, implementation, and deployment of AI solutions in vocational training. The ideal EdTech partner should bring hands-on experience in deploying educational platforms while adhering strictly to European regulatory standards and transparent data governance
Project timeline	18 months
Contact information	Mikel Aldalur - Email: maldalur@birt.eus international@tknika.eus

15 Somorrostro Training Center

Inclusive and Sustainable Snoezelen Space

Project Title	Creation of an Inclusive and Sustainable Snoezelen Space for Training and Community Integration
Background	**Somorrostro Training Center** (https://www.somorrostro.com/en/), founded in 1947, offers secondary education and vocational training for young people and adults across a wide range of professional fields such as social care, manufacturing, industrial maintenance, automotive, electricity and electronics, IT, safety and environment, construction, and business and marketing. There is a **training need** to integrate sensory stimulation methods (Snoezelen) into the Vocational Training (VET) curricula for the care of dependent people. It is also an intervention resource in different behavioral cases, etc. Currently, few VET centers have their own facilities for practice. Inter-institutional collaboration with local day centers will allow students to gain real experience and offer **a service to the community**, using sustainable construction practices and eco-friendly materials for the room.
Project objective/ project objectives	• **To create** a Snoezelen or sensory stimulation room, using sustainable materials and low environmental impact methodologies. • **To design** and implement a practical module and a teaching methodology for students of the Intermediate Degree in Care for Dependent Persons (or similar) for the use and maintenance of the Snoezelen room. • **To establish** a collaboration agreement with the local day center/residence so that its users and professionals can benefit from the room, promoting inclusion and knowledge transfer.
WPs/ planned activities	• **Design and Planning:** Definition of the technical and pedagogical specifications of the room. Selection of materials and space design. • **Equipment and Set up:** Acquisition and installation of the elements of the Snoezelen room with sustainability criteria. • **Development of Training:** Creation of the specific teaching unit for VET students and training of collaborating teachers and professionals. • **Piloting and Community Collaboration:** Implementation of the agreement with the day center and monitoring of use by students and external users.
Target groups	• **Direct:** VT students of the Intermediate Degree in Care for Dependent Persons; Teaching staff of the VET center; Users and professionals of the local Day Center/residence. • **Indirect:** Other VET centers interested in replicating the model; Families of the users attended, community, stakeholders, etc.
Expected outcomes	• Creation of a fully operational Snoezelen Room constructed with sustainability criteria. • Didactic module/User guide on sensory stimulation integrated into the VT curriculum. • Collaboration agreement with the Day Center/residence, offering practical experience and services to the community. • Specialized training for the teaching staff and the Day Center/elderly home

	personnel.
Partners	We are looking for one or two VET schools and organisations. from The Netherlands and other EU or associated country, active in the field of healthcare, with experience in Snoezelen methodologies, for example. (**VET schools / providers,** Association or Social Entity with experience in sensory stimulation or special needs.)
Project timeline	24 months
Contact information	europe@somorrostro.com international@tknika.eus

16 Plaiaundi LHII

KA210: Green & Digital VET Labs

Project Title	Green & Digital VET Labs: Learning through Sustainable Innovation
Background	**Plaiaundi LHII** (https://www.plaiaundi.eus/) is a public VET School under the Department of Education of the Basque Government, located in Irun, Spain. Its **location** on the border with France and Navarre enables it to serve learners from different territories, including the French Basque Country and Navarre. This geographical and socio-economic context directly shapes the School's identity and its links with the professional environment. The local economy is closely linked to the services sector. In response to these needs, CIFP Plaiaundi LHII provides training across **six professional fields: Administration, Transport, Trade, IT, Community Services and Healthcare**. Its training provision includes two Grade C programmes, six intermediate-level (EQF Level 4) programmes and ten higher-level (EQF Level 4) programmes, designed to respond to labour-market needs and the changing nature of career profiles. We have experience in educational **innovation**, **international** mobility and European cooperation. The **project aims** to strengthen VET as a driver of sustainable innovation and applied research, connecting education with real environmental and professional challenges. It promotes the circular economy, responsible use of natural resources, waste reduction, sustainable food and the development of innovative products. It ddresses the four **Erasmus+ horizontal priorities,** while establishing a clear hierarchy based on their relevance to the project's objectives and identified needs. **Sustainability** and the fight against climate change are the project's main focus, promoting green competences, the responsible use of resources, and more sustainable production and learning models. **Digital transformation** is the second key strand, **Inclusion and diversity** form the third strand and European citizenship.
Project objectives	• Strengthen innovation and applied research through practical experimentation and problem-solving. • Integrate sustainability, green competences and circular-economy principles into VET. • Use digital tools to improve research, learning and experimentation. • Develop teachers' professional competences through European cooperation. • Promote inclusive, flexible and accessible learning. • Strengthen European cooperation and transfer good practices to other VET contexts.
Work packages / planned activities	• Project management and quality assurance. European VET Sustainability Forum: sharing experiences, identifying common challenges and exchanging good practices. • Circular economy and sustainable food: exploring local food systems, resource use and the sustainability potential of the nopal cactus. • European Sustainable Innovation Lab: researching nopal cultivation, digital monitoring and applications in areas such as food, cosmetics and beverages. • Dissemination and sustainability.
Target groups	• VET learners: participating in practical activities, research and experimentation across different professional fields.

	• VET teachers and trainers: exchanging good practices and testing new teaching methodologies. • Innovation and internationalisation coordinators: supporting coordination, evaluation, transfer and long-term continuity.
Expected outcomes	• New teaching methodologies integrating sustainability, digital competences and challenge-based learning. • Practical pilot activities tested in different VET contexts. • Improved learners' green, digital and professional competences. • A collection of transferable educational resources and good practices. • Stronger European cooperation and teachers' professional development. • Continuous improvement and long-term integration of project results into everyday teaching.
Partners	We are looking for three VET schools or organisations from any EU or Erasmus+ associated country, active in agriculture,culinary arts and beverage production, with experience in innovation projects, with the aim of promoting applied research, enhancing teaching methodologies, fostering the exchange of good practices and creating opportunities for future collaboration.
Project timeline	12 months
Contact information	Clara Vicioso: erasmus@plaiaundi.eus Maialen Lopez: zuzendaria@plaiaundi.eus international@tknika.eus

17 Laudioalde LHII

Open Physical AI Factories

Project title	**Open Physical AI Factories:** **Physical AI for Vocational Education and Training and SMEs**
Background	**Laudioalde LHII** (www.laudioalde.eus) is a public VET centre in Laudio/Llodio, in the Basque Country, Spain, offering programmes in industrial automation and robotics, mechatronics, intelligent manufacturing and OT cybersecurity. Innovation and internationalisation are strategic priorities: we coordinate an Erasmus+ KA210 partnership and lead EmbodiedAILab, an applied Physical AI project within the Tknika framework. We are developing a Collaborative Learning Factory that connects vocational learning with industrial challenges. Through our membership of AER Automation, ANIMA and Robotekin—associations supporting robotics, automation and humanoid technologies—we connect with companies and technology specialists, strengthening the link between vocational education and emerging industry needs. EmbodiedAILab project | Tknika | Robotekin **Context and problem** Physical AI enables robots to use artificial intelligence to perceive and act in the physical world, including learning tasks from human demonstrations. Bringing these capabilities into vocational education requires practical learning pathways suited to VET teachers and learners. Drawing on Laudioalde's ongoing work, this proposal addresses the difficulty of translating emerging robot-learning technologies into accessible teaching activities connected to SME needs. Equipment and computing resources alone are insufficient without teacher preparation, appropriate learning materials and clear assessment methods. European cooperation will enable centres with complementary expertise to address these needs together and test approaches across different educational and industrial settings. **Main challenges** • **Teacher preparation:** building competences to teach and assess Physical AI. • **Accessible learning:** reducing equipment, computing and support barriers. • **Industrial relevance:** linking VET learning to SME needs and industrial robotics. • **Inclusive participation:** removing learning barriers and strengthening women's technical roles. • **Curriculum integration:** embedding Physical AI into regular VET teaching.
Project objectives	To develop and validate an inclusive European training model that enables VET teachers and learners to apply and assess Physical AI in practical tasks relevant to SMEs, combining affordable robotic platforms, shared remote laboratories and cooperation between VET centres and industry.
Work packages and activities	**WP1 – Project coordination and quality assurance** **WP2 – SME needs and VET competences** Partners will identify practical tasks relevant to SMEs and translate them into learning outcomes suitable for VET. They will review teacher training needs, available equipment and barriers to participation, establishing a shared foundation for the learning activities and accessible laboratory design.

	WP3 – Teacher training and accessible Physical AI laboratories Partners will prepare teachers and jointly develop practical learning resources and a replicable, low-cost laboratory model. Affordable robotic platforms, open-source tools, simulation and shared remote computing will enable centres with different resources to teach robot learning through demonstrations, data preparation and model adaptation. **WP4 – Educational pilots and industrial application** Teachers and learners will test the learning activities in partner centres' learning factories and workshops, using tasks defined with SMEs. Selected cases will explore transfer to industrial or collaborative robots. Partners will assess learning outcomes, technical feasibility and inclusive participation, using the findings to improve the resources and support their adoption by other VET centres.
Target groups	VET teachers and learners in automation, robotics, mechatronics and intelligent manufacturing; SME staff involved in defining and evaluating tasks. Proposed reach: 24 teachers, 200 learners, 8 SMEs and 20 company professionals. Targets will be refined with partners according to their delivery capacity. Priority outreach will target women in technical learning pathways and learners with documented economic, geographical, language or educational barriers. Centres with limited equipment and staff committed to providing local support will participate. Country of origin alone will not define disadvantage. Targets for women's participation will be set before the pilots using each partner's baseline. Measures will combine role models and women technical mentors, targeted outreach, access support and active participation in technical tasks.
Expected outcomes	A practical Physical AI training pathway for VET, supported by teaching resources, assessment tools and a replicable low-cost laboratory model with shared remote access. Pilots developed with SMEs will provide evidence of learning outcomes and the feasibility of selected industrial applications. Participating centres will strengthen their capacity to integrate Physical AI into regular teaching and support inclusive participation
Partners	We are looking for three VET schools and one university, technology centre or specialist company from EU Member States or countries associated with Erasmus+, active in robotics, automation, mechatronics or applied AI. Partners will contribute complementary expertise in vocational teaching, robot learning, simulation or industrial applications to co-develop, pilot and validate accessible Physical AI training resources and low-cost laboratories. In return, they will benefit from teacher development, shared technical expertise and remote resources, and stronger cooperation with SMEs. CIFP Laudioalde LHII will coordinate the project, with Robotekin proposed as a partner to support SME engagement and dissemination, subject to formal agreement. .
Timeline	Proposed duration: **36 months.**
Contact information	Iratxe Riera (Erasmus Coordinator and Director of Innovation) internazionalizazioa@laudioalde.eus international@tknika.eus

18 EASO Politeknikoa LHII

International Interdisciplinary VET Competition

Project title	International Interdisciplinary VET Competition: **Learning together, building together: a European challenge for VET students**
Background	**Easo Politeknikoa** (https://easo.eus/) is a public Integrated VET Centre of the Basque Government in Donostia-San Sebastián, Spain. Founded in 1879, it serves over 1,500 students with 230 staff across 11 professional fields, offering intermediate- and higher-level programmes, specialisation courses and vocational training for employment. It promotes company links, innovation, digitalisation, sustainability and ETHAZI challenge-based collaborative learning. Experienced in European cooperation and mobility, it was recognised as a National VET Centre of Excellence in Social and Care Economy in 2024. The project extends its collaborative approach internationally. **PROJECT CONTEXT AND RATIONALE** VET must prepare learners for a connected, digital and multidisciplinary labour market requiring technical expertise, cross-specialism collaboration, foreign-language communication, problem-solving and adaptability. Yet international opportunities are not equally accessible, particularly to intermediate-level learners (EQF 4) and students facing economic, social or geographical barriers. Technical challenges increasingly combine the integration of knowledge from different professional fields, while learners often work mainly within their own specialism and centre. Initiatives such as Smart Collaborative Learning Factory, promoted by the Basque Government's Deputy Vice-Ministry for VET and involving Easo, show the value of students from different specialisations solving company-based challenges together. The project proposes an inclusive European interdisciplinary competition in which students from different centres collaborate in mixed international teams—not against other schools—to combine components prepared at their own centres. The initial challenge may be designing and building a water-powered hydraulic system to lift a load to a specified height; the final challenge will be agreed with partners and adapted to their specialisms, resources and needs. Preparation will combine school-based work and online international coordination, followed by a face-to-face event at Easo in Donostia-San Sebastián. Students will integrate their components in multidisciplinary teams. International cooperation will become part of regular learning, strengthening technical, digital, English communication and teamwork skills through a practical challenge linked to professional practice and a replicable VET model. **CHALLENGES, NEEDS AND GAPS ADDRESSED BY THE PROJECT:** 1. **Limited access to international learning**: integrate international collaboration into regular learning, including for intermediate-level learners and those facing mobility barriers. 2. **Digital and technological skills**: use digital tools to coordinate, exchange technical information, share designs and documentation, present results and communicate internationally. 3. **Interdisciplinary learning**: understand other professional profiles and combine knowledge and contributions into a common solution. 4. **Transversal and communication skills**: develop communication, planning, adaptability, conflict resolution and problem-solving, using English as the working language. 5. **Attractive and motivating learning**: apply knowledge to practical collaborative challenges, take responsibility and see the value of each contribution. 6. **Transfer of good practices**: document and share the competition methodology in a practical guide that other centres can reuse.

	7. **Cooperation between institutions**: replace centre- or country-based rivalry with mixed international teams valuing collaboration, creativity, technical problem-solving and mutual respect.
Project objectives	**Overall objective**: develop and test an inclusive European model of challenge-based interdisciplinary learning for intermediate-level VET students (EQF 4), strengthening technical, digital, language and transversal skills through an international collaborative competition. **Specific objectives**: (1) promote cooperation among four or five European VET centres through joint preparation, online work and a final event; (2) strengthen interdisciplinary learning through a shared practical challenge; (3) improve digital, language and transversal skills through documentation, English, teamwork and presentations; (4) increase inclusion and motivation by embedding international experience in regular learning; (5) validate a replicable methodology and produce a practical guide; and (6) build a sustainable European network and explore recurring editions.
WPs / planned activities	**WP1. Project management and coordination** **WP2. Needs analysis and design of the European challenge** Identify partners' specialisms, resources and expertise and students' needs; jointly define the challenge, requirements, constraints, safety and assessment criteria; allocate responsibilities; design international teams, work plan, rubric and collaboration tools. The initial proposal is a water-powered hydraulic system to lift a load; partners will agree on the final topic to enable different profiles to participate. Methodology: challenge-based learning, co-design and interdisciplinary planning. **WP3. Development of the technical challenge and international collaboration** Each centre develops its specialist component with EQF 4 students and expert teachers. Partners share drawings, technical documentation and digital materials; online student/teacher meetings coordinate progress and interfaces; prepare intercultural communication and English; explore a preliminary mobility if budget and timing allow; verify and document each contribution. Methodology: challenge-based and cooperative learning, project work and digital collaboration. **WP4. European interdisciplinary competition and evaluation** At Easo Politeknikoa: Monday arrival; Tuesday welcome, project presentation and team-building; Wednesday integration of prepared components; Thursday testing, presentations, assessment, awards and farewell; Friday departure. Each mixed team has one student per centre (four or five students). Assessment values collaboration, technical integration, creativity, problem-solving and presentation—not competition between centres or countries. Methodology: international cooperative learning, practical problem-solving, demonstration and shared assessment. **WP5. Evaluation, dissemination and sustainability** **Methodology:** participatory evaluation, reflection, good-practice documentation and dissemination.
Target groups	**Main**: intermediate-level VET students (EQF 4) from four or five European centres, involved in developing components, collaborating internationally and taking part in the competition. Fields may include Mechanical Manufacturing and Design, Electricity and Electronics, Automation, Welding, Carpentry and Audiovisual Production. **Secondary**: VET teachers; participating centres; other students and teachers using the materials; and the wider VET community and networks interested in replicating the model. Inclusion will be prioritised, encouraging students with fewer opportunities to access international experiences and promoting gender equality across specialisms.
Expected outcomes	1. **European interdisciplinary VET competition**: a pilot with four or five centres and EQF 4 students demonstrating how different countries and specialisms can integrate a shared technical solution. 2. **Practical guide**: reusable guidance on challenge design, partner responsibilities, mixed teams, digital coordination, technical integration, safety, assessment, final-

	event organisation, learning outcomes and adaptation to other fields; shared with other VET centres. 3. **Improved student skills**: technical application, practical problem-solving, cross-specialism collaboration, English, digital tools and multicultural teamwork. 4. **Stronger international cooperation**: a European network for exchanging methodologies, technical knowledge and good practices, supporting future projects. 5. **Continuing competition model**: recommendations for periodic editions, potentially rotating host centres and adapting challenges to partners' expertise. 6. **Greater motivation and engagement**: a practical international experience that highlights the relevance of professional skills, assessed through participant feedback and reflection.
Partners	We seek four or five complementary VET centres from EU or associated countries, active in industrial fields such as mechanical manufacturing/design, electricity, electronics and automation, welding and metal structures, wood and furniture, or audiovisual production and digital communication. These profiles are indicative; other specialisms may participate where relevant to the jointly agreed challenge. Partners will co-develop, pilot and validate the challenge and deliver the competition.
Project timeline	The planned duration is 24 months.
Contact information	Contact person: Aitor Cuende Isuskiza - aitor.cuende@easo.eus international@tknika.eus

Project idea 1

Project title	**WaterWise Europe - European Water Skills for a Climate-Resilient Future**
Background	***Water challenges do not stop at national borders. Neither should water education.*** Across Europe, climate change is fundamentally changing the way we need to manage water. Drought, extreme rainfall, declining water quality, salinisation, biodiversity loss and increasing pressure on freshwater resources require new approaches to water management. At the same time, the water sector faces another challenge: a growing shortage of skilled vocational professionals. Technological innovation, digitalisation and the transition towards more sustainable and circular water systems are changing the competences required from future water professionals. WaterWise (Waterwijs in dutch) was established in the Netherlands as a public-private partnership with e.g. VET providers, Water- and Public Authorities and Water Sector Companies to address exactly this combination of challenges. The partnership brings vocational education together with water authorities, governments, companies, applied research and higher education. ***The water professional of the future needs to understand the whole water system – and needs to learn by working on real water challenges.*** **WHY** Europe faces shared water challenges and a growing shortage of skilled water professionals. **HOW** By connecting regional water ecosystems across Europe and turning real water challenges into shared learning, research and innovation environments. **WHAT** Joint Water Skills Modules, European Water Challenges, Connected Living Labs, Applied Research, Teacher & Student Mobility, Knowledge Exchange

Project objectives	• WaterWise Europe aims to build a European learning and innovation network in which education, research, government and the water sector jointly develop the skills needed for a climate-resilient future. • WaterWise Europe does not aim to create one European water curriculum, but to connect regional expertise and develop transferable Water Skills that can be applied across different European water contexts.

Planned activities	• **WP 1 Water Skills & Curriculum,** partners jointly develop and test modular learning materials around themes such as:
	  ○ Aquatic Ecology
	  ○ Smart Water Systems
	  ○ Water infrastructure
	• **WP 2 European Water Challenges**, partner regions identify comparable water challenges, for example:
	  ○ climate adaptation and extreme rainfall;
	  ○ drought and freshwater availability;
	  ○ water quality and aquatic ecology;
	  ○ salinisation;
	  ○ nature-based solutions;
	  ○ smart water systems and sensor technology;
	  ○ water infrastructure and maintenance.
	• **WP 3 European Water Living Labs,** Existing regional field labs and living labs become connected learning environments
	• **WP 4 Applied Research & Communication**
	• **WP 5 Mobility & Professionalisation**

Target Groups	• The primary target groups are VET students, VET instututions and professionals in the water sector. • Secondary target groups include water authorities, municipalities, regional governments, companies, applied research organisations, universities of applied sciences and other VET institutions. The partnership brings together education, research, government and water-sector organisations.
Expected outcomes	• European Water Skills Framework • 3–4 jointly developed modules, • European Water Challenge methodology • network of connected Water Living Labs • student and teacher mobility programme, • open learning materials • a transferable model for practice-based water education.
Partners	WaterWise Europe offers partners the opportunity to connect their regional water challenges, expertise and learning environments to a European network. By working together, partners can learn from different water contexts, jointly develop and test educational solutions and strengthen the skills of students, teachers and water professionals. **Partners in:** • Education & Research

	• Water Authorities • Public Authorities • Industry & Technology • Living Labs & Innovation Networks. *Different regions. Shared water challenges. Stronger Water Skills.*
Project timeline	Under construction
Contact information	Ronald Talen, program manager Waterwise Contact email: r.talen@aeres.nl Mobile: + 31 6 50 40 69 61

Project idea 2

Project title	**CREATE** **European Creative Technology & Cross-Sector Innovation Ecosystems** Connecting creative VET, industry and research to turn emerging and applied media technologies into responsible, sustainable innovations across sectors.
Background	Emerging and applied media technologies—including immersive experiences, interactive media, AI-assisted production, virtual production and digital simulations—create new opportunities for healthcare, manufacturing, the built environment and other industries. However, expertise is often fragmented between creative technology specialists, vocational education and the sectors that could benefit from these applications. Promising prototypes do not always progress to viable, responsible implementation. This responds to EU priorities such as the Union of Skills, the AI Act and the EU competence frameworks for entrepreneurship and sustainability (EntreComp, GreenComp). OASIS is a Dutch public–private partnership connecting 6 creative and technical VET schools with 22 industry partners. (https://www.oasis.nl/faqs) Through its Innovation Board, Academy, Learning Community, Education Development and Applied Research, OASIS connects innovation to vocational practice. The OASIS Academy already offers short, practice-based trainings in AI, virtual production and other emerging media technologies for teachers and professionals from education and industry. CREATE proposes to connect OASIS with complementary regional European ecosystems, combining creative expertise with real challenges and implementation capacity from other industries.
Project objectives	• Build a lasting European network of regional creative technology innovation ecosystems, bringing together VET (EQF 3–5), companies, applied research and cross-sector industry partners. • Work with companies from different industries to develop and test innovative media technology solutions that address real-world challenges and create sustainable value. • Strengthen VET educators, experts and learners through shared professional development, applied research and challenge-based, cross-disciplinary education. • Build on the OASIS Academy to develop a European lifelong learning offer that helps teachers, professionals and employees from other industries keep pace with rapidly changing creative technologies. • Equip learners and professionals with entrepreneurial and transversal competences to turn concepts into viable solutions: collaboration, communication, user-centred design, pitching, business modelling and implementation. • Ensure that new media technology solutions are developed responsibly, comply with European regulations, and contribute to a more independent and resilient European digital economy.
Planned activities	1. Ecosystem and challenge mapping: map partner expertise, emerging skills and priority challenges submitted by cross-sector industry partners; jointly select a manageable set of application domains. 2. European Teacher & Expert Network: expert exchanges, train-the-trainer activities, peer learning and a shared community of practice for creative technology educators and professionals. 3. European Creative Tech Academy: building on the OASIS Academy, co-develop modular and flexible short courses, masterclasses and hackathons, ranging from non-formal to formal learning, with companies supplying participants and partners sharing and adapting each other's trainings.

	4. Cross-sector innovation labs: multidisciplinary teams of students, educators, technology specialists and sector professionals co-design, prototype and test solutions in authentic settings. 5. Entrepreneurship and implementation: develop practical methods for customer discovery, value propositions, sustainable business models, adoption pathways, impact measurement and scaling beyond prototypes. 6. Future skills and responsible innovation: create transferable learning modules and assessment approaches covering technical, entrepreneurial and soft skills alongside ethics, accessibility, compliance and digital autonomy. 7. Transfer and continuity: publish reusable resources, document validated use cases and establish a governance and sustainability model for the European ecosystem network.
Target Groups	Creative and technical VET students, teachers and trainers; experts in emerging and applied media technologies; companies from the creative and technology sectors; researchers; entrepreneurs; companies and professionals from other industries seeking innovative solutions; and professionals and employees from creative and other industries who want to upskill or reskill. Regional innovation networks and organisations supporting education, entrepreneurship and business development.
Expected outcomes	• A functioning European network of regional VET–industry–research ecosystems, with cross-sector partners and a long-term cooperation model. • A teacher and expert development programme, shared teaching resources and methods for multidisciplinary, challenge-based learning. • A shared European lifelong learning offer of modular trainings, building on the OASIS Academy, open to teachers and professionals in all partner regions, with recognition through micro-credentials. • Documented cross-sector pilots with evidence on feasibility, user value, sustainability and potential implementation, not only technical prototypes. • A practical entrepreneurship and responsible-innovation toolkit, including pathways from concept to adoption and guidance on relevant compliance.
Partners	**Initiating ecosystem:** OASIS (Netherlands), with its participating VET schools and industry network. **Possible partners:** European VET–industry ecosystems; creative technology SMEs; applied research organisations; companies from selected application sectors; entrepreneurship and innovation support organisations. Specific international partners to be explored and confirmed.
Project timeline	36–48 months (indicative; subject to partner co-design and Erasmus+ CoVE call requirements). Initial phase: partnership formation and needs mapping; middle phase: training and pilots; final phase: validation, transfer and long-term network arrangements.
Contact information	OASIS / Grafisch Lyceum Rotterdam — Henri Timmerman, Internationalisation & OASIS programme management. Timmerman@GLR.nl

Project Idea 3

Project title	Beyond Sustainable employability in the Medtech Logistics
Background	Beyond is a successful public-private partnership (partners: Medtech companies, VISTA/VET, local government, employment agencies). Started in 2015. Working in co-creation on Life -Long-Learning programs beyond has developed customized programs on EQF 1-4-level for the Medtech Logistics (including dual integration programs). The programs are aimed on current and potential new employees. Sustainable and new employability are very important, because the Medtech Logistics sector is growing very fast. More than 500 VET diplomas and more 200 certificates have been awarded. 75 persons have followed the dual integration programs. Subsidiaries of the companies have taken note of the Dutch public-private partnership and its successes. They are interested to participate in the program and/or to develop their own program.
Project objectives	• To set up an European ecosystem in the Medtech Logistics with the goal to have a qualitative and quantitative, sustainable workforce in the Medtech Logistics for now and the future. • To up-skill & re-skill / develop current logistics-employees on the workplace (goal: sustainable employability). For example: AI, digitization & robotization, data. • To develop possible new employees for the Medtech Logistics, make them fit for the job. Through education, coaching on the workplace and social coaching.
Planned activities	• Development and carrying out of Medtech Logistics LLL programs (diplomas, certificates, micro credentials) in various European countries. Partly based on the successful actual Dutch program. In co-creation between the Medtech companies and de VET centres • Further development and optimization of the Dutch program. Based on the reflection, feedback, developments in various European countries • Possible development of a, partly, uniform program.
Target Groups	• Employees working in the Medtech Logistics (Life Long Learning)n

	• Possible new employees for Medtech Logistics un-employed people, people with a distance to the labour market, career changers, school drop-outs, refugees……
Expected outcomes	• European Life Long Learning program in the Medtech Logistics (EQF level 0-4)
Partners	Netherlands • VISTA College /vocational education; South Limburg, Netherlands • Local government • *Companies:* -Boston Scientific -Medtronic -Abbott Vascular -DocMorris Looking for European partners: • VET centres in the neighbourhood of the subsidiaries of the companies included in the Netherlands • Subsidiaries: -Boston Scientific (Greece/region Athene, Turkey/Istanbul) -Medtronic (Rolo, Italy / Alcala, Spain) -Abbott Vascular (Wiesbaden, Germany/Machelen,Belgium) -DocMorris (Hilter, Germany/Herzogenrath, Germany)
Project timeline	24 months
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Project Idea 4

Project title	**WE-IT International** – international work experience as an add-on to lifelong learning
Background	**The Hague University of Applied Sciences – WE-IT** (www.we-itwerkt.nl), the Netherlands. WE-IT is a public-private partnership for IT talent in the Rotterdam–The Hague region. AI is changing the IT labour market fast. Routine work is being automated and employers ask for different skills. Stanford research shows that in the US, employment of young workers (22–25) in AI-exposed occupations is 19% below that of less-exposed peers, mainly because companies hire fewer starters (Brynjolfsson, Chandar & Chen, 2025, revised 2026). For career changers and junior IT professionals, a diploma or certificate is therefore often not enough. Employers want proof that people can apply their skills in practice. Existing employees also need new AI skills to stay employable. International collaboration builds exactly these skills. Dutch graduates who worked online with peers abroad mainly report better language and digital collaboration skills (Nuffic, Grenzeloos Studeren, 2025). The effect of a short international work project for career changers and employees has not yet been studied. **The question:** how do we give people demonstrable work experience, without an extra study programme and without leaving their job?
Project objectives	• Give learners demonstrable, international work experience on a real AI or IT assignment, on top of their existing course or job. • Involve employers by letting them bring in their own case and develop their own staff at the same time. • Develop the skills international IT work requires: English as a working language, distributed teamwork, intercultural communication and assessing AI against European rules on privacy, security and AI. • Test whether mixed-level international teams work, and develop a transferable European model for VET and adult education providers.
Planned activities	• **Blended programme of 12 weeks:** 4–6 hours a week of online teamwork, closed by a 3–5 day physical week with presentations to clients, company visits and networking. • **Real assignments:** each small international team works on one defined case, such as an AI assistant, process automation or data analysis. Employers that send an employee bring in the case; education partners add cases from their networks. Assignments do not replace paid work. • **Roles per level:** each participant has a fixed role and learning goal. A beginner does research, testing and documentation; an experienced participant leads development. Individual contributions are assessed.

	• **Portfolio:** each participant receives an experience portfolio with the work done, skills developed and client feedback. • **Pilot:** one team of six participants from three countries, then scaling to more teams.
Target Groups	• IT career changers and adult learners at VET and lifelong learning providers. • VET and higher education students and recent graduates who need work experience. • Employees whose work is changing because of AI and digitalisation. Education partners recruit learners; employers provide cases.
Expected outcomes	• A tested 12-week programme format, with role descriptions per level and an assessment method. • A completed pilot with six participants and one delivered solution for an employer. • Individual experience portfolios that participants can use in their careers. • Guidelines that other VET and adult education providers in Europe can adopt.
Partners	**We are looking for:** • VET centres and adult education or lifelong learning providers with IT, data or AI programmes, who can bring in learners and a coach. • Companies willing to bring in an AI or IT case and, ideally, an employee as participant. **Our network:** • WE-IT: education institutions, public and private lifelong learning providers and employers in the Rotterdam–The Hague region. • We build on NomadTrail (Erasmus+, 2023–2026), in which FH Dortmund, KU Leuven, the University of the Basque Country (UPV/EHU), Kaunas University of Technology and NTNU run virtual innovation projects for companies. • The Hague University of Applied Sciences is a member of the Uninovis European University Alliance (partners in seven countries).
Project timeline	• **Now – February 2027:** partner search and Erasmus+ application (deadline expected March 2027). • **Autumn 2027:** project start; 12-week pilot with one international team. • **2028–2029:** evaluation and scaling to more teams. • **Duration:** 24 months.
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hogeschool Windesheim

Project Idea 5

Project title	COLD SPRAY: ENABLING ADDITIVE MANUFACTURING FOR CIRCULAR AND HYBRID MANUFACTURING
Background	As raw materials and labour become scarcer, the European manufacturing industry faces the challenge of producing in a flexible, competitive and sustainable manner. In this regard, Additive Manufacturing (AM) offers opportunities by adding material where it is needed, in contrast to conventional production methods which involve removing or deforming material. This enables the production of components that are more complex, light and custom made, whilst material waste decreases, as well as keeping production processes short and efficient where time consuming tooling steps are not necessarily needed and can be replaced by cold spray. Cold spray is an additive manufacturing technology in which metal powder is blasted onto a surface at high pressure and very high speed, causing the particles to bond with one another and with the surface. The technology has proven itself as a coating and repair method for restoring damaged high-quality components, but its application as a conditioned AM-technique in the industry is still in its early stages. Aspects as reproducibility, material combinations and quality control still need to be further developed before the technology can be widely applied on an industrial scale. Cold spray can be used as a technology for repairing or modifying (metallic) components, whose specifications, knowledge or CAD-drawings are spread across multiple sources, or are unavailable. In addition, cold spray offers the possibility to achieve material combinations that are difficult to achieve using conventional production methods. Several scientific studies have been published on these subjects, but the next step is to translate this fundamental knowledge into robust and certified applications that are economically viable for the manufacturing industry.
Project objectives	• Develop new knowledge from acquiring state-of-the art knowledge and a practical approach in the industrial application of cold spray, advancing the application of cold spray technology to a higher TRL; • Create a framework to determine when conventional techniques might be suitable and when cold spray or other AM-technologies should be employed; • Developing hybrid manufacturing processes by combining cold spray technology and other AM metal technologies with conventional techniques in the production process.
Planned activities	<u>User cases and production</u> • Design process • Demonstrators and prototypes • Repair and remanufacturing <u>Quality and interpretation</u> • Analysis and testing • Quality assurance • Interpretation and framework

	Knowledge Utilisation and impact • Understand limitations and user requirements • Build learning communities • Prototyping and demonstration • Training and dissemination
Target Groups	• SMEs and large enterprises in a high-tech manufacturing environment with hybrid manufacturing use cases, and cold spray or AM metal printing in particular. • Universities and Universities of Applied Sciences for both knowledge development and facility sharing in AM metal technologies. • VET and CoVE for educational and Long Life Learning development and opportunities.
Expected outcomes	As a technology, cold spray aligns with several European priorities within the 'Made in Europe' policy, in which the manufacturing industry is regarded as a strategic pillar of the European economy and innovation as such is linked to sustainability and autonomy. Cold spray contributes to priorities such as repair and remanufacturing, (raw) material efficiency, circularity and strategic industrial autonomy. • Development of capability in the high-tech industry to develop their own repairs using cold spray; • Creation of a community of suppliers, researchers, engineers and end-users who can jointly develop new applications for cold spray technology; • Widespread adoption of cold spray repair technology, making use of training materials and design guidance developed.
Partners	• Windesheim University of Applied Sciences, Zwolle (NL) https://www.windesheim.com/research/professorships/polymer-engineering and its specific research programme on Industrial AM Metal https://www.windesheim.nl/onderzoek/lectoraten/kunststoftechnologie/onderzoeksprogramma-industrieel-am-metaal (in Dutch) • Public-Private Partnership (PPP) partners Industrial Additive Manufacturing in Metals (IAMM) https://www.3diamm.nl (in Dutch) We are looking for partners across Europe that are working with the cold spray technology.
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Yuverta

Project Idea 6

Project title	**Inner development for food system transitions**
Background	Yuverta is seeking international partners to co-develop and pilot learning programmes that connect food system transitions with the Inner Development Goals (IDGs). The project explores food system challenges and their implications for nature, society and the economy. Transformative learning is the starting point. The IDGs connect inner development with societal change: participants examine their values, assumptions and roles, engage with different perspectives and explore opportunities for individual and collective action. The project investigates how this process enables VET students and professionals to understand and develop their role in, and contribution to, sustainable food systems. A key theme is multiple value creation: learning to recognise and combine value for nature, society and the market. Sustainable food systems require choices that take ecological limits, social needs and economic realities into account, rather than optimising one dimension at the expense of the others. In an increasingly polarised world, it is important that young people learn early on to understand these different values, engage constructively with perspectives that may differ from their own, and work towards shared solutions. Education can provide a space to practise dialogue, critical thinking, collaboration and responsible decision-making around complex societal challenges. The project will explore a range of learning approaches and activities together with its partners. One element will be the internationalisation of 'Het Lot van Laagland', an offline serious game developed in the Netherlands and currently available only in Dutch. In the game, participants make decisions for a fictional region, encounter food system challenges and collaborate to prevent its collapse. It makes competing interests and the consequences of collective choices tangible. Partners will explore how the game can be translated and adapted for use in different countries and educational contexts. The game is one possible tool within a broader learning approach. Together, partners will identify and develop additional learning activities, educational formats and ways of working that support transformative learning and the transition towards sustainable food systems.
Project objectives	1. Investigate how transformative learning, supported by the IDGs, helps students and professionals examine their assumptions, reconsider their role in the food system and take practical steps towards change. 2. Co-develop and pilot learning programmes for VET students, professionals and teaching staff, combining knowledge of food system transitions with guided reflection, practical application and suitable learning tools, including serious gameplay. 3. Explore how different cultural, educational and local food system contexts influence participants' perspectives, collaboration and decisions when addressing food system challenges. 4. Internationalise 'Het Lot van Laagland' by exploring and developing its translation and adaptation for different languages and contexts, while jointly investigating other educational approaches and activities that can strengthen transformative learning and contribute to sustainable food systems.

	5. Help young people develop the capacity to create and assess multiple forms of value for nature, society and the market, and to engage in dialogue and collective decision-making across different perspectives.
Planned activities	- Joint exploration and design: identify shared learning needs, objectives, programme structures, pilot groups and evaluation methods with international partners. Connect food system knowledge with personal reflection and opportunities for action, drawing on transformative learning principles and the IDGs. Explore partners' innovative educational practices and local food system cases. - Co-development of learning approaches: develop a set of complementary learning activities and formats with partners. This may include serious gameplay, case-based learning, collaborative assignments, visits, reflection and practical experiments. Activities will invite learners to consider how decisions create or affect value for nature, society and the market. - Dialogue and civic engagement: create opportunities for learners to encounter different viewpoints, discuss tensions and trade-offs in food system transitions, and practise constructive dialogue, collaboration and shared decision-making. This will help them explore how common values and collective action can emerge without requiring everyone to hold the same views. - Game internationalisation: work with partners and the game's rights holder and developer to explore and develop the translation and cultural and educational adaptation of 'Het Lot van Laagland'. Test the game with learners in different contexts and gather feedback on its relevance, usability and learning value. - Pilots, practical application and evaluation: implement and test the co-developed learning programmes with students, professionals and teaching staff. Participants identify feasible actions in their own context. Use reflections, facilitator observations and follow-up feedback to explore changes in perspective, perceived ability to act and first practical steps, including enabling conditions and barriers. - Reflection and refinement: evaluate the pilots with partners, refine the learning programmes and game, and identify opportunities for continued use, further development and collaboration.
Target Groups	- Primary audiences are VET students preparing for work in the food system, professionals in food, agriculture and related sectors, and VET teachers and staff at partner institutions. The project seeks innovative educational institutions that are open to transformative learning and interested in sustainable food systems. Partners may come from any country; a shared Dutch-language context is not required. - Teachers and staff are both learners and facilitators: they support students in developing the capacities to contribute to food system transitions. Teachers, trainers and education developers will also co-design, facilitate and evaluate the learning programmes and pilots.
Expected outcomes	- Co-developed, tested and refined learning programmes designed for continued use and adaptation beyond the project. These will combine IDG learning objectives, food system cases, transformative learning principles, guided reflection, facilitator guidance and practical action planning, and may include serious gameplay and other learning activities developed with partners. - An internationally adapted version or prototype of 'Het Lot van Laagland', including translation and contextual adaptation for participating countries, informed by testing and partner feedback. - Young people and educators better equipped to explore multiple value creation for nature, society and the market; engage constructively with

	different perspectives; and participate in dialogue, collaboration and collective action around shared challenges. - An evaluation summary examining shifts in perspective, perceived ability to act and first individual or collective steps towards food system change. It will also address cultural and educational perspectives, collaboration and conditions for learning, providing indications of development rather than proof of lasting system change. - Recommendations for continued use and further development of the learning programmes and game, including opportunities for international collaboration and scaling.
Partners	- Initiating organisation: Yuverta, the Netherlands, contributing expertise in green vocational education, lifelong learning and the existing learning approach. - Partners sought: innovative VET providers and other educational organisations from different countries that are interested in transformative learning, the Inner Development Goals and sustainable food systems. We are particularly looking for schools that are open to educational innovation and willing to explore new ways of learning and teaching. Partners do not need to operate in a Dutch-speaking context. - Partners will contribute their educational expertise, local food system cases and perspectives; co-design learning activities; involve students, professionals and staff; and help implement and evaluate pilots in their own context. The partnership offers opportunities for staff and student exchange, shared educational development and international learning. - The game's rights holder (Beet! network) and developer (Frisse Blikken) would be involved in discussions and work relating to its translation and adaptation. Food sector organisations and other relevant stakeholders may contribute cases and involve professional participants.
Project timeline	Maximum duration: 24 months. The indicative schedule may be adjusted in agreement with the partners. Months 1–6: partner engagement, joint exploration, design and pilot preparation. Months 7–12: co-development of learning activities and internationalisation of the game. Months 13–18: pilots in participating countries and follow-up. Months 19–21: evaluation and refinement of the programmes and game. Months 22–24: second pilot round where feasible, final evaluation and recommendations for continued use and further development. Start date, budget, funding route, pilot scale and responsibilities will be agreed jointly.
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