

TEMPLATE FOR THE GOOD PRACTICE

What is a good practice?

A good practice is not only a practice that is good, but a practice that has been proven to work well and produce good results, and is therefore recommended as a model. It is a successful experience, which has been tested and validated, in the broad sense, which has been repeated and deserves to be shared so that a greater number of people can adopt it.

Please follow the instructions included to fill in the template. You can replace the guiding questions for each element with your description.

Mandatory fields are defined by *

Element	Description
Title*	Systematic integration of internationalisation and innovation into everyday VET provision: Digital Twins on Smart Manufacturing as a concrete example
Name of the VET Provider	Politeknika Ikastegia Txorierri (Politeknika Txorierri), Derio, Basque Country, Spain
Thematic domain	- X Innovation - X Digital - X Lifelong learning - X Creating partnerships/skills ecosystems
Introduction*	Politeknika Txorierri has developed an institutional approach in which internationalisation and innovation are embedded in everyday VET provision rather than treated as separate or occasional activities. European cooperation projects, mobility, cooperation with companies and technology partners, and teacher professional development are used to identify emerging skills and technologies and transfer them into teaching, learning and organisational practice. A concrete example is the Erasmus+ Digital Twin on Smart Manufacturing project (No. 101140156). The project addresses the growing need for skills that combine manufacturing, automation, data and digital technologies. At Txorierri, project results have been connected with existing VET programmes through teacher involvement, modular e-learning/MOOC activities, practical and virtual learning environments, curricular links and skills-based challenges. The project started in 2024, with implementation and piloting at Txorierri during 2025-2026, including a larger student pilot in spring 2026 and a National Digital Twin Skills Competition in May 2026.
Stakeholders and Partners	The institutional practice benefits VET/HVET learners, teachers and trainers, as well as companies and professionals that need new skills in advanced manufacturing. It also involves international VET partners, companies, technology organisations and other ecosystem actors that contribute expertise, equipment, industrial use cases and opportunities for peer learning.

In the Digital Twins on Smart Manufacturing example, the direct users at Txorierrri include learners and teachers from Industrial Automation and Robotics and specialised advanced-manufacturing programmes, together with other learners participating in the 2026 pilot. The European consortium, coordinated by APRO Formazione, brings together VET, industry and technology partners around a common Digital Twin skills ecosystem.

Impact*

The main impact of the good practice is institutional: international projects become a mechanism for continuously updating VET provision. Teachers gain access to new knowledge, international peer learning and industrial practices; learners encounter emerging technologies through concrete learning activities; and the school strengthens its capacity to align training with changing labour-market needs.

The Digital Twins on Smart Manufacturing project illustrates this impact in practice. It has generated a structured skills framework, self-evaluation tools, modular e-learning, a training methodology, Digital Twin learning environments, micro-credential pathways and skills-competition activities. At Txorierrri, these resources have been used in piloting with students and connected to existing programmes, allowing Digital Twin concepts to move from an EU project context into everyday teaching and learning. The 2026 pilot involved approximately 70 students, in addition to earlier pre-pilot participants.

Innovation and Success Factors *

The innovative element is the systematic transfer mechanism between international cooperation and normal VET provision. New technologies and methodologies are not left as stand-alone project outputs: teachers participate in their development and testing, resources are adapted to existing programmes, learners use them in realistic activities, and feedback from implementation supports further improvement.

Digital Twins on Smart Manufacturing is a concrete example of this model. It combines curriculum development, flexible digital learning, practical/virtual laboratories, micro-credentials and challenge-based assessment. Key success factors include management support for internationalisation and innovation; active teacher involvement; cooperation with companies and technology partners; flexibility to embed modules within existing curricula; access to suitable digital and industrial infrastructure; and a culture that encourages experimentation, evaluation and transfer.

Constraints*

The main challenges are organisational as well as technical. International project results do not automatically become part of everyday VET: teachers need time to understand and adapt them, curricula have limited space, learners have different starting levels, and advanced technologies may require specialised software, equipment and staff expertise. There is also a risk that project resources become outdated after the funded period.

In the Digital Twin example, the multidisciplinary complexity of the technology and differences in prior knowledge were addressed through modular content, introductory and prerequisite learning, teacher guidance, practical/virtual activities and gradual integration into existing programmes rather than creating a completely separate course for every learner.

Lessons learned *

A key lesson is that internationalisation creates greater institutional value when it is deliberately connected to curriculum development, teacher learning and student activities. Participation in a European project is therefore treated as a starting point for internal transfer, not as an end in itself. Teacher ownership is particularly important: staff who participate in international development and piloting are the bridge between project innovation and sustained classroom use.

	The Digital Twin experience also shows that emerging technologies are more meaningful for VET learners when linked to concrete industrial processes and realistic problems. Modular resources make transfer easier because teachers can select the elements that best fit their programmes, learner profiles and available infrastructure.
Replicability and/or up-scaling	The practice is highly transferable because it is a process rather than a single technology: identify relevant innovation through international cooperation; involve teachers and external stakeholders; test it with learners; adapt it to existing curricula; collect feedback; and retain the useful elements in normal provision. This cycle can be applied to different technologies, sectors and VET contexts. For replication at regional, national or international level, VET providers need a clear internationalisation/innovation strategy, staff time and recognition for experimentation, links with industry and innovation actors, mechanisms for curriculum adaptation, and access to appropriate infrastructure. The Digital Twins on Smart Manufacturing resources provide a concrete package that other providers can adopt selectively - including the skills framework, modular learning content, methodology, self-evaluation tools, learning environments, micro-credentials and competition model - while adapting them to local qualifications and industrial needs.
Contact details	Politeknika Txorierri Anabel Menica, Director of Strategy&Innovation Untzaga Ibaia Kalea, 1, 48160 Derio, Bizkaia, Spain Tel.: +34 651705161 Email: amenica@politeknikatxorierri.eus Digital Twin project contact: hello@digitaltwinproject.eu
URL of the practice	Politeknika Txorierri: https://politeknikatxorierri.eus/ Digital Twins on Smart Manufacturing: https://digitaltwinproject.eu/
Related resources that have been developed	The broader good practice is reflected in the training resources, methodologies, pilot activities and institutional learning generated through international projects and subsequently used in our own and others' VET provisions. Digital Twins on Smart Manufacturing provides a concrete set of reusable resources, including the Digital Twin Skills Index and occupational profile; Self-Evaluation Tool; modular e-learning/MOOC programme and micro-credentials; Digital Twin Training Methodology and Trainer/User Manual; Digital Twin learning environments and virtual activities; skills-competition materials; and project communication and dissemination resources. These resources can support further integration of Digital Twin competences in VET and adaptation by other providers.