



Digital Twin
on smart manufacturing

PROJECT NEWSLETTER

ISSUE #1
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WELCOME TO THE FIRST EDITION OF OUR NEWSLETTER!

We are excited to share the latest updates and insights from the "Digital Twin on Smart Manufacturing" project. In this first issue, we introduce you to the fascinating world of Digital Twin technology, outline our project's objectives and expected results, and briefly present our partners.





WHAT IS DIGITAL TWIN TECHNOLOGY?

Digital Twin technology is a revolutionary concept that creates a virtual replica of a physical object or system. This digital model mirrors the real-world entity's characteristics, behaviour, and performance, allowing for real-time monitoring, simulation, and optimisation. In leveraging Digital Twins, industries can anticipate issues, optimise operations, and enhance decision-making processes. From manufacturing and engineering to healthcare and urban planning, Digital Twin technology is transforming various sectors by enabling innovative and efficient solutions.



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PROJECT OBJECTIVES

The "Digital Twin on Smart Manufacturing" project aims to develop and implement an advanced curriculum centred around Digital Twin technology. Our primary objectives include:

1. ENHANCING EDUCATIONAL PROGRAMS

Create a comprehensive curriculum for Digital Twin technology applicable to mid-to-high-level IT and OT technicians.

2. BRIDGING THE SKILLS GAP

Equip future professionals with the necessary skills to meet the evolving demands of the manufacturing industry.

3. PROMOTING SUSTAINABLE PRACTICES

Integrate principles of sustainability into the curriculum to foster environmentally friendly manufacturing processes.

4. FOSTERING INDUSTRY COLLABORATION

Strengthen the partnership between educational institutions and industry stakeholders to ensure practical and relevant training.





EXPECTED RESULTS

By the end of the project, we anticipate achieving the following key outcomes:

1. **Digital Twin Skills Index:** A detailed index outlining the essential competencies for technicians in the Digital Twin sector.
2. **Self-Evaluation Tool:** A digital tool to help learners assess their skills and tailor their learning paths accordingly.
3. **Modular E-Learning Course:** A comprehensive 450-hour e-learning program covering various aspects of Digital Twin technology.
4. **Digital Twin Training Methodology:** Featuring a Trainer's Manual to transfer the results to VET, HVET, HE organisations and companies involved in reskilling/upskilling workforce.
5. **Digital Twin Labs:** Establishment of five Digital Twin labs to provide hands-on training in real-world scenarios.
6. **Skills Competitions:** Organization of national and international competitions to challenge and enhance students' practical skills.
7. **Digital Twin Occupational Profile:** Based on ESCO classification and a higher level of skills and subjects outside the scope of traditional VET



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MEET OUR PARTNERS

Our project brings together a diverse consortium of educational institutions, SMEs, and industry leaders from across Europe:



Vocational Education and Training Centre, and the Project Coordinator.



Automation solutions provider.



3D technology and CAD solutions provider.



Digital education solutions provider.



Leading academic institution in technology and engineering.



Vocational education and training provider.



Association of technology industries.



Automation and industrial solutions provider.



Technical education and training institution.



Hellenic Mediterranean University, specialising in technology and applied sciences.



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RUSE CHAMBER OF COMMERCE AND INDUSTRY

Industry association supporting business and innovation.

Together, we are committed to advancing Digital Twin technology education and fostering innovation in the manufacturing sector.



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PROJECT DEVELOPMENTS



1. DIGITAL TWIN SHOWCASE

The Digital Twin on Smart Manufacturing project was showcased at the SECOVE Congress by Stefano Antona of APRO Formazione. Held on July 2-3, 2024, at the Aquarium in San Sebastián, the event brought together experts from 12 countries to address challenges in Vocational Education and Training (VET) in Europe. Key discussions included demographic decline, VET's appeal to young people, and its social recognition. The presentation marked an important step in promoting the project internationally and highlighted its relevance to Extended Reality (XR) initiatives. More information about the SECOVE Congress is available [here](#).

2. A PROJECT ON THE RIGHT TRACK

The Digital Twin project activities officially commenced with a successful kick-off meeting at the Politecnico di Torino at the end of May 2024. Representatives from all 11 partner organisations attended the two-day event. Partners set numerous tasks and goals for the upcoming months, including the training course's curriculum and methodology, the contents of the training module, teaching methods and self-assessment forms. More about the partners' meeting [here](#).



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STAY CONNECTED

We look forward to sharing more updates and developments in future editions of our newsletter. For more information about the "Digital Twin on Smart Manufacturing" project, please visit our website and follow us on social media.

CONTACT US :



www.digitaltwinproject.eu



hello@digitaltwinproject.eu



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Thank you for being a part of our journey towards a smarter, more sustainable future in manufacturing!



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