



Digital Twins for Climate Resilience NEWSLETTER

December 2025

Our New Milestone: Curriculum Completed!

The DigitalResilience project has successfully reached a major milestone. Following an extensive process of needs analysis, real case examinations, and collaborative curriculum design, the DigitalResilience Curriculum is now finalized.

Need Analysis

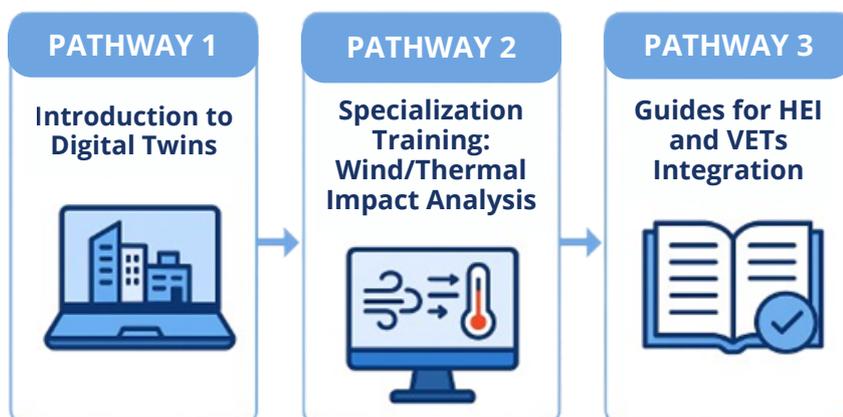
- A survey with 53 participants from Portugal, Spain, and Türkiye showed high awareness but limited practical experience with digital twins.
- While 74% were familiar with DTs, only 38% had used DT tools and 26% had received any DT-related training.
- These results highlight significant gaps in data skills, modelling experience, and institutional readiness

Real Cases / Experiences

- A review of 44 real-world digital twin cases revealed recurring challenges: cost and resource limitations, technical and integration complexity, data quality issues, and skill gaps within organisations.
- These findings directly informed the design of the curriculum's topics and use cases.

Introducing the DigitalResilience Curriculum

The newly developed curriculum consists of three learning pathways, each addressing key skill levels and institutional needs:





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Curriculum Structure and Modules

The DigitalResilience Curriculum includes nine modules, each designed to build skills step-by-step.

The content is tailored for two audience profiles:

- HE/VET Students: structured weekly progression
- Professionals: self-paced, non-sequential learning

Pathway 1 (Modules 1–4)

- Digital twin fundamentals
- Data sources, tools, and legal aspects
- DT software and IoT integration
- Organisational readiness and adaptation

Pathway 2 (Modules 5–8)

- Preparing DTs for wind and thermal simulations
- Calibration, modeling, and scenario development
- Interpretation of climatic effects
- Best practices and real-world demonstrations

Pathway 3 (Modules 9)

- Strategies for embedding DT-based training in HEI/VET programs
- Examples of institutional adoption and implementation

Learning Approach & Assessment



100%
Asynchronous



Scenario-based
learning



Case
studies



Self-
reflection



Quizzes

Project Dissemination: Presentation at 7th IITEE Symposium (Türkiye)

The project's initial findings and the significance of digital twin technologies for climate resilience were briefly presented at the 7th International Instructional Technologies in Engineering Education Symposium (IITEE) on October 9, 2025, hosted by Ege University.



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Co-funded by
the European Union

The project "Digital Twins for Climate Resilience" (Project No: 2024-1-ES01-KA220-HED-000252797) is co-financed by the European Union. The opinions and views expressed in this publication are solely those of The Consortium and do not necessarily reflect those of the European Union or those of the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the SEPIE National Agency can be held responsible for them.