



DTWO

Offshore **wind energy**,
digitally twinned
for reliability



Funded by the
European Union

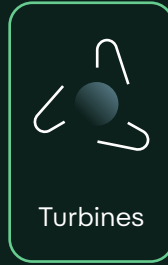
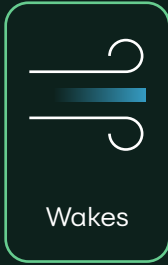
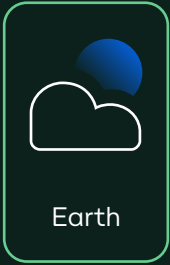
OUR AMBITION

In renewable energy, reliability is key as sources like wind and solar are naturally intermittent.

DTWO is developing a digital twin to forecast offshore wind power production. Aimed at ensuring greater energy reliability and security, the digital twin will seamlessly integrate existing models and simulation assets, unlocking new possibilities in sustainable energy.

DTWO integration

Modules



Technical Integration



Federated
architecture of the
Digital Twin platform



Scientific
integration



Final DTWO
platform architecture
and integration

Elevating the Environment

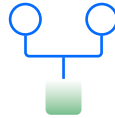
Pioneering initiative in the digitalization of offshore wind energy by combining:



Federated Approach

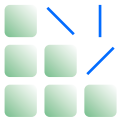
Unlike traditional digital twin systems that centralize data, DTWO uses a federated architecture.

This allows users to customize without sharing sensitive, commercially valuable data.



Model Integration

The software integrates a wide array of existing models and data sources, including physics-based, simulation, semantic, and AI/ML-driven models.



Granular Prediction Capabilities

DTWO aims to improve predictive accuracy by enhancing data granularity and using advanced modelling for higher precision in decision-making.



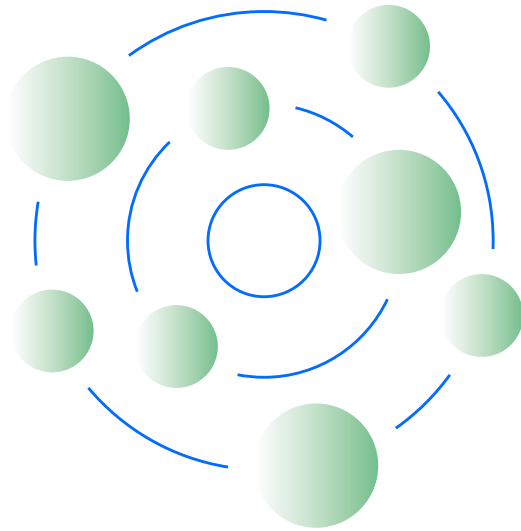
High-Level Cybersecurity

The project prioritizes security, addressing concerns around data vulnerability in digital transformation efforts.

Impacts

The initiative accelerates Europe's leadership in renewable energy by transferring cutting-edge research into digital and wind technologies.

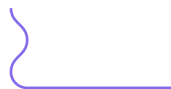
The most comprehensive offshore digital twin will be set up, designed for user-friendliness and aligned with Europe's green energy transition.



9 Countries

5 Test Scenarios

3 Years

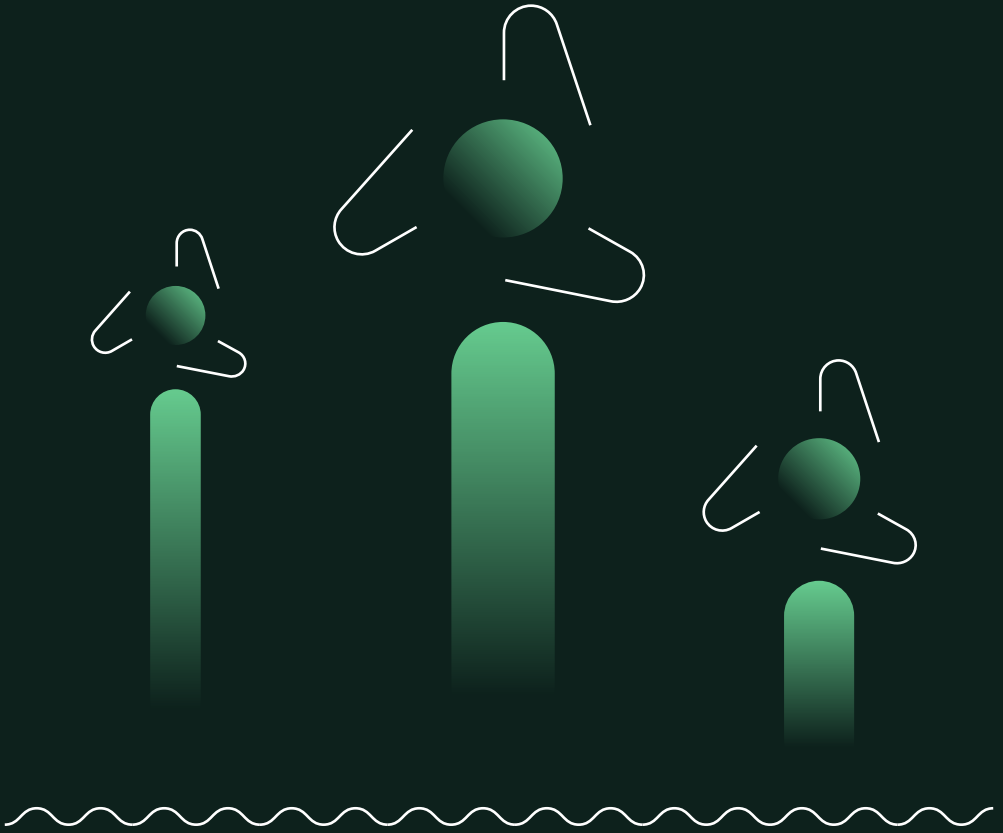


To get:



+15%

Accuracy in short-term forecasting of energy



Join us in shaping a greener tomorrow
with digitally twinned offshore wind energy.

dtwo-project.eu

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Contact us at:

info@dtwo-project.eu