

# Digital Twin & AI

## Two sides of the same coin



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# Digital Twins & AI Two sides of the same coin



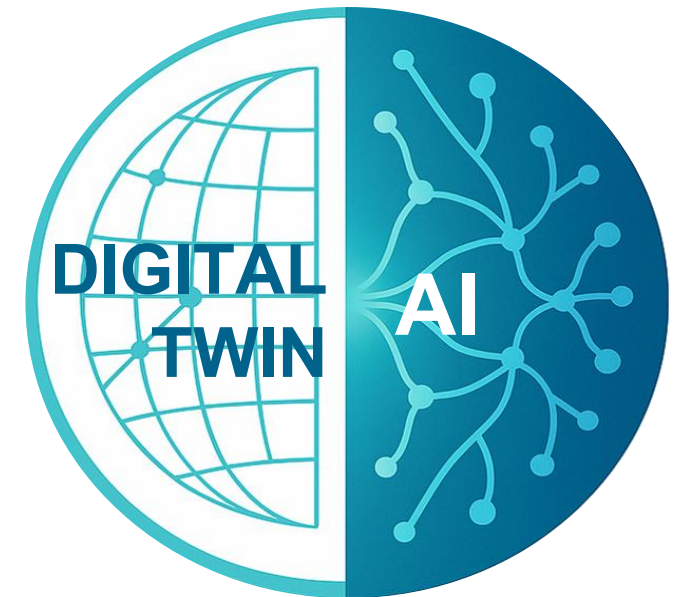
Digital Twins and AI are converging into a **new kind of service ecosystem**.



AI, including new generations of AI Foundation Models, provides intelligence enabling Digital Twins to move from **mirroring reality** to **anticipating it**.



Together, they enable **adaptive, evolutionary, data-driven** environmental services with **user-centric storylines** that **enhances stakeholders' engagement**.



# Holistic orchestration of complexity

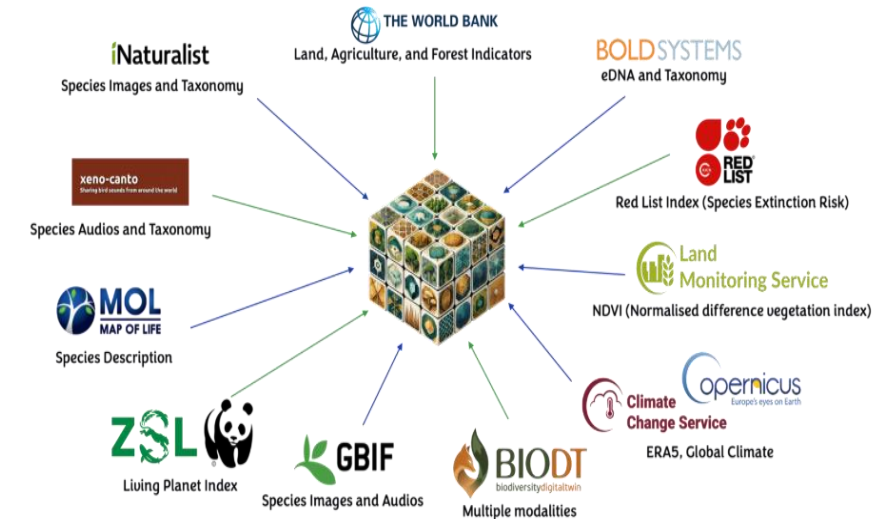


- Developed prototype Digital Twins of biodiversity
- Connects EU Twins and initiatives (DestinE, DTO)
- Integrates **FAIR data**, **HPC**, and **AI** to simulate and predict ecosystem change



## Biodiversity Foundation Model (BFM)

- Multimodal and AI-trained on our *BioCube dataset*, incl. species, climate, land, vegetation
- Learns how ecosystems behave and change over time
- Reusable *AI engine* to which Digital Twins can connect, from land to marine systems



# Structured approach to connecting

**DTO- BioFlow** turns data, tools, and computing into actionable Digital Twins for managing marine ecosystems, linking scientists and users through reusable workflows.

**Bridging inventory and user-centric needs** e.g. developers, modellers, researcher, policy makers



## Support where needed

Find and adopt the right tools based on their needs and progress



## Feedback to guide stakeholders

Identify gaps and missing capabilities, improve tool onboarding



## Keep it evolving

Inventory + questionnaire = continuous loop for matching needs to solution





# Thank you for your attention



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# Panel discussion

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# Thank you!

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