BIODT

biodiversitydigitaltwin

The Biodiversity Digital Twin:

a new solution to support protection and restoration

Report of webinar 13 July 2022

Setting the scene:
BioDT in the European biodiversity landscape

The BioDT project aims to bring together a dynamic team of experts in biodiversity, High-Performance Computing, Artificial Intelligence, digital twinning and FAIR data to develop a Biodiversity Digital Twin prototype to push the current boundaries of predictive understanding of biodiversity dynamics. In order to present the work BioDT is bringing forward, the project team has organised its 1st webinar on **13 July 2022**, with the aim of showing the project's **objectives** and **goals**, and its interaction with the LUMI Supercomputer, fundamental for building its modelling and simulation capabilities.

High-Performance Computing as a means to support the Digital Twin: the Lumi Supercomputer

Aleksi Kallio, *BioDT Digital Twin Technical Platform Leader and Development Manager at* CSC, followed the presentation by explaining how the team is going to set up, develop and operate the advanced technical platform required by the digital twins; provide world-class HPC resources from the LUMI Supercomputer; ensure portability of digital twins across HPC sites and cloud environments; and maintain a service catalogue of shared services for integration with EOSC Core services. [The full presentation is available here].

Interactive session with the audience

The webinar attracted a total of 122 participants, from 25 countries.
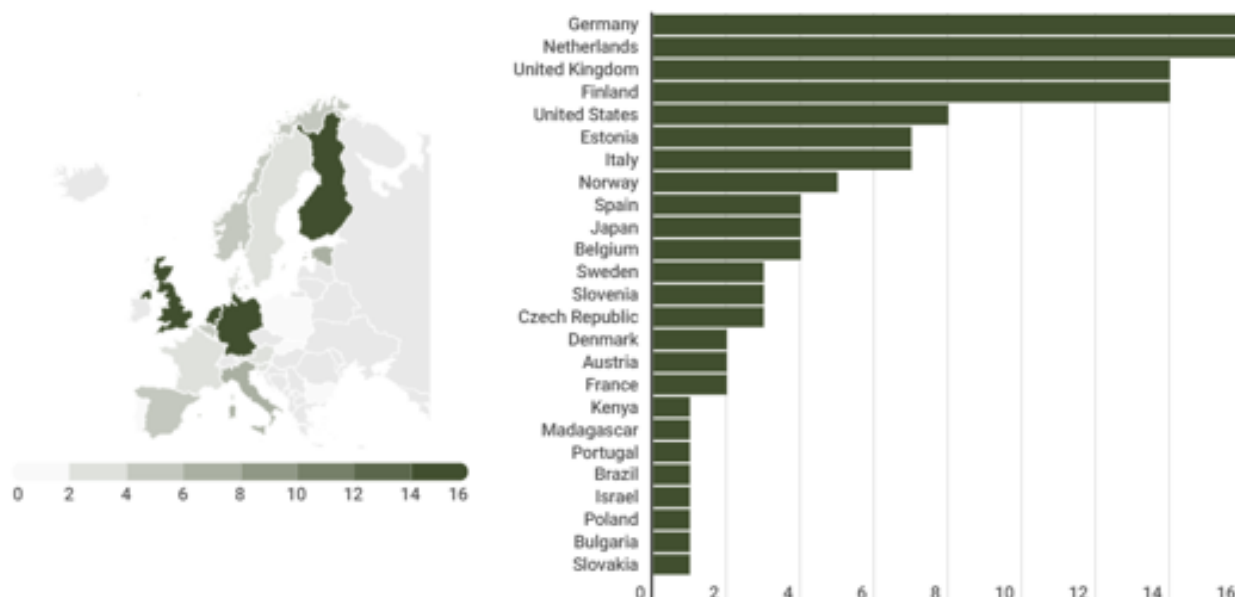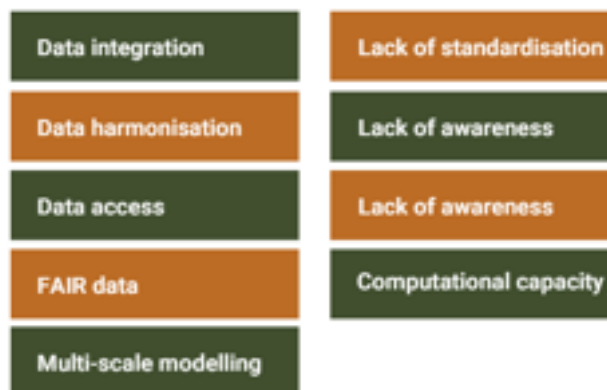

During the event, a series of questions were addressed to the audience to understand their familiarity with the biodiversity and digital twins fields. The following graphs show the main findings and takeaways from the surveys:

Which projects or initiatives related to biodiversity or digital twins you are or have been involved in?

Single.earth	GBIF
eLTER	North Wyke Farm Platform
Change2Twin	DiSSCo
LifeWatch	NFDI4Biodiversity
Smart Forests	SolarEcoPlus

Which challenges are you currently facing in using biodiversity data or creating digital twins?

Data integration	Lack of standardisation
Data harmonisation	Lack of awareness
Data access	Lack of awareness
FAIR data	Computational capacity
Multi-scale modelling	

Panel discussion:
Biodiversity in the context of climate change and digital twins: challenges and opportunities

The webinar was followed by an interesting panel discussion, moderated by **Jeroen Broekhuijsen**, *BioDT Collaboration with strategic initiatives Leader and Team Lead Digital Twin at [TNO](#), that brought together* **Rita Bastos**, *Postdoctoral Researcher at [CIBIO](#),* **Yvan le Bras**, *Chief Technical Officer at PNDB,* **Sara Garavelli**, *[EOSC Association](#) Director and* **Thomas Geenen**, *Technology Partnership Leader at [Destination Earth](#)*.

During the session, the participants got the opportunity to hear more about challenges, opportunities and strategic goals in the fields of **research biodiversity data, digital twins development, High-Performance Computers** and **collaborations with relevant initiatives**, like Destination Earth or EOSC.

In particular, their discussion highlighted that:

- European projects offer unique opportunities to develop simulation models and platforms capable of centralising and storing huge amounts of data, that will ultimately allow the scientific community to integrate more insights into the processes underlying environmental dynamics;

- One of the biggest challenges to overcome to make digital twins platforms work is linked to the need of having open, harmonised and standardised data and putting additional data layers to allow users to interact with the technical models and components;

- Cooperating with international initiatives, like the European Open Science Cloud (EOSC) or Destination Earth, is crucial for the success of the project as it helps to increase data accessibility, make data FAIRer and the BioDT digital twin more robust.

In the meantime, we invite you to watch the webinar recording on the
BioDT YouTube channel.

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