

A stylized globe with a network overlay of blue lines and dots. The globe is set against a dark blue background with a grid pattern. On the right side, there is a vertical list of numbers: 0.46, 50129, 0.55, 12056, 89, 95602, and 100M. The text "Destination Earth" is prominently displayed in the lower-left quadrant.

Destination Earth

DESTINATION EARTH



DestinE A DIGITAL REPLIC OF OUR PLANET

Destination Earth (**DestinE**) aims to develop a highly accurate digital model of Earth to monitor the effects of natural and human activity on our planet, anticipate extreme events and adapt policies to climate-related challenges.



DestinE Timeline

DestinE will be developed through the following key milestones:



Launch

2022

Launch of Destination Earth (DestinE) Initiative.



Development

By 2023

Development of the main components begins.



Operational

By 2024

All the components of the system (Core Service Platform, Data Lake, Digital Twin Engine) are operational. The first two digital twins on Weather-Induced Extremes and the Climate Change Adaptation will be ready.



Enhancement

By 2027

Further enhancement of the DestinE system and integration of additional digital twins and related services.

Digital Twin Engine

Data Lake

Data Sources

External Services

DES P Core Service Platform

Information Dissemination

Service Desk

User Space

Data Access

Dashboard

Onboarding

Services Registry

Traceability

Visualization

Sandbox

Registered Services

Workflow

AI/ML

Collaboration

Advanced Applications & Services



Identity and Authorisation Management



Public Cloud & HPC Resources



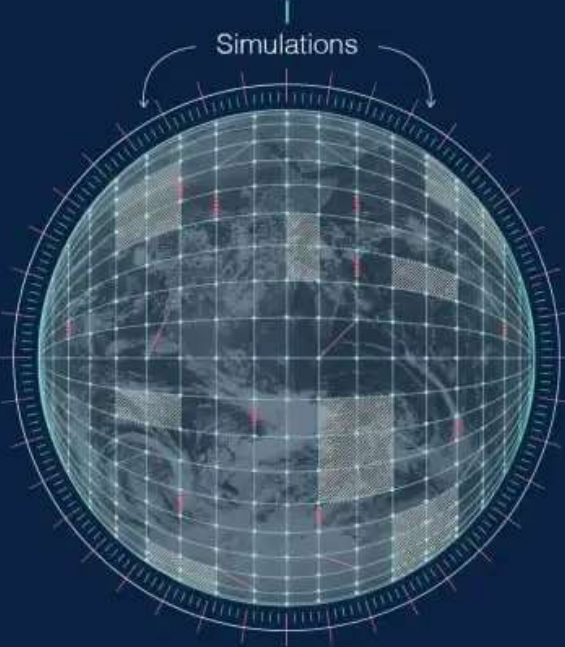
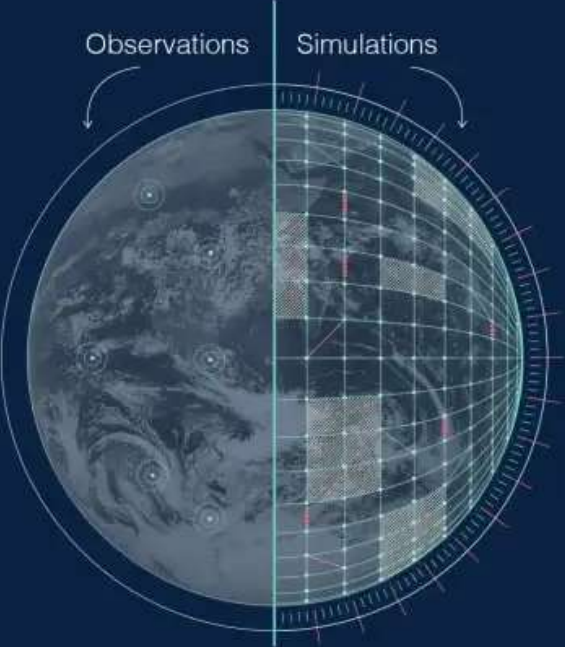
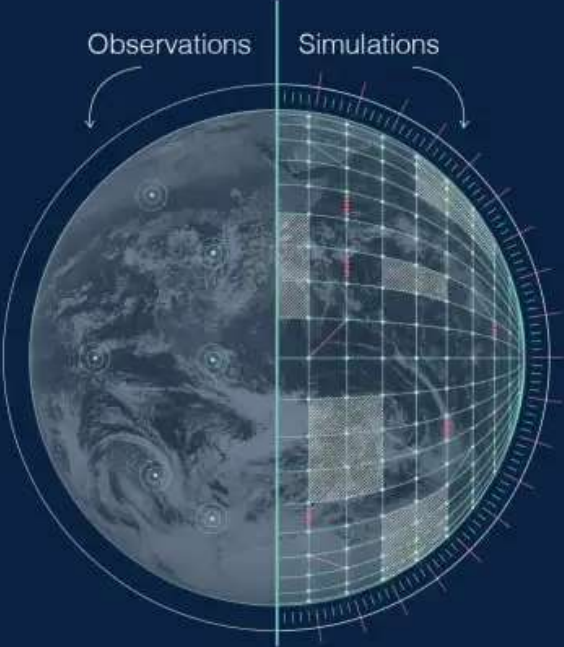
Federated Identities

Code of conduct

Data Lake



Digital Twins and Digital Twin Engine



DG CNECT

- Direktoratet för kommunikationsnätverk, innehåll och teknologi
- Ansvariga för programmet Digital
- Europas digitala decennium
- Skapar Europas digitala framtid



Europeiska
kommissionen

Europeiska rymdorganet ESA

- Det Europeiska rymdorganet ESA är en mellanstatlig organisation för för fredligt nyttjande av rymden.
- ESA har 22 medlemstater
- Arbetar med teknikutveckling för rymdprogram och analys av rymddata





EUMETSAT

- Europeiska organisationen för exploatering av meteorologiska satelliter
- Arbetar med Europas vädersatelliter och analys av data från vädersatelliter
- Ansvarig för de oceanografiska och atmosfäriska Copernicussatelliterna



- Euroepiska centret för medellånga väderprognoser
- Arbetar med jordsystemsmodeller, lågupplösta klimatmodeller och väderprognoser, Superdatorer, Fysikalisk simulering

Digital Twin Engine

Data Lake

Data Sources

DES P Core Service Platform

The platform will provide evidence-based decision-making tools, applications and services, based on an open, flexible, and secure cloud-based computing infrastructure

External Services



Dashboard



Onboarding



Services Registry



Sandbox



Collaboration



Registered Services



Identity and Authorisation Management

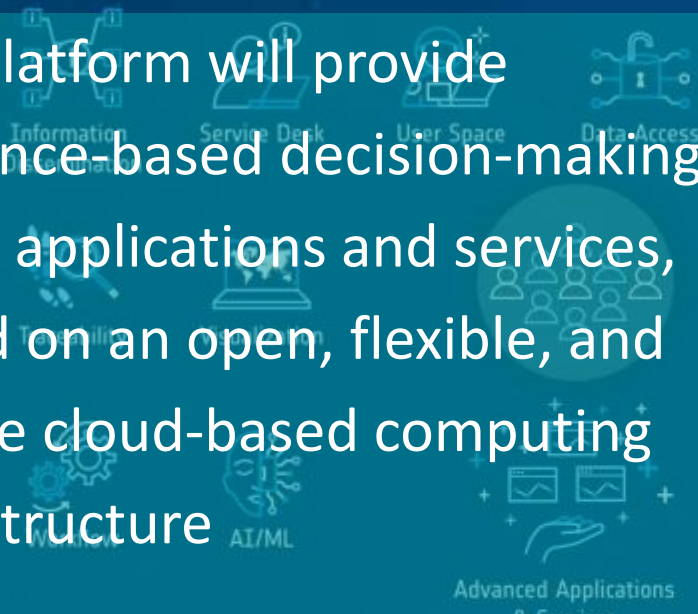


Public Cloud & HPC Resources



Federated Identities

Advanced Applications & Services

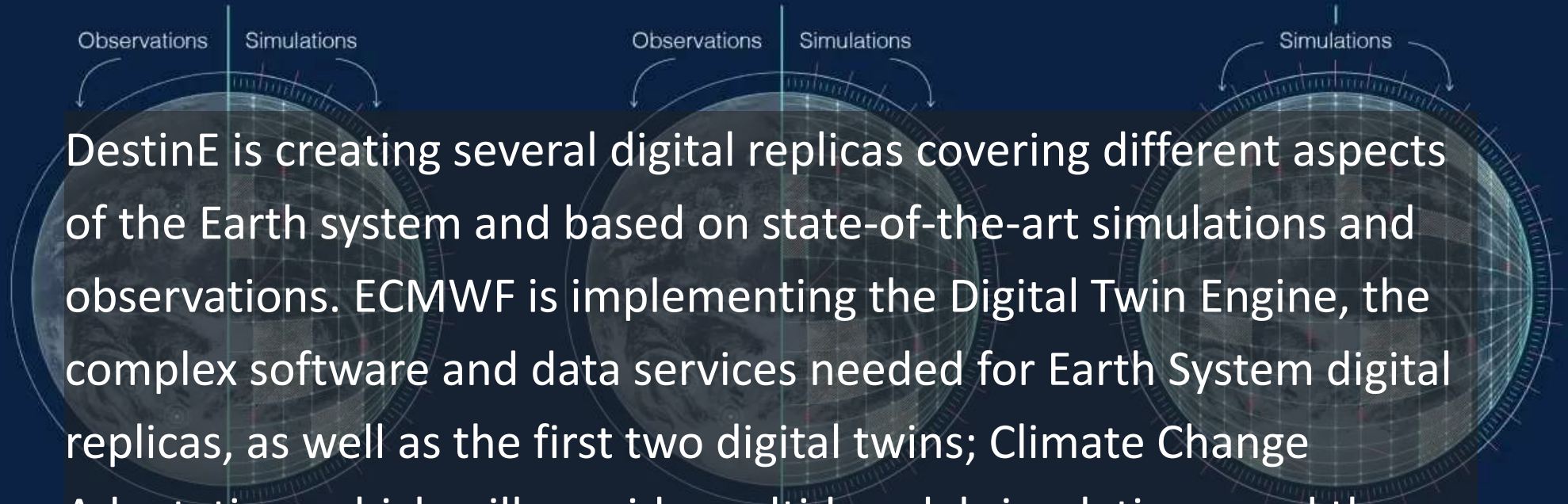


The background features a central image of the Earth from space, showing continents and clouds. Overlaid on the globe is a complex network of glowing blue lines and nodes, representing data connectivity. To the right, there are colorful, wavy, mesh-like structures in shades of purple, blue, and orange, suggesting data analysis or visualization. The overall aesthetic is futuristic and technological, with a dark blue background and circular patterns.

Data Lake

The platform will provide evidence-based decision-making tools, applications and services, based on an open, flexible, and secure cloud-based computing infrastructure

Digital Twins and Digital Twin Engine



DestinE is creating several digital replicas covering different aspects of the Earth system and based on state-of-the-art simulations and observations. ECMWF is implementing the Digital Twin Engine, the complex software and data services needed for Earth System digital replicas, as well as the first two digital twins; Climate Change Adaptation, which will provide multidecadal simulations, and the Weather-induced Extremes twin, with both high-resolution forecasts and on-demand simulations

**RI.
SE**

Tack!