



# Destination Earth

EU flagship initiative



## Horizon Europe and Destination Earth -Opportunities and challenges

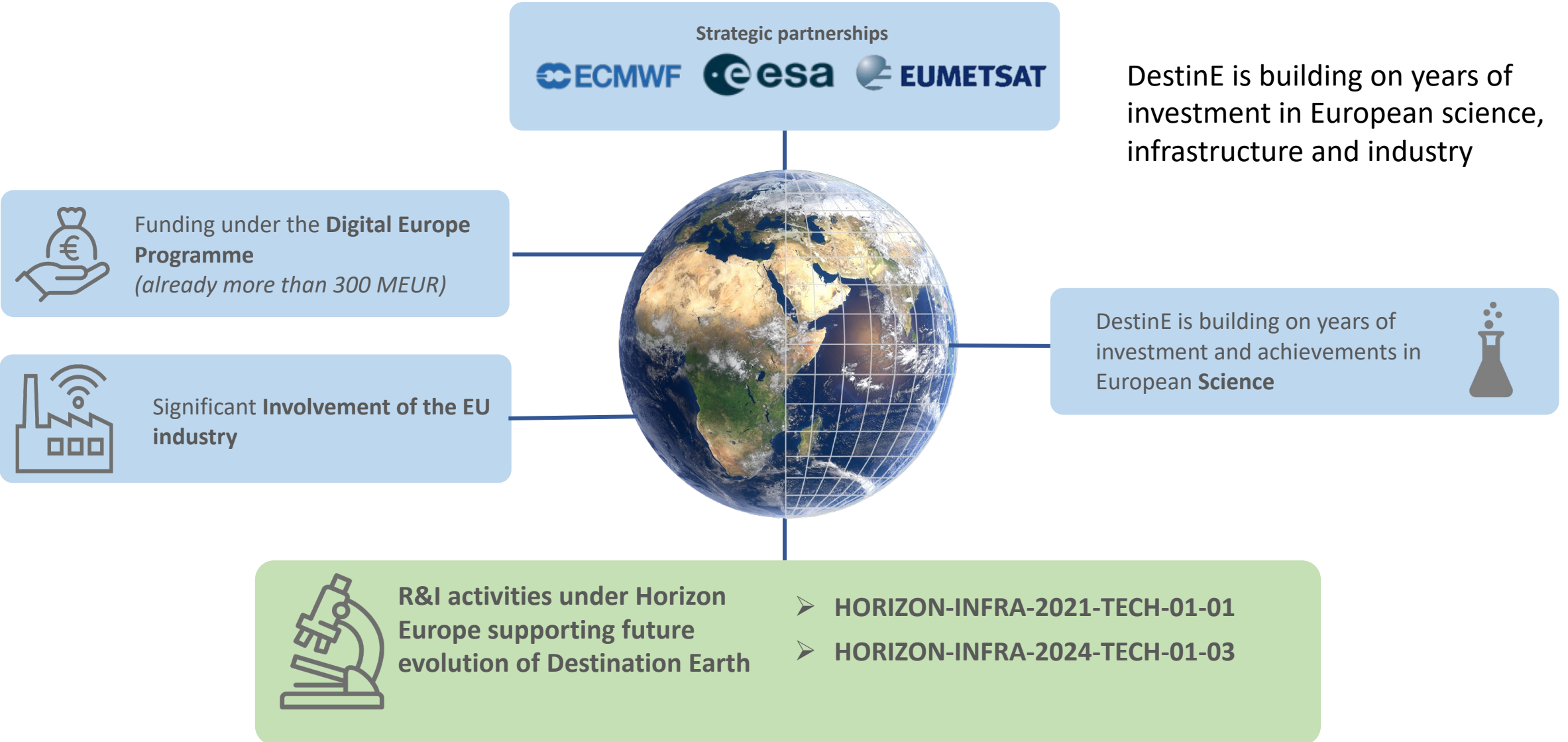
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# Destination Earth implementation



# Current Horizon Europe projects

*Interdisciplinary digital twins for modelling and simulating complex phenomena at the service of research infrastructure communities (HORIZON-INFRA-2021-TECH-01-01)*



## INTERTWIN - Interdisciplinary Digital Twin Engine for science

- Digital Twin Engine for complex application-specific DTs that benefit researchers, business and civil society
- Digital Twin Engine blueprint architecture
- Extend European Open Science Cloud (EOSC) with modelling & simulation tools

12 mio €, 2022-2025, RIA

[www.intertwin.eu](http://www.intertwin.eu)

## BioDT - Biodiversity Digital Twin for Advanced Modelling, Simulation and Prediction Capabilities

- Prototype Digital Twins to help protect and restore biodiversity
- Model interaction between species and environment
- BioDT technical platform

11 mio €, 2022-2025, RIA

## DTGeo - A Digital Twin for GEOphysical extreme events

- Design and create a pre-operational prototype of a DT on geophysical extremes for its future integration into the Destination Earth initiative.
- Analyse and forecast the impact of tsunamis, earthquakes, volcanoes, and anthropogenic seismicity

11 mio €, 2022-2025, RIA

## HORIZON-INFRA-2024-TECH-01-03: New digital twins for Destination Earth



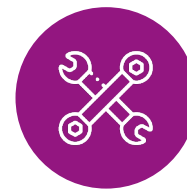
### TYPE OF ACTION

- Research and Innovation Action (RIA)



### INDICATIVE BUDGET

- EUR 45 million
- **3 funded projects**
- EU contribution per project: about EUR 15 million



### OTHER CONDITIONS

- Royalty free access to IPRs which are needed for further developing, implementing and monitoring the Destination Earth Initiative



### TIMING

- Call opening: 6 December 2023
- Deadline: 12 March 2024
- Time to grant: 12 November 2024

## Project 1.

Earth system science (e.g. cryosphere, land surface and related interactions), Digital Twins

## Project 2.

Atmospheric simulation, Urban climate resilience, Urban heat, Urban air quality, Digital Twins

## Project 3.

Earth system science, ML, HPC, Foundation model, Weather & climate dynamics simulations, Big data, Digital Twins

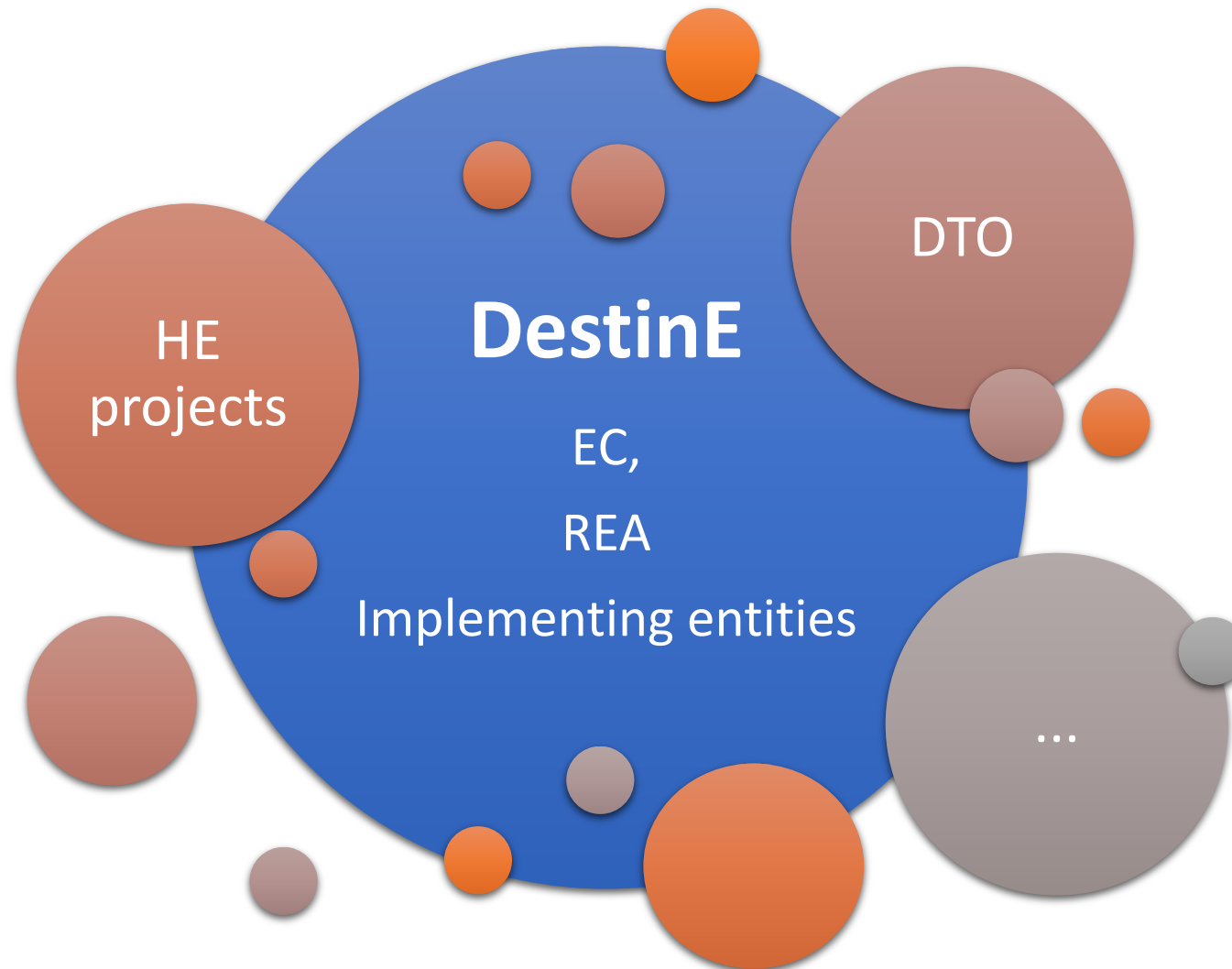
## Funded projects: 3

### Research areas & keywords

| KEYWORDS       |                                    |                             |
|----------------|------------------------------------|-----------------------------|
| CLIMATE CHANGE | Artificial intelligence            | Advanced computing          |
|                | Simulation engineering & modelling | Sustainability RI Landscape |
| Atmosphere     | Pollution                          | International cooperation   |

(as reported by consortia)





- ✓ Technology-oriented discussions
- ✓ Alignment, guidance and steering
- ✓ Shared architecture, interoperability
- ✓ Not governance or funding related items

# Focus for Phase II

Development of additional, scientific  
elements of DestinE



**AI/ML**  
(e.g. towards a ML  
foundation model  
for the Earth  
system, genAI)



**Uncertainty  
quantification  
, synergies  
with relevant  
HE projects**

User engagement and outreach activities



**Transition  
from use  
cases to end-  
user services,  
engagement  
with MS and  
Commission  
Services, etc**



Engaging on  
additional  
priority areas,  
possible  
training and  
educational  
activities



Ramp-up of  
infrastructure  
and  
service/tools  
offering,  
Focus on AI,  
new DT  
capabilities,  
new DESP and  
DEDL services





THANK YOU!

<https://destination-earth.eu/>

<http://destine.eu/>

<https://digital-strategy.ec.europa.eu/en/policies/destination-earth>

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#DigitalEU #DestinE #DigitalDecade #DigitalEUProgramme #EUGreenDeal #EuroHPC