esiwace

CENTRE OF EXCELLENCE IN SIMULATION OF WEATHER AND CLIMATE IN EUROPE

ESiWACE3 - Excellence in Simulation of Weather and Climate in Europe, Phase 3

Presentation of ESiWACE3

Barcelona Supercomputing Center
Centro Nacional de Supercomputación

EuroHPC Joint Undertaking

Funded by the European Union. This work has received funding from the European High Performance Computing Joint Undertaking (JU) under grant agreement No 101093054.

Co-funded by the European Union

Proyecto PCI2022-135019-2 de investigación financiado por MICIU/AEI /10.13039/501100011033 y Cofinanciado por la Unión Europea

MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES
Cofinanciado por la Unión Europea
AGENCIA ESTATAL DE INVESTIGACIÓN

From ESiWACE1 & ESiWACE2 to ESiWACE3

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Towards exascale weather and climate simulations

Supporting the community of weather and climate modelling in Europe

01 Increase efficiency of simulations on state-of-the-art supercomputers

02 Design tools to close technology gaps for HPC

03 Develop tools to tackle the data challenge of high-resolution models

04 Support the community in the use of supercomputers via targeted services

05 Support the community in the use of supercomputers via training and capacity building

06 Build a well-connected & inclusive community, and transfer knowledge between European initiatives

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EuroHPC

Co-funded by the European Union

About ESiWACE3

- 3rd phase of the project.
- One of the **10 Centres of Excellence in HPC to support the transition towards exascale** launched by the EuroHPC JU.
- Project running from January 2023 to December 2026 under grant agreement num. 101093054.
- A Consortium of 12 partners from 8 different countries.

Project Information

ESiWACE3

Grant agreement ID: 101093054

DOI

10.3030/101093054

Start date 1 January 2023

End date 31 December 2026

Funded under

Digital, Industry and Space

Total cost

€ 6 081 337,50

EU contribution

€ 3 040 668

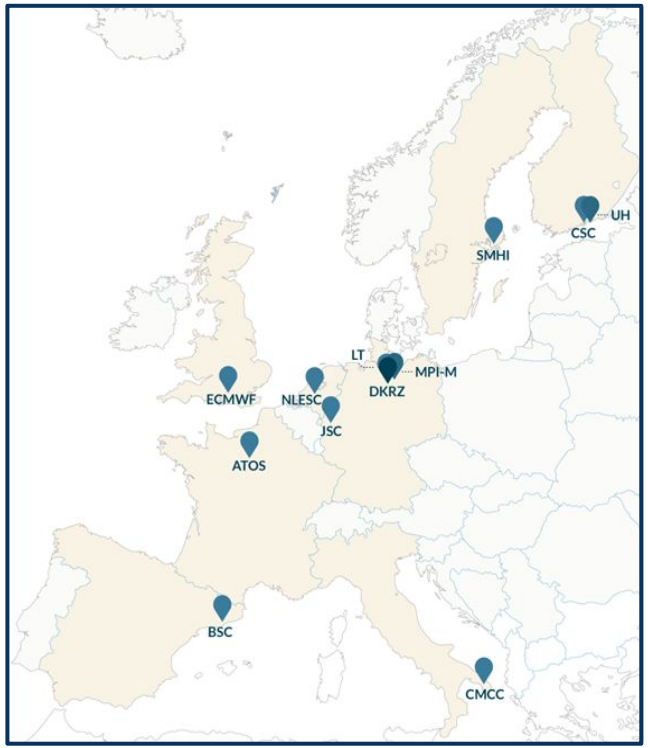
Coordinated by

BARCELONA SUPERCOMPUTING CENTER

CENTRO NACIONAL DE SUPERCOMPUTACION

Spain

ESiWACE3 partners



DKRZ DEUTSCHES KLIMARECHENZENTRUM
SMHI
MAX-PLANCK-INSTITUT FÜR METEOROLOGIE
HELSINGIN YLIOPISTO
cmcc Centro Euro-Mediterraneo sui Cambiamenti Climatici
ECMWF

Weather forecast
Climate research

BSC
CSC
JÜLICH Forschungszentrum

High-performance computing

Atos
netherlands eScience center
BSC

Software engineering

SMHI
HELSINGIN YLIOPISTO

Training and teaching

LT

Communicating academic research

Continuous innovation cycle envisaged by ESiWACE3

Foundational research on methods, algorithms, and data by domain

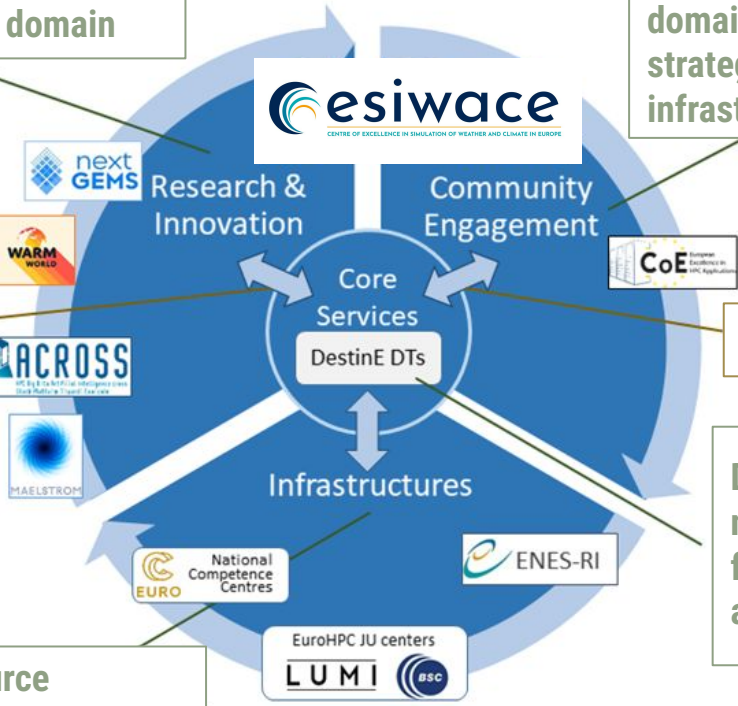
Science community platforms providing domain benchmarks, tools, and strategies for emerging European infrastructures

Identify science and technology priorities

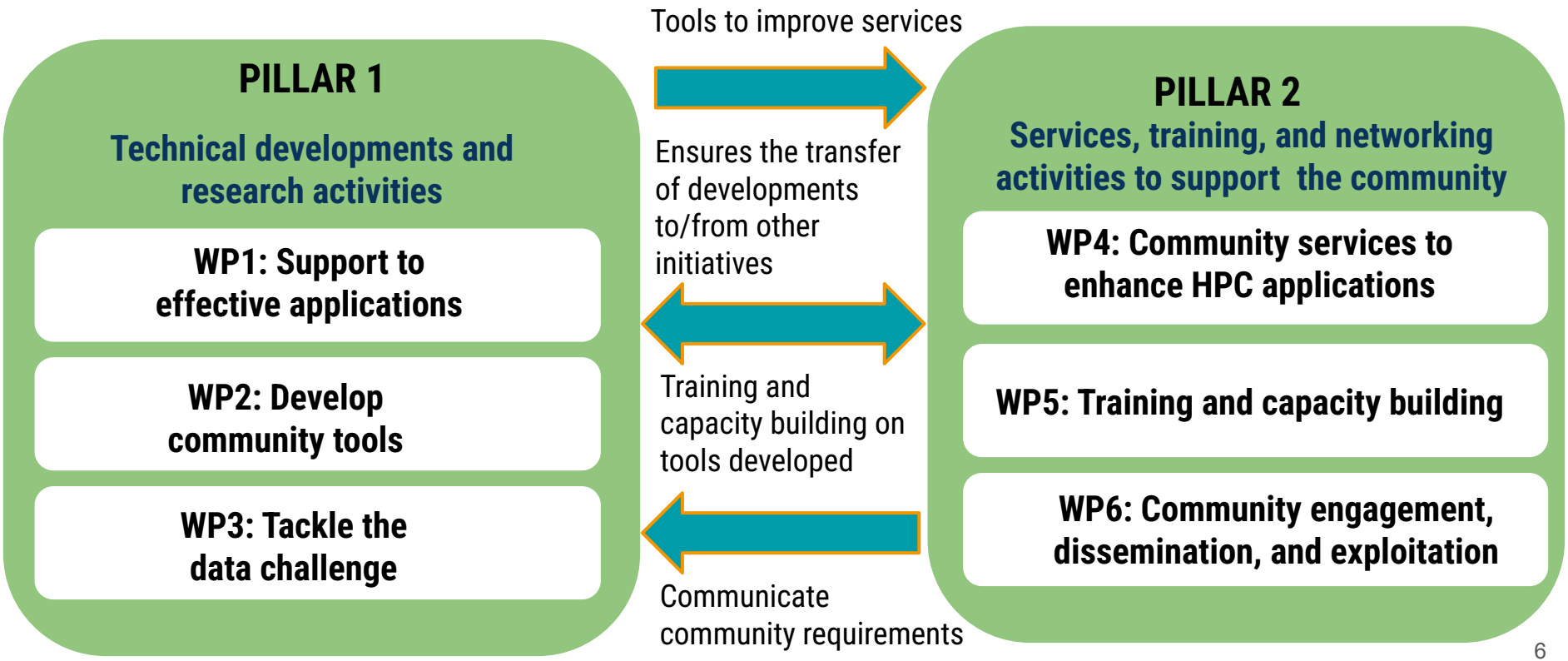
Co-design/define domain solutions

Digital twins supporting policy making within leading federated European computing and data infrastructures

Facilitate and resource cross-disciplinary communities



ESiWACE3 work plan



ESiWACE3 service catalogue and calls

- **Service Portfolio**

For the development of HPC services, training sessions, hackathon, and summer schools adapted to users need

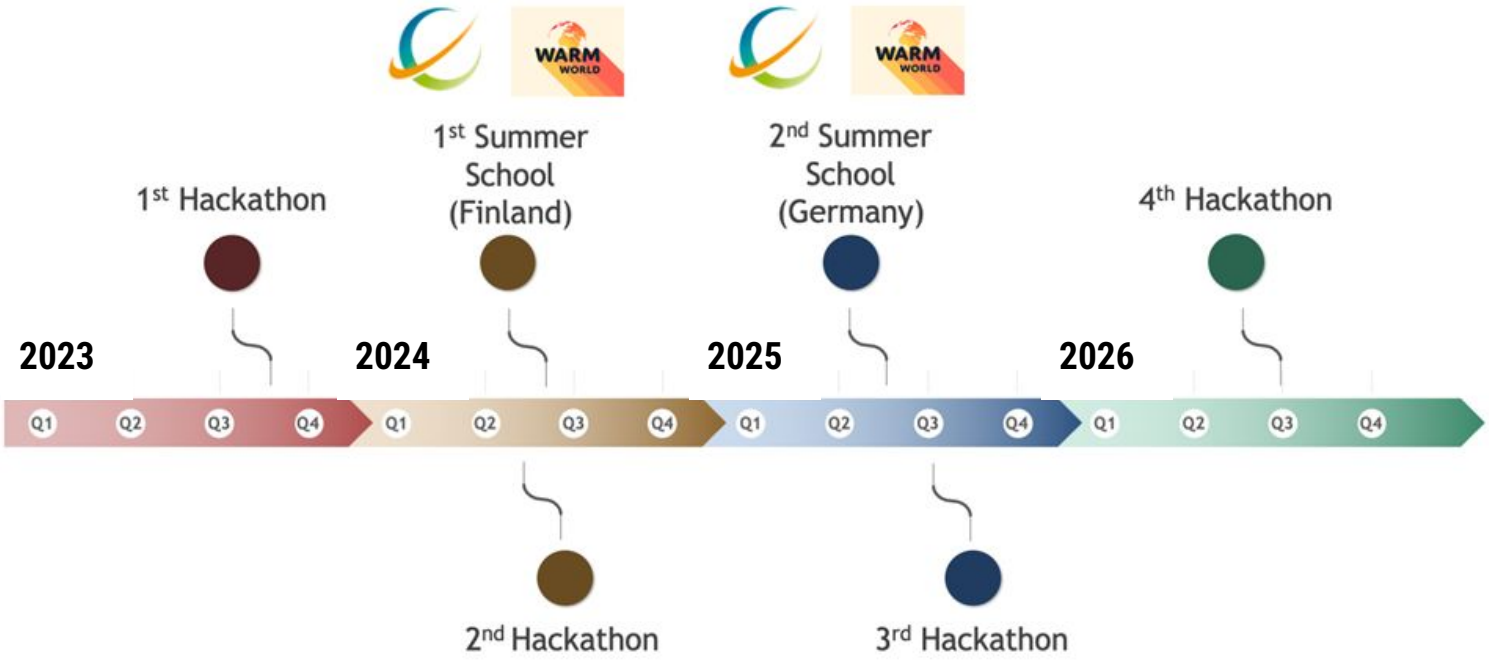
- **Service Catalogue**

- **Service Calls**

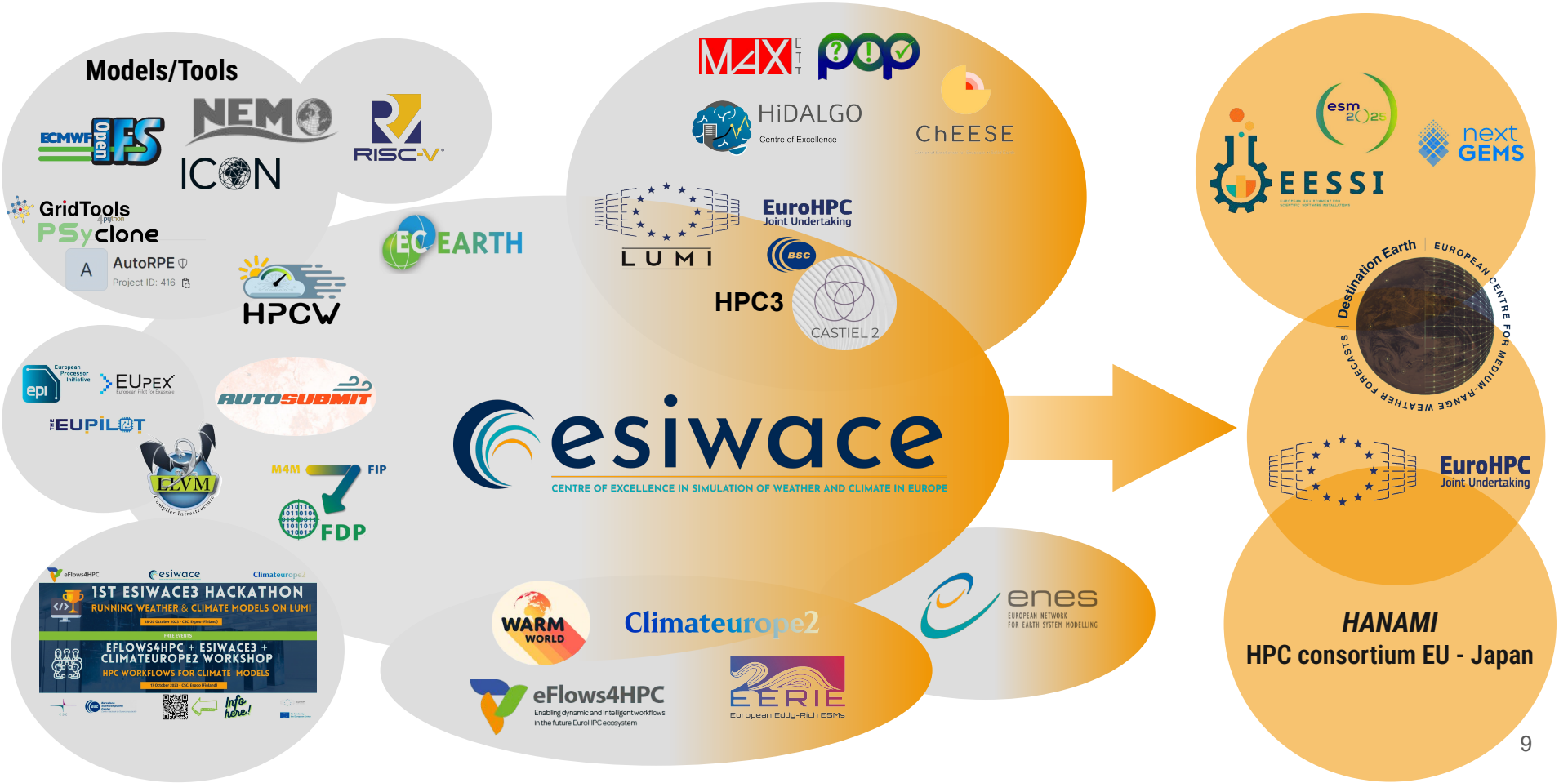
Service 1: prepare climate and weather models for pre-exascale systems. **Now open!!**
Service 2: state-of-the-art development tools for climate and weather models. **Now open!!**

More info:
https://www.esiwace.eu/services/software-support

ESiWACE3 training events



ESiWACE3 collaborations



Expected results

- **Services delivered to the community** with improved and more efficient codes reducing carbon footprint.
- An **HCPW** version released to the public, providing a meaningful benchmark for the evaluation of new architectures for systems.
- Publication and dissemination of scientific results of ESiWACE3 presenting the **improved European community models and tools**.
- Several **summer schools and hackathons** organised in collaboration with other projects, better preparing young scientist working on Earth system modelling.
- HPC centres running EC-Earth4 through container solutions, improving knowledge and understanding of the climate and Earth System by using a climate model.

ESiWACE3 overview

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Interested in getting in touch?

Website: www.esiwace.eu

YouTube: https://www.youtube.com/@esiwace880

Twitter: https://twitter.com/esiwace

Vimeo: https://www.vimeo.com/esiwace

LinkedIn: https://www.linkedin.com/company/esiwace3

zenodo

ESiWACE is on Zenodo, the Open Access repository for scientific results
https://zenodo.org/communities/esiwace

OPEN ACCESS

esiwace3-communication@bsc.es

BSC Barcelona Supercomputing Center
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