



PHAROS

THE GREEK AI FACTORY

Navigate the future with AI

Anastasia Krithara

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# PHAROS Vision

PHAROS started in April 2025, aiming to:

- create a **trusted, sustainable AI ecosystem** in Greece and the Southern Europe
- **bridge the gap** between academia, industry and the public sector
- promote **ethical AI innovation**
- create and offer **resources, data and AI models**
- boost **AI talent and skills**
- focus on critical sectors (**Health**, Language & Culture and Sustainability)



# The PHAROS CONSORTIUM

- **GRNET** is coordinating PHAROS AI Factory, being the Hosting Entity for DAEDALUS, the new mid-range supercomputer of Greece.
- Academia and Research Institutes
  - **NCSR**D: Research centre / Technical coordination/ AI services in Health, Culture and Language, Sustainability
  - **NTUA**: University / HPC/AI services, Culture and Language, Sustainability
  - **ATHENA**: Research centre / AI services, Health, Culture and Language
- A business entity, initially represented by
  - **GROWTHFUND**: The National Investment Fund of Greece
- In addition, GRNET's affiliated partners are:
  - Academia and Research centres (**CERTH, FORTH, NKUA, AUTH, Piraeus Univ**)
  - NDC, IDIKA (under settlement)

# AI optimised infrastructure

**HPC DAEDALUS** (@89 Petaflops) is the basis of these developments:

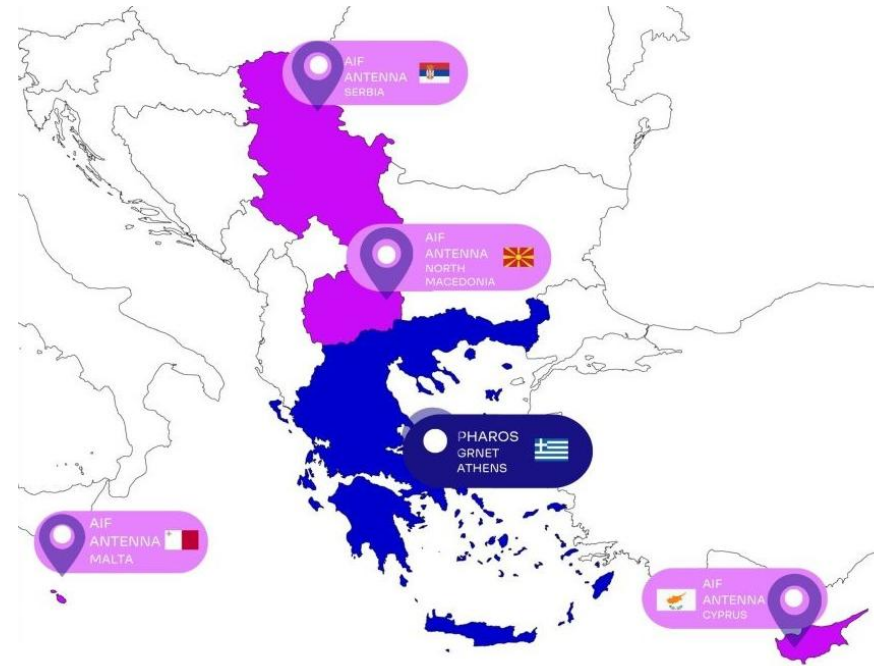
- Installed in a **new data center** at NTUA technological and cultural park in Lavrion
- Operational April 2026 / TOP500 benchmarking June 2026



# Pharos regional impact - Antennas integration - Contributing to the evolving AI Continent Plan

Four (4) AI Factory **Antennas** in Southern Europe will be linked to PHAROS

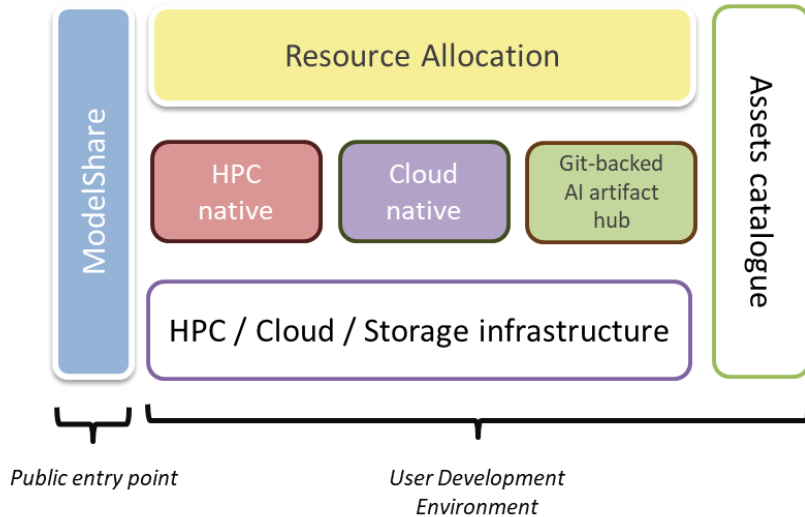
- Cyprus
- Serbia
- North Macedonia
- Malta



# Part of the European Ecosystem

- GRNET (representing Greece and PHAROS)
  - MoU with GENCI
  - consortium (Jules Verne) of the future Alice Recoque exascale supercomputer
- NCSR is part of the AI on Demand platform:
  - Provide early access to AIoD technologies
  - Offering early adoption of AIoD to PHAROS services and platform
- PHAROS contributes to the forthcoming AI Factory Networking Project by:
  - Leading the Language & Culture Data Lab
  - Participating in Healthcare, Public Administration, EOSC, Destination Earth, Cybersecurity Data Labs
- PHAROS aspires to function as common front desk for other national initiatives (e.g. EDIHs)

# Bring AI & HPC & DATA closer to industry



- PHAROS connects research excellence with real-world innovation.
- Combines **high-performance computing** and **cloud technologies** to make AI accessible to all sectors.
- Enables **businesses** and **public organisations** to **develop and test AI solutions** securely and efficiently.
- Promotes **open standards, interoperability** and **collaboration** across the AI ecosystem.
- Creates a **trusted environment** for **data sharing** and **experimentation**.

# Pharos new entity

- **New building** under construction (delivery date end 2025) will be used by Pharos new entity
- **Connectivity** is being developed in close collaboration with GRNET in order to secure the fastest possible access to Lavrio Campus and the supercomputing infrastructure DAEDALUS
- **Digital infrastructure** to deliver synchronous training, in place



# Sectors: Health, Language & Culture, Sustainability

Sectors'  
assets

- Advanced **compliance-by-design** for unlocking quality Greek datasets
- Compilation of initial **portfolio of assets** (models, datasets and tools)
- **Quality Framework** for asset metadata

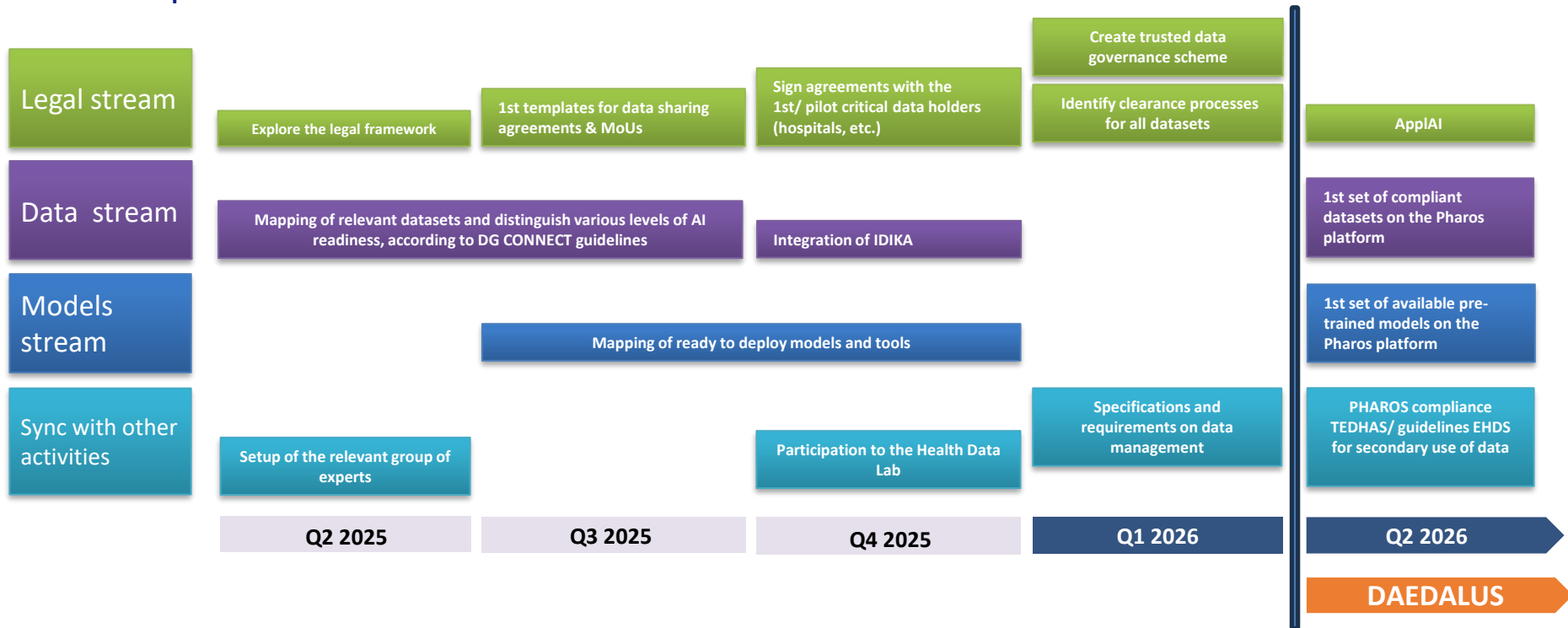


# Specialisation: Health Overview

- One of the **strategic pillars** of PHAROS, leveraging Greece's digital health infrastructure and biomedical research excellence.
- Partners: **NCSR, ATHENA, FORTH, CERTH, universities & hospitals**. **AI assets (datasets, models, tools)** for:
  - Diagnostics & clinical decision support
  - Drug discovery & personalised medicine
  - Population health & health-tech innovation
- The **Ministry of Digital Governance & AI** supports access to **critical health data** under strong privacy and governance frameworks.
- Engagement with **MoH, EOPYY, EOF, quality agencies, hospitals & health-tech industry**.
- GRNET & IDIKA develop in Greece the **GR-HDAB**, as a part of the **European Health Data Space/ Pharos** at the **Data Lab on Health and Life Sciences**, coordinated by the Swedish AI factory Mimer.

# Specialisation: Health

## Roadmap



# Datasets

## **Public Health Datasets**

- National E-prescription System, IDIKA S.A (~5.5M prescriptions/month)
- National Digital Patient Health Record, IDIKA S.A.
- Harmoni (High-Performance Archiving and Retrieval of Medical On-line Imaging), GRNET, Ministry of Health
- Blood Donor Registry, GRNET

## **Clinical Datasets (NHS hospitals)**

- *Multiple Sclerosis Dataset: Multiple Sclerosis Center, B' Neurology Clinic AHEPA Aristotle University of Thessaloniki (AUTH)*
- *Laboratory of Radiology-Radiodiagnostics, AHEPA Aristotle University of Thessaloniki (AUTH)*
- *PAPAGEORGIU Hospital (CERTH)*
- .....

## **Open Health Datasets**

- UCI Machine Learning Repository
- Kaggle-Machine Learning Community
- Physionet
- UK Biobank
- ADNI (ADNI | Alzheimer's Disease Neuroimaging Initiative)
- MIMIC - IV (Beth Israel Deaconess Medical Center)
- HealthBench
- Elixir
- Carotid Ultrasound Boundary Study (CUBS)

## **Open Health Data Repositories**

- Google Health Dataset
- Data In Brief
- Mendeley, Zenodo, Figshare
- NASA
- OSF - Center for Open Science
- Research Data at Springer Nature
- OPEN-AIRE, EOSC
- Invenio-CERN

# Research Datasets

## ***Oncology***

Hellenic Network of Precision Medicine on Molecular Oncology (FORTH)  
EUCAIM (EUropean Federation for CAncer IMages) (European-FORTH)  
ProstateNet (Prostate Imaging Archive) (European - FORTH)  
Gene Expression Omnibus / Non-Small-Cell Lung Cancer (ATHENA)  
Gene Expression Omnibus / Ovarian Cancer (ATHENA)  
Nanostring / Non-Small-Cell Lung Cancer (ATHENA)  
ProCAnceR-I (European - FORTH)

## ***Neurodegenerative Diseases***

Audio and Motion Datasets for Health Behavioural Monitoring (CERTH)  
Resting-State High-Density EEG using EGI GES 300 with 256 Channels of Healthy Elders, People with Subjective and Mild Cognitive Impairment and Alzheimer's Disease (CERTH)  
RADAR - AD - Remote monitoring of Alzheimer Disease (CERTH)  
MAMEM - Human-computer interaction using biosignals and eye tracking information (CERTH)  
The National Network of Precision Medicine in Neurodegenerative Diseases and the National Research Network (FORTH)

## ***Cardiovascular***

The National Network for Research on Genetic Cardiovascular Diseases and Prevention of Juvenile Sudden Death based on Precision Medicine (Phases I and II) (FORTH)

## ***Open Health Data Repositories***

Greek Medical Textbooks from Kallipos for LLM-fine-tuning (CERTH)  
Large credentialed-access ICU admission data (CERTH)  
Event-based flow cytometry dataset (CERTH)

# AI models - Planned Outcomes

- AI models on analysing multimodal biomedical data
- Domain-specific AI models to support targeted healthcare solutions
- AI predictive models for disease progression, including segmentation, classification, fair and explainable decision making

*Thanks for listening*



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ  
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και Τεχνητής Νοημοσύνης