

Ο Ευρωπαϊκός Χάρτης Υπερυπολογιστών και AI Factories μέσω της πρωτοβουλίας EuroHPC και η ελληνική παρουσία σε έρευνα και υποδομές με τον ΔΑΙΔΑΛΟ



EuroHPC
Joint Undertaking



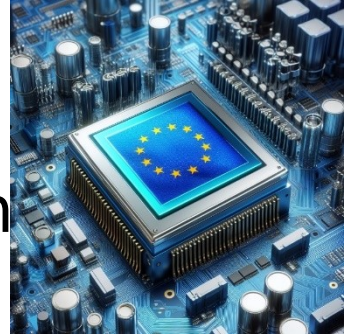
Νεκτάριος Κοζύρης,
καθ. ΕΜΠ

26ο Greek ICT Forum 2024,
Athens

The European High Performance Computing Joint Undertaking (EuroHPC JU)



EuroHPC
Joint Undertaking



- Joint initiative between the EU, European countries and private partners to develop a **World Class Supercomputing Ecosystem** in Europe.

- Est 2018.
- Greece is a EuroHPC member (2019).
- 34 countries.
- €7 billion for the period 2021-2027.
- PFlop, PreExa and ExaFlop level Supercomputers in Europe

(in 15 countries)

LUMI in Finland, **LEONARDO** in Italy, **MareNostrum5** in Spain, **Vega** in Slovenia, **MeluXina** in Luxembourg, **Discoverer** in Bulgaria, **Karolina** in the Czech Republic, **Deucalion** in Portugal. **JUPITER** (Exascale in Germany). **Jules Verne** in France (Exascale). **Daedalus** in Greece. **Arrhenius** in Sweden +3 more countries

#EuroHPC Joint Undertaking

The European High Performance Computing Joint Undertaking (EuroHPC JU) will pool European resources to develop top-of-the-range exascale supercomputers for processing big data, based on competitive European technology.

Member countries are Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, Montenegro, the Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden and Turkey.



EuroHPC
Joint Undertaking



Greece and HPC infrastructures

- ARIS supercomputer @ GRNET, est 2015-major upgrade 2024 (>1PF)
- Greece in the top 5 countries in EuroHPC research activities (2019-)
- New mid-range supercomputer **Daedalus**
 - call for tender Q12024 - operational Q42025 - Top500 list Nov 2025 (planned)
 - 35M€ CAPEX + 19M€ OPEX + 15M€ supercomputing center
 - > 60PF (60 PetaFlops: 60 millions of billions operations per second) - 60×10^{15} Flops

TOP 6 supercomputers in Europe in 2026:

- Jupiter (DE) - 1 ExaFlop (1000 PFLOPS)
- Jules Verne (FR) - 1 ExaFlop (1000 PFLOPS)
- Lumi (scandinavic countries) 379 PFLOPS (currently top5 worldwide)
- Leonardo (IT) 238 PFLOPS (currently top6 world.w)
- MareNostrum (ES) 138 PFLOPS (currently top8 world.w)
- Daedalus (EL) > 60 PFLOPS (estimate: top30 world.w)



DAEDALUS @ Lavrion Technological & Cultural Park (NTUA)



AI Factories – a new EU initiative

- Amendment to EuroHPC JU to include AI Factories (Q22024)
- provide privileged access to supercomputers to AI startups to train their ML models
- creating an AI Office to oversee the implementation and enforcement of the AI Act.
 - EU AI Act – the world's first comprehensive law on Artificial Intelligence – supports the development, deployment and take-up of trustworthy AI in the EU.*
- enhancing the availability of language data to boost language models.

EU digital sovereignty

https://ec.europa.eu/commission/presscorner/detail/en/ip_24_383



Our AI Act is the first comprehensive AI regulation in the world.

With 3 of the world's 5 most powerful supercomputers in Europe, it is time to capitalise on our digital lead & foster trustworthy AI.

Today, we have delivered key AI initiatives announced at [#SOTEU](#) ↓

[#DigitalEU](#)



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