

# ADMIRE & EUPEX EuroHPC Projects

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MASSIMO TORQUATI



**EuroHPC**  
Joint Undertaking

This project has received funding from the European High-Performance Computing Joint Undertaking (JU) under grant agreement No 101033975. The JU receives support from the European Union's Horizon 2020 research and innovation programme and France, Germany, Italy, Greece, United Kingdom, Czech Republic, Croatia.



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This project has received funding from the European Union's Horizon 2020 JTI-EuroHPC research and innovation programme, with grant Agreement number: 956748 — ADMIRE — H2020-JTI-EuroHPC-2019-1



malleable data solutions for HPC



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- ❑ Iniziato ad Aprile 2021 durata 36 mesi, Total cost 8M€ Coordination UC3M

<https://www.admire-eurohpc.eu/>

- ❑ CINI partner principale. Alcune unità del laboratorio CINI HPC-KTT partecipano come Linked Third Parties (LTPs):

- ❑ UNIPI-DI (M. Torquati)
- ❑ UNITO (M. Aldinucci)
- ❑ UNIPARTHENOPE (R. Montella)
- ❑ UNIMI (C. Ardagna)

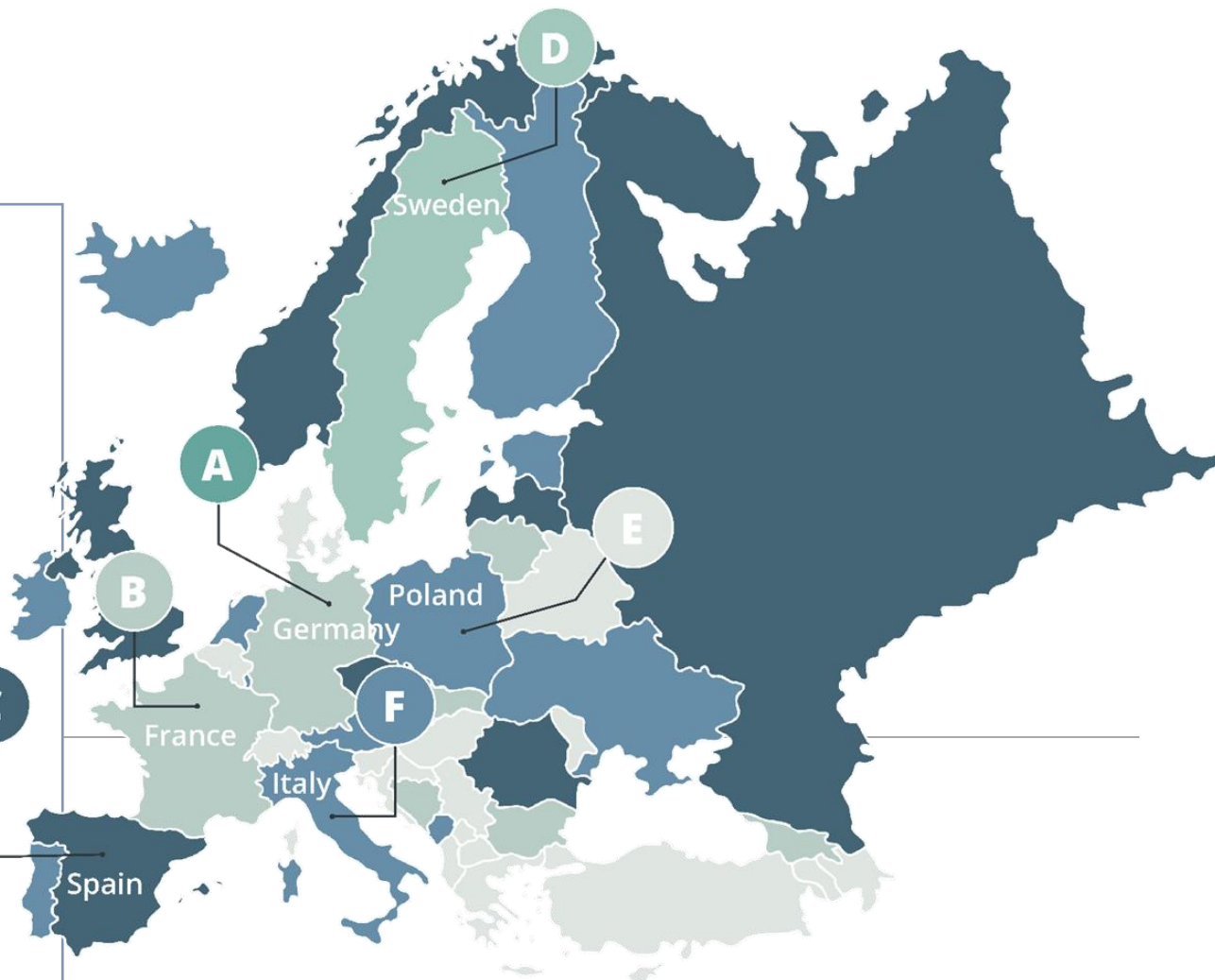
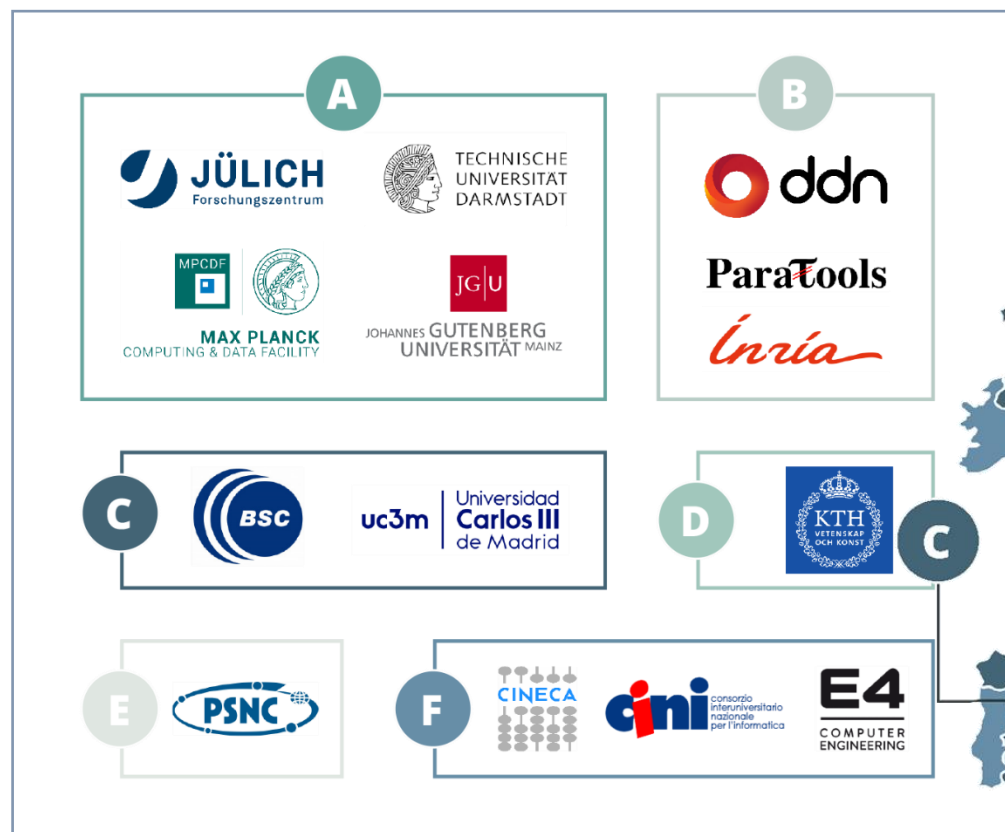


**Totale PMs: 90 Total cost ~600K€**

**Main WPs:** WP6 (IO Coordination, Data Analytics), WP7 (Application Use-Cases)

# ADMIRE

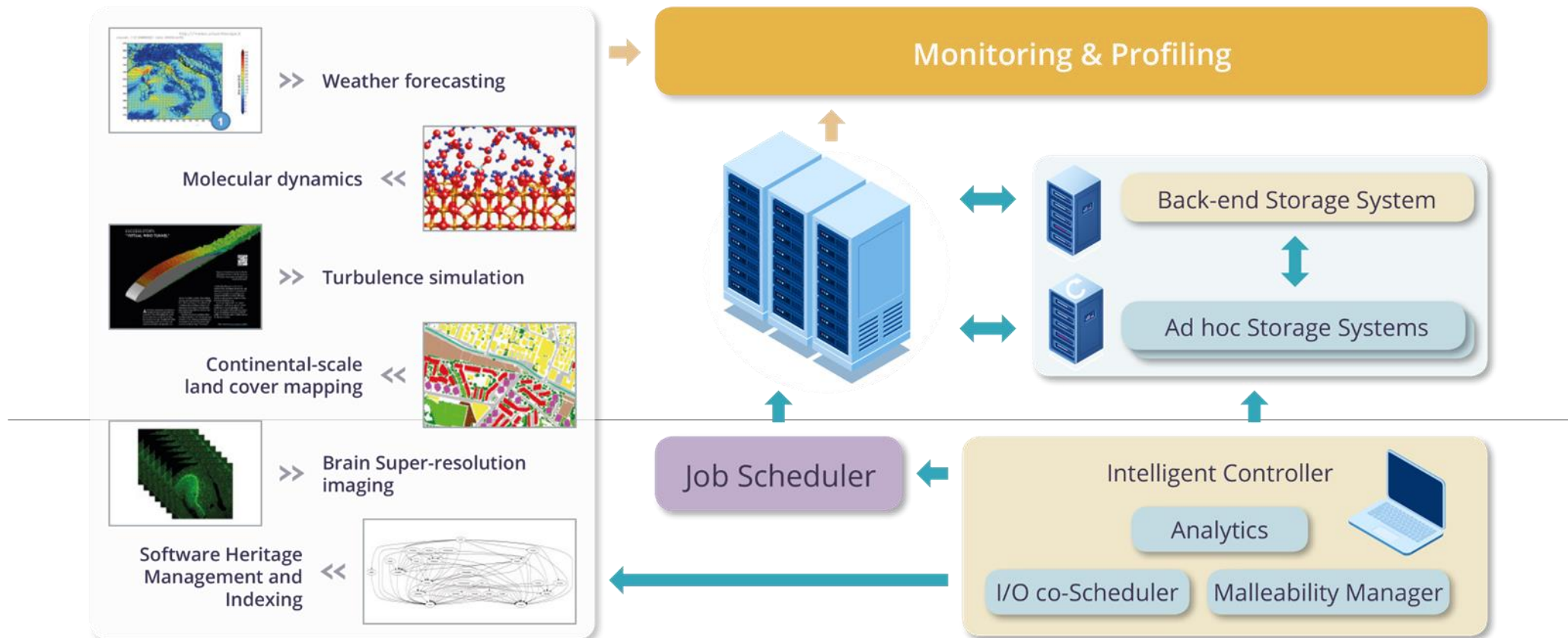
malleable data solutions for HPC



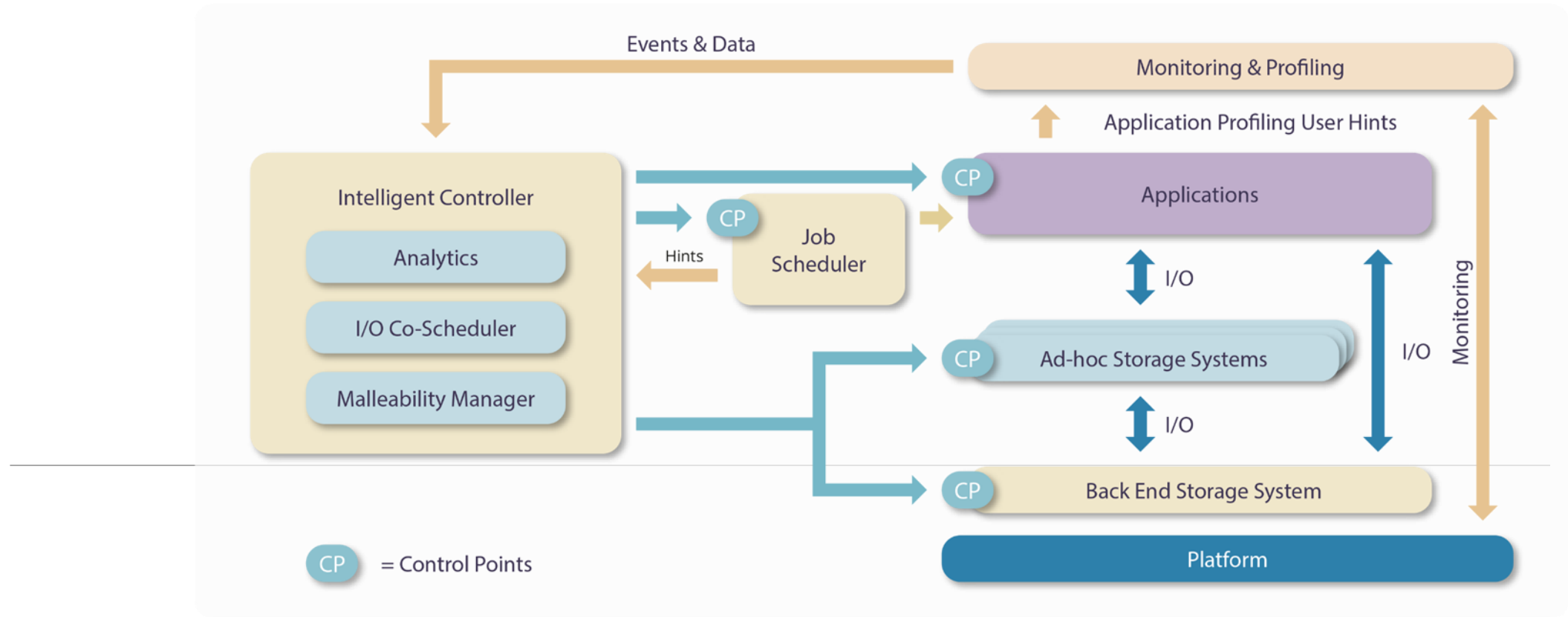
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## ADMIRE Overview



## System architecture





- ❑ Iniziato a Gennaio 2022 Durata 48 mesi Total cost 40.76M€ Coordination ATOS

<https://eupex.eu/>

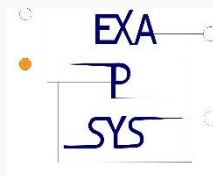
- ❑ CINI partner principale. Alcune unità del laboratorio CINI HPC-KTT partecipano come Linked Third Parties (LTPs):

- ❑ UNIPI-DI (M. Torquati)
- ❑ UNIPI-DII (S. Saponara)
- ❑ UNITO (M. Aldinucci)
- ❑ UNIBO (A. Bartolini)
- ❑ POLIMI (W. Fornaciari, G. Agosta)



**Totale PMs: 188 Total cost ~1.4M€**

**Main WPs:** WP3 (use-cases), WP4 (blade design),  
WP5 (system software/workflow tools), WP6 (security)







# EUPEX factsheet

- > European Pilot for EXascale
- > A 4-year project starting 1st January 2022
- > A balanced consortium of 17 European academic and commercial stakeholders
- > Funded by EuroHPC JU
  - And France, Germany, Italy, Greece, United Kingdom, Czech Republic, Croatia
  - Total budget: 40.76 M€

**Covering the full spectrum of required supercomputing technologies  
with European solutions**

# EUPEX objectives

<b>Co-design</b> 	Co-design a modular Exascale-pilot system
<b>Deploy</b> 	Build and deploy a pilot hardware and software platform integrating European technology
<b>Demonstrate</b> 	Demonstrate the readiness and the scalability of the pilot technology in general and the MSA in particular, towards Exascale
<b>Applications</b> 	Prepare applications and European users to efficiently exploit the future Exascale machines



# The EUPLEX way

- Leveraging the best of the assets developed in previous H2020 projects
- The first HPC platform integrating the full spectrum of European HPC technologies
  - architecture (e.g. OpenSequana, Modular Supercomputer Architecture)
  - processors (e.g. SiPearl's Rhea processor)
  - interconnect (e.g. Atos's BXI)
  - system software (e.g. ParTec's ParaStation Modulo)
  - development tools (e.g. Bull energy + dynamic power optimizers, ScoreP/Scalasca, PMIx, MERI, COUNTDOWN...)
  - applications (e.g. CINECA's LiGen, ECMWF's Integrated Forecasting System (IFS))

