EUPEX EAP

Early Access Programme

EuroHPC
Joint Undertaking

EUPEX Early Access Programme (EAP)

> EUPEX will open its target Pilot system to organisations interested

> As Pilot system is not available yet:

- Phase 1: Access to main Alpha system (CEA Irene A64FX partition)
  - Includes access to planned EUPEX software stack
- Phase 2: Access to Pilot system once ready

> https://eupex.eu/early-access-program/

EUPEX Early Access Programme (EAP)

> ## Who?

- EAP Phase 1 open to
  - EuroHPC Centres of Excellence (CoEs)
  - Selected EuroHPC research projects (on request)

> ## How?

- **Contact point** of CoE/project should email us
  - via email link @ https://eupex.eu/early-access-program/#getting-started-with-the-eap
- Specify objectives you want to achieve with EAP
- Sign EAP Framework agreement

CEA Irene ARM64FX Partition

CEA Irene ARM64FX Partition: specification

- CPUs : A64FX Armv8.2-A SVE @ 1.8Ghz

- Core/Node : 48

- Nodes : 80

- Total cores : 3840

- RAM/Node : 32GB

- RAM/core : 666MB
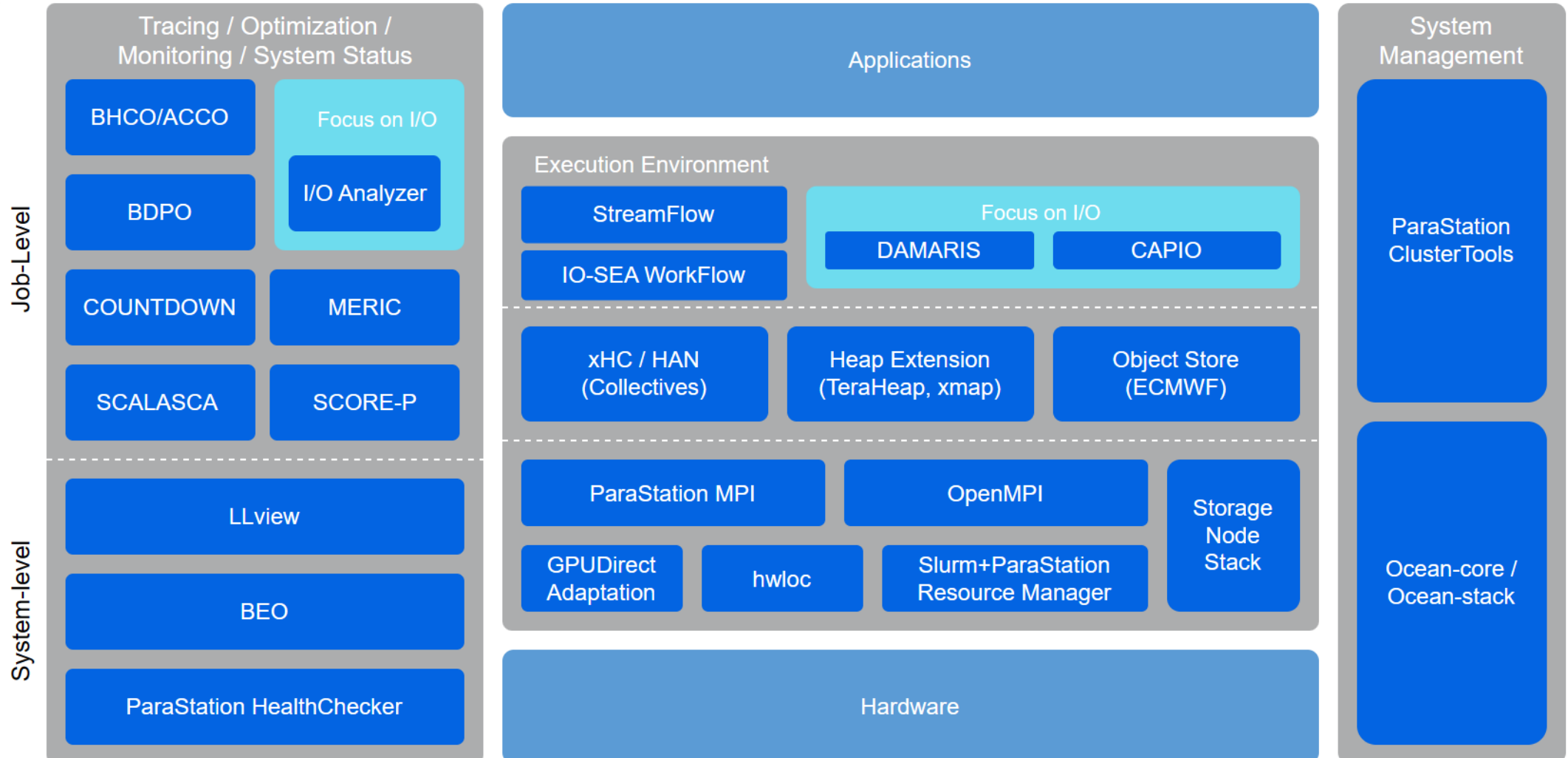
- Interconnect: Mellanox connect-X6 HDR 100 Gbps

More info on Irene arm64fx partition

- In a nutshell: More detailed documentation is available here:

  - https://www-hpc.cea.fr/tgcc-public/en/html/tgcc-public.html

  - https://www-fr.ccc.cea.fr/docs/irene/en/html/irene.html (login and password needed)

- Support via hotline TGCC via email: hotline.tgcc@cea.fr

EUPEX Software Stack (ESS)

EUPEX Software Stack

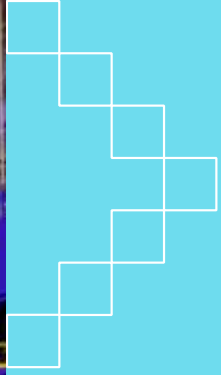**Tracing / Optimization / Monitoring / System Status**

Job-Level

- BHCO/ACCO
- Focus on I/O
  - I/O Analyzer
- BDPO
- COUNTDOWN
- MERIC
- SCALASCA
- SCORE-P

System-level

- LLview
- BEO
- ParaStation HealthChecker

Applications

Execution Environment

- StreamFlow
- IO-SEA WorkFlow
- Focus on I/O
  - DAMARIS
  - CAPIO

- xHC / HAN (Collectives)
- Heap Extension (TeraHeap, xmap)
- Object Store (ECMWF)

- ParaStation MPI
- OpenMPI
- GPUDirect Adaptation
- hwloc
- Slurm+ParaStation Resource Manager
- Storage Node Stack

Hardware

System Management

- ParaStation ClusterTools
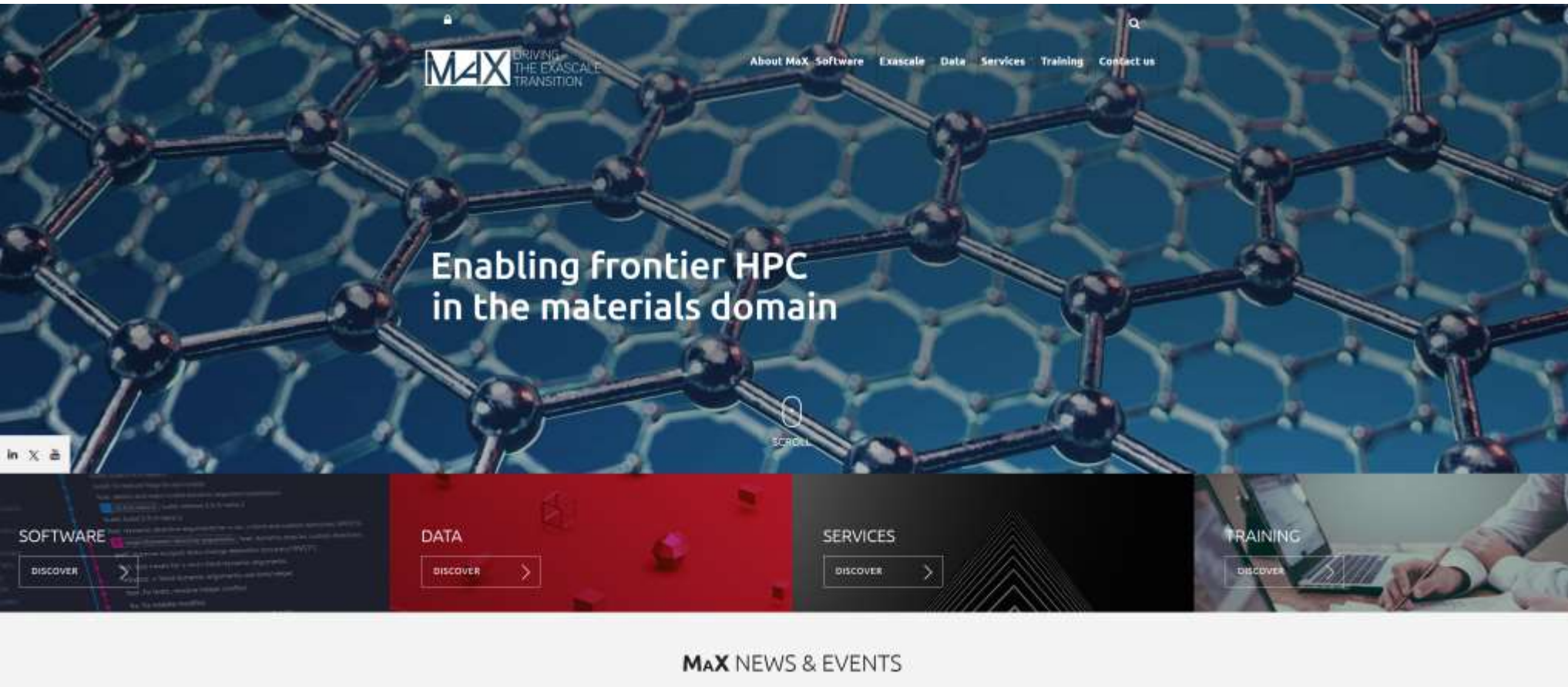- Ocean-core / Ocean-stack

EUPEX

EUPEX EAP Software STACK
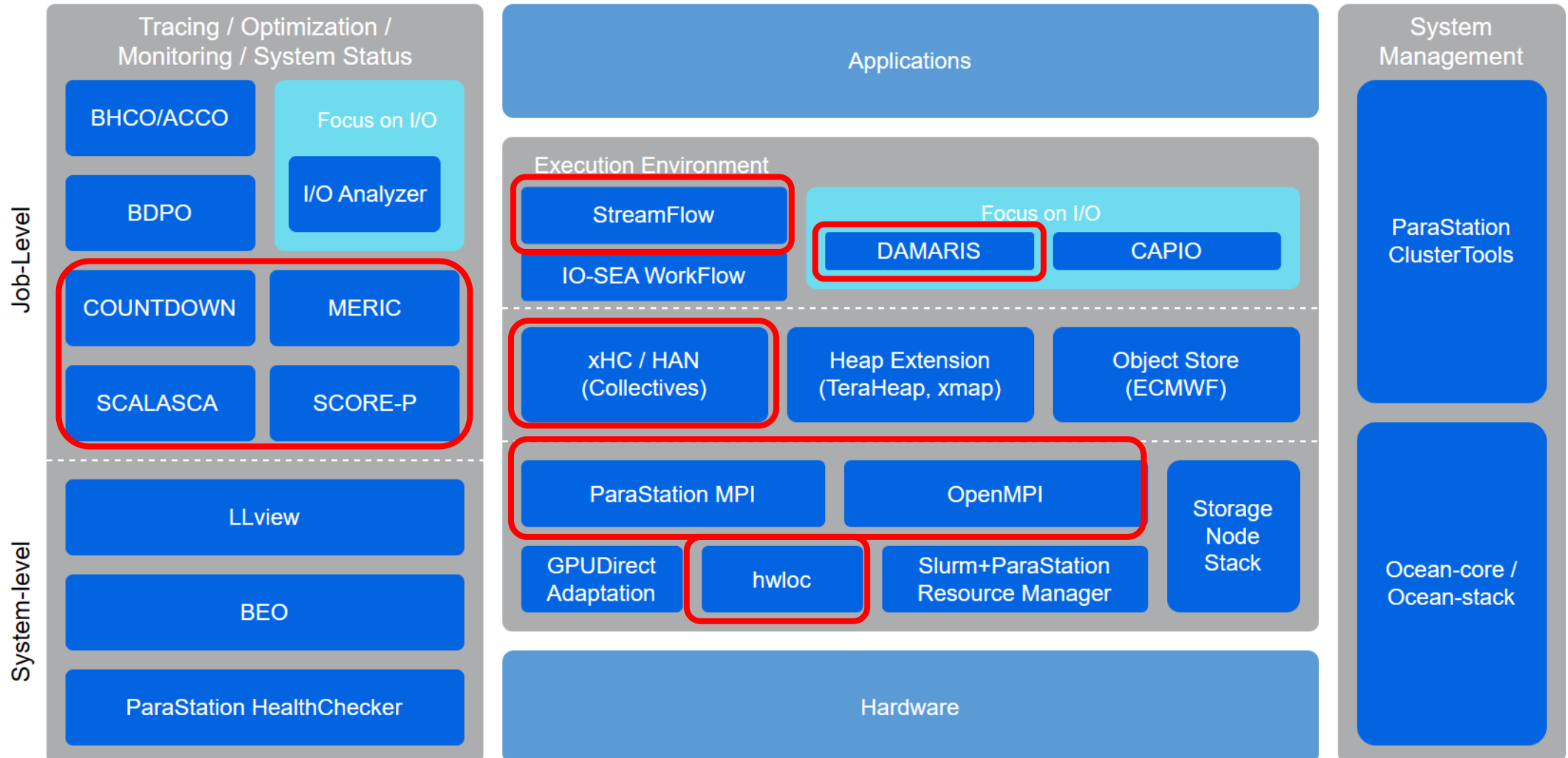
Our current EAP users

MAX CoE

> **About MᴀX**

> MᴀX (Mᴀterials design at the eXascale) is a European Centre of Excellence which enables materials modelling, simulations, discovery and design at the frontiers of the current and future High Performance Computing (HPC), High Throughput Computing (HTC) and data analytics technologies.

MultiXscale CoE

> About MultiXscale

> MultiXscale is a European High Performance Computing Joint Undertaking (EuroHPC JU) Center of Excellence in exascale-oriented application co-design and delivery for multiscale simulations. It is a collaborative 4-year project between members of the CECAM network and EESSI that will allow domain scientists to take advantage of the computational resources offered by EuroHPC JU.
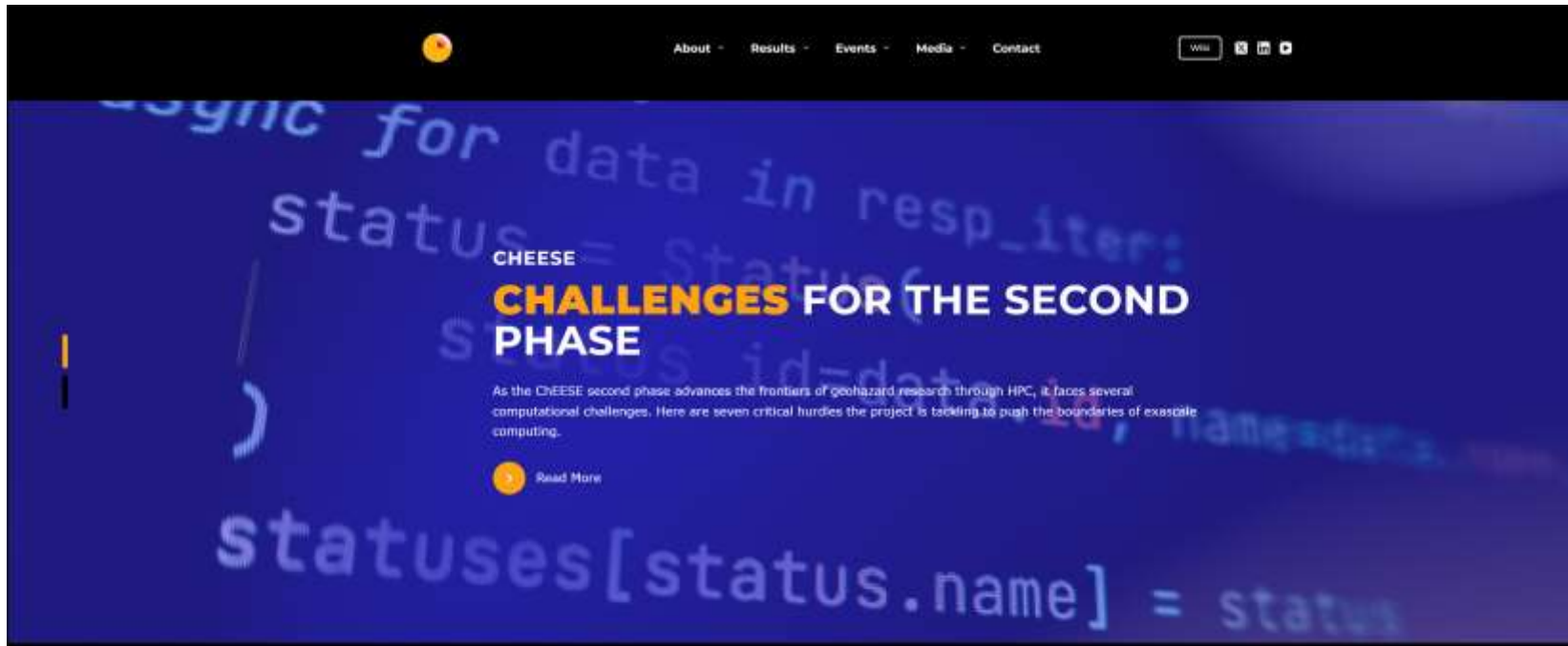
ChEESE CoE

> **About ChEESE**

> The ChEESE CoE project embarks on its second phase, addressing the multiple challenges posed by geohazards with the help of exascale computers. The project primarily addresses European institutions responsible for operational monitoring networks but also at hardware developers, industrial stakeholders, public institutions and HPC centers.

Want to join?

> We ***WELCOME*** all new potential EAP users

> Please visit EUPEX EAP web pages and contact us

EUPEX

Thank you

EUPEX