

# RISC-V for cloud services

coordinated by



<https://riser-project.eu>

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RISER will develop the first all-European RISC-V cloud server infrastructure, significantly enhancing Europe's open strategic autonomy.

## Develop & validate open-source designs for standardized form-factor system platforms

- PCIe Acceleration Card, Microserver (Blade)
- Use cases: acceleration, networked storage, containerized execution

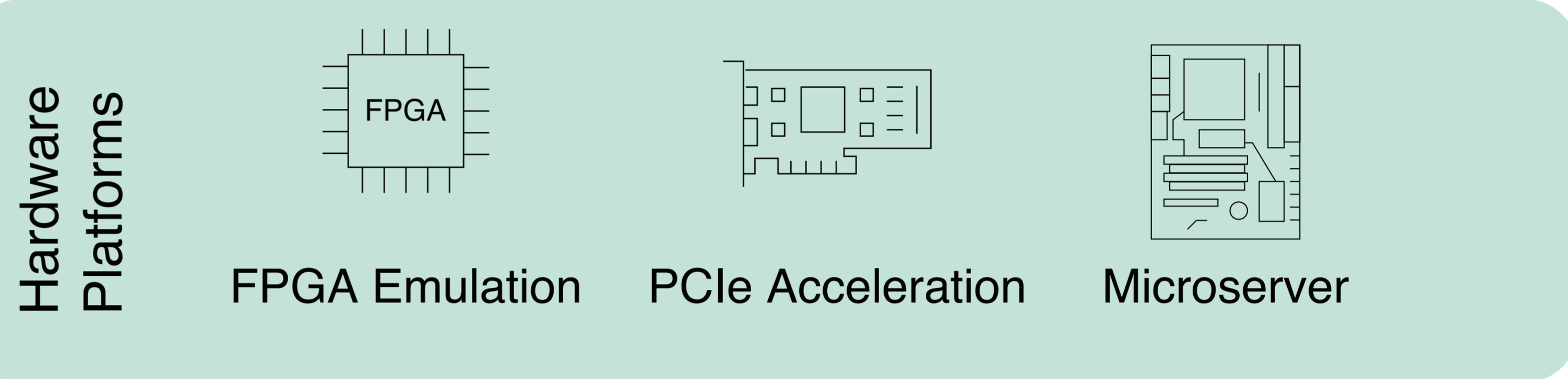
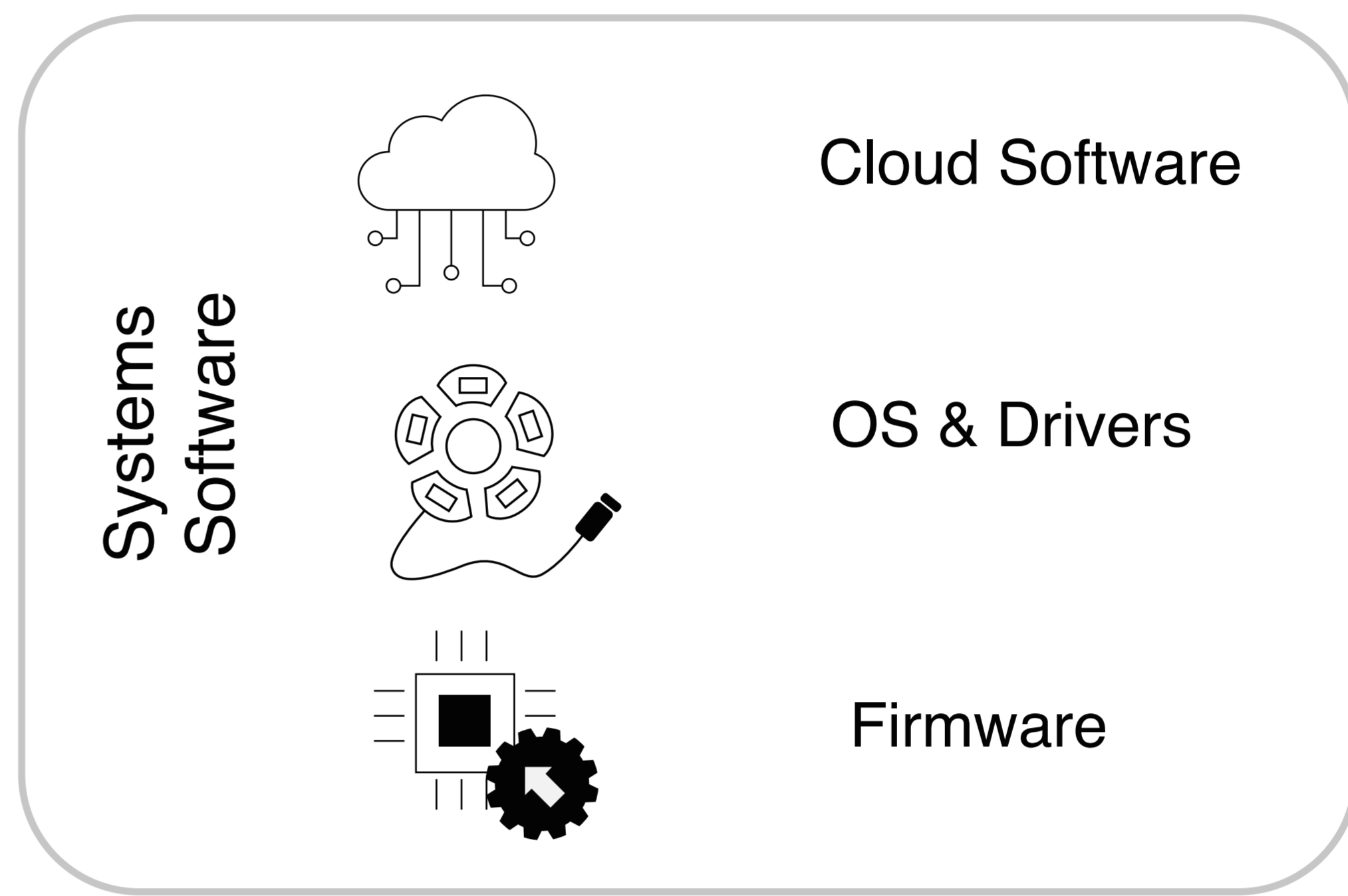
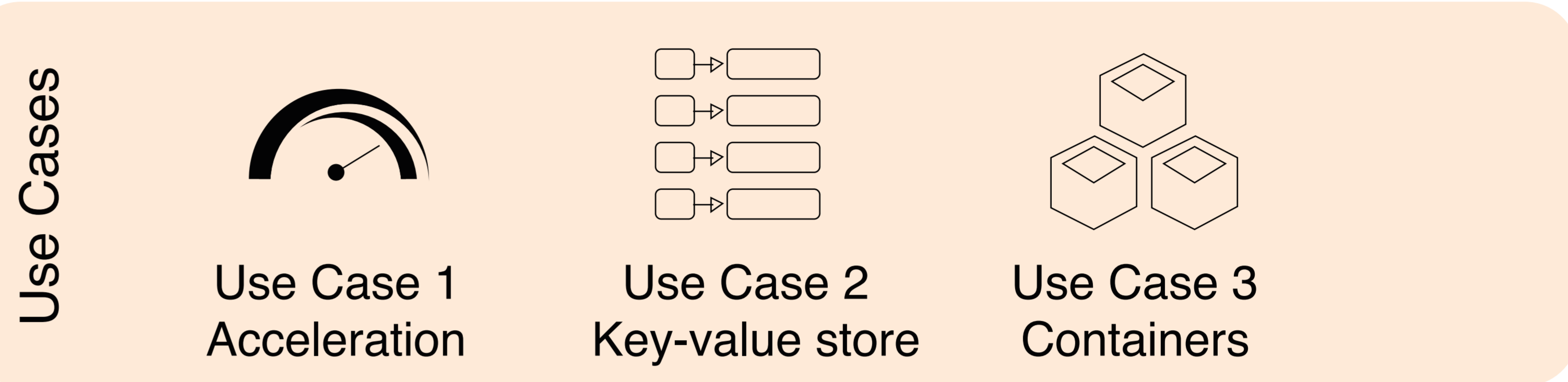
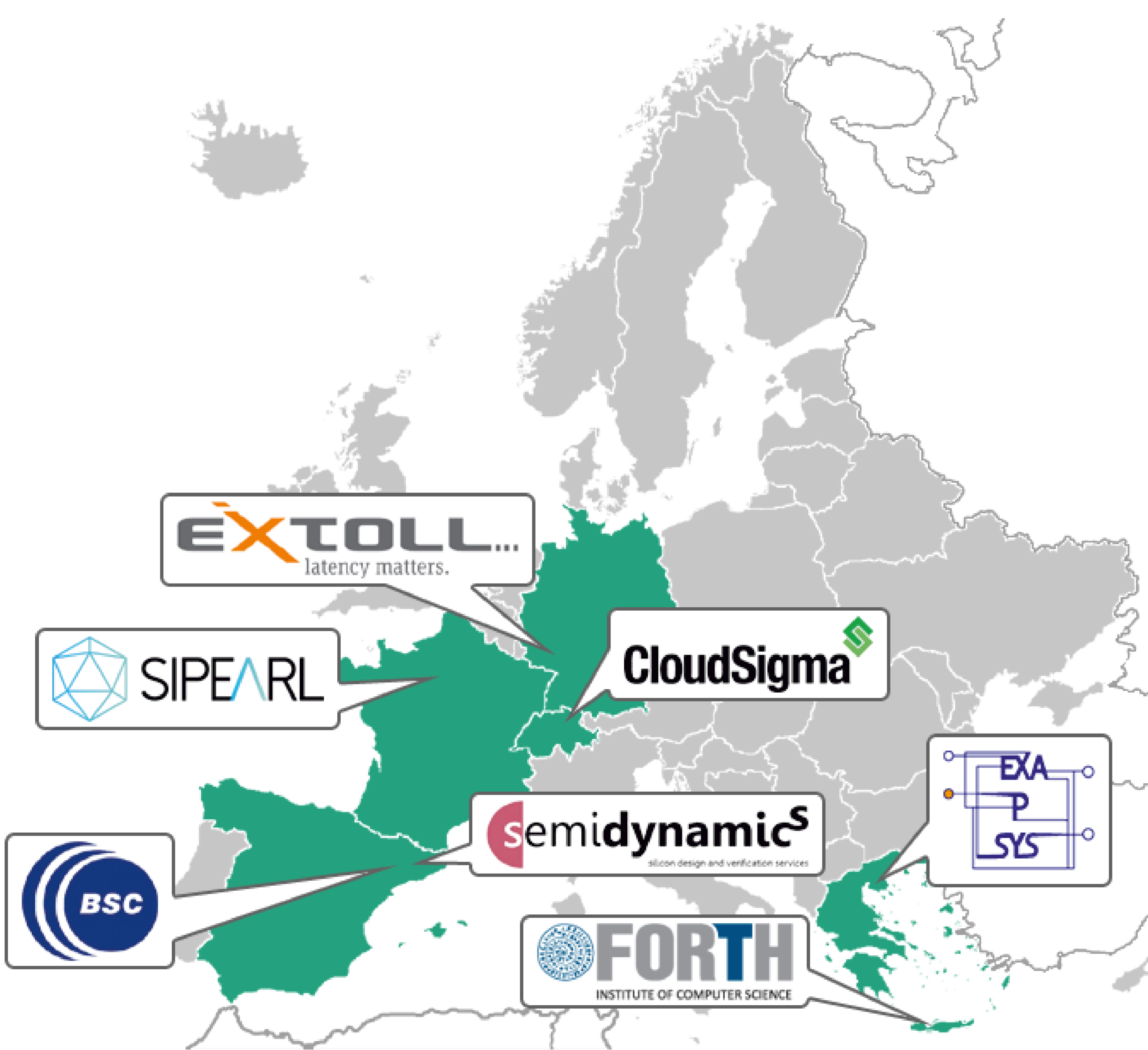
## Enabling the path towards a European-based cloud infrastructure

- The first Cloud architecture using RISC-V processor technology being developed within the EPI and EUPILLOT projects
- Key technologies: RISC-V processors, PCI-Express/CXL, Cache-coherent Chip-to-Chip links

## Open hardware interfaces

- Expand the interface possibilities of EPI/EUPILLOT processors:
  - High-speed network & storage capabilities
  - Essential support for cloud applications and services deployment

## Integrated all-European Hardware and Open-Source Software for Cloud Services and Applications



## Consortium Skills & Contributions

### RISC-V Processors

Source: EPI and EUPilot projects (chips)  
\*Currently operating on system boards designed for dev/test purposes

### Server Boards (PCB + firmware)

Standard form factors (PCIe accelerator card, Microserver)  
\*Following industry standards to utilize server I/O peripherals

- 100 Gbps Ethernet
- NVM-Express Storage
- DRAM Memory

### Boot Firmware

Initialization of execution platform, including high-speed I/O peripherals (storage, networking)

### OS, drivers, runtime

Configured/adapted for cloud services: Workload acceleration, networked storage, containerized execution  
\*Integration in IaaS environment

RISER: RISC-V for cloud services  
Call: Open source for cloud-based services  
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Contact: Dr. Manolis Marazakis | [maraz@ics.forth.gr](mailto:maraz@ics.forth.gr)  
FORTH - Institute of Computer Science, GREECE

