Higher Project Update I A Look Back on the First Year

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The Higher Consortium at the Kick-Off Meeting in Heraklion, Greece.

The EU-funded HIGHER Project has successfully completed its first year, marking a major step toward delivering Europe's first fully homegrown, next-generation processor platform for data-center and edge environments.

After twelve months of intensive work, the consortium is moving closer to strengthening Europe's digital autonomy with cloud- and edge-ready computing infrastructure built entirely on European technologies and aligned with Open Compute Project (OCP) standards.

What's at the Core of HIGHER?

HIGHER focuses on the development and integration of new Arm-based and RISC-V-based Host Processor Modules, including RHEA2 and EPAC 2.0 / EUPilot chips, combined with AI and high-performance computing accelerators.
These components will power OCP-compliant system platforms designed for:

- High performance
- Improved energy efficiency
- Modular and open architectures
- Data-center and edge workloads

The project targets Technology Readiness Level 6 (TRL6) for both hardware and software, supported by on-site evaluations of electrical, mechanical, and thermal performance.

Key Achievements So Far

During this first phase, the consortium delivered several foundational milestones:

- Comprehensive system and use-case requirements analysis
- Refinement of four core project use cases
- Launch of full technical design activities

These use cases will later be used to assess performance, cost, and energy efficiency across cloud-to-edge deployments.

Technical & Hardware Progress

- System architecture and component specifications finalized
- High-Performance Modules (HPMs) defined for RHEA2 and EPAC/EUPilot processors
- Management module specified with firmware and Platform Root of Trust functionality

Hardware prototyping is now underway, with the RHEA2-based HPM progressing on schedule and supporting single- and dual-socket chiplet configurations.
Each module includes a complete software stack, from secure firmware and UEFI boot to Linux distributions and drivers with OpenMP offload support.

Firmware, Software & Use Cases

Progress also includes:

- Secure boot design for Arm and RISC-V server SoCs
- Integration of an OCP-compliant Base Management Controller (BMC) with Root-of-Trust capabilities
- Early demonstrations using emulator-based environments

Use case partners are actively preparing deployments, with a strong focus on CXL-based memory disaggregation and software-stack readiness across platforms.

What's next?

With a strong first phase completed, HIGHER is now entering full development, paving the way for Europe's first data-center-grade, fully European processor ecosystem.

More updates on the website:

- Meet the Consortium series
- Technical news on the project
  - Integration of the Caliptra Root-of-Trust in DC-SCM secure control modules (FORTH)
  - Advancing Modular and Secure Server Design (SiPearl)
- Event updates
- Deliverables

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