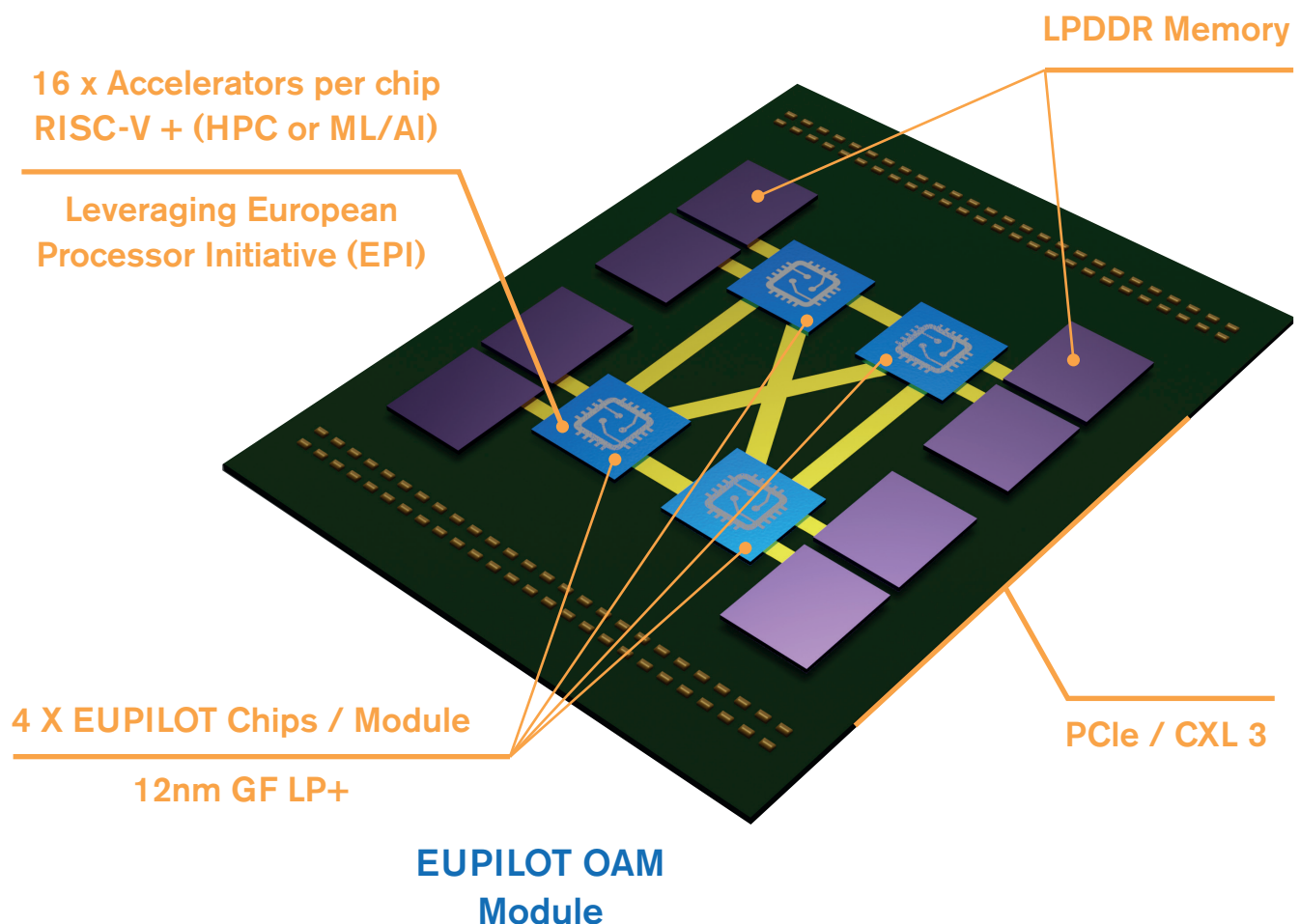# THE EUPILOT

Pilot using Independent Local & Open Technologies

The European PILOT will build and deploy a RISC-V based pre-exascale accelerator demonstrator
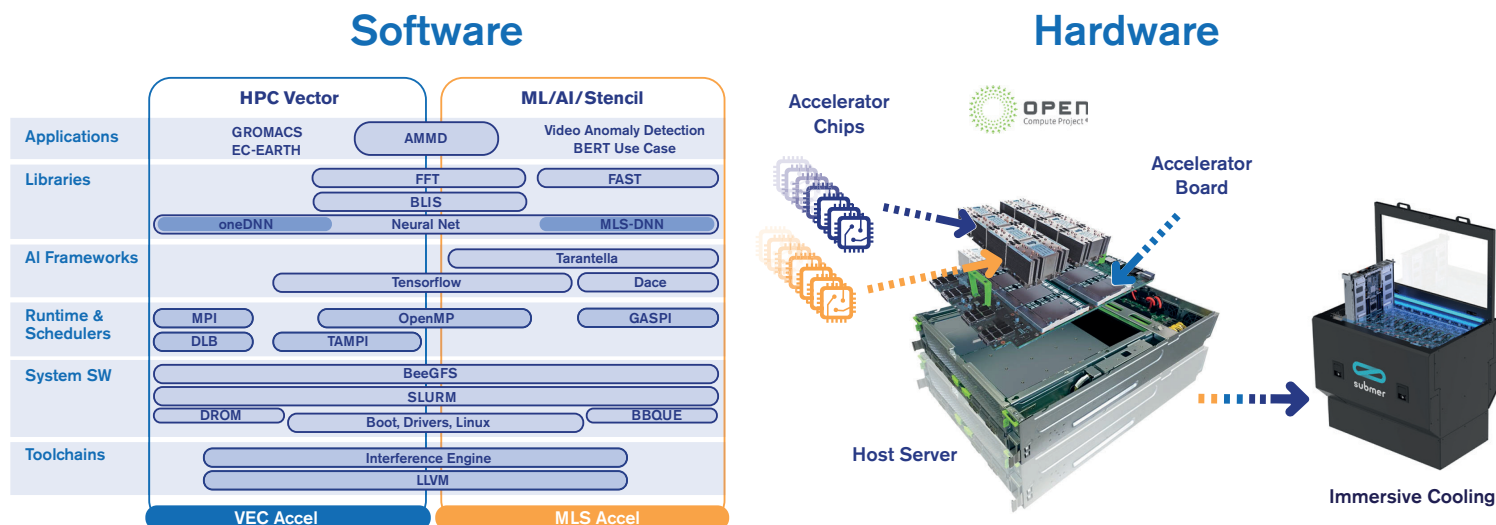
The first end-to-end European open source and open standards based software and hardware system, including two accelerator chips (HPC or ML/AI), and innovative power and liquid cooling datacenter deployment solutions.

The European PILOT Chiplets Module

LPDDR Memory

16 x Accelerators per chip
RISC-V + (HPC or ML/AI)

Leveraging European Processor Initiative (EPI)

4 X EUPILOT Chips / Module

12nm GF LP+

PCIe / CXL 3

EUPILOT OAM Module

Approach

The European PILOT contains three streams to deliver an European open source and open standards-based software and hardware integrated system.

Software

	HPC Vector		ML/AI/Stencil
Applications	GROMACS EC-EARTH	AMMD	Video Anomaly Detection BERT Use Case
Libraries		FFT	FAST
		BLIS	
	oneDNN	Neural Net	MLS-DNN
AI Frameworks			Tarantella
		Tensorflow	Dace
Runtime & Schedulers	MPI	OpenMP	GASPI
	DLB	TAMPI	
System SW		BeeGFS	
		SLURM	
	DROM	Boot, Drivers, Linux	BBQUE
Toolchains		Interference Engine	
		LLVM	
	VEC Accel		**MLS Accel**

Hardware

Accelerator Chips

OPEN Compute Project

Accelerator Board

Host Server

Immersive Cooling

Objectives

The European PILOT project's overall goal is to demonstrate European technology by achieving the following objectives:

- Extend open source to include open-source hardware for HPC
- Software/Hardware co-design for improved application performance and system energy efficiency
- HPC and HPDA applications

- Stimulate European collaboration
- System integration innovations
- Combine industry-standard methodology and cutting-edge research to accelerate exploitation

Partners

Barcelona Supercomputing Center
Centro Nacional de Supercomputación

semidynamics
silicon design and verification services

cini
consorzio interuniversitario nazionale per l'informatica

submer

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

UNIVERSITÀ DI PISA

UNIVERSITÀ DEGLI STUDI DI TORINO

UNIVERSITÀ DEGLI STUDI DI MILANO

SAPIENZA Università di Roma

LEONARDO

ETH zürich

extoll
latency matters.

Fraunhofer

JÜLICH Forschungszentrum

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KTH VETENSKAP OCH KONST

FER

TÜBİTAK BİLGEM