



European Processor Initiative

Framework Partnership Agreement In European Low-power Microprocessor Technologies



WHY ?

- Processor supply & HPC = critical needs today in EU, and sovereignty matters
- We (collectively) have to
 - Secure our supply-chain(s)
 - Bring in EU part of systems value-chain & know-how chain
 - Power the big EU systems to come
 - With efficient & adapted chips
 - With a good control on the choices & supply
- A unique opportunity window
 - With EuroHPC now on the scene
 - Ground conditioned by 10+ years of efforts

& WHAT

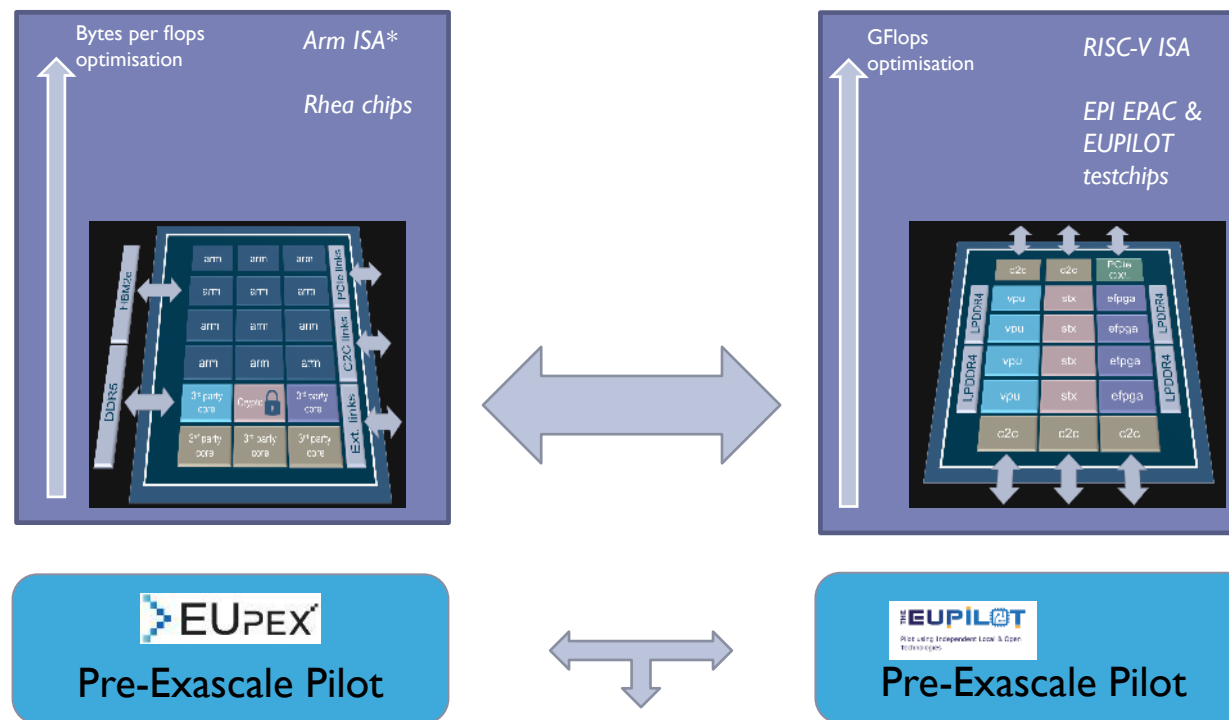
EU chips fit for HPC usage - at Exascale level & pilot systems as PoC and readiness bench

General Purpose Processors:

Enable legacy & programmability

Accelerators:

Computing force



EPI PROJECT FACTSHEET

- Phase 1 successfully concluded (2019-2021)
- Currently in Phase 2 (2022-2025)
- Consortium of 30 strategically chosen key European academic and industrial partners
- Funded by EuroHPC JU (50%) and co-funded by Croatia, France, Germany, Greece, Italy, the Netherlands, Portugal, Spain, Sweden and Switzerland
- Total budget: 70 M€



KEY OBJECTIVE: HIGH-END GPP AND ACCELERATORS FOR EXASCALE

Exascale Systems



Pre-Exascale Pilots



EPI:
GPP & Accelerator test chips



EPI2:
GPP V1 Go to Market
Accelerator Demonstrator

Next project(s)
GPP V2 Go to Market
Risc-V Accelerators Go to Market

Centres of Excellence in HPC Applications

2019 – 2021

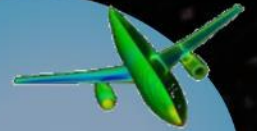
2022 - 2024

2025 -

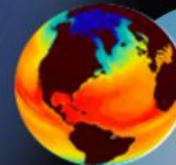
How EPI technology helps EU citizens, science and industry



Health



Industry



Climate
change,
weather and
nature

Cybersecurity



Energy



Citizens



Industry

- Reducing development time
- Minimising costs
- Optimising decision processes
- Producing higher quality goods and services
- Digital twins for modeling aircraft / automotive / factories / nuclear power plants



Under the hood

Industrial aspects in EPI

EPI 4 INDUSTRY

A long-term and global ambition

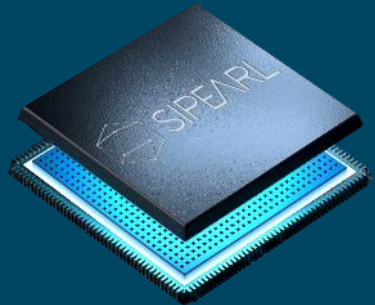
- Contribute to secure EU digital supply chain
 - (completing EU Chips act related actions)
- Contribute to position EU as a player in some key technological fields
 - High end chips
 - Chiplet market

Focus on EPI industrial players



— SiPearl in a nutshell

Building the European
energy efficient
supercomputing
microprocessor



Incorporated
in June 2019



HQ: Maisons-Laffitte
(Paris region)




Funded by
the European Union



Key personnel from:

Atos Mediatek ST Marvell
NXP Infineon Intel NOKIA



ARM architecture:
Energy-efficiency, quick
time to market, proven
ecosystem



Fabless:
Manufactured
by TSMC, mandatory at
this technological level



Identified customers:
Server manufacturers based on user
specifications (governments, supercomputing
centres, academics, industries, etc.)



Incorporated 2016

100% European

HQ in Barcelona

Soon 45+ employees

Customers in U.S. and Asia

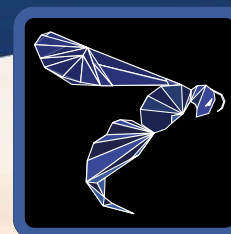
Tailor-Made High Performance RISCV64 IP



In Order
core



OOO
core







OOO VPU
RVV1.0

-
- A deep-tech EU pillar
 - A cross point
 - between EU science & industry
 - In a network of relation
 - with participants, providers & other projects
(EUPEX, EUPILOT, ...)

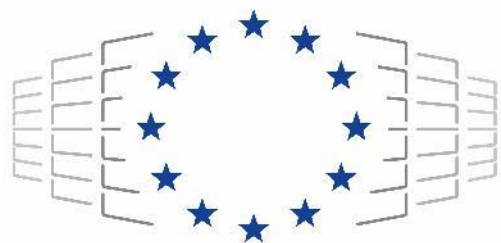
(see EUPEX presentation for instance)

THANK YOU



-  www.european-processor-initiative.eu
-  [@EuProcessor](https://twitter.com/EuProcessor)
-  [European Processor Initiative](https://www.linkedin.com/company/european-processor-initiative/)
-  [European Processor Initiative](https://www.youtube.com/channel/UC...)

EPI FUNDING



EuroHPC
Joint Undertaking

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