SIPEARL

European high-performance energy-efficient processors for supercomputing, AI and data centres

They will help address strategic challenges in the fields of security, defence, health, energy and engineering with a reduced environmental footprint.

CES 2026 PRESS KIT

Our business: High-performance energy-efficient processors for HPC(1), AI and data centres

SiPearl AMD Ampere Fujitsu intel NVIDIA

2crsi DELL E4 Computer Engineering EVIDEN GIGABYTE Hewlett Packard Enterprise MEGWARE MiTAC Supermicro

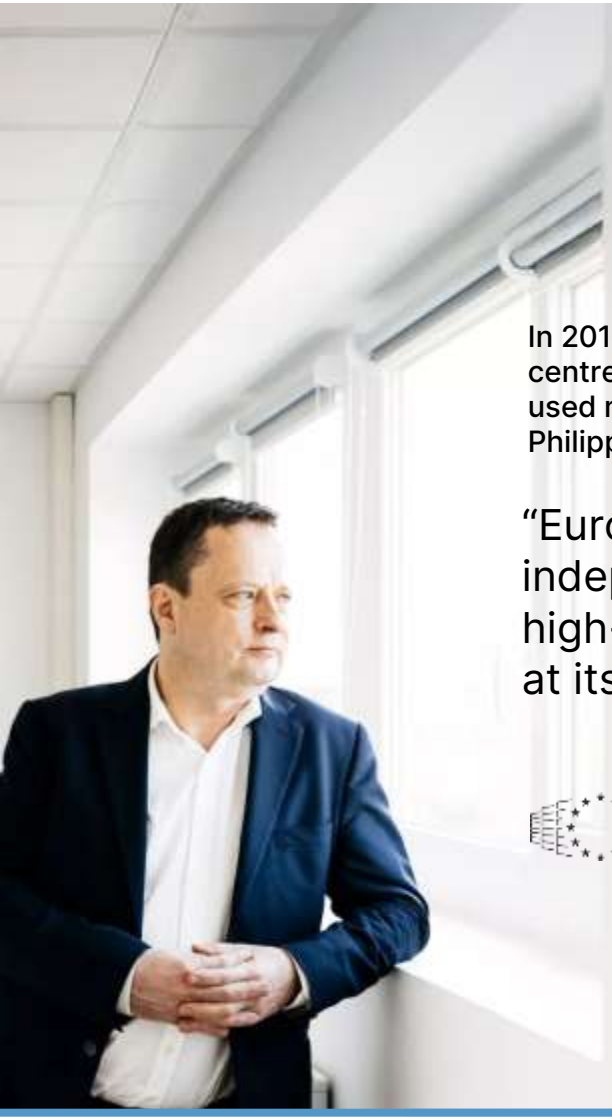
DELL EVIDEN Fujitsu Hewlett Packard Enterprise Lenovo NVIDIA Supermicro

(1) HPC, High Performance Computing or supercomputing

SIPEARL

A leading IC design house

The vision that led to SiPearl's inception



In 2015, while supercomputers and data centres that process Europe's strategic data used mostly non-European hardware, Philippe Notton had an intuition:

"Europe will only gain its strategic independence when it has European high-performance processors at its disposal."

EuroHPC Joint Undertaking

epi European Processor Initiative

Today's geopolitical and economic context confirms that European hardware is mandatory to ensure Europe's strategic independence in AI and defence.

With the tape-out of its 1st family of high-performance energy-efficient processors for supercomputing and AI, SiPearl is ideally positioned to lead this momentum.

SiPearl, a startup funded by Europe & France

To provide sovereign high-performance energy-efficient processors for Europe's supercomputers, AI companies and Cloud service providers

Incorporated

In France in June 2019, deployed in Spain, Italy

Fabless IC design house

Manufacturing entrusted to TSMC with N6P

200 employees

from

Seed funded

By the European Union

Sovereign design

Data centre in France

317 servers / **215TB** memory
14,000 CPU / **3PB** storage

2 design wins

JUPITER & Alice Recoque, 2 first European exascale supercomputers funded by EuroHPC JU and EU member states

Financing

Series-A: €130m

Technological partnership

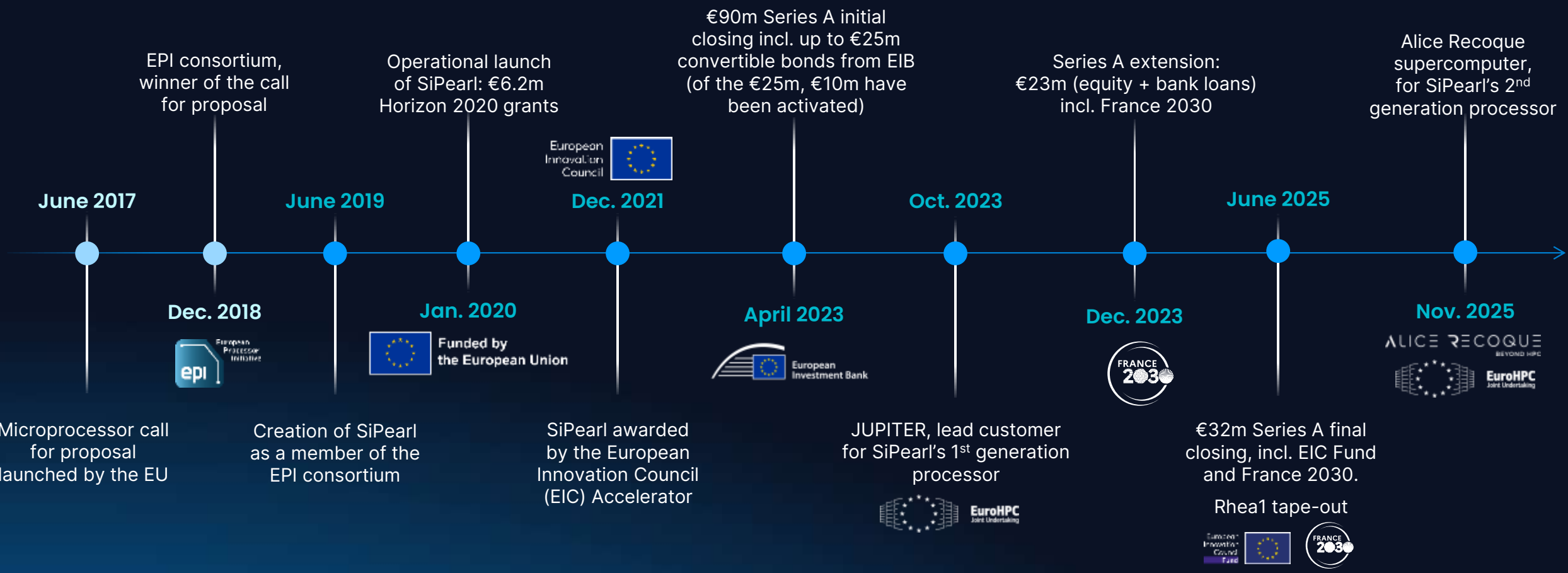
Intellectual property

1st tape-out done

June 2025

From a European Union concern to SiPearl's ramp-up

Our common goal: fostering the return of high-end processor technologies in Europe



A world-class "Processor Team"

Leadership

Philippe Notton
CEO & Founder

Ying-Chih Yang
Chief Scientist Officer

Human Resources

Laure Perfetti
HR Director

Engineering

Gaël Paul
Senior VP Engineering

Finance

Jean-Luc Gilbert
Group CFO & IR

Research & Development

Vincent Casillas
Chief Technology Officer

Sales & Marketing

Craig Prunty
VP Marketing

International Dev. & Public Affairs

Anna Riverola
International Dev. & Public Affairs Director
Country Manager - Spain

Board

Ian Jenks
Chairman

Members representing

- arm
- EVIDEN an atos business
- European Innovation Council
- European Investment Bank
- bpifrance
- FRANCE 2030

Wayne Liang
Independent Director

Jean-Michel Deligny
Advisor to SiPearl CEO

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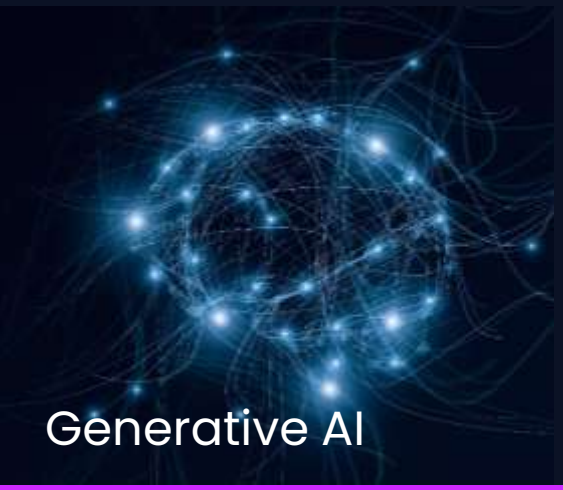
A huge market

Strengthening Europe sovereignty



Big challenges need Big computers

Supercomputers and data centres are essential to address strategic scientific societal and environmental challenges.

Our role: Strenghtening Europe sovereignty

No European sovereignty without European hardware

TODAY A dramatic situation for Europe

A complex geopolitical context

Europe's strategic data are processed by non-European processors.

Huge impact on:

- → Security
- → Safety
- → Competitiveness
- → Sovereignty

TOMORROW

SiPearl's processors will fuel:

Europe's supercomputers

EuroHPC Joint Undertaking

Europe's data centres, AI, cloud & defence

Supercomputers: Europe has 148 of the global Top 500[1]

5 machines in the TOP10

No4: JUPITER Booster - Germany
(1 exaflop)

No6: HPC6 – Italy
(478 petaflops)

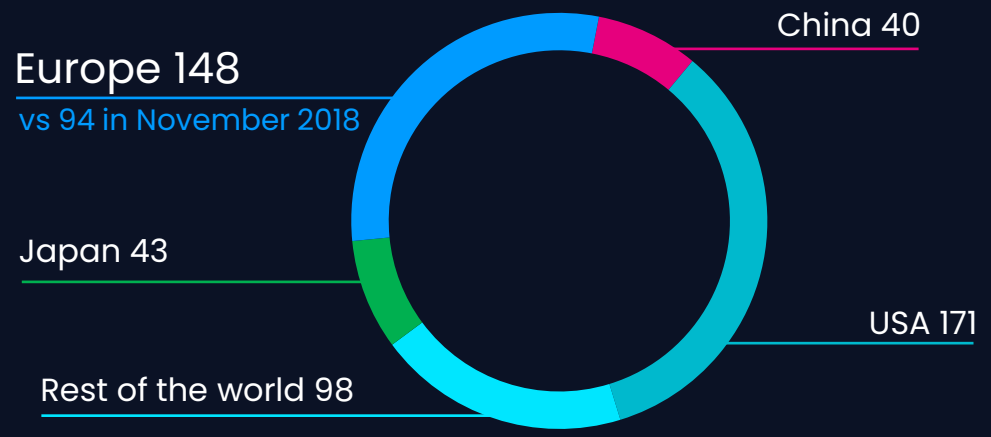
No8: Alps - Switzerland
(435 petaflops)

No9: LUMI - Finland
(380 petaflops)

No10: LEONARDO - Italy
(241 petaflops)

A rising demand for supercomputers in Europe

Since the launch of EuroHPC in 2018
+ **54** European supercomputers in the TOP500[1]



(1) Sources: 66th edition of the global Top 500 most powerful supercomputers - November 2025 – Europe's supercomputers without Russia's: 148
52nd edition of the global Top 500 most powerful supercomputers - November 2018 - Europe's supercomputers without Russia's: 94

Supercomputers: Europe significantly greener than the US

TOP10 – Green500 Supercomputers

#1

KAIROS
73.28 Gflops/W

CALMIP / University of Toulouse
CNRS
France

EVIDEN

3,046 TFlop/s
46.18 kW

#2

ROMEO-2025
70.91 Gflops/W

ROMEO HPC Center
Champagne-Ardenne
France

EVIDEN

9,863 TFlops
160.16 kW

#3

Levante (GPU extension)
69.43 Gflops/W

DKRZ - Deutsches
Klimarechenzentrum
Germany

EVIDEN

6,747 TFlops
109.78 kW

JUPITER booster

EuroHPC Joint Undertaking

The most energy-efficient exascale machine

63.32
Gflops/W

JÜLICH Forschungszentrum
EVIDEN
ParTec

El Capitan
60.94 Gflops/W

Frontier
54.98 Gflops/W

Aurora
26.15 Gflops/W

(1) Sources: 66th edition of the global Green 500 – November 2025

Europe: Sovereign hardware as a must

A promising momentum

Expanding needs / applications

AI: Inference outpacing training

Source: Boston Consulting Group

A new, highly favorable context

US AI chips export control tightened :
a push for homegrown hardware

→ Jan. 25, restrictions for 17 EU countries

→ Sept. 25, GAIN AI Act initiative

US rules on access to strategic European data:
Sovereign cloud and giga data centres initiatives

→ Eurostack Initiative

→ 1 GW data centres

Europe of defence since the new US administration:
strategic independence is a must

→ Dramatical increase of EU defence spending targets: from 2% to 5% of GDP

→ Canada's deal strengthening European defence & security partnership

AI, a global fierce race that Europe can't afford to lose:
major public funding announcements

→ Invest AI (EU): €200bn / France: €109bn

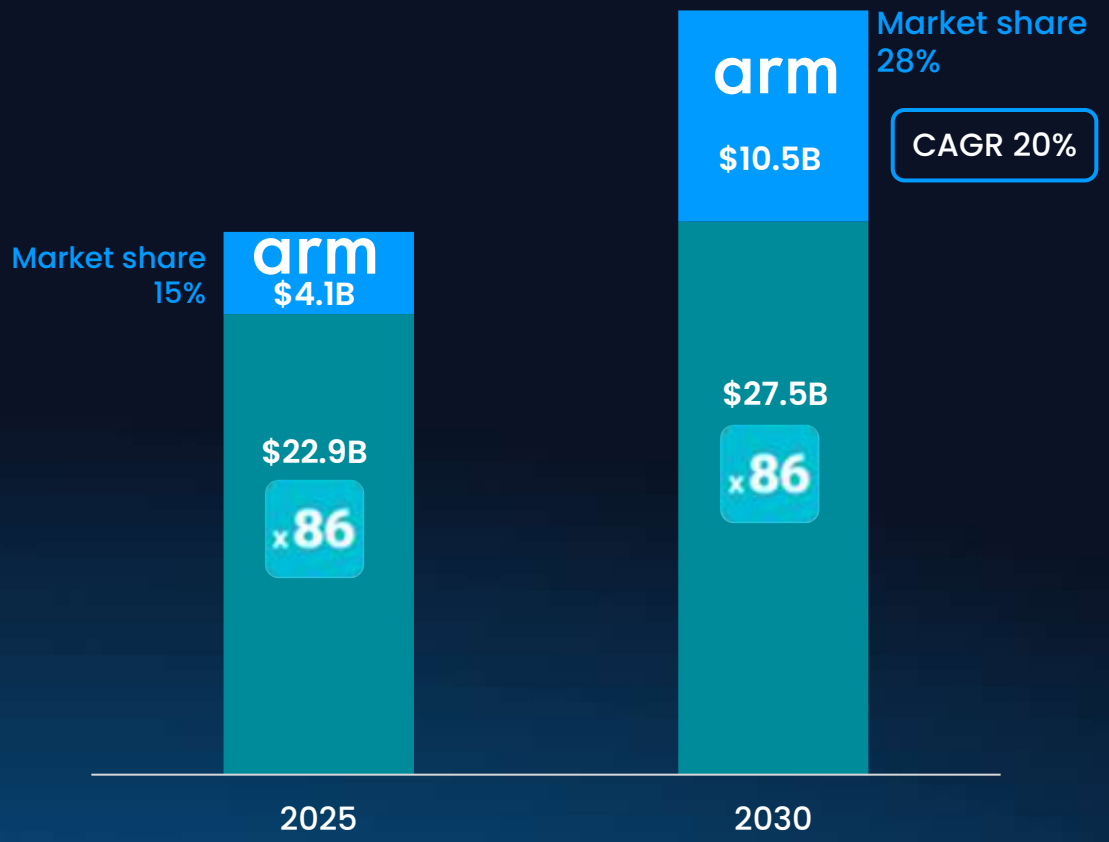
→ EuroHPC JU AI factories program: AION Consortium

Nvidia GPU security:
Suspicions regarding
kill switch & backdoor

AI: Processors are well suited to inference and essential for managing GPUs' inputs/outputs for training.

SiPearl, the world's only independent Arm-based processors provider

Global market for processors dedicated to Cloud service provider servers



Arm-based processor for servers

Third-party CPU suppliers

Rising players

AMPERE
$16.5m revenues in 2024
Sold to Softbank for $6.5bn in 2025

SIPEARL
Independant innovator

Legacy players

FUJITSU

NVIDIA

In-house CPU design

aws

Google Cloud

Meta

Microsoft Azure

Source: Yole Q2 2025

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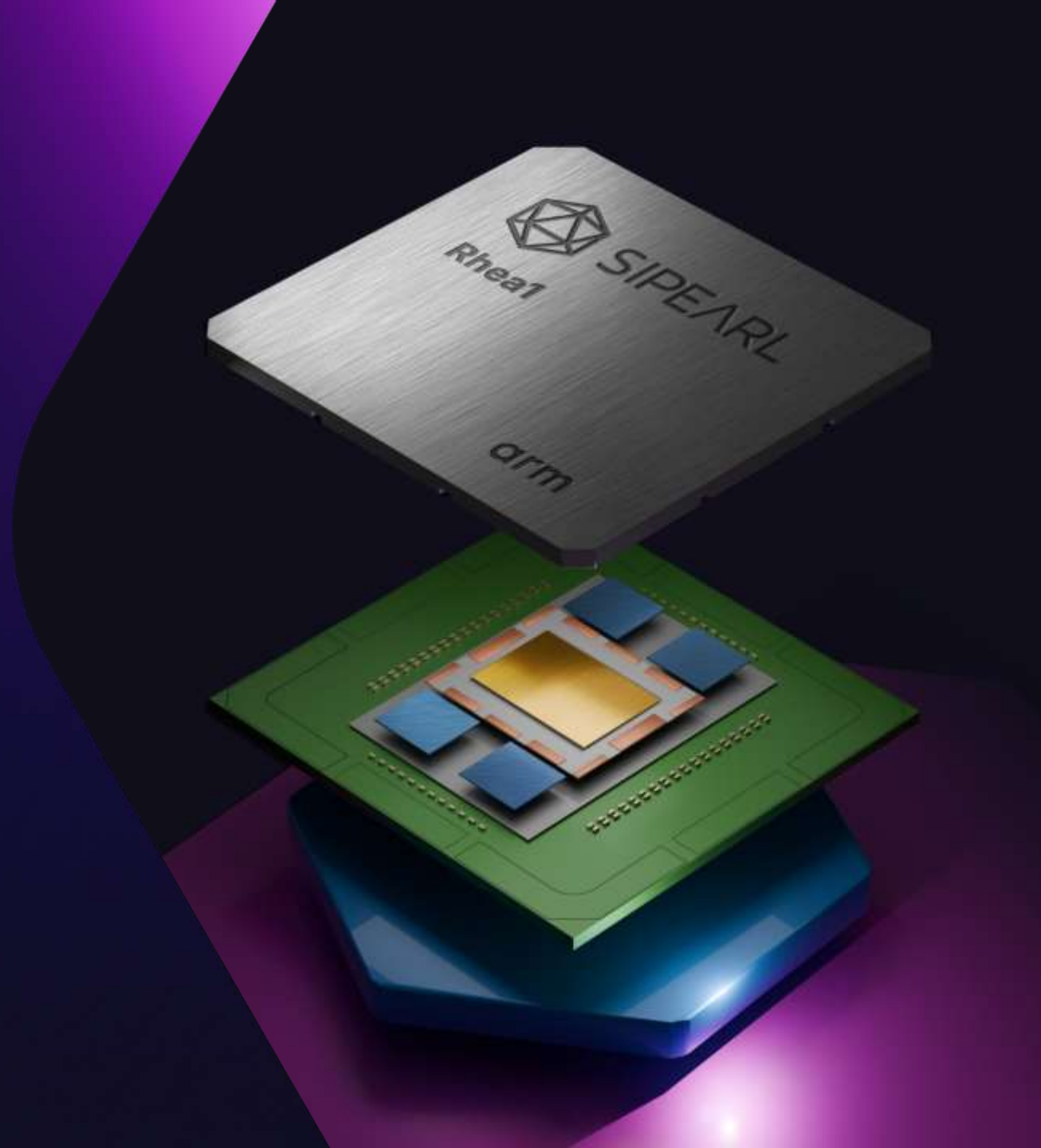
Product

Rhea1, the most complex processor ever designed in Europe



Rhea1, the 1st high-performance European processor

High Performance

To surpass the performance
of 10,000,000 desktop computers

Energy-efficiency

Significant energy savings
thanks to Arm-based architecture

Flexibility

Designed to work with any third-party
accelerator (GPU, artificial intelligence, quantum)

Backdoor-free & kill switch free security

Fully auditable to protect data with secure
end-to-end network transmission.

Software ecosystem

Arm mature software ecosystem

Sovereignty

To strengthen Europe's technological
leadership and independence

- Currently in production at TSMC in Taiwan
- Available for sampling in early 2026

RHEA1

The most complex processor ever designed in Europe

SILICON PROCESS 6 nm TSMC N6

LOGIC DIE IN ADVANCED SILICON PROCESS

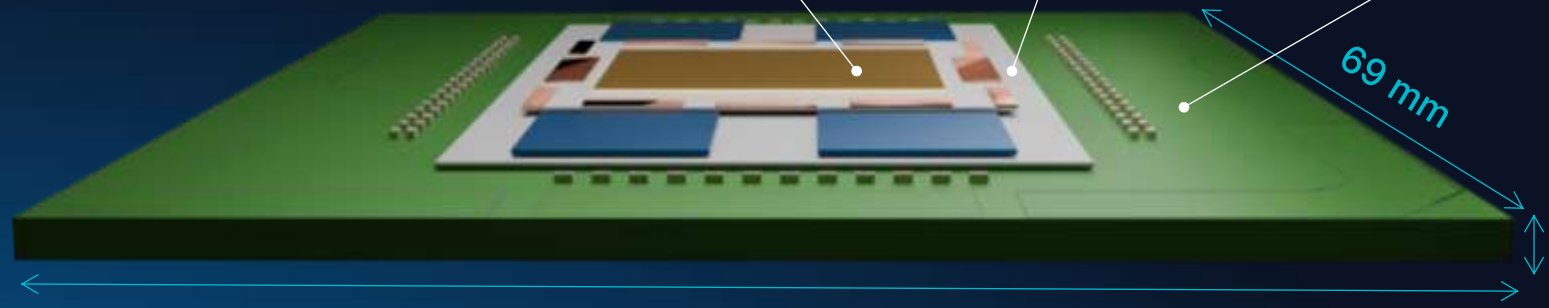
- 80 arm® Neoverse V1 cores(1)
- +61 billion transistors
- 7.8 billion equ. gates
- 16 metal layers
- 6 PCIe x16 Gen5
- 2 PCIe x4 Gen5
- 4 DDR5 interfaces
- 80 MB distributed SLC

SILICON INTERPOSER

- 2.5D advanced packaging
- 4 HBM 4x16=64GB

PACKAGE

- 5,430 pins



(1) with 2x SVE256 engines each

Rhea1, key features

High performance per watt
Arm ISA power efficiency

Very high memory bandwidth
Built-in HBM

- Ideal performances for AI inference

Unique memory architecture: High Byte/Flops

Openess
Arm ecosystem from IoT/edge to HPC and cloud

Fully auditable
Backdoor-free & kill switch free security

Compliant with most of proven accelerators (AMD, Intel, Nvidia)

Rhea1 will deliver extraordinary performance
& efficiency with an unmatched Byte/Flops ratio.

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Series A

Closing in July 25

SiPearl's total financing since its launch

Seed Money

Operational launch: €7.4m
Horizon 2020 grants

Funded by the European Union

Series A: €130m

Initial closing

Up to €90m
incl. up to €25m convertible bonds from EIB[1]

arm
European Innovation Council Fund
European Investment Bank
EVIDEN an atos business
FRANCE 2030

Extension

€23m
€15m equity + €8m bank loans

FRANCE 2030
Banking pool led by CAISSE D'EPARGNE Rhône Alpes

Final closing

€32m
convertible bonds

國泰創投 Cathay Venture
European Innovation Council Fund
FRANCE 2030

Launch of the Series B round

Design start → January 2020

April 2023

December 2023

June 2025

Tape-out → Winter 2025-26

(1) On this amount, only the €10m first tranche has been released => In fact, the initial closing of Series A amounts to €75m.

First two tranches of Series A, worth €98m (1/2)

What we managed to build

World-class processor team

Unique expertise & know-how in...

Hardware

Architecture, SoC & IP Engineering, System Validation and System Hardware Design

to design Best-in-Class high-performance energy-efficient processors

Software

Software Engineering and Performance Engineering

to get the most out of all the most demanding supercomputing and AI workloads

Sovereign design & data centres

located in northern France

317 servers

221 in Eppes / 96 in Reims

14,000 CPU | **212**TB RAM

55 networks (Data centres)

Switch / firewall

48 storage

26 storage / **22** synology

3PB

5 backup servers

Cohesity & Veritas technologies
Eppes & Reims

Unique EDA design center in Europe

Series A 1st two tranches, worth €98m (2/2)

What we managed to build

A well-known and recognized company
at world level

Strong ecosystem in Europe thanks to involvement in flagship projects

Commercial partnerships with global leaders

Political and financial support from Europe & France

JUPITER as first commercial award

A first product,
the most complex processor ever designed in Europe

and its associated reference design server,
Seine Reference Server

Available in cloud mode in April 2026

Last round of Series A, worth €32m, in June 2025 (1/2)

To support the industrialization phase of Rhea1

PROCESS
6 nm
TSMC N6

To accelerate R&D activities for the launch of next-generation products that will meet the needs of supercomputing and new market segments

Last round of Series A, worth €32m, in June 2025 (2/2)

Strengthening long-standing ties with Taiwan

OUR ROOTS: MSTAR ACQUIRED BY MEDIATEK

Philippe Notton
CEO & Founder

Nine years of his career at MStar

Ying-Chih Yang
Chief Scientist Officer
French-Taiwanese
Former Senior Director MStar
CTO SUNPLUS

Wayne Liang
Independent Director

Co-founder MStar

SEMICONDUCTOR ECOSYSTEM

tsmc

Manufacturing entrusted since the beginning

PRIVATE EQUITY FIRM OWNED BY ONE OF THE LARGEST FINANCIAL HOLDING IN TAIWAN

國泰創投
Cathay Venture

- Founded in April 2003.
- Under Cathay Financial Holding Co., Ltd, one of the largest financial services groups in asset size in Taiwan.
- Evergreen Fund with flexible mandate that allows to invest in seed, growth, late-stage companies.
- Focus: semiconductors, AI, LEO and other verticals with growth potential.

1st investment in France

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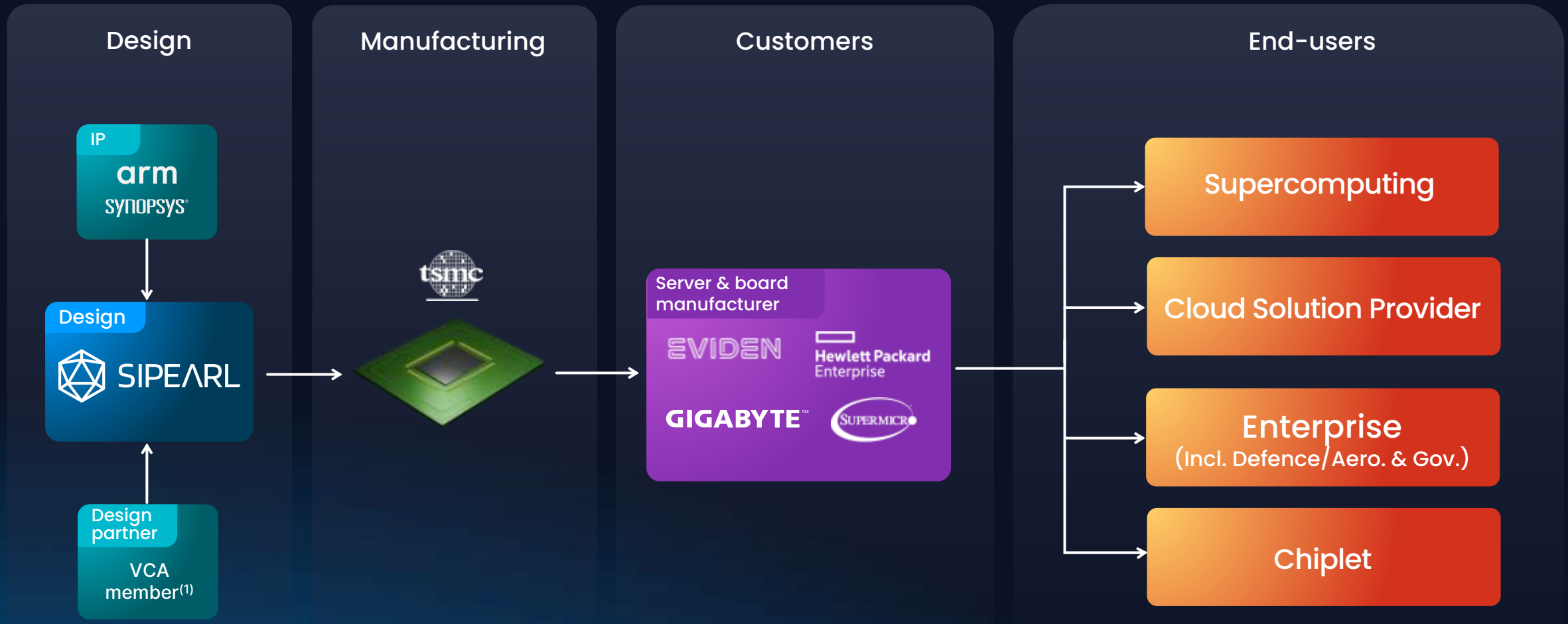
Outlook

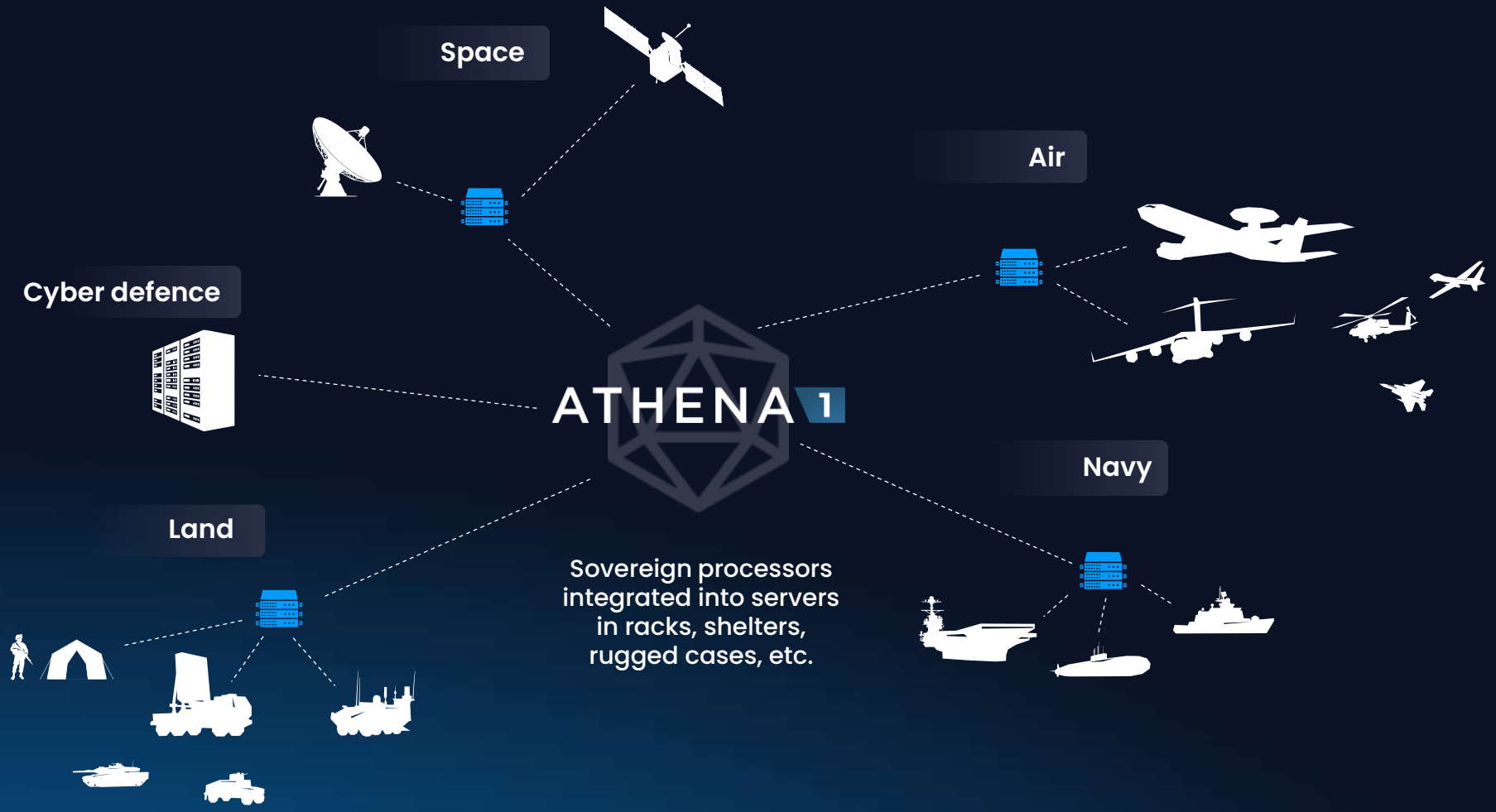
SiPearl's go-to-market is a push-pull via server providers



(1) VCA members are independent design service companies working closely with TSMC

A new product enhancing the work done for Rhea1 (1/2)

Our technology for HPC applied to the defence sector



Applications

Secure communications & intelligence
- Cyber security
- Intelligence processing
- Tactical networks

Electronic warfare & cyber defence
- Jamming systems
- Electronic detection & countermeasures
- Cyber defence

Simulation and training

Challenges & issues to be addressed

Security and integrity

Computing power and miniaturization

A new product enhancing the work done for Rhea1 (2/2)

ATHENA 1
Dual-use processor

European technology

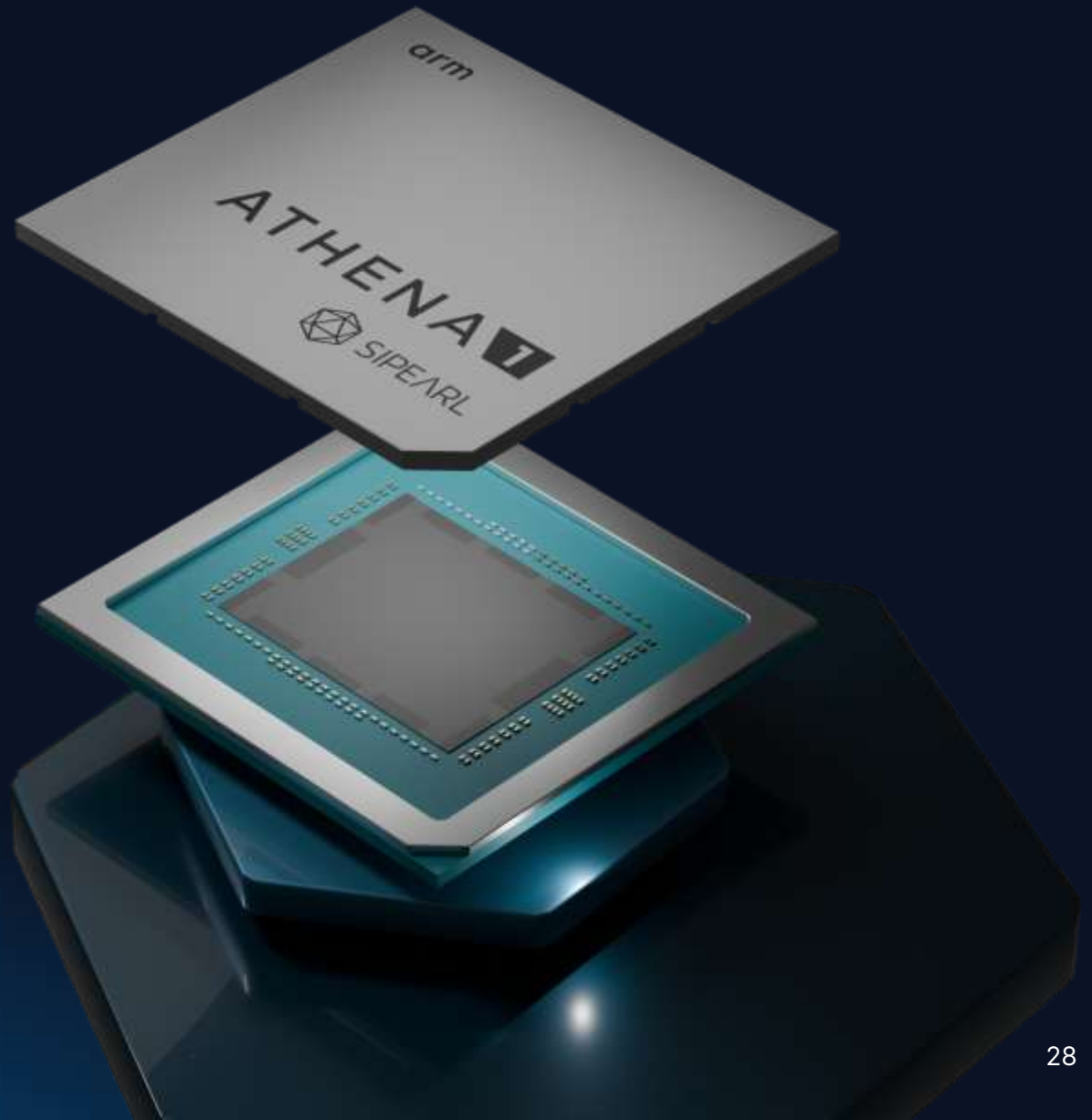
SKUs of 16, 32, 48, 64 or 80
Arm Neoverse V1 cores

New packaging

No HBM

Government | Defence | Aerospace

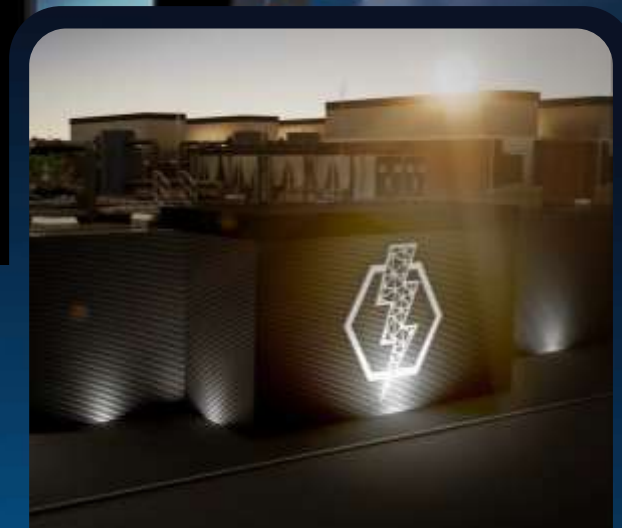
Release: H2 2027



A go-to-market strategy focused on dual-use (1/2)

Civilian use: Rhea1 will equip…

JUPITER, 1st major award



European projects

Sovereign Cloud

AERO · higher · OpenCUBE · Riser

Sovereign Centres of Excellence

EXCELLERAT P2
Highly complex engineering

MAX DRIVING THE EXASCALE TRANSITION
Materials modeling & simulations

ODISSEE
Using AI to process gigantic volumes of data (dark matter for instance)

PLASMA PEPSC
Plasma simulations

A go-to-market strategy focused on dual-use (2/2)

Defence-use: Ideal customers

SiPearl is everywhere sovereign advanced compute needs to be.

About... SiPearl

SiPearl is the European fabless designer of sovereign high-performance energy-efficient processors for HPC, AI and data centres. These processors will help address strategic challenges in the fields of security, defence, medical research, energy, climate and engineering with a reduced environmental footprint.

SiPearl completed the design of the most complex processor ever designed in Europe, Rhea1. Featuring 80 Arm Neoverse V1 cores, with 61 billion transistors, it is currently in production at TSMC and will be available for sampling in early 2026. Sipearl processors will equip both European exascale supercomputers owned by EuroHPC JU: Rhea1 will be integrated into the JUPITER machine based in Germany and Rhea2 will be part of Alice Recoque which will be located in France.

Incubated within the European Processor Initiative (EPI) consortium and seed-funded by the European Union, SiPearl employs 200 people in France, Spain, and Italy. Following a €130 million Series A, the company is launching its Series B round.

Média contact

Marie-Anne Garigue
Head of Communications
marie-anne.garigue@sipearl.com

Grégory Bosson
Senior Communications Officer
gregory.bosson@sipearl.com

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