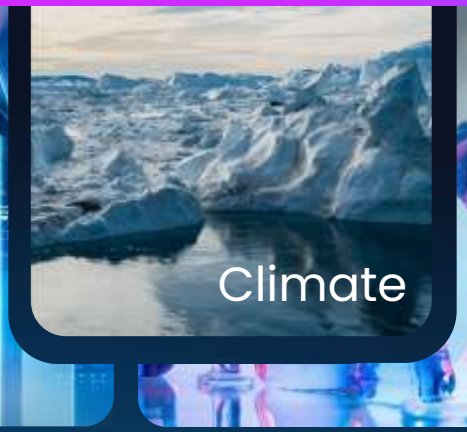
SIPEARL

High-performance energy-efficient CPUs for sovereign 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.

APRIL 2026

Big challenges need Big computers



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

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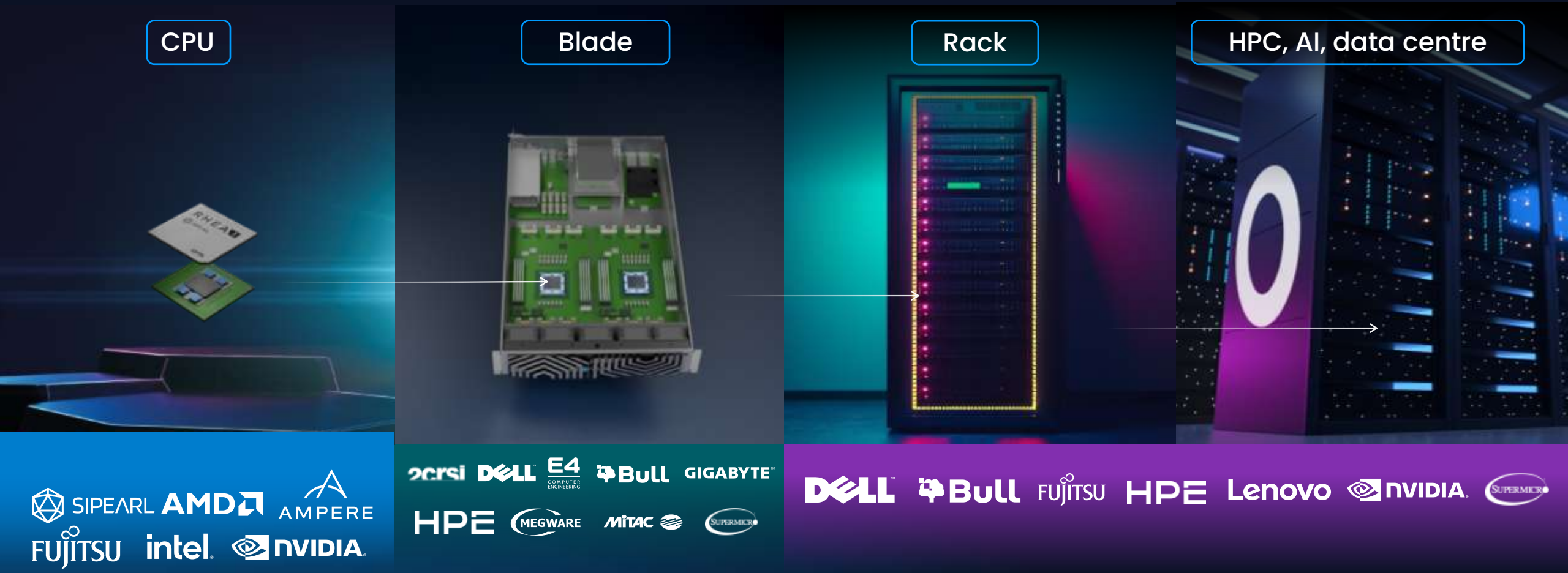
Our business: High-performance energy-efficient processors for HPC(1), AI, data centres & enterprise



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(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 sovereign high-performance CPUs(1) at its disposal."

EuroHPC Joint Undertaking

epi European Processor Initiative

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(1) CPU: Compute Processor Unit, processor in everyday language.

Our mission: Strategic independence in high-end CPUs

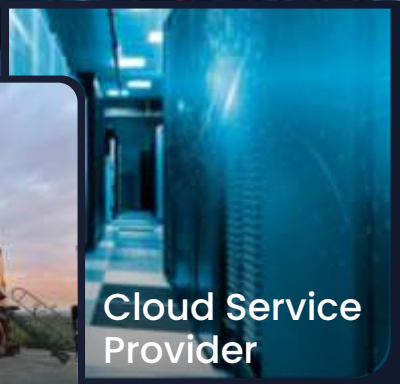
A dramatic situation for Europe

Strategic data are processed by non-European CPUs

Huge impact on:
- → Security
- → Safety
- → Sovereignty

No European digital sovereignty without sovereign hardware

SiPearl's CPUs will fuel Europe's



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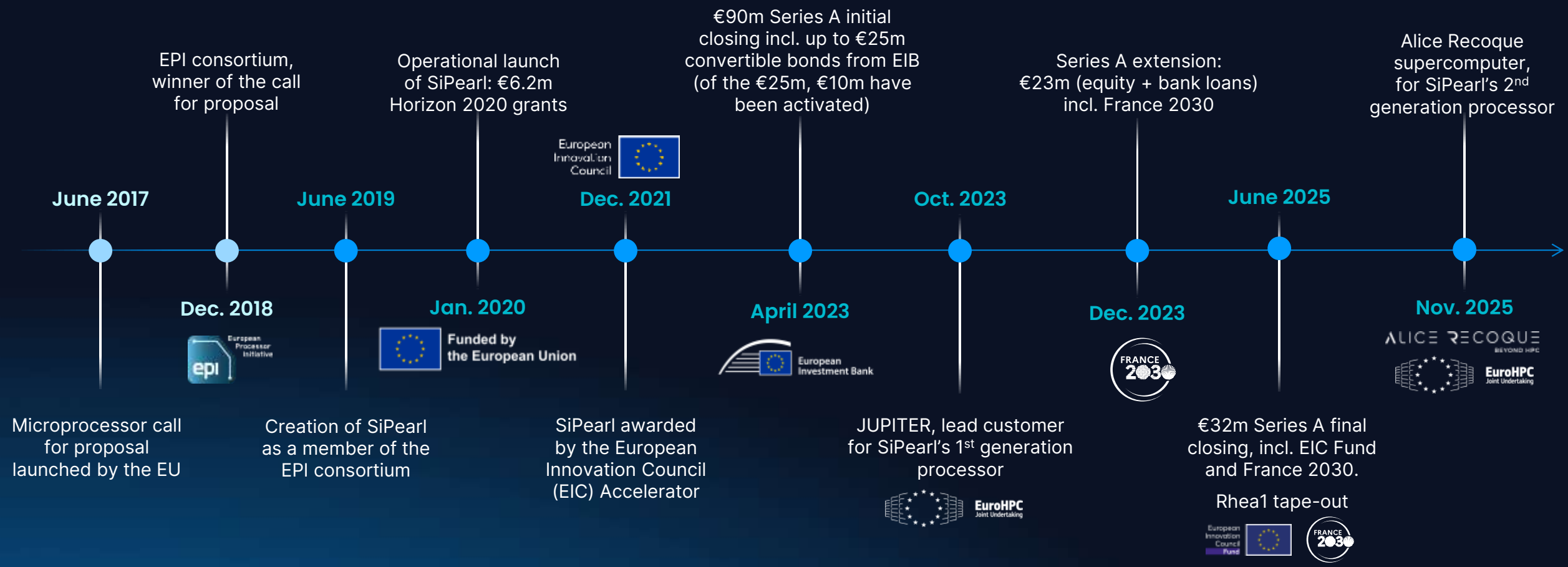
From a European Union concern to SiPearl's ramp-up

Our common goal: fostering the return of high-performance, energy-efficient CPU technologies in Europe.



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A world-class "Processor Team"...

Leadership

Philippe Notton
CEO & Founder

Guillaume Etorre
Chief Operating Officer

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

Directors representing

- arm
- Bull
- European Innovation Council
- European Investment Bank
- bpifrance

Wayne Liang
Independent Director

Jean-Michel Deligny
Advisor to SiPearl CEO

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...with a pan-European footprint

Maisons-Laffitte (HQ)

Massy

Barcelona

Sophia Antipolis

Eppes data centre

Reims data centre

Grenoble

Bologna

Bull GENCI cea

HPE

CINECA ECMWF

Barcelona Supercomputing Center
Centro Nacional de Supercomputación

Next planned extension

We are close to the pools of engineer and our end-users!

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Technological partnerships with leading industry suppliers

Tier 1 technology providers

Architecture & IP

arm

Design tool

SYNOPSYS®

Memory

SAMSUNG

Simulation & Testing Solutions

Ansys SIEMENS

Manufacturing & Packaging

tsmc

Acceleration specialists

AMD

NVIDIA

European Union actors / suppliers

Leading **server suppliers**

Bull

HPE

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2 sovereign data centres

Sovereign design & data centres
located in northern France

258 Servers

188 in Eppes / 70 in Reims

14,000 cores | 212 TB RAM

55 Networks (Data centres)

Switch / firewall

48 Storage

26 storage / 22 synology

3 PB

5 Backup Servers

Cohesity & Veritas technologies
Eppes & Reims

Unique EDA design center in Europe

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SiPearl's 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
Bull
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 → Tape-out

January 2020 — April 2023 — December 2023 — June 2025 — S1 2026

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

SiPearl in a nutshell

Incorporated
In France in June 2019,
deployed in Spain, Italy

Seed funded
By the European Union
& France

Funded by
the European Union

Financing
Series-A: €130m

Sovereign design
Data centre in France

258 servers / **212TB** memory
14,000 cores / **3PB** storage

Technological partnership
Intellectual property

200 employees
from

1st tape-out done
June 2025

Fabless IC design house
Manufacturing entrusted to TSMC with N6P

2 design wins
JUPITER & Alice Recoque, 2 first
European exascale supercomputers

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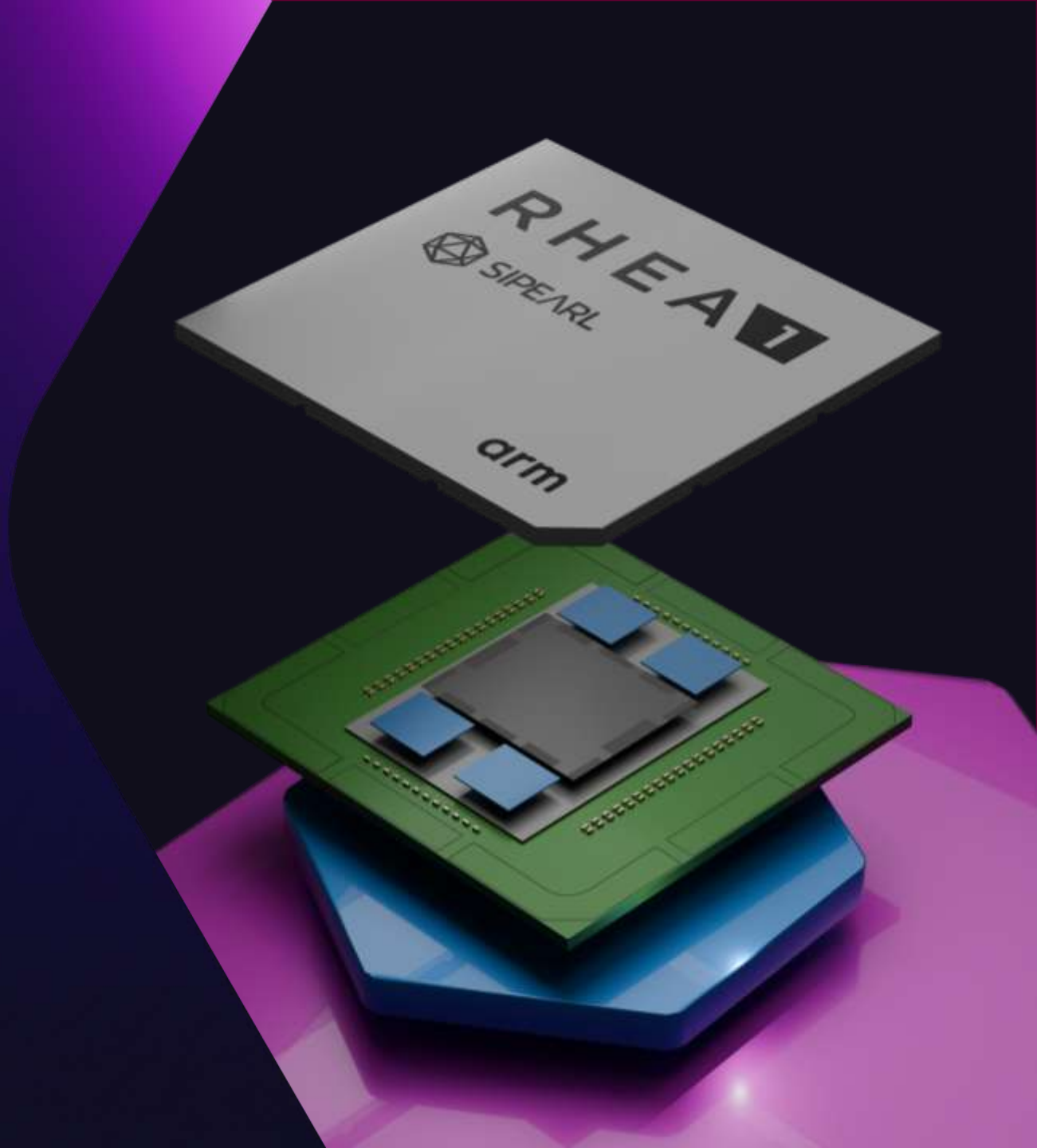
SIPEARL

Our offering



Gen1: RHEA1 for HPC and AI

The most complex CPU ever designed in Europe

SILICON PROCESS 6 nm TSMC N6

LOGIC DIE IN ADVANCED SILICON PROCESS

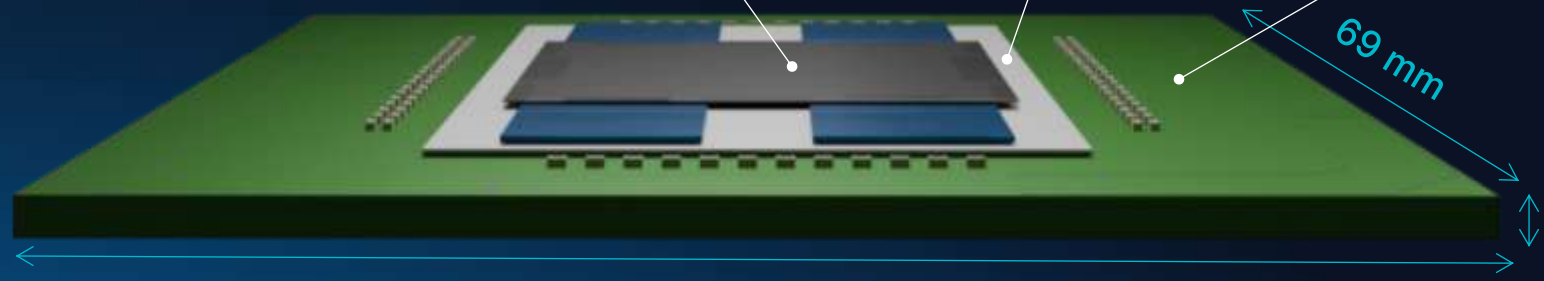
- 80 arm® Neoverse V1 cores(1)
- +61 billion transistors
- 7.8 billion equ. gates
- 16 metal layers
- 6 PCIe x16 Gen5
- 2 PCIe x4 Gen5
- 4 DDR5 interfaces
- 80 MB distributed SLC

SILICON INTERPOSER

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

PACKAGE

- 5,430 pins



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(1) with 2x SVE256 engines each

Gen1: RHEA1 for HPC and AI

Commercial launch: H2 2026

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Server as reference design

SEINE REFERENCE SERVER

Multifunctional, flexible & versatile

1. Full expertise

Processor: Architecture / Design / Go to production / Deployment

Server: Schematics / Layout / Thermals

2. Reference design

3. Validation & testing

4. Multiple demos

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Gen1: ATHENA 1 for defence and aerospace

ATHENA 1
Dual-use processor

European technology

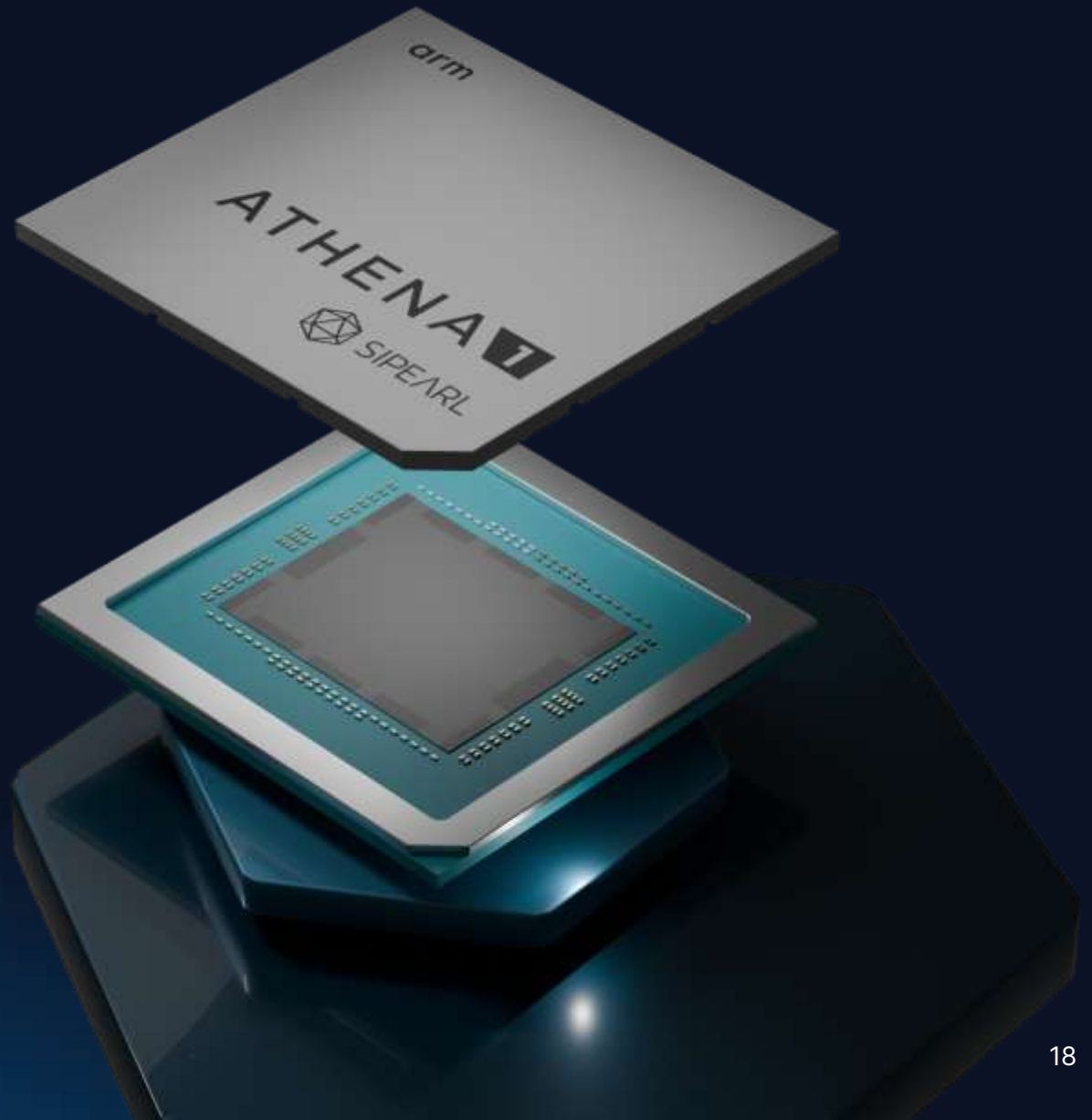
SKUs of 16, 32, 48, 64 or 80
Arm Neoverse V1 cores

New packaging

No HBM

Defence | Aerospace | Private data centre

Release: H2 2027



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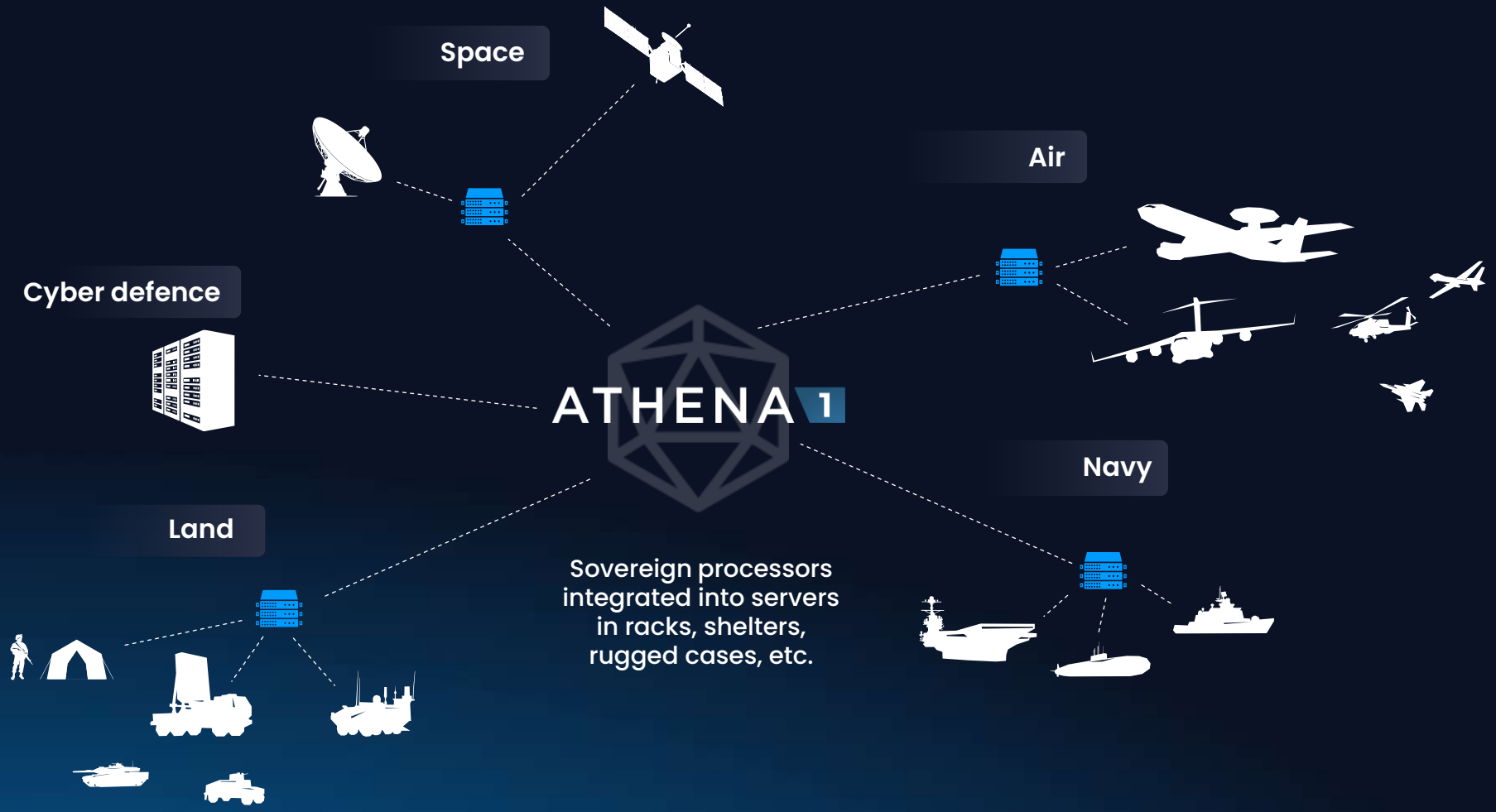
Gen1: ATHENA 1 for defence and aerospace



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

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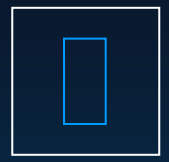
Our 3-generation roadmap strategy

Gen 1



Arm Neoverse V1
Monolithic Die

Tape-out: June 2025
General availability: H2 2026

HPC/AI

Dual Use

Key objectives

- Establish complete R&D skills (hardware, software, system)
- Build an international supply chain (incl. TSMC)
- Produce and deploy leading-edge Arm-based server CPUs

Gen 2

Arm Neoverse
Chiplet-Based
architecture

General availability: 2028

HPC/AI, DC

Dual Use

Key objectives

- Expand our market traction and reach
- Opening chiplet market with accelerator suppliers
- Latest technologies integrated (IOs, interfaces, etc.)

Gen 3

Arm Neoverse
Chiplet-Based
architecture

General availability: 2030

HPC/AI, DC, Enterprise

Dual Use

Key objectives

- Central player in compute chiplet market
- New vertical product CPUs with co-packaged accelerators
- New market opportunities are opening up for vertical/edge computing

From mono-product to chiplet-based CPUs range

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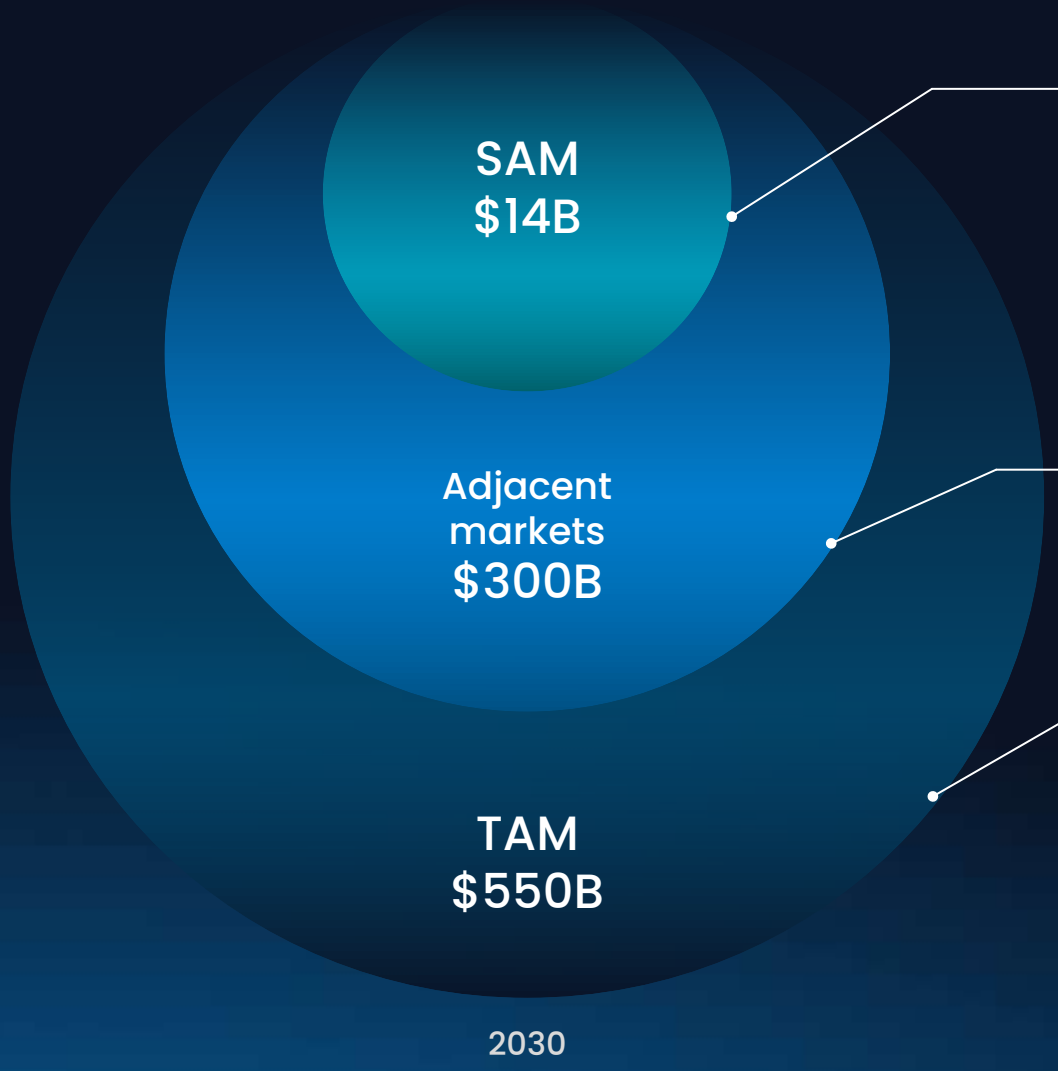
SIPEARL

A huge market

Strengthening Europe sovereignty

SiPearl addresses 3 segments worth $14B+ in 2030 (8% CAGR)[1]



SAM: SiPearl focus

Europe and Middle East markets only (EME) on 3 segments:

- Public **High Performance Computing** (HPC)
- **Cloud Service Providers** data centres, excluding hyperscalers[2]
- **Private data centres** (military, aerospace, government , enterprise)

Adjacent markets: potential upside

- Includes worldwide edge computing (ECU, mobile infra, defence, healthcare, energy management, transportation)
- Rest of the world on all server segments (including hyperscalers)

TAM : global compute market

- Global scope
- Worldwide XPUs (CPU + GPU + NPU + TPU)

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[1] Source: BCG analysis 2026
[2] Hyperscalers: Amazon, Apple, Meta, Google, Microsoft, Alibaba, Baidu, Tencent

Europe's supercomputers: 148 of the global Top 500(1)

5 machines in the TOP10

No4: JUPITER Booster - Germany
(1 exaflop)

No6: HPC6 – Italy
(478 petaflops)

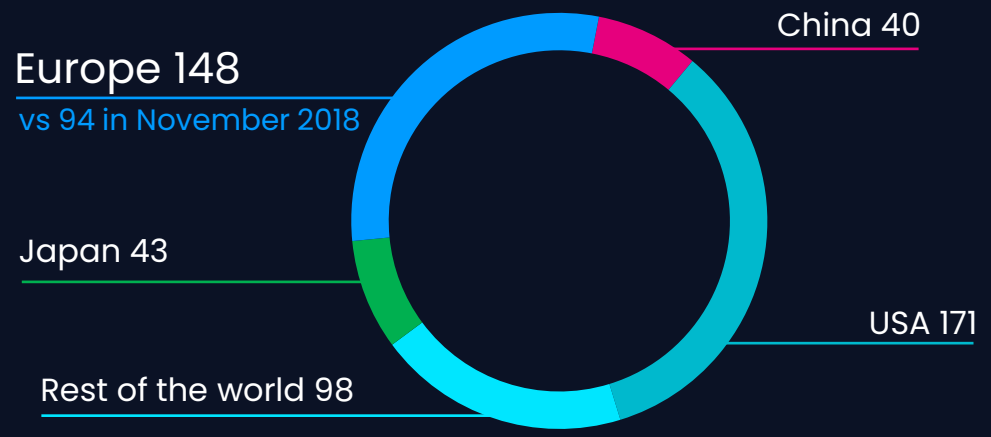
No8: Alps - Switzerland
(435 petaflops)

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)



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(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

Europe supercomputers: significantly greener than US(1)

TOP10 – Green500 Supercomputers

#1

KAIROS
73.28 Gflops/W

CALMIP / University of Toulouse
CNRS
France

Bull

3,046 TFlop/s
46.18 kW

#2

ROMEO-2025
70.91 Gflops/W

ROMEO HPC Center
Champagne-Ardenne
France

Bull

9,863 TFlops
160.16 kW

#3

Levante (GPU extension)
69.43 Gflops/W

DKRZ - Deutsches
Klimarechenzentrum
Germany

Bull

6,747 TFlops
109.78 kW

JUPITER booster

EuroHPC Joint Undertaking

The most energy-efficient exascale machine

63.32
Gflops/W

JÜLICH Forschungszentrum
Bull
ParTec

El Capitan
60.94 Gflops/W

Frontier
54.98 Gflops/W

Aurora
26.15 Gflops/W

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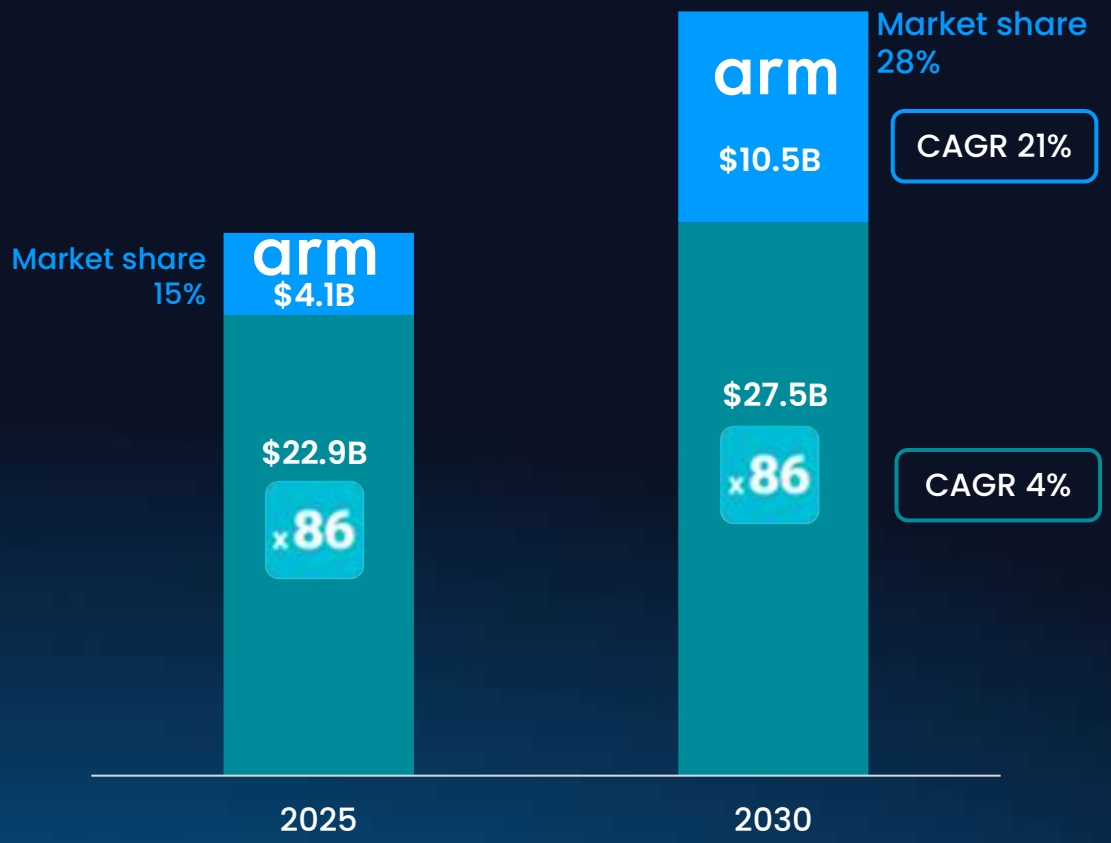
(1) Sources: 66th edition of the global Green 500 – November 2025

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

Global market for CPUs
dedicated to Cloud Service Provider servers



Arm-based CPUs for servers

Leader supplier

arm

Third-party CPU suppliers

Rising players

SIPEARL
Independant innovator

AMPERE
Bought by Softbank in 2025

Legacy players

FUJITSU

NVIDIA

In-house CPU design

aws

Google Cloud

Meta

Microsoft Azure

Source: Yole Q2 2025

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SIPEARL

Our go-to-market strategy

SiPearl's winning strategy

Perf. / watt

Perf. / $

WHILST ENSURING...

Sovereignty
To strengthen Europe's technological leadership and independence

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

Backdoor-free & kill switch free security
Fully auditable to protect data with secure end-to-end network transmission.

Energy-efficiency
Significant energy savings with Arm-based architecture

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

Software ecosystem
Arm mature software ecosystem

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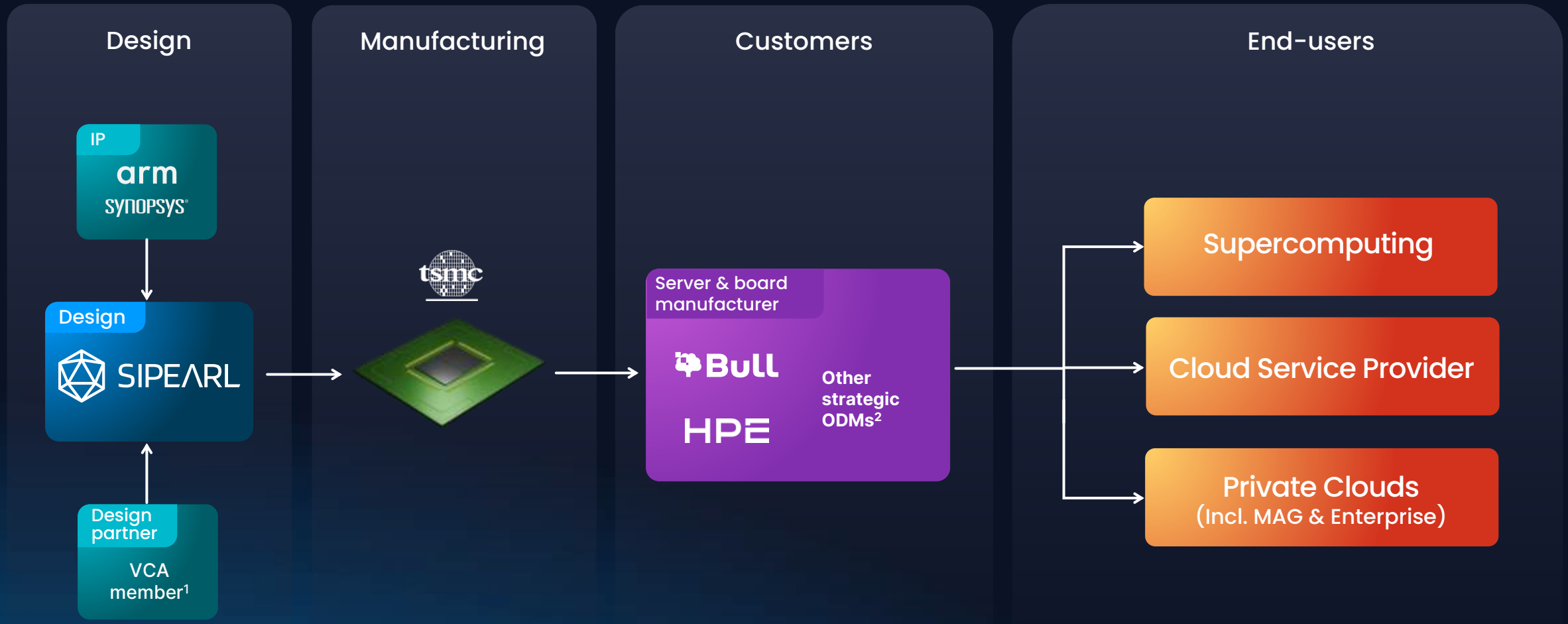
SiPearl's go-to-market is a push-pull via server providers



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[1] VCA members are independent design service companies working closely with TSMC
[2] ODM: Original Design Manufacturer

A go-to-market strategy focused on dual-use

Civilian use: SiPearl will equip…

EuroHPC Joint Undertaking

Rhea1
for JUPITER,
1st major award
Award: Oct. 2022
Installation: 2027

Rhea2
for Alice Recoque,
2nd major award
Award: Nov. 2025
Installation: 2027

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

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A go-to-market strategy focused on dual-use

Defence-use: Ideal customers

SiPearl is everywhere sovereign advanced compute needs to be.

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About... SiPearl

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

A few months ago, SiPearl completed the design of the most complex CPU ever designed in Europe, Rhea1. Featuring 80 Arm Neoverse V1 cores, with 61 billion transistors, it is currently in production at TSMC. Sipearl CPUs will equip the two first European exascale supercomputers belonging to EuroHPC JU: Rhea1 will be integrated into the JUPITER machine based in Germany and Rhea2 will be part of Alice Recoque 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 has launched its Series B round.

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Funded by the European Union