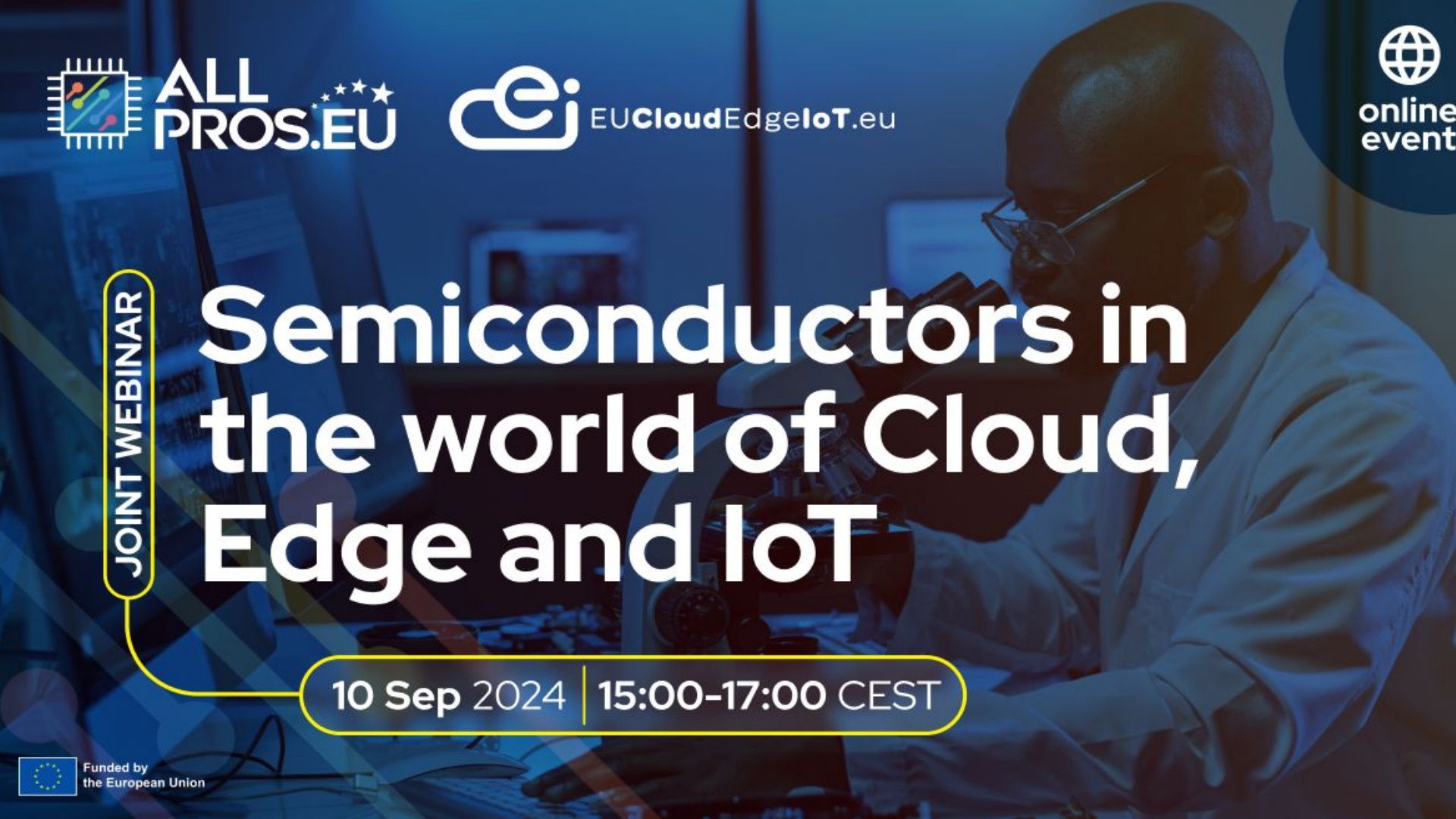

ALL PROS.EU
EUCloudEdgeIoT.eu
online event
JOINT WEBINAR
Semiconductors in the world of Cloud, Edge and IoT
10 Sep 2024 | 15:00-17:00 CEST
Funded by the European Union

Agenda

15:00-15:15 Introduction
Welcome remarks, Silvana Muscella, Trust-IT Services, Technical Coordinator of ALLPROS.eu
Insights on European Policy on Semiconductors, Thomas Reibe, Senior Policy Officer at DG Connect, European Commission
Insights on European Policy on Cloud-Edge-IoT, Rolf Riemenschneider, Head of Sector IoT, European Commission

15:15-15:25 Market assessment of semiconductor industry and future predictions Luis Fernandes, Senior Research Manager, IDC

15:25-15:35 Cloud-Edge-IoT Market insights and the intersection with semiconductors Golboo Pourabdollahian, Consulting Manager, IDC

15:35-15:45 Semiconductors for Edge computing and IoT Léo Saint-Martin, Associated Consultant, DECISION

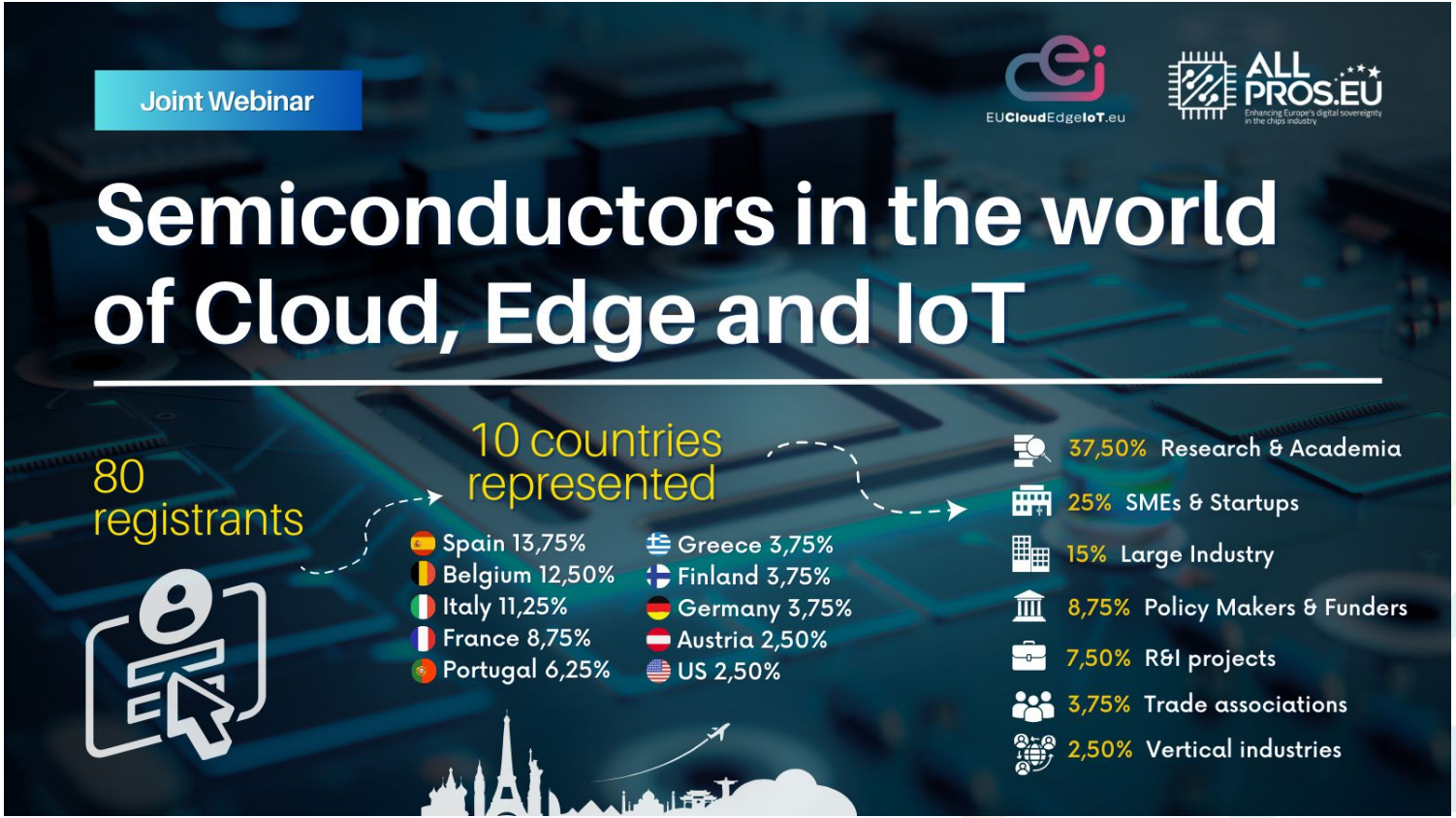
15:45-16:00 Cloud-Edge-IoT Use Cases pitch Anastasios Zafeiropoulos, NEPHELE

16:00-16:10 Edge AI Innovations under the Chips Act Inessa Seifert, Senior Consultant, VDI/VDE Innovation

16:10-16:40 Panel discussion: Requirements of future chips for Cloud-Edge-IoT, moderated by Trust-IT
Léo Saint-Martin, Associated Consultant, DECISION; Patrick Pype, Director Strategic Partnerships, NXP; Ovidiu Vermesan, Chief Scientist, SINTEF

16:40-16:55 Q&A Session
16:55-17:00 Wrap-up and Closure

Who's online


Joint Webinar
EUCloudEdgeIoT.eu
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Enhancing Europe's digital sovereignty in the chips industry
Semiconductors in the world of Cloud, Edge and IoT
80 registrants
10 countries represented
Spain 13,75%
Belgium 12,50%
Italy 11,25%
France 8,75%
Portugal 6,25%
Greece 3,75%
Finland 3,75%
Germany 3,75%
Austria 2,50%
US 2,50%
37,50% Research & Academia
25% SMEs & Startups
15% Large Industry
8,75% Policy Makers & Funders
7,50% R&I projects
3,75% Trade associations
2,50% Vertical industries

Housekeeping

The event recording and slides will be uploaded to both websites.

To react during the event, you can use the Zoom emojis in the call controls toolbar.

You can ask questions by using the Q&A function. These will be answered during the Q&A Session near the end of the webinar.


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Thank you

Discussing the dependencies and associated risks of the European industry to new threats and opportunities

Open Questions:

How should the EU move forward?

What are the risks in both fields?

Where are the opportunities for Europe?

Key Takeaways

- The global market for chips **will continue to grow massively**, which is an opportunity for increasing EU market share.
- The **interdependencies** between semiconductors, high-performance computing, and cloud-edge solutions are critical, and **the entire value chain must address these connections to avoid supply crises**, in alignment with the **Chips Act's strategic goals**. As such, the EU should capitalise on upcoming AI-enabled edge devices gaining market share as well as interlinking with the semiconductor industry.
- The rise of **AI**, **GenAI** and the shift towards **Intelligent Edge computing** is **accelerating the demand for powerful microprocessors**, with semiconductors at the heart of processing vast data in sectors like **manufacturing, healthcare, and energy**. These technologies require HW, SW, access to data and cloud-edge orchestration **increasing the complexity of the ecosystem**.
- The current manufacturing landscape for chips sees the EU at an economic disadvantage, but this can change as **CEI needs will expand** due to the coming tectonic shift and the European industry's output can match the resulting demand.
- EU has a good ecosystem of well-established players and innovative SMEs and startups which will find themselves competing for the **design of thick computing semiconductors** in few years. Supporting this ecosystem by **developing a federating and coordinating strategy** to steer the effort through a **triple helix approach** will be crucial to strengthen Europe's position.
- A Working Group to be set up within the Alliance for the **"Design ecosystem of Advanced Processors"** - filled with key small & larger players as well as Research & Academic organisations. The WG should capitalise on the pilot lines projects funded under the CHIPS JU.
- To avoid fragmentation the EU needs to prioritise **open source solutions (hardware & software)**, leading to **better interoperability** among the value chain while also keeping in the loop **not just manufacturers but also users.** A **common framework for the development of open source AI in Europe** should also be developed.


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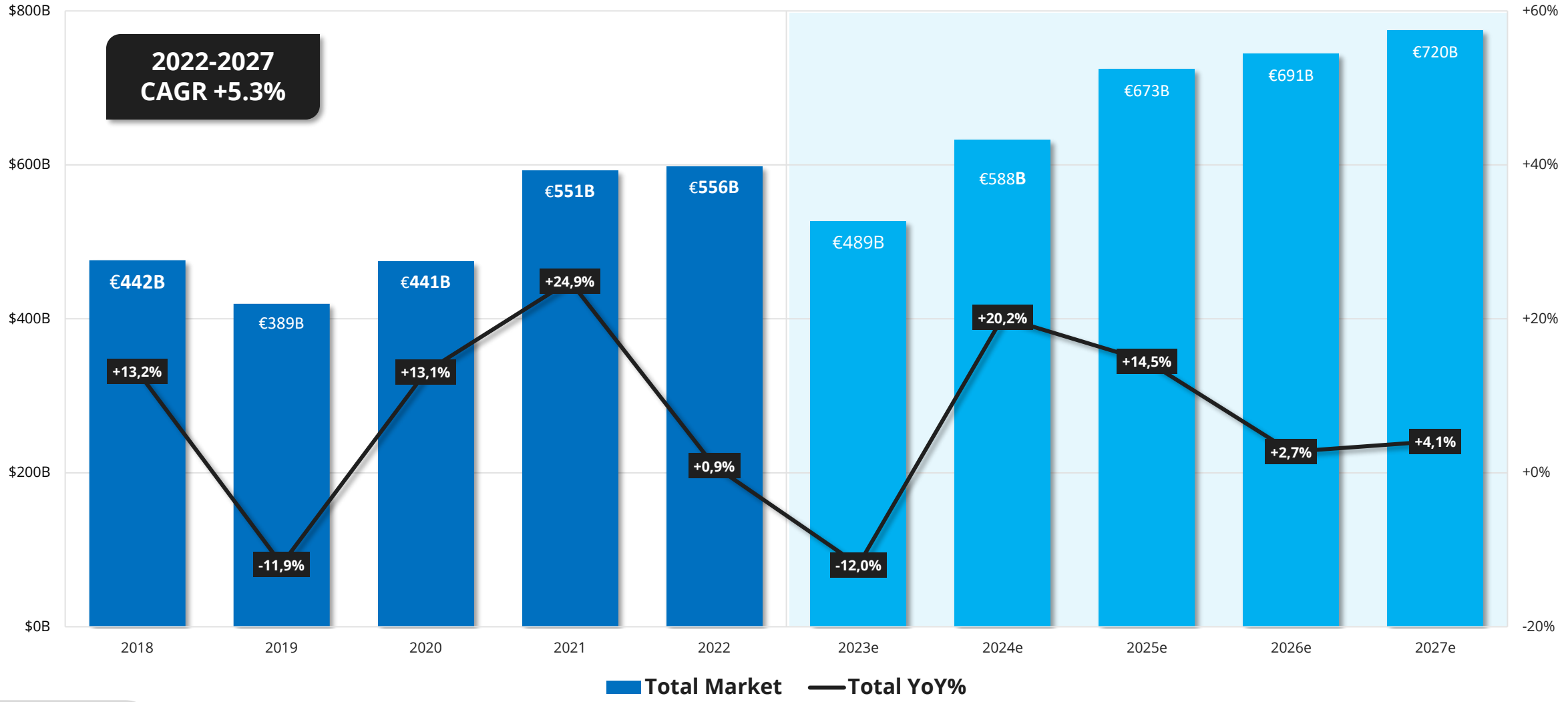
Thank you

Market Assessment of semiconductor industry and future predictions

Luis Fernandes – Senior Research Manager
EMEA: Future of Digital Infrastructure

Semiconductor Market 5-Year Outlook

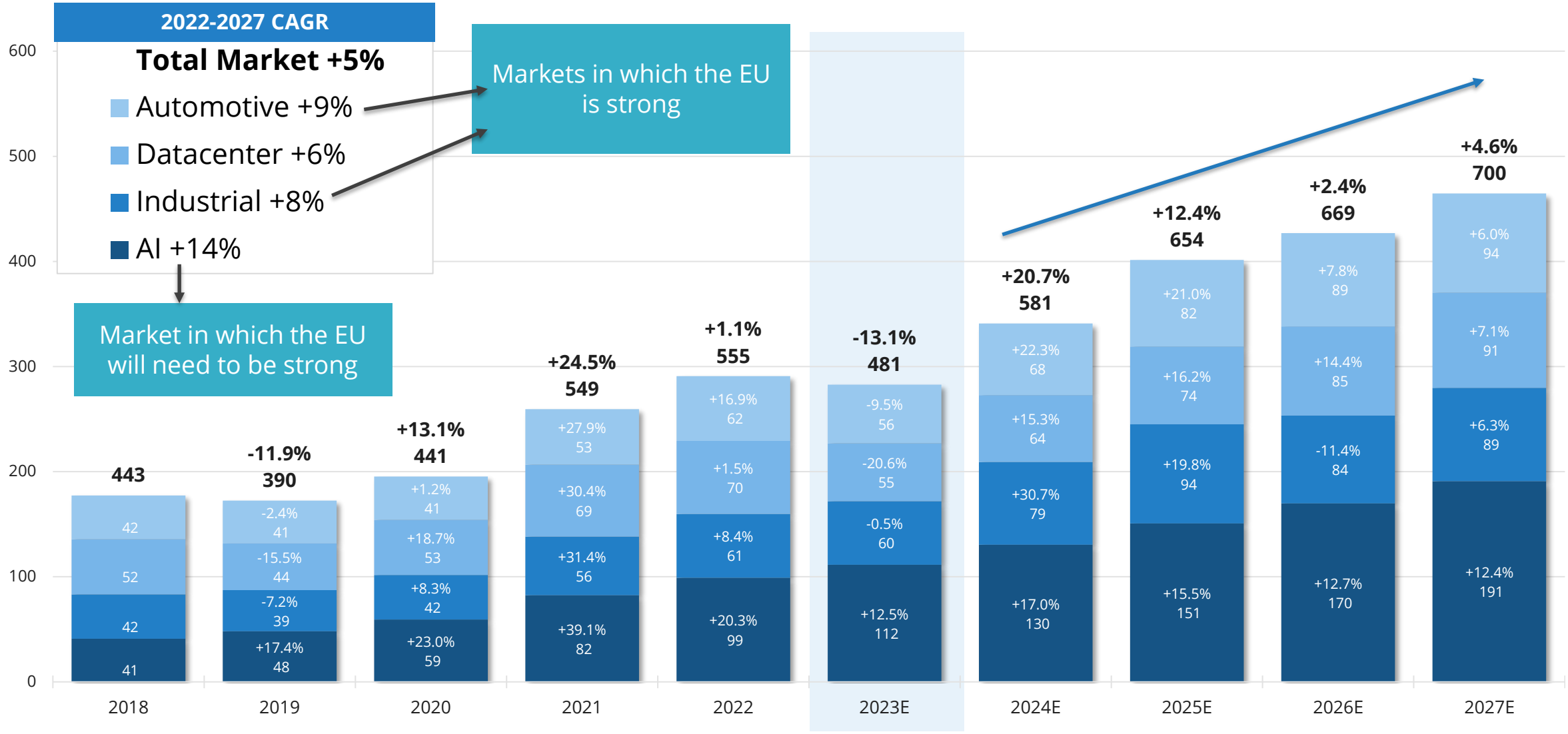
Total Market Revenue | €



Source: IDC Estimates

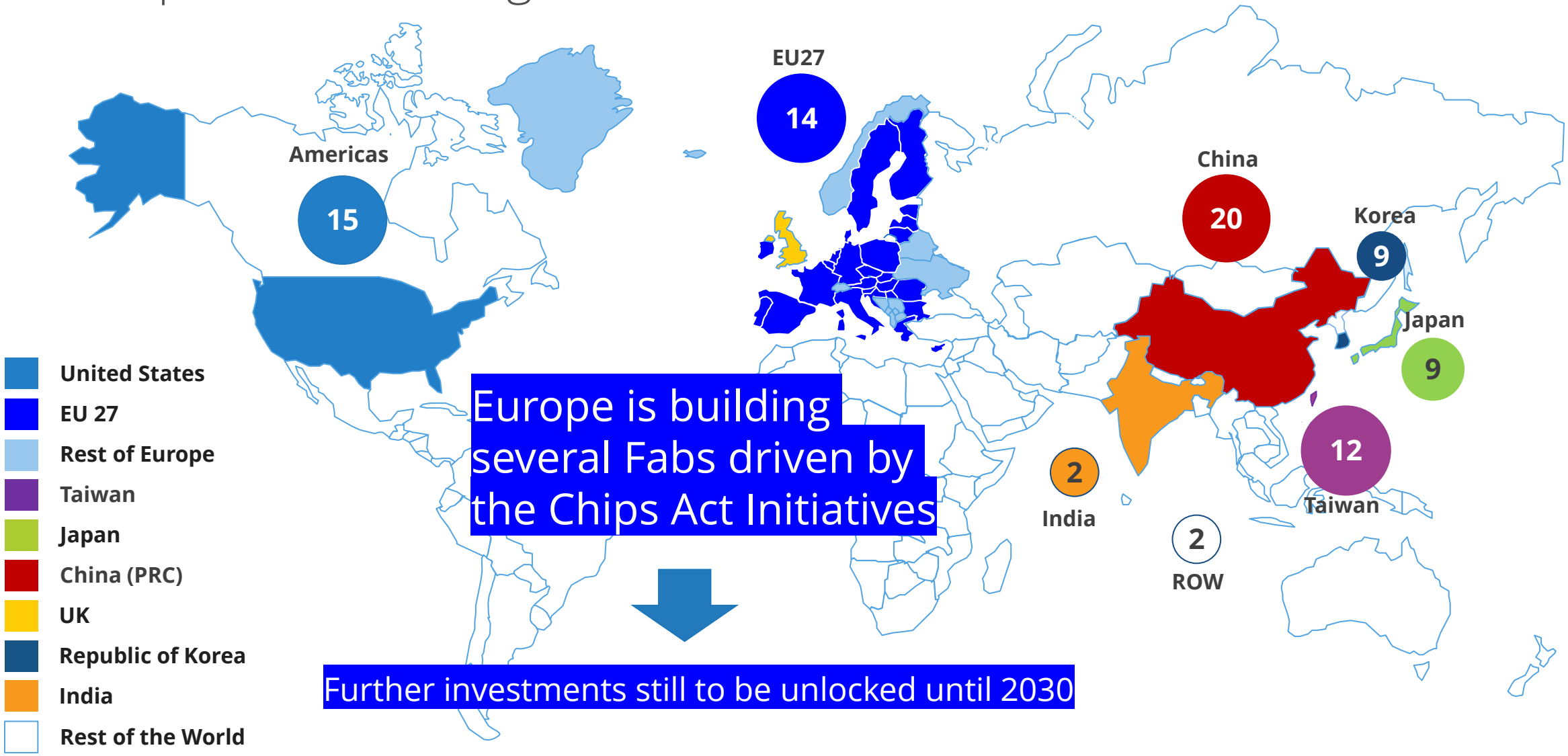
IDC Semiconductor Market Outlook 2024 r1, Euro approximation values based on 0.93 conversion exchange rate

The Next €100 Billion Semi Markets



Source: IDC Semiconductors September 2023 | Datacenter includes x86 servers, mid range servers, and high-end systems | Industrial includes Industrial Electronics Retail Mil Aero. Euro approximation values based on 0.93 conversion exchange rate.

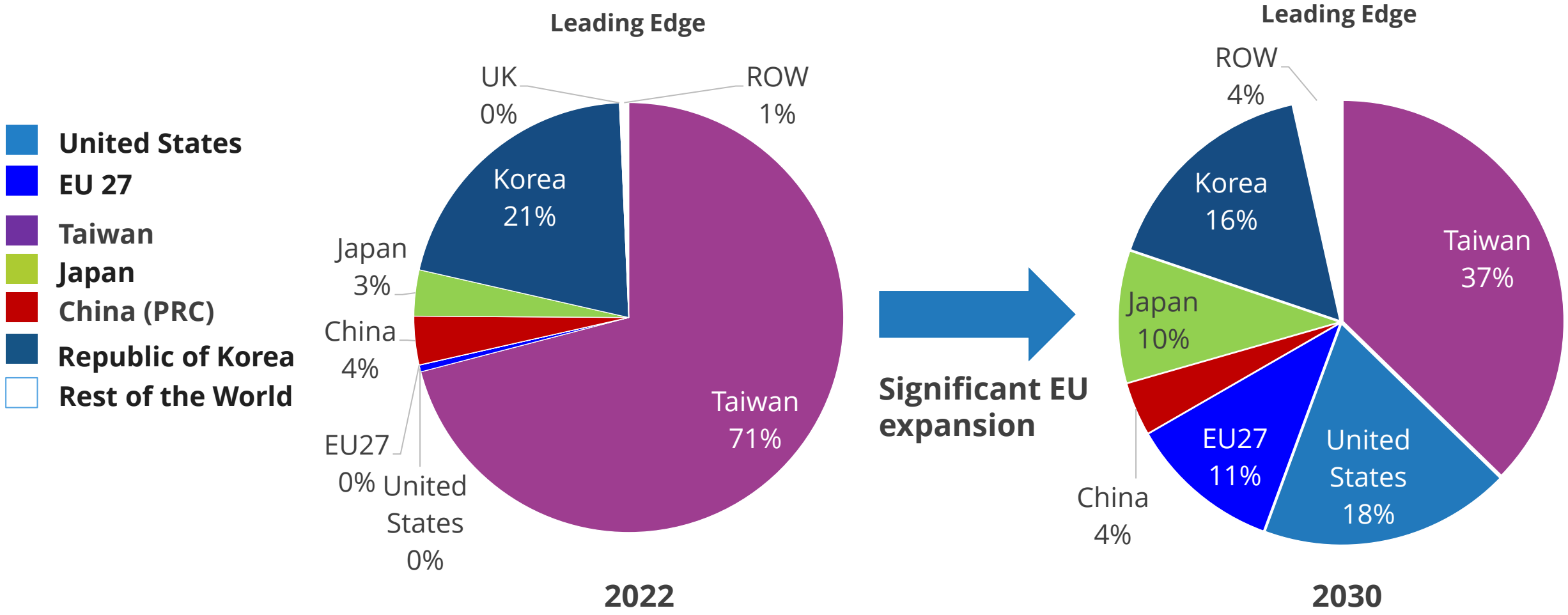
Multiple Fabs Starting Construction or Announced



Source: World Fab Forecast Report, 2Q23 Update, Published by SEMI and IDC Estimates

Front End Fab buildings only, not lines. Does not include EPI. High probabilities only (number is higher if including low probability).
Start of full production capacity can extend through 2030

Semiconductor Manufacturing by Technology Node by Region



Over the next decade

- Economic value of supply chain increases as regional hubs are established to mitigate business risk and trade polarization
- Technology markets are larger and more interdependent and will force semiconductor industry to remain interconnected
- Semiconductor industry doubles in size in less than a decade
- AI at the edge becomes the next era driving technology adoption

IDC Recommendations

Supply chains will need to remain interdependent to scale and address the $100 billion semiconductor industries ahead	Supply chain resilience
Our industry invests heavily in innovation to drive prosperity; we cannot compromise the model established for over 60 years	Innovation at the core
We need to continue investing in talent and access to silicon to sustain our industry's engine of growth	Talent investments
The next tectonic change will require more partnerships to deliver the full opportunity of AI at the edge	AI opportunities

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CLOUD-EDGE-IOT MARKET INSIGHTS & THE INTERSECTION WITH SEMICONDUCTORS

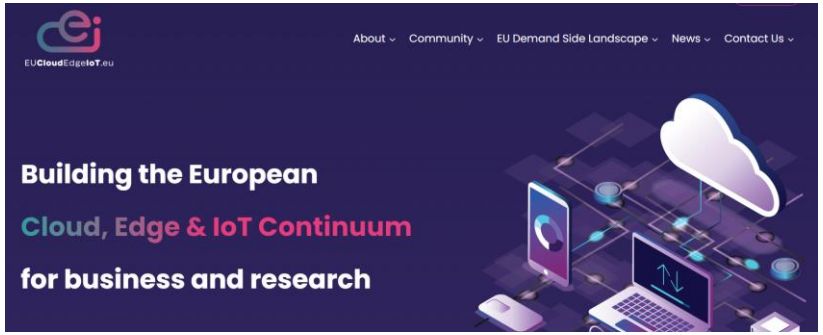
Golboo Pourabdollahian, IDC

10 September 2024

EU-CEI IN A NUTSHELL

A European Commission research and innovation initiative that aims to:

- Realise a pathway for the **understanding and development of the Cloud, Edge and IoT Continuum**
- By promoting **cooperation** between a wide range of research projects, developers and suppliers, business users and potential adopters of this new technological paradigm.
- Support the definition and implementation of **large scale pilots**



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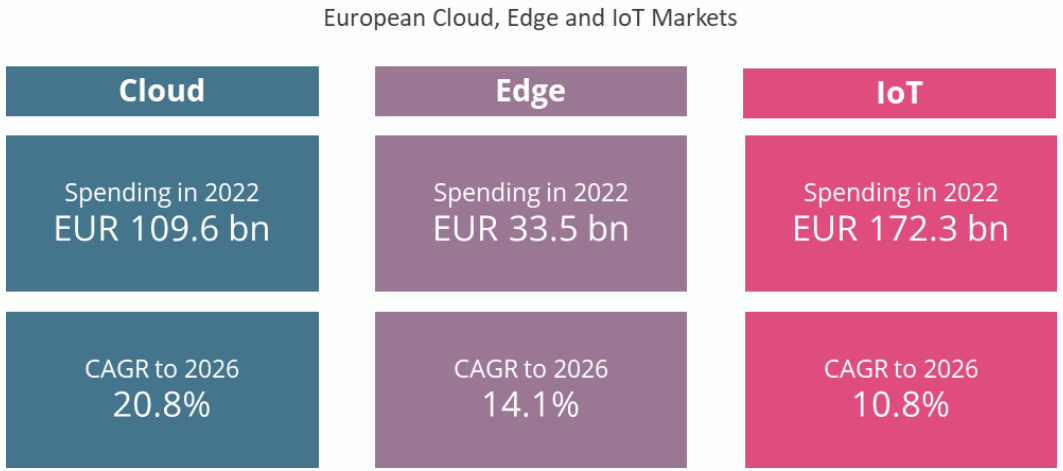
UNLOCK-CEI (CSA)

Objectives

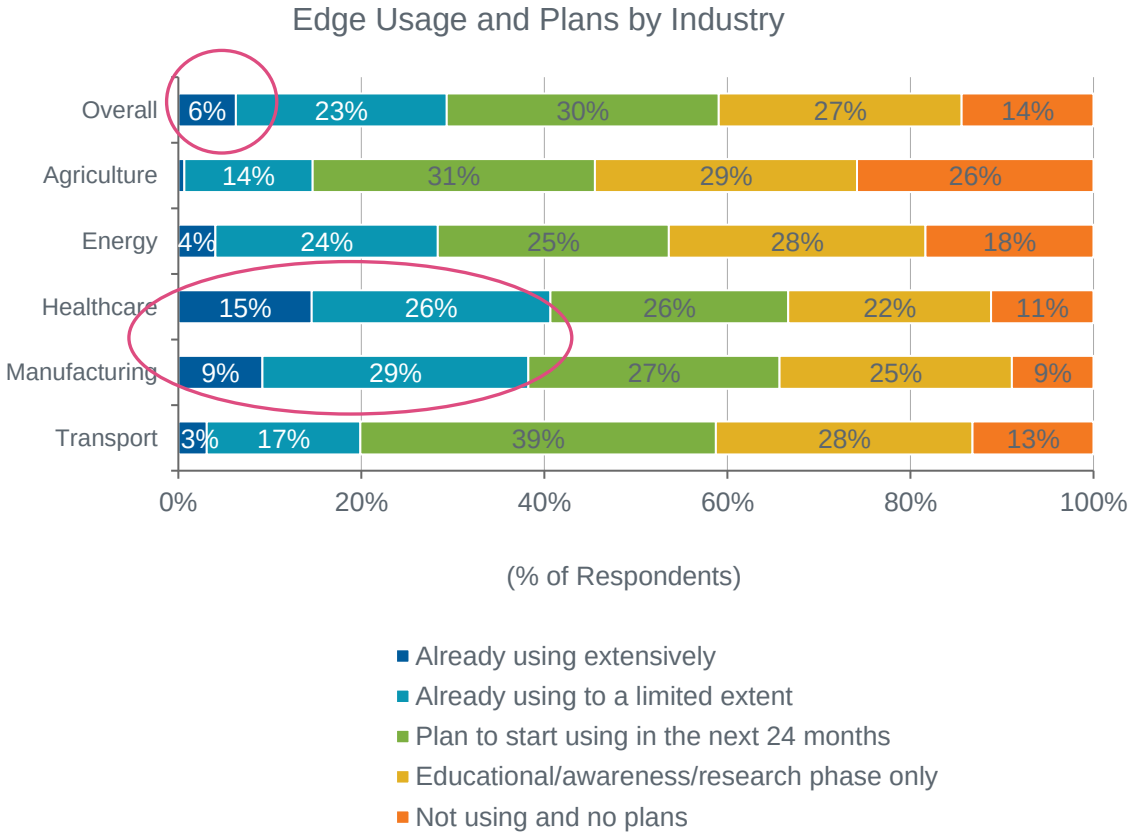
- Assessment of **CEI demand landscape**
- Define **market scenarios** and guidance
- Build and activate **CEI industry constituency**
- **Coordination and interaction** with supply side
- Awareness and **impact generation**

IDC · COMMpla Communication Platforms and Online Solutions · EGI · BluSpecs · Trust-IT Services communicating to markets · VDI|VDE|IT

CLOUD-EDGE-IOT MARKET AND ADOPTION

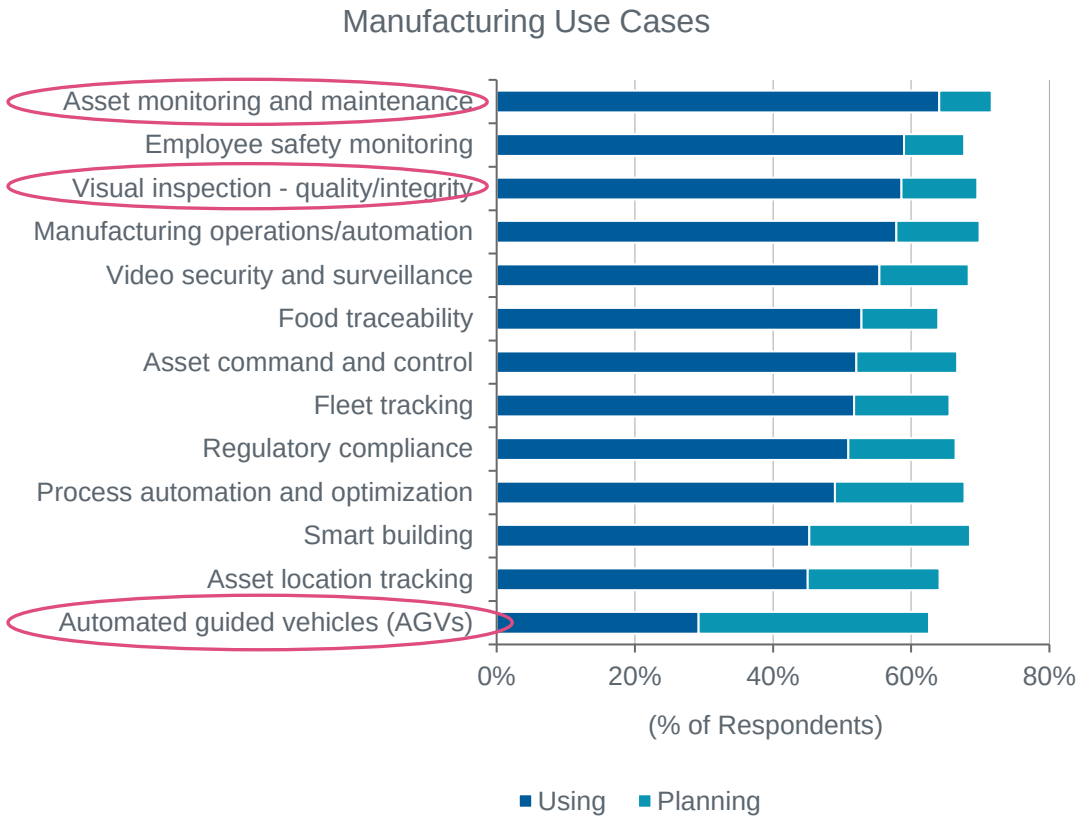


European Cloud, Edge and IoT Market Size (Source: IDC Spending Guides ar Trackers, May 2023)



(Source: UNLOCK-CEI Survey, March 2023)

STRONG INTEREST ACROSS USE CASES



Manufacturing Use Case Adoption (Source: UNLOCK-CEI Survey, March 2023)

Spotlight Use Cases

Agriculture

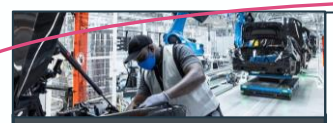
- Asset tracking/monitoring (e.g. animal tagging)
- Equipment automation
- Precision agriculture

Energy (Utilities, Oil and Gas)

- Smart grid
- Drone-based observation
- EV chargers

Healthcare

- Hospital asset tracking
- Bedside telemetry
- AI-assisted diagnosis and treatment



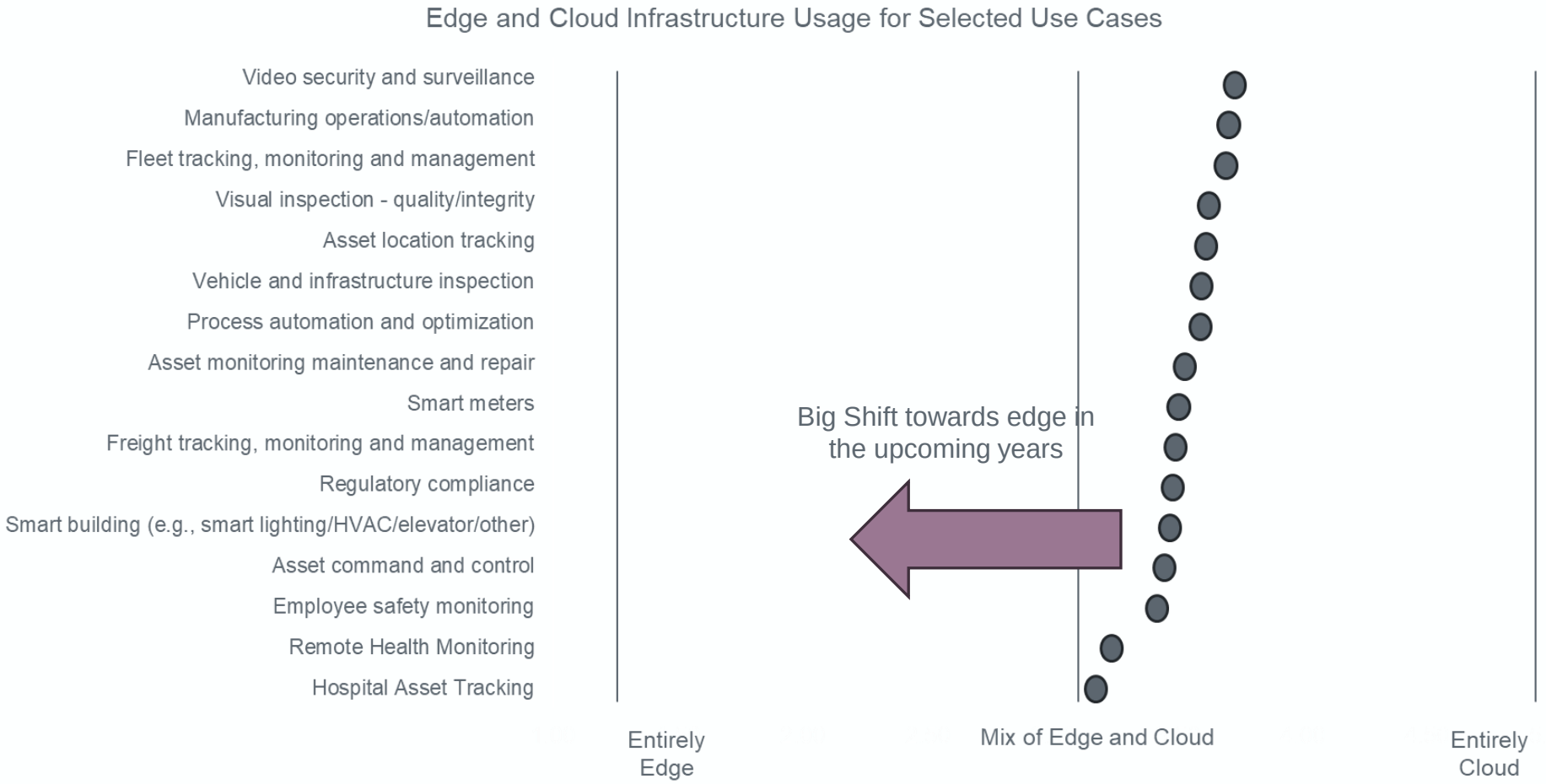
Manufacturing

- Asset monitoring and maintenance
- Autonomously guided vehicles (AGVs) and robots
- Visual inspection and quality control

Transportation

- Port and warehouse automation
- Fleet tracking and freight monitoring
- Autonomous vehicles and infrastructure

EDGE-CLOUD COMPUTE REQUIREMENTS ACROSS USE-CASES



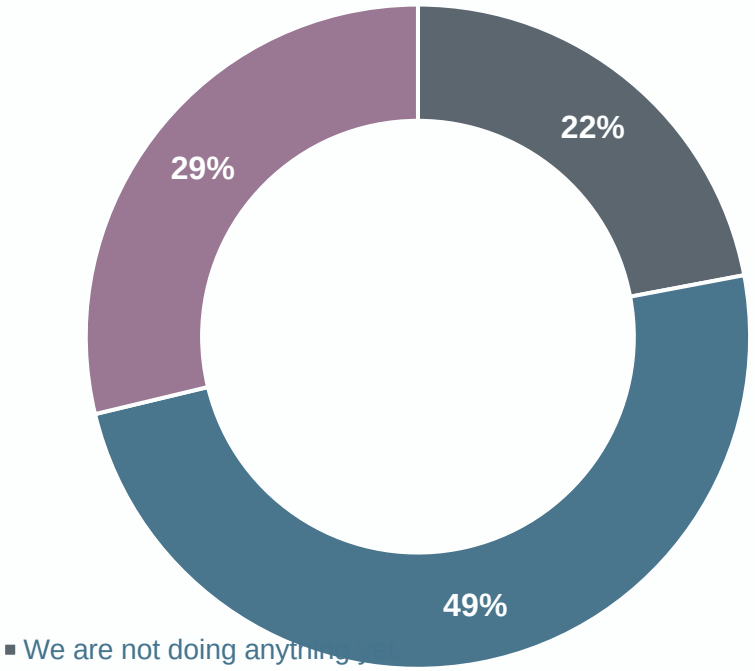
Edge and Cloud Infrastructure Usage by Use Case (Source: UNLOCK-CEI Survey, March 2023)

NEXT TECTONIC CHANGE **IS COMING**

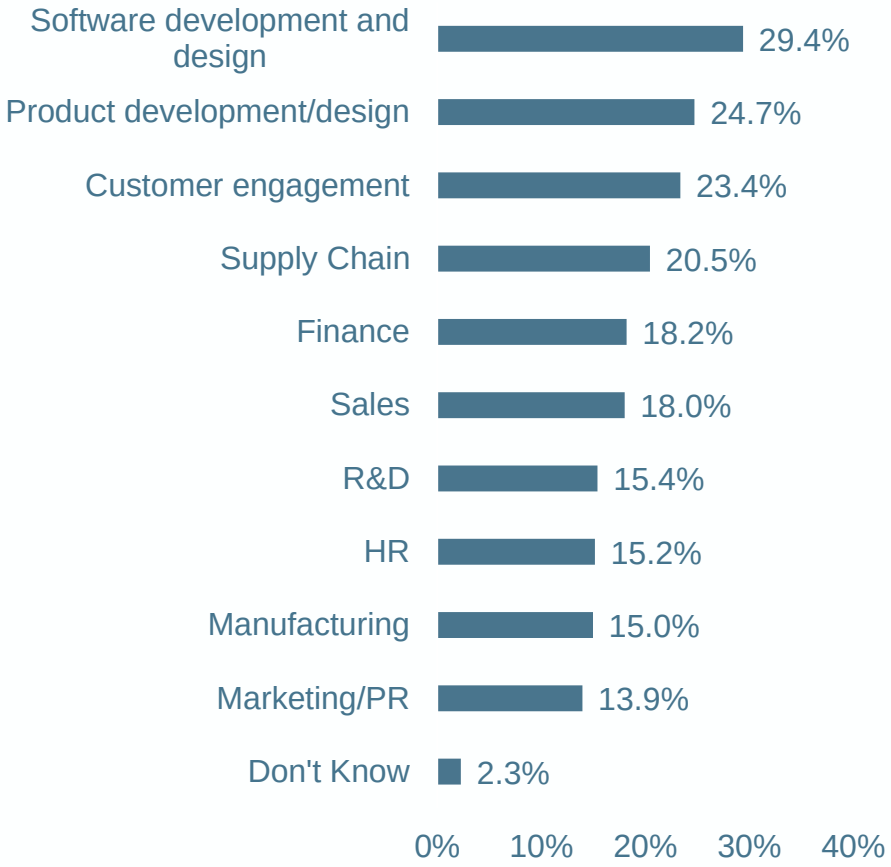
IDC Research 2023

GENERATIVE AI USE CASES AND INVESTMENTS WORLDWIDE

What's your organization's current approach to Generative AI?



In which two business areas do you think generative AI could make the most impact in the next 18 months?



Source: Future Enterprise Resiliency & Spending Survey Wave 6, IDC, July 2023, N=890

FINAL REMARKS

- Over the next years, the **investment towards edge computing will see a big growth.** Industries such as automotive, energy, and smart cities will lead this adoption, as they require **instantaneous decision-making and localized data analysis**.

- **AI-enabled edge devices** will gain a big share of market **interlinking with semiconductor market** as one of the main drivers for the adoption.

- **The need for upskilling and reskilling** will arise not only in terms of CEI technologies but also in relations with complementary technologies such as AI and semiconductors.

- **Security and privacy** remains a significant challenge for the paradigm shift towards the edge. The proliferation of AI at the edge will bring new security challenges, particularly in protecting AI models and data from tampering or attacks. **Semiconductor industry will need to embed robust security features into the AI chips** as well.

JOIN UNLOCK-CEI FINAL EVENT

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THANK YOU!

Golboo Pourabollahian
gpourabdollahian@idc.com

EUCloudEdgeIot.eu is supported by the Open Continuum and Unlock CEI and both received funding from the European Union's Horizon Europe Research and Innovation Programme under the Grant Agreement numbers 101070030 and 101070571.

DECISION
ETUDES & CONSEIL

Semiconductors for Edge computing and IoT

Opportunities in the context of the EU Chips Act

Léo Saint-Martin
Partner

10.09.202
4

From 2000 to 2040

A shift from electronics systems…

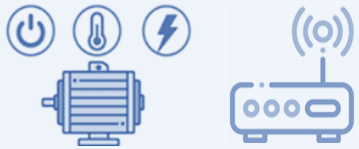
…to Cloud-to-Edge IoT platforms

The 4 main layers of the **Cloud-to-edge continuum**

Edge computing

1

Micro-edge
Computing at the edge



IoT

Gateways

2

Wide area network

Cellular
LPWAN
Satellite

3

Far edge Node

Edge data-centers

- Deep-edge
- Meta-edge
- Fog
- MEC + Near edge
- Far edge

Micro-Edge

- **Thin Edge** *(Microcontrollers)*
- **Thick edge** *(multi-core microcontrollers)*

Edge nodes

Source: DECISION Etudes & Conseil

Microelectronics components considered as ”computing” components:

- Processors
- Memories

Cloud computing

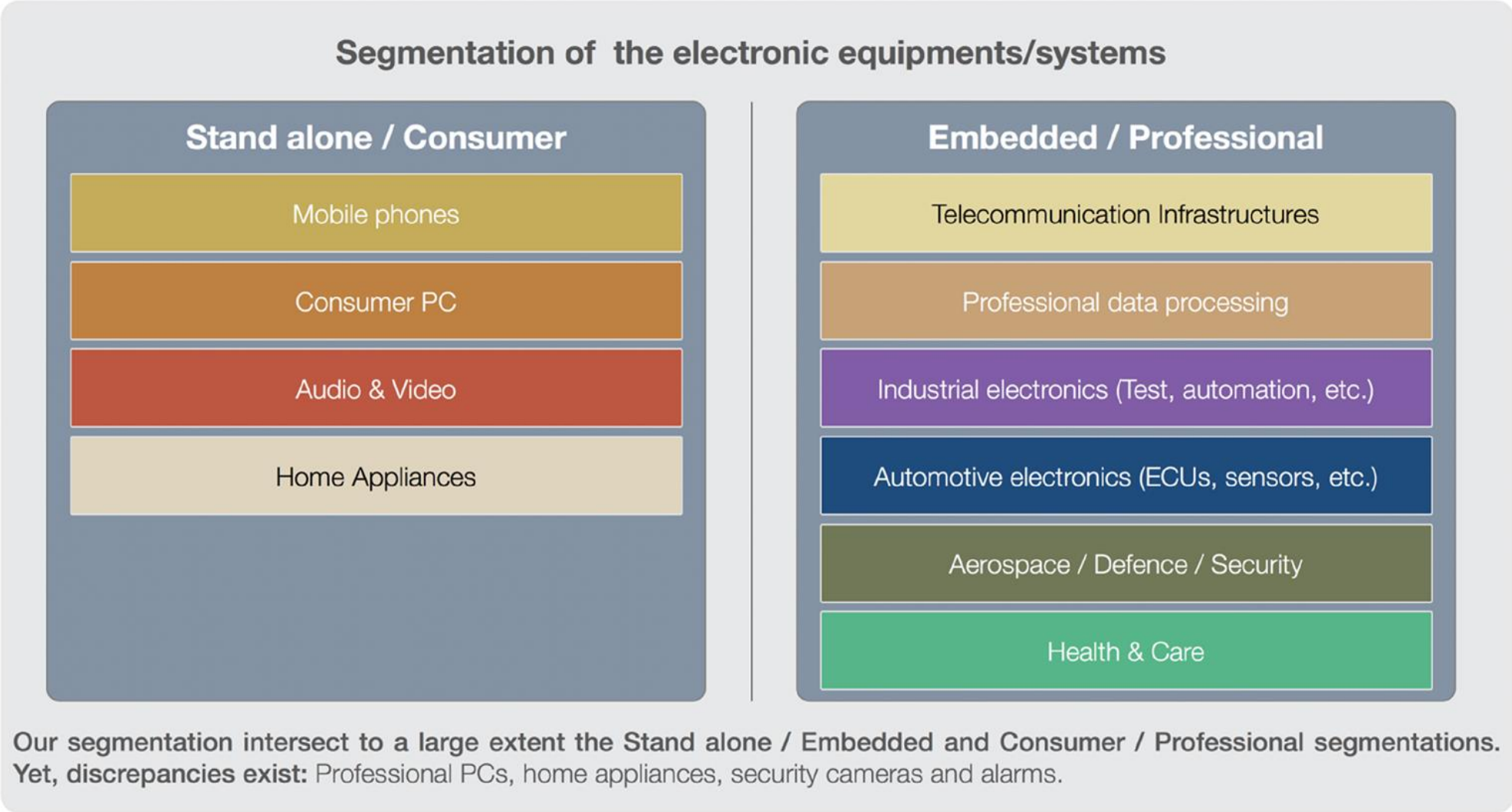
4

Cloud

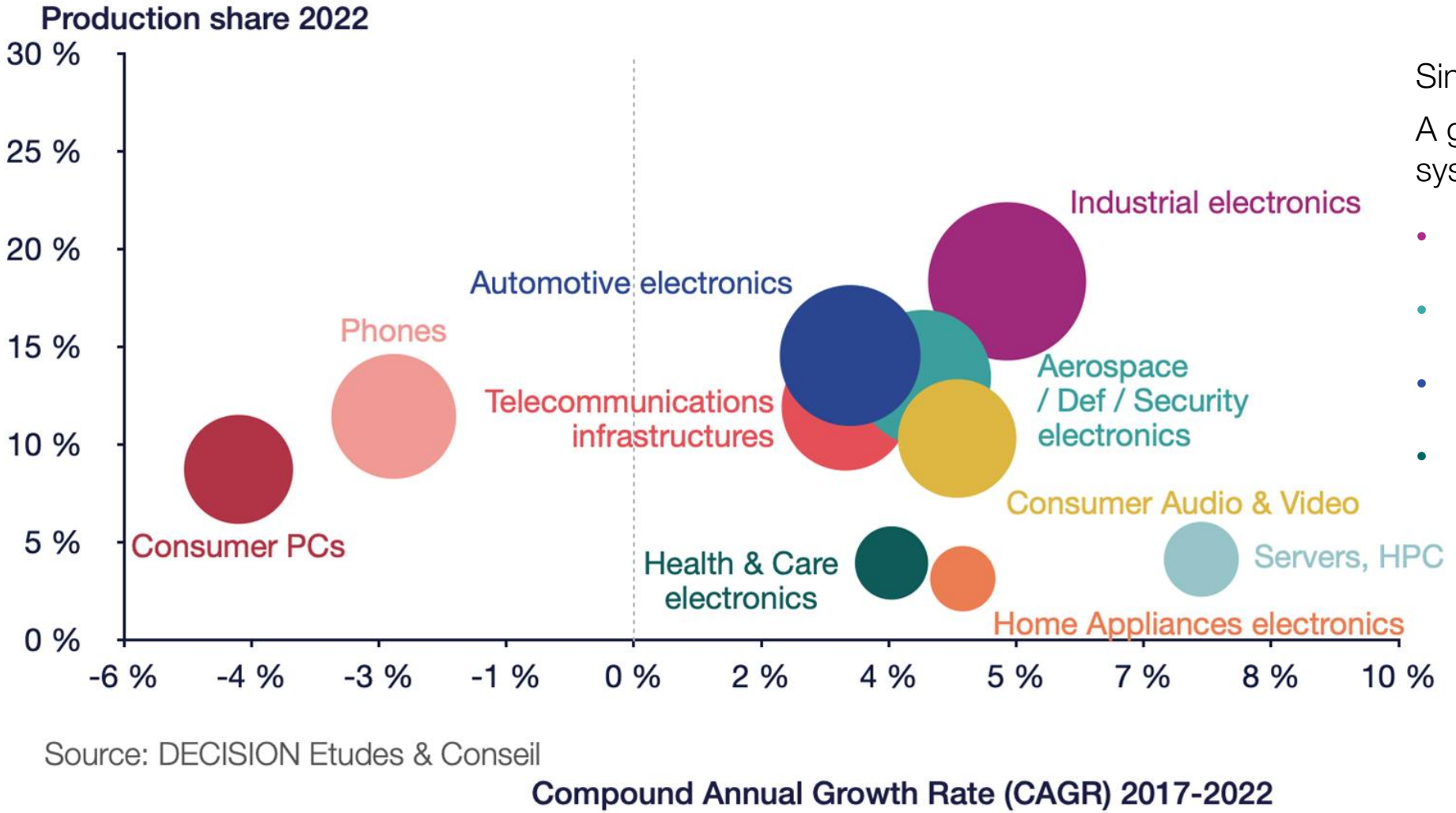
Hyperscalers

Application services

Electronics systems - IoT



Electronics systems – A growth driven by embedded systems



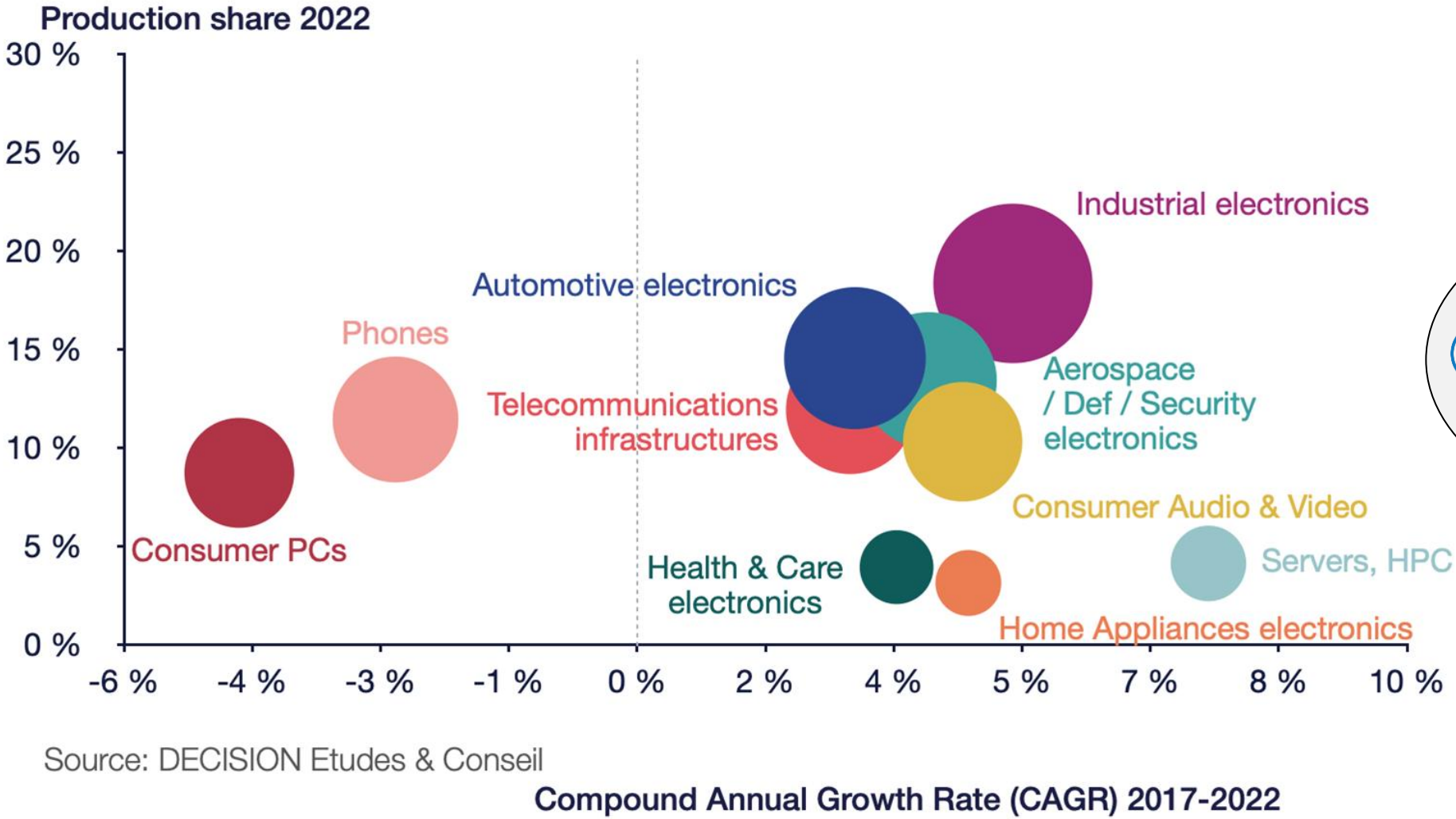
Source: DECISION Etudes & Conseil

Since the mid-2010s:

A growth driven by embedded systems

- Industrial
- Aerospace/ Def / Security
- Automotive
- Health & Care

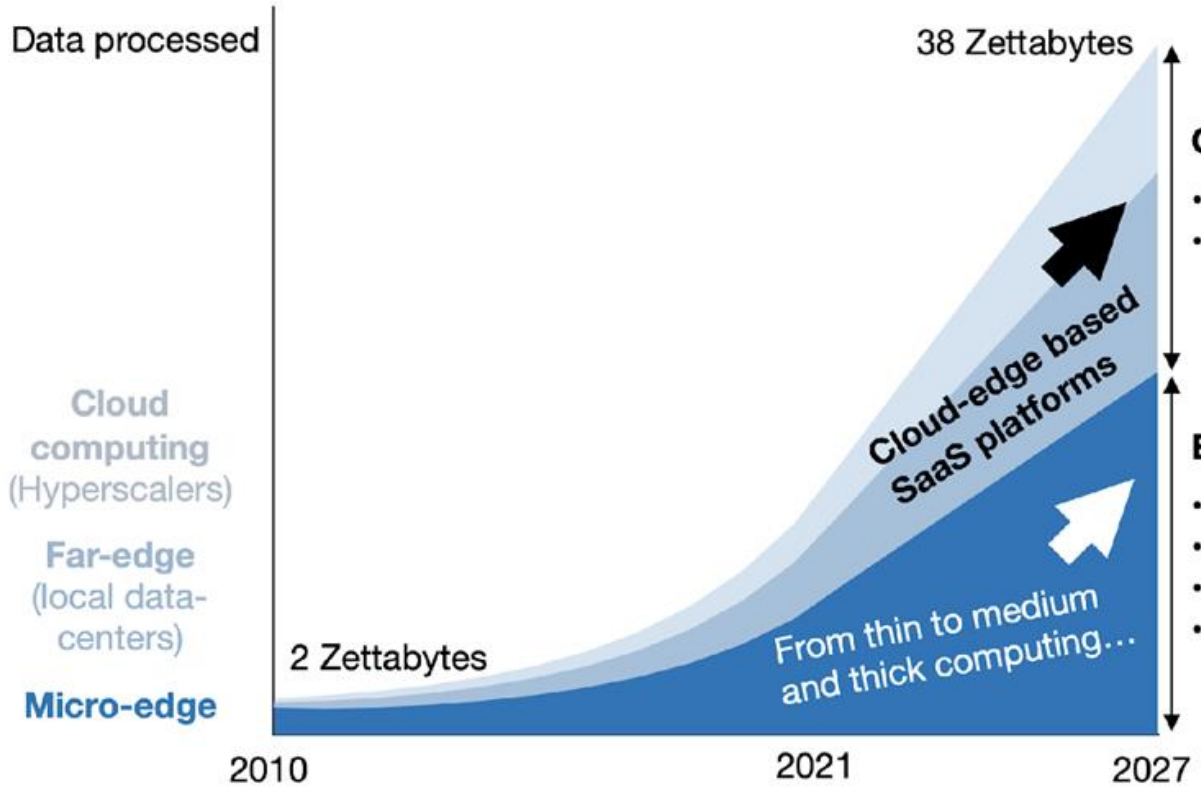
Electronics systems – A growth driven by embedded systems



Source: DECISION Etudes & Conseil

An opportunity for the EU?

A shift from Electronics systems to Cloud-to-edge IoT platforms



Cloud-to-edge IoT Platforms

Cloud-edge platforms

- Application software vendors (SaaS)
- Cloud computing services (IaaS - PaaS)

Electronic systems / IoT

- Installers (service)
- Systems vendors / integrators
- Embedded software
- Micro-edge

Key drivers of growth

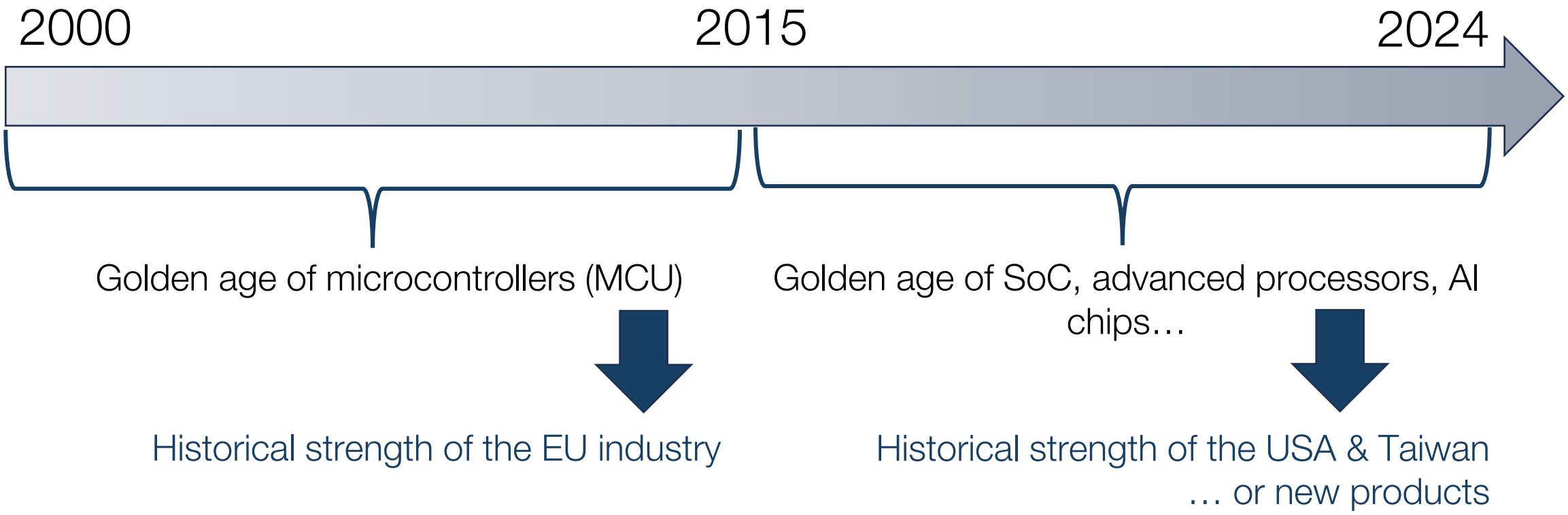
- Open-Source
- Standardization
- Interoperability
- Co-design / co-implementation

Source: DECISION Études & Conseil, APL Datacenter

81% of professional IoT related data to be processed at the edge by 2027 (micro or far edge)

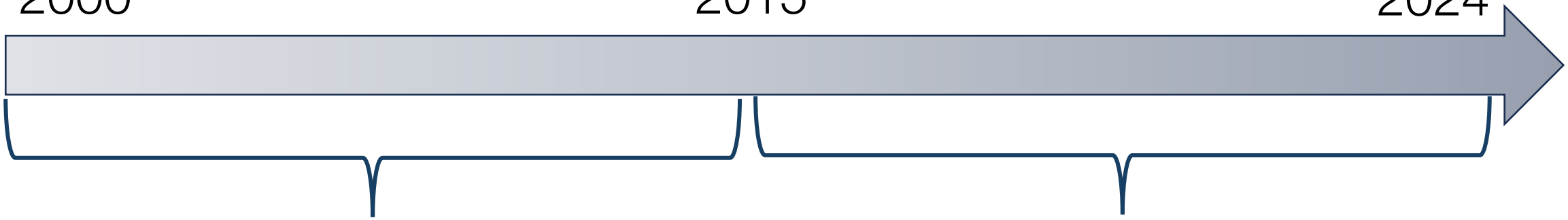
What implications for the EU semiconductor ecosystem?

Semiconductor for embedded electronics



- A consequence of the shift towards Cloud-to-edge IoT platforms
- A challenge for the EU Chips act: How to support our ecosystem?

Semiconductor for embedded electronics



Golden age of microcontrollers (MCU)

Golden age of SoC, advanced processors, AI chips…

Automotive

Multiplication of MCUs per car

Automotive

- Software Defined Vehicle
- E/E architectures

-> Rationalization of MCUs: Central Car Unit / Zonal Car Unit…

Processors: The battle of edge computing

Thin computing
(~1 Giga Flops)

- Low-rate data processing (MegaHertz)
- Low powered / memory constrained

General Purpose Microcontrollers (MCU) 16-32 bits

Embedded Memory (NVM)

Medium computing
(~1000 Giga Flops)

- Medium rate data processing
- Medium powered, bigger memory

Microcontrollers (MCU) 32-64 bits

Thin AI accelerator

External Memory (VM)

AI embedded software, Tiny ML

Edge systems: ASIC, SoC, SiP…

Thick computing
(~100 000 Giga Flops)

- High-rate data processing (Giga Hertz)
- High powered

Processors (MPU, GPU, FPGA…)

Thick AI accelerators (NPU…)

External Memory (VM)

AI embedded software

Edge systems: SoC, SiP…

Leading EU ecosystem: Infineon, NXP, ST

Competitors: Renesas, Microchip

Key points

- EU players leading along the value chain
- Strong competitors: The USA & Asia

Small EU ecosystem: NXP

Start-ups: Cortus, Kalray

SoC Design: Bosch

Leading US & Asia ecosystems: Intel, Nvidia, Qualcomm, Samsung, AMD, MediaTek

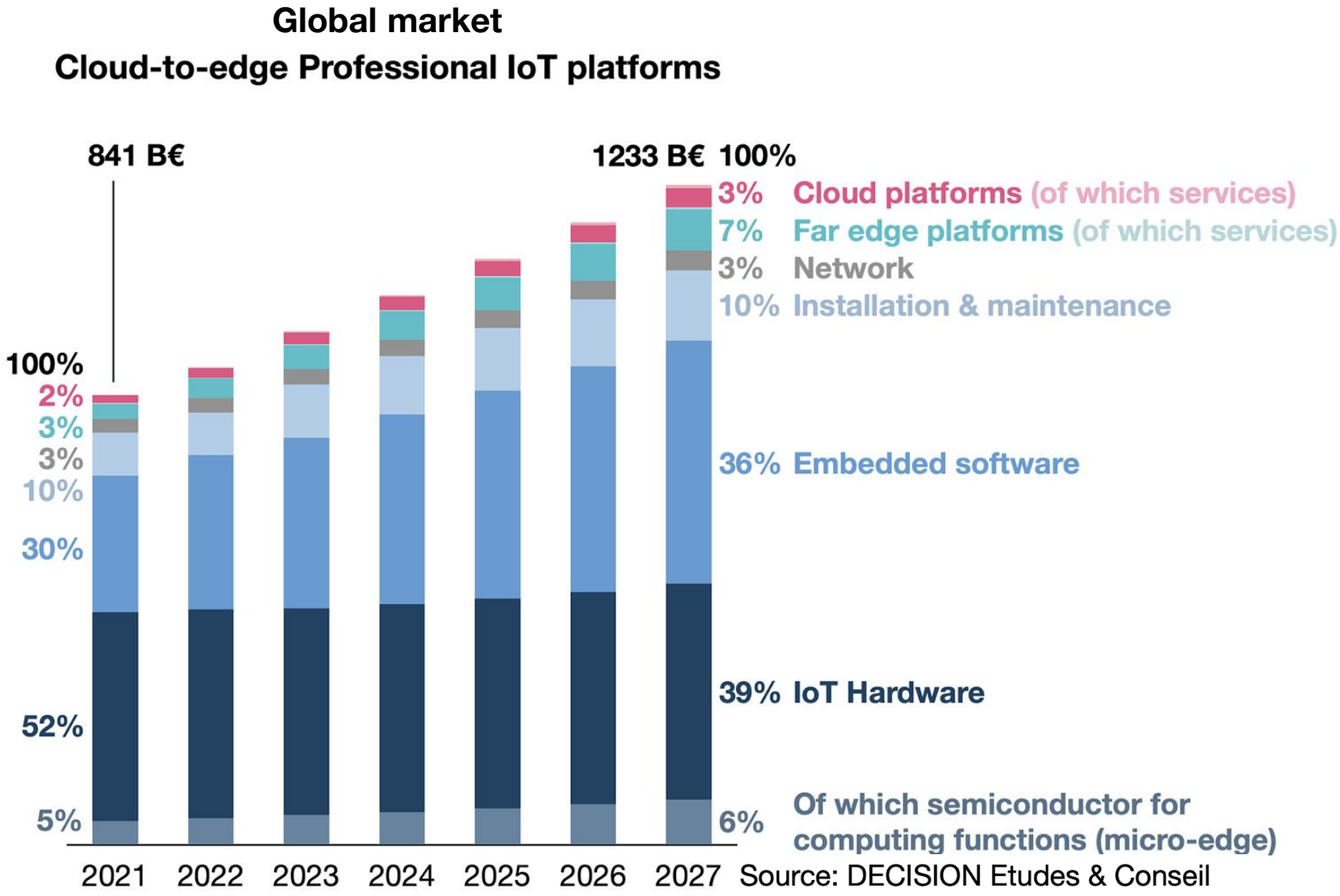
Key points

- No EU players leading in microelectronics.
- Very strong competitors from the USA.

Conclusion

Opportunities and threats
in the context of the EU Chips Act

A Safe harbor by 2027 for EU IoT manufacturers - But rising threats



Opportunities & strengths for the EU

Strengths

- **IoT platforms.** The EU players are in a leading position in the main markets associated with professional IoT manufacturing in 2021:
  - Automotive (33% market share)
  - Factory Automation / Robotics (29% market share)
  - Health & Care electronics (34% market share)
  - Energy management (20% market share)
- **Key suppliers of semiconductors, focused on thin computing**

- **An ecosystem of design of thick computing semiconductors, facing difficulties to meet the EU market**
  - NXP, Bosch and 15 startups: Kalray…
- **5G network equipment's**

Weaknesses

- **Thick computing semiconductors:** US leadership
  - Dependencies in mobility, security, health & care, edge AI and robotics.

- **5G/6G chipsets** (design driven by mobile phone, not IoT)

- **Hyperscalers deploying near-edge clouds**

- **Fragmentation of the EU ecosystems compared to the US and China**

Thank you for your attention

Panel discussion
-
Opportunities & recommendations

Next specifications for chip for CEI
What types of chips to support in the EU?

1. **The opportunity of medium computing semiconductors…**
   - ➢ System-on-Chips based on 32/64 bits MCU, smart sensors (ISPU, rPU…), MPU < 22 nm, chiplets, better software orchestration…
   - ➢ Strong capacities from EU players taking positions:
   - ➢ That can be used as alternatives to thick computing semiconductors in many applications: Automotive (E/E architectures, ADAS…), industry automation…

2. **…supported by strong EU manufacturing capacities of mature semiconductor processes (from 45 nm to 22 nm).**

…but more importantly:

3. **Supporting the emergence of an EU ecosystem of design of thick computing semiconductors.**
   - ➢ Design of advanced microprocessors and associated AI-based systems.

     10-20 startups in the EU
   - ➢ Partnerships between start-ups and leading EU professional IoT manufacturers: Automotive, industry automation, health & care:

Leveraging the strong position of the EU in Professional IoT to lead Cloud-to-edge platforms

Historical strengths of the EU in professional IoT: Automotive / Industrial & Home Automation / Health & Care / Defense & security

Specific areas of expertise for Cloud-to-edge IoT platforms: Embedded software + knowledge of applications

How to federate the EU ecosystem to help build functional Cloud-to-edge IoT platforms?

1. **Foster cooperation (co-design and co-implementation) between EU players along the value-chain.**
2. **Foster open-source approaches:** Software, hardware, algorithms… to compensate the dominance of US & China in high power processing.
   - RISC-V, Software-Defined-Vehicle, Kubernetes, Eclipse, Fiware, GAIA-X…
3. **Encourage the development of industry standards enabling interoperability** and facilitate the adoption of new technologies. Lack of interoperability in many fields preventing large deployment of Cloud-to-edge platforms: Smart grids, smart charging…
4. **Build an EDA platform capable of supporting the design of hardware & software, from semiconductors to end systems**

What are the key enabling technologies for Cloud-Edge-Infrastructure the most relevant for the EU ecosystem?

1. **Edge AI chipsets**
   - **Tiny Machine Learning (Tiny ML).**
   - **Neuromorphic computing.**
   - These technologies will facilitate the replacement of thick computing semiconductors by medium computing semiconductors in many applications.

2. **5G IOT.**
   - Supported by EU players leading worldwide ERICSSON NOKIA

3. **Cryptography (lightweight, post-quantum).**
   - **Lightweight cryptography.** Fit for thin and medium computing IoTs.

nephele

A lightweight software stack and synergetic meta-orchestration framework for the next generation compute continuum

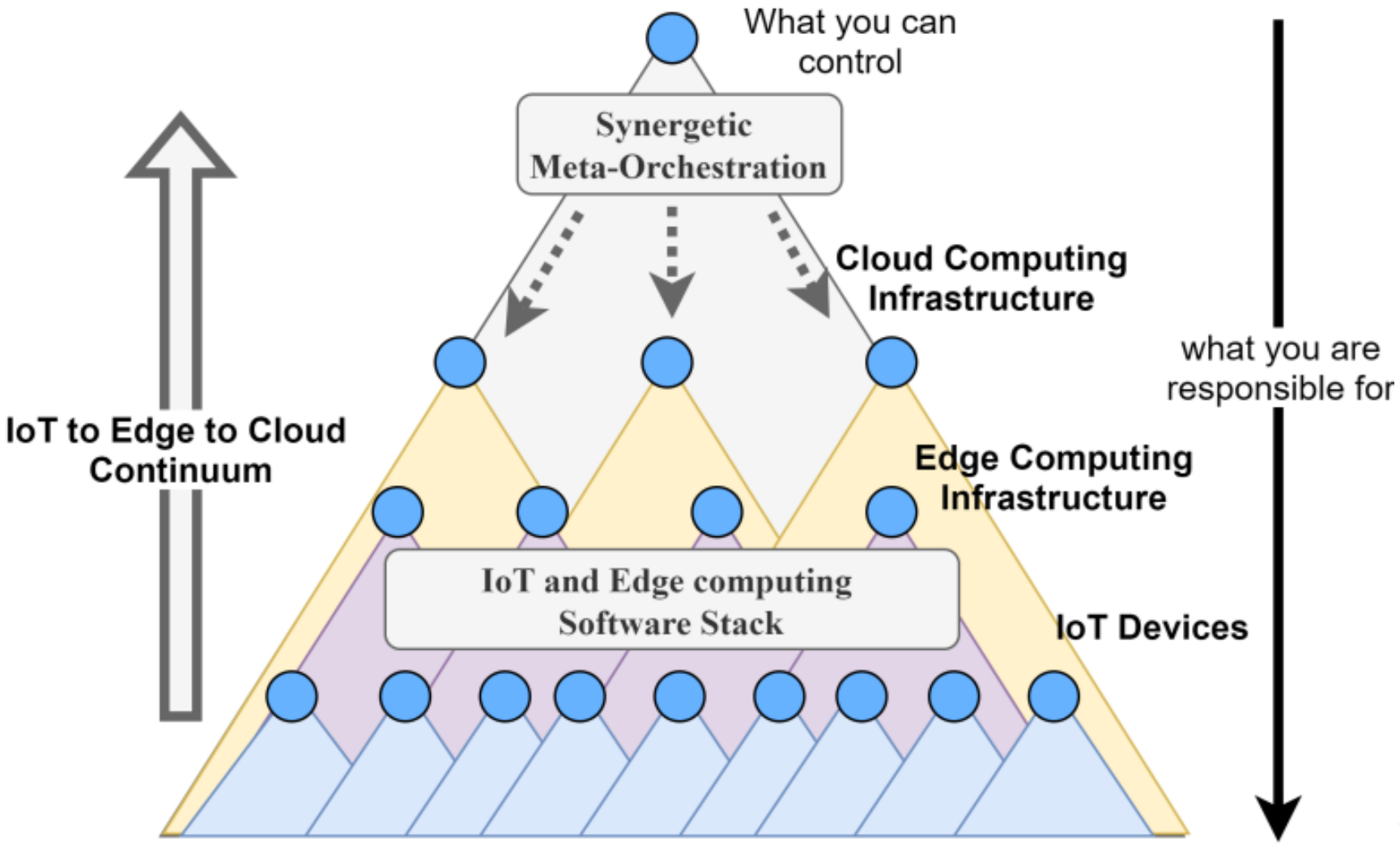
Semiconductors in the world of Cloud, Edge and IoT Webinar,
September 10th, 2024

Dr. Anastasios Zafeiropoulos
National Technical University of Athens
tzafeir@cn.ntua.gr

Main Innovations in NEPHELE

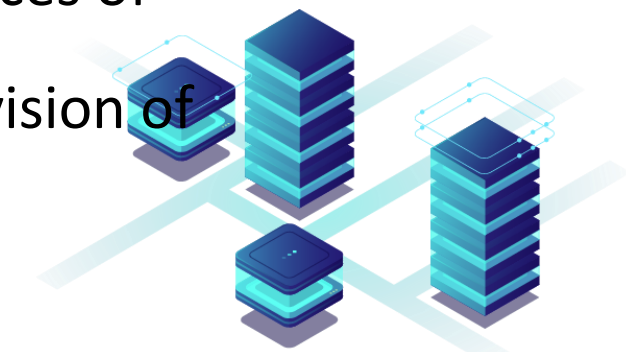
- an **IoT and edge computing software stack** for leveraging virtualization of IoT devices at the edge part of the infrastructure and supporting openness and interoperability aspects in a device-independent way.
- a **synergetic meta-orchestration framework** for managing the coordination between cloud and edge computing orchestration platforms, through high-level scheduling supervision and definition, based on the adoption of a “system of systems” approach.

System of Systems Approach

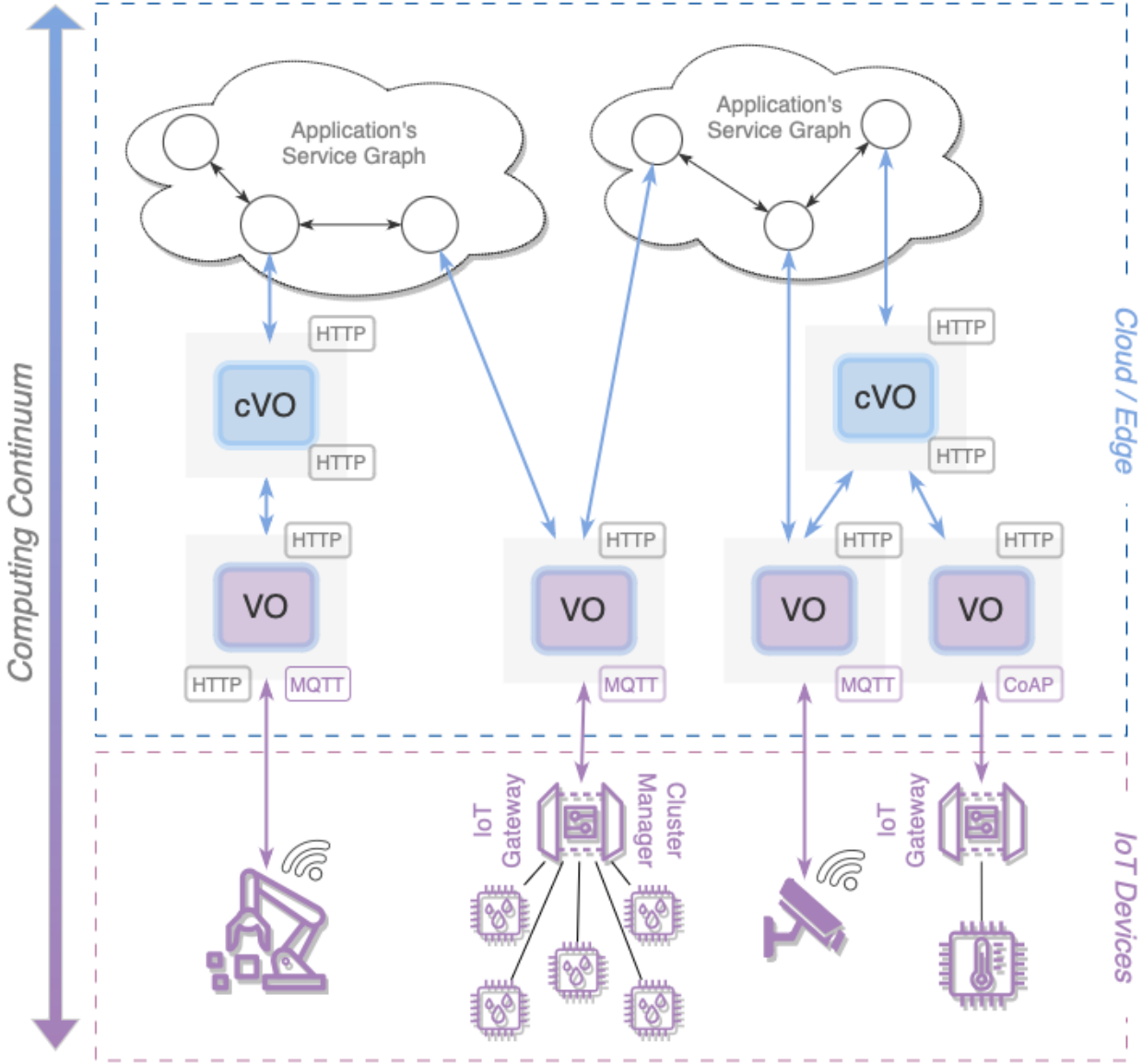


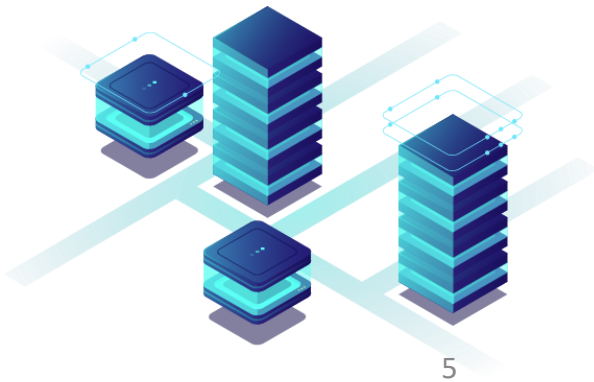
Virtual Object (VO) Definitions

- A Virtual Object (VO) is considered as a virtual counterpart of a physical device on the Internet of Things domain
  - set of abstractions for managing any type of IoT device through a virtualized instance;
  - augments the supported functionalities through the development of a multilayer software stack, called **Virtual Object Stack (VOStack)**.
- A Composite Virtual Object (cVO) is a software entity that can manage the information coming from one or multiple VOs and provide advanced functionalities.
  - a cVO is connected with multiple VOs that manage IoT devices of several types;
  - a cVO enhances the capabilities of the VO through the provision of application-oriented functionalities.

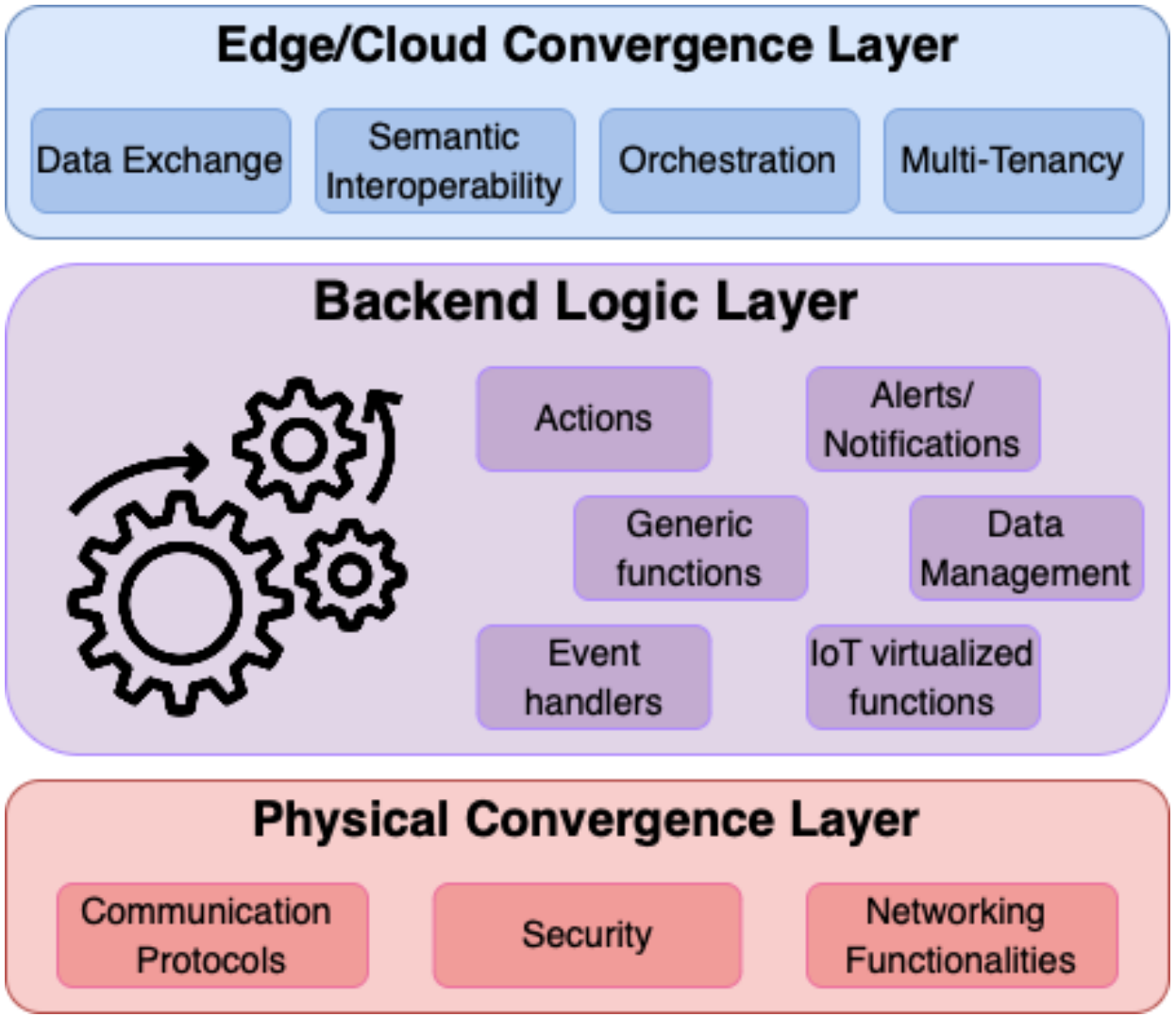


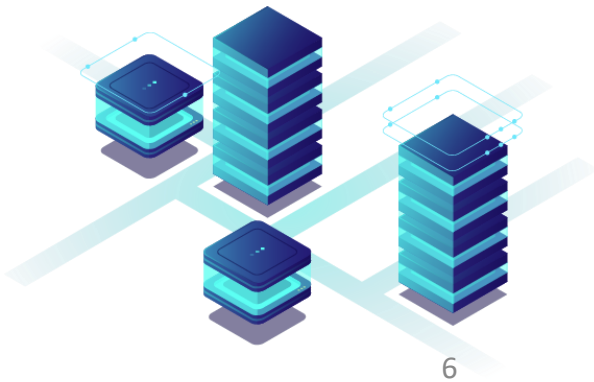
VOs, Composite VOs and Application Graph



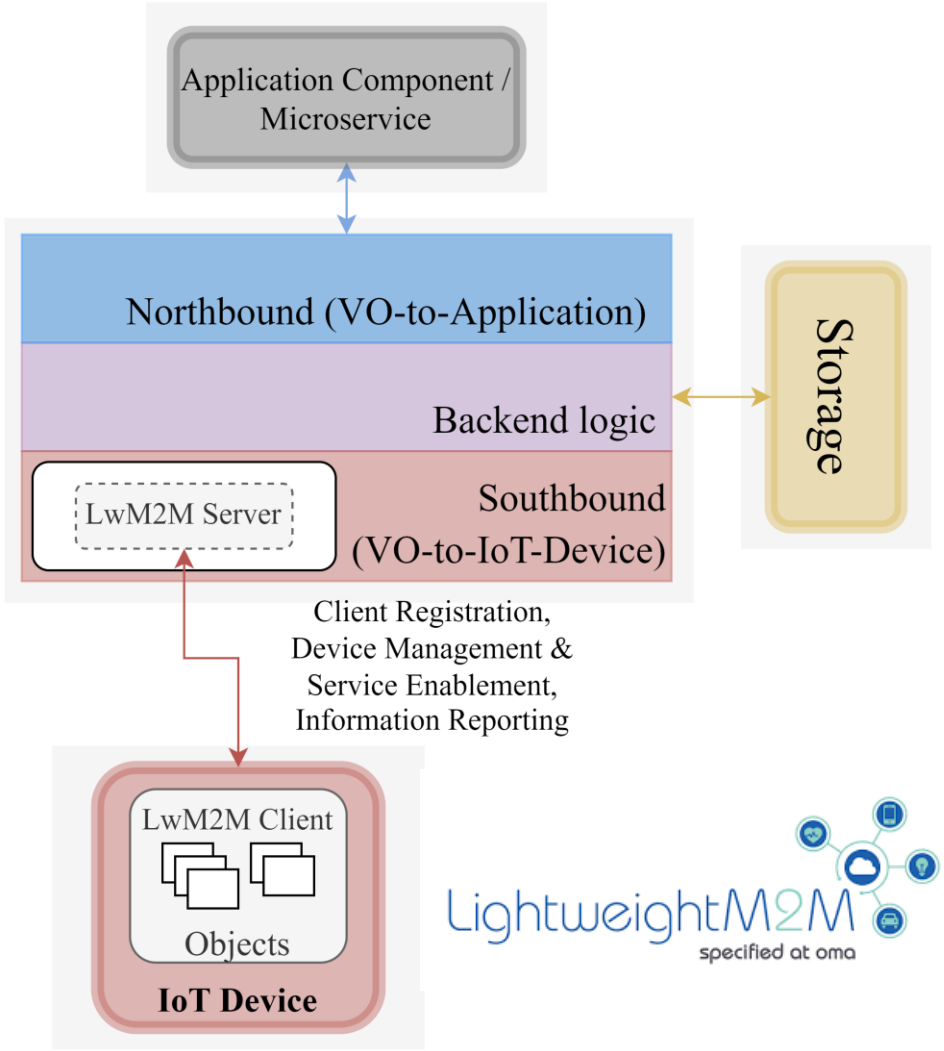


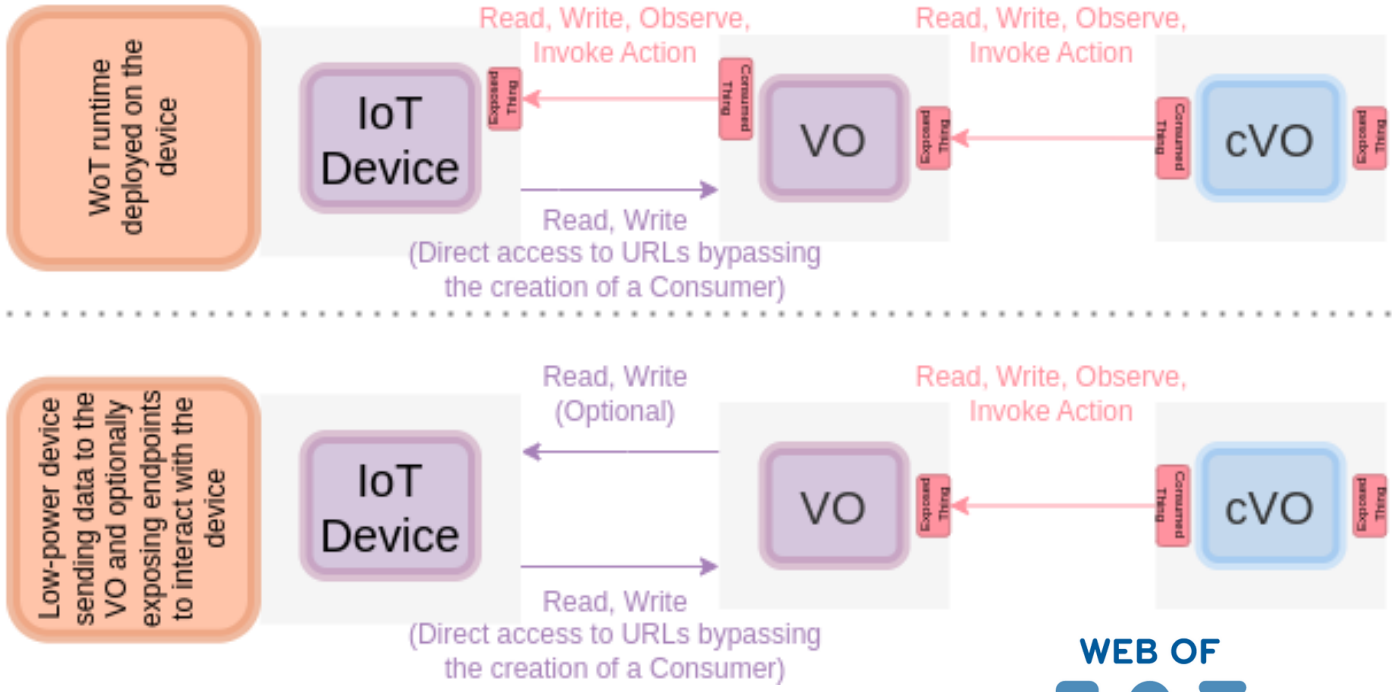
Virtual Object Stack (VOStack) Layers





VOStack implementation



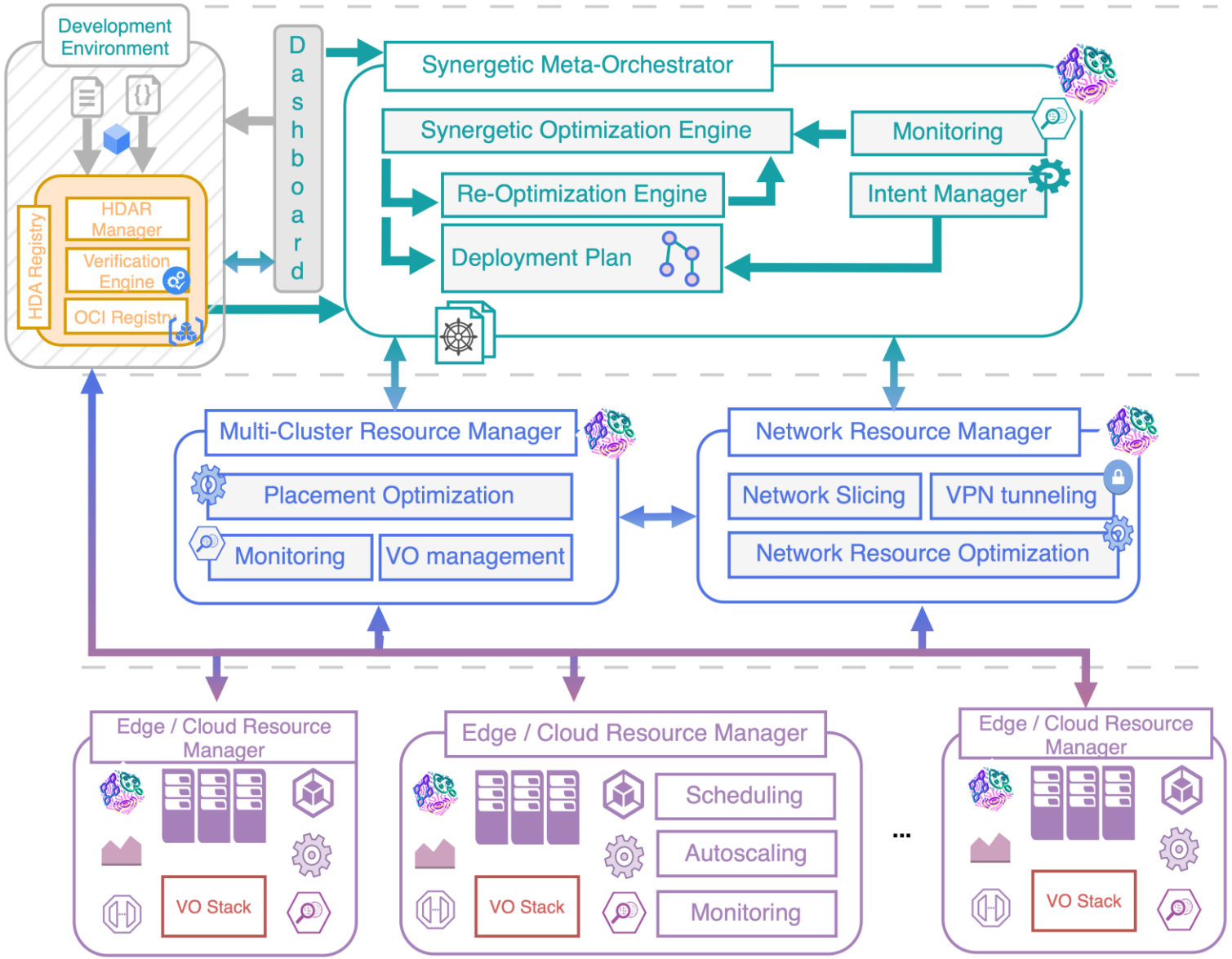


WEB OF THINGS

Interplay between IoT virtualization and Semiconductors

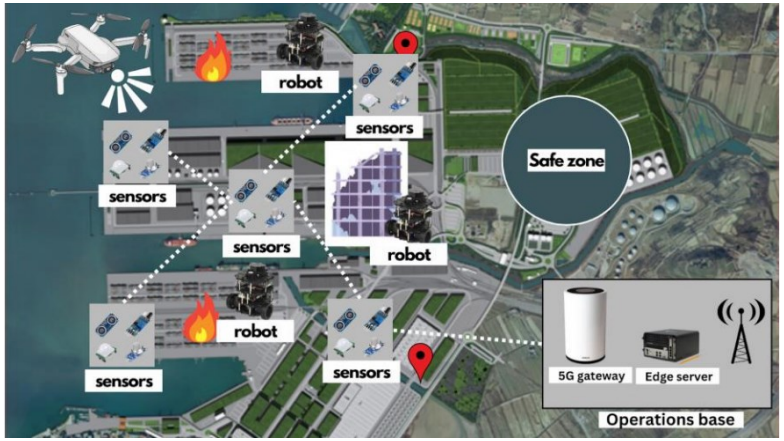
- Enablers for functionalities of the IoT devices (semiconductor-based sensors)
  - **Sensing and data acquisition**: Detection of environmental parameters and conversion of the data into electrical signals to be processed by other components (e.g., temperature sensors in smart thermostats).
  - **Processing and control**: microcontrollers and microprocessors powered by semiconductor technology (interpret data from the sensors, execute functions, real-time decision making). Support actuation through the conversion of electrical signals to actions.
  - **Connectivity and communication**: support different communication modules through chips built using semiconductors
  - **Security and privacy**: built-in security features such as encryption engines and secure boot capabilities
  - **Power Management and Efficiency**: low-power consumption chips
  - **AI integration**: through the development of neuromorphic chips and alignment with TinyML approaches
- Digital Twins development for the Semiconductor industries
  - Model systems that connect physical and virtual worlds

Reference Architecture

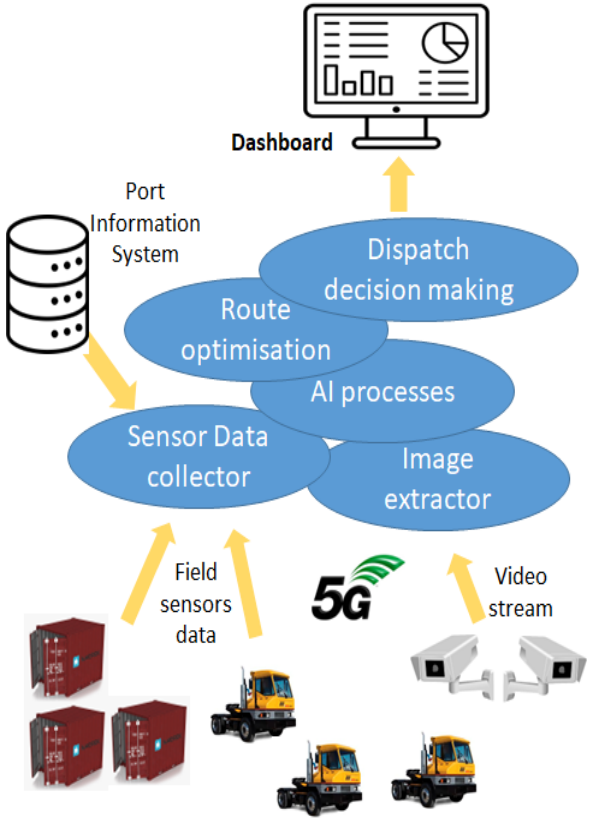


NEPHELE Use cases

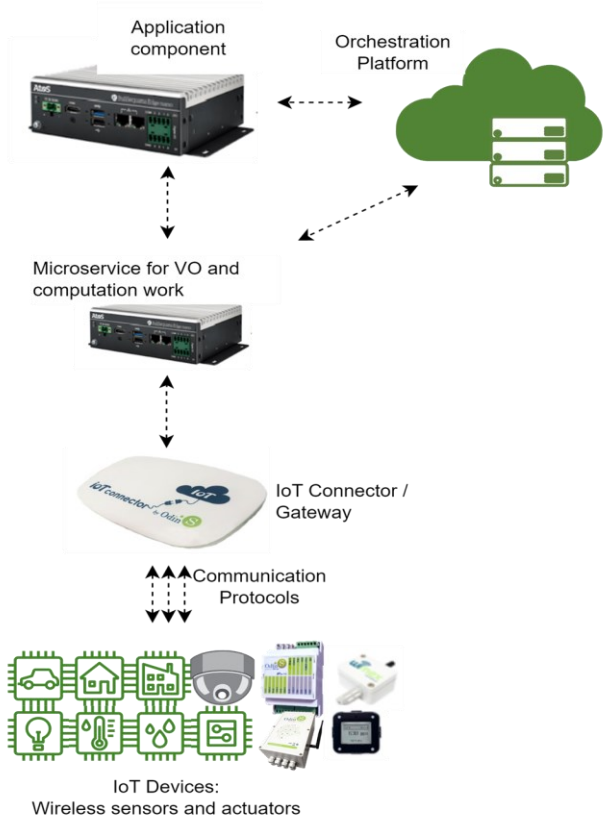
Emergency/Disaster Recovery



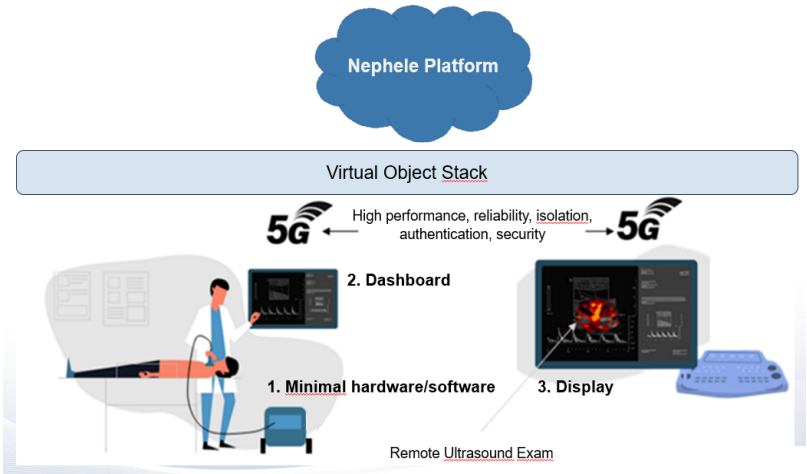
Smart Port



Energy Management in Smart Buildings

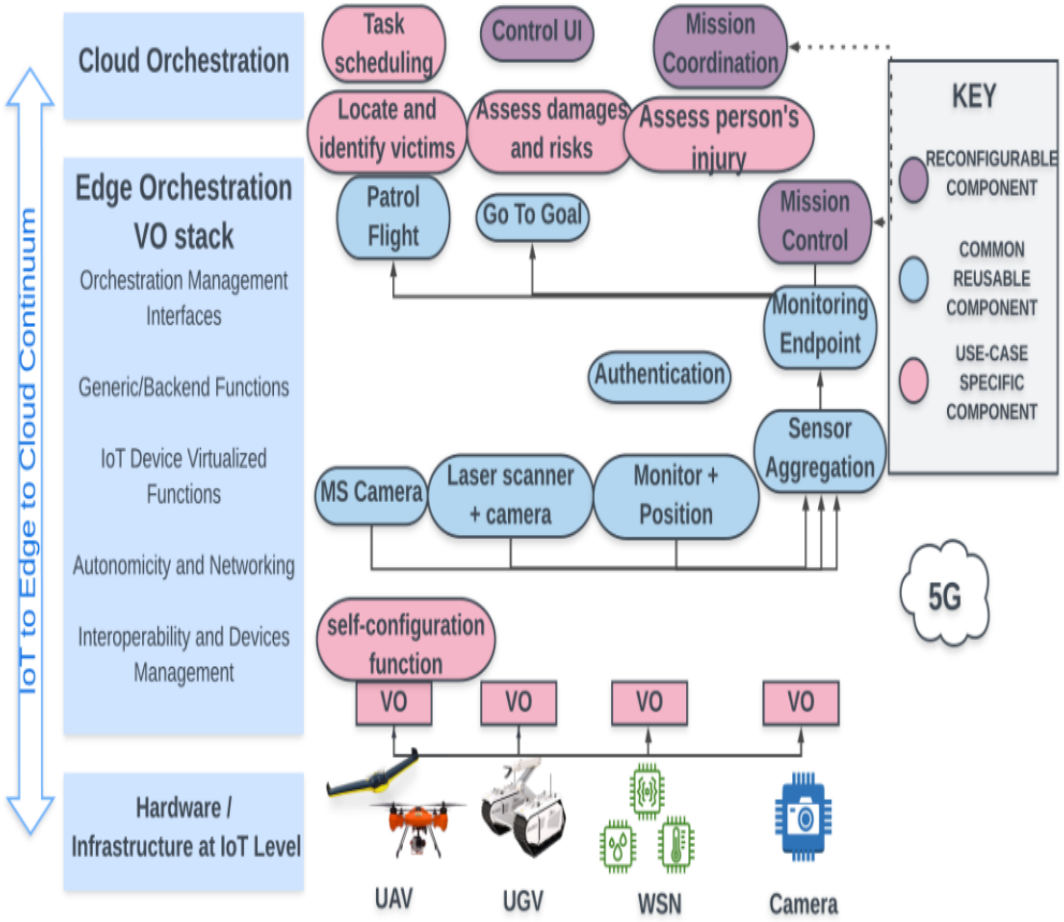


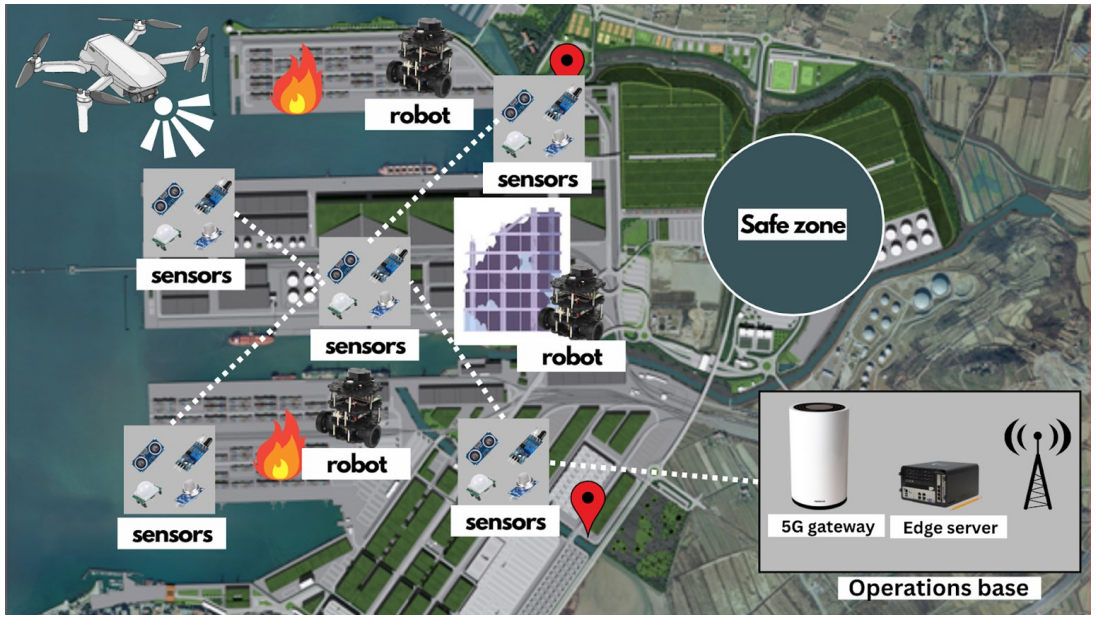
Remote Healthcare



Use Case #1: Emergency/Disaster Recovery

- **Industry**: Maritime sector in Luka Koper port
- **Study case**: Post-disaster in a container terminal





Establishment of a IoT-Edge-Cloud continuum for **emergency initiatives**, integration of **sensor-carrying robots** and smart devices in the continuum, deployment of **edge computing for low-reception** scenarios.

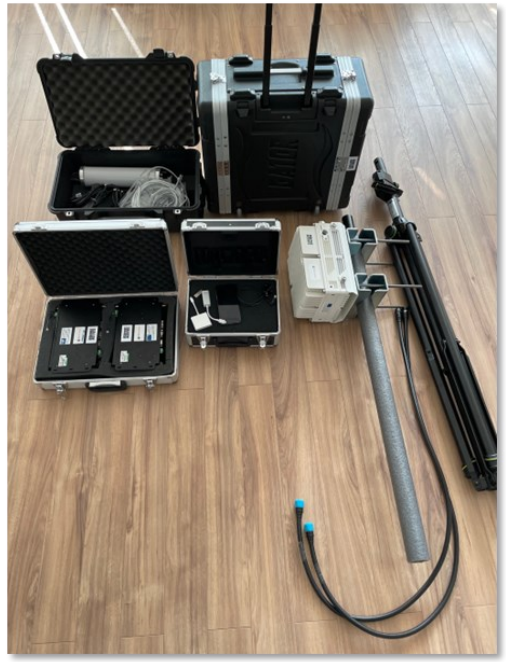
Deploying an **autonomous exploration and monitoring solution based on multiple robots** that allows **autonomous and adaptive exploration** of an unknown area.

Use Case #2: Smart Port

- **Industry**: Logistic transport in Luka Koper port
- **Study case**: AI-assisted logistic operations in port environment

By utilizing **Virtual Object** and **Virtual Object Stack** concept, data collected from multiple **sensors in the field** and **video cameras** are first (pre)processed in IoT gateway (far-edge), then combined with **business process related data** originating from Port Information system and processed in the edge, while certain specific tasks are delegated for the processing in the cloud, thus relying end-to-end onto the **IoT-Cloud-Edge Continuum** approach.

Optimizing process of routing containers also include **machine-learning** algorithms for **problem-solving** and **risk avoidance** deployed at different components of IoT-Cloud-Edge Continuum.



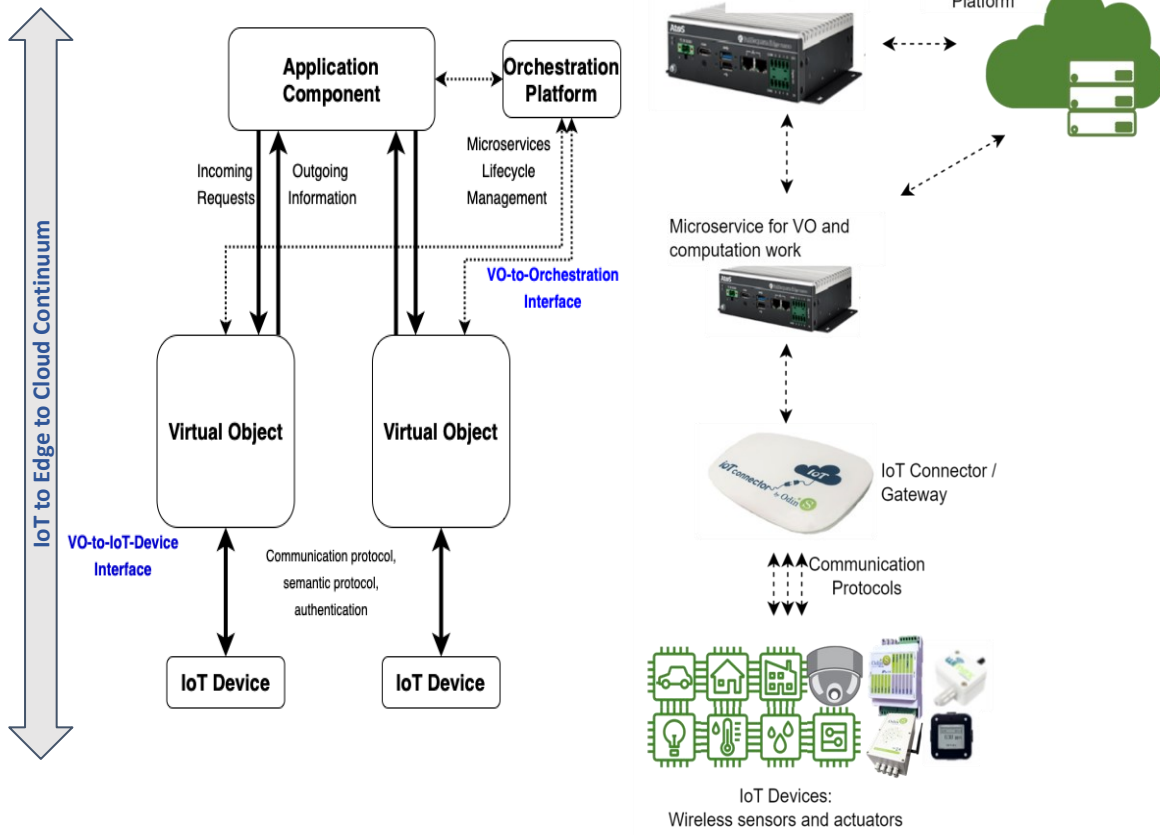
Use Case #3 Energy Management in Smart Buildings/Cities

- **Industry**: Energy sector where SIEMENS is a technical leader
- **Use case**: Energy management in smart buildings

Intelligent monitoring and **remote energy management** within the spectrum of **smart buildings**.

The key objectives include the development of applications that facilitate **energy-efficient control**, the provision of personalized services to end-users, and the establishment of an automation schema grounded in **real-time data**.

The use case also focuses on video analysis for detecting individuals and objects.

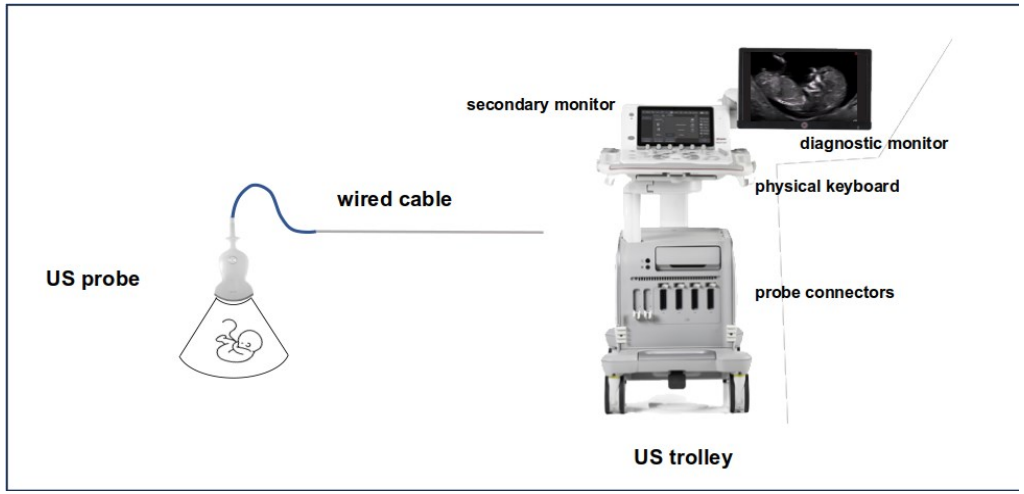


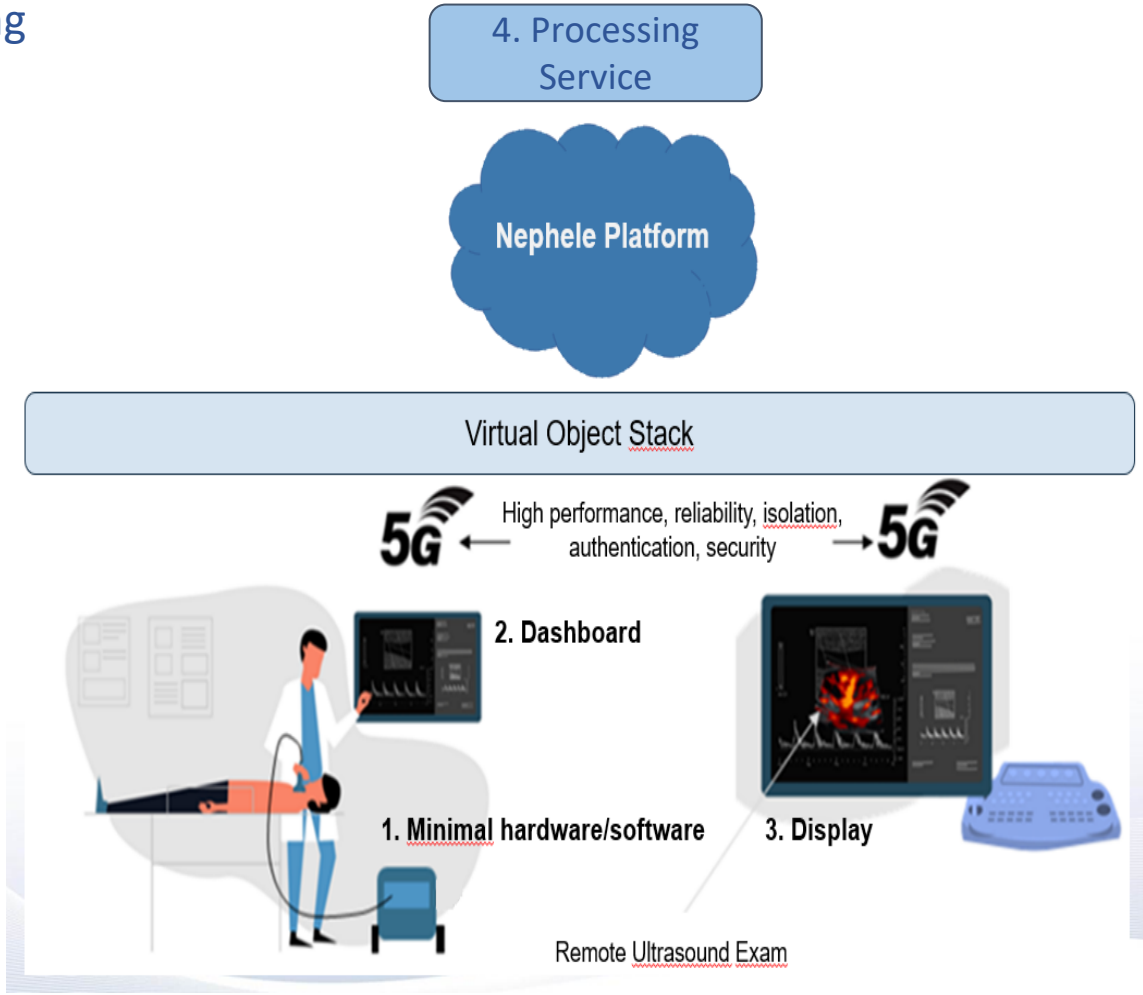
Use Case #4: Remote Healthcare

- **Industry:** Health with ESAOTE leader in medical imaging, offering ultrasound, MRI and Healthcare IT solutions
- **Use case**: Remote health care services

The current **ultrasound medical imaging processes** are constrained by both the technical features of the local device and the knowledge of the local healthcare operator.

Connect, decompose and virtualize ultrasound medical imaging systems into the cloud-edge continuum to lose any barriers due to the hardware capabilities and localization of current physical systems.

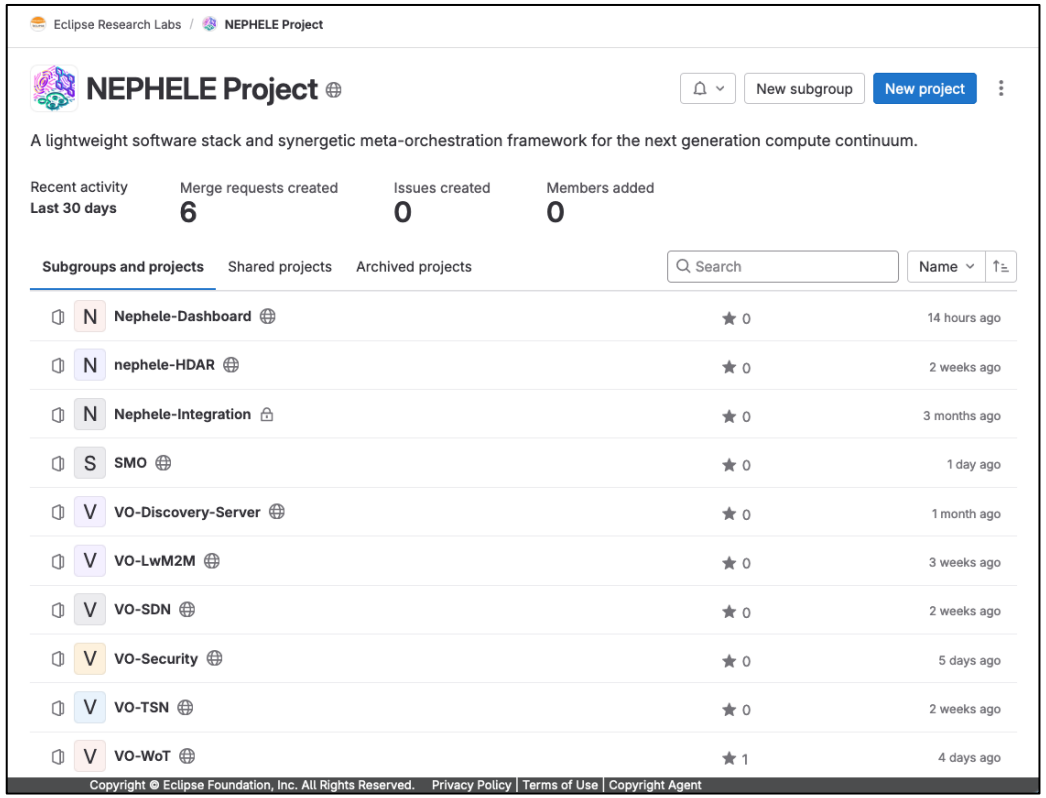




NEPHELE Open Source Ecosystem

Goal: prepare NEPHELE open-source results for up-take by developers (open calls, OS communities, Meta-OS cluster, etc.) by implementing open-source best practices.

Eclipse Research Labs GitLab



https://gitlab.eclipse.org/eclipse-research-labs/nephele-project

Thank you for your attention!

Contact: tzafeir@cn.ntua.gr
Website: https://www.netmode.ntua.gr/

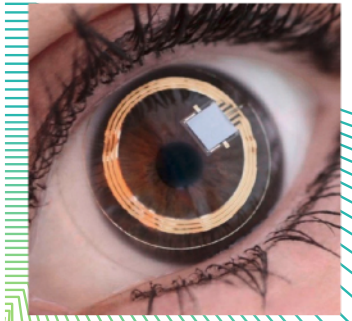
NETMODE
NETWORK MANAGEMENT & OPTIMAL DESIGN LAB

nephele

https://nephele-project.eu/

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101070487.

EPoSS.
European Association on
Smart Systems Integration



Edge AI Innovations under the Chips Act

Dr. Inessa Seifert (EPoSS)

EPoSS – the European Technology Platform on Smart Systems Integration

EPoSS is the European Association leading the development and integration of intelligent and green Smart Systems technologies and solutions for a sustainable society.

EPoSS defines R&D and innovation needs as well as policy requirements related to Smart Systems Integration and integrated micro- and nanosystems.

EPoSS Activities

- We contribute to **European research policies** and give a voice to the **European microsystems and Smart Systems community**.
- We define **priorities for research and innovation** and provide technology roadmaps and strategic research agendas.
- We **mobilise** public and private human, infrastructural and financial **resources**.
- We support our members in **co-ordinating** their **research efforts** and provide the communication platform for our members.

European Context

Research Priorities

Roadmaps & SRA

EPoSS input

Expert Knowledge

Policy Approaches

Chips JU

CCAM
CONNECTED, COOPERATIVE & AUTOMATED MOBILITY

2ZERO

HealthTech4EU Alliance

TCI
TransContinuum Initiative

Horizon Europe
THE NEXT EU RESEARCH & INNOVATION PROGRAMME (2021 – 2027)
European Commission

Xecs

Alliances, common roadmaps, MoUs, aligned strategies, events, initiatives and networks

State of play: Chips Act

R&D&I Chips JU

European Semiconductor Board (Governance)

Pillar 1

Chips for Europe Initiative

- Initiative on infrastructure building in synergy with the EU's research programmes
- Support to start-ups and SMEs

Pillar 2

Security of Supply

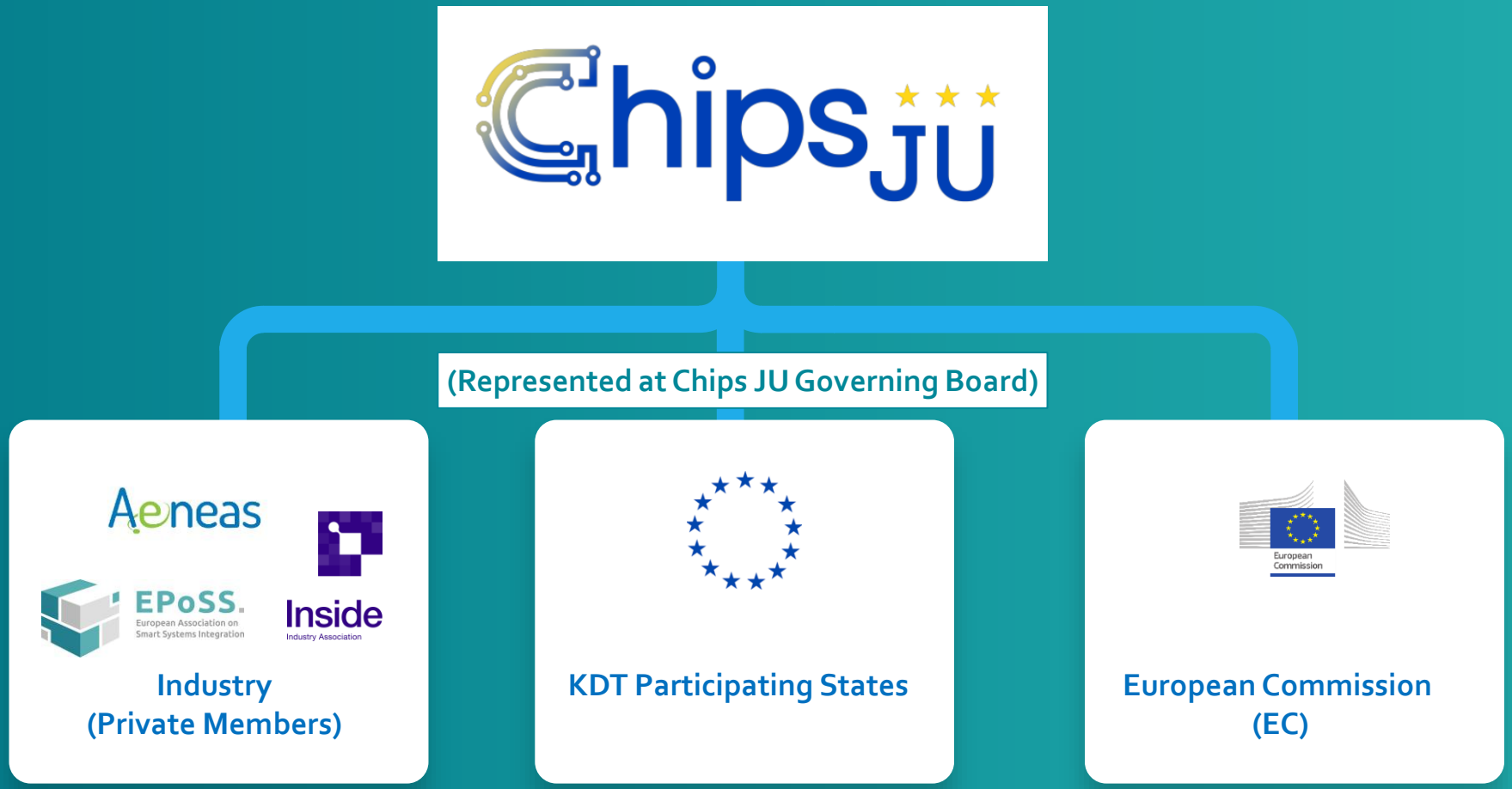
- First-of-a-kind semiconductor production facilities

Pillar 3

Monitoring and Crisis Response

- Monitoring and alerting
- Crisis coordination mechanism with MS
- Strong Commission powers in times of crisis

The Chips JU


Chips JU
(Represented at Chips JU Governing Board)
Aeneas
EPoSS.
European Association on Smart Systems Integration
Inside
Industry Association
Industry (Private Members)
KDT Participating States
European Commission
European Commission (EC)

The ECS Strategic Research & Innovation Agenda (ECS-SRIA)

The ECS-SRIA

- Identifies the major technological challenges, priorities and required R&D&I efforts in the next decade, covering the entire ECS value chain
- Live, open and funding programme agnostic
- Edited every year by the ECS community, with more than 300 European experts

Extensive and detailed report, serving as a basis for collaborative research

The ECS-SRIA is the reference document for the Chips Act calls for proposals.

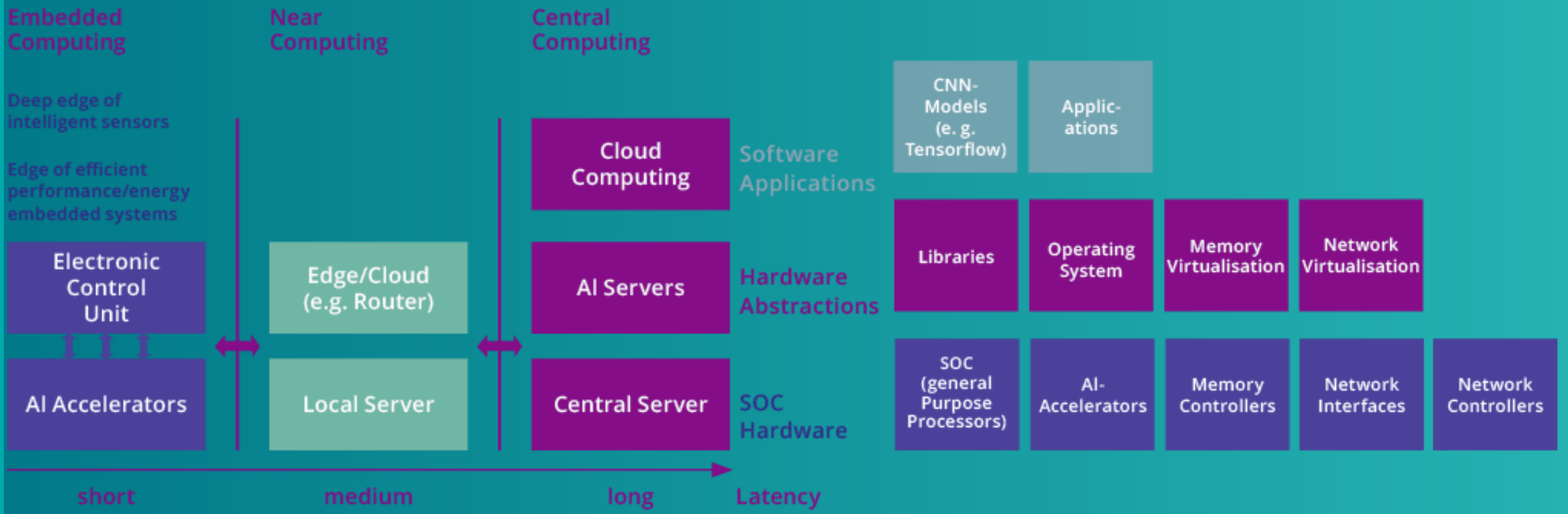
The Edge AI Working group

Joint EPOSS and INSIDE industry associations working group, intended to contribute to ECS SRIA:

- Achieve strategic autonomy of European companies
- Communicate a clear vision to the European Commission and the relevant stakeholders
- Identify use cases from industry
- Identify enabling key technologies/building blocks over the next 10 years
- Identify dependencies and risks (to ensure technological autonomy)
- Identify opportunities for cooperation between industry and research
- Support companies in investments decision-making
- Multi-disciplinary working group, with also cross-domain synergies

ECS-SRIA 2024

THE CONTINUUM OF COMPUTING AND RELATIONS.



ECS SRIA

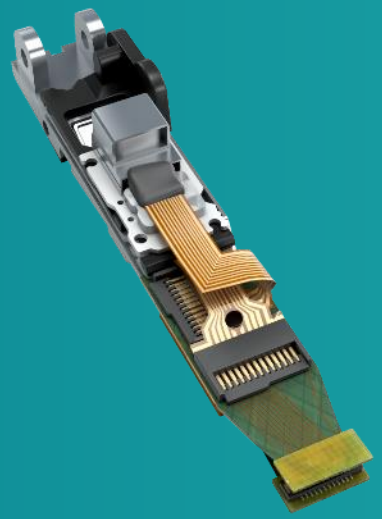
The joint **Electronic Components and Systems Strategic Research Agenda** of the three European industry associations Aeneas, EPoSS and Inside, spanning the entire value chain.

www.smart-systems-integration.org/publications

Smart Systems Integration

Bridging the gap from component to product:

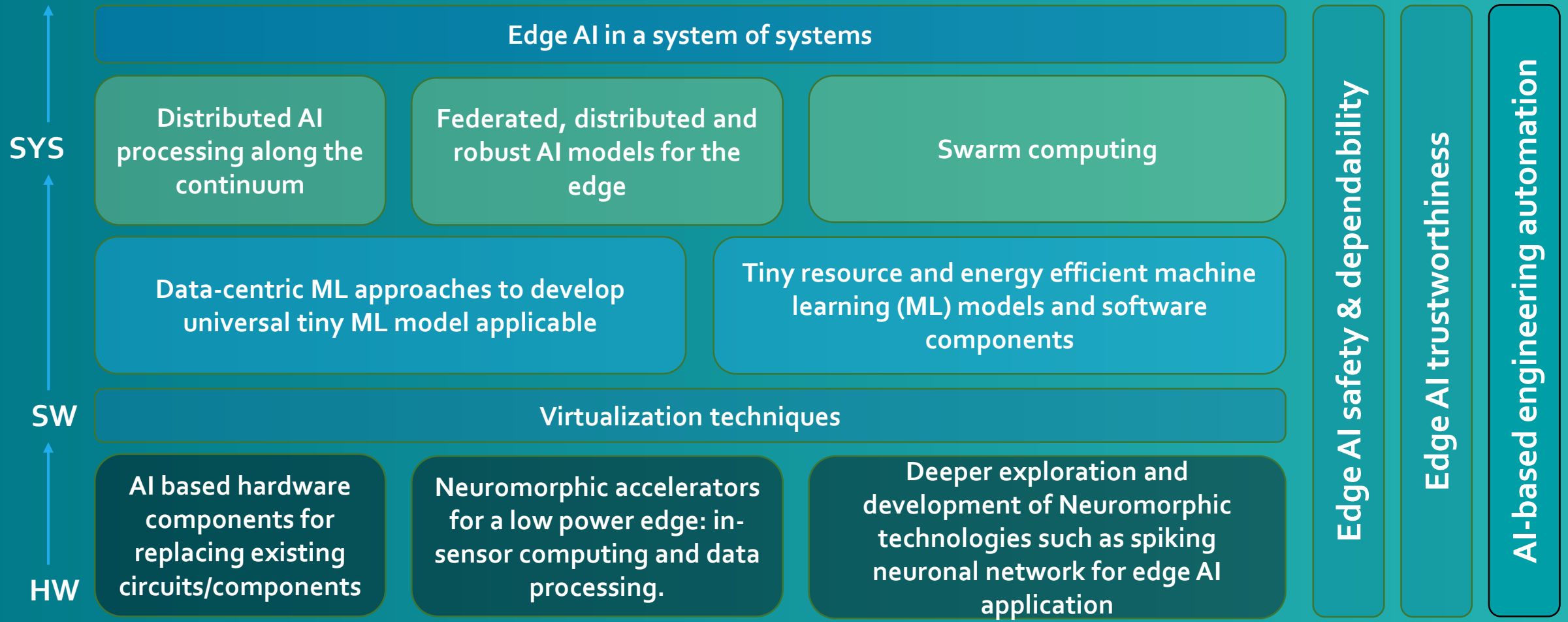
From key components like micro- and nanoelectronics, chips, MEMS and Power SCs;



Smart Sensor Systems incl. hardware and software co-design and AI at the edge

to Smart Systems for innovative applications and value creation to address societal needs.

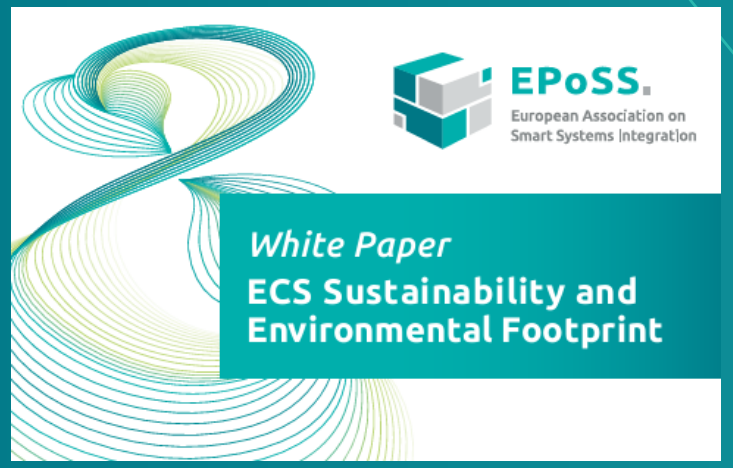
Technological challenges



Strategic Contributions

We address **system integration technologies** as well as **smart systems for various application fields**, such as transport, healthy living, manufacturing, internet of things, energy, natural resources and security.

EPoSS White Papers



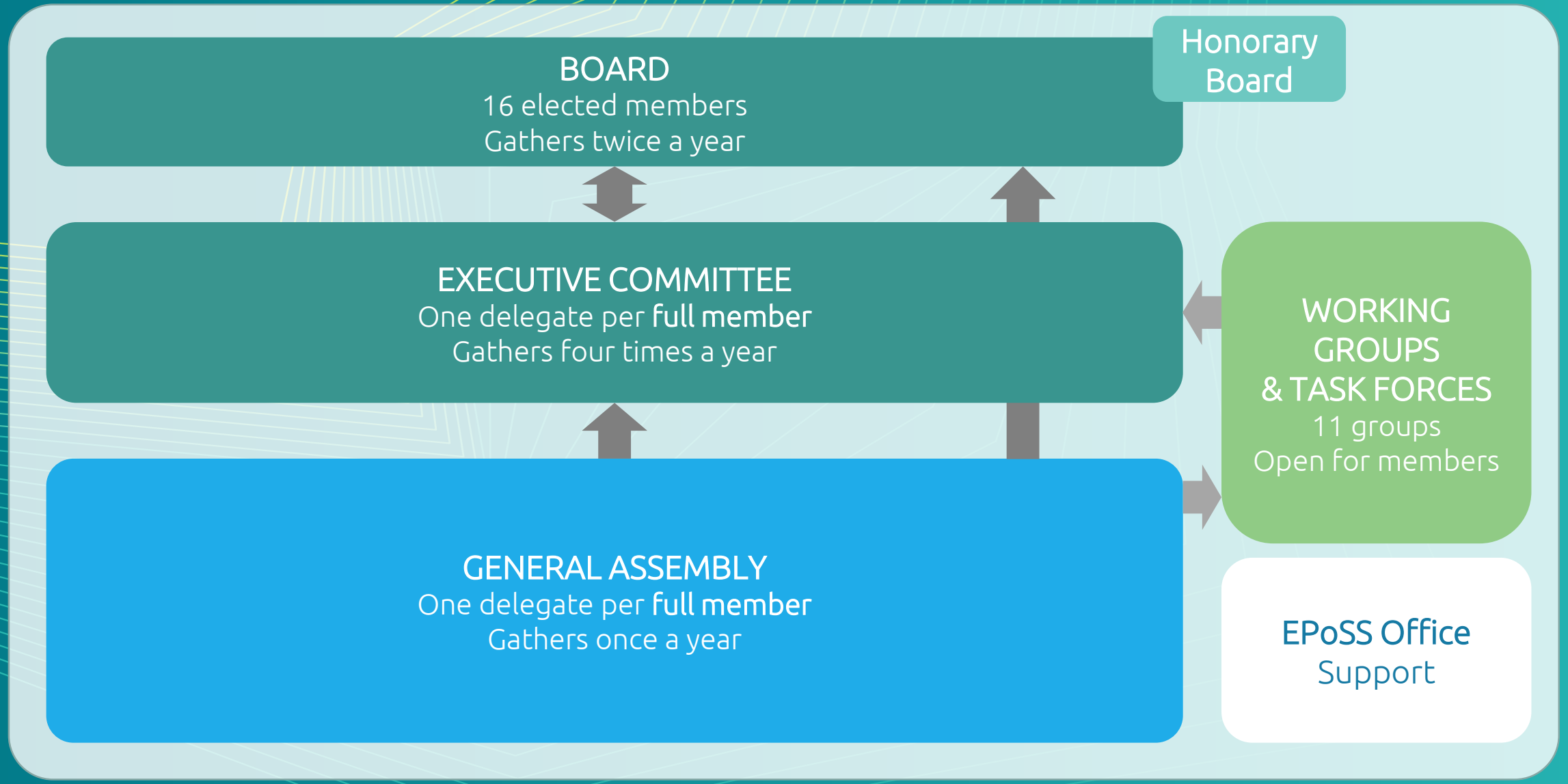
Released 2023

Released 2023

Released 2021;
Update ongoing

www.smart-systems-integration.org/publications

Structure of the Association



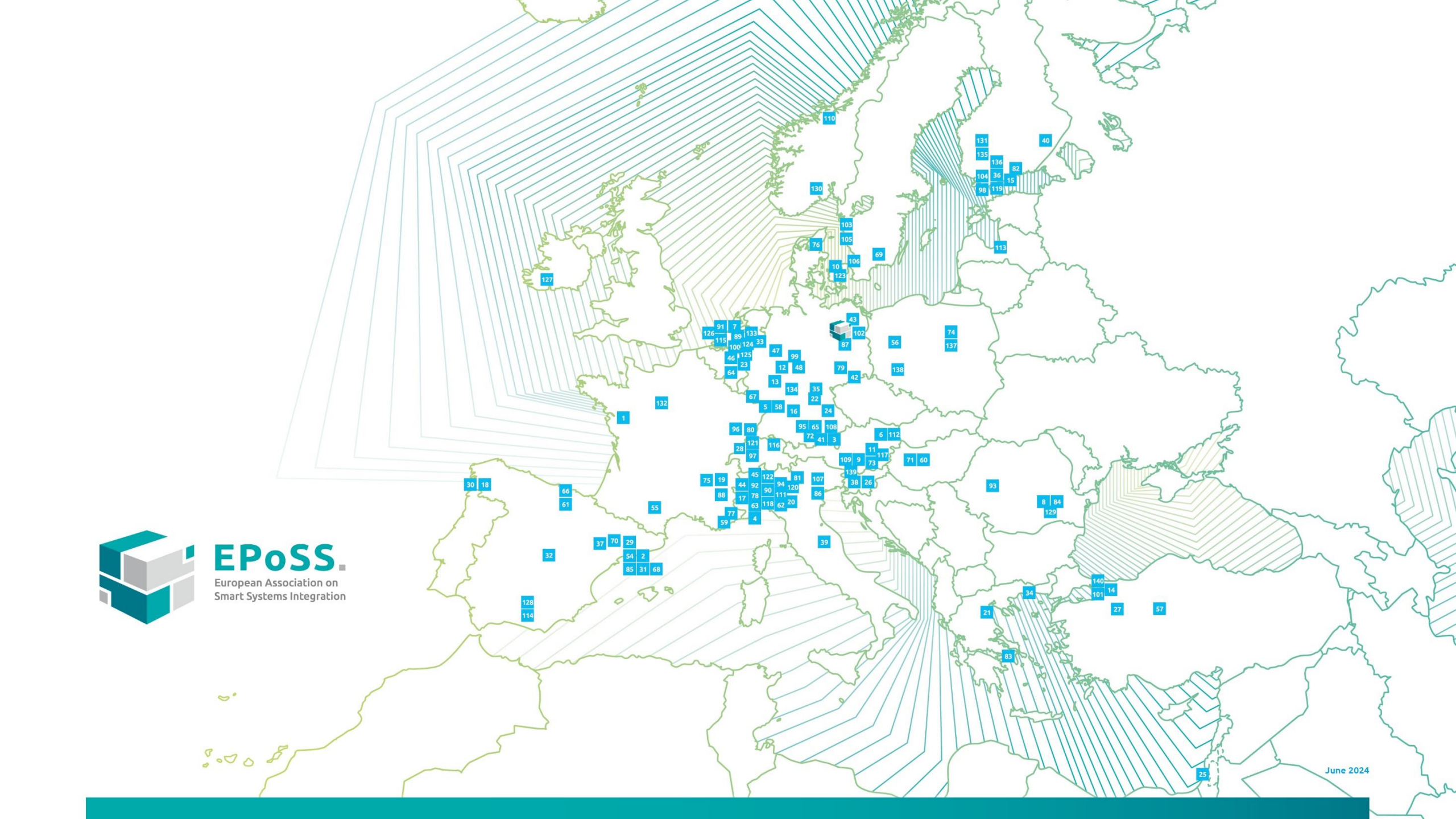
Membership Benefits

As EPoSS member you

- collaborate with key players in the context of European research
- benefit from an efficient and successful network of experts
- influence and contribute to roadmaps for Smart Systems through EPoSS working groups
- get your interests promoted to public authorities
- receive first-hand information on the latest directions and decisions of the European Commission
- receive facilitated access to European funding
- benefit from efficient dissemination, refinement and implementation of project activities
- gain easy access to excellent project consortia
- participate fully in the EPoSS information flow
- take part in special expert workshops, conferences and meetings
- obtain special conditions for Smart Systems events.

Join the group of major industrial companies and research organisations in the field of Smart Systems Integration on

www.smart-systems-integration.org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European Association on
Smart Systems Integration
June 2024

Thank you
for your kind attention.

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Smart Systems Integration

contact@smart-systems-integration.org

www.smart-systems-integration.org

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