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Global Electronics Association™

From Chips to Systems

Building an End-to-End EU Strategy for Data Centre, Cloud Infrastructure and AI



Global Electronics Association™

The Global Electronics Association is the voice of the electronics industry, working with thousands of members and partners to build a more resilient supply chain and drive sustainable growth. We advocate for fair trade, smart regulation, and regional manufacturing, and educate on industry practices, actionable intelligence and technical innovations to empower the future.

The Association collaborates with governments and companies worldwide to advance a trusted and prosperous electronics industry. Formerly known as IPC, the organisation serves a $6 trillion market and operates from offices across Asia-Pacific, Europe and North and South America. Learn more at www.electronics.org.

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DECISION is a consulting firm specialised in the analysis of the electronics value chain. Since 1991, DECISION has been providing market research, strategic advice, and policy guidance to companies, industry association, financial institutions, and policymakers.

Thanks to its core team of economists and its international network of industrial experts, DECISION has established itself as a leading European reference in technology market intelligence. The firm produces regular market figures, analyses, and forecasts for Europe and other world regions, alongside in-depth analyses of major trends and key players.

DECISION's expertise spans the full technology ecosystem, from electronics hardware—including electronic systems, semiconductors, passive components, materials and manufacturing equipment—to software and digital services, such as software-defined vehicles and cloud-to-edge architectures.

The firm has also developed strong sector expertise in four strategic verticals: data centres and cloud infrastructure, automotive, telecommunications infrastructure, and aerospace, defence & security.

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Foreword

Foreword from Sanjay Huprikar

Chief Global Officer, Global Electronics Association

In the global race for AI leadership, Europe lags significantly behind North America and Asia. Across much of the electronics value chain, the manufacturing that enables cutting-edge AI data centers is concentrated elsewhere. Closing this gap demands coordinated action, a clear vision, targeted investment, and a whole-of-ecosystem approach.

For years, our industry has highlighted to policymakers a simple truth: semiconductors are critical, but they are not the whole story. The European Commission's Technology Sovereignty Package, released in June 2026 and built around Chips Act 2.0 and the proposed Cloud and AI Development Act (CADA), is a meaningful step forward. Crucially, its scope extends beyond semiconductor fabrication to the broader electronics manufacturing ecosystem—printed circuit boards, electronic manufacturing services, advanced packaging, substrates, and, ultimately, system integration and operations. Any serious effort to understand and improve competitiveness and security for critical sectors must account for this full chain, not only its most visible link.

This report, produced in partnership with DECISION Études & Conseil, provides that fuller picture. We deconstruct the AI data center value chain—the physical and logical systems through which AI is trained, deployed, and delivered—and assess, through a European lens, where strengths can be leveraged and where gaps must be closed. AI infrastructure is fast becoming the defining arena of technological competition and a critical backbone for modern economies, from finance and healthcare to energy management and national security. It is also where Europe's dependencies are most acute and consequential. Today, EU-headquartered firms account for only 6% of revenue from semiconductor sales within the EU market for data-center applications, and for only 7% of the EU market for server manufacturing and assembly. EU production of PCBs for data center applications barely exists. These figures are not abstractions; they are structural vulnerabilities that deepen with every facility brought online using designs, equipment, and supply chains predominantly sourced outside Europe.

The Global Electronics Association commissioned this research because our members live this reality at every stage of the supply chain. Our community spans the entire ecosystem—from raw materials and electronic-grade chemicals to components, semiconductors, substrates and PCBs, EMS and contract manufacturing, systems integration, and the software and service layers above. From that vantage point, strategies built around chip sovereignty alone are incomplete. What the evidence demands is an end-to-end approach: map the chain from substrate to server to cloud, identify each critical node of vulnerability, and align policy instruments to the full scope of the challenge.

This end-to-end approach should not be understood as a closed model. Europe should use the scale of its own market to expand manufacturing and integration inside the Union, including by attracting investment from companies headquartered in partner countries - and, where necessary, other trusted third countries - provided that such investment meets European requirements for security, resilience, and sustainability

Time is not on Europe's side. Governments worldwide are moving aggressively to secure leadership in AI and advanced manufacturing. Europe's success will hinge on rebuilding the electronics manufacturing base that underpins advanced, secure, energy-efficient data centers—and with it the resilience, security, and long-term competitiveness that follow.

We offer this report in that spirit, as a contribution to the work ahead. On behalf of our more than 3,200 members, we hope it informs the discussions and decisions that will shape Europe's digital future and strengthen its resilience, security, and economic competitiveness for the long term.

Sanjay Huprikar
Chief Global Officer
Global Electronics Association

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Executive summary

Europe is one of the world's three largest markets for the software, services, and infrastructure that run on artificial intelligence data centres — alongside the United States and China. That demand is growing, and European policy is now explicitly designed to amplify it further. The challenge is not the absence of demand. It is that the value generated by that demand is overwhelmingly captured by companies and supply chains located outside Europe. This report sets out to quantify that gap, layer by layer, and to make the case for the policy architecture required to close it.

Policy context

Since the European Commission proposed the first EU Chips Act in 2022, European industrial policy in electronics has evolved:

- From a supply-side approach towards a more demand-driven approach that increasingly considers the needs of end-user industries.
- From a focus on processors towards a broader coverage of the strategic segments of the electronics value chain.

The release on 3 June 2026 of the Technological Sovereignty Package—built around two key legislative proposals, the Chips Act 2.0 and the Cloud and AI Development Act—marks a significant new step in this evolution:

- By further strengthening the focus on demand-side measures and the needs of end-user industries.
- By extending the scope of industrial policy beyond semiconductors to additional strategic segments of the electronics value chain, notably printed circuit boards (PCBs) and printed circuit board assemblies (PCBAs).

This evolution is consistent with the findings of the impact assessment underpinning the first Chips Act, which concluded that Europe should move towards a "*vertical ('proactive') industrial policy approach* "enabling "*value-chain-wide investments*".

Since 2025, Automotive has been the first sector in which the EU has started to experiment with such an approach, through the Automotive Industrial Action Plan and the launch of the European Connected and Autonomous Vehicle Alliance (ECAVA).

The combined proposals of the Chips Act 2.0 and the Cloud and AI Development Act extend this logic to the data centre, cloud and AI ecosystem, representing another important step in the right direction.

Key messages

1. **The data centre, cloud and AI value chain represents the greatest growth potential among electronics verticals (1) and constitutes the most strategic vertical for EU technological sovereignty (2).**
2. **Despite the size and growth of the European market, Europe captures only a marginal share of the value generated by its demand, as most of it accrues to global technology leaders and their associated value chains.**
   - EU companies account for only 6% of the EU market for data centre semiconductors.
   - EU companies account for only 7% of the EU market for server manufacturing and assembly.
   - EU companies account for only 8% of the EU cloud infrastructure market.
3. **In server manufacturing in particular, the manufacturing in the EU is mostly achieved by global EMS providers bringing critical industrial capabilities and know-how that are not currently available within the EU-headquartered ecosystem at comparable scale**.
4. **Europe is failing to translate its domestic demand for cloud and AI infrastructure into industrial growth across the broader electronics value chain. This concerns not only semiconductor suppliers, but also:**
   - Original Equipment Manufacturers (OEM)
   - Electronics Manufacturing Services (EMS)
   - Printed Circuit Board (PCB)
   - IC Substrate
5. **While the EU ecosystem remains fragmented, global leaders pursue integrated strategies spanning the entire value chain.**

With the Cloud and AI Development Act (CADA) aiming to at least triple the EU's data centre capacity within five to seven years, Europe is set to generate unprecedented demand for servers, electronic systems and semiconductor components.

These findings highlight **the need for the EU to adopt an end-to-end strategy for the data centre, cloud and AI value chain**, leveraging Europe's strong and growing domestic demand to build a European industrial ecosystem.

Such an end-to-end strategy should pursue two complementary objectives:

- **Leverage European demand to develop and scale European companies across the value chain.** Europe should scale up the use of demand-side instruments—most notably innovation procurement and non-price criteria—and deploy them at a level commensurate with the size and growth of the market, making them a central tool for translating this unprecedented demand into private investment and capability-building across the European value chain.
- **Leverage global leaders' technology, investment and know-how to build capabilities in Europe.** An **"open investment, local manufacturing"** approach should encourage global technology and manufacturing leaders to expand production and industrial capabilities within the Union, while meeting European requirements on security, resilience and sustainability and strengthening their integration into the broader European industrial ecosystem.

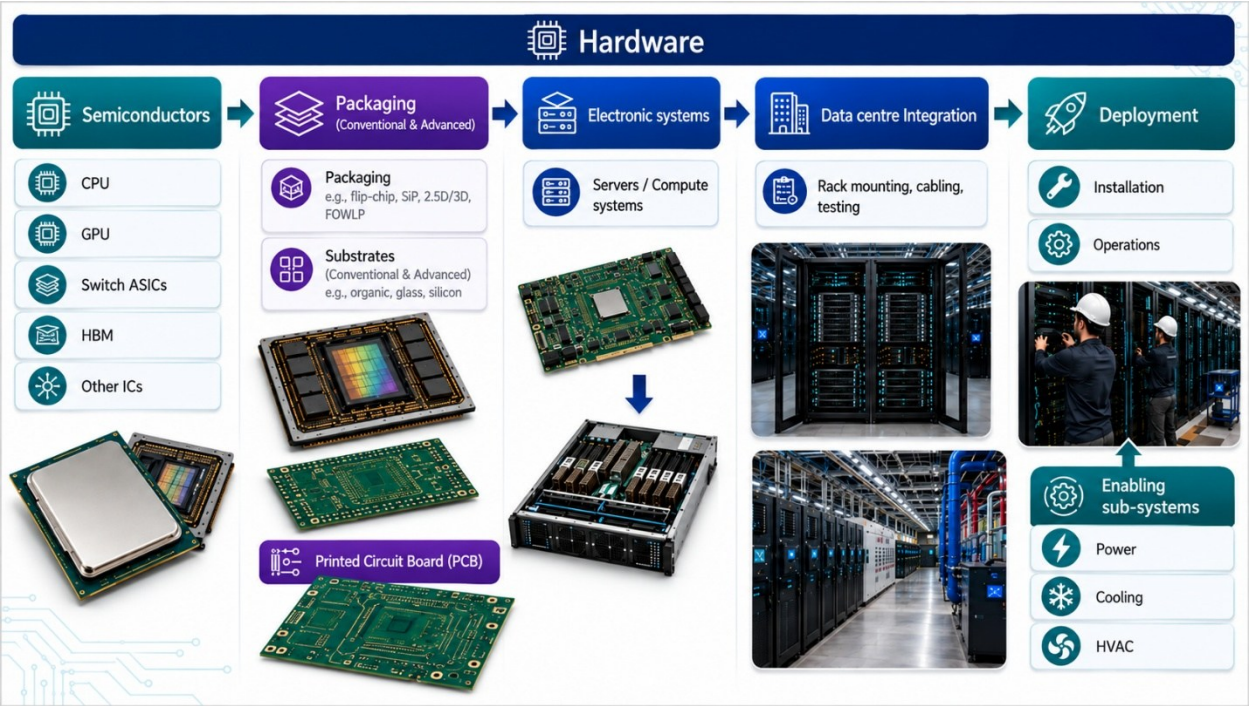
I. Data Centre, Cloud and AI: A Strategic Value Chain

A. Understanding the Value Chain

Data centre infrastructure is manufactured through a multi-layer electronics value chain. It begins with semiconductors, where four categories of chips lie at the heart of value creation in AI data centres: Central Processing Units (CPUs), which manage general-purpose computing; AI accelerators, which accelerate AI training and inference workloads; High-Bandwidth Memory (HBM), which provides the high-speed memory required by AI workloads; and switch Application-Specific Integrated Circuits (switch ASICs), which enable high-bandwidth networking between servers and accelerators.

These four categories account for the bulk of semiconductor value generated towards AI, cloud and data centres infrastructure. A fifth category — grouped in the chart below as "Others" — encompasses a broader range of enabling chips, including power management, photonic interconnects, connectivity, security, and sensing components. The distinction matters: European companies hold meaningful positions in that enabling layer but are largely absent from the four high-value categories at the centre of AI data centre economics. Europe is present at the margins of the semiconductor layer and largely missing from its core — a pattern that, as this report demonstrates, repeats itself across every critical layer of the data centre value chain, from circuit board fabrication to server assembly to cloud infrastructure.

Figure 1. The Data Centre, Cloud and AI Hardware Value Chain



Source: DECISION Etudes & Conseil

These chips are then integrated through advanced packaging technologies into high-performance computing modules. This process relies on advanced **IC** substrates, which provide the mechanical support and electrical interconnections required by advanced semiconductor packages.

Packaged components are subsequently integrated onto printed circuit boards (PCBs), which provide the structural and electrical framework of servers and their subsystems. PCB production, in turn, depends on its own industrial base of materials, chemicals, and specialised equipment that directly affects lead times, quality, and resilience.

PCBA and EMS: Where Chips Become Servers

The critical conversion point of the chain is printed circuit board assembly (PCBA) – the stage at which semiconductors and other components are mounted, assembled, inspected, and tested into functional electronic assemblies (leading to electronics systems in the figure above). This work is typically performed by electronic manufacturing services (EMS) providers, which deliver the manufacturing execution, process control, and test capabilities required to industrialize complex electronics systems at scale.

Once assembled, server racks are shipped to dedicated data centre integration facilities, where they undergo rack integration, cabling, networking configuration and final system testing before deployment.

The final stage of the hardware value chain consists of deploying the data centre on site and ensuring its operation.

Beyond server racks, data centres also rely on a range of critical enabling subsystems, including electrical power infrastructure, Heating, Ventilation and Air Conditioning (HVAC) systems, and liquid and air-cooling solutions. These systems are essential to the functioning of AI data centres.

Once the hardware infrastructure has been deployed, the value chain extends beyond electronics manufacturing to encompass cloud infrastructure, software, and digital services, as illustrated in the figure below.

Figure 2. The Data Centre, Cloud and AI End-to-End Value chain



Source: DECISION Etudes & Conseil

The first layer consists of **cloud infrastructure**[1], which provides the computing, storage and networking resources on which applications are deployed. These cloud platforms orchestrate the underlying data centre infrastructure and make computing resources available to users and developers.

Built on top of this infrastructure are **AI foundation models**, such as Large Language Models, which provide general-purpose capabilities that can be adapted to a wide range of applications. These models are complemented by **AI vertical-specific models**, trained or fine-tuned for particular industries or use cases, such as defence, manufacturing, healthcare or mobility. These models rely on **data infrastructure** to collect, store, process and manage the data required for training, fine-tuning and inference.

Finally, these different software layers are integrated into **Software-as-a-Service (SaaS)** applications, which deliver AI-enabled services directly to end users and organisations.

Together, the hardware, software and service layers form an end-to-end value chain spanning from semiconductor manufacturing to final AI applications.

[1] Infrastructure-as-a-Service (IaaS), and Platform-as-a-Service (PaaS).

B. The Main Growth Driver Among Electronics Verticals by 2030

The global electronics industry is organised around two broad demand categories.

- **Embedded (professional) systems** integrate electronics into industrial equipment, vehicles, telecommunications networks, aerospace and defence platforms, and health and care equipment; servers belong to this category.
- **Stand-alone (consumer) systems**—smartphones, consumer PCs, televisions, and home appliances—constitute the second. Historically, consumer systems drove headline volume growth; today, that dynamic has reversed.

Since 2024, servers, driven by AI applications, have become the primary growth driver of the electronics industry, surpassing all other segments. This surge in demand appears durable, to the extent that **DECISION forecasts servers to become the largest electronics segment before 2030, ahead of smartphones or automotive electronics.**

According to the WSTS[2], the global semiconductor market is expected to increase by $715 billion in 2026 (+90% year-on-year), largely driven by demand from the data-centre end market and by price inflation across the sector. If confirmed, this would make servers the largest electronics segment from 2026 onwards, representing the largest value increase ever recorded in the electronics industry.

Current growth is not solely the result of price inflation. Shipment volumes are also increasing at double-digit rates, pointing to strong underlying demand until at least mid-2027. The long-term sustainability of this momentum remains uncertain, particularly in light of energy constraints and the risk of an investment bubble.

Europe is no exception. The European installed base of colocation capacity grew by 18% in 2025 according to CBRE[3]. Over the same period, **vacancy rates fell to historic lows,** while **AI-related ("neocloud") signings more than trebled year-on-year**[4].

Finally, as illustrated in the figure below, the server market itself is divided into several end-user segments, each with distinct market dynamics. Although all segments are experiencing strong growth, the booming of the sector is primarily driven by AI-native companies developing foundation models (such as OpenAI) and by neocloud providers offering GPU-as-a-Service (GPUaaS) solutions (such as Nebius).

Figure 3. Server Market Segments



Source: DECISION Etudes & Conseil

[2] WSTS Spring 2026 Forecast

[3] CBRE tracks the installed base of colocation capacity across fifteen European markets. The installed capacity rose from **4,726 MW at end-2024**, to a projected **~5,597 MW at end-2025** (CBRE, European Data Centres).

[4] From 133 MW to 414 MW in the first nine months of 2025, according to CBRE, *European Data Centres Q3 2025*.

C. The Most Strategic Vertical for EU Technological Sovereignty

In 2026, technological sovereignty has become a strategic imperative for the EU. According to the EU Chips Act 2.0, its "*aim is to preserve Europe's ability to choose its own path, reduce excessive dependencies and ensure that critical digital infrastructures and technologies remain secure, resilient and aligned with European values*".

As digitalization increasingly permeates all sectors of the economy, the data centre, cloud and AI vertical has emerged as the most strategic for EU technological sovereignty among electronics ecosystems.

From a security-of-supply perspective, data centres constitute the critical infrastructure on which the largest number of essential services now depend — including energy generation and grid management, banking and financial infrastructure, healthcare, defence, and public administration. A disruption to data centre supply is no longer a technology sector problem; it is a whole-of-economy risk.

Beyond continuity, cloud infrastructure and AI are reshaping the conditions of industrial competitiveness itself. Cloud platforms — initially deployed for information technology applications — are now integral to the design, manufacture, and operation of physical goods, through the deployment of cloud-to-edge architectures and industrial digital twins. AI, deployed on those platforms, is accelerating this transformation: from the optimisation of manufacturing processes and supply chains to the development of autonomous systems and next-generation industrial equipment.

In this sense, AI and data centre infrastructure are not only a vertical to be served — they from the underlying platform on which European industrial competitiveness in every other sector increasingly depends.

No other electronics vertical presents this scope of cross-sectoral criticality. Automotive electronics support one industry; telecommunications infrastructure enables connectivity. AI and digital infrastructure undergird the entire modern economy.

Finally, the industrialization of Europe's quantum chip ecosystem and the development of European capabilities in advanced processors also depend on the emergence of a strong European data centre industry.

II. Despite Strong and Growing European Demand, Europe Captures Only a Marginal Share of the Value

Herein lies the strategic gap. The demand pull is European; the supply is not. The bulk of this expanding capacity is being equipped by global technology leaders, with major shares of the underlying manufacturing taking place outside the Union, while EU-based manufacturing of server systems has remained broadly flat[5]. Europe is thus building the most strategic electronics vertical of the decade on its own soil yet capturing only a fraction of the industrial value it generates.

A. Europe Preserves Strong Positions at the Edge of the Value Chain

The figure below positions the European Union along the value chain.

European semiconductor companies occupy important positions in several enabling technologies without which data centres could not operate, including power management, photonic interconnects, connectivity and networking support, security ICs, and sensing and monitoring chips. However, these components represent only a minor share of the overall value generated by AI data centres. They are grouped under the category "Others" in the figure below.

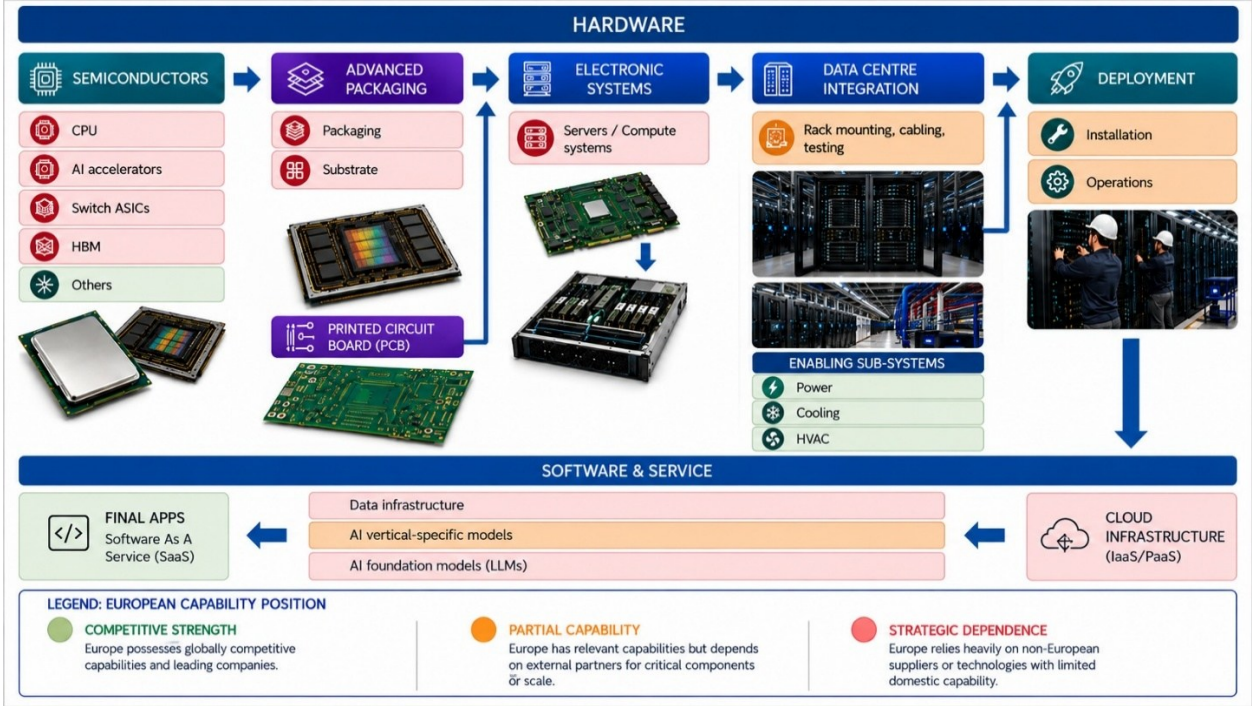
Similarly, European electronics systems manufacturers (OEM) hold strong global positions in enabling sub-systems, notably power infrastructure, cooling systems and Heating, Ventilation and Air Conditioning (HVAC) equipment, with players such as Schneider, Siemens, ABB, Rittal, Legrand, Socomec, Stulz, and Munters.

Europe also benefits from a strong end-user ecosystem, with globally competitive companies in Software-as-a-Service (SaaS) and IT services, with specific expertise in industries such as manufacturing, energy and utilities, healthcare, and finance.

[5] Eurostat Prodcom.

These strengths should not be underestimated. However, they are concentrated at the edge of the value chain. Europe remains largely absent from the layers where most value is created.

Figure 4. Europe's Strengths and Weaknesses in the Data Centre, Cloud Infrastructure and AI Value Chain



Source: DECISION Etudes & Conseil

Europe lacks companies capable of either designing or manufacturing the most advanced semiconductors for AI data centres, including CPUs, AI accelerators, switch ASICs and High-Bandwidth Memory (HBM), despite the presence of a dozen innovative fabless semiconductor companies.

The situation is similar in advanced packaging. AT&S stands out as the only significant European player, positioned to supply IC packaging, IC substrates and printed circuit boards (PCBs) for the data centre value chain in cooperation with global technology leaders. Beyond AT&S, the European ecosystem remains extremely limited, creating significant security-of-supply risks.

The same observation applies to electronic systems manufacturing (PCBA and server rack manufacturing). Only a handful of European OEMs—notably Bull and 2CRSi—specialise in AI servers and high-performance computing systems. Most server manufacturing in Europe is currently carried out by global Electronics Manufacturing Services (EMS) companies producing on behalf of U.S. OEMs.

Europe hosts a larger number of facilities dedicated to data centre integration. These should not be confused with server manufacturing plants, as they mainly perform rack integration, cabling, testing and commissioning, and remain highly dependent on the supply of servers and electronic systems manufactured elsewhere. Similarly, Europe benefits from a well-established ecosystem of data centre engineering and installation companies, including Mercury Engineering, SPIE, Kirby, ENGIE, Bouygues, VINCI and Coromatic. Although these activities represent significant industrial capabilities, they remain largely dependent on global technology companies that retain customer relationships, system architectures and overall control of the value chain.

Cloud infrastructure constitutes another structural weakness of the European ecosystem. The market remains overwhelmingly dominated by U.S. hyperscalers, although a number of European providers—including OVHcloud, IONOS, Leaseweb, Scaleway and OUTSCALE—are gradually strengthening their positions.

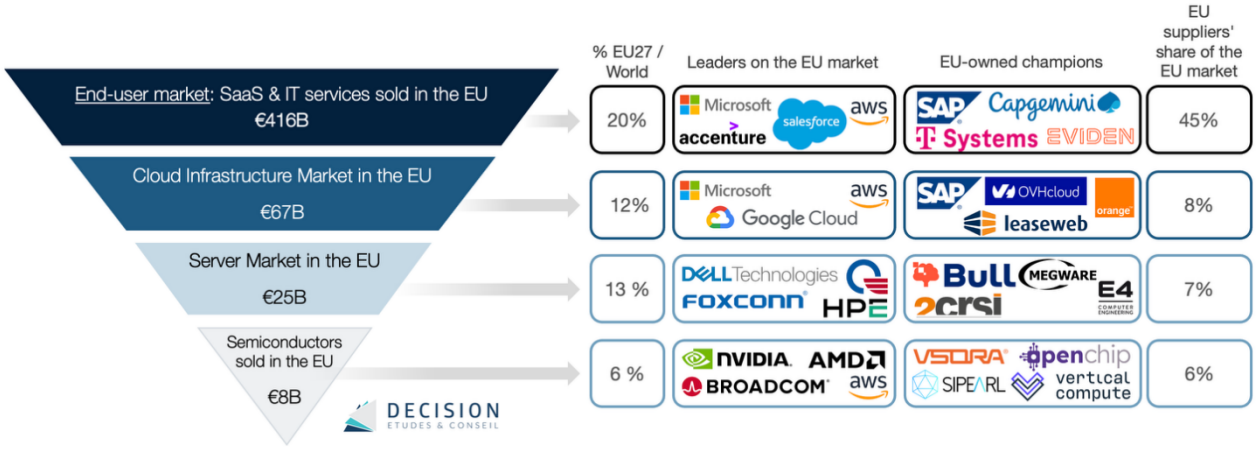
Finally, data infrastructure and AI foundation models are overwhelmingly dominated by U.S. companies, despite the emergence of European players such as Mistral AI. European companies tend instead to specialise in AI vertical-specific models, leveraging deep sector expertise, while increasingly facing competition from rapidly improving foundation models.

B. Global Leaders Control the Core Value Drivers

The figure below illustrates the EU27 market across four key layers of the data centre, cloud and AI value chain.

The EU end-user market, proxied by SaaS and IT services, remains substantial. With €416 billion in revenue in 2025, the EU is the world's third-largest market after the United States and China, accounting for around 20% of global demand. Although non-EU headquartered companies have a larger market share, European firms still account for 45% of the market, with Europe home to several market leaders.

Figure 5. The European Data Centre, Cloud Infrastructure, and AI Value Chain in 2025



Source: DECISION Etudes & Conseil

The picture is markedly different across the three core layers of the value chain: cloud infrastructure (IaaS/PaaS), servers (electronic systems), and semiconductors.

Owing to the dominant position of global technology leaders—starting with U.S. hyperscalers in cloud infrastructure—EU companies capture only **8%** of the EU cloud infrastructure market, **7%** of the EU market for server manufacturing and assembly, and **6%** of the EU market for data centre semiconductors.

With such limited shares of their own domestic market, European companies struggle to reach the scale required to build a competitive industrial ecosystem—let alone compete successfully in export markets.

C. Global Manufacturers Operating in Europe Provide Critical Capabilities and Know-How

The limited market share of EU-headquartered companies does not mean that Europe is entirely devoid of manufacturing capabilities in the data centre value chain. A significant part of the server manufacturing capacity currently located in the EU is operated by non-EU companies. In particular, global Electronics Manufacturing Services (EMS) providers play a central role in assembling the electronic systems and server infrastructure deployed in the European market.

This is particularly visible at the PCBA and server manufacturing stages of the value chain. While Europe has only a limited number of EU-headquartered companies capable of manufacturing server systems, global manufacturing groups such as Foxconn, Flex and other leading EMS providers operate manufacturing activities in Europe. Predominantly headquartered in the United States and Taiwan, these manufacturers operate mainly in Central and Eastern Europe, with production concentrated in the Czech Republic and additional manufacturing activities in Slovakia, Hungary, Poland and Romania.

Their contribution extends beyond manufacturing capacity alone. Producing complex server systems at scale requires significant industrial know-how, including:

- High-complexity PCB assembly and server manufacturing;
- Testing, validation and quality assurance;
- The industrialization of advanced designs for high-volume manufacturing.

In these areas, the EU-headquartered ecosystem does not currently possess capabilities at a scale comparable with that of the world's leading server manufacturers.

The distinction between the nationality of companies and the location of their industrial capabilities is therefore important when assessing Europe's position in the data centre value chain. While EU-headquartered companies have only limited positions in server manufacturing, part of the manufacturing capacity and know-how available within the Union is provided by global technology leaders operating European production facilities.

However, even when these capabilities are taken into account, Europe's overall manufacturing footprint remains limited relative to the size and growth of its domestic market. As European demand for data centre infrastructure continues to expand, this imbalance is becoming increasingly pronounced.

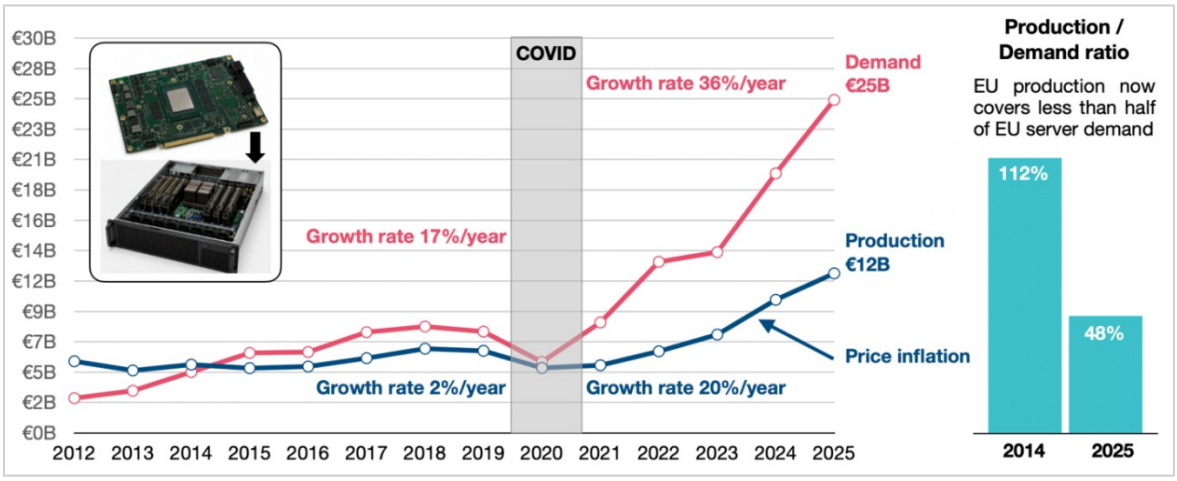
III. Europe is Failing to Convert Domestic Demand into Industrial Growth

As a result of the lack of European control over the value chain, the gap between EU demand for server systems and EU domestic manufacturing continues to widen.

As illustrated in the figure below, this long-standing trend has accelerated with the AI boom since 2024. Between 2012 and 2019, EU demand was already growing at an annual rate of 17%, while domestic manufacturing increased by only 2% per year. Since 2021, following the COVID-19 pandemic, demand has been growing at an annual rate of 36%, compared with 20% for domestic manufacturing.

To better understand these figures, one should bear in mind that they are expressed in value rather than volume and therefore reflect not only growth in units, but also price inflation. According to DECISION, while EU demand is increasing in both volume and value, the growth in EU production is driven almost entirely by rising semiconductor prices since 2021. In other words, although Europe is deploying an increasing number of data centres with ever greater computing capacity, domestic production of server systems—including PCBA and server rack manufacturing—has remained broadly flat in volume terms.

Figure 6. Server demand and domestic production in the EU27, measured in market value (€B)



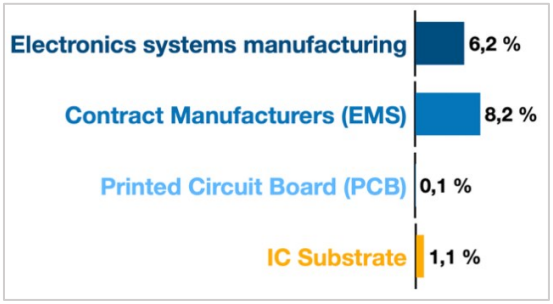
Production based on Eurostat Prodcom data covering server PCB assembly and final server assembly in the EU.

Source: DECISION Etudes & Conseil

As a consequence, the EU production-to-demand ratio has declined sharply. While domestic production exceeded domestic demand in 2014 (112%), it covered only 48% of EU demand in 2025. This continuing decline illustrates Europe's growing difficulty in converting domestic demand into industrial growth.

As the gap between demand and production widens, imports continue to increase, along with Europe's dependence on third countries. China is the EU's main source of server imports, followed by the United States and Taiwan. This import structure reflects the current value chain serving the European market, in which U.S. technology companies rely primarily on Taiwanese manufacturers with production concentrated in mainland China.

In the current geopolitical context, this represents a significant security-of-supply risk for the European Union. Because Europe depends on a value chain combining U.S. technology providers with manufacturing concentrated in China, any further escalation of U.S.-China tensions—including deeper technological decoupling—could significantly disrupt the supply of server infrastructure to the European market.



Europe's limited capacity to manufacture and assemble data centre infrastructure therefore constitutes a strategic vulnerability comparable to its dependence on non-EU suppliers of advanced processors.

The consequences of this weakness extend across the entire hardware value chain. In 2025, the following shares of global manufacturing for server infrastructure were located in the European Union.

Figure 7. EU Share of Global Server Production (% share of total), 2025

Source: DECISION Etudes & Conseil

IV. The Importance of an End-to-End Strategy

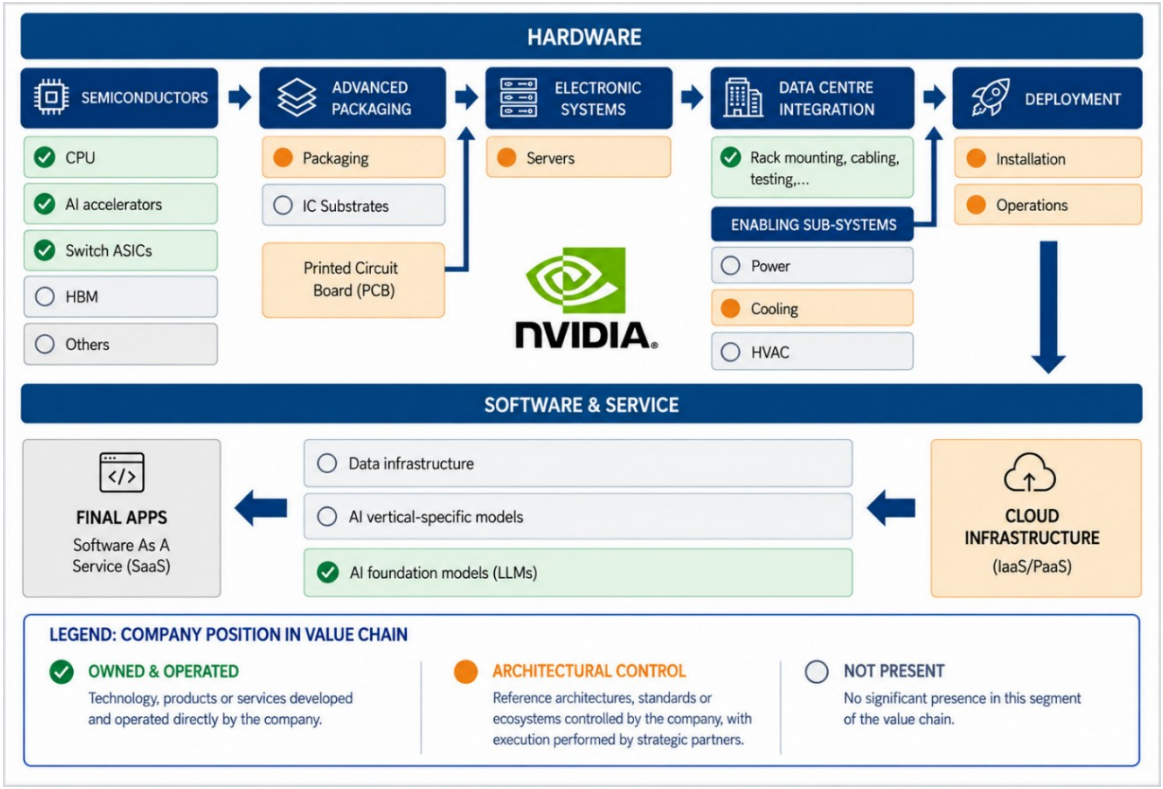
Global market leaders increasingly view data centres, cloud and AI as a single integrated value chain. Rather than competing on a single layer, they pursue end-to-end strategies that create synergies across technologies, strengthen control over key interfaces and standards, and maximise value capture.

Given the fragmentation of the European ecosystem, adopting a similarly integrated approach is essential. Building competitive capabilities at isolated points of the value chain will not be sufficient. Instead, Europe must develop a consistent end-to-end strategy that connects demand, technology development, manufacturing and deployment across the entire value chain.

A. The Use Case of NVIDIA – Expanding Beyond Chips across the Value Chain

The figure below positions NVIDIA along the data centre, cloud and AI value chain. It illustrates how the company has progressively expanded beyond its historical role as a GPU designer. Since the launch of the Blackwell platform in 2024, NVIDIA has increasingly positioned itself as an "AI infrastructure company" or "AI factory provider" rather than simply a semiconductor manufacturer.

Figure 8. Nvidia's Positioning in the Data Centre, Cloud Infrastructure and AI Value Chain



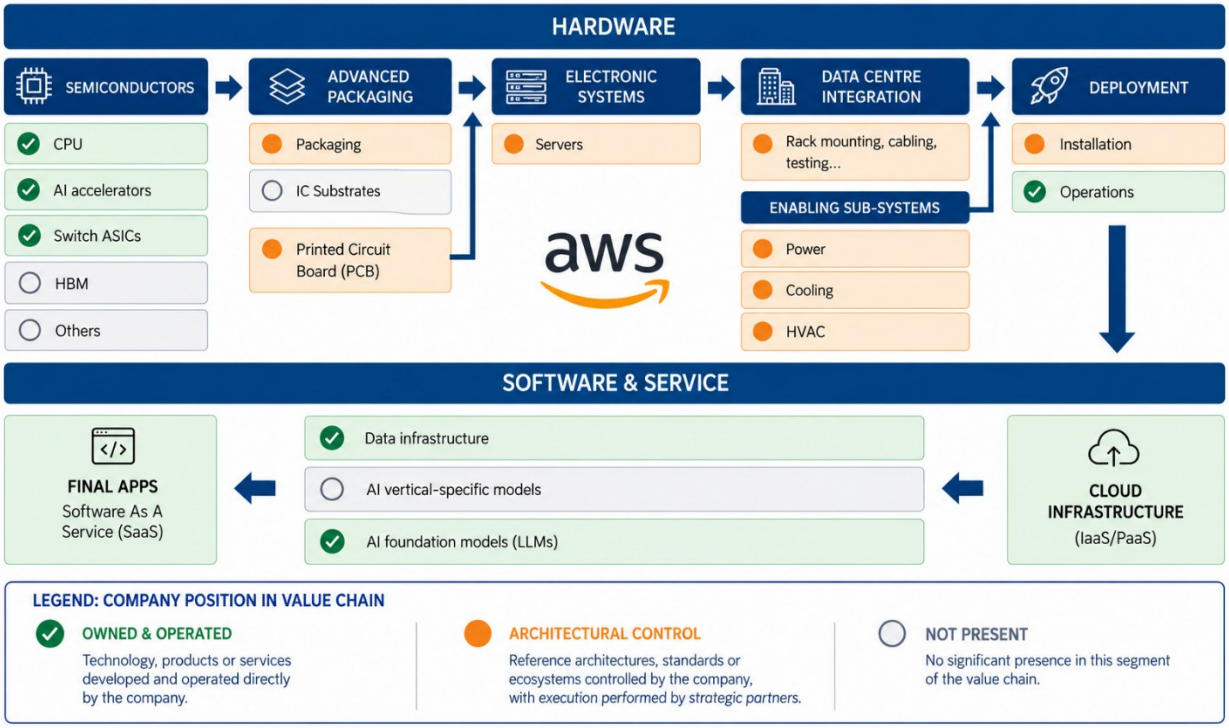
Source: DECISION Etudes & Conseil

Today, NVIDIA occupies strategic positions across multiple layers of the value chain, either directly through its own products and software, or indirectly through its influence over architectures, technical standards, partners and subcontractors.

B. The Use Case of AWS – Expanding Beyond Cloud across the Value Chain

The figure below positions AWS along the data centre, cloud and AI value chain. As with NVIDIA, the figure illustrates how the company has progressively expanded far beyond its traditional role as a cloud infrastructure provider. Today, AWS can be considered an intelligence infrastructure provider.

Figure 9. AWS Positioning in the Data Centre, Cloud Infrastructure and AI Value Chain



Source: DECISION Etudes & Conseil

Beyond cloud infrastructure, the company has progressively expanded upstream into hardware by designing its own semiconductors—including Graviton CPUs (since 2018), Inferentia AI inference accelerators (2018) and Trainium AI training processors (2020). It has also expanded downstream through AI services, foundation models (Amazon Nova), AI assistants (Amazon Q), and an increasingly integrated software ecosystem. Alongside these direct activities, AWS exerts significant influence over system architectures, technical standards, partners and subcontractors across the value chain.

Conclusion

Europe is generating demand that is funding the build-out of the most strategically important electronics vertical of this decade and capturing almost none of the industrial value in return. EU-headquartered companies earn six cents of every euro spent on data centre semiconductors in the European market, seven cents of every euro spent on server manufacturing and assembly, and eight cents of every euro spent on cloud infrastructure. In volume, domestic production of server systems has been broadly flat for years, while demand has compounded at over thirty percent annually since 2021. The gap is structural. It is widening, and it is not self-correcting.

Geopolitics sharpens the urgency. The supply chain currently serving European data centres combines U.S. technology ownership, Taiwanese contract manufacturing, and production concentrated in mainland China. Europe is currently only a marginal participant in that structure, while remaining highly exposed to and dependent on it. Any further escalation of technological decoupling between the United States and China runs directly through the infrastructure on which European financial systems, energy networks, healthcare, and defence capabilities operate.

A. Building an End-to-End European Strategy

The central conclusion of this report is that Europe cannot build a competitive data centre, cloud and AI ecosystem through isolated interventions at individual stages of the value chain. Semiconductors, advanced packaging, PCBs, electronic systems manufacturing, data centre infrastructure and cloud capabilities are increasingly interconnected, while global technology leaders themselves pursue integrated strategies spanning multiple layers of the value chain. Europe therefore needs an **end-to-end strategy** that connects demand, technology development, manufacturing and deployment across the entire data centre, cloud and AI value chain.

The Chips Act 2.0 and the Cloud and Artificial Intelligence Development Act represent the most significant expansion of European industrial policy in electronics since the original Chips Act. For the first time, printed circuit boards, electronic manufacturing services, advanced packaging, and substrates sit alongside semiconductor fabrication as explicit targets of European industrial strategy. That is the right scope. And other industrial policy instruments will need to match it.

Within this overarching end-to-end strategy, **Europe should pursue two complementary objectives**:

- Leverage the scale and growth of its domestic demand to support the development of a European value chain.
- Where the technologies, manufacturing capabilities and industrial know-how required to develop capabilities are currently held by global leaders headquartered outside the Union, Europe should seek to leverage their presence, investment and expertise to strengthen the industrial ecosystem located within the EU.

B. Leverage European Demand to Develop a European Value Chain

Europe's strongest immediate industrial policy asset is the scale and growth of its domestic demand. CADA's ambition to at least triple European data centre capacity within five to seven years will generate unprecedented demand for servers, electronic assemblies, circuit boards, substrates, and chips. That demand is the single most powerful instrument available to European industrial policy — but only if it is actively leveraged to support the development and scaling of European companies and value chains.

This requires scaling up the use of demand-side instruments — most notably innovation procurement and non-price criteria in the public procurement of AI and cloud services — and deploying them at a level commensurate with the scale of the market.

Crucially, these measures should be designed from an end-to-end perspective. Demand generated downstream through cloud infrastructure, AI factories and data centre deployment should be used to create industrial opportunities upstream for server manufacturers, EMS providers, PCB producers, semiconductor companies and their respective supply chains. European demand should therefore become a lever for developing the value chain as a whole, rather than supporting individual segments in isolation.

C. Leverage Global Leaders' Technology and Know-How to Build Capabilities in Europe

Developing an end-to-end European value chain, however, cannot realistically rely on EU-headquartered companies alone. As this report has shown, several of the technologies and industrial capabilities required to manufacture advanced data centre infrastructure at scale are currently concentrated among global leaders headquartered outside the European Union.

This is notably the case in electronics manufacturing. Global EMS providers account for most of the server manufacturing capacity located within the Union. Their contribution goes beyond physical production capacity: these companies bring industrial technologies and know-how—including high-complexity PCB assembly and server manufacturing, testing and validation, and the industrialization of advanced designs at scale—that are not currently available within the EU-headquartered ecosystem at comparable scale.

An end-to-end European strategy should therefore seek not only to develop and scale EU-headquartered companies, but also to deepen the contribution of global technology and manufacturing leaders to the European industrial ecosystem. **An "open investment, local manufacturing" approach should encourage global leaders to expand production and industrial capabilities within the Union, while meeting European requirements on security, resilience and sustainability.**

European policy should seek to use the attractiveness and growth of the EU market to encourage global leaders to expand their manufacturing footprint in Europe. This can include cooperation with European technology companies and research organisations, workforce development, and the diffusion of manufacturing know-how throughout the European electronics ecosystem.

The objective should be to progressively anchor a greater share of the end-to-end value chain within Europe, combining the development of EU-headquartered companies with the technologies, investment and industrial capabilities of global leaders.

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