

The graphic features the AlixPartners logo in white on a dark blue background. To the right, there is a complex, glowing blue circuit-like pattern. Below the logo, the date 'Friday 24 November 2023' is written in white. The main title 'EUROPEAN LEADERS' SEMICONDUCTORS SYMPOSIUM' is prominently displayed in large, bold, white capital letters.

AlixPartners

Friday 24 November 2023

EUROPEAN LEADERS' SEMICONDUCTORS SYMPOSIUM

Discussion themes

Governmental incentives and regulations:

Clear direction from the German chancellor: “**I very much want these investments** in Eastern Germany to deliver in Magdeburg, in Dresden and in the Saar region. These are crucial signals for all our futures. Parliamentary process means we cannot make any definitive statements yet.”

To attract skilled labour European migration laws have been adjusted to be far more streamlined, less bureaucratic, more predictable and much quicker.

Sector supply chains will become much more localised, while investments in the semiconductor sector will attract jobs in related industries. Each job in the semiconductor industry will create ~ 7 jobs in related areas in the value chain e.g. Intel’s 30-year presence in Ireland has delivered a network of 700 suppliers in the country.

The semiconductor industry has doubled every two years for the past 60 years, and this has been possible exclusively through **innovation**. Governments will be able to **create boundary conditions for individuals**, allowing success for entrepreneurs.

Careful balance is needed for investment into semiconductor infrastructure: we do need mature nodes but – for example – ten years from now the car will be a software driven platform that drives autonomously, so “compute, compute, compute”.

It is imperative for the EU to **improve speed to market** e.g., via cutting planning permission timelines, and the faster build of fabs. Strong European references do exist.

Semiconductor market and economic cycles:

Our industry is both **influenced by various megatrends, and we influence the megatrends** (digitization, electromobility, autonomous driving, etc.); we expect to reach **market size of 1 EURtr by ~ 2030**.

Europe is the global hub for mature nodes chips: maintaining this will maintain our edge in Automotive and Industrial segments. However, we must not disregard leading node technology such as EV, ADAS, Connected devices, Industry 4.0 and AI/Generative AI, as

these trends will continue to spur growth in the industry. EU companies require some level of localisation and independence to drive innovation.

Fundamentally **all market trends are directly linked to the semiconductor industry** with AI a prime example as more powerful chips solve more complex problems.

ESG and decarbonization will be long-term trends despite the short-term issues we face in this multi-crisis environment.

Slight recovery seen from the last dip albeit dependent on specific sector e.g. an uptick in smartphone sector driven by India and emerging markets, while Automotive remains strong. Europe and China show growth (China successfully making 30mill Huawei smartphones built with 7nm technology).

China's determination to be self-sufficient is not to be underestimated. Europe should "lean into China, we cannot afford to lean out of it".

Europe offers the optimum foundation for a strong semiconductor industry with dominance in Automotive, Electronics, Chemicals; however **stronger collaboration across the entire value chain is required** to accelerate sector growth in Europe.

China's ambitions to be the key global player means **innovation is no longer possible without China**.

Sustainability, ESG and economic ambitions must go hand-in-hand:

Aside from geopolitical tensions, **security and privacy issues** are growing.

Decarbonisation will come at a cost, but for every 1 tonne of CO2 emitted through semiconductor manufacturing, five tonnes of CO2 are saved downstream through efficiencies. The climate crisis requires us to move fast.

AI will continue to drive demand for semiconductors, but equally AI is core to the sector offering as exponential intelligence and versatility is required on their vertical stacks.

Supply chain "trilemma": How the sector balances support for climate change and **sustainability**, alongside unavoidable demands of **affordability** and **availability**.

Local-for-local may benefit sustainability, but it can also create **"redundant" capacities** which presents the balancing challenge of respective investment demands versus local production capacities.

Relationships are evolving across the value stream: Semi OEM to Tiers to Automotive OEMs are shifting away from cost breakdowns to **integrated partnership models with a focus on joint software development and forecasting**.

These partnerships require **mutual understanding**; strong examples seen include research institutions defining design standards for Power Electronics, EDA, smart manufacturing; whilst competitive fast movers in Chinese automotives grab market share and build local semiconductor capacities in mature nodes.

Question on the table: **how do we create better collaboration and partnership** between the players in the value chain, including design companies, manufacturers., distributors, packaging/EMS/Tier-1s and customers?