Brussels, 12 January 2026

From engineering excellence to smart manufacturing: Industrial AI as the bridge to Europe's digital future

Author: Wolfgang Weber, CEO, ZVEI

i.AM certain: Artificial Intelligence is already transforming European industry.

In manufacturing, AI enables machines to learn from data, predict failures, optimise production and improve product quality. This is what we call Industrial AI: the application of artificial intelligence in industrial environments to automate, optimise and secure value creation.

Europe has a unique opportunity to lead this transformation as pioneers of 'Industry 4.0', the fourth industrial revolution. Our continent combines deep industrial know-how and vast data treasures with strong digital capabilities: a combination few regions in the world can match. Europe's strength lies in its enabling industries, particularly microelectronics, sensors, and automation technologies, which provide the physical and digital backbone of Industrial AI and AI based robotics, leading the global era of software-defined manufacturing.

Globally, Industrial AI applications and services already generate a market value of around **€50 billion**, expected to grow to **€380 billion by 2035.** In Germany, studies show that AI could add up to €140 billion in value creation to the German economy and boost productivity growth to 1.2 percent annually in the 2030s.

Despite this potential, Europe's regulatory landscape in this area is becoming increasingly complex and inconsistent. The number of digital regulations has grown exponentially, often overlapping or contradicting each other. One in three industrial companies in Germany using Industrial AI applications already sees EU rules as a serious obstacle to AI adoption. Alarmingly, 42% consider investing outside the EU as a result, resulting in Europe losing time and momentum.

Here is what needs be done:

Industrial AI is already regulated through European product safety laws such as the Machinery Regulation or the Medical Device Regulation as part of the New Legislative Framework (NLF).

In these cases, the AI Act creates confusion, double regulation, and bureaucratic burdens without improving the safety for users. Industrial AI should thus be exempt from redundant horizontal AI regulation. Equally

crucial is a new regulatory perspective on the data economy. Industrial AI thrives on trusted data collaboration across value chains. European initiatives like Manufacturing-X show the way forward, since they provide open, secure and fair data spaces for manufacturing. The upcoming EU data legislation should ensure that B2B industrial solutions are not overregulated. For instance, data sharing obligations should only apply where markets fail to function efficiently.

Europe must also enhance the right infrastructure that combines AI gigafactories with advanced data centres and EdgeAI, and it should support the suppliers that make these technologies scalable. Rather than focussing on specific parts – such as LLMs and H100 GPUs – politics should take a holistic view that strengthens the electrical and digital infrastructures so that newly planned data centres are certain to be connected in time to data and electricity grids at competitive prices.

Europe's Industrial AI leadership also depends on resilient access to high-performance computing, advanced chips, and resilient supply chains.

The i.AM campaign by Orgalim captures this ambition perfectly: **We are advancing manufacturing. Enabling a software-defined industry through Industrial AI is the next big step.**

About the author

Wolfgang Weber has been CEO of ZVEI e. V., based in Frankfurt am Main (Germany), since 2020. The ZVEI represents the common interests of the electrical and digital industry and associated service companies in Germany and internationally. The association has more than 1,100 member companies and 170 employees in the ZVEI Group. The electro and digital industry is one of the most innovative economic sectors in Germany. Every year, the industry spends 22 billion euros on R&D and more than nine billion euros on investments.

Orgalim represents Europe's technology industries, comprised of 770,000 innovative companies spanning the mechanical engineering, electrical engineering, electronics, ICT and metal technology branches. Together they represent the EU's largest manufacturing sector, generating annual turnover of over €2,750 billion, manufacturing one-third of all European exports and providing over 11 million direct jobs. Orgalim is registered under the European Union Transparency Register – ID number: 20210641335-88.