

Artificial Intelligence

Taking innovation and the chip industry to the next level

www.infineon.com/ai

Artificial Intelligence is key for the digital transformation

Artificial Intelligence (AI) is a cross-sectional technology with a particularly high innovation potential. It will make a significant contribution to the digital transformation and decarbonization of businesses and society at large. The term “AI” encompasses several techniques and systems which work as smart assistants for humans, and application fields range from autonomous driving and energy efficient infrastructure to medical diagnostics, smart manufacturing, cybersecurity, and beyond.

Infineon’s EdgeAI approach enables energy-efficient and secure processing of data

The execution of AI algorithms often leads to high power consumption. Infineon’s EdgeAI solutions provide a resource-efficient alternative. EdgeAI processes and learns from data on the device, which means that it is not necessary for that data to be transferred to the cloud on central servers. In addition to more efficient use of energy and bandwidth, this also enables real-time operation of the AI application with lower data transmission volumes. EdgeAI also offers many advantages in terms of data protection and security, as data is no longer stored on external servers and is thus better protected against unauthorized access. Infineon’s semiconductor products make AI applications more robust, energy-efficient and safe. We not only provide EdgeAI to customers, but also use it internally to improve our processes. For instance, we use an EdgeAI camera in our manufacturing process to detect foil residues on wafers. This allows us to discover faulty products early on via automated image evaluation, which in turn decreases our quality assurance process from one day to 20 minutes.

Semiconductors are the foundation of AI applications

AI has the potential to sustainably change the social, economic, and ecological landscape. The semiconductor industry has a special role to play here, as semiconductor solutions make it possible to harvest AI’s enormous potential. This is why Infineon is committed to being a trusted expert in the AI journey, whether in politics, society, or the business world. We want to leverage our engineering and product know-how in a way that ensures the value-oriented development of AI works for the benefit of society. This includes advisory activities in academies and government bodies, and also an active role in industry associations and the further development of its own AI competencies:

- Chairmanship of the Federation of the German Industry (BDI) working group AI & Autonomous Systems
- Executive Board membership in the AI working group of the BITKOM association
- Founding member of the appliedAI initiative at UnternehmerTUM
- Establishment of two internal expert hubs: Infineon’s AI Center of Excellence in Munich, and Infineon’s Automotive Electronics and Artificial Intelligence development center in Dresden

Active engagement…

- in Germany’s Platform for Artificial Intelligence founded by the Federal Ministry for Education and Research,
- in the Platform Industry 4.0 founded by the Federal Ministry for Economic Affairs and Climate Action – with a focus on IT Security & AI, and
- in the Charter of Trust Initiative

Lifting the AI policy and ecosystem of Germany and the EU to the next level:



- Simplify academic spin-offs and IP transfer from universities to start-ups (as suggested by SPRIND)
- Enrich secondary and tertiary curricula with AI & software know-how in order to reduce skill shortages and increase strategic resilience
- Create internationally competitive packages for professors, tenure tracks, PhDs, and students in terms of salaries, contract duration, numbers of students per professor, high performance computing capabilities, etc.
- Increase the level of AI excellence and disruptive orientation at universities as well as research and technology organizations



- Strengthen SMEs through effective AI support programs
- Create public-private-partnership models to pool the know-how of academia and industry (e.g., through industry-on-campus models)
- Facilitate the establishment of privately endowed AI chairs at universities
- Boost private AI investments for start-ups and scale-ups (e.g., through co-investment platforms and government venture capital schemes)



- Communicate AI's potential for prosperity and sustainability widely in order to re-balance a risk-driven perception of the topic



- Define clear-cut goals and success metrics for the German and European AI strategy
- Improve access to Open Government Data
- Build up AI know-how within ministries and procurement agencies

If you want to learn more about Infineon AI activities, please visit www.infineon.com/ai