



SOLUTION BRIEF



Optimizing Automotive System Design With Arteris System IP

ARTERIS IP

APPLICATION AREA

- + Automotive
- + ADAS
- + Functional Safety
- + Vision Systems
- + Subsystems
- + Chassis Control

OVERVIEW & GOAL

Arteris is a well-established automotive market leader in ADAS chips with over 70% market share. This market dominance was achieved as a result of car makers licensing FlexNoC and Ncore interconnect technology. The company's inroad into the automotive industry has also been extended to several design wins in infotainment, chassis control, subsystems, vision systems and more.

As a pioneer of network-on-chip (NoC), the company has focused on customers' need for power, performance and area (PPA) requirements. The NoC and system-on-chip (SoC) assembly products enable the interconnection of compute engines ranging from ECUs, CPUs, GPUs, AI, safety islands and peripherals.



ARM IP

- + Cortex-M
- + Cortex-A
- + Cortex-R
- + Ethos-U
- + Mali GPUs
- + Ethos-N
- + Mali ISPs
- + System IP
- + Security IP
- + Physical IP
- + Hardware Development Tools
- + Software Development Toolkit
- + Subsystem

ARTERIS IP

- + FlexNoC
- + Ncore
- + Arteris System IP

Furthermore, Arteris enables design teams to meet functional safety requirements necessary for ISO 26262 compliance and documentation. This technology provides a heterogeneous solution addressing the needs of complex SoCs.

CHALLENGE

The automotive industry is advancing at a staggering pace, and consumers now insist on automation and advanced user interfaces (UIs). Automated safety features are now expected requirements, and infotainment offerings strongly influence consumers' final buying decisions. To meet these technology demands, a typical automobile has between 20 and 30 complex SoCs that require high-speed and low-latency localized compute. Although distributed, these SoCs within the automotive system must be designed to work together while meeting timing and latency constraints. These trends bring about a unique challenge for automotive SoC developers.

All these features require the latest compute power with multiple screens and interfaces working seamlessly at extremely high speeds. Further compounding the issue, market pressure for new features is drastically shortening the multi-year automotive design cycle.

SOLUTION & BENEFITS

Arteris specializes in the system IP and SoC assembly required by automotive design teams to meet rapidly evolving technologies. The products enable customers to deliver the increasingly complex automotive SoCs that process sensor data and make decisions based on that information. The company's solutions are vital to bringing AI/ML applications and compute to a full range of vehicle types.

The proven interconnect and system IP enable designers to quickly configure and make trade-offs for PPA to keep pace with pressures in today's automotive market. Utilizing Arteris products provides peace of mind through ISO 26262 compliance, and the advanced technology facilitates the cutting-edge features consumers demand.