SOLUTION BRIEF

Architecting the Future of Automotive SoCs

sondrel

ARM IP

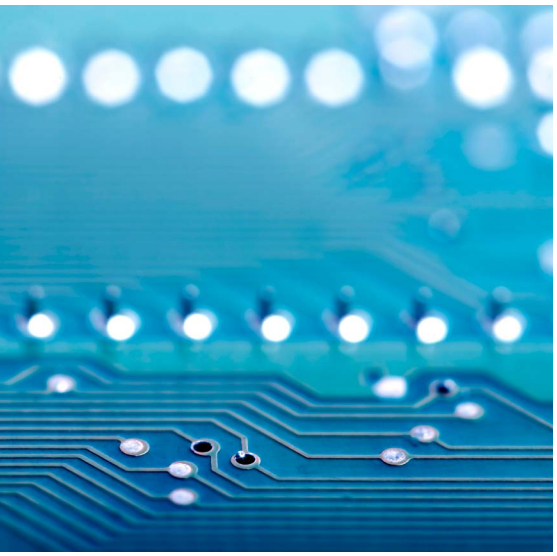
- Cortex-A
- Cortex-A
- Cortex-M
- Cortex-R
- Ethos NPUs
- Mali GPUs
- Mali Image Signal Processors
- Security IP
- Subsystems
- System IP
- Automotive Enhanced IP

OVERVIEW & GOAL

The automotive industry is undergoing a period of rapid transformation, driven by the increasing demand for features such as advanced driver-assistance systems (ADAS), autonomous driving, and electrification. These features require increasingly sophisticated system-on-chip (SoC) designs, which is where Sondrel and the partnership with Arm comes in.

Our team of experienced engineers has deep expertise in automotive SoC design, including:

- Accelerate time-to-market: Bring innovative new products to market quickly and efficiently.
- Heterogeneous processing: Automotive SoCs require a combination of different types of processors, such as CPUs, GPUs, NPU's and image signal processors (ISPs). We have demonstrable experience in architecting SoCs



APPLICATION AREA

- ADAS
- Automotive
- Autonomous Vehicles
- Digital Cockpit (IVI)
- Functional Safety
- Software Defined Vehicle (SDV)

for data processing intensive applications such as machine vision, 4K video processing and AI/ML inferencing.

- Functional safety: Compliance with ISO26262 FuSa standard applied to design, verification and documentation
- Security: Protecting an automotive SoCs from unauthorised access during operation or OTA (over-the-air) updates has very serious implications so it is critical to design in security.

CHALLENGE

Developing a many-core compute system ASIC that meets the demanding requirements of applications such as zonal ADAS controllers or infotainment requires a deep and extensive pool of knowledge and experience. Functional Safety is critical for the former whilst the later must deliver exceptional user experience for the new car buyer comparable, or better, than that provided by the smartphone in their pocket.

Both present a challenge in SoC processor performance and time-to-market. Having both automotive expertise and a comprehensive IP portfolio at hand is critical to establishing architectural options to accelerate the development. Such experience and required design infrastructure is beyond the reach of many ASIC houses without the automotive focus.

SOLUTION & BENEFITS

Sondrel's Architecting the Future™ enables accelerated, predictable design execution. It provides a comprehensive silicon chip design platform for performance modelling, design implementation methodologies, environments and tools. It includes a portfolio of scalable and extendable reference architectures two of which are ADAS-specific and incorporate SO26262 Functional Safety compliance. Each Architecting the Future reference design relies on Arm processor technology including Cortex-A and Cortex-M class processors, System, and Security IP.

And now as part of Arm's Total Design partner semiconductor eco-system Sondrel is bringing its design expertise for automotive solutions to shrink time-to-market.

Partner with Sondrel and unlock the full potential of "Architecting the Future." Let us help you engineer the automotive revolution.

LINKS TO FURTHER RESOURCES

— sondrel.com