

ARM To Drive Automotive Electronics For Information, Performance And Safety In Cars

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AMI Semiconductor, and ARM today announced that AMIS has selected the ARM® architecture for a new range of programmable automotive electronics solutions. AMIS has licensed two ARM7™ family [processors](#) to develop industry-specific solutions that will help improve driver information, in-[car](#) entertainment, body electronics and passenger safety.

The intelligent, low-cost, high-performance ARM7TDMI® and ARM7TDMI-S™ microprocessors will enhance silicon solutions produced by AMIS, including high-voltage interfacing, low data rate wireless solutions, system-level integration and sensor interfaces used by Tier 1 automotive system suppliers worldwide.

Gartner Dataquest's estimates for the automotive semiconductor market in 2002 show a growth of 4.3 percent to US\$13.1 billion. Much of the growth came from semiconductor applications including enhanced powertrain electronics like direct injection engine control units and anti-lock braking systems with an electronic stability program (ESP) or brake booster. Emerging applications that enjoyed healthy demand included airbag accelerometer sensors, rain sensors, ultrasonic parking sensors, telematics and yaw rate sensor integrated circuits (Gartner Dataquest, 'Production surge boots automotive semiconductor market', 17 July 2003).

The new ARM Powered® AMIS solutions will help suppliers and manufacturers improve engine control to meet environmental legislations as well as increase car safety and performance via enhanced powertrain electronics. The first ARM technology-based automotive solutions from AMIS are expected to be available in 2006.

"The ARM architecture overall provides the flexibility we need to create new solutions, and improve on existing ones, for a constantly changing market," said Tony Denayer, senior vice president, product development, AMIS. "The ARM7 family cores suit multiple technologies and can be adapted to specific application requirements, such as low power consumption, low radiation or emission, or they can be optimized for specific high-speed capabilities."

Cost, size and power benefits were other important factors when AMIS chose the ARM7 family. They will now be integrated into user specific integrated circuits (USICs) and application specific integrated circuits (ASICs)) and application specific standard products (ASSPs) to create flexible system-on-chip (SoC) solutions combining mixed-signal and high-voltage functionality, complex digital circuitry and embedded microprocessors in a single chip.

In addition, the flexible nature of the ARM processors means they can be used in AMIS chips for other industrial applications, such as high-end circuit breakers for home safety, or even in aerospace and military applications.

"AMIS provides unparalleled manufacturing adaptability and dedication to its customers," said Wayne Lyons, global automotive segment manager, ARM. "The ARM architecture provides a robust standard, extensively supported by developers across the industry. This infrastructure will help protect AMI Semiconductor's current developments and provide greater re-use of the technology in the vehicle

network, and beyond, to other industries."

The ARM7TDMI-S core will be used in AMI Semiconductor's 0.35 μm , 0.25 μm or 0.18 μm I3T mixed-signal high-voltage solutions, and potentially in its field programmable gate arrays (FPGA) to ASIC conversion solution, XPressArray™.

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