Saab Ericsson Space

PRESS INFORMATION

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Saab Ericsson Space develops System-On-a-Chip solutions for future ESA satellite missions

Saab Ericsson Space in Gothenburg, Sweden, has been awarded two important development contracts by ESA for highly integrated microelectronics to enable even more compact computer system solutions in future missions.

"Our long experience from developing large, complex Application Specific Integrated Circuits (ASICs) convinced ESA that we are the partner to trust in this important development to enable the advanced applications ahead of us in coming missions", says Roland Petersson, leading the development work at Saab Ericsson Space. "We have included Gaisler Research in our team to benefit from their expertise in the Leon processor and in the design library tools (GRLIB IP), to be used in the project", Mr Petersson adds.

- The **COLE ASIC** will merge the Leon2-FT SPARC processor with all bus interface support needed to implement spacecraft processing and control and to control mass memories or payloads. Supported bus protocols will be: SpaceWire ,1553B, CAN, UART, ESA/OBDH and serial synchronous links. The processor core will be supplemented by a Floating Point Unit and a Memory Management Unit. A SpaceWire router will also be included. The ASIC is expected to contain 1,6 million gates.

- The **SpaceWire Remote Terminal Controller ASIC** is a 700 000 gates circuit to be used for controlling scientific instruments and to process their data. Again, the Leon2-FT SPARC processor constitutes the core of this circuit, to serve as a link between a satellite high-speed SpaceWire backbone network and local, low-speed CAN buses serving individual instruments. The ASIC will also contain AD/DA Converter interface, FIFO interface, UART and general purpose bus interfaces.

The ASICs will be manufactured by ATMEL using their radiation-hardened 0,18 micron technology in a multi-project wafer sharing service initiated by ESA.
Prototypes are expected to be delivered 2006.

Saab Ericsson Space has a long successful story of developing ASICs, including complete 32-bit microprocessor cores. The current generation of Data Handling Systems from Saab Ericsson Space includes similar System-On-a-Chip ASICs. Many design elements as well as design methodology and tools can be reused in the contracted work ensuring products with high reliability and a low risk of design flaws.

Saab Ericsson Space is an international, independent supplier of space equipment. The company's main products are computers, microwave electronics and antennas for spacecraft and adapters and separation systems for launchers. The company has its headquarters in Gothenburg, Sweden, a division located in Linköping, Sweden, and subsidiaries in Austria

(Austrian Aerospace) and the USA (Saab Ericsson Space Inc). Saab Ericsson Space has approximately 525 employees. The company is jointly owned by Saab and Ericsson.

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