

## **Decoupled HMI Software Architecture developed by Mecel and General Motors.**

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**Mecel AB today announced a strategic development on “Decoupled Human Machine Interface Software Architecture” together with General Motors. The result of the project is an embedded software product to be used in production vehicles and a PC configuration tool for HMI design and configuration. This architecture enables increased flexibility, shorter time to market and drastically reduced cost for life cycle management.**

HMI (Human Machine Interface) design is one of the most challenging areas for today's car manufacturers. The HMI must at the same time be safe to use in traffic and be attractive for the customer. A steady increase in information provided to the driver gives further stretch to this challenge. Traditional written specifications are often subject to interpretations, resulting in incomplete designs, late changes or dropped functionality. A traditional software development approach also tends to lead to an ever increasing software complexity, resulting in high cost for software development, test and verification. On top of this comes the complexity and costs for brand differentiation; every branded variant should ideally have a different look and feel whilst keeping the software and hardware platform intact.

Challenges of this magnitude require new, radical thinking. This, coupled with industry-leading experience, is what Mecel represents. Combined with the open mindedness of GM's highly skilled software engineers this has resulted in a new, scalable architecture based on an XML database (XML is a machine readable industry standard).

**Using a database approach, this new scalable architecture allows engineers to rapidly create a new production HMI based on load modules without compiling new software and immediately see how it will look in the vehicle. At the same time this approach provides the means for verification and validation of a given design, with full re-use for multiple variants of vehicles by using an identical software platform. In addition to this, interface code is automatically generated from the XML files eliminating misinterpretation of the specifications.**

“Mecel has shown that they have great understanding for the industry challenges and that they have the cutting edge expertise to help us solve them” said Anders Böngren at **Project Lead at GME Infotainment and Telematics.**

“General Motor has proven great willingness to explore new ways of handling complex problems. This in combination with GM's deep knowledge

of software engineering makes them a perfect partner for Mecel” said Kent Eric Lång managing director at Mecel.

A technical presentation of the concept will be presented by Karl-Heinz Amann **Supervisor at GME Infotainment and Telematics** at the VDI Conference Electronic Systems for Vehicles in Baden-Baden 10<sup>th</sup> of October 2007.

## **About Mecel AB**

Mecel AB, is a systems and software development company with more than 20 years experience in developing solutions for the automotive industry. With expertise in on-board application platforms (WinCE, JAVA, embedded systems), communication concepts (CAN, MOST™, Bluetooth™, GSM) and off-board service development, Mecel with its 110 employees is able to manage all kinds of systems and software development programs. Mecel’s Autosoft product portfolio offers automotive grade embedded software and tools to the automotive industry. Mecel is a selected supplier of basic software modules to the Autosar consortium.

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