

# Marriage Made in Heaven?

## Creating standard automotive platforms with maximum differentiation.

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Within the Automotive Business Division of Xilinx, we are very excited by the changes we see coming. Programmable logic is developing rapidly, as are the requirements of the automotive market. These changes are providing some great opportunities to create solutions to complex problems currently plaguing automotive design.

The advantages of programmable logic have always been flexibility, scalability, and fast time to market. Today, these are advantages of key value in the automotive electronics market, as consumer products with highly complex and varying networking and interface standards are introduced into vehicles at a rate never seen before.

Vehicle differentiation and high value-add is often provided by the OEMs through the electronics, but at the same time, engineering resource and time constraints mean that tier ones need to supply common platforms and reusable designs. PLDs in automotive electronics make for a great partnership, but like all partnerships, there are also many challenges.

As a new technology in this market, the first challenge is in providing not just cutting-edge silicon, but full solutions to demonstrate and prove the technology out to our customers. To achieve this goal, we have made a large investment at Xilinx to recruit both highly experienced automotive system architecture engineers and veteran automotive semiconductor personnel to work directly with customers and determine what silicon and solutions would be a true value-add in this market. We have also invested in engineers to develop IP both



internally and externally through our LogiCORE™ IP and automotive AllianceCORE programs.

To continue our own learning and also drive the market forward, Xilinx has joined a number of consortiums, such as AUTOSAR, JASPAR, the FlexRay Consortium, and the MOST Cooperation. By doing this, we have been able to put together an arsenal of fully scalable in-vehicle networking and video/graphics solutions.

These critical investments have resulted in complete solutions for applications, such as video displays (“A Compact Multimedia Display Development Platform for Automotive and Industrial

Markets,” also in this issue of *Xcell Journal*), driver assistance systems (“Block Matching for Automotive Applications on Spartan-3A DSP Devices” in this issue), and a flexible Xilinx MOST solution (see our demonstration at CES).

The second challenge is in meeting the very high-quality and reliability standards that the automotive market requires of semiconductor suppliers. The advantages of working with automotive customers were recognized at the very highest levels of management within Xilinx. By achieving ISO-TS16949 certification, implementing the AEC-Q100 qualification standard, and creating a separate XA line of products in order to control bill-of-materials (BOM) and production sites,

we can improve the quality and logistic processes for all of our customers and ensure that we are on the path of continuous improvement, which is a key part of our corporate philosophy.

The last four years of the automotive XA program at Xilinx have been both challenging and exciting, but our success in becoming the number-one programmable logic supplier (based on Semicast data) in the automotive electronics market shows that we are on the right track.

Our next challenge is to ensure that even with all of the possible opportunities there are for programmable logic, we continue to work closely with our automotive customers to ensure that we focus on the right solutions to meet their future needs in architecture and design. ●●●