IDNEO Develops AUTOSAR Components Using Agile Model-Based Design

Joan Albesa and Enric Valencia, IDNEO Technologies

IDNEO has been using Model-Based Design for four years, which has led to significant business improvements.

When their customers also use Simulink®, ambiguities in requirements are avoided and development time can be cut in half.

When customers ask IDNEO to integrate AUTOSAR components into complex systems that already integrate components developed by third-parties, the task is simplified by using the component interface definitions.

Development times are much shorter, and errors are detected earlier, compared with previous projects.

Advantages of using MATLAB and Simulink:

- Shorter development cycles, decreasing from 1 year to 6 months in some cases
- Earlier error detection (up to 80% of errors found during the design phase)
- Improved code quality through functional and formal validation
- Model simulation for testing, which enables an agile development process

> " Thanks to Model-Based Design, with a **single toolchain** and **team** with **standardized training**, we are able to deal with many different application scenarios, products, and architectures. "

From architecture to design

Software modules defined in architecture using AUTOSAR authoring tool → Module definition (ARXML artifact) imported into Simulink → Model scaffolding automatically generated → Design engineers fill in functional units with required implementation