

# A Big Step Forward

## ETAS ASCET-DEVELOPER 7 – the easy way to safer embedded software

A click is all it takes to generate software code for the highest demands using ASCET. That has long been the case. But the new ASCET-DEVELOPER 7 can do even more. It raises the model-based development of embedded systems to a new level of safety, security, and productivity.

Of course, ASCET is not new. The first six generations of the ETAS tool have proven themselves in software development for over 450 million ECUs.

Nevertheless, ETAS has thoroughly revised the tool for the seventh generation, ASCET-DEVELOPER 7, making it fit for the future.

The goals were challenging: higher productivity, even better safeguards against programming errors, full compliance with industrial standards, and seamless embedding into the customers' development environments. This was achieved through integration into the open development platform Eclipse, compliance with standards such as MISRA-C: 2012, IEC 61508, and ISO 26262, new ideas for even greater safety and security, and a significantly improved user guidance.

### On-the-fly check gives engineers certainty

But how is it possible for companies to both securely and cost-effectively program embedded software which controls safety-relevant functions in systems that are growing in complexity all the time?

The answers to this question are the Embedded Software Development Language (see page 16) and a high degree of automation. The avoidance of laborious data inputting dries up the source of typical errors: syntax and typing errors, misplaced commas, and false units. An on-the-fly check of all entries uncovers even those errors that slip through the net in statistical analyses, such as division by zero, underflow and overflow, and exceeded array bounds (index checking). The developer receives immediate feedback and can remove the error straight

away. Thanks to the systematic checks, ASCET-DEVELOPER 7 prevents expensive errors. The models can be used for open- and closed-loop simulations and for prototyping. In the end, developers have automatically generated, securely checked C code for further process steps.

### Summary: increased safety and productivity

Field tests in conjunction with customers prove that modeling with ASCET-DEVELOPER 7 is twice as fast as with the previous ASCET 6 version thanks to automation and the systematic elimination of error sources. That increases productivity. Moreover, the improved compatibility, portability, and compliance with the highest safety standards give software engineers the reassurance of building on a smooth, frictionless workflow that is safeguarded on all sides.

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