Better Understanding of ECU Software

New interactive documentation helps calibration engineers to quickly handle ECU software

As engineers develop ECU functions using ETAS ASCET, Simulink®, or C code and then translate these functions into software, a huge amount of documentation is generated. This documentation can quickly fill up 10,000-20,000 pages – and until now, calibration engineers have had to handle all this data in PDF format.

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Engineers often have to refer back to this documentation during the process of calibration, when they are fine-tuning the functions. But leafing through enormous PDF files is a tedious process that consumes valuable time – adding more to the workload of calibration engineers in the already very limited time available to them in the test vehicle. Now ETAS has developed EHANDBOOK – an interactive tool that offers an intelligent search functionality in place of tiresome manual searches and automatically generates interactive graphics and models from ASCET, Simulink®, or C code. These graphical representations give calibration engineers an immediate overview of the ECU's functions and signal flows. It breathes life into all the knowledge buried in those thousands of pages, giving everyone involved efficient access to the information.

ETAS EHANDBOOK makes knowledge transparent and optimizes workflow

The EHANDBOOK solution is made up of three components. Flexible transfer of source data into documentation with interactive graphics and models is handled by the EHANDBOOK CONTAINER-BUILD tool. ETAS offers services to support this where necessary. The resulting handbook is then stored in EHANDBOOK CONTAINER, putting the data files generated during the development work just a mouse click away for calibration engineers. This is where the third component comes in: EHANDBOOK NAVIGATOR.

The NAVIGATOR is the physical interactive tool that helps calibration engineers quickly and efficiently find their way around all the documentation that function developers generate. Alongside a search function, there is the option to get an overview of the system through graphics and models or to zoom in on the details. In addition, the tool can connect to calibration tools such as ETAS INCA. Users who set up experiments in INCA can use the NAVIGATOR to locate relevant measurement and calibration variables in the documentation and automatically transfer them to their experiment.

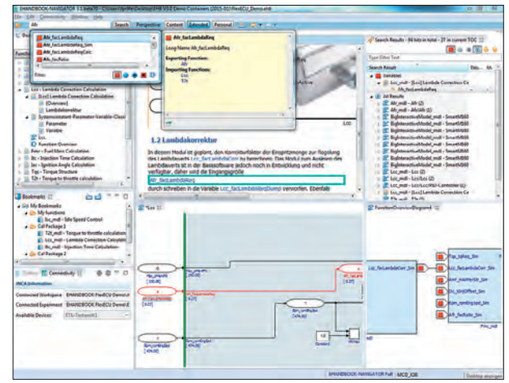
A navigation system beats poring over paper maps

Switching from PDF documentation to EHANDBOOK is just like making the move from a road atlas to a navigation system. Instead of having to laboriously follow, say, the signal flows in a particular model over several pages of PDF documentation, this tool lets developers zoom seamlessly in and out of whatever models they choose. This graphical representation of information makes signal flows much easier to understand. If necessary, users can generate what is known as "function wallpaper" with just one click, giving them a single view that seamlessly stitches together the relevant excerpts of a model.

EHANDBOOK helps calibration engineers to manage information quickly and work efficiently, offering them a deep understanding of the ECU functions their colleagues in function development have produced in their models. This interaction serves both to improve quality in the development process and share knowledge throughout the organization. But above all it saves valuable time, enabling calibration engineers to concentrate on their actual job – calibrating ECU functions – instead of wasting time looking for information and measurement data.

Pilot customer Bosch puts EHANDBOOK to productive use

In refining its interactive EHANDBOOK documentation solution, ETAS is working closely with pilot customer Robert Bosch GmbH, where the tool has already been rolled out internally for ECU projects. Upon request, Bosch can also provide interested parties with interactive handbooks for their ECU software. What's more, a number of automakers have already evaluated the new ETAS solution and have recognized how useful it is. They too are now using EHANDBOOK – and it is helping them to optimize the knowledge transfer between suppliers and vehicle manufacturers in software development.



EHANDBOOK-NAVIGATOR – a navigation system instead of scrolling through pages.