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Press Release

Solutions for Increasing Efficiency in Development Processes

- New developments in model-based software development
- End-to-end, efficient testing from desktop to network HiL
- Big Data in automotive engineering
- Comprehensive safety and security solutions
- High growth rates in the areas of testing and validation, security, as well as consulting & software implementation services

Stuttgart, February 24, 2016 – “We turn ideas into successful products, with high-value, perfectly tailored solutions. As a reliable partner, we make development processes more efficient, and as trendsetters we open up new possibilities for our customers,” says Friedhelm Pickhard, Chairman of the Board of Management at ETAS GmbH.

Highlights from ETAS’ extensive portfolio include solutions from the areas of software engineering, test and validation, measurement, calibration, and diagnostics, as well as embedded security. All of these have benefited from a number of new developments in 2015, thus bolstering the company’s status as an innovative solutions provider in the development of embedded systems for the automotive and related industries.

Model-based software development

One goal in the field of automotive software engineering is to achieve optimum coordination of tool chains consisting of a large number of individual tools. This

represents a great challenge for engineers, tool chain users, as well as manufacturers of the individual tools. The Eclipse open-source platform for software development offers many standard features for tool manufacturers and integrators. And with ASCET V7, ETAS has now released the latest version of its Eclipse-based ASCET tool, which reduces throughput times and complexity in the development of ECU code.

End-to-end testing thanks to ECU networks in-the-loop

Aside from these challenges in software development, the need for efficient testing is also becoming ever more critical. In order to meet the increasing time requirements of testing in the face of ever shorter development cycles while keeping long-term costs under control, software testing is now being initiated long before the test vehicles are available. One key to making this possible is Hardware-in-the-Loop (HiL) testing. ETAS has been continuously advancing the capabilities of this virtual testing in recent years. Our solutions now range from the compact DESK-LABCAR system, which enables real-time, desktop HiL testing, to the NETWORK-LABCAR full-vehicle HiL. HiL testing systems for individual ECUs are linked to real-time capable cluster and network HiLs, which can be easily and gradually expanded. The ability to combine powerful simulation targets, real-time communication, and the synchronization of a scalable number of domain-specific HiLs gives development departments a high degree of flexibility. With NETWORK-LABCAR, ETAS creates new concepts for flexible Hardware-in-the-Loop testing of connected ECUs and enables a full system overview thanks to an ECU network-in-the-Loop.

High-performance processing, management, and evaluation of complex data

In its role as a vendor of both hardware and software, ETAS has played a major part in the steady improvement of data collection efficiency in testing over the last several years for the areas of measurement, calibration, and diagnostics. Working in concert with powerful processors, data buses, and transfer protocols, tools as the FETK ECU interface or the ECU and bus interface modules of the new ES800 hardware represent a great advance in efficiency.

They can record ECU data at rates of several gigabits per second which allows data transmission rates that are up to 20 times faster than currently available systems. In combination with the INCA release 7.2, the leading software for measurement, ECU calibration, and diagnostics, it will be possible to simultaneously acquire data of more than 35.000 measuring variables during a road test or at the test bench.

To save time and expense, the goal must be to record all signals from the vehicle electronics on as few testing days as possible without interruption. In this way, data volumes measuring in the hundreds of terabytes can be accumulated in short amounts of time.

The basis for this big data approach lies in the collection and processing of very large volumes of data. The MDA 8 measurement data analysis tool developed by ETAS makes it possible for development, testing, and calibration engineers to handle measurements involving extremely large data volumes, thus paving the way for increased efficiency in development processes.

Comprehensive safety solutions for embedded software

Across all phases of the development process, systematic engineering practices that adhere to standards such as ISO 26262 ensure that all critical vehicle functions remain intact even when subjected to attacks or virus contamination resulting from negligence. For this to happen, it is important that safety-critical areas be reliably isolated from the effects of software installed at any later point in time. To achieve this, solutions such as the ETAS Hypervisor RTA-HVR can partition embedded ECUs into multiple virtual ECUs that are kept strictly separate from one another. This ensures that their operation is completely shielded from outside influences.

Secure key transfer during production

The field of embedded security has also seen its share of innovations. ETAS subsidiary ESCRYPT's new Production Key Server (PKS) provides a continuous and secure supply of cryptographic keys and certificates during the production of embedded devices. The PKS is a part of the wider ESCRYPT key management solution, which features a central backend infrastructure that allows keys as well as their access rights to be managed and monitored, thus offering production facilities a secure, reliable, and maintenance-friendly solution to meet their needs.

Strong growth rates across business areas and geographic regions

These new additions to the product portfolio form the basis for strong growth rates at ETAS in 2015, particularly in the areas of test and validation, security, and consulting & software implementation services. The regions of Germany as well as Asia-Pacific exhibited the strongest growth. These positive developments in 2015 are a testament to the continuous growth over the last five years, over which time ETAS was able to nearly double its revenues. The company currently has operations at 25 sites with more than 950 associates.

ETAS GmbH

ETAS provides innovative solutions for the development of embedded systems for the automotive industry and other sectors of the embedded industry. As a systems provider, ETAS supplies a multifaceted portfolio that covers the range from integrated tools and tool solutions to engineering services, consulting, training, and support. Security solutions in the area of embedded systems are offered by the ETAS subsidiary ESCRYPT. Established in 1994, ETAS GmbH is a 100-percent subsidiary of the Bosch Group, with international subsidiaries and sales offices in 12 countries in Europe, North and South America, and Asia.

For more information, please visit www.etas.com