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# AUTOMOTIVE Industries

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Wolfgang Malek, CEO, Ruetz Systems Solutions. Page ??



Our customers benefit from not having to deal with upgrading and maintaining their test systems themselves. Instead they can focus on testing their systems.

# Automation speeds up **MOST** testing

By: Lenny Case

**Automation of testing sequences for MOST electronic components can save up to 80% of the time taken to run the tests manually, according to Ruetz System Solutions.**

Ruetz develops and supplies car infotainment solutions based on the Media Oriented Systems Transport (MOST) technology, and

**Automotive Industries (AI) asked Malek, who is the CEO of Ruetz Systems Solutions, to describe the company's specialized expertise in MOST-based infotainment systems.**

**Malek:** We have supported the success of MOST technology from the very beginning with tools and knowledge, not only in the area of system specification, but also in system integration. We have been doing this for 13 years now, and have seen a large diversity of solutions worldwide. Our knowledge has gone into a large pool of technology and process know-how, which enables us to specify new avant-garde functionalities and to take care of system integration of entire infotainment networks.

**Wolfgang Malek, CEO,  
Ruetz Systems Solutions.**



has MOST Cooperation accreditation as a certified test laboratory according to DIN EN ISO/IEC 17025. Testing equipment developed by the company includes a fully-automated Testerlyzer system, which performs component and network tests according to MOST standards.

The company's testing portfolio includes the TTCN-3-based test and simulation system, branded TTSuite MOST, which was developed by Ruetz in collaboration with Testing Technologies. The TTSuite MOST provides users with a platform to perform tests and simulations of varying complexity. The TTSuite MOST was developed for MOST25, MOST50 ePHY and MOST150 projects and allows for the full administration of the MOST bus. The system allows for direct import of the MOST function catalogue and offers MOST Synchronous channel support.

Ruetz's consulting and training services include network, component and application testing. Tests adhere to MOST Core Compliance test specifications, and customer specific protocols result in transparent documentation of test results. In addition to modules required for MOST Core Compliance testing, Ruetz offers modules such as general tests, standard mechanisms, ring break diagnosis and Net services system tests and database connection tests.

Ruetz has been a member of the MOST Cooperation since 2001. The company was founded by Georg Janker and Wolfgang Malek who are pioneers of MOST technology. In 2007, the company was accredited to issue the MOST Compliance certificates.

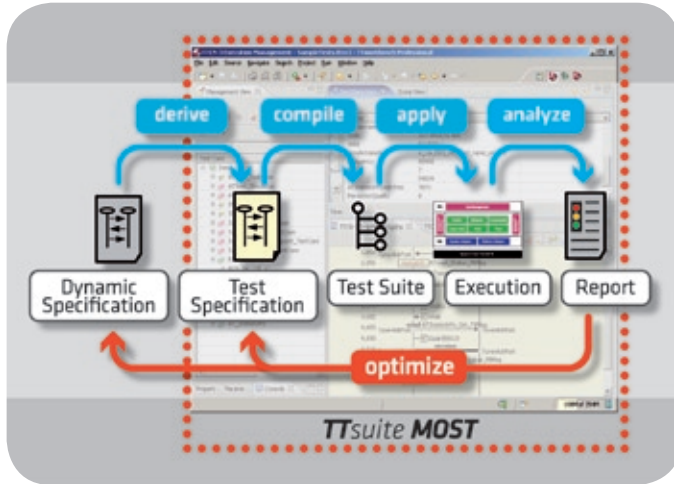
**AI: To what do you attribute Ruetz's leadership as a MOST compliance test house?**

**Malek:** Apart from providing MOST Compliance Tests for all three speed grades, we don't only support our customers with mere testing services, but also provide fast and easy help for solving error scenarios within the shortest period of time. We are accustomed to acting as an emergency service in this field. As a company, we are also very interested in backing MOST as the standardised technology at the highest level for the industry. For example, in the car manufacturing industry, we are driving cross-manufacturer standardisation of network tests by providing application recommendations and innovations, such as executable test specifications. I think the high level of standardisation of MOST is an immense competitive advantage, saving money for all participants and stakeholders.

**AI: What are some of the tests specific to car manufacturers?**

**Malek:** The MOST compliance verification process clearly verifies conformity in accordance with applicable MOST specifications. Car manufacturers clearly focus on robustness, reliability and application-related testing. At this point, we support car manufacturers with test solutions, as well as taking charge of the area of systems integration for them.

**AI: What are some of the features of automotive testing with the TTSuiteMOST?**



TTsuite MOST provides users with an easy-to-use platform, allowing them to carry out tests and simulations for systems of varying complexity. This tool is based on the standardized test description language TTCN-3 and uses the GFT-format (Graphical Presentation Format of TTCN-3) for defining, visualizing and documenting the tests.

executable test, no longer exists. Test specifications, such as the “Extended MOST Core Compliance Test Specification: MOST High Protocol” and the Automotive Application Recommendation for MOST Core Functionality have already been specified in this way by the MOST Cooperation.

**AI: How does this product compare with similar MOST testing products?**

**Malek:** Mostly we are in competition with test frameworks which car manufacturers or suppliers have developed themselves. While these frameworks tend to have the advantage of containing a lot of technical history with financial investment done years before, often the maintenance effort for such infrastructures is heavily underestimated. TTsuite MOST is a high-performance framework and one that our customers highly value in terms of up-to-date architecture, validation, standardisation, documentation, software lifecycle, future robustness and reusability of test cases. Over the years, we have asked ourselves, time and again, whether it is really useful for each car manufacturer to develop their own test frameworks and to declare this an area of their core competence or whether it would not be better to drive one standard for all.

**AI: What makes your Testerlyzer product so efficient in automotive testing?**

**Malek:** One hundred percent automation of MOST Core Compliance Tests for MOST25, MOST50 and MOST150 control devices, the exact calibration with MOST Compliance Specification, the close customer support and the experience that we have from many thousands of tests carried out at our MOST Compliance Test House. There is no test system that has done more Core Compliance tests than TESTERLYZER.

**AI: How do you see the future of the MOST standard evolving?**

**Malek:** The evolution of MOST 25 via MOST50 up to MOST150 was the logical development of a high performance technology to a high performance standardised industry modular system with a globally functioning ECO system. Aside from the high performance technology, a standard is only as good as the people driving it. The commitment and personal input of the people driving MOST technology translates into benefits for the customers.

In future, we will see further merging of infotainment and driver assistance systems and MOST is very well-positioned for these developments. **AI**



The fully automated Ruetz System Solutions Testerlyzer.

**Malek:** Our customers benefit from not having to deal with upgrading and maintaining their test systems themselves. Instead they can focus on testing their systems. TTsuite MOST is based on the industry standard, TTCN-3, which in turn is maintained and further developed as a test description language for the telecommunications industry by the European standardisation organisation, ETSI. Such a cross-industry application of a standard is cost-efficient due to the scaling effects it produces. It is also of high quality and is robust for future use.

Another tremendous benefit for customers of TTsuite MOST is the fact that test cases can be graphically displayed and then executed immediately for a device or system. The costly interim step, in the form of programming between test specification and



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# PROFESSIONAL **CONSULTING & ENGINEERING SERVICES** AND **TEST SOLUTIONS** FOR **AUTO-MOTIVE INFOTAINMENT SYSTEMS**

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**RUETZ SYSTEM SOLUTIONS** is the preferred partner for system specification and integration of MOST® bus-based infotainment systems. We support our customers by providing them with high-performance tools, targeted consulting and implementation.

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## ➤ **Professional Consulting and Engineering Services**

Development of MOST system specifications as well as robustness, reliability and application related testing of infotainment systems

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TTCN-3-based and highly flexible test and simulation system for system integration of MOST networks

### **TESTERLYZER pro Compliance for MOST 25 / 50 / 150**

TESTERLYZER is the test system for the MOST Core Compliance test accompanying the development process

### **Physical Layer Stress Test Tool for MOST 150**

High-end stress test tool to test the physical layer of MOST 150 control devices

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