

4th Symtavisision NewsConference on Timing Analysis

September 29 – 30, 2010

Braunschweig - Riddagshausen



SYMTA VISION

About the Event

Timing analysis has become a key success factor at OEMs and suppliers for development tasks ranging from early architecture concepts to certification of safety-critical functions.

The Symtavisision NewsConference on Timing Analysis provides a unique opportunity for learning and the exchange of ideas among engineers, managers, technology experts and researchers in the field of embedded real-time systems.

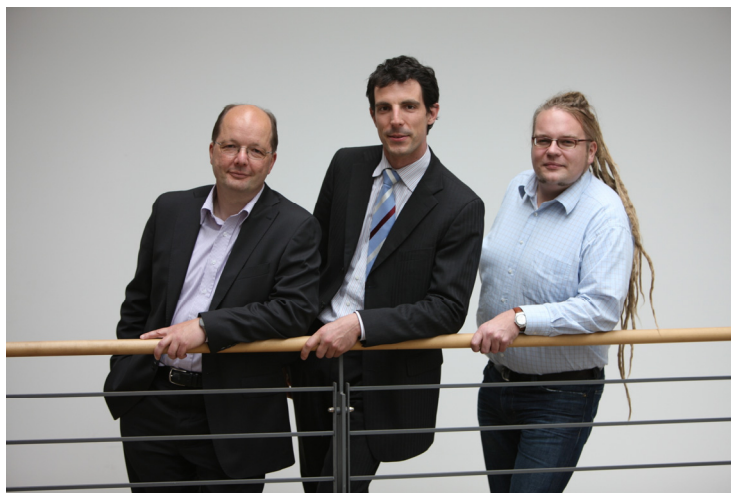
Now in its 4th year, the conference emphasizes the benefits of timing analysis for OEMs and suppliers, as well as the industrial processes needed to realize these benefits. The conference also addresses current trends, including multi-core and AUTOSAR.

Compared to previous years, the conference has been expanded by a technical day, with parallel practice and research tracks. The main industrial day still features presentations by industry experts on applied timing analysis.

We invite you to join the Symtavisision NewsConference to

- ◆ Get a comprehensive view on all aspects related to timing, performance, reliability and certification, and solutions in practice.
- ◆ Discuss with experts from industry and research about the state-of-the-art and future developments in timing analysis.
- ◆ Influence the future of timing analysis tools. The better we meet your requirements the better you will be able to work with our and our partners' solutions.

Your Symtavisision team



The conference language is English.

Conference Overview

September 29 Technical Day

	Practice Track	Research Track
13:00 – 15:00	Network (P1)	Multi-core, UML (R1)
15:15 – 17:15	ECU, Multi-core (P2)	Network (R2)

September 29 Casual Evening Event

from 17:30 Casual get-together and dinner in the “Old Barn” of the monastery of Riddagshausen. **Keynote by Dr. Andreas Titze, Volkswagen AG.**

Mr. Titze is department head of Networks and E/E Architecture at Volkswagen and will speak about the role of vehicle electronics and the benefits of a coordinated approach to real-time by OEMs and suppliers.

September 30 Industrial Day

8:45 – 16.00 Industrial presentations on the application and requirements for timing analysis by OEMs and suppliers, including BMW, Daimler, Volkswagen, Embraer, DENSO, and Infineon.

from 16:00 Coffee, snacks & drinks

Parallel exhibition from 8:30 – 17:00 from tools providers showcasing the various timing analysis techniques and the link between system modeling, configuration and timing analysis.



Research Track in Room 4, September 29

Moderator: Dr. Marek Jersak, Symtavigation GmbH

11:30 – 13:00 Registration & Lunch

13:00 – 15:00 Session R1: Multi-core and UML

13:00 – 13:30 **Obtaining Real-Time Guarantees on Multi-Core Processors**, Simon Schliecker, Mircea Negrean, Institute of Computer and Network Engineering, TU Braunschweig

13:30 – 14:00 **Scheduling Analysis Based on UML Development Models**, Matthias Hagner, Institute for Programming and Reactive Systems , TU Braunschweig

14:00 – 14:30 **Reliability Analysis and Design Trade-Offs in Multi-Core Architectures and Network Systems**, Philip Axer, Maurice Sebastian, Institute of Computer and Network Engineering, TU Braunschweig

14:30 – 15:00 **Demo Session with Poster** – Parallel Demos

15:00 – 15:15 Coffee Break

15:15 – 17:15 Session R2: Network

15:15 – 16:15 **Timing Analysis for Real-Time Ethernet Variants in ECU Network Design**, Felix Reimann, Michael Glaß, Department of Computer Science 12 (Hardware-Software-Co-Design), University of Erlangen-Nuremberg

16:15 – 16:45 **Considering Timing Correlations in the Performance Analysis of Communication Networks**, Jonas Rox, Institute of Computer and Network Engineering, TU Braunschweig

16:45 – 17:15 **Demo Session with Poster** – Parallel Demos

from 17:30 Casual Get-Together

Practice Track in Room 3, September 29

Moderator: Dr. Kai Richter, Symtavisision GmbH

11:30 – 13:00 Registration & Lunch

13:00 – 15:00 Session P1: Network and E/E

SymTA/S Workshop:

- ◆ Modeling and Scheduling Analysis for CAN- and FlexRay-Networks
- ◆ Gateway modeling and End-to-End Timing analysis
- ◆ Worst-case and distribution analysis
- ◆ Modeling of periodic and event-triggered frames
- ◆ Transition from CAN to FlexRay
- ◆ Model import via AUTOSAR, DBC, FIBEX, Tracing, Scripting ...
- ◆ Integration of PREEvision and SymTA/S (presented with aquintos)

15:00 – 15:15 Coffee Break

15:15 – 17:15 Session P2: ECU

SymTA/S –Workshop:

- ◆ Modeling and Scheduling Analysis for OSEK and AUTOSAR ECUs
- ◆ Mapping of runnables to tasks, Partitioning for multi-core ECUs
- ◆ End-to-end timing analysis with synchronization and chained activation
- ◆ Optimization and Sensitivity Analysis
- ◆ Model import via AUTOSAR, OIL, Tracing, Scripting ...
- ◆

Integrated timing analysis methodology (presented with AbsInt and Gliwa)

- ◆ Timing measurements
- ◆ Static Worst-Case execution time analysis
- ◆ Combination of static and measurement-based techniques
- ◆ Timing prediction for different CPUs
- ◆ Scheduling analysis based on measured and static code-timing

from 17:30 Casual Get-Together

Industrial Day, September 30

Moderator: Dr. Marek Jersak, Symtavision GmbH

- 08:00 – 08:45 Registration
- 08:45 – 09:00 **Welcome**
Dr. Marek Jersak, CEO of Symtavision GmbH
- 09:00 – 09:30 **Timing Propagation in the Development of Software-Based Automotive Systems**
Dr. Stefan Kriebel, BMW AG
- 09:30 – 10:00 **The Role of Timing Analysis in Automotive Network Design**
Dr. Razvan Racu, Volkswagen AG
- 10:00 – 10:30 **SymTA/S Approach to Integrated Modular Avionics (IMA) – a prospective study**
Sérgio Duarte Penna, Embraer S.A.
- 10:30 – 11:00 Coffee break
- 11:00 – 11:30 **From Single-core to Multi-core platforms - Systematic Migration of Hard Real-Time Software**
Jens Harnisch, Infineon Technologies AG
- 11:30 – 12:00 **Systematic Timing constraint Design and Verification for Vehicle Dynamics Control**
Jennifer Neumüller, DENSO Automotive GmbH
- 12:00 – 12:30 **Applying Timing Analysis to the Evaluation of Vehicle Networking Architectures**
Torsten Bone, DAIMLER AG
- 12:30 – 14:15 Lunch break
- 14:15 – 14:45 **Symtavision Product Strategy and Roadmap**
Dr. Kai Richter, CTO of Symtavision GmbH
- 14:45 – 15:15 **Today's Challenges to safety-critical Automotive Software Development**
Dr. Fabian Wolf, Volkswagen AG
- 15:15 – 15:45 **Mastering Mixed Criticality - A Growing Challenge in Embedded Systems Integration**
Prof. Rolf Ernst, Institute of Computer and Network Engineering, TU Braunschweig
- 15:45 – 16:00 **Closing address**
Dr. Marek Jersak, CEO of Symtavision GmbH
- from 16:00 ~ Coffee, snacks and drinks

Registration Form

I / We will attend the 4th Symtavision NewsConference

Technical Day on Sept. 29 95,00€ incl. VAT

Session 1: Research R1 (Multi-Core & UML) / Practice P1 (Network & E/E)

Session 2: Research R2 (Network) / Practice P2 (ECU)

Industrial Day on Sept. 30 145,00€ incl. VAT

Full Conference (Sept. 29 + 30) 195,00€ incl. VAT

(please indicate Technical Day session participation above)

The attendance fee includes conference proceedings, meals, beverages etc.

I / We will attend lunch on Sept. 29, 2010

I / We will attend the pre-conference dinner on Sept. 29, 2010

I / We will attend lunch on Sept. 30, 2010

I / We have special diet requirements (please specify)

1. Person (Name, Title)

2. Person (Name, Title)

3. Person (Name, Title)

Department

Position(s)

Telephone

Company

Address

Address

E-Mail

VAT-No

Contact of invoice

Date, Signature

Please return your registration by fax to +49 (531) 886179 – 29 or send the registration per email to our conference manager Alexandra Schlagowski, **before September 6, 2010**. Thank you! You will receive a confirmation of your registration via email.

You may cancel your registration free of charge until September 20th. In case of cancellation after the 20th of Sept. or no-show, the complete fee falls due. You may name a substitute attendee free of charge.

Venue

MMI Marketing Management Institute
Klostergang 53
38104 Braunschweig

The MMI in the beautiful settings of the old monastery of Riddagshausen is a perfect place for productive communication. For those who want to stay overnight, the MMI offers 4-star hotel service. A limited number of hotel rooms has been reserved for our NewsConference.

For room reservations, please contact our **conference manager Alexandra Schlagowski**, schlagowski@symtavision.com.

Access

By train: A taxi from Braunschweig main station takes approx. 10 minutes.

By plane: The closest airport is Hannover (HAJ). Taxi takes about 1 hour. Taxi is expensive, approx. 120€. Please contact us for transfer organization. Or take a train to Hannover main station, and there change to Braunschweig main station.

By car: From north or west, exit Autobahn A2 at BS-Flughafen, drive south on L293 and L625 to Riddagshausen. From south or east, exit A39 in Sickinge, drive north on L625. In Riddagshausen, follow the signs to MMI or to "Kloster".

Contact

For all inquiries including registration, room reservations, access directions and additional questions, please contact our conference manager:

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**Please update your contacts:
new street number and central phone
as of July 2010**