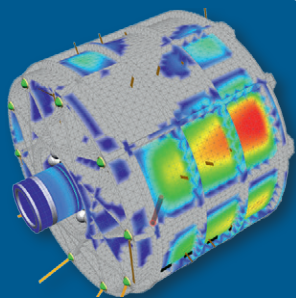
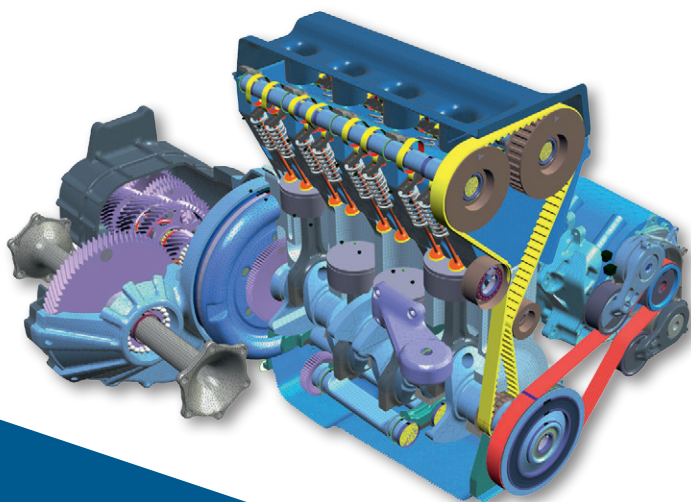


**9TH INTERNATIONAL
SIMDRIVE 3D
POWERTRAIN &
USER CONFERENCE**



Welcome
Bienvenue
Benvenuto
Willkommen
欢迎 歡迎

CONTECS
— engineering —

WELCOME

The CONTECS team is pleased to invite you to the 9th SIMDRIVE 3D Powertrain & User Conference. It will take place on the 11th and 12th of June, 2018 at the »Hotel Bristol Berlin«.

You want to accelerate and streamline your powertrain and vehicle development processes and quickly predict and assess powertrain system dynamics, NVH and acoustics with highest precision well before the first physical prototype becomes available? The SIMDRIVE 3D software platform meets these requirements and provides the next exciting steps in integrated powertrain systems engineering.

Get yourself updated and discuss with experts new modeling and simulation approaches to tackle the upcoming challenges in the automotive industry:

- *New model approach for predictive simulation of high-slip Poly-V belts in BiSG applications*
- *Integrated chain and timing drive simulation using full engine models*
- *New contact model for gear NVH and noise assessment considering detailed tooth flank modifications*
- *Drastically accelerated simulation and analysis of detailed gear drive and transmission*
- *Integrated NVH assessment of complex powertrain systems*
- *FEA-MBA coupled simulations for acoustic analysis*
- *Efficient, automated NVH analysis and post-processing of finite element models under operational loading conditions*
- *Solutions to master the vast range of variables in modern powertrain systems and the interaction of all components*
- *Electric drive development and evaluation using mechatronic system simulation*

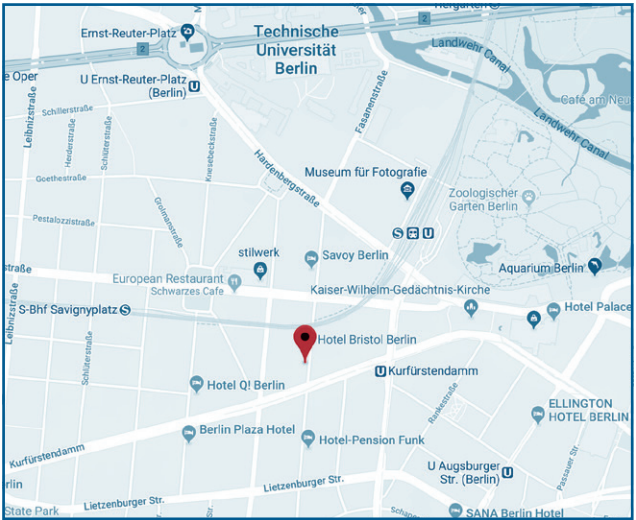
This year's program includes interesting lectures by experts in the field that highlight industry trends and show how manufacturers are ensuring innovation through simulation.

Industry participants: Audi AG, Gates Corporation, Litens Automotive Group, MTU Friedrichshafen GmbH, Rexnord CENTA, SEG Automotive, Schaeffler Technologies AG & Co. KG, Volkswagen AG

We look forward to your participation and hope to see you in Berlin.

Your CONTECS-Team

PLACE OF CONFERENCE

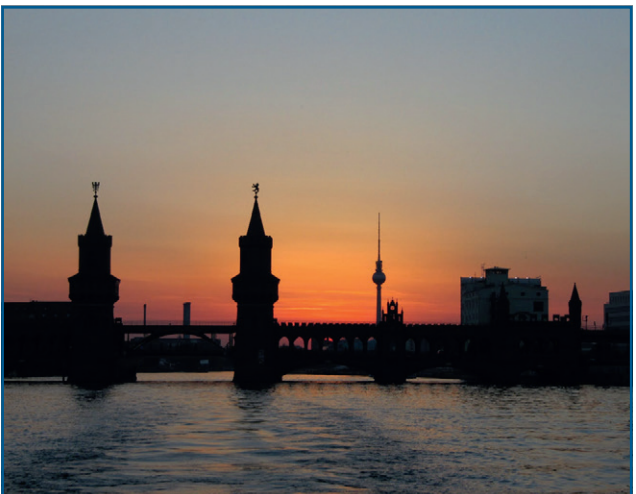


Hotel Bristol Berlin - Kurfürstendamm 27 - 10719 Berlin

The Hotel Bristol Berlin enjoys a perfect location in Berlin's City West district, right on the famous Kurfürstendamm boulevard.

EVENING EVENT

We invite you to a special evening of encounters. Engage with the CONTECS team and fellow SIMDRIVE 3D users on a personal level. As always, we will dine at a special location (to be announced) at the heart of Berlin and spend the evening in pleasant company.



DAY 1 – JUNE 11TH 2018

08:30 **Registration**

09:25 **Welcome**

GENERAL SOFTWARE SOLUTIONS

09:30 **New developments and strategic outlook of the SIMDRIVE 3D software** | Speaker: Dr. Frank Woelfle (CONTECS engineering services GmbH)

- *Accompanying change in the automotive industry through next-generation simulation software*
- *Simulation as an enabler for cross-organizational and multi-directional collaboration in virtual powertrain systems development*
- *New application fields and structure of SIMDRIVE 3D*

10:15 **Innovations in the dynamic contact simulation as a key for precise noise prediction**

Speaker: Thomas Kaufhold
(CONTECS engineering services GmbH)

- *3D gear contact with highest accuracy considering all dynamic and geometrical influences*
- *The new high slip belt model for BSG applications - fast and precise*

10:45 **Introducing the new SIMDRIVE 3D Version 8.5**

Speaker: Nico Bestanpouri
(CONTECS engineering services GmbH)

- *Enhanced capabilities in fast and efficient model management*
- *New modules for advanced post processing, reporting and automatic design optimization*
- *Live demonstration of new features*

11:30 **Choosing the right model complexity for the digitized development process**

Speaker: Nils König (Volkswagen AG)

- *Adapting the simulation model during the development process*
- *Standardized exchange format for the cooperation of OEM and supplier*
- *Simulation without measurement vs. ‚Post-Measurement-Simulation‘ – estimating the result quality*
- *Integration of new simulation methods during the development – e.g. NVH*

12:00 **Lunch Break**

BELT DRIVE: COMPONENTS AND SUBSYSTEMS

13:30 3D MBS-Simulation of alternators at SEG-Automotive

Speaker: Micha Haussmann, Dr. Michael Kopp
(SEG Automotive)

- *Challenges reliability with respect to dynamic loads from vibrations in belt drive and engine-gearbox compound*
- *Model set up for an application example, presentation and interpretation of the results*
- *Comparison with measurements*

14:00 6 DOF simulation of belt tensioner using flexible body and contact elements | Speaker: Jörn Adam (Litens Automotive Group)

- *Model setup with Poly-V belt*
- *Correlation with measurements*

14:30 Start-Stop belt drive systems for Truck applications

Speaker: Robert Schindler, Dominic Antaluca (Gates GmbH)

15:00 Coffee Break

ADVANCED SYSTEM SIMULATION

15:45 Optimization of gear drive acoustics for Audi V-Engines using SIMDRIVE 3D

Speaker: Kamil Hess, Marco Wenzel (Audi AG)

- **V8TDI:** *Model setup: interaction of valve train, gear- and chain drive dynamics within the global engine model*
- *Correlation between gear drive dynamics and acoustic phenomena*
- *Evaluation of optimization measures*
- **V6TFSI:** *Model setup: reduced model for parameter studies*
- *Detailed analysis of gear contact in consideration of real tooth micro geometry*
- *Parameter study: Influence of height crowning & pretension*
- *Comparison with measurement results*

16:30 Advanced capabilities of the SIMDRIVE 3D Controller module | Speaker: Dr. Rasoul Mirkheshti (CONTECS engineering services GmbH)

- *Introduction of new features*
- *Hydraulic toolbox, mathematical solver*

17:00 Enhancements in Poly-V and Timing Belt simulation

Speaker: Steffen Diesner
(CONTECS engineering services GmbH)

- *Static Belt Drive Preprocessing: Balancing belt and tensioners for optimized BSG and standard layouts*
- *Variable CoF and EA values: Experimental determination of advanced belt model parameters*
- *Extended test procedures: Individual border line values for belt noise risk*

17:30 Discussion

19:00 Evening Reception and Dinner

Enjoy an evening of networking & entertainment

DAY 2 – JUNE 12TH 2018

09:00 Verification of calculated flywheel stresses using strain gauge measurement

Speaker: Matthias Schölch (MTU Friedrichshafen GmbH)

- *Set up of the 3D MBS crank train model including flexible flywheel*
- *Presentation and interpretation of the results*
- *Comparison with measurements*

09:30 Thermo-mechanical coupled simulation in super-elastic rubber element using SIMDRIVE 3D

Speaker: Dr. M. Hasan, N. Hartmann
(Rexnord CENTA)

- *Fundamentals on driveline isolation*
- *Modelling and simulation of an example rubber coupling*
- *Comparison of the simulation results with measured experimental data*

SYSTEM SIMULATION: TRANSMISSION AND DRIVELINE

10:00 Enhanced modeling of Rolling Bearings in SIMDRIVE 3D

Speaker: Frank Rettig (Schaeffler Technologies AG & Co. KG)

10:30 Coffee Break

11:00 Modeling of electric powertrains in SIMDRIVE 3D

Speaker: Damian Belz
(CONTECS engineering services GmbH)

- *Data Acquisition and Preprocessing*
- *Choosing the right approach: Elements to model electric machines*
- *New methods and tools to realize control schemes and to track losses*

11:30 Technological change of the drive trains – new requirements for the transmission simulation

Speaker: Mathias Thienelt
(CONTECS engineering services GmbH)

- *Simulation has to meet the new requirements of E-Mobility*
- *Rapid, seamless and lossless workflow for driveline design*
- *New functionalities for static, NVH and acoustic assessment of gearbox*

12:00 Lunch Break

13:30 Electric drivetrain development with SIMDRIVE 3D

Speaker: Lukasz Maj
(CONTECS engineering services GmbH)

- *Insights in the development process of an electric drivetrain using SIMDRIVE 3D*
- *Essential data requirements due to new Cross-Module design drive maneuvers*
- *Dynamic drive train simulation with suspension under realistic loads (maneuvers, tire/road contact)*

14:00 Particle Swarm Optimization in SIMDRIVE 3D: A powerful tool to speed up analysis

Speaker: Puya Ebrahimi, Renan Lelievre
(CONTECS engineering services GmbH)

- *Introduction of PSO capabilities and prerequisites*
- *Automatic parameterization of MBS models to match given measurements or arbitrary target functions*
- *Application examples: crankshaft topology and TVD optimization*

14:30 Closing Remarks

REGISTRATION

Yes, I want to attend the 9th International SIMDRIVE 3D Powertrain & User Conference 2018 on June 11th -12th.

DAYS*

FIRST DAY ONLY
€ 390

BOTH DAYS
€ 490

NAME*

SURNAME*

TITLE

INVOICE TO*

COMPANY*

ADDRESS*

CITY*

POSTAL CODE*

COUNTRY*

PHONE

EMAIL*

*indicates required field. /// Please send via fax to +49 30 32768995

TERMS AND CONDITIONS

VAT, if applicable, will be added to the registration fee. The fee includes lunch, beverages and snacks as well as the participation of the evening event (if attending for both days). An invoice will follow your registration. Please make your payment cashless upon receipt of the invoice. If you register before 30th of April you will receive an early bird discount of 15%.

Cancellations made until 11th of May will be charged 10% of the participation fee, after that 50% will be charged. The conference will be held in English. All papers will be provided in English if possible.