



THE INTERNATIONAL ASSOCIATION FOR THE ENGINEERING
MODELLING, ANALYSIS AND SIMULATION COMMUNITY

Invitation & Conference Agenda*

European Conference on

Computational Fluid Dynamics (CFD) – Beyond the Solve

2 - 3 December 2015, Munich, Germany

www.nafems.org/cfd2015

This conference will be co-located (two common plenary sessions) with the NAFEMS European SPDM Conference. CFD conference delegates have equal access to the SPDM conference and visa versa.

Nowadays CFD methods are a well-established and accepted development tool used in a wide range of industries. Since CFD achieved this level of acceptance, the expectations towards CFD regarding turn-around time, ease-of-use, process robustness, automation and standardization have changed rapidly. In response, recently there has been a strong focus on CFD Workflow Management.

The European NAFEMS CFD Conference will offer a unique forum where experts from different industries, academia, software vendors will share their knowledge regarding CFD Workflow Management concepts and solutions covering the following topics:

- Reduce the turn-around time and ease-of-use of CFD process via:
 - CFD workflow process automation: Preprocessing – Simulation – Postprocessing
 - CFD process standardization
- Improve the robustness of CFD analysis via:
 - Integration with Product Data Management (PDM) systems
 - Integration with Simulation Data Management (SDM) systems
 - Advanced material data management concepts
- Improved usability of CFD processes via:
 - Integration in optimization workflows
 - Integration in multi-disciplinary simulation processes
- Verification and correlation in the design process

If you are interested in talking to the CFD community about the CFD workflow management and the management of new challenging CFD applications in your organization and sharing your thoughts about future trends you are invited to attend the 1st European NAFEMS CFD conference.

The 'CFD – Beyond the Solve' event is being run in parallel with the 'NAFEMS Simulation Process and Data Management' European Conference. Delegates will be free to attend sessions of their choice in both events in order to exploit the synergies between these two technical areas.

We are looking forward to meeting you in Munich.

NAFEMS DACH CFD Advisory Board (CAB) / NAFEMS CFD Working Group

Platinum Sponsors



Gold Sponsors



Silver Sponsor



* Program subject to alterations.

WEDNESDAY, 2ND DECEMBER 2015

European SPDM Conference – Agenda

EUROPEAN SPDM & CFD CONFERENCES – COMMON SESSION

- 09:45 **Welcome and NAFEMS Introduction**
T. Morris (NAFEMS); M. Norris (Consultant); P. Bartholomew (Consultant); Members of the DACH CFD Advisory Board (CAB)
- 10:00 **15 Years SPDM@BMW**
J. Reicheneder (BMW Group)
- 10:30 **SPDM for CFD@BMW**
S. Jahnke (BMW Group)
- 11:00 **Strategies to Increase CAE Quality through Simulation Data Management**
J. Morawski, T. Pohl (Adam Opel); Z. Petrovic (Siemens PLM Software)
- 11:30 **Virtual Process Chain Production: SIMAN – Simulation Data Management@CONNECT**
J.-H. Theilen (Volkswagen)
- 12:00 **Lunch**

European SPDM Conference – Agenda

CFD Conference Session 1

SPDM Conference Session 1

- 13:00 **Integration of the CFD Simulation in the Development Process of Competition Motorcycles**
G. Lindbichler, M. Perterer (KTM Technologies)
- 13:25 **Thermal Analysis of Heavy Duty Engine Exhaust Manifold using CFD**
S. Eroglu, I. Duman (Ford Otosan)
- 13:50 **The Mahle Behr CFD Wizards: HVAC Wizard and HEEX Wizard**
R. Stauch, G. Apostolopoulos, M. Weinmann, J. Schlottke, W. Kühnel (Mahle Behr)
- 14:15 **Frontloading CFD in the Automotive Product Development Process**
M. Sabeur (Mentor Graphics)
- 14:40 **Coffee break**

- Handling the Constant Evolution of Simulation with SPDM Solutions**
M. Schlenkrich (MSC Software)
- Concept and Implementation of a Central Knowledge Framework for Simulation Knowledge**
P. Kestel, T. C. Sprügel, S. Wartzack (Univ. Erlangen-Nuremberg); T. Lehnhäuser (Ansys Germany)
- Complete Simulation Lifecycle Management at VECV**
V. Mulchandani, U. Shanker Gupta (Eicher Trucks and Buses, VE Commercial Vehicles); N. Hanagal (Altair Engineering India)
- SPDM Overkill – Too Expensive, Too Difficult, Too Much Overhead and No Added Value !?**
E. Niederauer (Siemens PLM Software)
- Coffee break**

CFD Conference Session 2

SPDM Conference Session 2

- 15:20 **The Influence of Mesh Characteristics on OpenFoam Simulations of the Driver Model**
G. Fotiadis, V. Skaperdas, A. Iordanidis (BETA CAE Systems)
- 15:45 **One click - Multiparts to 3D Mesh**
M. Schifko (ESS Engineering Software Steyr)
- 16:10 **Improving Thrust Reverser Performance through Design Exploration with Optimate+**
G. Buccilli, A. Godfrey, D. Rittenberg (CD-Adapco)
- 16:35 **Interpretation of Verification and Validation for Computational Fluid Dynamics**
NAFEMS AMWG, presented by C. Roger (CR Engineering)
- 17:00 **Coffee break**

- Managing Simulation Processes of Different Levels of Maturity**
H. Wenzel, R. Illig (Dassault Systems Deutschland)
- Successful Deployment of SPDM Solutions – Lessons Learnt from Early Adopters**
M. Norris (Consultant)
- Simulation Process and Data Management: How to Deploy SPDM and Support CAE Teams Efficiently**
S. Kleiner, M. Krastel (:em engineering methods)
- A First Full-cloud Design Space Exploration Platform**
S. Morozov, A. Prokhorov (Datadvance)
- Coffee break**

Optional for CFD Conference:
BMW Welt Compact Tour

SPDM Session 3:
Technologies

SPDM 4: Approaches including for
Medium Companies

17:30 BMW Welt – a Place of Discovery and Amazement.

BMW Welt is full of impressive facts and fascinating stories. Go on a discovery tour (40 min.). This tour covers all the main points of BMW Welt: you will find out interesting background information on the building, its special architecture and how it was created.

The BMW Welt Compact Tour also provides a glimpse behind the scenes, explaining the complex logistics of automobile delivery to customers from all over the world. Look forward to experiencing the various elements of BMW Welt and hearing interesting talks.

www.bmw-welt.com/en/

17:30 Bus coach
18:00 Tour 1 + 2
(each group max. 30 persons)

Please note:
Limited places, registration necessary
- first come, first serve!

- 17:30 **Integrate Multi-Disciplinary Optimization into the Product Development Process**
M. Nicolich, M. Gazzin (Esteco)
- 17:55 **Simulation Data Mining as One Element of the Product-specific Knowledge Balance – a SPDM Perspective**
S. Hinsen, M. Ruschitzka (TH Köln); P. Gust (Univ. of Wuppertal)
- 18:20 **RDO meets PLM**
D. Schneider (Dynardo)
- 18:45 **Efficient Data Models and Tools for Effective SPDM Implementation**
P. Mandava, G. Shastry, M. V. Uppalapati (Visual Collaboration Technologies)
- 19:10 **Design Exploration in the Cloud: Automotive Seat Optimization for Robustness**
F.Y. Kocer, E. Nelson (Altair Engineering)

- The Role of Simulation in a Holistic Engineering Environment**
R. Illig, H. Wenzel (Dassault Systemes Deutschland)
- Expansion of the Schaeffler Development Platform Speed with a Simulation Data Management Module**
S. Sepp, G. Göß (Schaeffler Technologies); M. Krastel (:em engineering methods)
- An Approach for the Development of Requirements-Oriented Simulation Management**
S. Schweigert, H. d'Albert, U. Lindemann (TU Munich)
- Flexible Management of CAE Processes, Resources, and Data for the Medium-Sized Business and Embedding in the PLM Process**
M. Krause (ISKO engineers)
- Interpretation of Verification and Validation for Simulation Process and Data Management**
NAFEMS AMWG, presented by C. Rogers (CR Engineering)

- 19:35 - **EUROPEAN SPDM & CFD CONFERENCES – COMMON EVENT IN THE EXHIBITION**
- 21:30 **Beverages, snacks & live music – time for discussions and product demonstrations**

THURSDAY, 3RD DECEMBER 2015

European SPDM Conference – Agenda

EUROPEAN SPDM & CFD CONFERENCES – COMMON SESSION

- 08:15 **Introduction**
M. Norris (Consultant); P. Bartholomew (Consultant); Members of the DACH CFD Advisory Board (CAB)
- 08:30 **Next Steps in SPDM**
S. Minter (GKN Driveline)
- 09:00 **MoSSEC: A Proposed Standard for Sharing Modelling and Simulation Information in a Collaborative Systems Engineering Context**
A. Murton (Airbus UK)
- 09:30 **Simulation Data Management and Process Chain at Audi**
A. J. Beck, K. Gruber (Audi)
- 10:00 **Coffee break**

European SPDM Conference – Agenda

CFD Conference Session 3

- 10:40 **The FlowSimulator— A Software Framework for CFD-related Multidisciplinary Simulations**
L. Reimer (DLR - German Aerospace Center)
- 11:05 **Comparison of the ASMO Car Model with Experimental Data and Simulations**
M. Gruetzmacher (Mentor Graphics)
- 11:30 **Aero-Vibro-Acoustics for Wind Noise Application**
M. Oswald (Ansys Germany)
- 11:55 **Simulation-ready CAD for Fast Turn-around Time in CFD and Optimization**
S. Harries, M. Brenner, J. Palluch (Friendship Systems)
- 12:20 **Lunch**

CFD Conference Session 4

- 13:20 **Optimization Process for an Automotive Flap using an Automated FSI Workflow**
M. Ratzel, W. Dias (Altair Engineering)
- 13:45 **Iterative Coupling of Flow Simulation and Topology Optimization for Long-Fiber-Reinforced Plastics**
M. Spadinger, A. Albers (Karlsruhe Institute of Technology)
- 14:10 **Optimized Ship Design Using Heeds & STAR-CCM+**
D. Tatum, D. Preston (Downey Engineering); N. Chase (Red Cedar Technology); T. Yen, G. Buccilli (CD-Adapco)
- 14:35 **Workflow for an Efficient Usage of Open-Source Solver Technology for CFD and FEA**
U. Heck (DHCAE Tools)
- 15:00 **Coffee break**

CFD Conference Session 5

- 15:30 **Automation for Efficient Application of OpenFOAM to Industrial Problems**
H. Kröger (Univ. of Rostock)
- 15:55 **Accelerating CFD Workflow Using GPU's**
M. Stanic, S. Adami (FluiDyna)
- 16:20 **Femzip-CFD: Taming of the Data Pile**
S. P. Müller, P. Sunil Banerjee (Sidact)
- 16:45 **Wrap-up / Farewell**
Members of the DACH CFD Advisory Board (CAB)
- 17:00 **End of CFD Conference**

SPDM Conference Session 5

- Data & Process Management for Collaboration in Systems Engineering**
G. Staub (PDTec)
- LoCo – An Innovative Process and Team Data Management Solution for Simulation**
M. Thiele, T. Landschoff (Scale); A. J. Beck (Audi)
- Simulation Data Management in Pre- and Postprocessing**
D. Katramados, A. Roubies, D. Krontsos (BETA CAE Systems)
- A Comparison and Synergies between SPDM and a Popular “Democratization” Platform**
J. Betts (Front End Analytics); D. Silver (EASA Software); S. Dewhurst (EASA)
- Lunch**

SPDM Conference Session 6: Standards or not?

- Standardization of CAE Data Management – Collaborative CAD/CAE Integration with CAE Services**
M. Krastel (:em engineering methods); J. Boy (Prostep)
- xMCF – Standard for Documenting Connection Information**
C. Franke (Prostep); G. Zhang (Volkswagen); M. Weinert (Ford Germany)
- LOTAR Engineering Analysis and Simulation Initiative**
A. Levy (Airbus CIMPA)
- Role-based Simulation Object Management as an Enabler for Democratization in Collaborative Virtual Engineering**
C. Hepperle, C. Gnandt (Tesis DYNAware)
- Coffee break**

SPDM Conference Session 7

- Management of Material Data for a Mid-Size Simulation Work Group: Experiences and Recommendations**
R. Heimüller (MAN Truck & Bus)
- Integrated Material Data Management**
R. Dann (thinkstep)
- The Airbus A350 XWB Aircraft’s Structural Detailed Analysis with a Common Shared Platform**
C. Raick, F. Berger (Siemens PLM Software); n.n. (Airbus)
- Wrap-up / Farewell**
M. Norris (Consultant); P. Bartholomew (Consultant)
- End of SPDM Conference**

Hardware and software exhibition

Conference venue

Dolce Munich Unterschleißheim
Andreas-Danzer-Weg 1
85716 München/Unterschleißheim, Germany
www.DolceMunich.com

Hotel accommodation

Conference participants will get a reduced rate in the Dolce Munich Unterschleißheim when booking before 23 Oct. 2015. Please book your accommodation by using the online booking link on the conference website www.nafems.org/cfd2015 or by phone: Reservations Local Phone: +49 89 370 530 851 (Keyword „NAFEMS“).

Exhibition and sponsoring

The conference will be accompanied by an exhibition of software and hardware vendors, solution providers, and consultants. There are several exhibition and sponsoring opportunities available. Please request further information.

Conference language

English

Registration fees

NAFEMS members: Free
NAFEMS members can use seminar credits towards free attendance at this event. This event will charge four seminar credits per delegate.
Member without seminar credits: 490 Euro.
Non NAFEMS members: 695 Euro.
The registration fee includes conference attendance, proceedings, lunches, break refreshments and get together. Hotel accommodation is not included. All plus VAT if applicable.

Contact and further information

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The conference will be organized by the

NAFEMS DACH CFD Advisory Board (CAB)
www.nafems.org/about/tech/cfd/cab

NAFEMS CFD Working Group
www.nafems.org/about/tech/cfd

More information about the conference and online registration at www.nafems.org/cfd2015

Please complete and fax to +49 - 80 51 - 96 74 3 37 or send registration form by e-mail to roger.oswald@nafems.org

Online registration at www.nafems.org/cfd2015

- I herewith register for the NAFEMS European Conference: **Computational Fluid Dynamics (CFD) – Beyond the Solve** 2 - 3 December 2015, Munich, Germany
 - I am NAFEMS member free using 4 seminar credits
 - I am NAFEMS member – no more seminar credits available: 490 Euro plus VAT
 - I am not NAFEMS member: 695 Euro plus VAT
- Please send me exhibitor information.
- Please send me information about sponsoring opportunities.
- I herewith register for the optional **BMW Welt Compact Tour**: free of charge - limited seats - first come, first serve!

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