



**Attendance free of charge!**

## Invitation and preliminary conference agenda

# 1ST INTERNATIONAL CONFERENCE ON CAE INTEROPERABILITY 2020

**VMAP** 19-20 Oct 2020 | Online

We invite you to attend the 1<sup>st</sup> VMAP International Conference on CAE Interoperability 2020 which will be held virtual from 19 - 20 October 2020.

Interoperability is a significant topic for much of the Computer-Aided Engineering (CAE) simulation and analysis sector. Improving accuracy and speed in both product and process design is a constant requirement. A critical factor in this is enabling seamless collaboration between teams, often in different organisations, addressing different simulations and physics. This, however, presents a significant barrier.

Focusing on the many aspects, problems and possible solutions in interoperability including software implementation, simulation process integration, data transfer, standards, ontologies, and collaboration, this will be the first independent, international gathering focussing solely on interoperability.

### Conference websites:

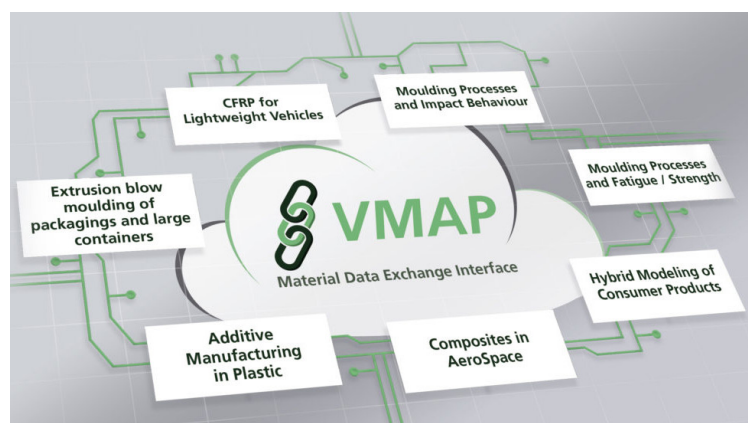
[www.vmap.eu.com/vmap-conference-2020/](http://www.vmap.eu.com/vmap-conference-2020/)

### ITEA 3 VMAP Project

VMAP is a vendor-neutral standard for CAE data storage to enhance interoperability in virtual engineering workflows.

The project is funded by national research agencies from Austria, Netherlands, Germany and Canada.

More information:  
[www.vmap.eu](http://www.vmap.eu)



Industrial Use Cases will show the need and benefits of a standardised Material Exchange Interface.

## Agenda (preliminary) – Monday, 19 October

### Session 1

- 08:45 **Welcome and Introduction day 1**  
K. Wolf, P. Gulati (Fraunhofer SCAI); G. Duffett (NAFEMS)
- 09:00 **VMAP Enabling Interoperability in Integrated CAE Simulation Workflows**  
K. Wolf, P. Gulati (Fraunhofer SCAI); G. Duffett (NAFEMS)
- 09:30 **The VMAP Material Data Interface Standard**  
– A New Approach to Unify Information Transfer in Virtual Manufacturing Workflows  
P. Gulati (Fraunhofer SCAI)
- 10:00 **Integration of VMAP into the Open Source Library PYLIFE**  
G. Kiss, D. Kreuter, J. Müller (Robert Bosch)
- 10:30 Break

### Session 2

- 11:00 **How to make an Interoperability Standard a Tool for Performance?**  
J. M. Crepel (Citran)
- 11:30 **Digital Thread to Capture and Exchange Content and Intent Across the Product Lifecycle**  
– The Key to Effective Management of Ever-Increasing Product Complexity  
M. Nicolich (ARAS)
- 12:00 **Implementation Insight and Demonstration of the Advantages of the VMAP Standard for CAE Engineers**  
T. Usta, C. Liebold, A. Haufe (DYNAmore)
- 12:30 Break

### Session 3

- 13:00 **Enhancing Interoperability of BETA Products within Complex CAE Workflows by Adopting and Integrating the VMAP Standard**  
A. Fassas, G. Mokios (BETA CAE Systems)
- 13:30 **Sheet-Metal Manufacturing Simulations Coupled to Structural Simulations for an Improved Structural Static and Fatigue Response**  
N. Laue, A. Jensen (Grundfos Holding)
- 14:00 **Simulation Chain for Fatigue Strength Assessment of Short-Fiber Reinforced Plastic Parts in the Presence of Weld Lines**  
M. De Monte (Robert Bosch)
- 14:30 Break

### Session 4

- 15:00 **3D Deep-Learning Based Surrogate Modeling and Optimization**  
L. Zampiere, P. Baqué, S. Baset, T. Allard, T. von Tschammer (Neural Concept)
- 15:30 **An Integrated Design-Process Optimization Methodology – With Two Industrial Cases**  
V. Tsai, F. Buchy (SimpaTec)
- 16:00 **Omnis – Gateway to Exchange Data Between Tools**  
Y. Baux, M. Pottiez, O. Arduini, V. Sotiaux (Numeca International)
- 16:30 **How ICME Enables Microstructure as a Design Parameter for Optimal Plastic Components**  
B. Alsteens (Hexagon - e-Xstream)
- 17:00 End of day 1



## Session 5

- 08:45 **Welcome and Introduction day 2**  
K. Wolf, P. Gulati (Fraunhofer SCAI); G. Duffett (NAFEMS)
- 09:00 **The eCI@ss Standard as Semantic Basis for CAE Product Data Exchange**  
C. Block (eCI@ss Head Office)
- 09:30 **Tailored Data Exchange Processes in Automotive Bodywork Engineering**  
A. Kreis, M. Hirz (Graz University of Technology); M. Prenner, S. Stadler (Magna Steyr Fahrzeugtechnik)
- 10:00 **CAE Software Interoperability: Impact of In-Use Properties of a Welded Part on Crash Analysis**  
L. Gaston, S. Andrietti (Transvalor); D. Even, C. Le Falher, M. Lecoq, G. Delattre, L. Guerin (Faurecia)
- 10:30 Break

## Session 6

- 11:00 **An Approach Towards Interoperability of CSM Models in the Virtual Structural Sizing and Testing of Lightweight Composite Structures**  
M. Rädcl (German Aerospace Center DLR)
- 11:30 **Data Exchange and Software Interoperability Based on MOSSEC Standard. Application to a Cabin Aircraft Architecture Process**  
A. Munck, X. Dugros, D. Sauvage (Digital Product Simulation)
- 12:00 **A Value-Focused Approach to the Deployment of Simulation Data Management to Support Multidisciplinary Simulation and Interoperability**  
M. Norris (theSDMconsultancy); G. Neveu (DPS)
- 12:30 Break

## Session 7

- 13:00 **Digital Twins in Technical Product Development: Definitions and Insights from an Industrial Case Study**  
J. Trauer, S. Schweigert-Recksiek, M. Zimmermann (Technical University of Munich); C. Engel, K. Spreitzer (Viessmann)
- 13:30 **Enhanced Simulation of Shrinkage and Warpage of Extrusion Blow Molded Parts Using the VMAP Interface Standard**  
O. Bruch (Dr. Reinold Hagen Stiftung/ TREE Institut); P. Michels, D. Grommes (Dr. Reinold Hagen Stiftung); D. Grotenburg (Rikutec Engineering)
- 14:00 **Considering the Local Anisotropy in Simulation Process Chain for Short and Long Fiber Reinforced Thermoplastics**  
P. Reithofer, B. Jilka, H. Pothukuchi (4a engineering)
- 14:30 Break

## Session 8

- 15:00 **Interoperability in Multiphysical Development Processes**  
D. Friedemann, J. Rademann (HTW Berlin); B. Näser (BMW Group)
- 15:30 **Mapping of Microstructure Information to FE-Meshes by Means of Computed Tomography**  
B. Lauterbach, P. Pinter (Volume Graphics)
- 16:00 **Qualitative Study for Energy Consumption of Domestic Appliances**  
A. Naiknaware, S. Sahoo, J. Chhatre, A. Shukla (Whirlpool)

## Session 9

- 16:30 **External: Closure and General Q&A**  
K. Wolf, P. Gulati (Fraunhofer SCAI); G. Duffett (NAFEMS)
- 17:30 End of conference



## Organization

### Conference „venue“

Online - registrants will receive login information for the conference online platform a few days before the event.

### Conference language

English

### Delegate Fee

Attendance is free of charge - registration required.

### Exhibition

We would like to extend our invitation to your company to be part of the conference as exhibitor. Please find further information on the NAFEMS conference website: [www.nafems.org/vmap](http://www.nafems.org/vmap).

### NAFEMS Membership

If you are interested in membership please contact Mr. Paul Steward ([paul.steward@nafems.org](mailto:paul.steward@nafems.org)). Please find also information at [www.nafems.org/join](http://www.nafems.org/join).

### Conference Organisation

NAFEMS Deutschland, Österreich, Schweiz GmbH  
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### Conference website and online registration

[www.vmap.eu.com/vmap-conference-2020](http://www.vmap.eu.com/vmap-conference-2020)

## More NAFEMS Conferences

# NAFEMS20

## REGIONAL CONFERENCES



[www.nafems.org/2020](http://www.nafems.org/2020)



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## Call for Papers!

Submit title and short abstract by 3 November 2020 at

[www.nafems.org/congress](http://www.nafems.org/congress)