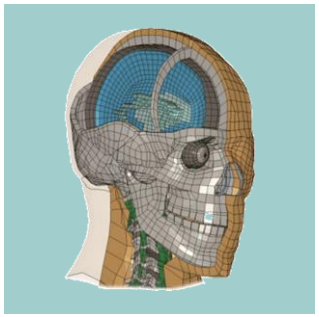


# DYNAmore GmbH
# LS-DYNA

## Informationstag über Menschmodelle – Überblick und Erweiterungsmöglichkeiten

2 Juni 2016

# DYNAmore – The Company

- Countries and their Headquarters
  - Headquarters in Stuttgart
  - Nordic – Linköping
  - Swiss – Zurich
  - Italia – Torino
  - France – Versailles
- Further Offices
  - Ingolstadt
  - Dresden
  - Langlingen (Wolfsburg)
  - Berlin
- Customer-dedicated (“nearfield”) Offices
  - Sindelfingen (Daimler AG)
  - Weissach (Porsche)
  - Ingolstadt (Audi)
  - Gothenburg (Volvo)

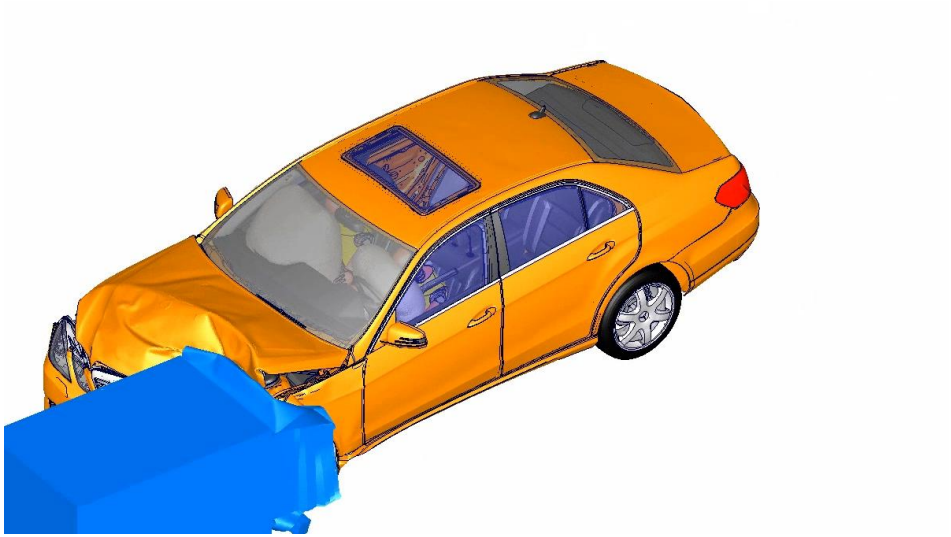

Stuttgart [Headquarters]

# DYNAmore – The People

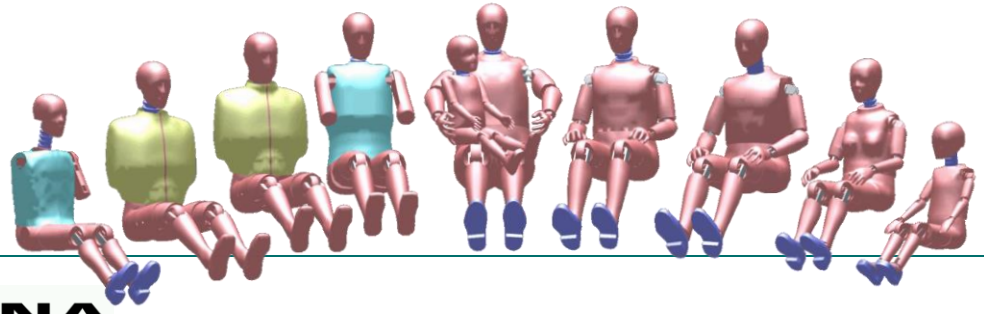
- Who we are
  - In total close to 100 people
  - Civil and mechanical engineers, mathematicians, computer scientists,…
  - The employees are from 13 different countries

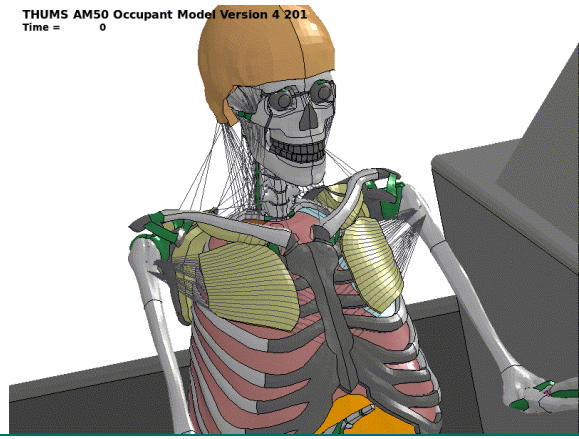
# DYNAmore – The Products

- Software
  - LS-DYNA
  - LS-OPT und LS-TASC
  - LS-PrePost
  - eta/DYNAFORM
  - OmniCAD
  - FEMZIP
  - Digimat
- Models
  - Barrier and impactor models (Arup/Daimler/Porsche)
  - Dummy models (FAT/PDB/Humanetics/LSTC)
  - Human model (THUMS)



Courtesy of Daimler



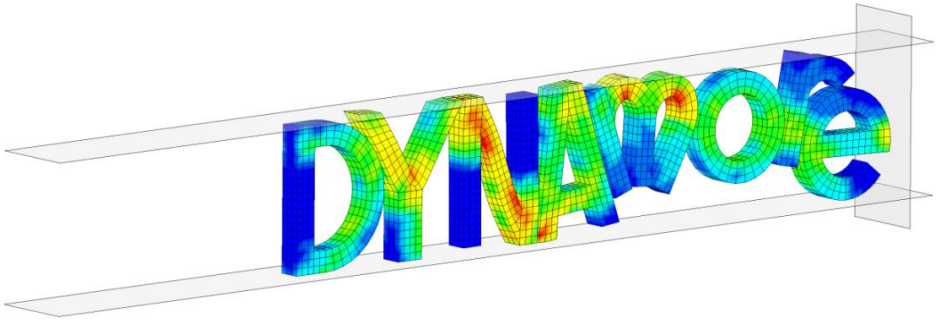


# DYNAmore – The Services

- Software
  - European master distributor for LS-DYNA (w/o UK), plus Turkey and Brazil
  - Support and sales LS-DYNA
- Engineering
  - Benchmarking
  - Pilot projects
- Development
  - Software development
  - Material & dummy models
  - System & process integration
  - Method development
- Training
  - Seminars & on-site coaching
  - Conferences
  - Support

# DYNAmore – Further Activities

- Software development for:
  - 6 developers for LS-DYNA
  - 2 developers for LS-OPT
  - 1 developers for LS-PrePost




- IT Services
  - Process integration of LS-DYNA
  - CAx Data Management
    - Simulation Data Management (SDM)
    - Load case Composer (LoCo)
  - Process monitoring (Status.E)
  - Report generation (CAViT)

NEW

Since 01.09.2014: SCALE GmbH

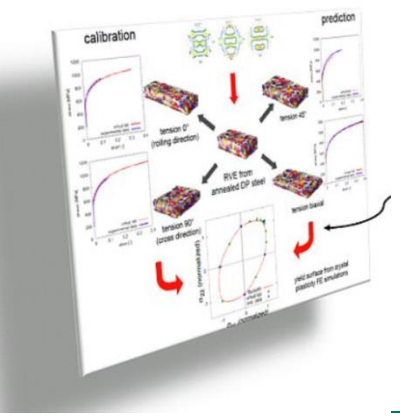
SCALE
IT-Solutions for CAE

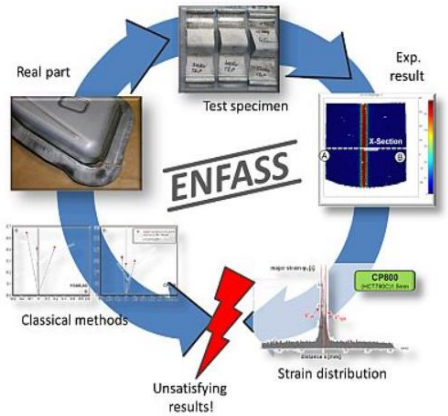
# DYNAmore – Examples for Advanced Customer Support

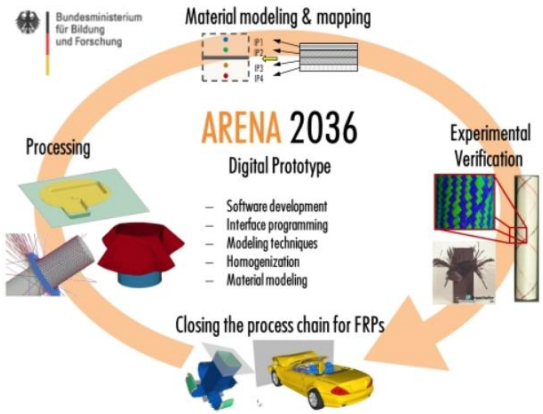
- Customer specific revisions of LS-DYNA
- Material development (SAMP, GISSMO, etc.)
- Mapping of simulation data (forming, composites, etc.)
- Material parameter determination
- Connection modeling, …

NEW Lab

- Partner in many research projects (national/ international)
  - Composites: Swim-RTM, T-Pult, ARENA 2036, 3dProCar
  - Forming: ENFASS, TWIP4EU
  - Many more

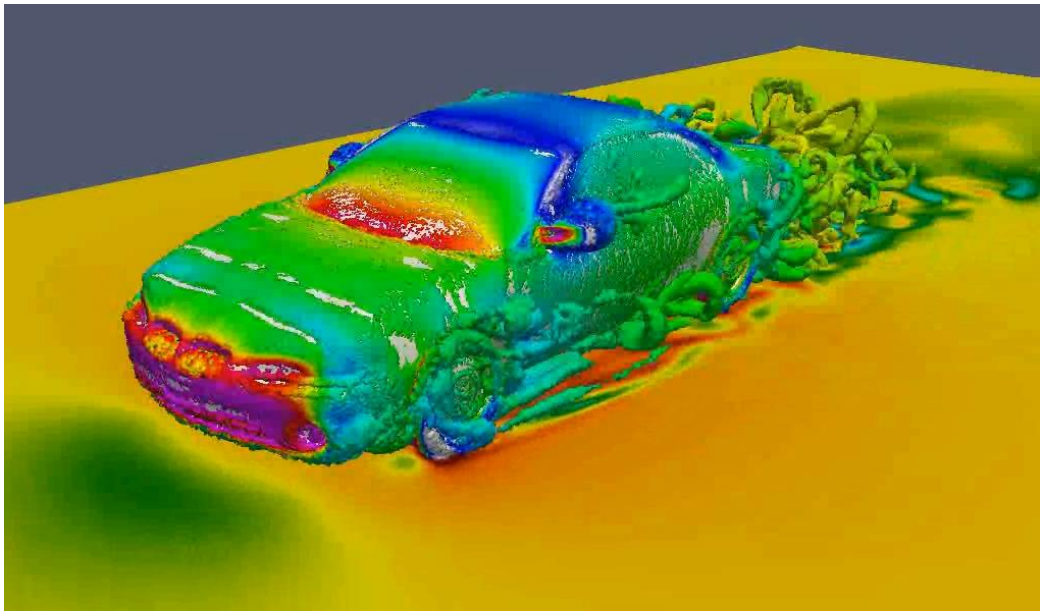


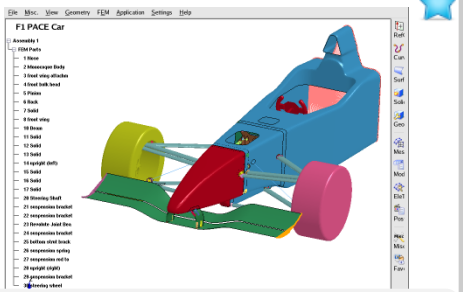



# DYNAmore – The Customers

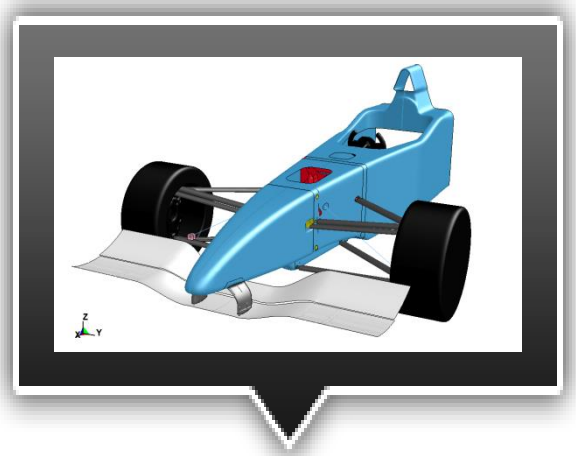
- Support is given to
  - All automotive OEMs in Europe (except UK), that use LS-DYNA
  - As a consequence, automotive suppliers and engineering consulting companies
  - Over 150 Universities and Research Organizations
  - Well over 100.000 cores running with LS-DYNA



# LSTC Product Suite

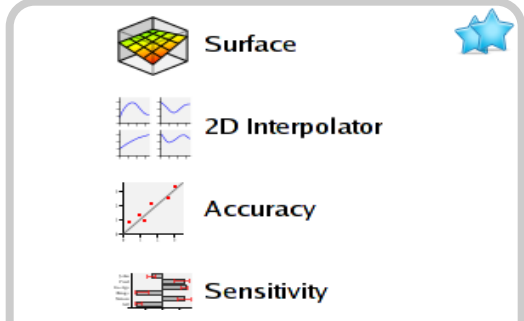


LS-PrePost

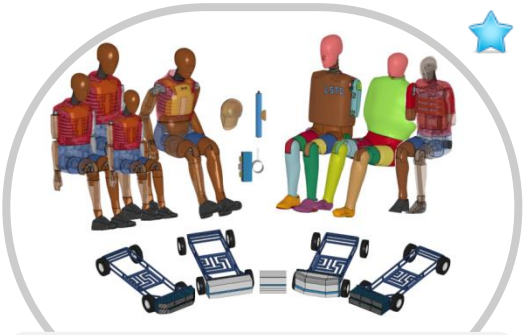


LS-DYNA

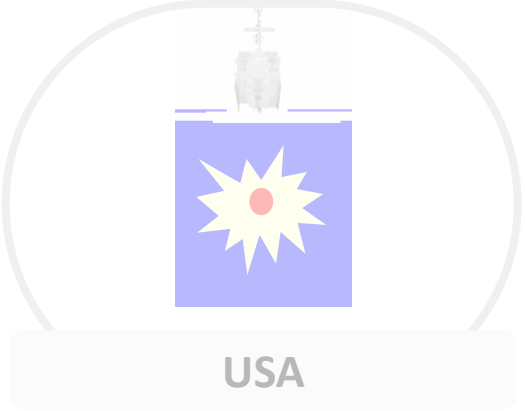
One License – all features




LS-OPT/LS-TaSC



Dummies & Barriers



USA

FREE OF CHARGE!

# More Information on LSTC Product Suite

- Livermore Software Technology Corp. (LSTC)
  www.lstc.com

- LS-DYNA
  - Support / Tutorials / Examples / FAQ
    www.dynasupport.com
  - More Examples
    www.dynaexamples.com
  - Conference Papers
    www.dynalook.com
  - YouTube Channel
    www.youtube.com/LSTCandDYNAmore
  - European Master Distributor
    www.dynamore.de

- LS-PrePost
  - Support / Tutorials / Download
    www.lstc.com/lspp
- LS-OPT / LS-TaSC
  - Support / Tutorials / Examples
    www.lsoptsupport.com

# LS-DYNA – Conferences

- 14. German LS-DYNA Forum
  - 10-12 October 2016 in Bamberg
  - ~80 user presentations (Daimler, Opel, Porsche, etc.)
  - Workshops on specific topics
  - ~320 attendees

Welcome Kongresshotel Bamberg

Courtesy of Prof. Dr. Ing. h.c. F. Porsche AG

Plenary room

- 11. European LS-DYNA Conference
  - 9-11 May, 2017 in Salzburg, Austria
  - ~550 attendees expected

# Outline of the Information Day

| | AGENDA, 2. JUNI |
|---|---|
| 13:30 | **Begrüßung und Einführung**<br>N. Karajan (DYNAmore) |
| 13:40 | **Aktuelle Anwendungen und Entwicklungen des THUMS-D – Status der Implementierung und Validierung aktiver Muskeln**<br>C. Mayer, A. Oeztuerk (Daimler AG); J. Blaschke (Universität Stuttgart, INSPO) |
| 14:10 | **Die Vision des „Overall Human Modell" im Exzellenzcluster SimTech an der Universität Stuttgart**<br>Prof. J. Fehr, Prof. O. Röhrle, Prof. S. Schmitt (Universität Stuttgart) |
| 14:30 | **Dreidimensionale, kontinuumsmechanische Modellierung des muskuloskeletalen Apparates**<br>Prof. O. Röhrle (Universität Stuttgart CBM, Fraunhofer IPA) |
| 14:45 | **Das menschliche Verhalten bei seitlichen Fahrzeugmanövern – „Far-Side" Crash, Spurwechsel und Seitenkollision**<br>Prof. J. Fehr (Universität Stuttgart ITM) |
| 15:00 | **Computersimulation mit einem digitalen Menschmodell zur Prognose von Produkt- und Produktionsergonomie**<br>Prof. S. Schmitt (Universität Stuttgart INSPO) |
| 15:15 | Kaffeepause |
| 15:45 | **From Head-neck Biomechanics to Advanced Injury Prediction Tools**<br>Prof. R. Willinger, C. Deck, N. Bourdet, F. Meyer (University Strasbourg, CNRS Strasbourg) |
| 16:15 | **Aktuelles von den THUMS Menschmodellen**<br>D. Fressmann (DYNAmore) |
| 16:45 | **Das CASIMIR-Modell für die Simulation von Sitzkomfortanwendungen – Status für LS-DYNA**<br>N. Lazarov, D. Fressmann (DYNAmore); A. Siefert (Wölfel Beratende Ingenieure) |
| 17:15 | **Ende** |