Wednesday, May 23, 2007

Introduction
13:00 Welcome and Introduction
C. Rossow, N. Kroll, DLR

13:10 National CFD Project MEGADESIGN – Motivation, Objectives, Milestones
N. Kroll, DLR

13:25 Overview DLR Project MegaOpt
D. Schwamborn, DLR

Milestones M1 & M4 – Reduction of Simulation Time
13:40 TAU Solver Improvement
R. Dwight, DLR

14:05 Recent Developments of TAU Adaptation
Th. Alrutz, D. Vollmer, DLR

14:30 Adaptive Wall Function for Prediction of Turbulent Flows
T, Schmidt, C. Mockett, F. Thiele, Berlin University of Technology

14:55 Acceleration of CFD Processes for Transport Aircraft
E. Elsholz, Airbus

15:15 Efficient Combat Aircraft Simulations with TAU RANS Code
H. Rieger, K. Soerensen, EADS-MAS

15:35 Pause

Milestone M2 - Preparation of optimization scenarios
15:55 Geometry Parametrization for Shape Optimization
A. Ronzheimer, DLR

16:20 Knowledge Capturing by Best Practice Methods for Optimization
O. Frommann, Synaps Ingenieur-Gesellschaft mbH

16:45 ModeFrontier, a Framework for the Optimization of Military Aircraft Configurations
L. Nardin, K. Soerensen, S. Hitzel, U. Tremel, EADS-MAS

Milestone M3 - Adjoint Methods for Optimization
17:05 Theory and Application of Adjoint Methods in TAU
R. Dwight, J. Brezillon, M. Widhalm, DLR

17:30 One-Shot Methods for Aerodynamic Shape Optimization
V. Schulz, Trier University

17:55 Closing 1st Day
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**Milestone M3 - Adjoint Methods for Optimization (continued)**

9:00  Automatic Differentiation of FLOWer  
R. Giering, FastOpt  

**Milestone M5 - Aerodynamic Optimization of 3D Configurations**

9:25  Aerodynamic Design Methods in High-Lift Configurations  
J. Brezillon, DLR  
9:50  Aerodynamic Design Optimization of a UAV  
S. Hitzel, L. Nardin, K. Soerensen, EADS-MAS  

**Milestone M6 - Fluid Structure Coupling**

10:15  Numerical Methods for Aeroelastic Analysis and Aircraft Design  
L. Reimer, RWTH Aachen  
10:40  Break  
11:00  Development and Application of TAU-ANSYS Coupling Procedure  
R. Heinrich, DLR  
11:25  Fluid-Structure Coupling: Simplified Structural Modal on Complex Configurations  
E. Elsholz, Airbus  

**Milestone M7 / M9 - Improvement of Simulation Quality**

11:50  Universal Wall Functions for Aerodynamic Flows: Turbulence Model Consistent Design, Potential and Limitations  
T. Knopp, DLR  
12:15  Near-Wall, Reynolds Stress Model Calculations of Transonic Flow past Aircraft Configurations  
S. Jakilic, Darmstadt University  
12:40  Lunch  
13:30  Transition Prediction for Three Dimensional Configurations  
N. Krimmelbein, Braunschweig University  
13:55  Simulation Quality Assessment for Transport Aircraft  
K. Becker, Airbus; J. Häuser, HPCC  

**Milestone M8 - Multidisciplinary Optimizations**

14:20  Flexible Wing Optimization Based on Shapes and Structures  
H. Barnewitz, Airbus  
14:45  Multidisciplinary Optimization of a UAV combining CFD and CSM  
S. Hitzel, L. Nardin, K. Soerensen, H. Rieger, EADS-MAS  

**Assessment and Outlook**

15:10  Assessment of Project and Outlook  
N. Kroll, DLR  
15:20  Final Discussion  
15:30  Closure