

CPM GmbH 2006
Fields of Business

- Consultancy in cold, warm and hot forging
- R&D in public funded and bilateral projects
- Simulation as service
- Development of simulation systems
- Material-data (incl. investigation in mat.-data)
- Distribution of tooling etc.



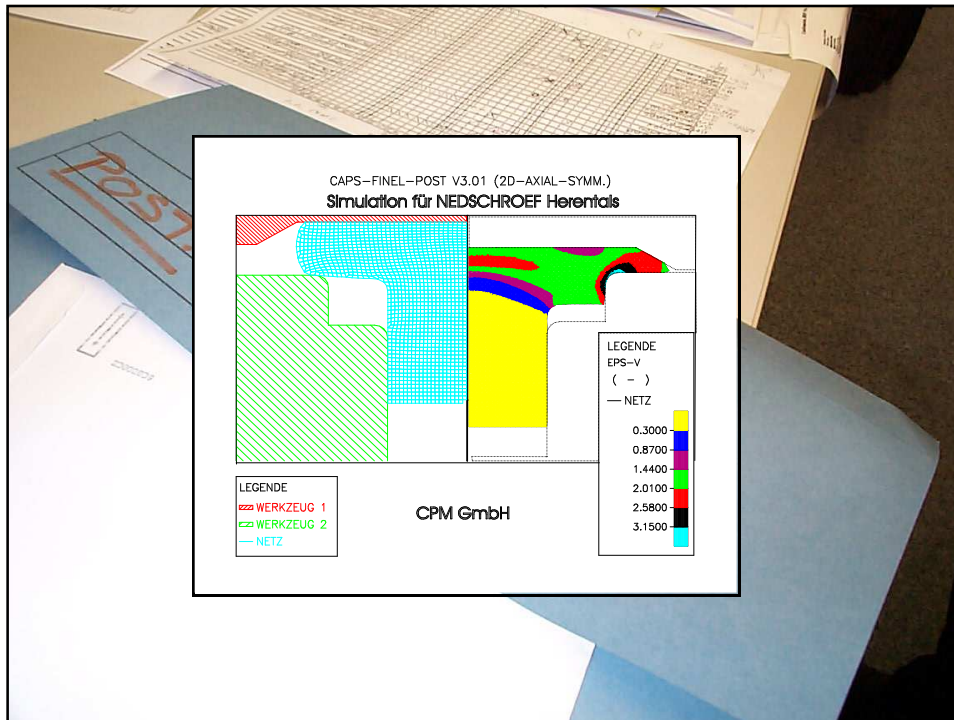
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- Consultancy in cold, warm and hot forging

Example: Partial forming

Task : Progression planning

(Project in co-operation with Nedschroef)



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- Consultancy in cold, warm and hot forging

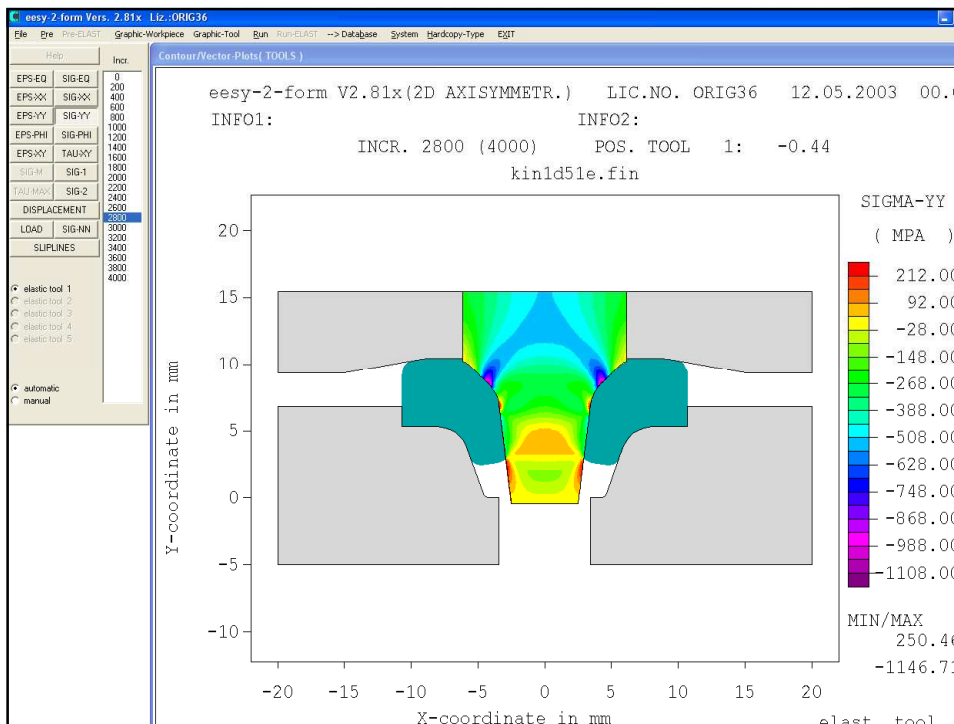
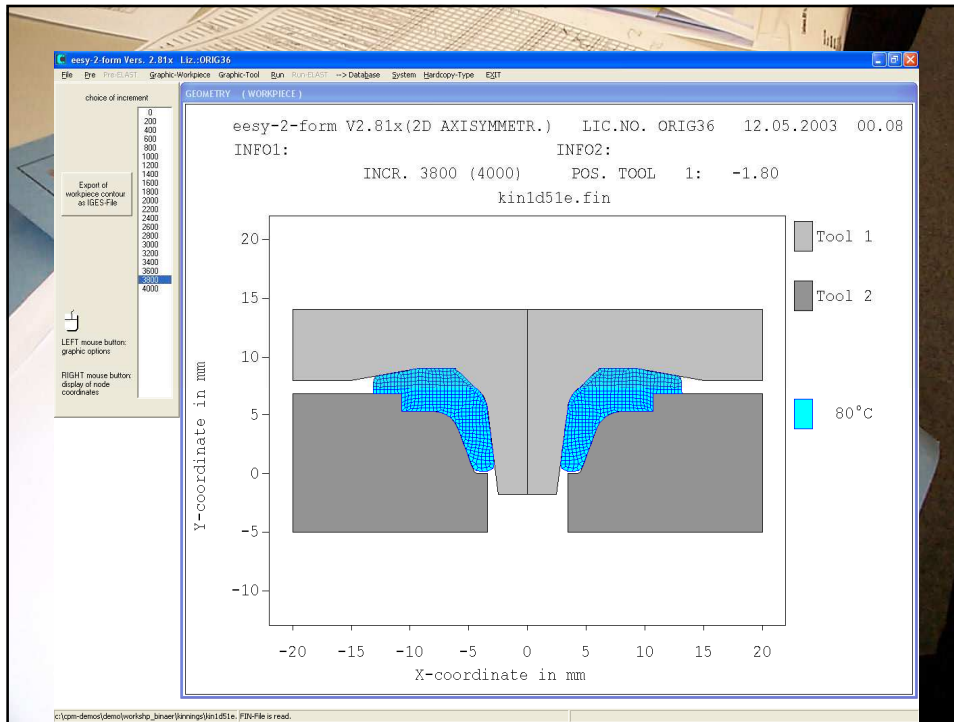
Example: Valve Spring Retainer

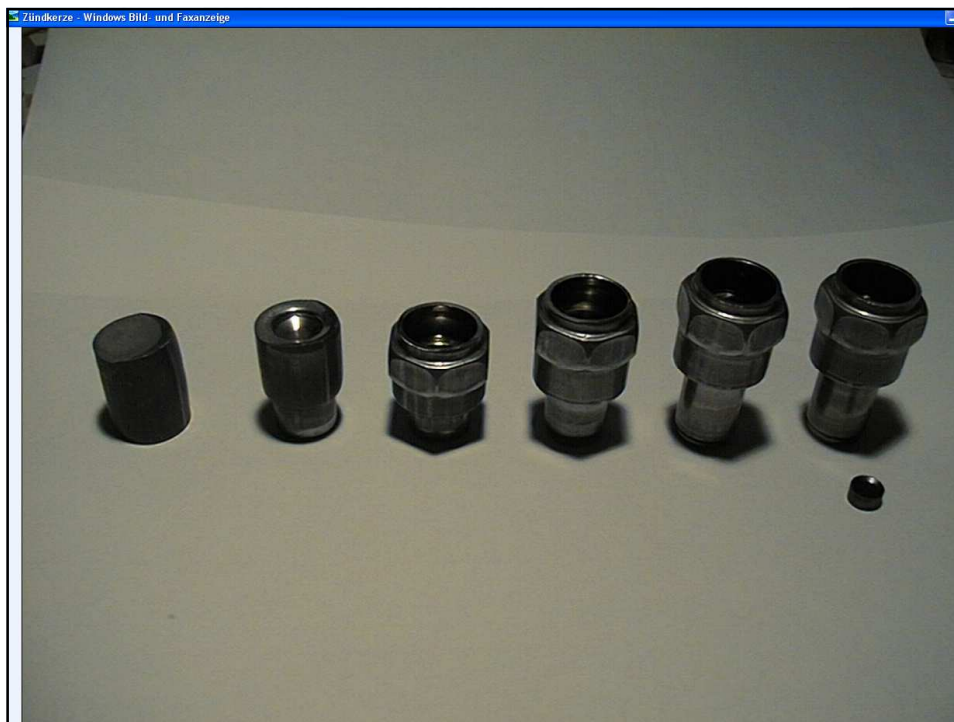
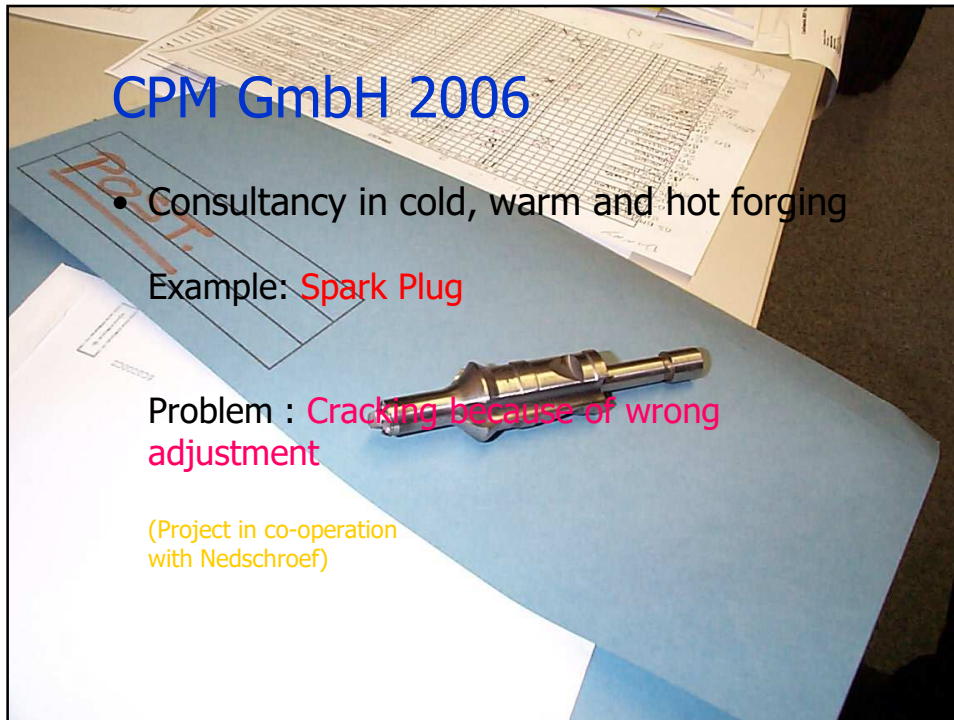
Task : prediction of a crack in the punch

•Gerhard Arfmann



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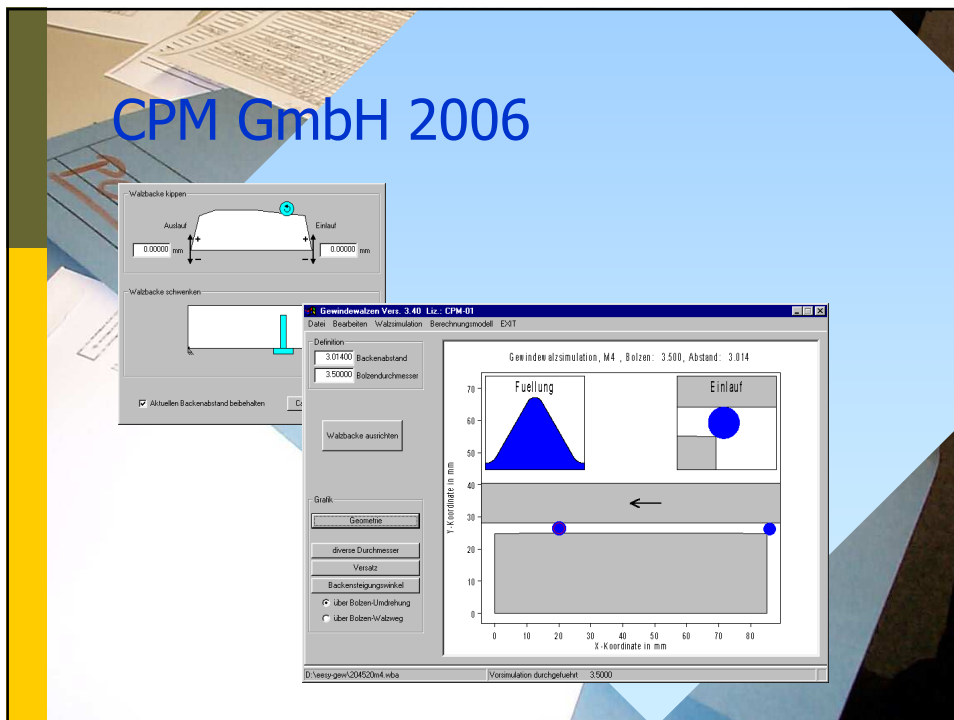




R&D in public funded and bilateral projects

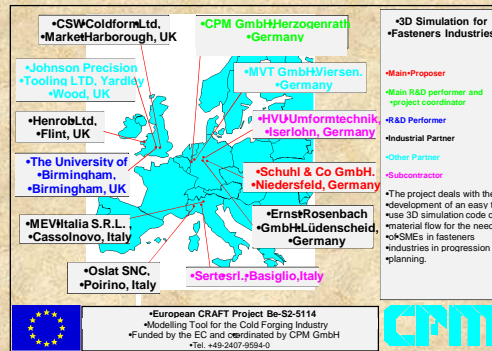
Verbundprojekt:

Verbesserte Verfahren der Gewindeherstellung

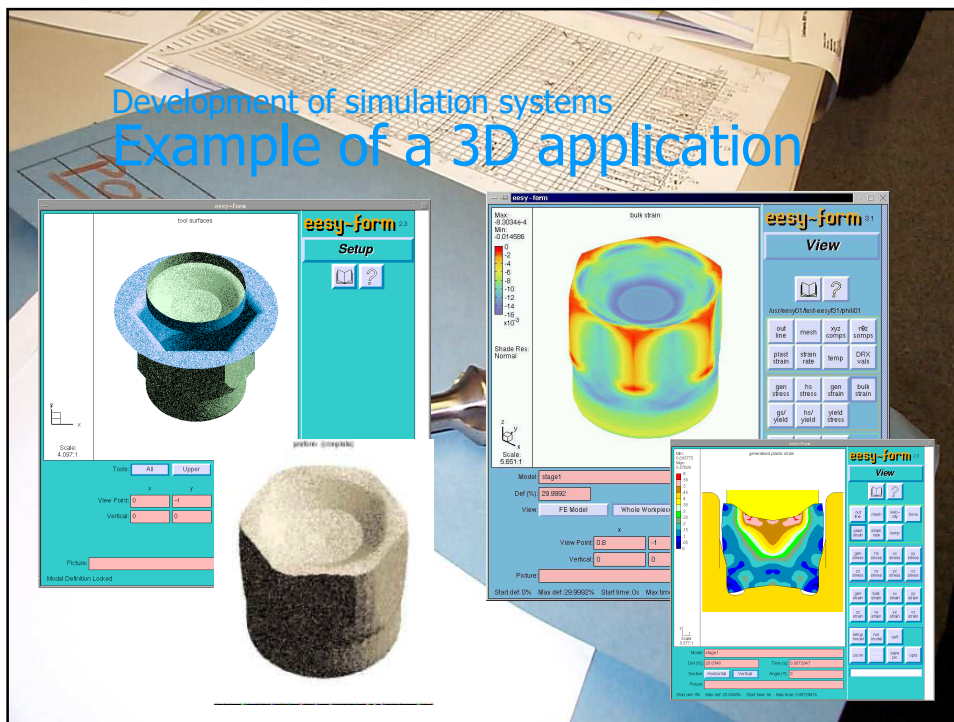


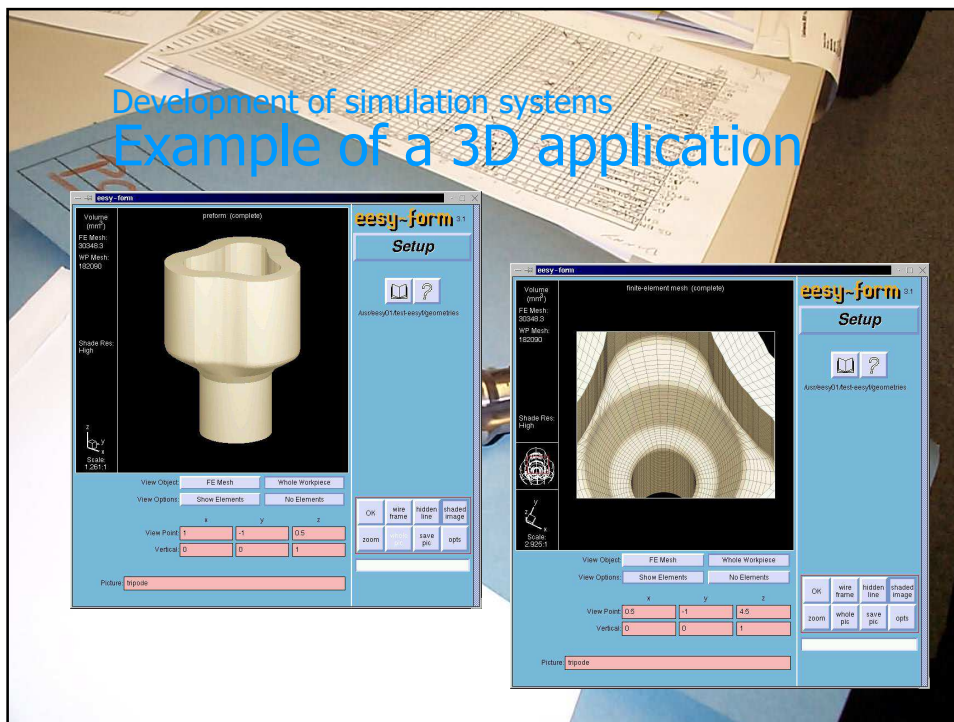
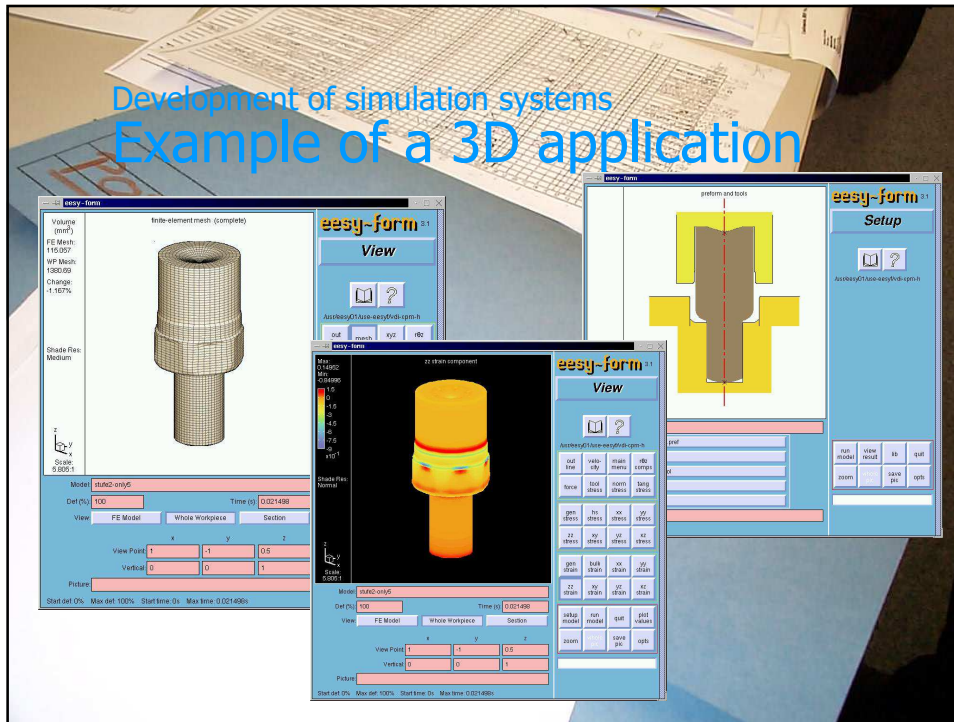
R&D in public funded and bilateral projects

EU-Project:



Special 3 D Simulation System for Fasteners Industries





R&D in public funded and bilateral projects: Forgenet

FORGE - NET	
Cluster 1: 2D-Pseudo 3D and 3D Finite Element Simulation Co-ordinator: IFUM, Universität Hannover, Germany	
Cluster 2: Fast Simulation and Preform Design Co-ordinator: University of Bath, UK	
Cluster 3: Workpiece Properties Co-ordinator: CPM GmbH, Germany	
Cluster 4: Automatic Design of Forged Parts Co-ordinator: LABEIN Technological Research Centre, Spain	
Cluster 5: Interface Properties Co-ordinator: Helsinki University of Technology, Finland	

EUROPEAN THEMATIC NETWORK
Modelling Tools for the Forging Industry
Funded by the EC and co-ordinated by the University of Bath
<http://www.bath.ac.uk/Departments/Eng/fsu/>

UNIVERSITY OF BATH

Forge-Net (EG-Brite Euram-Network)

Simulation of microstructure

The screenshot shows the 'eesy-2-form' software interface. The main window displays a 'Kontur/Vektor-Plots' window with a stress distribution plot. The plot shows a cross-section of a part with a color scale for stress (F min) ranging from 4.0000 (magenta) to 70.6000 (red). The axes are labeled 'X-Koordinate in mm' and 'Y-Koordinate in mm'. The plot shows a high-stress region (red) on the right side of the part, indicating a stress concentration.

R&D in public funded and bilateral projects

Innovative processes in producing screws (Aluminium) (MWMTV-NRW)

Vom Ministerium für Wirtschaft, Mittelstand, Technologie und Verkehr des Landes NRW gefördertes
Verbundprojekt "Innovative Fertigungsverfahren in der Schraubenindustrie"

Ziel: Die Erhaltung von hochentwickelten Know-how zur Herstellung von Aluminium-Schrauben in Deutschland

Beteiligte Firmen und Einrichtungen: 20

Kapital: DM 3,2 Millionen

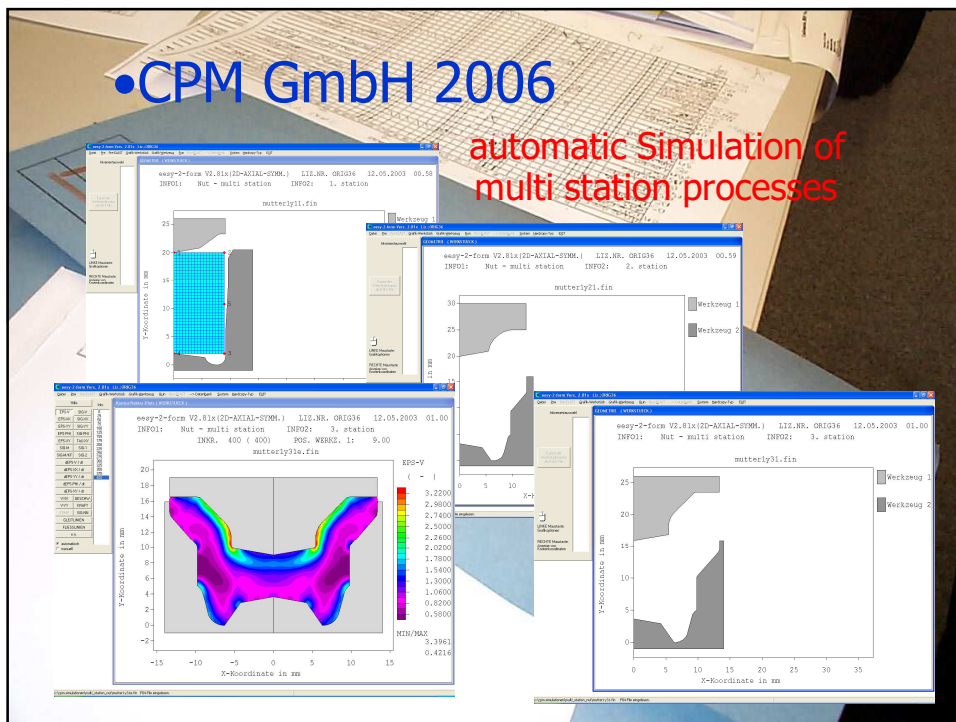
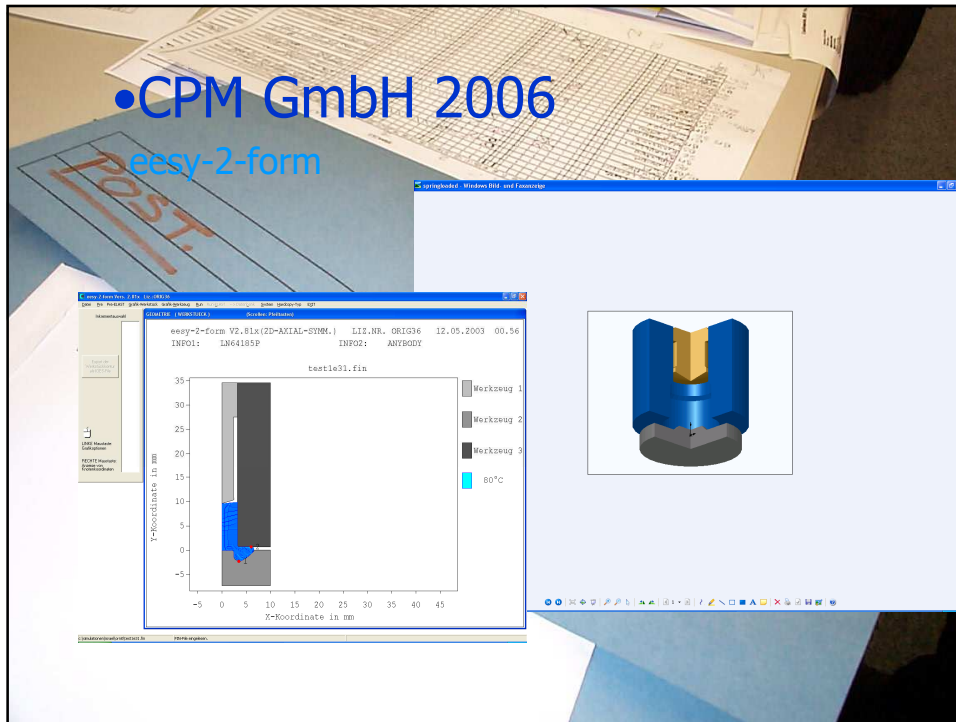
Fördermittel: DM 1,6 Millionen

Heinrich Heine, Universität, Düsseldorf, 14.08.2006

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- **Tasks to solve:**
 - Garde of aluminium
 - History before forging (casting, drawing, heat-treatment)
 - Forging technology
 - Progression
 - Tooling
 - Tool Coating
 - Lubrification
 - Handeling
 - Heat-treatment
 - Coating



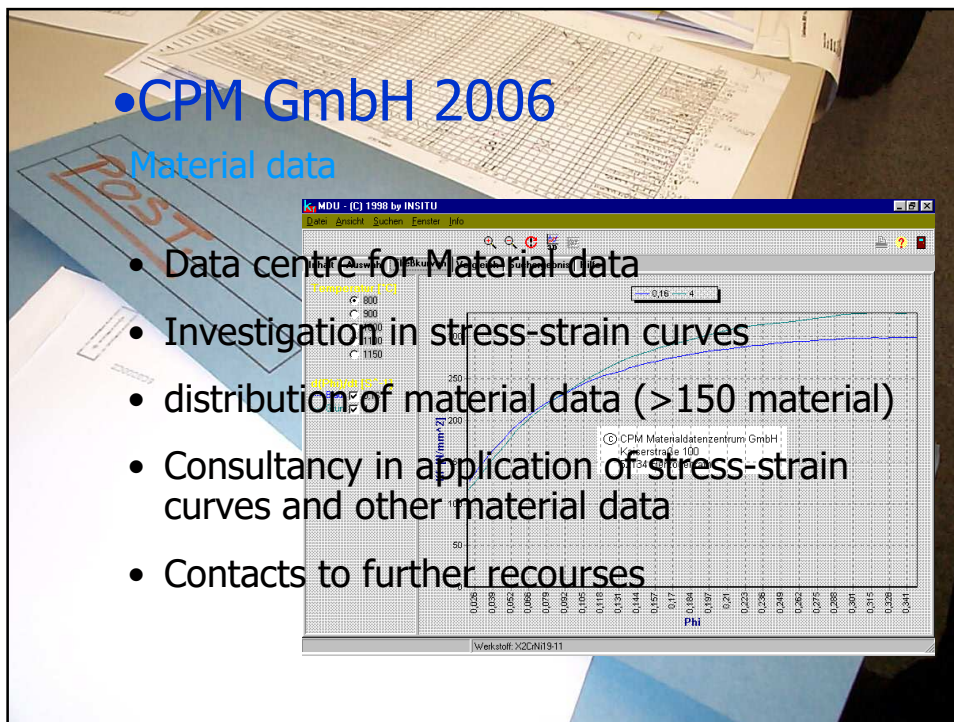


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Distribution of Tooling/etc.

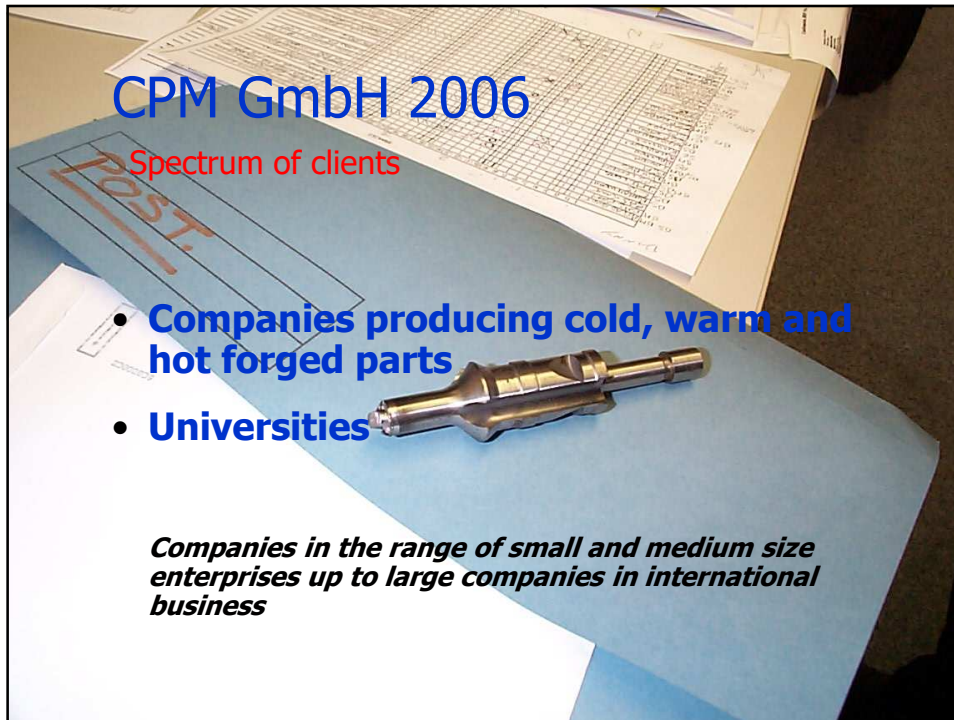
- **Tooling of TNP for Cold-forging Standard tools und Specials**
- **Dosing-systems of Serte**
- **Tooling of Eurotool**
- **Tool shrink analysis (MatriA)**



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Partners

- **India King Impex, India**
- **Chang Chi Metal, Taiwan**
- **Dagan Shanghai, China**
- **Chierichetti, Italy**
- **Consultec, Brazil**
- **COMTESA, Spain**
- **Jin-A Commerce, Korea**
- **Extrusion Process System, Singapore, Malaysia, Ind.**
- **Johnson Machines and Tooling, UK + Ireland**
- **Nedschroef, Begium + Worldwide**



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Spectrum of clients

- **Companies producing cold, warm and hot forged parts**
- **Universities**

Companies in the range of small and medium size enterprises up to large companies in international business



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- This is just an overview. There is much more to tell. In case of interest please call
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