

Industry Sector	RTD Thematic Area	Date
	E&D and DLE	24th Feb 2005

**FENET Design by Analysis Workshop,  
Budapest, 24<sup>th</sup> February 2005**

**Co-chairmen:**

**John Smart, North East Wales Institute, Wrexham  
Co-ordinator Education & Dissemination**

**Nicola Petrone, University of Padova, Italy  
Co-ordinator Durability & Life Extension**



## **The objectives of the workshops are to:**

**Identify the state of the art of Design by Analysis in different industries.**

**To identify common problems of Finite Element Analysis validation and acceptance in Design Codes of Practice.**

**To find areas where NAFEMS can contribute to advancing Design by Analysis either by dissemination of information or in the validation of results.**



## Some of the topics to be addressed are:

- **What is the status in your industry? Can the results of finite element analyses be readily used or do the design codes need to be adapted to use the analysis results?**
- **Conflicts between design code requirements and finite element analysis results.**
- **Problems encountered in finite element analysis validation.**
- **Problems encountered in Design by Analysis. Have any changes been made to design codes to accommodate finite element analyses?**
- **Validation of analysis results.**



- **What can NAFEMS do to assist? Is there scope for groups to address common problems? Are there educational issues that need addressing?**
- **The legal position. Are there any problems associated with negligence liability when using the results of finite element analyses?**
- **Is there any pressure within industry to use finite element analyses rather than design codes? If so, what are these pressures?**

**Also, what are the QA issues involved?**



## **Programme**

**John Smart, North East Wales Institute, Wales**  
**Introduction**

**Fernando Espiga, LABEIN, Technological Centre Derio, Spain**  
**Design by Analysis in the Automotive Industry**

**Jack Reijmers, IV-Nevesbu, Netherlands**  
**Design by Analysis in the Marine Industry**

**Iain Davidson, Department for Transport, United Kingdom**  
**Design by Analysis – A Regulator's viewpoint**

**Refreshment Break**



**Casamir Katz, Sofistik, Germany**

**How do international design codes allow for analysis - Differences between "Codes of Practice" and "Structural Mechanics" based on EC/BS/BAEL/DIN/SNIP etc in Civil Engineering".**

**Franz Rauscher, Vienna University of Technology, Austria**

**Tresca's or Mises' yield condition in pressure vessel design**

**Lunch**



**Donald Mackenzie, University of Strathclyde, Scotland**  
**FEM in Pressure Vessel Design By Analysis**

**Hongjun Li, University of Strathclyde, Scotland**  
**Applying Advanced FEA to Pressure Vessel Design**

**Chris Rogers, CREA Consultants**  
**Validation of Analysis in Design by Analysis Projects**

**Refreshment Break**

**Discussion**

