

**Minutes of the Technical Advisory Board for Mechanical Environments of the  
Confederation for European Environmental Engineering Societies  
Held on 16<sup>th</sup> February 2006, Brussels, Belgium**

Present at the Meeting of the Technical Advisory Board for Mechanical Environments (TABME) were;

Dr Ulrich Braunmiller	GUS
Mr Ueli Grossen	SSEE
Mr Markku Juntunen	KOTEL
Mr. David Richards	SEE (Chairman)
Mr Thomas Trost	SEES
Dr Karl Zieghan	GUS

### **Matters Arising**

Apologies were received from Dave Corben (Plot). A new member of the TABME, Ueli Grossen of RUAG Land Systems, introduced himself. A list of TABME members, including corresponding members, was circulated. As usual this list is attached to the minutes as Attachment No 1.

### **CEEES Website – TABME Content**

The chairman reminded the group that discussions had occurred at the last meeting on the content of the website. Currently the website does not include any real information on the individual TAB's. The chairman had prepared a CD with information on the TABME as well as associated reports. The CD contained;

TABME Home Page. A home page setting out the aims and short history of the TABME.

Members – Existing membership list. A brief description of each of the TABME members had been circulated previously with the intended that this should go on the CEEES website.

Meetings – last and historic meeting minutes. Previous minutes (all since 1995 plus one from 1993), in PDF form, however, the minutes of the earlier meetings do not include all the attachments, which had been circulated in hard copy form only.

TABME Studies – Reports on the two round robins are available in PDF format. It was previously agreed not to put up the data for the second round robin (which were still available) or the first (about 40% of the full data record are available in digital form, it was originally supplied in analogue form, thanks to the efforts of ASTE).

TABME Reports & Studies supported by TABME – A number of papers had been included the SRETS final report which had been supplied by Ulrich. The inclusion of additional papers was discussed in particular one from Markku.

Methodologies Championed – In particular some of the work on FDS & MRS such as earlier workshop note.

CEEES Workshops and Conferences. The presentations made at several CEEES workshops and conferences.

Chairman's Note: Since the TABME, a copy of the CD has been supplied to the webmaster and a proportion of the content is now available on the CEEES website. Copies of the CD were generated by the secretariat and circulated to those who attended the CEEES main committee.

### **Systematisation of Measurement Methodologies**

**STANAG 4370.** The chairman reported activity that he had occurred since the last NATO Stanag 4370 meeting held in Glasgow. The main work had been to prepare the final text of version 3 prior to submission to NATO for circulation. The UK DSTAN organisation were converting the text into the correct format for circulation. The group were reminded that the NATO ratification process can take around 2 years. It was mentioned that the

group responsible had recommend the Stanag be designated as releasable on the internet. Following a discussion it appeared that Mr Ueli Grossen was invited to the next Stanag meeting.

**Mil Std 810G** The meeting were reminded that the US had widely circulated a request for comments and proposals for Mil Std 810G. It was understood that the various working groups that will generate the new version were currently been formed.

**Def Stan 00-35.** The chairman reported that work on Def Stan 00-35 version 4 was now at DSTAN for conversion into the new format. The anticipated date for publication was June or July 2006. It had been previously reported that the vibration and shock test severities were been revised and that new chapters included on test rigs as well as control strategy. Version 4 would also include a new guidance section on the generation of test programmes and a number of operational usage profiles specifically applicable to environmental life assessment. Def Stan 00-35 along with many other UK defence standards can be downloaded from [www.dstan.mod.uk](http://www.dstan.mod.uk)

**IEC TC104.** It was stated that a new chairman of TC104 had been found (Herman Rouss) and that a meeting was planned for June 2006 in Kista, Sweden. The TC104 meeting was split to allow working groups to occur in the same week. The group were shown four draft mechanical tests; sine vibration at temperature, sine vibration, random vibration and shock and bump. Some discussion on these occurred.

**DIN 30786/7.** Karl indicated that this work continues.

**CEN TC 261 SC5 WG14 – Test Methods & Test Schedules .** The next meeting of this group was scheduled for 10<sup>th</sup> May in Paris. Both Ulrich and Thomas reported on progress. A discussion occurred on WG14 draft paper N173 testing schedules. It was observed that this work seemed to be in parallel with ISO TC 122 which was also preparing a similar document (ISO 14080). It was to be recommended that both documents be combined. At the last TABME it was reported that the DIN Std had been offered as a PAS to this group. It was reported that finally sufficient countries (5) had voted YES with a technical experts. However, work on the document was yet to start.

**UN Orange Book.** The status of US / Spanish proposal for the inclusion of a vibration test were not known group and no information was available at this meeting.

**ISO TC 108.** A draft document recently circulated by this group (ISO/DIS 21289) on shock and vibration analysis, was discussed. It was observed that portions of this document were similar to the DIN std discussed earlier and supplied to ISO & CEN as a PAS document. It was agreed that the group would sent comments to the chairman for forwarding to the relevant ISO committee.

**ISTA.** Thomas Trost observed that the ISTA conference in the US was to be held on package testing. Information could be obtained from [ISTA.org](http://ISTA.org).

**CEN WS 10 (Workshop on Defence Procurement).** It was reported that little had occurred in the work of this group since the last TABME meeting. However, the next phase of the work was close to agreement. The expert group topics for the next phase are;

- EG9 Land vehicles (included at request of EDA)
- EG10 Ammunition
- EG11 Paint and Coatings
- EG12 Fluid handling systems
- EG13 Life Cycle management (service life prediction)
- EG14 Life cycle technical documents
- WG15 Portable electrical power supplies
- WG16 Terminology

It was reported that the EDA is now represented at CEN WS 10. The reports of the first 8 Expert Groups are available at [www.defense-handbook.org](http://www.defense-handbook.org)

**Overview** At a previous meeting the group had generated an overview of European and International work currently underway relating to transportation stresses. That overview was included as an attachment in the

minutes of the last meeting. This meeting reviewed and updated the chart. The updated version is include here as attachment No 2. [Chairman's note: It is intended to review this chart on a regular basis.]

### **Technical Papers - Working Practices**

Updated copies of the methodologies paper were circulated. This included an example for each method as discussed at the last meeting. Following some discussion it was agreed that the TABME would comment within 4 weeks. The comments would integrated into a final draft for the next meeting.

### **Topics for Future Consideration**

The members of the TABME had previously identified a number of potential future topics for future consideration;

Basic techniques for data collection / analysis.

FDS / MRS - Potential variations between different methods.

Test tailoring – “How do other people do it?”

Lean testing and / or virtual testing

Life estimation and Extension

### **Any Other Business**

Markku gave a presentation on about TUPA for a Eureka project. A copy of the presentation is attached.

### **Next Meeting**

The date of the next meeting of the TABME is planned for Thursday 21st September 2006 London.

### **Attachments**

- 1 Names and Addresses of TAMBE Members
- 2 An Overview of European and International work
- 3 Markku's Presentation of TUPA.

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**An Overview of European and International work**

Group / Standard	Connection with CEEES Working Group	Other Connections
ISO – TC 108 wg 26 &27		Kjell Ahlin
ISO – TC 122	Thomas Trost	
ISO - Railway		
IEC TC 104	David Richards Aad Van Dorp Markus Dumelin Markku Juntunen	
CEN TC 261	Ulrich Braunmiller Thomas Trost	
CEN TC 320 Transportation Services		Soren Ostergaard
DIN 30787 NAVP 1.4	Ulrich Braunmiller Karl Zieghan	Ed Furrer
BSI	David Richards	
UN Orange Book		
Mil Std 810		Skip Connon
Nato Standard - AC310		David Richards
Nato Standard - AC301	Markus Dumelin	Peter van Harmelen David Richards
Nato Standard - ITOPS		
CEN Workshop Agreement Defence Procurement WS10	Karl Zieghan	David Richards Goran Jansson Markku Juntunen
IEC Railways		Odd Sylwan

# **Optimized mechanical structure for production, packaging and logistics**

**KOTEL TR5**



# Project Vision

Cost effectively manufactured, transported and assembled environmentally compatible product design and packaging

# Goals

- Development of methodology
- Creation of handbook
- Case-studies
- Networking & partnership

# Objectives

- integration of product mechanical design and packaging
- cost efficient manufacturing
- profitable storage and transportation
- tailored final assembly
- environment friendly design
- real life conditions
- tailored durable design
- optimized total cost structure of product

# Today's Situation

- Increasing need: competition, short product life-cycle, environmental requirements, cost reduction targets
- loose life cycle control
- Networked industrial practices - challenge
- Manufacturing practices: product and packaging
- Long transportation distances - cost, env. loads
- Logistical requirements
- New tools and technologies available

# Background

- KOTEL-research and co-operation evaluation
- ELMO LTT-research area development
- Industrial needs

# Risks and Problems

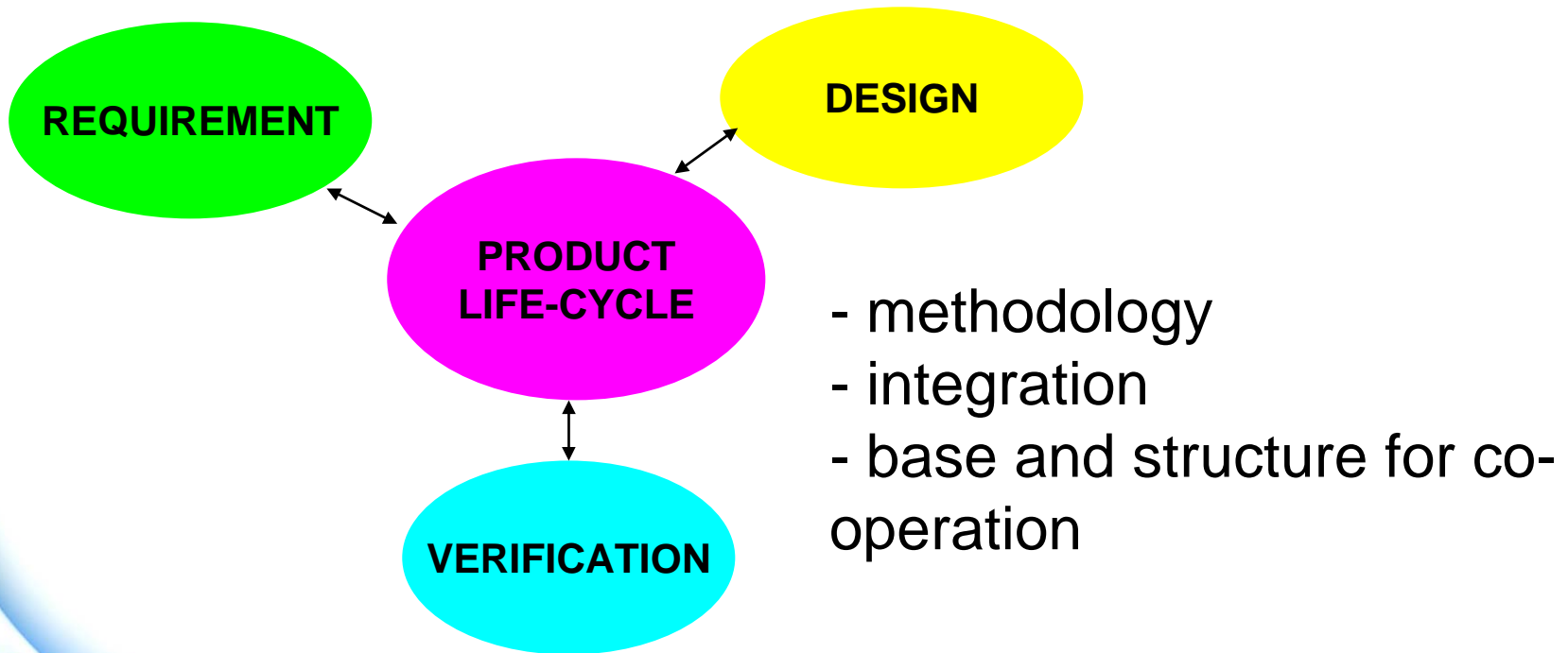
- Lack of commitment
- Project management challenges
  - Project focus
  - Resources
- Lack of research competence
  - wide research area
- True industrial case challenges
- Project implementation
  - project companies
  - non-project companies

# Opportunities

- New solutions for future products
- New design methodologies
- Cost reduction
  - materials
  - manufacturing
  - packaging design and simulation
  - verification and testing
  - logistics
- Learning
- New competence network

# Approach

- The LTT-product development process





# Results

- Handbook
  - design rules
  - design tools
  - legislative regulations
- Learning
- Project partner applications
  - real life solutions
- Competence network