

Welcome to the 3rd meeting in Barcelona on 14. -15.6.2012

# Vocational Training in Assessment of Existing Structures

Agreement number: CZ/11/LLP-LdV/TOI/134005

Draft agenda

Thursday, June 14 (3 p.m. to 7 p.m.)

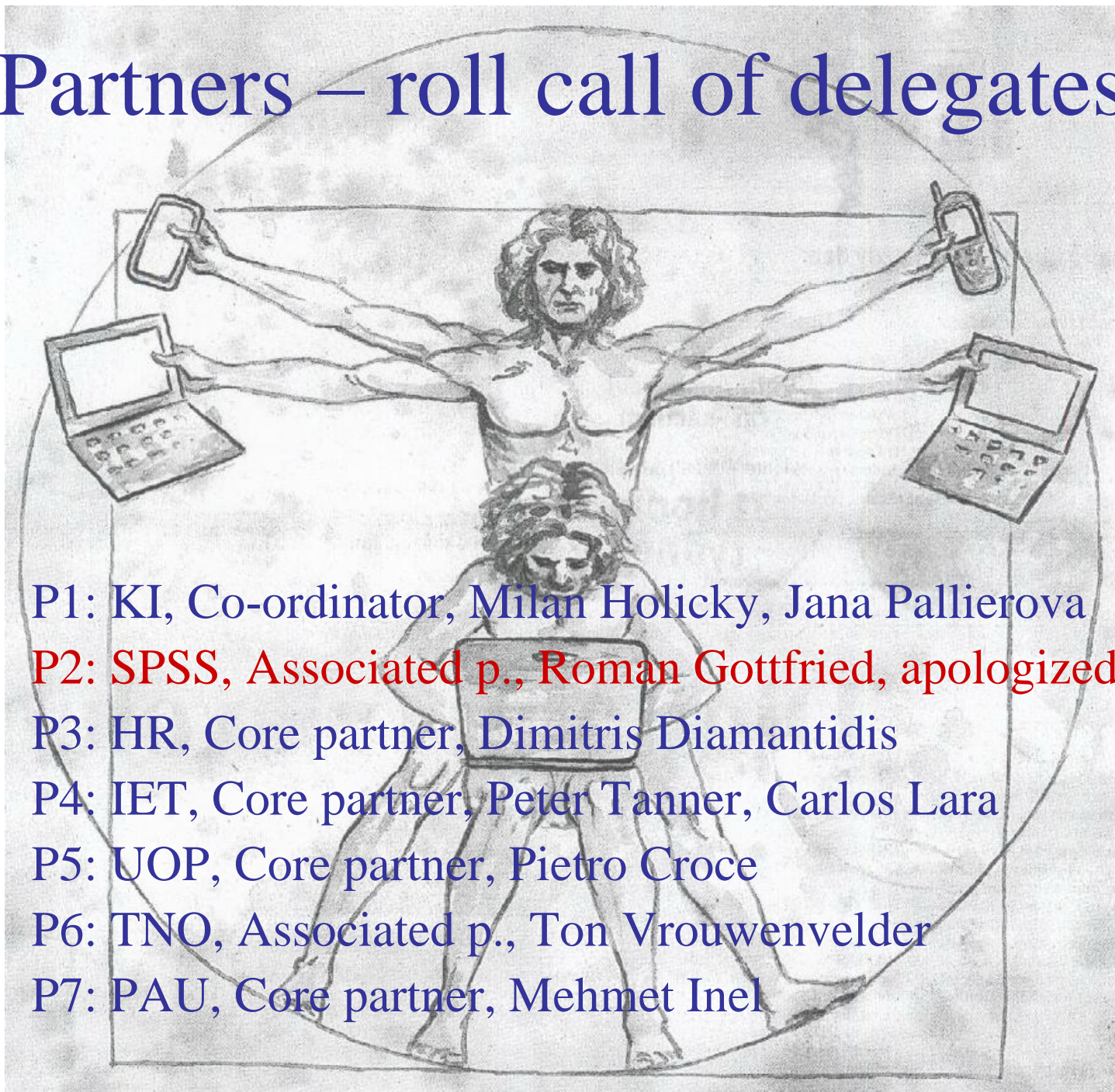
1. Opening at 3:00 p.m.
2. Adoption of the agenda
3. Reflection of the seminar
4. Discussion of Handbook 1 (D. Diamantidis)

Friday, June 15 (9 a.m. to 3 p.m.)

1. Discussion of HB 1 (D. Diamantidis)
2. Preliminary contents of HB 2 (P. Croce)
3. Preliminary contents of HB 3 (M. Holicky)
4. Administrative issues (J. Pallierova, M. Holicky)
5. Meeting and seminar in Regensburg, 10/2012 (D. Diamantidis)
6. Subsequent meetings and seminars in Pisa, Denizli and Prague
7. Closure of the meeting at about 3:00 p.m.



# Partners – roll call of delegates



P1: KI, Co-ordinator, Milan Holicky, Jana Pallierova

P2: SPSS, Associated p., Roman Gottfried, apologized

P3: HR, Core partner, Dimitris Diamantidis

P4: IET, Core partner, Peter Tanner, Carlos Lara

P5: UOP, Core partner, Pietro Croce

P6: TNO, Associated p., Ton Vrouwenvelder

P7: PAU, Core partner, Mehmet Inel

# Adoption of agenda



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# Reflection of the seminar in Barcelona

09:30 *Opening and introduction*, Peter Tanner, Milan Holický

09:45 *Codes and recommendations*, Dimitris Diamantidis

10:05 *Basic concepts*, Milan Holický

10:30 *Reliability aspects*, Ton Vrouwenvelder

11:00 *Assessment and procedures*, Dimitris Diamantidis

11:25 *Coffee break*

11:50 *Case studies*, Pietro Croce, Peter Tanner, Selcuk Toprak

13:00 *Discussion and closure*, Peter Tanner, Milan Holický

# Reflection of the seminar and proposal for Regensburg

- Positive aspects:
- Negative aspects:
  
- Regensburg. 11. and 12. October 2012
  - Similar program as in Barcelona?

# Proposal for Regensburg

09:00 *Opening and introduction*, D. Diamantidis, Milan Holický

9:15 *Basic concepts*, Milan Holický

9:45 *Reliability aspects*, Ton Vrouwenvelder

10:15 *Codes and Assessment Procedures*, Dimitris Diamantidis

10:45 11:00 *Coffee break*

11:00 *Case studies*, Pietro Croce, Peter Tanner, Selcuk Toprak

12:15 *Discussion and closure*, D. Diamantidis, Milan Holický

# Main results

| N  | Short description of result  |            |
|----|--|------------|
| 1  | Handbook 1 - Innovative methods for the assessment of existing structures                    | 30.9.2012  |
| 2  | Handbook 2 - Operational techniques for the assessment of existing structures                | 31.5.2013  |
| 3  | Handbook 3 - Basis for assessment of existing structures                                     | 31.5.2013  |
| 4  | Software tools for practising engineers  | 31.5.2013  |
| 5  | E-learning   | 30.11.2012 |
| 6  | Background materials for new Eurocode on the assessment of existing structures and ISO 13822 | 31.7.2012  |
| 8  | Web sites  | 31.12.2011 |
| 10 | Contributions to technical journals  | 30.9.2013  |
| 7  | National seminars  | 30.9.2013  |
| 9  | National short-term courses  | 30.9.2013  |

# Handbook 1: Preliminary contents

P3 – 30.9.2012

1. **Basic concepts, terminology (P1, P4)**
  2. **Current standards (P3, P6)**
  3. **Requirements on performance (P1)**
  4. **Assessment process - P3, P6**
  5. **Structural reassessment - P5**
  6. **Probabilistic assessment – P1**
  7. **Reliability updating – P1, P3**
  8. **Proof loading – P7, P4**
  9. **Acceptance criteria – P3, P6**
  10. **Cost optimization – P3**
  11. **Concluding remarks – P3**
  12. **Annex A: Bayesian technique – P1**
- P1: 1,3,6,7,12  
P2:  
P3: 2, 4,7, 9,10,11  
P4: 1,8  
P5: 5  
P6: 2,4,9  
P7: 8



# Production of Handbook 1

- Handbook 1 – Innovative methods for the assessment of existing structures
- book + CD (200 pages), version ENG, CZ
- available 30/9/2012
- responsibility:

P3 (D. Diamantidis) – book completion, printing ENG version, sending to partners

P1 (M. Holicky) – translation + printing CZ version

**How many books+CDs for each partner?**

# Printing – prices in Czech Rep.

100 pcs = 505 EUR

200 pcs = 956 EUR

300 pcs = 1380 EUR

Exchange rate 24,78 CZK/EUR

# Prepress prices (in CR)

- 513 EUR – 1 language version  
(graphic layout of cover, typesetting, DTP work)

# Production of CDs (in CR)

100 pcs = 257 EUR

200 pcs = 359 EUR

300 pcs = 461 EUR

400 pcs = 548 EUR

Exchange rate 24,78 CZK/EUR

# Handbook 2: Preliminary contents (I)

P5 – 31.5.2013

## **1. Introduction (P1, P4, P5)**

## **2. Planning of assessment (P5)**

documentation search and study, preliminary and detailed inspection and investigation, preliminary material testing, measurements, evaluation of the results

## **3. Verification procedure (P3, P6)**

specification of partial factors, required reliability level (target beta) and performance, cross reference to Chapter 3 of HB 1, partial factor methods, reliability assessment, reliability updating, robustness and integrity

# Handbook 2: Preliminary contents (II)

## **4. Techniques for inspection and monitoring, NDT (P4, P5, P7)**

visual inspection, measurements of geometry, deformations, cracks opening, corrosion, NDT, detail measurements, location of bars, foundation

## **5. Updating of material and geometric data (P4, P5)**

examples of prior or posterior distribution, examples considering geometry, strength of concrete, steel, masonry, timber

## **6. Updating of actions and actions effects (P4, P3)**

permanent actions, imposed load (change of use), snow, wind, earthquake

# Handbook 2: Preliminary contents (III)

- 7. Case studies - concrete structures (P5, P4)**
- 8. Case studies - steel structures (P6)**
- 9. Case studies - timber structures (P5)**
- 10. Case studies – seismic retrofitting (P7, P5)**
- 11. Case studies - proof loading (P4, P5, P6, P7)**
- ISO 2394, 13822
- 12. Heritage structures (P5, P7)**
- ISO 13822, Annex I
- 13. Concluding remarks (P5)**

# Production of Handbook 2

- Handbook 2 - Operational techniques for the assessment of existing structures
- book + CD (200 pages)
- version ENG, CZ
- available 31/5/2013
- responsibility:
  - P5 (P. Croce) – book completion, printing ENG version, sending to partners
  - P1 (M. Holicky) – translation + printing CZ version
- **How many books+CDs for each partner?**



# Handbook 3: Preliminary contents (I)

P2 – 31.5.2013

## **1. Introduction (P1, P2, P3)**

background materials, educational aspects, common practice, contents of HB3, basic principles of assessment

## **2. General framework of the assessment (P1)**

terminology, basic requirements for safety, serviceability and durability

## **3. Procedures of assessment (P2)**

ISO 13822, general procedure, testing, previous performance

# Handbook 3: Preliminary contents (II)

## **4. Statistical evaluation of data for the assessment (P1)**

materials, geometry, actions, deterioration, evaluation of test results, load-bearing capacity

## **5. Methods of assessment of buildings (P1,P2,P6)**

partial factors method, characteristic and design values, load combinations

## **6. Report on assessment (P1,P2)**

ISO, HB1

## **7. Examples (P2,P1,P3,P4,P5)**

# Production of Handbook 3

- Handbook 3 - Basis for assessment of existing structures
- book + CD (120 pages)
- version ENG, CZ
- available 31/5/2013
- responsibility:  
**P2 (R. Gottfried) – book completion, translation, printing ENG + CZ version, sending to partners**  
**How many books+CDs for each partner?**

# Software tools

P7 and all partners – 31.5.2013

EXCEL spread sheets

Computer aided training programs

P1 – 3

P2 – 2

P3 – 2

P4 – 2

P5 – 3

P6 – 1

P7 – 3

# Web sites

P1 and all partners – 31.12.2011

- HB translations, CZ - P1 (deadline 07/13)
- E-learning (ENG,CZ) – P1, P2,P3,P4,P5, P7 contributions (deadline 05/13)  
P1 – 3
- Software tools – P7 and all  
P2 – 3
- FAQ – (exists in CZ, ENG) - P2,P3,P5  
P3 – 3  
P4 – 3  
P5 – 3  
P6 – 2  
P7 - 3

# Background materials

P5, P3, P4

- CEN TC 250/WG2 Development of a new document on Existing structures (deadline 06/13)
- ISO TC 98/SC2/WG 11 – ISO 13822, background materials for a foreseen revision (deadline 06/13)

# Meetings

- kick-off meeting, Prague, 26.,27.10.2011
- plenary meeting in Pisa, 8.,9.3.2012
- plenary meeting in Barcelona, 14.,15.6.2012
- plenary meeting in Regensburg, 11.,12.10.2012
- plenary meeting in Pisa, 14., 15., 3.2013
- plenary meeting in Denizli, 6., 7., (8).6.2013
- final plenary meeting in Prague, 26., 27.9.2013

Additional meetings between P1, and relevant partners will be planned depending on work progress.

Bilateral meetings (for example between P1 and P2) or other upon need.

# Any other business

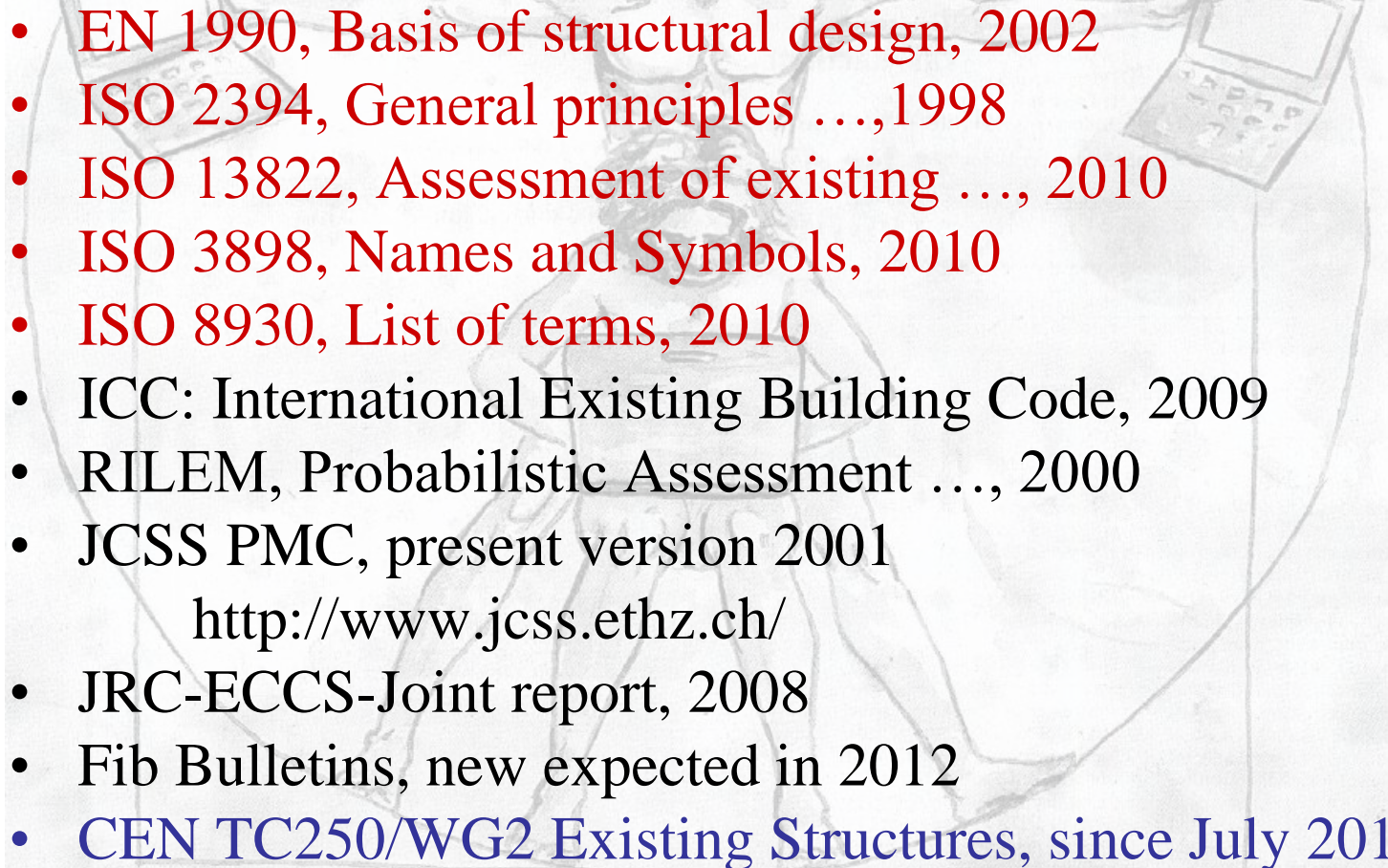
- CEN TC250/WG2 Existing Structures, First meeting 13.7.2011
- Fifth International Conference on Forensic Engineering, ICE, London, April 2013
- International IABSE Spring Conference: May 6-8, 2013: Assessment, Upgrading and Refurbishment of Infrastructures
- International conference: SEMC, Cape Town, September 2013



Thanks for attending the third meeting  
Hope to see you all in Regensburg



# Technical aspects: key referenced materials

- 
- EN 1990, Basis of structural design, 2002
  - ISO 2394, General principles ..., 1998
  - ISO 13822, Assessment of existing ..., 2010
  - ISO 3898, Names and Symbols, 2010
  - ISO 8930, List of terms, 2010
  - ICC: International Existing Building Code, 2009
  - RILEM, Probabilistic Assessment ..., 2000
  - JCSS PMC, present version 2001  
<http://www.jcss.ethz.ch/>
  - JRC-ECCS-Joint report, 2008
  - Fib Bulletins, new expected in 2012
  - CEN TC250/WG2 Existing Structures, since July 2011

# Standards

- Provide information about national and international documents
- ISO 13822, including annex I
- ISO 8930, 3898
- ISO 2394
- ISO 13823 and 13824
- EN 1990 and 1998
- Swiss, US, SAMCO, BRE, Italy

# Administrative rules: Budget

|            | direct costs |        |             |             |          |        |                |              |
|------------|--------------|--------|-------------|-------------|----------|--------|----------------|--------------|
|            | staff        | travel | subctr      | other       | indirect | Total  | Grant<br>(75%) | Own<br>funds |
| P1 (KI)    | 51990        | 5500   | <b>8850</b> | <b>1500</b> | 2660     | 70500  | 52741          | 17759        |
| P2 (SPSS)  | 17450        | 4500   | <b>4325</b> | <b>500</b>  | 1069     | 27844  | 20830          | 7014         |
| P3 (HR)    | 47067,5      | 4655   | <b>3554</b> | <b>750</b>  | 2277,5   | 58304  | 43617          | 14687        |
| P4 (IETCC) | 43705        | 5675   | <b>2000</b> | <b>500</b>  | 2023     | 53903  | 40325          | 13578        |
| P5 (UOP)   | 44187,5      | 4650   | <b>2000</b> | <b>500</b>  | 2024,5   | 53362  | 39920          | 13442        |
| P6 (TNO)   | 2017         | 4517,5 | -           | -           | 247      | 6781,5 | 5073           | 1708         |
| P7 (PAU)   | 26032,5      | 4582,5 | <b>2750</b> | <b>500</b>  | 1350     | 35215  | 26344          | 8871         |

# Interim Report – contents

(form – will be available at [www.naep.cz](http://www.naep.cz))

**Covers the period 1/10/2011 – 30/9/2012**

**Technical part** – description of activities, emphasis on dissemination, testing, evaluation, international character - authorized

**Financial part** – excel sheet – financial tables - breakdown of incomes and expenses – authorized

**!!! List of dissemination activities!!!**

including some evidence that they really happened (presentations, articles, flyers, advertisements on websites, photos from events, etc.)

**Deadline for submitting the partners reports to P1 is 30.10.2012**

# Interim Report – contents

- **List of dissemination activities**  
including some evidence that they really happened (presentations, articles, flyers, advertisements on websites, photos from events, etc.)

# P1-7 submit with the filled-in IR form

- VAT declaration
- bank statements proving the receipt of payments from P1
- copies of all bills, invoices and travel documents (tickets) entered in the financial tables, bank statements proving that the bills and invoices were really paid, Time sheets, Calculations of travel expenses





# Unavoidable expenditures by partners

- P1 - printing of HB1,2 (CZ version)
  - translations of HB1,2
  - seminar in Prague
- P2 - printing of HB3 (CZ+ENG version)
  - translation of HB3
  - distribution of HB3 to partners
- P3 - printing of HB1 (ENG version)
  - distribution of HB3 to partners
  - seminar in Regensburg

# Unavoidable expenditures by partners

- P4 - seminar in Barcelona
- P5 - printing of HB2 (ENG version)
  - distribution of HB2 to partners
  - seminar in Pisa
- P6
- P7 - seminar in Denizli

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