



Lifelong
Learning
Programme



DZS
Centre for International
Services

LIFELONG LEARNING PROGRAMME

LEONARDO DA VINCI
MULTILATERAL PROJECTS - TRANSFER OF INNOVATION 2011,

Project n.: CZ/11/LLP-LdV/TOI/134005

Project name: Vocational Training in Assessment of Existing Structures

Minutes

of the 4th plenary meeting of project partners
held at the University of Applied Sciences in Regensburg,
Prüfeningenstrasse 58
on October 11, 2012

Participants:

- P1 (contractor) – CTU KI: M. Holický, Jana Pallierová
- P2 - SPSS: Roman Gottfried, Vladislava Návarová
- P3 – HR: Dimitris Diamantidis
- P4 – IETcc-CSIC: Peter Tanner
- P5 – UOP: Pietro Croce
- P6 – TNO: Ton Vrouwenvelder - *apologized for time reasons*
- P7- PAU: Mehmet Inel, Sevket Senel

Presentation LEO_4_Reg.ppt , used during the meeting, supplements these minutes.

1) Opening of the meeting (1 p.m.)

P3 (D. Diamantidis) opened the meeting and welcomed the participants.

2) Handbook 1 – Innovative Methods for the Assessment of Existing Structures

English version, including CD, was completed and printed.

Partners indicated the number of copies they required (P2-5, P3-20, P4-20, P5-20, P6-30, P7-20).

Will be posted to their addresses by P1 (J.Pallierová).

3) Handbook 2 – Operational Techniques for the Assessment of Existing Structures

Responsible person: P5 (P. Croce), ENG + CZ version, book + CD, due 31/05/2013

Aimed to be operational material.

First draft of the Handbook 2 should be ready at the end of January 2013.

Partners extended and amended the preliminary contents as follows:

HB 2 - PRELIMINARY INDEX

CHAPTER 1: BASIC CONCEPTS AND TERMINOLOGY (P1, P4, P5)

CHAPTER 2: EVOLUTION OF THE PAST EUROPEAN NATIONAL CODES (P5 -All)

As the building and bridge design philosophy and loads are considerably evolved during the last century it is necessary to recall the most relevant national codes used in the past and basic information about them, in relation to EN (short description, mainly concerning the design and assessment philosophy).

By 31/01/2013, all partners will send to P5 (P. Croce) a list of existing codes, relevant to their country.

CHAPTER 3: NDT, INSPECTION TECHNIQUES & MONITORING (P5, P1, P2, P4, P7)

3.1 General (planning of test, planning of measurements and planning inspection and evaluation of the results) (P5, P1)

3.2 Assessment of in situ materials' mechanical properties through NDT or **partially?** destructive tests (P5, P4)

3.2.1 Concrete strength

3.2.2 Rebars

3.2.3 Steel quality

3.2.4 Masonry

3.3 Inspection techniques (P5, P4, P7)

3.3.1 Reinforced concrete structures

Techniques for in situ measurements of corrosion parameters

3.3.1.1 Measurement of corrosion rate, resistivity and corrosion potential

3.3.1.2 Environmental parameters

3.3.2 Steel structures

3.3.3 Masonry structures

3.3.4 Structure inspection using ground penetrating radar

System description

Applications

Advantages and disadvantages compared with conventional techniques

3.3.5 Timber structures

3.4 Monitoring (P5, P4)

3.4.1 Monitoring of cracks in r.c. and masonry structures

Monitoring of leaning, crack openings

- 3.4.2 Load tests
- 3.4.3 Dynamic tests for structural identification
- 3.x.x Remote measurements of displacements and vibrations by interferometric radar imaging
- Overview
- System description
- Remote monitoring applications
- Advantages and disadvantages compared with conventional techniques

CHAPTER 4: MODELLING AND ANALYSIS ~~OF MASONRY STRUCTURES~~ (P5, P7)

- 4.1 Static and Dynamic analyses: linear and non-linear
- 4.2 Modelling of masonry buildings: FEM, equivalent frames, kinematic methods for rigid bodies

CHAPTER 5: VERIFICATION PROCEDURE (P3, P1, P6)

Partial factors, required performance, reliability updating

CHAPTER 6: APPLICATIONS OF UPDATING (P4,P3,P5)

- 6.1 INTRODUCTION
- 6.2 EXAMPLE 2: UPDATING OF GEOMETRIC DATA
 - 6.2.1 Statement of the problem
 - 6.2.2 Acquired data
 - 6.2.3 PDF parameters
- 6.3 EXAMPLE 1: UPDATING OF REINFORCING STEEL YIELD STRENGTH
 - 6.3.1 Statement of the problem
 - 6.3.2 Prior information
 - 6.3.3 Evaluation of tests results
 - 6.3.4 Updating of PDF parameters
- 6.4 EXAMPLE 3
- 6.5 EXAMPLE 4
And so on...
- 6.6 EXAMPLE ON PROOF LOADING
- 6.7 UPDATED ACTIONS AND ACTIONS EFFECTS

CHAPTER 7: CONCRETE STRUCTURES (P5, P4)

CHAPTER 8: STEEL STRUCTURES (P5,P4)

CHAPTER 9: TIMBER STRUCTURES (P5)

CHAPTER 10: MASONRY STRUCTURES (P5)

CHAPTER 11: SEISMIC RETROFIT OF BUILDINGS (P7)

CHAPTER 12: SEISMIC RETROFIT OF BRIDGES (P5, P4, P7)

CHAPTER 13: HERITAGE STRUCTURES (P5, P7, ?)

CHAPTER 14: CONCLUDING REMARKS (P5)

By 31/12/2012, each partner involved in a chapter sends his contribution to the “leader” of the chapter (the one written as the first in the brackets after the name of the chapter). The “leader” works all in and sends the draft of the chapter to all partners by 31/01/2013. These chapter drafts will then be finalized during the meeting in Pisa.

3) Handbook 3 –Basis for Assessment of Existing Structures

Responsible person: P2 (R.Gottfried), ENG + CZ version, book + CD, due 31/05/2013

Aimed to be based on Handbooks 1 and 2, and used as a textbook for secondary level students as well as a guidebook for “everyday” designers.

The book shall follow ISO 13822, with added chapters on basic statistics and simple case studies, containing minimum mathematical theory, data updating being mentioned only, with practical examples partly adopted from Handbooks 1, 2.

By now, 3 chapters (36 pages) have been preliminary worked out (*see LEO_4_Reg.ppt*)

By 28/02/2013, P2 (R. Gottfried) shall send to all partners a preliminary draft of the handbook in English (30-40 pages, without examples).

4) Upcoming meetings and seminars

- 5th plenary meeting at the University of Pisa on Thursday 14/03/2013 (2:00–7:30 p.m.)
and Friday 15/03/2013 (2:30–7:00 p.m.)

3rd international seminar at the University of Pisa on Friday 15/03/2013 (9:00 a.m.–1:30 p.m.)

Partners of case studies should link them to particular codes.

- 6th plenary meeting at Pamukkale University, Denizli, on Thursday 06/06/2013 (9:00 a.m.–6:00 p.m.)
4th international seminar at Pamukkale University, Denizli, on Friday 07/06/2013 morning
technical visit to heritage structures on Friday 07/06/2013 afternoon
- 7th plenary meeting and 5th international seminar at Klokner Institute, Prague
Thursday and Friday 26-27/09/2013

5) Interim report

Key administrative rules were reminded by P1 (J. Pallierová), namely the documentation that all partners are supposed to submit to P1 (KI) with Interim Report by October 31, 2012 (*see LEO_4_Reg.ppt*).

Regensburg, 11/10/2012

Minutes prepared by P1 (J. Pallierová)