

## Appendix 2      Workshop Reports

First Workshop: Oslo, Norway 26.-27. September, 2002  
(not focussed on WP5 – hence no report in this appendix)

Second Workshop: Kuopio, Finland, 3. December, OK, 2003 in connection to Second ILCDES Symposium 2003 (<http://www.ril.fi/ilcdes2003>)

Third Workshop: France, May 2005; in connection to 10. DBMC (Durability of Building Materials and Components) Conference, France

**Attention:** the appendices indicated in the minutes are not included here again.

## Lifetime Thematic Network

### LIFETIME Workshop 2, Kuopio , FINLAND

#### Working Package 5 Meeting

**Time:** 4.12.2003, 14.30 – 16.30 AM

**Place:** Scandic Hotel, Kuopio, Finland

#### NOTES

##### 1. Demonstration projects

- Very important as they show how lifetime engineering practice can be used in the right way
- The result of the query was 60 projects
- More is needed, a second reminder will be sent, dead line March 2004.
- Also new projects will be possible to add in the autumn, dead-line September 2005.
- The answers will be put into the Netspace.
- From the required projects an amount of 10 (?) will be asked to do a more detailed presentation. Some of them will also be asked to present them at the next meeting in Lyon 2005.
- This material will also be used for dissemination by all participants
- Some guide-lines for making the detailed presentation is needed, which could include:
  - which topic addressed
  - differences to normal practice
  - key figures
  - objectives
  - participants
  - financial figures
  - motivation: commercial, ....
  - problems, barriers, development ideas, etc.

##### 2. Education and Training

- Need to identify existing courses and schools/universities with already existing education
- Exploitation plan will be made (how to use the result) : symposiums, articles, presentations
- Training varies in different countries – the good spots should be identified
- Guidelines for courses should be made: an Education Model, which contains large modules of education.
- The user can then pick the courses according to own needs.
- WP5 members are asked to co-operate in developing the guide-lines.
- The WP leader will make a suggestion and will be sent for comments to the members.
- Interdisciplinary training is also needed
- Material will largely be provided by other WP:s

##### 3. Deliverables

- Report to administrators will be made by WP leader
- All members are committed to participate in preparing the deliverables, which among other things includes the dissemination material mentioned above.

##### 4. ILCDES Feedback

- The material from the symposium will be used in identifying good results and best-practices
- Interesting topics: Estonia/refurbishment, High Performance Concrete, Kohvakkas Key note speech (will be put on the web), Kiamoto/Japan on bridge management.

##### 5. Other issues

- Congress in Barcelona, dealing with Sustainable Construction/Education

## Lifetime Thematic Network

### LIFETIME Workshop 2, Kuopio , FINLAND

#### Plenary Session 1: National Dissemination Group Leaders Meeting

**Time:** 4.12.2003, 9.00 – 12.00 AM

**Place:** Scandic Hotel, Kuopio, Finland

**Present:** See Appendix 1 (41 first)

##### 1. Opening of the session

The Chairman for the session Dr. Jean-Luc Chevalier opened the session and wished all participants welcome.

##### 2. Opening remarks

The Chairman briefly addressed the substance of LE (Lifetime Engineering) and the role of the National Dissemination Group Leaders. The key areas for making LE a new daily practice besides the development of the LE technologies itself are education and training. In these areas the NDG's have an important role. A main source for the work of the NDG's to disseminate the principles and methods of LE will of course be the results of the Working Packages 1-4. Useful deliverables will be available in 2004.

The Chairman pointed out the importance of sending the required Report of the Lifetime NDG Activities in the first Working Period to the Project co-ordinator Asko Sarja.

##### 3. Presentations of ongoing works, current results and action plans of the National Dissemination Groups (NDG's):

3.1 *Australia, no presentation*

3.2 **Austria**, presented by Johann Kolleger, Vienna University of Technology  
- see appendix 2 (PowerPoint-presentation).

3.3 **Belgium**, presented by Luc De Bock, Belgian Road Research Center:  
- group established  
- activities so far include a database on projects, training and co-operation with developing countries  
- topics: road construction with longer lifetime.

3.4 *Bulgaria, no presentation*

3.5 **Czech Republic**, presented by Vaclav Fencel, Transport Research Center:  
- a small group established  
- low response to questionnaires, will be repeated  
- workshop: road construction projects.

3.6 *Denmark, no presentation*

3.7 **Estonia**, presented by Tony Keskkyla, Estonian Agricultural University:  
- a small group established  
- dealing with problems concerning multi-storey apartment houses

3.8 **Finland**, presented by Gunnar Åström, Finnish Association of Civil Engineers RIL:  
- see appendix 3 (PowerPoint-presentation)

3.9 **France**, presented by Anne Ventura, LCPC (French Public Works Research Laboratory):  
- group established, 4 + 2 to 6 pers.  
- co-operation/merging with other groups, i.e. TC59 and groups dealing with PeBBu (Performance Based Building)

- no activity concerning lifetime product data
- road construction: long term behaviour, use of recycled material (recycle material information: <http://ofrir.lcpc.fr>)
- education and training activities: courses in sustainable construction, definition of LE-terminology

3.10 **Germany**, presented by Karin Diez, TMB/FM Universität Karlsruhe:

- see appendix 4 (PowerPoint-presentation)

3.11 **Greece**, presented by Antonia Moropoulou, National Technical University of Athens:

- see appendix 5 (PowerPoint-presentation)

3.12 **Hungary**, presented by Laszlo Gaspar, Institute for Transport Sciences Ltd:

- so far only 1 person in the group
- activities covers road and bridge structures, not buildings
- paper written to professional magazine explaining the concept of LE
- PhD level courses dealing with LE at the university
- project: road construction optimisation taking into account LCC and environmental impacts
- goal for 2004: get a NDG together

3.13 **Iceland**, presented by Björn Marteinnsson, The Icelandic Building Research Institute:

- so far only 1 person in the group
- contact with stakeholders
- small steps required
- areas of activities: road works, re-use, condition assessment.

3.14 **Ireland**, presented by Concaill O Cathain, Energy Research Group/University College Dublin:

- 2 partners in the NDG, plans to connect with existing groups
- great interest for sustainable building, courses in this field (engineering, architectural design, etc.)
- books and other publications published (see <http://erg.ucd.ie>)
- problems:
  - preaching to the converted, new "clients" should be found through networks
  - building industry is very conservative
  - funding
- need to clarify the success criteria in the dissemination process
- questionnaires were difficult to understand.

3.15 *Italy, no presentation*

3.16 *Japan, no presentation*

3.17 **Lithuania**, presented by Arturas Kaklauskas, Vilnius Technical University:

- so far only 1 person in the group
- activities: reports, courses and database on LE issues
- book published concerning multiple criteria analysis dealing with lifecycle design and management.

3.18 *Netherlands, no presentation*

3.19 *Norway, no presentation*

3.20 **Poland**, presented by Marian Suchan, Building Research Institute, Warsaw:

- 4 members
- activity areas: roads and bridges, mining
- funding problems
- lack of interest in the WP 5-survey, more information on LE needed
- need for glossary in Polish
- article for professional magazine prepared
- seminar for bridge experts regarding lifetime principles arranged

- seminar in Warsaw for all stakeholders on LE

3.21 *Portugal, no presentation*

3.22 *Romania, no presentation*

3.23 *Slovenia, no presentation*

3.24 **Spain**, presented by Miguel Angel Garcia, CARSA:

- group established
- contacts with 20-25 stakeholders
- synergy with other projects
- funding asked
- pragmatic viewpoints: what are the practical benefits?
- action plan: co-operation with Athens, event in Madrid to demonstrate current activities

3.25 **Sweden**, presented by Susanne Troive, Swedish National Road Administration:

- group with 10-15 members
- four events arranged
- areas of activity: LCC, PeBBu, road construction

3.26 *Switzerland, no presentation*

3.27 **United Kingdom**, presented by Keith Quillin:

- 8 members in the group
- considerable interest, but proposal for dissemination project failed to receive funding
- action plan: larger group, activate dissemination (introduce the concept of LE)
- clarification of LE required

3.28 *USA, no presentation*

#### 4. **Conclusions and action plans**

The Chairman summarised the presentations:

- the interest for LE is high and steadily growing
- funding for LE related dissemination projects is difficult to get
- better communication within members in the NDG's seems to be required
- also better communications and co-operations between different NDG's is desirable, eg. in arranging seminars and events
- ideas and methods from other groups should be evaluated and adapted in own activities (see above and appendices)
- education and training are very important issues
- the Lifetime Network website (Netspace) is not easy to use – actions for making it more user-friendly should be considered.

#### 5. **Closing of the session**

The Chairman thanked all participants for their activity and closed the session.

**Jean-Luc Chevalier**  
*Chairman of the Meeting*

**Gunnar Åström**  
*Secretary of the Meeting*

#### **Appendices**

1. Participants of the Meeting
2. Presentation of the Austria NDG
3. Presentation of the Finnish NDG
4. Presentation of the German NDG
5. Presentation of the Greece NDG

## LIFETIME Workshop 3 "The way towards lifetime engineering"

### MINUTES

- 1- Date and hours:** Sunday, 17th April, 2005 at 13.00 -18.15,  
in connection to the 10 DBMC Conference
- 2- Venue:** Lyon, Palais des Congrès, Room Roseraie 1-2

### 3- Programme:

13.00: Lifetime Engineering- State of the Art and Visions.  
Co-ordinator, Professor Asko Sarja

13.30: Reports of the WP-leaders on the results of the work (15 minutes each):

- Prof. Kunibert Lennerts & Mrs. Karin Diez, WP1: *Exploring and benchmarking best practice and knowledge of lifetime engineering*
- Prof. Sevket Durucan & Dr. Anna Korre, WP 2: *Promoting and generating processes and actions for introducing lifetime principles into practice of all stakeholders*
- Prof. Asko Sarja, WP3: *Exploring, analysing and benchmarking of technical and methodological contents of lifetime engineering*
- Prof. Phil Bamforth, WP4: *Assessing existing lifetime data and systematics for presenting lifetime data*
- Dr. Jean-Luc Chevalier, WP5: *Demonstration, Dissemination and exploitation of life time principles*

Discussion

15.00: Coffe Break

15.20: Reports on the results of Project Cluster "Lifetime" (15 minutes each):

- Conlife: *"Life-time prediction of high performance concrete with respect to durability"*. Professor Max J. Setzer & Dr. Susanne Palecki
- Eurolifetime: *"A probabilistic approach for predicting the life cycle cost and performance of buildings and civil infrastructure"*. Prof. Phil Bamforth
- Investimmo: *"A Decision Making Tool for Long-Term Efficient Investment Strategies in Housing Maintenance and Refurbishment"*. Dr. Dominique Caccavelli
- Licymim: *"Life Cycle Assessment of Mining Projects for Waste Minimisation and Long Term Control of Rehabilitated Sites"*. Professor Sevket Durucan & Dr. Anna Korre.
- Lifecon: *"Life Cycle Management of Concrete Infrastructures for improved sustainability."*. Prof. Asko Sarja

Discussion

16.50: General Discussion: Future of Lifetime Engineering.

17.00: "Eurasia project". Guillaume Lafont Di-Ruscio, invited expert from the French DG).

17.15: Visit at the Lifetime Poster Exhibition. The Author of each poster, or his/her representant will describe the ideas of the poster at the poster (3 minutes each).

The following groups of posters will be viewed and presented:

1. *Thematic Network Lifetime*
2. *Project Cluster "Lifetime"*
3. *Projects of Cluster "Lifetime": Five posters all together*
4. *Working Packages: WP1-WP5 of Network Lifetime*
5. *Posters of active NDG`s: 15 posters*
6. *Posters of Eurasia project: 4 posters*

18.15 moving to the joint 10DBMC and Lifetime "Get Together party": Palais des Congrès, at 18.30

### 4- Attendees

NOM	PRENOM	ORGANISME	COUNTRY
ADESIYUN	ADEWOLE	ROAD AND BRIDGE RESEARCH INSTITUTE	Poland
APOSTU	ADELINA CARMEN	NATIONAL INSTITUTE FOR BUILDING RESEARCH	Spain
ASTROM	GUNNAR	FINNISH ASSOCIATION OF CIVIL ENGINEERS RIL	Finland
BALARAS	CONSTANTINOS	NATIONAL OBSERVATORY OF ATHENS	Greece
BAMFORTH	PHILLIP	TAYLOR WOODROW CONSTRUCTION	United Kingdom
BARANSKA	ANETA	COPPER RESEARCH AND ESIGN CENTRE CUPRUM Ltd	Poland
BIKAS	DIMITRIOS	ARISTOTLE UNIVERSITY	United Kingdom
BLOK	RIJK	UNIVERSITY OF TECHNOLOGY EINDHOVEN	The Netherlands
BOHMAN	HANS	SWEDISH ROAD ADMINISTRATION	Sweden
BUYLE BODIN	FRANCOIS	MINISTERE DE L'EQUIPEMENT	France
CAIRNS	JOHN	HERIOT WATT UNIVERSITY	United Kingdom
CHEVALIER	JEAN-LUC	CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT	France
DAVIES	HYWEL	Consultant	United Kingdom
DE BOCK	LUC	CENTRE RECHERCHES ROUTIERES	Belgium
DIEZ	KARIN	Universität Karlsruhe	Germany
DURUCAN	SEVKET	IMPERIAL COLLEGE LONDON	United Kingdom
FENCL	VACLAV	CDV TRANSPORT RESEARCH CENTER	Czech Republic
GASPAR	LASZLO	KTI	Hungary
HANS	JULIEN	CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT	France
GEORGESCU	DAN PAUL	NATIONAL INSTITUTE FOR BUILDING RESEARCH	Romania
HARNISCH	JOERG	IBAC	Germany
HERNANDEZ	PATXI	ENERGY RESEARCH GROUP UNIVERSITY COLLEGE DUBLIN	Ireland
KAKLAUSKAS	ARTURAS	VILNIUS GEDIMINAS TECHNICAL UNIV	Lituania
KAROGLOU	MARIA	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	Greece
KOBYLANSKA	MALWINA	COPPER RESEARCH AND ESIGN CENTRE CUPRUM Ltd	Poland
KORZEKWA	WOJCIECH	COPPER RESEARCH AND ESIGN CENTRE CUPRUM Ltd	Poland
KORRE	ANNA	IMPERIAL COLLEGE LONDON	United Kingdom
KRIGSVOLL	GURI	Norwegian Building Research Institute	Norway
KUHNE	HANS CARSTEN	BAM	Germany
KULCZYCKA	JOANNA	POLISH MINERAL AND ENERGY ECONOMY RESEARCH INSTITUTE	Poland
LAURING	MICHAEL	DANISH CENTRE OF URBAN ECOLOGY	Denmark
LENNERTS	KUNNIBERT	Universität Karlsruhe	Germany
LI	CHUN QING	UNIVERSITY OF DUNDEE	United Kingdom
LIAS	ROODE	TALLIN UNIVERSITY OF TECHNOLOGY	Estonia
MARDJETKO SKORO	Nada	MINISTRY OF ENVIRONMENTAL PROTECT	Croatia
MARTEINSSON	BJORN	IBRI	Iceland
MENG	BIRGIT	BAM	Germany
MOROPOULOU	ANTONIA	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	Greece
MYAMOTO	AYAHO	YAMAGUCHI UNIVERSITY	Japan
NIEWOLIK	JANUSZ	UNIVERSITAT KARLSRUHE	Germany
OBIS	JOAQUIN	AITEMIN	Spain
PERSSON	BERTIL	LUND UNIVERSITY	Sweden
PIHL	KNUD A	ROAD DIRECTORATE, DRI	Denmark
QUILLIN	KEITH	BRE	United Kingdom

<b>RADU</b>	VICTOR	NATIONAL INSTITUTE FOR BUILDING RESEARCH	Romania
<b>RAESS</b>	CHRISTOPHE	IFARE	Germany
<b>RISKAKIS</b>	CHARALAMBOS	G.M.M. SA LARCO	Greece
<b>SARJA</b>	ASKO	VTT BUILDING AND TRANSPORT	Finland
<b>SARKKINEN</b>	MINA	CT LAASTIT LTD	Finland
<b>SCHOBEL</b>	ANDREAS	TECHNICAL UNIVERSITY OF VIENNA	Austria
<b>SETZER</b>	MAX	UNIVERSITY ESSEN	Germany
<b>SIJANEC ZAVRL</b>	MARJANA	UNIVERSITY OF LJUBJANA	Slovenia
<b>SIMION</b>	CEZAR	NATIONAL INSTITUTE FOR BUILDING RESEARCH	Romania
<b>SIMONSEN</b>	GRAVES	SBS BYFORYNYELSE	Norway
<b>SJOSTROM</b>	CHRISTER	CENTRE FOR BUILT ENVIRONMENT, UNIVERSITY OF GAVLE	Sweden
<b>SUCHAN</b>	MARIAN	BUILDING RESEARCH INSTITUTE	Poland
<b>VENTURA</b>	ANNE	LCPC	France
<b>ZARNIC</b>	ROKO	UNIVERSITY OF LJUBJANA	Slovenia

## 5- Discussions synthesis

The workshop has been followed by 60 attendees from 23 countries.

The time schedule included:

- The presentation of the Cluster Lifetime and the Thematic Network Lifetime
- The projects included in the Cluster (3 of them were actually presented, excluding INVESTIMMO)
- The 5 Work Packages of the TN Lifetime
- General introduction to the visit of the posters
- An invited presentation from Eurasia Association

This tight programme didn't leave much time to questions from the audience. Nevertheless, the very synthetic presentations given for the Lifetime Work Packages have been appreciated, as a brief, clear and comprehensive summary of the work and results.

Questions were raised on the Eurasia project, which showed highlights of the long journey of 3 architects through Asia, East Europe and North of Africa looking for examples of the application (voluntary or in some cases vernacular, and lessons bearing) of the sustainability principles to demonstrative construction works.

Some NDG's raised concern on the material they will be provided with in order to communicate in their countries on the results and outputs of the Lifetime TN.

Finally, some questions more specific to a particular poster have been transferred to the poster visit, which has been attended by most of the participants, each author being present under his/her own poster for comments.