



# **Action C25**

# **Sustainability of Constructions**Integrated Approach to Life-time Structural Engineering

Participating countries: AT, BE, CY, CZ, DE, DK, FI, GR, HR, HU, IT, LT, LU, LV, MK, MT, NL, NO, PL, PT, RO, SE, SI, TR, UK, YU + EU JRC

Chair of the Action: Luís Bragança, PT, Braganca@civil.uminho.pt

Vice-chair of the Action: Heli Koukkari, Fl, Heli.Koukkari@vtt.fi COST Science Officer: Thierry Goger, tgoger@cost.esf.org

http://www.cmm.pt/costc25 Luís Simões da Silva, PT

## Criteria for sustainable constructions

Chair: Rijk Blok, NL; Vice-chair: Helena Gervásio, PT

- Global methodology for the assessment of sustainability
- State-of-the-art on LCA and LCC methodologies
- Databases for LCA and LCC

# **Eco-efficiency**

Chair: Milan Veljkovic, SE; Vice-chair: Zbigniew Plewako, PL

- Application of new materials and new technology
- Improvement of the overall performance of constructions

# Life-time structural engineering

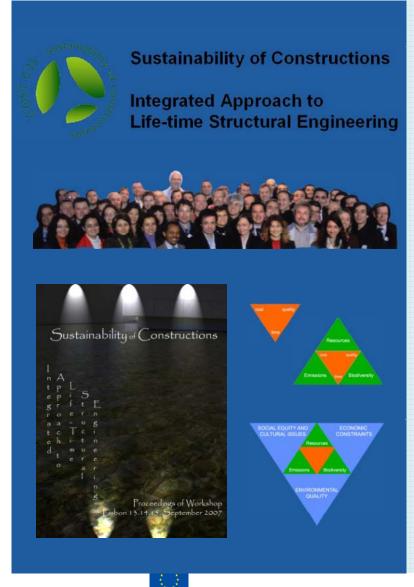
Chair: Raffaele Landolfo, IT; Vice-chair: Viorel Ungureanu, RO

- Life-cycle performance
- Monitoring of life-cycle performance

### **Common activities**

Coordination: Core Group (Chairs and Vice-chairs of MC & WGs)

- Case-studies: 1) Virtual Office Building (Rijk Blok)
  - 2) Replacement of an Existing Composite Bridge (Christian Schaur)
  - 3) Integral Abutment Bridge (Milan Veljkovic)
  - 4) Light Steel Frame Residential Building (Dan Dubina)
  - 5) Concrete Structure Multifamily House (Mauritz Glaumann)
  - 6) Three-span motorway viaduct (Helena Gervásio)
- Conclusions of the global methodology for Sustainable Design and Construction



#### **Objectives:**

- Harnessing science-based advancement of sustainable construction in Europe.
- Focus on life-time structural engineering and integrated approach to deal with the end-products of construction.
- Targeted at the development of methodologies of R&D and engineering that incorporate holistic understanding
- Provide the construction sector with a new framework and ideas based on the integration of approaches and results of ongoing research and development projects
- Creation of a broad network of European universities and other research centres in the field of sustainable structural engineering.

#### **Main Achievements:**

- The Lisbon Workshop "Sustainability of Constructions" Sept. 2007 is the outcome of the 1st year's activity. The Proceedings covers a wide range of up-to-date issues and the best practices in the Sustainable Construction field. The main outcomes were presented also in the international conference SB07. Members produce collaborative papers to conferences and publications.
- Case-study publication, with recommendations and guidelines are expected to be published on the Midterm Seminar, to be held in Oct. 2008 in Dresden.
- The Action's Website is fully operational.
- Six MC and WG meetings have been held in several European countries.
- Four STSM have been completed and another two are planned in the near future.
- A successful Training School on LCA was organised, with 16 members.
- Contribution of young scientists has been active in Work Packages, Case Studies and papers. Their share of the members is about one third.
- A Student Competition for the design of a Sustainable Office Building launched
- Each Member has assigned to multidisciplinary groups and case-studies.
- New initiatives for common activities inside the Working Groups and for the Action
  - Collaborative studies to support preparation of guidelines and case-studies
  - Gathering and providing information on educational material
  - Gathering information on Climate Change issues affecting life-time engineering