CIB NEWS ARTICLE

International Council for Research and Innovation in Building and Construction

Providing a global network for international exchange and cooperation in research and innovation in building and construction, in support of an improved building process and of improved performance of the built environment.

October 2008

Forthcoming Meeting / CIB Co-Sponsored Event

International ECCE Conference

EUROINFRA 2009

Current State and Challenges for Sustainable Development of Infrastructure

14-15 October 2009, Helsinki, Finland

Scope and Background

In the current era of globalisation active discussions between different countries and different parts of the world are needed. This is true also, and perhaps especially, in technology. We also need interaction between research and practice in the exploitation of new knowledge.

Sustainable energy policy and the mitigation of the climatic change are key issues for society. These areas also bind together the two Symposia of this Conference: "State Analysis and Condition Management of Buildings and Civil Infrastructure" and "Low-Energy Building Concepts".

The Conference will consist of two parallel Symposia

SYMPOSIUM 1	SYMPOSIUM 2
State Analysis and Condition Management of Buildings and Civil Infrastructure	Low-Energy Building Concepts (new buildings and renovations)

Symposium 1:
State Analysis and Condition Management of Buildings and Civil Infrastructure civil infrastructures

Infrastructures (including buildings) make up about 80 % of the national wealth in European societies. In the European Union the operation (excluding traffic), maintenance, repair, modernisation and renewal of infrastructure consumes 42% of all energy, and produces about 40% of all environmental emissions and wastes. The impact of traffic on climatic change is country wise between 20 and 25%.

The civil infrastructure plays an important role in the productivity of societies and organisations, and in the safety and health of people. The number of deteriorating civil infrastructures and buildings is constantly growing, which makes a great impact on resources, the environment, and human safety and health. Infrastructures, especially production and transport structures, will be of major importance to the regional policies and cohesion of the current and enlarged European Union of the future, when many civil infrastructures of doubtful quality will be assimilated into the Union's transport system. Also a huge number of buildings in Eastern Europe will urgently need effective maintenance and repair, which will have to be planned over a long time span.

In the global economy there is a worldwide need for increased transport of goods and people, which causes added loading and demands for the civil infrastructure.

Symposium 2:
Low-Energy Building Concepts (new buildings and renovations)

"Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings" contains the following statement: "The residential and tertiary sector, the major part of which is buildings, accounts for more than 40 % of final energy consumption in the Community and is expanding, a trend which is bound to increase its energy consumption and hence also its carbon dioxide emissions."

In this area a great deal of R&D as well as experimental building and practical construction has been done in several European countries and worldwide.

The potential for increased energy efficiency is highest and most economic in the case of new buildings, and this also has a very long-term effect into the future. Beside this, the improvement of energy efficiency in the existing building stock is of the utmost important in order to reach the objectives of energy saving and the reduction of greenhouse gases.

The use of alternative and renewal energy is getting new perspectives in the case of low-energy, minimum-energy and passive buildings.

The challenge for building engineers now is to create and implement low-energy concepts for new buildings, and energy efficient renovation concepts. These concepts must also have a high lifetime quality in relation to usability, economy, ecology and cultural aspects. Communication on these issues is valuable both between research and practice, and between countries.

Objectives of the Conference

The objective of this Conference is to assemble people from practice, administration and research in order to report on and discuss key challenges for the sustainable development of infrastructure (buildings and civil infrastructures) in our societies.

Combining these two Symposia in one conference will enable to achieve interaction between these two central issues: Condition Management and Energy Efficiency. The plenary sessions will provide us with generic background information on the targets for sustainability in our societies and on the challenges for building and civil engineering in this major issue.

Symposium 1:
"State Analysis and Condition Management of Buildings and Civil Infrastructure" aims to provide an information and discussion forum for the development of lifetime management of buildings and civil infrastructures, which will promote progress towards sustainable, coherent and optimal asset management and operation of these structures.

We want to collect reports on the national analysis and assessment of the current state of infrastructure (buildings and civil infrastructures), which can serve as basic information for the formulation of political and technical strategies on the optimal management of infrastructure for a sustainable future. In addition, advanced technologies and methods for renovation, rehabilitation and renewal of the infrastructure will be reported. In this and in the design of new infrastructures, systematic service-life prediction and service-life design must also be applied

SYMPOSIUM 2:
"Low-Energy Building Concepts" aims to bridge the huge gap between the energy efficiency requirements of current norms and standards, and the techno-economic optimum for energy efficiency of new buildings. Energy renovations of existing buildings are especially important and challenging. The use of alternative and renewal energy is getting new perspectives in the case of low-energy, minimum-energy and passive buildings.

The existing technology is scattered among in different countries and actors. Strong efforts are needed to inform investors, owners, administrators and civil engineers about the current availability of building concepts, structural and building service systems, and the modules and components of these concepts.

The symposium aims to serve as a forum for collecting current knowledge, and for distributing this knowledge and technology into the everyday practice of civil engineers.

Themes of the Symposia

Symposium 1:
State Analysis and Condition Management of Buildings and Civil Infrastructure

The themes of the symposium are:

- Analysis of national state, and of the need for rehabilitation and renewal of infrastructure in Europe and worldwide
- Strategic goals of asset management for repair and rehabilitation of the building stock and infrastructures
- Condition assessment methodologies and methods
- Predictive and optimizing lifetime asset management: process, methodology and methods
- Monitoring the behaviour and performance of infrastructures: methodologies, methods, equipment and IT systems
- Service-life prediction and service-life design of structures

Symposium 1:
Low-Energy Building Concepts

- Current and future energy efficiency regulations for new and existing buildings in the EU and in national applications
- Guidelines, methodologies and methods for architectural and technical design of new low-energy buildings and for energy renovations
- Low-energy building and renovation concepts
- Novel structural and building service systems, modules and components for low-energy buildings
- Analysis and control of thermal and physical quality and performance of low-energy buildings (new buildings and energy renovations)
- Life-cycle economy of new low-energy buildings and of energy renovations
- New technologies and products for the renewal of energy production systems (heat pumps, solar heat, solar cells, wind power plants, etc.)

Timetable

The timetable prior to the symposium are:

Submission of abstract	**15 February 2009**
Notification of acceptance of abstract	**28 February 2009**
Submission of first draft of full paper	**15 April 2009**
Refereeing decision	**31 May 2009**
Submission of final full paper	**15 August 2009**
Symposium	**14–15 October 2009**

Brochure

The full conference leaflet with detailed information can be downloaded here.

Additional Information

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