Eracobuild: an ERA-NET on national programmes in the field of construction and operation of buildings

Luc Bourdeau, France
Co-ordinator
ERABUILD
Coordination Action
2004-2007

ERABUILD II
Proposal (Finland)

COOPERBUILD
Proposal (Spain)

ERACOBUILD
Strategic networking of RDI Programmes in Construction and Operation of BUILDings

Coordinating Action under NMP-2007-4-0-7
Planned duration: 2008-2010
Proposal introduced on July 31, 2007
Under negotiation with EC
From 10 countries in ERABUILD

Consortium

To 21 countries in ERACOBUILD

(16 EU + 4 Associated + 1 Other)

18 partners

31 partners

3rd ECTP Conference

Amsterdam, November 19-20, 2007
## ERACO BUILD Partners

<table>
<thead>
<tr>
<th>Participant no.</th>
<th>Participant organisation name</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Coordinator)</td>
<td>CSTB on behalf of MEDAD/PUCA</td>
<td>France</td>
</tr>
<tr>
<td>2</td>
<td>MEDAD/PUCA</td>
<td>France</td>
</tr>
<tr>
<td>3-4-5</td>
<td>BMVIT, FFG, ÖGUT</td>
<td>Austria</td>
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<tr>
<td>6</td>
<td>IWT</td>
<td>Belgium</td>
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<td>7</td>
<td>MRDPW</td>
<td>Bulgaria</td>
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<td>8</td>
<td>MZOS</td>
<td>Croatia</td>
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<td>9</td>
<td>RPF</td>
<td>Cyprus</td>
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<tr>
<td>10</td>
<td>TZUS</td>
<td>Czech Republic</td>
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<tr>
<td>11</td>
<td>EBST</td>
<td>Denmark</td>
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<tr>
<td>12</td>
<td>Tekes</td>
<td>Finland</td>
</tr>
<tr>
<td>13</td>
<td>OHRID Institute</td>
<td>F.Y.R.O. Macedonia</td>
</tr>
<tr>
<td>14-15</td>
<td>BBR, TÜV</td>
<td>Germany</td>
</tr>
<tr>
<td>16</td>
<td>CRES</td>
<td>Greece</td>
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<tr>
<td>17</td>
<td>EMI</td>
<td>Hungary</td>
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<tr>
<td>18-19</td>
<td>Ministry of VROM, SenterNovem</td>
<td>Netherlands</td>
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<tr>
<td>20-21</td>
<td>RCN, NICE</td>
<td>Norway</td>
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<td>22</td>
<td>NCPM</td>
<td>Romania</td>
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<tr>
<td>23-24-25</td>
<td>MEC, CDTI, MEV</td>
<td>Spain</td>
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<tr>
<td>26-27</td>
<td>Formas, BIC</td>
<td>Sweden</td>
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<td>28-29</td>
<td>SFPOE, BuH</td>
<td>Switzerland</td>
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<td>30</td>
<td>MPWS</td>
<td>Turkey</td>
</tr>
<tr>
<td>31</td>
<td>BERR</td>
<td>United Kingdom</td>
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</tbody>
</table>

31 Partners from 21 Countries (16 EU Countries + 4 Associated Countries + 1 other)
### Some Examples of National Programmes

<table>
<thead>
<tr>
<th>Country</th>
<th>Agency/Institution</th>
<th>Focus Area</th>
<th>Funding Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRANCE</td>
<td>PUCA</td>
<td>PUCA, PREBAT</td>
<td>SUSREN</td>
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<tr>
<td></td>
<td>CSTB</td>
<td>Buildings</td>
<td>SUSREN, PROC</td>
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<tr>
<td>AUSTRIA</td>
<td>BMVIT, FFG, ÖGUT</td>
<td>Building of the Future, Energy of the Future</td>
<td>SUSREN</td>
</tr>
<tr>
<td>BELGIUM</td>
<td>IWT</td>
<td>30 pjts in 2006</td>
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<td>CYPRUS</td>
<td>RPF</td>
<td>Built Environment</td>
<td>SUSREN, PROC</td>
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<tr>
<td>CZECH R.</td>
<td>TZUS</td>
<td>Under preparation</td>
<td>SUSREN, PROC</td>
</tr>
<tr>
<td>DENMARK</td>
<td>EBST</td>
<td>Action Plan for Construction, Digital Construction</td>
<td>SUSREN, PROC</td>
</tr>
<tr>
<td>FINLAND</td>
<td>Tekes</td>
<td>Sustainable Community</td>
<td>SUSREN, PROC</td>
</tr>
<tr>
<td>GERMANY</td>
<td>BBR, TÜV</td>
<td>Future Construction</td>
<td>SUSREN</td>
</tr>
<tr>
<td>HUNGARY</td>
<td>EMI</td>
<td>Retrofit of Industrially Built Dwellings</td>
<td></td>
</tr>
<tr>
<td>NETHERL.</td>
<td>VROM, SN</td>
<td>Compass, EOS</td>
<td>SUSREN, PROC</td>
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<tr>
<td>NORWAY</td>
<td>RCN, NICe</td>
<td></td>
<td>PROC</td>
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<tr>
<td>ROMANIA</td>
<td>NCPM</td>
<td>CEEX, Partnership in Priority Areas</td>
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<tr>
<td>SPAIN</td>
<td>MEC</td>
<td>Construction Nat. Progr.</td>
<td>SUSREN, PROC</td>
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<td></td>
<td>CDTI</td>
<td>Several projects</td>
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<td></td>
<td>MEV</td>
<td>Use of Innov. in Constr.</td>
<td></td>
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<tr>
<td>SWEDEN</td>
<td>Formas, BIC</td>
<td>Sustainable Buildings</td>
<td>SUSREN, PROC</td>
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<tr>
<td>SWITZ.</td>
<td>SFOE, BuH</td>
<td>Energy Efficient Buildings</td>
<td>SUSREN</td>
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<tr>
<td>UK</td>
<td>BERR</td>
<td>Efficient Building Innovation Platform</td>
<td>SUSREN</td>
</tr>
</tbody>
</table>
ERABUILD (2004-2007)
Contact: Virpi Mikkonen, Tekes, Finland

- Summary of results
  - Review on participating programs
  - 10 shadowing events
  - 3 clustering workshops
  - Future research needs workshops
  - Durable cooperation plan
  - 6 joint calls

- In the pipeline:
  - 2 trans-national programme plans
  - Evaluation of pilots and compiling manuals for joint activities
  - A plan to contribute to ECTP
Three Joint Calls for Proposals

- Total project volume 8.65 M€, EB funding 5.1 M€
- Managing Information in Construction
  - Call opened in May, closed in mid September 2005
  - 8 proposals submitted, 4 projects selected in Sep 2005
  - Sweden, Finland, Austria and France

- Transformation of Construction Sector through Industrialisation
  - Call opened April, and closed July 2006
  - 15 proposals submitted, 8 projects selected in Oct 2006
  - Denmark, Sweden, France, Finland, Austria

- Benchmarking and Performance Indicators in Real Estate and Construction
  - Call opened in March, closed in June 2007
  - 3 projects selected in Sept 2007
  - Denmark, Finland, NICe, Sweden
ERABUILD (2004-2007)
Three Joint Calls for Tenders

- Review of the Use of RFID in Construction (60 000 €)
  - Contract with Danish Technology Institute
  - Funded by Denmark, UK, Sweden and Finland

- Review of the Development and Implementation of IFC compatible BIM (75 000 €)
  - Contract with SINTEF, Norway
  - Funded by Denmark, Finland, The Netherlands, Norway and Sweden

- State of the art review of building renovation and modernisation in Europe (80 000 €)
  - Contract with TU Delft, the Netherlands
  - Funded by Austria, Sweden, France, Finland, The Netherlands, UK, Switzerland. Germany acted as a call secretariat.
ERACOBUILD (2008-2010)

Objectives

ERACOBUILD will focus on strengthening and deepening the co-operation in the consortium on five levels:

1. The development of integral strategies on construction and operation of buildings, integrating economic, environmental and research policies that are often covered by different ministries and DGs, leading to suboptimal approaches for the building sector.

2. Creating a structured dialogue between regional and national policymakers, the European Commission and sector representatives, through ECTP and associated national technology platforms, in order to match research priorities defined by the sector with research priorities following national and European policies. Furthermore, a global approach will be adopted to find relevant networks in non-European research programmes.

3. Enhancing and launching joint activities between on-going programmes (e.g. in trans-national programmes) on relevant topics. For example, involving SMEs more actively in European RDI could be a topic for a transnational programme.

4. Advising national governments and the European Commission on how to further incorporate tools and improve boundary conditions for trans-national cooperation.

5. Bridging the gap between R&D and practice by linking implementation strategies to research programmes.
Work packages and their interdependencies

WP1 Strategy
- Networking
- Trends, Needs & Priorities
- Durable Implementation

WP2 Joint Programming
- Plug-in partnering
- State of the art studies
- Define programme framework
- ERA-NET +

WP3a Joint Activity Implementation
- Sustainable Renovation
- Value Driven Processes
- Clustering
- Miscellaneous joint calls

WP3b Specific Industry oriented Joint Activities
- Industrial Research
- Pre-normative Investigation
- Large R&D Facilities

Total: 261 p.m.
Strategy Watch

Project Team’s background work Tasks 1.2 and 4.3
Identification of
- Future research needs
- Trends
- SRAs by Technology platforms
- National policies
- EC and global policies

Analysis of own activities
- Work done/ feedback
- Funded national projects
- National innovation systems
- RDI environment

Launch joint activities WP3ab

SC Strategy workshop
Task 1.3
Strategic guidelines
- Share national RDI strategies
- Identify synergies
- Prioritise and select joint actions to be started

All partners

Initiate and prepare joint activities WP2-3ab

ERANET+
Groups with common interest launch joint activities of different levels

0,5 million €  3 million €

0,5 million €  3 million €
Toward a durable implementation

GLOBAL INPUTS
- National governments
- SRAs (ETPs)
- Analyses
- EC and global policies

Common strategy

OUTPUTS = national funding on R&D&I
- Joint actions
- Joint actions
- Joint actions (programmes)
- Joint actions
- Joint actions

External funding required

TIME
Sustainable Renovation Programme
(contact: Ludgera Klinge-Habermann, TÜV, Germany)

- Motivation for a trans-national programme
  - **Existing building stock** is of great **economic** and **cultural** value for Europe
  - Address an **enormous potential for energy savings**: up to 50% of the existing building stock was built between 1950 and 1980
  - Deal with the **growing diversity of needs** of (end-)users and **the steady ageing** of the European population
  - Tackle increasing **noise** and air **pollution** problems, unexpected **adverse weather conditions** (flooding, higher summer temperatures), and problems caused by **climate changes**
  - Define concepts for a **widespread** and **practical** use to improve energy efficiency, comfort **and** convenience of the building stock
Annual new construction EU(15+CH)
### Sustainable Renovation
#### Proposed programme structure

<table>
<thead>
<tr>
<th>Technologies for sustainable renovation</th>
<th>Socio-economic concepts</th>
<th>Supporting measures for sustainable renovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy / Materials</td>
<td>Social concerns</td>
<td>Awareness</td>
</tr>
<tr>
<td>Processes / Tools</td>
<td>Business models</td>
<td>Diagnostic</td>
</tr>
<tr>
<td></td>
<td>Building value</td>
<td>Decision making and legislation</td>
</tr>
</tbody>
</table>

**Identification of work activities to be addressed in a SusRen Programme**

*(still need to be prioritised by the partners)*
Programme on Value driven processes for construction and operation of buildings

(contact: Ake Skarendahl, BIC, Sweden)

- A trans-national program planned in Eracobuild

- Increase user, client and society value through transforming the way of working

- In line with ECTP SRA:
  - Meeting Client/User Requirements
  - Becoming sustainable
  - Transformation of the sector
Value driven processes

User/Client focus?
Who takes decisions?
Who is responsible?
Who gives guarantees?
Efficiency?
Constant learning?
Innovativity?

World Business Council for a Sustainable Development
Today processes: main points

- How bad is it today?
  - Low user/client satisfaction
  - Insufficient sustainability performance
  - Deficient deliveries
  - Inefficient information transfer
  - Waste
  - Low productivity increase

- Who is the customer?: The political system!
  - It procures 50%
  - It regulates the rest

Potential saving +30% !!!

The political system has the key to a change!
Value driven processes

Program Goals

- Reducing investment with 30%
- Reducing Life Cycle Cost with 50%
- Reducing time of delivery with 50%
- Raising the level of best practice in
  - sustainability
  - user satisfaction index
- Zero fault deliveries
- Zero accidents, early retirements
5 main themes
1. Requirements
2. Industrialisation
3. Business models
4. Information management
5. The holistic process
WP4: Learning and Improving

- T4.1 Defining the scope
- T4.2 Shadowing and Learning from joint activities
  - national procedures
  - procedures in Eracobuild and other Eranets
  - procedures in other transnational schemes
- T4.3 Analysis of completed activities/results
- T4.4 Co-monitoring of funded projects
- T4.5 Developing methods for strategy work
- T4.6 Improving tools for joint activities
WP5: Communication, Dissemination and Creation of Research Culture

- T5.1 Communication plan/strategy
- T5.2 Monitor, analyse and refine achievements for communication and dissemination
- T5.3 Website, Publications
- T5.4 Eracobuild Conference
Conclusions

○ Benefits for National Funding Bodies
  ● Fulfills the need for networks in different levels – both strategic and operational networks
  ● Enables learning from each other’s policies, practices, programmes,…
  ● Joint calls to join efforts – more with less
  ● Avoid overlapping research – coordination of national programmes
  ● Multiply impacts of funding
  ● Enables sharing efforts to solve common problems and access to best competences
  ● Create competitive edge for European construction sector

○ Benefits for industry and research
  ● A bridge between national and European research
  ● Easy and flexible funding for international collaboration
  ● Support the interaction between research groups

○ Starts with a new ambition
  ● Strengthening and enlarging
  ● Development of 2 Transnational Programmes (3a)
  ● New fields of cooperation (3b)