CIB Special Project

PeBBu Proposal – conditionally - accepted by EU!

by

General Secretariat

In September 2000, the CIB General Secretariat has applied for a European Network subsidy within the Growth Programme of the 5th Framework Research Programme of the Commission of the European Communities. In January, the European Commission has informed us that the proposal is accepted as start of contract negotiation, but that quite substantial amendments will be necessary to fit the available EU budget. It may be expected that in August 2001 the PeBBu Network will be operational.

In this article, the contents of the original Proposal are summarized, as well as the headlines of the European Growth Programme. In the coming months, amendments will have to be made to the contents of the proposal, as regards tasks and budgets. We hope to be able to give full details on the resulting tasks and organisation of the project, including the participants, in the next issue of the Information Bulletin.

The 5th Framework and the Growth Programme

Introduction

The Fifth Framework Programme (FP5) sets out the priorities for the European Union’s research, technological development and demonstration (RTD) activities for the period 1998-2002. These priorities reflect the major concerns of increasing industrial competitiveness and the quality of life for European citizens. FP5 focuses on a limited number of research areas combining technological, industrial, economic, social and cultural aspects.

Budget

A budget of 13,700 million euro has been agreed for the implementation of the European Community section of FP5. Combined with the 1,260 million euro allocated to the Euratom programme, this should bring the global budget for research during 1999-2002 to 14,960 million euro.
Programmes within the 5th Framework
The 5th Framework consists of the following programmes and activities:

- **Thematic Programmes**
  - Quality of life and management of living resources
  - User-friendly information society (IST)
  - Competitive and sustainable growth (GROWTH)
  - Energy, environment and sustainable development (EESD)

- **Horizontal Programmes**
  - Confirming the international role of Community research (INCO II)
  - Promotion of innovation and encouragement of SME participation
  - Improving human research potential and the socio-economic knowledge base

- **Direct Actions - Joint Research Centre**

- **Fifth (Euratom) Framework Programme**
  - Research and Training in the field of Nuclear Energy
  - Direct Actions - Joint Research Centre

Promoting competitive and sustainable growth
The PeBBu proposal forms part of the thematic GROWTH programme.

Programme Objectives
This specific programme aims to support research activities contributing to competitiveness and sustainability, particularly where these two objectives interact. Research and Technology Development activities in this programme should help to prepare the policy making, industrial and related service sectors for the challenges of the new millennium and to generate a strategic vision of research in all sectors throughout Europe. They will focus on clearly identified needs and on improving the information available to policy makers about the implications of technological and organisational change and opportunities for, and the effectiveness of, policy measures.

Thematic Network
The PeBBu proposal is a Thematic Network proposal. Thematic Networks bring together industry, universities, research centres, users, research infrastructures, technology transfer centres, science and technology expert centres, (electronic) communication experts and other relevant stakeholders around a common objective relating to the priorities of the GROWTH programme.

The PeBBu-project supports the construction of a Research Infrastructure in the area of Performance Based Building. The objective is to combine the fragmented knowledge available in different countries both in Europe and outside Europe. As the network also aims to combine and interrelate the research world, industrial partners, regulatory bodies and policy makers, the network cannot be established on a private or regional level. Furthermore, performance based standards and regulations in the (building) industry have to be developed on a EU-level to enforce the competitiveness of the European building industry.

The proposal specifically applies to Key Action 1: Innovative Products, Processes and organization, in which it responds to the Thematic Research Areas Infrastructure, Modern Factory, Products and Extended Enterprise.
Funding
Thematic Networks do not provide funding for actual Research and Technology Development (RTD) activities, but may include costs for such activities as establishing the actual state-of-the-art, identifying future research needs, comparison and establishing of best practice, benchmarking, socio-economic studies etc. They can fund not only activities related to the networking of organisations and RTD projects and co-ordination of activities, but also exchange and dissemination of knowledge stemming from the RTD activities.

PeBBu Project Summary

Background
The prescriptive or deemed-to-satisfy building specifications and codes currently enforced in most countries inhibit building and construction trade. Performance Based Building (PeBBu) strives to overcome this problem by using performance requirements to define a building product’s fitness for purpose throughout in principle all phases of the briefing, design, procurement and construction process. PeBBu means the orientation on ends rather than means. This is a strong stimulus for product and process innovation and enhances consumer-orientation, cost-optimisation, and trade possibilities in construction. PeBBu is expected to reduce total construction costs by as much as 25% in the long term.

<table>
<thead>
<tr>
<th>Estimated savings in %</th>
<th>Short term</th>
<th>Long term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost optimisation construction</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Innovation of products and processes</td>
<td>3.0</td>
<td></td>
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<tr>
<td>Specialisation construction firms</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>Less barriers to international trade</td>
<td>2.5</td>
<td></td>
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<tr>
<td>Total process innovation</td>
<td>2.5</td>
<td>12.5</td>
</tr>
<tr>
<td>Improved user orientation</td>
<td>5.0</td>
<td>12.5</td>
</tr>
<tr>
<td>Total estimated savings in %</td>
<td>7.5</td>
<td>25.0</td>
</tr>
</tbody>
</table>

It is to be expected that the actual application of Performance Based Building will have a major impact on the future structure and culture in the building and construction industry and will require fundamentally different business processes in construction firms. Being convinced of the potential importance of the envisaged work to the Building and Construction Industry both in the EU and worldwide, it has been decided to aim for the establishment of a so-called Thematic Network and to request funding for this by the EU.

Network objectives
The Network will elaborate on the activities carried out by CIB, its commissions and its members since it adopted Performance Based Building – PeBBu - as a Priority Theme in the CIB Pro-Active Approach in 1998.
This proposal aims at the establishment of a network, in which research organizations, users, the building industry and the policy and regulatory community together further develop the concept of Performance Based Building. Through the development of this concept, the building industry will become more innovative and consumer-oriented.

The network strives to stimulate and facilitate international programming, the coordination of research, and the implementation of projects in the area of Performance Based Building. It will stimulate actual investments in research and projects. It provides EU Network members with optimal access to worldwide knowledge and experience.
Programme infrastructure

An infrastructure will be established for the programming, coordination and facilitation of research and for the dissemination of research results in the area of Performance Based Building. The main components of this program infrastructure, as currently under negotiation for funding with the European Commission, are the following:

- Programming and coordination of research projects in nine scientific domains;
- Involvement of Target Groups / Stakeholders from the start of the programme through 3 International Platforms for i) buildings owners, users and managers, ii) building industry and iii) the international(pre-)standardisation community and four regional platforms in Europe to act as the bridge to and the initiator of national activities in the area of Performance Based Building;
- Network Management, including the establishment of a Program Steering Committee, Biannual Member Meetings, mechanisms to disseminate information on the program through international congresses, websites, newsletters and publication, the overall network administration and technical support to facilitate the research, translation and dissemination projects.

It is envisaged that at a later stage the following components will be added and that, were appropriate, for those separate funding will be attracted:

- Three Compendium projects that will serve as a scientific basis of those research projects. And that will establish a common framework, a shared language, and the state of the art in terms of research and best practices in the area of Building Performance Models, Economic Benefits from PeBBu and Performance Based Statements of Requirements. The development of the Compendium of Building Performance Models has already been commissioned in 2000 by CIB and for the other two Compendia CIB already commissioned preparatory studies.
- Various R&D projects related to Performance Based Building, including the about 30 project that already have been initiated by CIB Task Groups and Working Commissions. The further elaboration of those projects into proposals/request for additional funding has already commenced.
- Aligned national activities on Performance Based Building.

The figure below shows the proposed network infrastructure.
**Deliverables**

Network activities will lead to establishment of the following deliverables:

- Nine two-yearly (2001 and 2003) Domain workshops and reports, including the conceptual framework, state-of-the-art and priorities in each domain
- Two-yearly research assessment workshops (2001 and 2003) by the three international platforms and by the four regional platforms
- PeBBu Website, including for example a Newsletter, State-of-the-art and Progress Report as produced by each of the main Tasks (2001 and beyond)
- Additional elaborated R&D proposals and funding request supported by a PeBBu Support Service (2001 and beyond)

**Network organisation structure**

At the start of the proposed PeBBu Network 50 organisations have committed to fulfil an active role in the described program of activities. This includes i) 35 organisation in EU and EU Associated countries and ii) 15 organisations in other countries that have committed to participation under the condition that the required funding will become available. This includes 10 organisations in countries that have an official Cooperation Agreement with the EU, where EU political and other support can be a decisive contribution to attracting the required funding from national sources.

The Consortium that will participate in the network, consists of nine Principal Contractors, of which CIB is the Coordinating Contractor:

- CIB
- Centre Scientifique et Technique du Batiment (CSTB / France)
- TNO Building and Construction Research (The Netherlands)
- EGM Architects (The Netherlands)
- Technical Research Centre of Finland (VTT Building Technology)
- University of Manchester Institute of Science & Technology (UMIST / UK)
- University of Salford (UK)
- Building Research Establishment (BRE / UK)
- Belgian Building Research Institute (BBRI)
The other initial 26 European organisations in the network will work as subcontractors to those principal contractors.

It is envisaged that the 15 non-European Members will be added to the Network in the near future.

After the Network has been established and become operational it is open to new membership. However, the European funding that at present is being negotiated will not be available to those new members.

For each defined task the task Leader and the task Members have been determined. An overall managerial and scientific responsibility is given to the Network Steering Committee, in which the Assigned Leader of the internationally oriented main tasks participate.

All main tasks are facilitated – and through this facilitation also coordinated – by the network Secretariat, which will be a responsibility of the Coordinating Contractor.

**Budget**

The total PeBBu programme totals a number of activities collectively valued at nearly 6 million Euro, with another set of activities worth of an estimated 19 million Euro expected for the near future. A distinction can be made between: i) a total of 0,8 million Euro that is committed by CIB and others to already initiated projects, ii) a total of 4,1 million Euro for which through this proposal EU funding has been requested and for which it now looks like the first 2,0 million Euro will indeed become available on short notice, iii) a total of 0,9 million Euro as provisionally required financing for the non EU contributions to the Network, for which funding will be searched for separately and iv) a total of 19,1 million Euro related to the research and related projects as to be initiated by the PeBBu Network, for which separate funding will be required at a later stage.

**More Information**

A full copy of the initial PeBBu proposal as submitted to the EU in September 2000 – including an overview of all participants – can be found at CIB’s homepage: [http://www.cibworld.nl/pages/begin/pebbu.html](http://www.cibworld.nl/pages/begin/pebbu.html).

In the section < Performance Based Building > in the CIB homepage at [www.cibworld.nl](http://www.cibworld.nl) additional information on all CIB’s activities in the area of Performance based Building can be found, including information about all about 30 R&D projects in this area as already initiated by CIB Task Groups and Working Commissions.

Interim results of many of the 30 R&D projects, the three PeBBu Compendium projects and the PeBBu Programme itself will be presented in detail in the context of the Triennial CIB World Building Congress on the theme “Performance in Product and Practice” that will take place on April 2-6, 2001 in Wellington, New Zealand and on which information can be found at [www.branz.org.nz/cib/](http://www.branz.org.nz/cib/).

More information on European Research programmes can be found at the CORDIS-website: [www.cordis.lu](http://www.cordis.lu).