

## Report Closing Address ECTP-E2BA Conference 25 November 2009, Brussels

### 1. Gian Marco Revel, gm.revel@univpm.it, Synthesis of MATERIALS and INDUSTRIALIZATION sessions

Construction materials are thus confirmed as key elements to reach industrialization and improved functionalities in the building sector.

In the field of the overall INDUSTRIALIZATION of the construction processes, there are also very large Integrated Projects to consider the life-cycle of the building as a whole.

Further information: see attachment 1

### 2. Teresa Sanchez Segura, segura@ohl.es EUREKABUILD UMBRELLA: PROPOSAL FOR CONTINUATION

EurekaBuild, EUREKA Umbrella was created in 2006 to improve the communication and cooperation between European researchers and industrialists

The Spanish construction industry would like to propose to take over the Chair of the Umbrella for the proposal extension.

However, to assure the continuation of the EurekaBuild Umbrella, the support of at least five member states is required.

For further information: see attachment 2.

### 3. Hansgeorg Balthaus, hansgeorg.balthaus@hochtief.de TASK FORCE INFRASTRUCTURE (TFI)

The HLG of ECTP on 5 November 2009 unanimously welcomed and supported a new initiative regarding the inter focus areas theme "infrastructures

The work group will have a first meeting at the beginning of February 2010.

It is intended to draft first indicative documents by April 2010.

For further information: see attachment 3.

### 4. Roko Zarnic, roko.zarnic@fgg.uni-lj.si CULTURAL HERITAGE Session

One of interesting ideas launched within FACH was specially addressed. It is an idea about the cooperation between ongoing projects in a kind of clustering that can gain an added value to the project outcomes.

The future efforts of FACH will be oriented to close cooperation with the EeB Association.

A JPI on Cultural Heritage should help strengthening the synergies between European and National funding mechanisms and reinforce all political and scientific efforts at European, national and regional level.

For further information see attachment 4.

**5. Johan Vyncke, [johan.vyncke@bbri.be](mailto:johan.vyncke@bbri.be)  
BOOSTING INNOVATION within SMEs!**

The sessions were appreciated as they allow putting once again the needs of SMEs in the spotlight.

SME's are "*more concerned about access to results than access to research funding*".

A first part was dedicated to an innovation market where SME were given the opportunity to present their future products (building components, construction materials, site equipment, testing systems).

The second session was centered around SME RTD project presentations and strategic discussions.

For further information see attachment 5.

**6. Bernhard Hauke, [Bernhard.Hauke@bauforumstahl.de](mailto:Bernhard.Hauke@bauforumstahl.de)  
Focus Area QUALITY OF LIFE**

Focus Area Quality of Life as a horizontal focus area has fostered three sessions: indoor environment, indicators and LCA as well as risk mitigation.

Topics of indoor environment are still often regarded as less important. However, it is the users of the build environment who are directly exposed to the indoor environment. Hence the topic deserves more attention. Though we could present only two projects on indoor air quality and indoor performance indicators interest in the session was really good.

Mr. von Waizsäcker cited in his key note speech: "we can only manage what we can measure". Consequently topics of sustainability indicators and life cycle assessment attracted overwhelming attention with project presentations and interested people.

Risk mitigation for natural and man-made hazards is one of the key topics of the focus area. The risk-session lively discussed matters of research infrastructure for seismic testing, safety of housing, flood protection and soil upgrading.

For further information see attachment 6.

**7. Juliusz Zach, [j.zach@mostostal.waw.pl](mailto:j.zach@mostostal.waw.pl)  
E2BA STATEMENT for closing session of ECTP conference 2009**

ECTP conference 2009 was exceptionally important for Energy Efficient Buildings Association. Energy efficiency related issues, blocked in four session of presentations, occupied great part of the conference programme and provoked many discussions. It's a proof of numerous activates of E2BA members done in the past and planned for the near future.

E2BA General Assembly that has taken place in the same date and venue constituted mayor step in the development of the association. It's been the first meeting with wide participation of recently incorporated members. Now the association reached the target organizational shape. It makes E2BA even better prepared for the performance of the work assigned to preparation of Multiannual Roadmap requested by European Commission, as well as application of research and development results in the area of energy efficiency.

## Attachments

### **Attachment 1. Synthesis of MATERIALS and INDUSTRIALIZATION sessions by Gian Marco Revel, Università Politecnica delle Marche, Leader FA Materials**

The presentations given in the MATERIALS and INDUSTRIALIZATION sessions showed two clear tendencies:

- INDUSTRIALIZATION and integration of development, design and use of construction MATERIALS;
- Use of Nanotechnologies for new or improved functionalities.

Such developments are being investigated e.g. for:

- cement (Nano-based cements, computationally driven design for cement based product),
- concrete (tailor-made shaped concrete structures with high industrialization),
- composites (new nanotech-based composite functionalities, innovative wood-based composites, advanced industrialised development of composite components for bridges and infrastructures),
- stones (industrialised production processes).

Construction materials are thus confirmed as key elements to reach industrialization and improved functionalities in the building sector, applicable to both new and existing buildings. In addition, it is now clear that the industrialised use of innovative materials requires a multi-disciplinary approach, requiring many different competences, ranging from nanotechnologies to ICT, etc.

In the field of the overall INDUSTRIALIZATION of the construction processes, there are also very large Integrated Projects to consider the life-cycle of the building as a whole, from the design stage (strongly supported by new simulation ICT tools) up to demolition.

### **Attachment 2 EUREKABUILD UMBRELLA: PROPOSAL FOR CONTINUATION Teresa Sanchez Segura OHL - Spain**

EurekaBuild, EUREKA Umbrella dedicated to generating and supporting projects in the area of construction, was created in 2006 to improve the communication and cooperation between European researchers and industrialists due to facilitate and stimulate generation of innovative R&D projects, focused on the development of products, services and applied technology that improve the international competitiveness of the construction sector.

EurekaBuild main results since 2006 have been:

- 13 Eureka projects and 1 proposal generated
- 9 workshops organized
- 22,4 millions investment in R&D projects
- 17 countries participating in R&D projects

EurekaBuild Umbrella is supposed to finish its work on the 31st of December 2009. However, the Spanish construction industry, represented by the Spanish Construction Technology Platform, would like to propose to take over the Chair of the Umbrella for the proposal extension. We consider that the main goals of EurekaBuild are still valid and it is worth making an effort to extend it for another three years.

The main characteristics of the new proposal would be:

- Extending the EurekaBuild Umbrella until December 2012
- Providing EurekaBuild with its own Chairmanship

- Setting up a EurekaBuild Support Office in coordination with the current EurekaBuild Secretariat
- Definition of the work plan (according to the new EUREKA Umbrella guidelines 2009)

However, to assure the continuation of the EurekaBuild Umbrella, the support of at least five member states is required.

We encourage you to join us in this initiative, which we think it's a good way to increase the competitiveness of the European construction sector.

Please let us know your interest contacting weather Luc Bourdeau (luc.bourdeau@cstb.fr) or Teresa Sanchez (segura@ohl.es).

**Attachment 3. Hansgeorg Balthaus, [hansgeorg.balthaus@hochtief.de](mailto:hansgeorg.balthaus@hochtief.de)  
Task force Infrastructure (TFI)**

The HLG of ECTP on 5 November 2009 unanimously welcomed and supported a new initiative regarding the inter focus areas theme "infrastructures". The presentation given on 25 November by Hansgeorg Balthaus during the ECTP Annual Conference drew an audience of more than 60 and formed the basis for an intensive discussion of all the aspects involved.

The session was moderated by Claude Dumoulin and demonstrated impressive support for the initiative both in terms of suggestions and discussion contribution as well as through expressions of interest for concrete participation in the future task force work.

The main points discussed and decided on are:

The TFI will be represented with an own "page" in the ECTP collaborative work space member area.

The work group will have a first meeting at the beginning of February 2010.

A thorough analysis of existing infrastructure – related initiatives (EU and international) will be done to design scope, interfaces and communication models appropriately.

It is well understood that infrastructure is of paramount public importance, mostly driven or strongly influenced by public clients and in the focus of numerous stakeholders. Impact assessments will be done.

It is intended to draft first indicative documents by April 2010.

Communication with relevant DGs and EU-related organizations and initiatives will be started as early as possible.

As before the HLG of the ECTP the participants and the task force members are of the strong opinion that the ECTP is standing at the starting point of a new major initiative and opportunity. The complexity and importance of the topics included makes it a tremendous challenge, too.

When the reporter expressed his confidence and trust that the audience will show continuing and strong support for the idea and initiative applause concluded this part of the closing session.

**Attachment 4. Roko Zarnic, [roko.zarnic@fgg.uni-lj.si](mailto:roko.zarnic@fgg.uni-lj.si)  
Cultural Heritage Session**

Chair of the session:

Kristian Engberg, Saint.Gobain, Michel Chapuis, EC DG Research

13:30 – 13:45

Current activities and status of the Focus Area Cultural Heritage (Isabel Rodriguez-Maribona, LABEIN)

13:45 – 13:55

EARTHBL - Earth-Block Construction in South-Eastern Europe: from the Past to the Future. A low cost alternative for rural bioclimatic housing (Ioanna Papayianni, AUTH, Greece)

13:55 – 14:05

H-KNOW -Advanced Infrastructure for Knowledge Based Services for Buildings Restoring (Mikel Sorli, Labein, Spain)

14:05 – 14:15

SMooHS - Smart Monitoring of Historic Structures (Jürgen Frick, University of Stuttgart)

14:15 – 14:25

TeACH - Technologies & Tools to Prioritize Assessment & Diagnosis Of Air Pollution Impact on Immovable & Movable Cultural Heritage (Adriana Bernardi, CNR, Italy)

14:25 – 14:35

Climate for Culture - Damage risk assessment, economic impact and mitigation strategies for sustainable preservation of cultural heritage in the times of climate changes (Johanna Leissner, Fraunhofer, Germany)

14:35 – 14:45

EU CHIC – European Cultural Heritage Identity Card (Roko Žarnić, Univ. of Ljubljana, Slovenia)

14:45 – 15:15

Coverage of FP7 at mid term and ideas for next Work Programmes ( Michel Chapuis, EC DG Research)

### **Brief report**

The Cultural Heritage Session was well attended by 32 participants (including speakers) as it is documented in the presence list below. All speakers agreed that their presentations will be distributed to attendees and to all ECTP Conference delegates through the public part of ECTP web portal. The pdf file with all presentations should be considered as a part of this report.

The presentations covered basic information about the Focus Area Cultural Heritage (Isabel Rz-Maribona) , information about a new project idea (Ioanna Papayianni), information about five ongoing new FP7 projects related to the cultural heritage (Mikel Sorli, Jürgen Frick, Adriana Bernardi, Johanna Leissner, Roko Žarnić) and about the ideas for the next FP7 work programmes related to cultural heritage research (Michel Chapuis).

The attendees of the session expressed their interest for presented projects and new ideas with several questions that were answered by speakers giving additional information to the audience. One of interesting ideas launched within FACH was specially addressed. It is an idea about the cooperation between ongoing projects in a kind of clustering that can gain an added value to the project outcomes. The idea will be implemented during the progress of projects starting within the next EU CHIC workshop in April 2010 in Vienna where three projects will start clustering (SmooHS, Climate for Culture and EU CHIC). It was also announced that special attention will be paid to the engagement of Ph.D. students in the research within the projects and their mutual cooperation.

The future efforts of FACH will be oriented to close cooperation with the EeB Association, including the preparation of initiatives and programme background for research in the field of rational use of energy during the retrofitting interventions in heritage buildings as well as in rational use of energy in retrofitted buildings.

Prof. Cristina Sabbioni has informed the audience about the NET Heritage project (the presentation is included in the “pdf” file with presentations of the ECTP Cultural Heritage Session) and about the new Joint Programming Initiative (JPI). Under the Swedish

presidency, the High Level Group for Joint Programming (GPC) has identified 3 proposals of Joint Programming Initiatives to be recommended to the Competitiveness Council of 3/4 December, one of which - led by Italy (initiatives from the Italian Ministry of Cultural Goods and Ministry of Research) - is on the subject of research for the protection and conservation of Cultural Heritage. This initiative is entitled: "The challenge of cultural heritage: providing protection in response to major change for Europe in a global context". The theme of this JPI has a focus on Europe, but while the work will reinforce very interesting collaborations in Europe, it will also open opportunities for collaboration with non-European partners, including Mediterranean countries and the emerging economies of BRIC (Brazil, Russia, India and China). Proposal of JPI also address the expected contribution of FACH to its future progress which was entirely agreed by FACH members that were attending the session. Cooperation of FACH with the JPI will be one of the future priorities of FACH activities.

A JPI on Cultural Heritage should help strengthening the synergies between European and National funding mechanisms and reinforce all political and scientific efforts at European, national and regional level. It is expected to ensure more efficiency through more continuous and coordinated support. If this initiative is confirmed by the Council, as a consequence, the EC (DG RTD - Environment Directorate) will be requested, after the Council meeting -and in close liaison with Italy as "proposing coordinator" of this large initiative and Member States - to prepare a Recommendation to the Council on the JPI proposal on Cultural Heritage. The FACH members will also benefit from this initiative and therefore are very interested in supporting their activities in order to increase a potential of synergy reached both on the level of national platforms as well as on the level of ECTP.

Short introduction of speakers:

**Chair of the event**

**Michel Chapuis**

European Commission representative for Cultural Heritage research. French by origin, with a background of environment. Michel Chapuis has been more than 20 years in the European Commission DG Research and currently staff member of the Directorate Environment. He is following quite a wide range of Cultural Heritage projects.

**Kristian Engberg**

M.Sc. Civil Engineering. Working in Saint-Gobain Weber in the International Marketing Department as Federal Activity Manager with responsibility for renders, plasters, masonry mortars and services. Involved in FACH since 2005, co-coordinator and industrial represent in FACH since 2008.

**Current activities and status of FACH**

**Isabel Rodriguez-Maribona**

Doctor in Chemistry. She is an expert project manager with a large experience in managing construction research projects at national, European and international level. She was the co-ordinator of GRAFFITAGE (STREP) and CHRAF (SSA) under FP6, both focused in Cultural Heritage. Partner in 4 FP7 projects Cultural Heritage related. She has been evaluator in FP5 and FP7. She is co-coordinator of FACH and Advisory Group of SME's in the ECTP and leads the Cultural Heritage Focus area in the Spanish Construction Technology Platform.

**EARTHBL – Earth Block Construction in south Eastern Europe: from the past to the future. A low cost alternative for rural bioclimatic housing.**

**Ioanna Papayianni**

Professor at Aristotle University of Thessaloniki. Head of laboratory of Building Materials at AUTH. Long time experience in research field at projects concerning repair and consolidation of monuments and historical buildings. Coordinator of European and national research projects.

**H – KNOW – advanced infrastructure for Knowledge Based Services for building restoring**

**Mikel Sorli**

PhD in Industrial Engineering. More than 30 years experience in manufacturing related issues: life cycle management, product / process knowledge, lean production etc. Currently responsible of the Design Engineering Group at Labein-Tecnalia with high activity in European and national founded RTD projects.

**SMooHS – Smart Monitoring of Historic Structures**

**Jürgen Frick**

PhD in Physics, University of Stuttgart. Expert in non-destructive testing with experience with Cultural Heritage projects. Head of staff-position Research & Development and head of unit for building inspection and assessment within NDT department. Invited scientist at University of Bordeaux III / France and RIWAQ – Center of Architectural Conservation / Palestine.

**TeACH – Technologies & Tools to prioritize Assessment & Diagnosis of Air Pollution Impact on Immovable & Movable Cultural Heritage**

**Adriana Bernardi**

Senior researcher and head of UNIT of Padova of the ISAC institute of the National Research Council. Coordinator of “Energy and Environment” in ECTP / FACH. Coordinator and participant of numerous EU projects on Cultural Heritage since the 1<sup>st</sup> FP. A pioneer in Cultural Heritage research.

**Climate for Culture – Damage risk assessment, economic impact and mitigation strategies for sustainable preservation of Cultural Heritage in the times of climate changes.**

**Johanna Leissner**

Senior material scientist at Fraunhofer Institute of Silicate Research in Würzburg. Founder of German Research Alliance for Cultural Heritage in 2008. Specialist in environmental monitoring and medieval stained glass windows. Project conduction of the new and large FP7 project “Climate for Culture”, and has been also seconded National Expert in the European Commission for Culture.

**EU – CHIC – European Cultural Heritage Identity Card**

**Roko Žarnić**

Professor in Building Materials at University of Ljubljana, Ph.D. in earthquake engineering. Co-coordinator of FACH in ECTP since its establishment in 2004. Coordinator of EU-CHIC project. Partner in 3 FP7 cultural heritage related projects and 2 other FP 7 projects. Partner in more than 10 FP project since FP 4. Coordinator of the Slovenian Construction Technology Platform since its establishment in 2004.

**Coverage of FP7 at mid-term and ideas for next Work Programmes**

**Michel Chapuis**

European Commission representative for Cultural Heritage research. French by origin, with a background of environment. Michel Chapuis has been more than 20 years in the European Commission DG Research and currently staff member of the Directorate Environment. He is following quite a wide range of Cultural Heritage projects.

## List of participants:

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**Attachment 5. Johan Vyncke, johan.vyncke@bbri.be Innovation in Construction:  
Taking the lead in greening the future. Boosting innovation within  
SMEs!**

The SME focused part of the conference came in two distinct sessions. A first part was dedicated to an innovation market where SME were given the opportunity to present their future products (building components, construction materials, site equipment, testing systems...) under development or just coming on the market. Some 10 interested SMEs took the opportunity to exhibit leaflets or other documents and a poster to introduce their innovative products and meet other stakeholders in the sector. The companies covered issues such as new insulation materials, restoration techniques, special sensors, on site automation,...

The second session was centered around SME RTD project presentations and strategic discussions about how to involve in the future more SME's in an innovation strategy. Over 30 persons attended this session.

The people present in this session represented in a way the massive silent majority which was absent on the conference: i.e. the real small SMEs who cannot afford to come to such events as they have to struggle and invest day by day in the survival of their company. So the people in the room were typically mirroring the interest for RTD in the sector and where composed of 2 real SMEs working in very narrow niches (i.e. production of specialized materials and equipment), supplemented with a lot of representatives of federations, research organizations and agencies seeking to mobilize innovation in SME companies.

The discussions made once again clear that the majority of SME's are "*more concerned about access to results than access to research funding*". This is quite normal and fully understandable. Clearly, it was spelled out once again that SMEs indeed need information quickly on demand, on their doorstep and in their language.

It was furthermore obvious from the discussions that large "Public Private Partnerships" on futuristic visionary topics was, especially for SMEs, only a matter of interest for the happy few. Large fantastic European visions are far away and not accessible for the majority. On the other hand quite some support was centered around the idea and practice to put Innovation Vouchers at the disposal of SMEs which could help them finding the way to get accesses to knowledge centres. To promote European integration, it was considered a possible route to make such Vouchers also available at a European level.

At last the present capacity model was discussed and considered not being very favorable to attract SMEs to start up first Research experiences. The programme offers research for free but it is very difficult to attract people by offering something to them of which they do not know the value!

In any case the sessions were appreciated as they allow putting once again the needs of SMEs in the spotlight.

**FOS&S**

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*Fast and easy to install fibre optic strain gages*

A Belgian SME has developed a fibre optic strain gage based on Fibre Bragg Grating (FBG) technology. The fiber sensor exhibits high strength and has an ideal coating for transferring strain to the fiber. A specially developed methodology ensures fast, easy and reproducible installation. The SME is looking for a commercial partner to bring this technology to the market. Fibre optic sensors offer advantages like immunity to EM-radiation, applicable in explosive environments, under water etc.

The Belgium (Flanders) based SME developed a FO strain gage that can be installed fast and easy and its performance was characterized in detail. Compared to electrical strain gages similar or even superior sensing properties were found. The FO strain sensors will be available in combination with an installation kit, which contains all the necessary tools for proper installation.

Installation of the sensor happens by means of a specially developed methodology which makes use of a mounting tool called a 'sensor pad' and an UVcurable adhesive. The installation method is fast, easy and reproducible.

**Renson Ventilation NV**  
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### Innovation Market

**Granilit s.r.o.**

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**Low-cost decorative concrete technologies for production of cultured stones, slabs, stone veneers, fences, tiles and other concrete products**

A Czech SME proposes decorative technologies for building industry based on wet cast concrete manufacturing, which allows practical application in a very short time. The company seeks new licensees in selected countries for licensing and commercial agreement with technical assistance.

A Czech company proposes decorative technologies for building industry based on precast and wet cast concrete.

**Lebast Lehmbaustoffe**

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[www.lebast-lehmbaustoffe.de](http://www.lebast-lehmbaustoffe.de)

*The German SME produces innovative clay boards, the clay-based panes as well as clay elements with heating and cooling features that opens new perspectives of modern temperature regulation. The technology can be applied for passive houses, low-energy houses as well as wood house constructions.*

The clay boards can be used for the complete finishes, comparable to the use of plaster boards. With their 14mm thickness, the clay boards will be attached to hard grounds, like concrete, lime sand brick or brick walls, even wood or chip boards. The clay boards with 22mm thickness will be screwed together with the dry sub-construction

With its innovative unique climate board, the company developed an energy concept, which provides a new kind of temperature management by combining clay-cooling elements with clay-heating-elements made of carbon (patent applied)

advantages:

- humidity regulating, no moulds
- noise control
- heat storage capability
- steam permeable
- clay is reversible and is re-useable at any time without losing its features

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**UNILEVEL - A universal stabilizing and leveling system**

A Belgian SME has developed a universal stabilizing and leveling system. The technology that is conceived as an enclosed hydraulic system is based on a unique control valve. It can be applied for stabilizing any type of construction, from trestles over scaffoldings up to container offices, offering assembly time reduction and safety. The company is looking for partners to further develop and benchmark the technology in a range of applications and products.

The technology presented is conceived as a closed hydraulic system that is manually operated without any electrical aid or pump.

The key-feature of the technology is a central control valve that enables the hydraulic fluid to communicate with a virtual unlimited amount of stabilizers (legs) within the system. These control valves are used to put the construction into position and lock the construction in a stable position.

In general, the leveling system applies to any construction which is designed to stand in a horizontal or other stable position via at least three feet on an uneven underground.

The system is equipped with a safety feature that prevents the construction to collapse/fall over when overloaded or in case of a hose rupture.

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Focus Area Quality of Life**

Focus Area Quality of Life as a horizontal focus area has fostered three sessions: indoor environment, indicators and LCA as well as risk mitigation. All three sessions have been very helpful for us in improving interactions with the project coordinators and teams of projects based on topics and calls evolved from the work of our focus area. Results and experiences of the currently running projects shall be taken as an input for our further work. Everybody is invited to attend the next annual meeting of the focus area in 2010.

Topics of indoor environment are still often regarded as less important. However, it is the users of the build environment who are directly exposed to the indoor environment. Hence the topic deserves more attention. Though we could present only two projects on indoor air quality and indoor performance indicators interest in the session was really good.

Mr. von Waizsäcker cited in his key note speech: "we can only manage what we can measure". Consequently topics of sustainability indicators and life cycle assessment attracted overwhelming attention with project presentations and interested people.

Risk mitigation for natural and man-made hazards is one of the key topics of the focus area. The risk-session lively discussed matters of research infrastructure for seismic testing, safety of housing, flood protection and soil upgrading.