Dear Colleagues,

When the Eureka umbrella E!3790 EurekaBuild was launched in 2006, the objective was to create a tool to promote trans-national projects in order to develop technologies for a sustainable and competitive construction sector, in line with the Vision and Strategic Research Agenda of the European Construction Technology Platform.

It is too early today to set up a full picture of the role of this umbrella. However this 3rd EurekaBuild Newsletter will introduce several new projects which were endorsed by EUREKA since the previous Newsletter.

Developing photo catalytic concrete surfaces leading to new functional benefits, slab tracks for new high-speed lines to decrease maintenance costs, prefabricated solid walls with high performance in production, a floating technology for water retention and flood resilience in the urban fabric, heat resistant aerated concrete, nano-composites for profiles in structural applications, and a wireless sensor network for hospitals will be the objectives of these new projects, which show how large the spectrum of technology developments can be in our sector.

Workshops and brokerage events organized in the framework of EurekaBuild during the past year are also summarized in this 3rd issue.

This umbrella was planned to be active for 3 years (until June 2009). It is why, the EurekaBuild Technical Committee, which met recently in Warsaw, is working today in liaison with the EUREKA Secretariat in Brussels about the next step(s) which will be probably launched. As a matter of fact, besides the future Public Private Partnership on Energy Efficient Buildings supported by ECTP, the ERA-NET Eracobuild recently launched through its kick-off meeting in Zagreb, other frameworks, such as Eureka, must be extended to promote R&D and Innovation in the Construction Sector, as largely welcomed by the recent Recovery Plan issued by the European Commission in late November.

Regards
Luc Bourdeau
EurekaBuild acting Chairman

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EurekaBuild projects

Projects are key elements for the realization of EurekaBuild aims of generating and promoting EUREKA supported projects in the area of construction.

That is why the EurekaBuild Technical Committee is dedicated to support the project idea circulation process through its network of national public representatives and national sector representatives, through the EurekaBuild website and through EurekaBuild brokerage events. More than one hundred project ideas have been announced through the EurekaBuild Umbrella. At the moment, nine projects have gained support from EUREKA. STABCON and GEOSUITE2 have already been presented in Newsletter No. 2. This newsletter gives a short summary of the remaining seven projects. For further details please visit EurekaBuild website or contact the main partner.

More details on Eureka rules and project proposals preparation as well as the list of submitted project ideas are available at the EurekaBuild website www.ectp.org/eurekabuild2.asp.

E!3479- EUREKABUILD NANOCRETE
Nanocrete - Photo Catalytic Concrete Surfaces

Photo catalytic reactions with titanium dioxide can be used to get concrete surfaces with several different advantages. The objective of this project is to develop knowledge on photo catalytic reactions in cement-based materials containing photoactive titanium dioxide and how they can be used to get clean and functional concrete surfaces. The system is to be optimized, and the applicability in concrete used as a building material is to be evaluated and demonstrated. The functional benefits that the development brings to the construction are to be clarified. The result should see a self-cleaning concrete based building material for Nordic markets and a photo catalyst material with global applicability.

During the development, the basic properties of the titanium dioxide and the cement need to be investigated and adjusted to give the best possible functionality concerning photo catalytic efficiency and durability in concrete. Tests with different kinds of cement and different titanium dioxides will be performed.

This cross-national project is coordinated by Cementa Ab from Sweden and realized in Swedish-Finnish consortium with following partners: Swedish Cement And Concrete Research Institute (Cbi), Vtt/Building And Transport Technical Research Centre Of Finland, Yki - Yt kemiska Institutet, Kemira Pigments Oy, Consolis Technology Oy Ab, Skanska Ab, Betongindustri, Abetong Ab and Cementa Research Ab.

Project start: 1st of February 2005
Duration: 47 months
Budget: 1.4 MEUR

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EUREKA UMBRELLA PROJECT: Technologies for a Sustainable and Competitive Construction Sector

E!4065- EUREKABUILD SULABU
Research And Development Of A Multi-Purpose Pre-Fabricated Plate For Railway Lines, Including The Design Of Fixtures

Slab Track came into being as an alternative for eliminating ballast track along new high-speed lines given their high maintenance costs and cut-off times necessary for carrying out maintenance.

The objective of this R&D project is the development of a Slab Track System based on the one used in Japan by adapting it to the characteristics of the Spanish railway system in two areas: for European gauges, high-speed trains; and for peninsular gauges, freight and regional trains. The project will be carried out over two phases: (1) study and typing of the railway environment and design of a slab-track system prototype and (2) testing on site.

Characteristics to be taken into account are both those stemming from the climate, geological, hydro-geological and topographic conditions and those stemming from stock design (i.e. load per axle). This track structure, capable of replacing the ballast track, must meet the geometric specifications necessary both in the construction phase as well as throughout operation and must have a flexibility similar to the ballast track. It must also be easy to install and provide drastically reduced costs and times necessary for maintenance and faults.

The project is coordinated by Obrascon Huarte Lain S.A. (Ohl) from Spain and realized by Czech partners: Zpsv and Prokop Rail, A.S.

Project start: 1st of January 2007
Duration: 42 months
Budget: 3,75 MEUR

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E!4435- EUREKABUILD RELAXHOME
Relaxhome

The purpose of the project is to define, design and manufacture a highly innovative constructive solution, based on an innovative product, using a material and technology that define it as a novel product in the present market. These facts credit the product's quality excellence from a technical, economic and even environmental point of view.

At present, there is no EU manufacturer that has managed to resolve the complexity of combining several different materials in a single solid wall incorporating a completed exterior (façade), isolation, structure, facilities, etc. with high performance in production. The same could be said of a complex construction system characterized by the highly automated plant which incorporates the latest productive concepts in order to guarantee productivity by achieving efficiency of the entire process, thus reaching its designated targets in terms of: quality, cost, deadlines, professionalism, planning, etc. Specific technical objectives are following: define and design a construction solution; conceive and develop a new product - a solid wall (sandwich element) - as a base for the construction solution and improve the state-of-the-art at national and European level in the construction sector. Commercial and strategic objectives are entering the construction market, in alliance with national and international companies, and reduce the tensions among the sectarian agents conciliating the different expectations.

The project is coordinated by Relaxhome Living S.L. from Spain and realized by Praefa Gmbh as partner.

Project start: 1st of January 2007
Duration: 18 months
Budget: 0.53 MEUR

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E!4467- EUREKABUILD FLOATEC
Floating Technology For Water Retention And Flood Resilience In The Urban Fabric

Europe is facing a gradual increase in the amount of annual precipitation and precipitation patterns are changing as well. The result is a much greater concentration of peak rainfall which exceeds the design capacity of the urban water management and drainage systems of most European cities. The problem is compounded by the decreasing ability of urban water systems to cope with the volume of precipitation, as the area of hard surfaces within these cities and expansions are increasing as well. FLOATEC project aims to develop a floating structure that enables multiple use of space, combining e.g. water retention with housing or infrastructure. FLOATEC is developed for multiple applications; large scale pontoons, multi functional storage basins, amphibious flood proof buildings, multi functional (semi) floating structures, floating infrastructure and floating greenhouses. The principle of FLOATEC is based on modular composite technology which consists of fibre reinforced EPS structural panels for floating systems. The cost reduction and broad market applicability of the basic module are not only a market risk, but require multiple technological innovations with related technological risks such as: stiffness, durability, peakload resistance, flexibility of shape for specified applications and flexibility for production processes (modular, detachable).

The project is coordinated by Dura Vermeer Groep N.V. from The Netherlands and realized by Spanish partners: Acciona Infraestructuras S.A. and Solintel M&P.

Project start: 1st of October 2008
Duration: 36 months
Budget: 3 MEUR

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E!4487- EUREKABUILD Wasteheatconcrete
To Develop Heat Resistant Aerated Concrete And Its Production Technologies

In the industry, a lot of technological waste from production accumulates, is not used anywhere and pollutes the environment. The Project will help solve two problems which are currently urgent among industrial enterprises, namely: - to utilize the production waste of industry; - not to pollute the environment with production waste.

Pursuant to the Project WASTEHEATCONCRETE, the following scientific-technical problems will be solved: - The investigation into the effect of dispersive and fibrous additives on properties of aerated concrete; - The development of production techniques for processing human-caused waste from industry, along with optimization of waste crushing parameters; - The definition of the character of interconnections between complex components of concrete composites and their change at exposure to heat; - The achievement of homogeneity in the formation paste of aerated concrete, i.e. even distribution of fibrous and dispersive additives in the products; - The development of production techniques for heat resistant masonry mixtures and finishing plasters; - The investigation of service properties of the newly developed products.

This cross-national project is coordinated by Vilnius Gediminas Tech. Univ./ Institute Of Thermal Insulation from Lithuania and realized in Lithuanian-Ukrainian consortium with following partners: Uab Simpras, . Uab Matizu Duju Silikata, Prydniprovs'Ka State Academy Of Civil Engineering and Factory Stroydetal.

Project start: 1st of July 2008
Duration: 30 months
Budget: 0.7 MEUR

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EUREKA UMBRELLA PROJECT: Technologies for a Sustainable and Competitive Construction Sector

E!4489- EUREKABUILD BWSN
Biomedical Wireless Sensor Network - BWSN

Within the hospital or extended care environment, there is an overwhelming need for constant and invisible monitoring of vital body functions. Today’s biomedical sensor solutions are effective for an individual measurement, but are not yet integrated into a complete body area network, where many simultaneous sensors are working at the same time on an individual patient. Also there is a need for increasing patient mobility, and in many cases, sensors for biomedical monitoring are not yet wireless. This creates the need for the implementation of new biomedical personal wireless networks with a common architecture and the capacity to handle multiple sensors, monitoring different body signals, with different requirements. The overall goal of the Biomedical Wireless Sensor Network (BWSN) project is to achieve a biomedical sensor network supporting monitoring related to different diseases, patient profiles and treatment life cycles including home care. The biomedical sensor network will integrate body sensors through wireless communication where mobility and security are addressed, and meet the requirements of users and regulatory authorities. The project will demonstrate the use of wireless biomedical sensors operating in a network following the patient all the way from surgery at the hospital back home.

This project comprises enterprises within industry, research institutes and an end user environment (hospital) in four Nordic countries, and thus is transnational in nature. The project is coordinated by Novelda As from Norway and realized by following partners: Vtt Information Technology, Delta, Millicore Ab and Memscap As.

Project start: 2nd of June 2008
Duration: 19 months
Budget: 1,00 MEUR

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E!4496- EUREKABUILD POLYWALL
Nano-Composites For Profiles In Structural Applications

The project is intended to define a new system and a new nano-material to be used as a substitute for the steel and aluminum for structural profiles. The system to develop must fulfill the same or better mechanical characteristics than steel and aluminum, and must be lighter, weather resistant and have better thermal and acoustic behavior. The materials that will be used for the profiles are polymeric nano-composites reinforced with fibers and nano-particles. These materials exhibit several advantages: - Design flexibility: the composites can be produced with irregular forms and different sections and finishes. - Lightness: the density of the polymers is much less than that of their competitors (steel, aluminum, etc.), which allows for the reduction of dead charges. - Maintenance: they offer excellent weather ability and outdoor behavior. - Chemical behavior: they show excellent behavior against corrosion because they can be free of metallic materials. - Electric properties: polymers have very low electric conductivity and they do not show electromagnetic interferences. - Mechanical properties: they show high mechanical performance like strength, stiffness and tenacity. - Fire properties: the use of a nano-clay will provide a composite with good fire behavior.

The project is coordinated by Technocladd from Spain and realized by following partners: Ofk Plast Ab, Cidemco, Technological Centre, Enar Envolventes Arquitectonicas, Exel Composites UK and Sicomp Swedish Institute Of Composites.

Project start: 1st of July 2008
Duration: 24 months
Budget: 1,61 MEUR

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EurekaBuild EVENTS

EurekaBuild events organized around specific priority research themes aim at encouraging researchers from industry (large companies and SMEs), research institutes and universities to collaborate in starting innovative projects from the construction sector area.

Events are being organized by National Construction Technology Platforms in close cooperation with the ECTP Focus Area Groups, EurekaBuild members’ National Umbrella Sector and Public Representatives and National Eureka Contact Persons. Workshops & Brokerage events gather people not only from the hosting countries but also from abroad.

In the last twelve months four events have been organised around different priority research themes in the following countries: Spain, Poland, Lithuania and Croatia.

EurekaBuild Workshop & Brokerage Event
"Nanomaterials and Nanotechnologies for Construction Applications"

Valencia, Spain – 5-6 November 2007

Spanish NTP organised the 5th EurekaBuild Workshop and Brokerage Event focusing on Nanomaterials and Nanotechnologies for Construction Applications on 5-6 November 2007. The event took place in Valencia.

The conferences of the first day were related to following topics:
- Applications of nanotechnology in Cement based Materials
- Multifunctional coatings based on Nanomaterials for construction products
- Intrinsic sensor and actuator materials for new "smart" concepts in security and comfort applications
- Applications of Nanocomposites in Polymer based Materials for construction
- Integration of nanotechnology based solutions for energy efficient buildings

For the 2nd day, the VIP lecturers were more economy oriented, focusing on the importance of the Nanotechnology trends on the world economy. During Brokerage event fourteen new Project Ideas were presented.

Further details are available from the dedicated website: http://gesprecons.aidico.es:8090/EurekaBuild/.
EurekaBuild Workshop & Brokerage Event
"How to commercialize a good idea?
ICT solutions as a source of development in the construction sector"

Poznan, Poland – 22nd January 2008

The 6th EurekaBuild Workshop & Brokerage Event took place on 22nd January 2008. The theme of this event was: "How to commercialize a good idea? ICT solutions as a source of development in the construction sector." Workshop was arranged by the Polish Construction Technology Platform in cooperation with International Construction Fair BUDMA 2008 (the biggest construction event in Poland, which brings together stakeholders from the whole international construction sector), EUREKABUILD project and Lewiatan Business Angels (a network of private investors who are interested in supporting innovative startup companies.

The conference was organized in division of two main parts: first part was organized as a typical, regular conference with speakers explaining different case studies and second part was organized as a workshop.

The main aim of the workshop was to facilitate establishment of consortia in order to elaborate competitive projects in the EUREKA programme, and especially within the EurekaBuild umbrella related with the innovative ICT solutions. Because this was the second workshop on ICT theme organizers emphasized to continue the process started in May 2007 during the Oslo workshop and take already announced ideas to the next level – project submission.

EurekaBuild Workshop & Brokerage Event was an integral part of the international conference “Cooperation between enterprises, universities and regional administration towards application for EU funds. Examples of innovative projects in the construction sector.” organized by the Polish Construction Technology Platform.

Details on conference are available from dedicated website at www.pptb.pl/konferencja. Detailed report on the event including all presentations, submitted project ideas, etc is available at www.ectp.org.
Conference
"Energy Efficiency in Buildings. Brokerage of Project Ideas"

Vilnius, Lithuania – 24th April 2008

The Ministry of Environment of the Republic of Lithuania, in collaboration with the Lithuanian Construction Technology Platform, Agency for International Science and Technology Development Programmes in Lithuania and Eureka umbrella project EurekaBuild, organised the Conference "Energy Efficiency in Buildings. Brokerage of Project Ideas", which took place on April 24, 2008, during the 15th International Specialized Exhibition on Construction and Renovation "RESTA" in Lithuanian Exhibition Centre LITEXPO.

This conference discussed the best examples of energy efficiency practice in buildings in Europe, the models of rational use of energy in renovation and new construction, the possibilities of utilization of renewable energy resources, future energy technologies and models in the context of sustainable development, the formation of new approach in construction market (promotion of green public procurement).

The issues of possibilities to ensure energy efficiency in buildings, assessment of existing examples, initiation and discussing research ideas were presented by representatives of central and local government, interested institutions, academics, public organizations, architects, designers, including following keynote lectures:

- The Experience of Application of the Requirements on Energy Efficiency in Buildings in Poland (Dr. A. Panek; Warsaw University of Technology Faculty, Poland)

Project Idea Brokerage Event was organized to promote and facilitate further research and set up project proposals and consortia under the Eureka framework.

Download all details at ECTP website.
EurekaBuild Workshop & Brokerage Event

"NETWORKS for sustainable environment and high quality of life"

Dubrovnik, Croatia – 23-25 May 2008

The Croatian Construction Technology Platform in cooperation with Croatian Academy of Sciences and Arts (HAZU) and Structural Engineering Conferences (SECON) organised the second EurekaBuild Workshop and Brokerage Event focusing on NETWORKS as a part of three-day conference on 23-25 May 2008 in Dubrovnik, Croatia.

The scope of the conference encompassed the state-of-the-art in design, material specifications, construction, maintenance, safety, security, environmental impact and management of networks, focusing on, but not limited to, transport networks: roads, railways, waterways, bridges, tunnels and canals.

The conference addressed the following themes:
- Lessons from the past
- Network level issues - strategy and management
- Structural design for sustainable natural and man-made environment
- Advances in construction and structural repair
- Condition monitoring, assessment and maintenance for durable structures
- Innovations for higher quality of life

Total of 49 papers were presented during the symposium focusing on themes listed above, including following keynote lectures:
- Croatian motorway network (J. Radić)
- Risk based health monitoring & inspection manual - Case study of Rion Antirion Viaduct (G. Hovhanessian & E. Laurent)

In addition to the NETWORKS conference, EurekaBuild workshop with brokerage event was organized where researchers from industry (large companies and SMEs), research institutes and universities met and negotiated collaboration to set up Eureka projects under EurekaBuild label.

All details available from the dedicated website at www.secon.hr.
RECENT EVENT

STEERING COMMITTEE MEETING
Birmingham, UK – 28-29 October 2008

The UK NTP hosted a EurekaBuild Brokering workshop on October 28, 2008 in Birmingham. This seminar and half-day workshop gathered potential European partners in two key areas for construction and its suppliers:

- ICT & Automation

On October 29, two additional meetings were organised: a meeting of the ECTP SMEs Advisory Group (open to all) and a joint meeting of the EurekaBuild Steering Committee and NTPs Network (open only to SC members and NTPs representatives).

Organisation of the event was handled by the Modern Built Environment Knowledge Transfer Network.

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Information on EurekaBuild as well as details of launching individual Eureka projects under EurekaBuild Umbrella may be obtained from:

www.ectp.org/eurekabuild2.asp

IMPRESSUM

EurekaBuild Newsletter is published by EurekaBuild Technical Committee:
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