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Editorial...

Welcome...

to the fourth ManuBuild Newsletter. Since the project start 18 months have passed and this newsletter is intended to inform you about some intermediate achievements of the ManuBuild themes [Building Concepts](#) and [Value Driven Business Processes](#). The first ManuBuild International Conference, which will be held in spring 2007, The Netherlands, addresses all of the ManuBuild research and development areas thoroughly in more detail.

Here, we also would like to congratulate our ManuBuild partner [Dan Engström](#), who was appointed Adjunct Professor in Building Design specializing in Industrial Architecture at Chalmers University of Technology in Göteborg, Sweden, on July 1st, 2006.

Dan works for NCC as senior project manager for research and development within the field of architecture. In ManuBuild, he works with the building system, and heads the task on Architectural Typology. His academic research is concerned with the communication between architects and engineers/contractors with the framework of tectonic architecture – the use of structure and material as integrated parts of the conceptual idea for function and expression.

At NCC, he fosters the relations between academia and industry, aiming to use academic discourse to add business-value. His plan with the position as adjunct professor

is to develop a platform for dialogue between academia and the construction industry within industrially produced architecture. This platform will be an interesting partner in discussions relating to ManuBuild.

» *Dear Dan – congratulations and all the best from the ManuBuild Consortium!* «

All newsletters (current and past versions) are also available at the [Community of Interest](#) at www.manubuild.net. For general information about the project please visit the official [ManuBuild Web Site](#) at www.manubuild.org.

Building Concepts

In the context of ManuBuild – Open Building Manufacturing – this topic deals with the physical aspect of the product, i.e. the building itself. In the beginning of the project, a value based approach was adopted, where the client/society defines the value.

Depending on the stakeholder, the overall value was divided into external values, client/customer values and internal values by and between the participants of the project team. The external values can in turn be separated into process and product values. The process value would then be about giving customers the best experience during the design and construction of the project. It comprises: soft values, hard values and values that originate from the design and construction process. Product values, the main focus of Building Concepts, can be summarised into six design values, the first three being derived from the Vitruvian values of beauty, functionality and durability combined with the surroundings, sustainability issues and buildability. Naturally these can be further broken down into a value tree to make sure that the client is fully guided through the entire value spectrum. The process and product values are of course closely interrelated and do interact.

This framework constitutes the high level context of Building Concepts for Open Building Manufacturing, which is elaborated in detail within the subsequent development tasks Architectural Typology, Building Templates, Smart Components, Multi-function

Integrated Modules, Connections & Interfaces and New Multi-functional Materials. Some initial results and first achievements in these areas include:

- architectural performance criteria, structured according the six design values
- report on architectural value-bearers
- user's poll >5000 answers - analysis and evaluation of user requirements
- conceptual design for a user oriented building configuration tool
- outline concepts for smart components to illustrate different aspects of "smartness" in relation to the six design values
- differentiation and definition of the perceptions of multi-function and integrated for the homonymous module development
- collection of connection types
- five value-chain scenarios for connections, covering varying materials, manufacturing approaches and building system concepts to evaluate the two strategies of function and design for communicating connections

Value Driven Business Processes

This topic is designed to integrate the currently fragmented construction process approaches (like open building, performance based construction, lean construction, industrial construction, build-own-operate etc) into a holistic business model specially adopted for the delivery of manufactured buildings in the open market. The new process puts the customer (user, owner, urban community) in the centre and is driven by total life-cycle value.

During the first phase of the project an analysis of business processes in building in various countries in the European Union has been accomplished. Processes and problems were compared and great similarity has been found between the different countries. Simultaneously a study has been initiated to investigate efficiency indicators for processes, products and organisations in the building world.

In the next phases the ManuBuild Business Model, incorporating new reference business processes, organisational and service models, will be developed, which is completely focused on the end user and his/her satisfaction. The idea is to change the current situation of conflict among the parties involved in the building process towards a system of

relationship based on mutual cooperation. The purpose is to replace the concept of minimum cost with a concept of best quality/price ratio and to integrate all related building processes throughout the whole life-cycle of a building, starting with its design, followed by its actual creation, the period of use and maintenance, until its very end with rehabilitation or demolition once the building has become obsolete.

ManuBuild International Conference, 25th & 26th April 2007, The Netherlands

The international conference "Open Building Manufacturing Systems – The Transformation of the Industry" organised by ManuBuild will invite members of both industry and academic communities to participate. The conference will explore four themes:

- **Building Concepts:** life-cycle guides, key products, connections
- **Business Processes:** value management, process models
- **Production Technologies:** fixed factories, mobile factories, site production
- **ICT Support:** open ICT system, critical ICT tools, ambient & scaleable, technologies

Call for Papers

Participants wishing to present at the conference are invited to submit a 300 word abstract relating to the themes. Please contact the event organiser for a template.

Organisation

The event is organised under the Conference Committee of Dr Samir Boudjabeur, Coordinator of ManuBuild, Adrian Malone, Knowledge Manager for Taylor Woodrow, Charles Perkin, Events manager CIRIA, and support from Kalle Kahkonen (VTT) , Prof Mustafa Alshawi & Jack Goulding (University of Salford), Prof Thomas Bock (TU Munich), Prof Carlos Balaguer (CA3), Roland van der Klauw (Director CPIBC, Netherlands).

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Visit www.manubuild.net for further details.

Partners

The ManuBuild Consortium consists of 24 partners from 10 countries in Europe:

Corus Group (UK), www.corusgroup.com
(Coordinator)

VTT Technical Research Centre of Finland (FI), www.vtt.fi, (Technical Coordinator)

Dragados S.A. (ES), www.grupoacs.com

Empresa Municipal de la Vivienda, SA. (ES), www.emv.es

FCC Construcción S.A. (ES), www.fcc.es

Fraunhofer Institut für Arbeitswirtschaft und Organisation (IAO) (DE), www.rdm.iao.fraunhofer.de

Mostostal Warszawa S.A. (PL), www.mostostal.waw.pl

NCC Construction Sverige AB (SE), www.ncc.se

Taylor Woodrow Construction Ltd. (UK), www.taylorwoodrow.com

YIT Construction Ltd. (FI), www.yit.fi

Universidad Carlos III de Madrid (ES), www.uc3m.es

Construction Industry Research and Information Association (CIRIA) (UK), www.ciria.org.uk

Consolis Oy Ab (FI), www.consolis.com

Enterprie Software Ltd. (FI), www.enterprie.com

Graphisoft R&D Rt (HU), www.graphisoft.com

Building Research Institute (PL), www.itb.pl

IVF Industrial Research and Development Corp. (SE), www.ivf.se

Fundación Labein (ES), www.labein.es

Nuova Quasco (IT), www.quasco.it

Saint-Gobain Isover West Europe (FR), www.isover.com

TNO Building and Construction Research (NL), www.bouw.tno.nl

Technische Universität München (DE), www.bri.ar.tum.de

University of Salford (UK), www.salford.ac.uk

Institut für Arbeitswissenschaft und Technologiemanagement (IAT), University of Stuttgart (DE), www.iat.uni-stuttgart.de

European Construction Technology Platform

ManuBuild partners also actively participate in the ECTP (www.ectp.org) defining the strategic research directions for the construction sector.

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