

Contents

1. Editorial
2. ManuBuild's vision
3. Changes and needs in the construction industry
4. Core research topics
5. Kick-off meeting, April 2005, the Netherlands
6. Public launch event, autumn 2005
7. What's next?
8. Partners
9. Contacts

Editorial...

Welcome...

to everybody in the new virtual community of ManuBuild: the Newsletter.

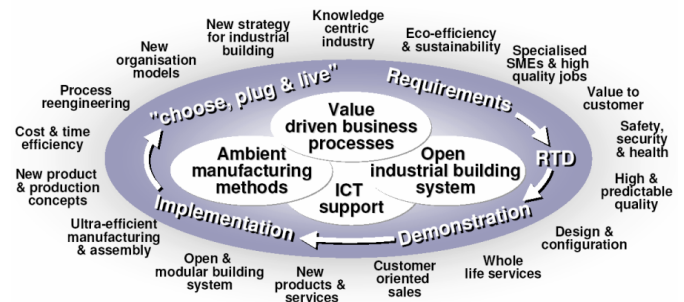
The objective of the ManuBuild Newsletter is to be in contact with all participants of the project – the partners of the consortium, the members of the Community of Interest and finally to all interested persons through the ManuBuild web site. It wants to act as a virtual link for all "ManuBuilders" making all readers part of the same team. The Newsletter will be published every six months: In this way it will contain news about the progress and outcomes of the project and will report on interesting meetings and events.

All Newsletters (current and past versions) are additionally available on the official [project web site](http://www.manubuild.org) at www.manubuild.org. There you will also find a direct link to register your interest to join the [Community of Interest](http://www.manubuild.net) – www.manubuild.net (an open forum for both the public and private sector involved in construction processes) as well as valuable information about the latest developments in industrialised construction.

ManuBuild's vision

ManuBuild targets a **radical paradigm shift** from the current "craft and resource based construction" towards an **Open Building Manufacturing System** that enables highly customised buildings using manufactured, knowledge based components from the open

market and assembling them efficiently on site. This industry driven goal comprises a fundamentally re-engineering of the whole construction lifecycle process for buildings and the integration with ambient production methods. The results will consist of open, scalable, cost-efficient, customisable and high quality solutions.



Holistic approach of ManuBuild

The "Open System" approach for building production of ManuBuild combines value driven, innovative, efficient and safe manufacturing and assembly in factories and construction sites, and an open system for products and components offering diversity of supply and building component configuration (on demand) opportunities in the open market.

Changes and needs in the construction industry

The design, construction and maintenance of buildings and infrastructure are essential for the economic prosperity and the sustainable growth in Europe. Moreover, beyond dispute they have an outstanding impact on the quality of life of citizens. The construction industry is the largest single industry in Europe: It accounts for more than 50% Fixed Capital Formation and some 11.8 million people are directly employed in the construction industry (without consideration of the ones in material production, supply and self-employment).

Yet during the past decades, productivity has developed very slowly in the construction sector. Recent studies show that the construction industry in the EU lags 30% of productivity in comparison to traditional manufacturing. As a direct consequence, 10-15% of the construction costs are spent just for correcting errors on site. The industry only adapts slowly to new technologies; investments in research, skills and training are relatively low. The image of construction is usually characterised as "dirty, dangerous and difficult": low-paid, poor safety

standards, bad working conditions and often insecure employment.

Thus, national and international initiatives as well as the ECTP (European Construction Technology Platform) emphasize that the construction industry is challenged not only to provide a set of *physical* outputs, but also to offer the most effective long-term *support service* to its clients and at the same time to respond to society's growing requirements for sustainability. This new *service perspective* requires a radical change in thinking of construction to be a

- value-focused,
- socially responsible,
- innovative & learning and
- valued industry.

This overall paradigm shift and the challenge of sustainability are regarded as the key drivers for change and improvement of construction.

European Construction Technology Platform

ManuBuild is directly aligned to the above described key drivers and furthermore participates in the definition of strategic research directions for the construction sector through the European Construction Technology Platform: www.ectp.org. The contributions to the ECTP are especially in the vertical focus area Cities and Buildings but also in horizontal research topics like materials and ICT.

Core research topics

The key elements of the ManuBuild approach include open building concepts, new business processes, ambient production technologies and ICT support. In terms of implementation they are all endorsed through training, education and standards.

To achieve these highly integrated and challenging targets, the ManuBuild core research topics are structured around four main areas:

Open system for manufactured buildings

- system typology supporting rich architecture, flexible manufacturing and mass-customisation;
- smart components, integrated modules, connections and interfaces.

Value-driven business processes

- performance driven processes;
- new business concepts and models;
- networked manufacturing organisations;
- whole life cycle support services.

Ambient manufacturing methods

- off-site manufacturing and pre-assembly;
- mobile factories;
- logistics system;
- on-site assembly methods;
- quality and safety assurance methods.

ICT support

- tools to support use of manufactured components, distributed production and coordinated assembly on site;
- intelligent catalogues of manufactured component;
- interactive building configuration and assessment tools;
- logistics management and assembly planning tools.

Kick-off meeting, April 2005, the Netherlands

The 48 months project started in April 2005. The Kick-off was held with the 25 partner companies, organisations and institutes from 10 countries all over Europe in the lovely dune environment of the Duin en Kruidberg Hotel, near IJmuiden, the Netherlands.



The ManuBuild consortium

This exciting and successful event had the key objectives: **1:** Starting to build the ManuBuild team and for each of the project participants to start to get to know each other on a personal level **2:** Building of a common understanding of the ManuBuild objectives **3:** Detailed planning of Work Package 1 "Stakeholder Requirements" and **4:** Detailed planning of other activities for the initial months of the project. Therefore the agenda was a balanced mixture of presentations, brainstorming sessions and breakout work groups.

As special external experts Oskar Lindblad from Volvo Car Corporation (Sweden) and Christoph Berger from adidas Germany presented successful concepts of their industries on flexibility, branding and mass-customisation. Prof. Asko Sarja from Innokas Finland, author of the book "Open and Industrialised Buildings", gave a very valuable presentation on the history, concepts and relevant issues of Industrialised Building.

Christophe Lesniak from the European Commission presented the EU expectations and views on ManuBuild and emphasized ManuBuild as the only Integrated Project in Europe in the area of *Industrialised Construction* and therewith it's expected role to be the *flagship project* and the *best knowledge source* in its area.

Public launch event, autumn 2005

An official project launch event is planned for autumn 2005 in the Netherlands. It will be the first event to go public and to disseminate the projects objectives, concepts as well as its first tangible results.

What's next?

The key activity in the next six months is to investigate stakeholder requirements on the ManuBuild open building system concept and to derive the key requirements for building concepts (WP2), business processes (WP3), manufacturing methods (WP4) and for ICT support (WP5) of the integrated project approach. These objectives will be achieved by close collaboration of all WP participants under leadership of FCC Construcción S.A. (Spain).

Furthermore the public web site will be continuously enhanced with respect to structure, contents and "look and feel". The platform for the Community of Interest will be launched and, last but not least, public dissemination material like brochures, posters and presentations will be provided.

Partners

The ManuBuild Consortium consists of 25 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
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European Design Centre (NL), www.edc.nl

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ManuBuild
Open Building Manufacturing

Project duration: April 2005 – March 2009