

Interreg IV A: Integrering Mellem Baeredygtige Byggeprocesser

Aktivitet 3: Harmonisera riktlinjer för nationell BIM

Lägesrapport

Anders Ekholm och Martin Hooper

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LUNDS UNIVERSITET
Lunds Tekniska Högskola



Preface

This report summarises the present status of work in the Interreg IV A project “Integrering mellem baeredygtige byggeprocesser”, Activity 3 “Harmonisera riktlinjer för nationell BIM” (<http://www.oresund.org/baerebyg>). Activity 3 includes establishment of a BIM-Lab at LTH which is financed jointly by the BIMInfo project financed by Formas-BIC and SBUF.

In the project, researchers from Denmark’s Technical University, DTU, and Lund University, Faculty of Engineering (Lunds Tekniska Högskola, LTH), cooperate with the objective to create conditions for stimulating a regional Öresund market where public and private actors can work across the borders.

Activity 3 “Harmonisera riktlinjer för nationell BIM” aims to develop proposals for harmonizing Danish and Swedish BIM guidelines. As part of that effort a BIM-lab shall be established at LTH as a parallel to the already existing BIM lab at DTU.

Project leader for activity 3 is Professor Anders Ekholm. The work concerning BIM guidelines and establishment of the BIM lab is done as part of the PhD-studies by Martin Hooper. The research is done at the division of Design Methodology, at the Department of Construction Sciences, Lund University, Faculty of Engineering.

Contact

Anders Ekholm

Professor, Head of Division
Projekteringsmetodik
Institutionen för Byggvetenskaper
Lunds Universitet, Lunds Tekniska Högskola
Tel: +46 (0)46 222 41 63
Mob: +46 (0)70 652 41 63
Email: anders.ekholm@caad.lth.se

Martin Hooper

Arkitekt
Doktorand i byggande och arkitektur
Projekteringsmetodik
Institutionen för Byggvetenskaper
Lunds Universitet, Lunds Tekniska Högskola
Tel: +46 (0) 222 48 63
Mob: +46 (0)732 60 42 71
Email: martin.hooper@caad.lth.se

Contribution to development tasks

Since the latest project group meeting at DTU in Copenhagen on 25 Aug 2010, the division of Design Methodology at LTH, Lund can report the following key contributions towards the efforts relating to Activity 3: Harmonisation of Guidelines for National BIM:

- Development of BIM implementation and planning guidelines for consultant organization and educational uses.
- Establishment of a new BIM lab at LTH together with course materials.

IM Implementering - Vägledning för Arkitekter och Ingenjörer:



Informed by the findings of ongoing research papers **BIM Implementering - Vägledning för Arkitekter och Ingenjörer** aims to address local Swedish AEC industry requirements for a set of consultant guidelines to complement Bygghandligar 90 and the FFi's Digitala Informationsleveranser till Förvaltning . The model for such a guide is based on the buildingSMART Alliance's new *Building Information Modelling Execution Planning Guide*. Developed to be suitable for use in connection with both Swedish and Danish construction projects alike, the new guide suggests a strategic method of BIM implementation through a pedagogical approach to planning and realizing an effectively collaborating information sharing platform, and aims to fill an organisational gap in existing BIM documentation informed by the insights revealed through pilot studies and scientific rigor.

LTH's BIM-Lab



Now established at Campus Helsingborg, LTH's new Building Information Modelling Development Laboratorium is intended to mirror DTU's BIM Lab established in 2007. LTH's new facilities, resources and courses now come to serve south Sweden's architectural and engineering students, and wider AEC community. By establishing such resources both sides of the Öresund, and with broad consensus in working methodology applied at both institutions, a significant contribution towards the aspirations of the Interreg VI project is anticipated through harmonisation of BIM working practices and knowledge / expertise transfer through open courses.

The facilities are now actively used in research and education and it is anticipated soon that the facilities together with expertise will be on offer to the AEC business community. The lab allows testing of a wide range of current BIM tools in an unrestricted environment. Beyond access to BIM tools, the lab seeks to offer an opportunity to forward the implementation of BIM workflows in the Swedish AEC sector and open a dialogue with companies interested in implementing BIM on a strategic level.

Background

The BIM lab is a resource for the development and testing of BIM methodology in the AEC/FM processes. BIM methodology implies that information is managed in object oriented applications with support for an unbroken information flow throughout the processes. The lab is being used for practical tests of software, information exchange, and systematics, as well as for basic and further education. One example is testing information exchange capabilities between applications for CAD, simulation, and cost calculation. Already established practice like collision control in 3D could be further developed to include simulations of technical systems and spaces for the building in use. It is anticipated the lab will be used both by research projects and by industry initiatives.

Location

LTH Ingenjörshögskolan
vid Campus Helsingborg
Universitetsplatsen 2
251 08 Helsingborg
Room C451 & C452

Contact

Anders Ekholm

Professor, Head of Division
Projekteringsmetodik
Institutionen för Bygghälsan
Lunds Universitet, Lunds Tekniska Högskola
Tel: +46 (0)46 222 41 63
Mob: +46 (0)70 652 41 63
Email: anders.ekholm@caad.lth.se

Martin Hooper

Arkitekt
Doktorand i byggande och arkitektur
Projekteringsmetodik
Institutionen för Bygghälsan
Lunds Universitet, Lunds Tekniska Högskola
Tel: +46 (0) 222 48 63
Mob: +46 (0)732 60 42 71
Email: martin.hooper@caad.lth.se

Anders Robertson

Civil Engineer, Lecturer
Doktorand i byggande och arkitektur
Projekteringsmetodik
Institutionen för Bygghälsan
Lunds Universitet, Lunds Tekniska Högskola
Tel: +46 (0) 4235 67 15
Mob: +46 (0)735 61 64 57
Email: Anders.Robertson@hbg.lth.se

Courses

MMTF10: BIM - Modelling and Visualisation

The purpose of this course is to impart knowledge and skill in BIM management, process, modelling and visualization. The course shows how using current object-oriented 3D modelling tools to create, extract and manage key design information can bring value to construction projects and if successfully deployed can be an highly efficient means of information management throughout the construction process.

Through the ongoing paradigm shift in construction from a document to a database information system is taught by managing and developing graphic, written and other information to streamline the building. This includes insights into changes in work practices, new and changing work roles, new responsibilities and new more efficient construction process.

The course aims to nurture a greater ability and opportunity to generate ideas and solve problems in the construction sector. It also endeavours to clarify how information can be conveyed in images, as well as how interpretations of images affect the outcome of communication. Furthermore, the course trains the ability to manage manual and computer-assisted imaging, using software for image processing and 3D modelling a BIM model.

Software

Graphisoft ArchiCAD 14
Graphisoft ArchiCAD 14 MEP Plug-In
Graphisoft ArchiCAD 14 EcoDesigner Plug-In
AutoCAD Architecture 2011
Autodesk® Revit® Architecture 2011
Autodesk Revit MEP 2011
Autodesk Revit Structure 2011
Autodesk Navisworks® Manage 2011
Autodesk Ecotect™ Analysis 2011
Autodesk 3ds Max® Design 2011
SketchUp 8 Pro
Solibri Model Checker