Expo Real 2013: Build it twice – first digitally, then physically

Skyrocketing costs, slipping schedules and public resistance: In Germany, it seems, major projects are predestined to fail. The bigger and more complex the project is and the more participants with differing interests are involved in decision-making, the more difficult it is to guide a project effectively. But this doesn't have to be: Under the motto 'Build it twice – first digitally, then physically', Drees & Sommer is presenting solutions for the successful handling of complex construction projects at the Expo Real 2013. The key thing is to take the right actions during the consulting, planning, construction and operation phases. First a digital prototype of the building is ‘built’ using Building Information Modeling (BIM). Even at a very early stage, budget- and schedule-related design variants are played through. This allows possible sources of risk to be detected and interfaces between the different trades to be optimized. A further precondition for a smooth planning and construction process, as well as for efficient operation of the building, is the implementation of a lean and transparent organization using Lean Construction Management – and extending this across all stages of implementation. Experts at the Drees & Sommer booth C1.430 / 422 will explain how this is done using specific construction projects as examples. The visitors can also experience live how the virtual reality of a building takes shape.

In five panel discussions with customers, Drees & Sommer experts will show how the foundations for successful construction projects are laid in the consultation, planning, construction and operation phases through the use of innovative tools and the application of a holistic approach. Using selected projects as examples, the panelists will discuss topics including the benefits of the strategic process consulting and of a lean and robust construction process based on Lean Construction Management. They will also demonstrate digital simulation of buildings using Building Information Modeling (BIM). The projects of one or two renowned customers will be showcased for each of the four phases: Consulting, Planning, Construction and Operation.

Consulting: Professional preparation

Based on the example of the Danish hospital in Bispebjerg, Drees & Sommer consultants will explain how strategic process consulting can be used to test and optimize processes even before project initiation. A further example of application in this early phase is commercial & technical investment consulting for projects for BASF, AXA and the TeamBank, which will be discussed on another podium.

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BIM-coordinated planning and construction processes with Lean Construction Management

Based on the Bau 1 (Building 1) high-rise project at Roche Basel, the panelists will explain how digital building planning with BIM not only increases draft design quality, but also allows much more accurate costing and the implementation of a lean, interdisciplinary planning process (lean planning). The benefits of Lean Construction Management (LCM) are the focus of a panel discussion looking at a project being undertaken by plant construction company Alstom. The LCM approach results in every work step being precisely planned. This avoids types of waste such as delays, defect elimination and excessive or inadequate inventories. Construction time can sometimes be reduced by 20 to 30 percent while at the same time reducing costs and increasing quality.

Efficient operation

One question frequently asked by property owners is, “Will buildings perform in operation as promised?” To answer this, in the course of the fifth panel discussion experts will conduct a practical test to examine the energy management system and show how a virtual comparison model of a real building can help property operators to continuously optimize energy consumption during, commensurate with the target value.

Live on-site: See for yourself how BIM works

Visitors can experience BIM as a support tool for efficient planning and construction processes live on site – iPads allow visitors to fly through a high-rise building model and see how the individual trades are linked and networked, experiencing a digitally created reality and getting an idea of how planning with BIM takes shape. This makes tangible the Drees & Sommer catchphrase 'Build it twice: first digitally, then physically.'

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Drees & Sommer: Your innovative partner for consulting, planning, construction and operation.

Drees & Sommer has been supporting public- and private-sector owners and investors in all aspects of real estate for over forty years. Today, the range of services provided by Drees & Sommer covers Development Consulting, Project Management, Engineering, Real Estate Consulting, Infrastructure Consulting, and Strategic Process Consulting.
We deliver our services on the understanding that economy, functionality and process quality are just as important as ecology, architecture and wellbeing. At Drees & Sommer, this holistic and sustainable approach is called 'the blue way'. With over 1,500 employees at 18 international offices and 17 German regional offices committed to our clients' success, we achieved sales of EUR 172.5 million in 2012.