

Skanska Stomssystem manage projects with IMPACT

When Skanska Stomssystem was developing new working procedures, IMPACT played an important role. A unique data base link between the production planning tool, ELiPLAN, and IMPACT was used as a help to make information within the project run smoothly. The 3D model becomes a tool that can be used to run the project, says head of development Jonas Hermansen.

Some time ago, Skanska Stomssystem, a company that produces building structures in concrete and steel, made an extensive survey of their working procedures, with the purpose of making the entire flow of processes, from the drawing-up of projects and design to the assembly of prefabricated concrete elements, more efficient. The central issue was how to plan and to optimize these phases. The result of the survey led to a final decision. The due date of the assembly of the framework on location should be the starting point when planning the project.

– From our viewpoint, the finished product is the assembled framework, says head of development Jonas Hermansen at Skanska Stomssystem. It should therefore be the starting point when planning the project.

This new knowledge is now used as a basis for planning design, production and delivery of prefabricated elements, and the due date for assembly of the elements at the building site is always the starting point when planning each new project.

– In practice, this means that the production of the element should be two weeks ahead of the assembly stage and the design of the same element is due at least three weeks before production in order to shorten lead-time as much as possible with good quality conditions, explains Jonas.

DATA BASE LINK SYNCHRONIZES DATA



Jonas Hermansson.
Photo: Annika Nisser

This new way of thinking has created a new working procedure that needs implementing. But it is not only about people, equally important is technology. The chain of information must be adjusted according to new requirements and the cooperation with different suppliers must run smoothly.

– We have no employed design-



With distinct color coding the status of each element is visualized.

ners; we buy these services from different suppliers.

Creating a flow between the production and design, the production planning tool and the designers, was a real challenge. In order to solve this, the suppliers Elimatic and StruSoft were asked to outline the prerequisites for such an information flow. It resulted in a data base link that unites the production planning tool ELiPLAN with IMPACT.

The two programs are each integrated with databases and data is automatically updated once every twenty four hours.

– Every night, ELiPLAN and IMPACT are synchronized and information and status are updated in the two databases. This makes the security of the system high and there is not risk of losing data.

In addition to this automatic updating system, the designers can also manually send the plans when ready. This provides an overview of the whole process and time planning.

3D MODEL CENTRE OF PROJECT MANAGEMENT

The 3D model of the frame makes it possible to monitor and follow every single element and its status in the production process. Each element is given a status code and a color code. In ▶

STRUISOFT OBSERVES

total, there are seven different levels. When a production phase of an element is completed, the status is changed and it gets a new code and color.

– The color coding of the IMPACT 3D model indicates the current phase in the production chain of each element.

The progression of each element is clearly visible in the model. However, it is not only a matter of monitoring the process.

A foreman at the concrete factory, for instance, can change the status of the elements when sending them off from the factory for transport. This piece of information instantly indicates correct current status to the project leader.

The information is passed on to the designers by the data base link.

– The elements shortly due for production has a certain color code, and if they run the risk of not keeping the appointed time, they get a red color code.

This functions as a built in warning system to help designers make the right priorities to keep the appointed time. The link between ELiPLAN and IMPACT thus plays a crucial role.

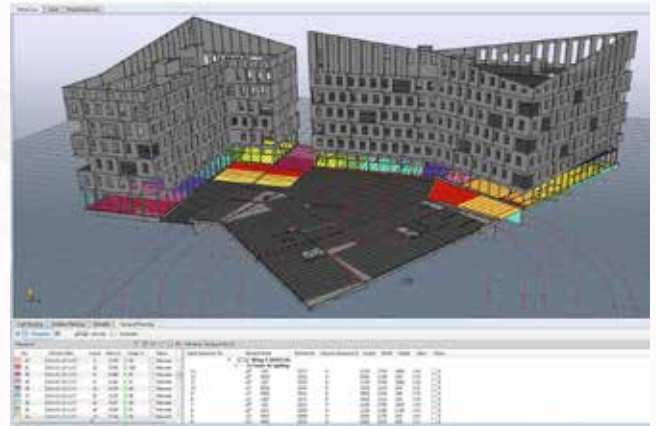
By using the 3D model for these purposes, Skanska Stom-system is able to manage the different projects and planning. The program plays a wider role and is not only focused on the design stage.

The most recent function added in planning the working procedure is the IMPACT transport planning module.

– The transport phase also has its own status and color coding indicating whether an element is ready to be delivered or not.

According to Jonas, it is easy to spot the elements that are due for transport and delivery at a certain time. The elements that, for different reasons, are not yet ready for transport has a different status that stands out among the others. This makes them easy to identify to be dealt with later in order to produce the planned quantity needed at a certain time. When the goods have reached its destination and been delivered, the factory is noticed by change of color and code, indicating that the elements have now reached the building site.

– Applying this working procedure throughout the production chain provides a total quality system in which IMPACT is a valuable tool.



Elements ready for transport soon to be delivered.

BIM WITH INTELLIGENCE

During the production phase, the 3D model has a unique control function.

– It is easy to identify the status of the different elements and how they relate to the time schedule, says Jonas. In the 3D model, we can show and hide different designs that make up the 3D model, visualize the project and explain the work flow. We can also easily detect if a certain amount of elements are ready and if they are in compliance with targets.

This also affects the process of the erection and the assembly of the elements. The information that the system provides about the time of arrival and erection of the different elements makes planning much easier for the working team.

Working with the 3D model in this fundamentally different way with a constant exchange of data is, indeed, a BIM project.

– BIM is not only a way to visualize a project with the help of a 3D model. Our solution adds intelligence to the 3D model which makes it possible to manage the projects towards the different goals and to meet different demands.

The 3D model is a tool to gain control, optimize, and to follow up on each single step in order to keep the appointed plan of the project as a whole. Thus a big step is taken to reach the goal of creating an efficient process starting with the last step of the project: the assembly at the building site.

By Love Janson

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