

## Digitalisation, infrastructure expansion and the pandemic: upheaval in the planning and construction sector

**Frankfurt am Main, 20 September 2021. From planning and building to the operating phase, numerous people work together over the life cycle of a construction project. Throughout, digital technologies have an enormous potential for exactly coordinated timing, improved quality assurance and cost reductions.**

Building information modelling (BIM) depicts the complete life cycle of a construction project: from the design and planning of a 3D model, via construction and operation, to final demolition. Thanks to the model, everyone involved in the project has access to digital plans, control of the various processes involved and extensive databases. Thus, all can work together in harmony. The prerequisite for companies wanting to tender for construction projects requiring BIM is the introduction of IT-aided processes and technologies, as well as the accumulation of the appropriate expertise.

### **Digitalisation by plan and with perspective**

The starting point for the digitalisation of the planning and construction sector is the phased plan of Germany's Federal Ministry of Transport and Digital Infrastructure (BMVI), which called for the rollout of BIM by 2020. Since then, this process has been obligatory for infrastructure projects in Germany. When it comes to building construction, however, the BIM standard is less widely used. Although there are some major projects, such as the new hospital in Frankfurt Höchst and the head office of Volkswagen Financial Services in Braunschweig where the developers called for tenders with BIM as standard, the process is still the exception for most new and modernisation projects. Accordingly, the level of expertise in this field varies greatly on the planning side. While many planning offices and construction companies are still gathering initial experience with the new working methods, digital planning and building is already standard for others. A study by the accounting and auditing company PricewaterhouseCoopers (PwC) entitled 'Digitalisierung der Bauindustrie 2020' (Digitalisation in the Construction Industry 2020) published in December 2020 reveals the gap seen by many companies of the construction and building-planning sector between the potential and the level of expertise necessary for implementation: despite the obligation to use BIM for public infrastructure projects in the future, 68 percent of the construction companies polled rated their skills as having room for improvement. The situation on the planning side is similar: 73 percent regard the use of digital planning and construction processes as an opportunity but only 27 percent consider themselves to be skilled in this field.



Whether room, floor or overall perspective, the 3D model of a construction project offers insights from every angle. Dalux software screenshot.  
Source: CA Immo Deutschland GmbH

### **Improve the level of expertise, implement BIM**

“Although BIM is not yet standard in the building-construction sector, the subject is developing rapidly. Working from home has given a great boost to the digitalisation of construction processes and, thus, the use of building information modelling”, says Amir Abbaspour, Construction Manager at omniCon, Gesellschaft für innovatives Bauen mbH.

If the use cases are laid down precisely, the planner can also control processes at the construction site from home. For example, it is possible to simply enter companies requiring access in the associated database. Through the combination of BIM, big data and the integration of all available information, it is nowadays possible to compile complete, legally watertight projects, to document them and to manage them within the planned cost framework.

“Nevertheless, the benefits of this process still have to be demonstrated to many planners and builders beforehand. But time is precious because the number of projects is growing”, says Abbaspour. He recommends that planning companies improve their level of expertise in this field. “Even if no specific project is in the pipeline, it will pay later to gain more knowhow in this field now because practical experience will always be required. If the job is awarded to the planning company, it has an immediate competitive advantage and can make an immediate start.” Structured information management is essential for planners or architects before they can begin planning a BIM project. Moreover, the developer must be familiar with the specification according to the ‘Client’s Information Requirements’. Abbaspour has no doubts that investment in the more exact planning process is worthwhile: “If I draw up my plans correctly using BIM, I will not, for example, order too much material and can coordinate the various disciplines exactly. This offers benefits in terms of time and money for the project horizon.”



Amir Abbaspour, BIM Manager at omniCon Gesellschaft für innovatives Bauen mbH. Source: Amir Abbaspour

In the future, open standards and specifications for the BIM process will permit the creation of a manufacturer-independent product database and thus make planning easier. The key to this is standardisation for the provision of product data, taking account of the buildingSmart Data Dictionary (bSDD). For example, in the international feature server, the illuminance of a lamp will be given a unique international code to be used by all manufacturers. Therefore, planners, craftspeople and operators have at their disposal a source of data that forms the basis for both documentation and quality management. The D3 model ensures greater clarity and improved predictability over the entire lifecycle of a building.

### **BIM at Light + Building 2022**

The top theme of 'Electrification & Digitalisation' at Light + Building embraces all parts of buildings for which new potential in terms of efficiency and comfort will be generated by digitalisation, automation and connectivity. As an interdisciplinary interface, 'Digital Planning + Building' is an important aspect of the top theme.

At the world's leading international trade fair for the sector in Frankfurt am Main from 13 to 18 March 2022, exhibitors will present their products and services for the digital planning process in Halls 9, 11 and 12.

The Light + Building trade fair will be held from 13 to 18 March 2022.

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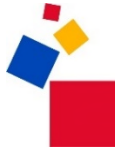
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**Background information on Messe Frankfurt**

The Messe Frankfurt Group is the world's largest trade fair, congress and event organiser with its own exhibition grounds. The Group employs approximately 2,450 people at its headquarters in Frankfurt am Main and in 29 subsidiaries around the world. The company generated annual sales of approximately €257 million in 2020 after having recorded sales of €736 million the previous year. Even in difficult times caused by the coronavirus pandemic, we are globally networked with our industry sectors. We serve our customers' business interests efficiently within the framework of our Fairs & Events, Locations and Services business fields. One of the Group's key USPs is its closely knit global sales network, which extends throughout the world. Our comprehensive range of services – both onsite and online – ensures that customers worldwide enjoy consistently high quality and flexibility when planning, organising and running their events. We are expanding our digital expertise with new business models. The wide range of services includes renting exhibition grounds, trade fair construction and marketing, personnel and food services. With its headquarters in Frankfurt am Main, the company is owned by the City of Frankfurt (60 percent) and the State of Hesse (40 percent).

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