



The hospital construction project Glasblokkene Trinn 2 in Bergen is using a Digital Twin approach (c) Bergen Healthcare

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Delivering a large Construction Project with a Digital Twin

Munich – September 29, 2022 – Using a digital twin was a game changer for the hospital construction project Glasblokkene Trinn 2 in Bergen, Norway. The new 50,000sqm hospital for children and teenagers is planned to be finalized by 2023 and will include outpatient clinics, operating rooms, X-ray departments, intensive care units and many more. By capitalizing on an open cloud-based planning and data management solution from the Nemetschek Group, the teams were able to implement a completely digital working method to maximize collaboration and efficiency. This provided significant cost savings, better project control, and substantially better outcomes for all project stakeholders.

As the largest construction project in the region for nearly 40 years, the Glasblokkene Trinn 2 project needed a solution that would centralize the enormous amount of data for the building in one place. The client, Healthcare Bergen, also wanted an open system so that other software could access and add to the data within this database. They opted to use [*dRofus*](#), a Nemetschek Group solution, which would provide all the functionality required to connect different systems and provide a data-first digital twin solution.

A Golden Thread of Data

The entire hospital project is created based on a master asset database for all disciplines and models – always up to date with all the documentation required for any element quickly to be accessed just by clicking on the item in the model. For this reason, *dRofus* was embedded into other applications, which allowed on-site updates of data directly into the master asset database, and then synced to the design and engineering models and IFC files for a consistent and current set of information. The centralized information management the database offered provided a golden thread of data throughout the project. „Using a cloud-based federated repository, the golden thread of data, from the start on, combining it with real time data in the future will create additional huge benefits for the operate and manage phase: This is building lifecycle intelligence at its best,” says César Flores Rodríguez, Chief Division Officer Operate & Manage and Digital Twin.

Preserving the Value of Information

By using a digital twin, the documentation was delivered and controlled before the work started on site, unlike a traditional approach where the documentation is delivered after the building is finished. Not only was the quality of the information enhanced, also complete and correct information was available throughout the project. The database was not only used for the design and construction but is also planned to be used throughout the entire building lifecycle, including operation, linked to building control systems via APIs.

“Information from every stage of a building’s lifecycle will have implications or value in other stages, so preserving and leveraging this data across the building’s lifespan makes total sense,” says Rolf Jerving, CEO of *dRofus*. “We call this Building Lifecycle Intelligence. Solutions like *dRofus* bridge the gap between BIM and Building Lifecycle Intelligence, creating a Digital Twin and providing a single source of truth that prevents data silos and ensures a data-driven approach that provides value across a built asset’s complete lifecycle.”

A New Way of Working

The project was exclusively digital, with no printed drawings used at any stage. For some of the project partners, this was a totally new way of working. “Using a digital twin enabled all parties to work in the same environment, collaboration and cross-discipline coordination was improved. Responsibilities for different element data was able to be assigned in the consultants’ models, and these updates were shared with the entire project team”, says Main Project leader, Kristian Brandseth from Healthcare Bergen.

Having the contractors able to create data within the consultants’ models was another unique feature of this approach, which further supported collaboration between teams. Contractors could update product data, generate unique equipment IDs automatically, and update the status of objects. Another valuable addition was that everyone could see the current progress on site thanks to the live cross-disciplines dashboards built on top of dRofus. This enabled subcontractors to plan their work more efficiently, as they knew when another trade was finished.

An Invaluable Tool

For the team on the Glasblokkene Trinn 2 project, the central database that connected all the project information held in different systems was crucial – many would not want to deliver such a large project without this tool. “The data-first digital twin solution has helped avoid data silos and resulted in better project outcomes. The value that the created data provided throughout the project has generated significant savings as well as better project control – and will continue to do so throughout the building’s operation”, explains Main Project Leader, Kristian Brandseth.

About the Nemetschek Group

The Nemetschek Group is a pioneer for digital transformation in the AEC/O and the media & entertainment industries. With its intelligent software solutions, it covers the entire lifecycle of building and infrastructure projects, guides its customers into the future of digitalization and enables them to shape the world. As one of the leading corporate groups worldwide in this sector, the Nemetschek Group increases quality in the building process and improves the digital workflow for all those involved. Customers can design, build, and manage buildings more efficiently, sustainably and resource-saving. The focus is on the use of open standards (OPEN BIM). The portfolio

also includes digital solutions for visualization, 3D modeling, and animation. The innovative solutions of the brands ALLPLAN, Bluebeam, Crem Solutions, dRofus, FRILO, Graphisoft, Maxon, Nevaris, RISA, SCIA, Solibri, Spacewell and Vectorworks in the four customer-oriented segments are used by approximately 6.5 million users worldwide. Founded by Prof. Georg Nemetschek in 1963, the Nemetschek Group today employs around 3,400 experts all over the world.

Publicly listed since 1999 and quoted on the MDAX and TecDAX, the company achieved revenue amounting to EUR 681.5 million and an EBITDA of EUR 222.0 million in 2021.

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