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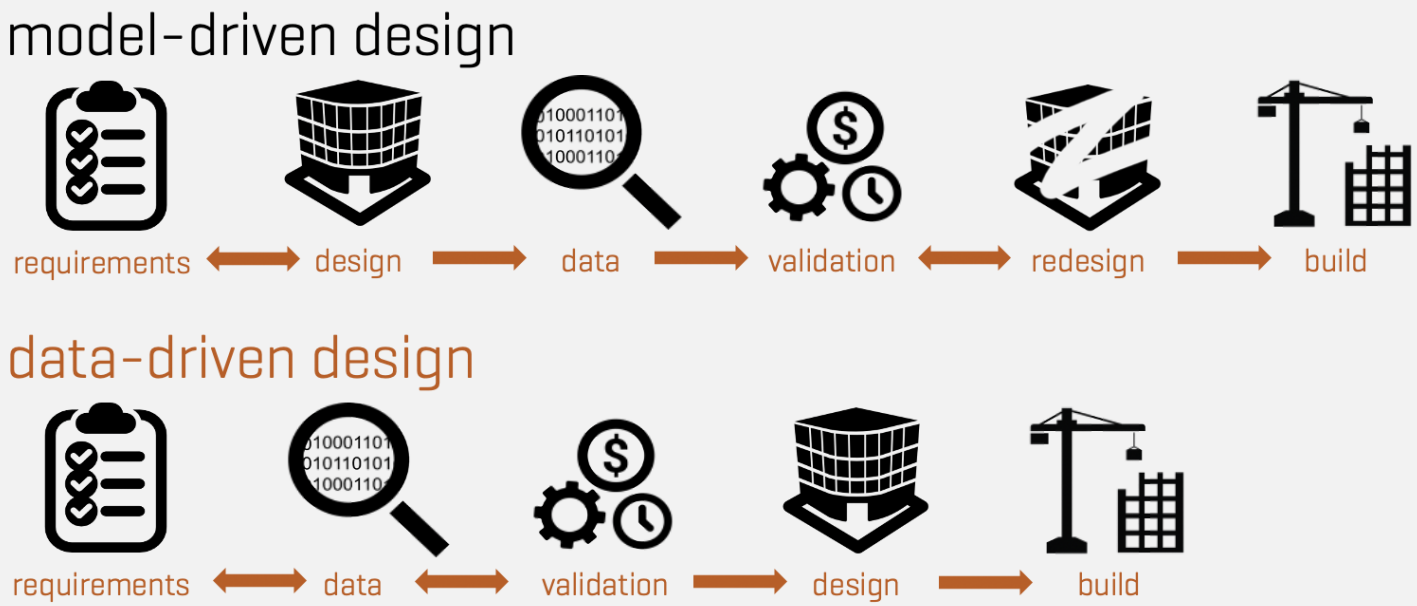
Efficiency



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Accelerated Efficiency with Data-Driven Design

Viktor Várkonyi, Chief Division Officer of the Planning & Design Division and Member of the Executive Board of the Nemetschek Group, explains why data-driven design is more efficient than model-driven design and what this has to do with Building Lifecycle Intelligence.

Building Information Modeling, as the name implies, should be all about information. But the reality looks quite different – most BIM processes are centered around model-based workflows. This approach implies that models are designed based on certain requirements, then data is generated and validated. Handing those models over to the next profession within the

building lifecycle often generates data losses, which leads to errors. And even before the construction itself starts, the model needs to be redesigned. Is that efficient? Why do we not focus more on the data itself?

But what exactly is *data*? Data basically represents a collection of facts, whilst *information* is how you understand those facts in context – organized, structured, accessible, and re-usable by others. In the context of buildings, this implies that building data follows a data scheme that can be utilized dynamically across different software applications. Non-graphical data can drive the entire value chain. This is what we in the Nemetschek Group call **Building Lifecycle Intelligence™**. The approach needs an open, connected ecosystem, centered around data that dynamically connects models and documents. Working in an open cloud environment allows anyone to connect and communicate through open protocols and standards, generating real value for all parties.

By securing a structured, cross-discipline dataset that connects both multiple graphical models from various sources and required documentation for all assets and systems, we ensure easy access for all stakeholders, including the non-BIM professionals. Life would be so much easier if – for example – you could click on a 2D drawing in a PDF file and get the building material of the represented element, the specified thermal properties, or its construction status information. Or if you could use an Excel-style interface to filter the MEP objects in the BIM project and access all properties, with the ability to easily add and edit information – for instance, manufacturer and pricing details, without having to learn and use a BIM authoring tool. Or imagine using business intelligence tools to analyze and monitor overall and detailed construction progress across all disciplines.

I believe that interoperability and information sharing between industry stakeholders should not be a ground for competition, but rather the basis for everything we do. This also has a positive impact on asset information requirements; in other words, the data and information about the assets in the building. With a data-driven design approach, this information is generated in a structured, consistent format, and is easily accessible by the facility manager. Perfectly usable for any renovation works, for example.

In return, the data and intelligence that is created during the operation phase of a building – we are talking about 30 years or more, in many cases – can be reused when planning and designing the next building. We just need to look

at the construction industry as a perpetual loop, not only when it comes to the reuse of materials (the circular economy), but also when it comes the reuse of data. Having access to the entire set of “intelligence” is key to optimizing operations and to driving better decisions in the next project. With Building Lifecycle Intelligence™, we are at the beginning of an exciting journey towards increasing efficiency and quality. A journey with a tremendous potential.

About the Nemetschek Group

The Nemetschek Group is a globally leading software provider for the digital transformation in the AEC/O and media industries. Its intelligent software solutions cover the entire lifecycle of construction and infrastructure projects and allow creatives to optimize their workflows. Customers can plan, construct, and manage construction projects more efficiently and sustainably, and develop digital content such as visualizations, films, and computer games in a creative way. The software company drives new technologies such as artificial intelligence, digital twins, and open standards (OPEN BIM) in the AEC/O industries to increase productivity and sustainability and continuously expands its portfolio, including through acquisitions and investments in innovative start-ups. More than 7 million users are currently using the customer-focused solutions. Founded by Prof. Georg Nemetschek in 1963, the Nemetschek Group today employs more around 4,000 experts.

The company, which has been listed in the MDAX and TecDAX since 1999, achieved a revenue of EUR 995.6 million and an EBITDA of EUR 301.0 million in 2024. Since the end of 2024, the Nemetschek Group is certified in accordance with ISO 27001, the internationally recognized standard for information security management systems (ISMS).

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