
Design Power Success *Selvaag Gruppen AS*



The design for this apartment building is configured from the Super BIM created by the Design++ based Rule-Based House Developer system.

Ensuring Highest Quality - No Design Errors

The Selvaag Group is a large Norwegian developer and builder of residential and assisted living buildings. The CEO and owner, Ole Gunnar Selvaag, challenged his experts to create a system that would capture and enforce existing and evolving rules used in the design of Selvaag style buildings.

The resulting Rule-Based House Developer system is built on top of Design Power's Design++ design automation platform, and is used to develop designs for all current and future Selvaag-type buildings. It creates, in a highly automated fashion, a Super Building Information Model (BIM) that includes all allowed building options. It results in designs that meet all rules captured into the system. For each project a complete and correct set of documentation is then extracted from the Super BIM.



Ole Gunnar Selvaag, owner and CEO, wanted a system that prevents repeated design errors.

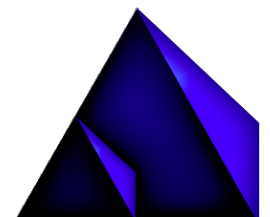
The resulting high and consistent quality means

- Significant savings in construction
- High customer satisfaction
- Significantly lower design costs

Partners in Productivity



Selvaag Gruppen



Design Power, Inc.

Industrialized House Delivery

The Selvaag Group comprises a group of companies focused primarily on the housing market, including assisted living buildings. Selvaagbygg, its construction arm, is one of the largest developer/builders in Norway. Selvaagbygg prides itself on its ability to build high-quality, affordable housing, a fact that led to its dominant position in the latter part of last century.

In order to maintain this position, the management of Selvaagbygg decided to move towards industrialized house delivery without compromising on the base for its success: high quality, low cost, and market flexibility. The automation of engineering and design was considered key to achieving the goal so Selvaag's development company, Selvaag BlueThink AS, was charged with that task.

Super BIMs

Selvaag BlueThink (SBT) selected Design++ as the platform for their Rule-Based House Developer (RBHD). First SBT captured Selvaag's design and engineering knowledge into RBHD. It transforms the definitions for each of Selvaag's building types into a Super Building Information Model. A Super BIM includes all optional configurations of the defined house type and all parameters required for creating drawings

and other documents. For each project a front-end configurator presents to the designer or future building owner the allowable options and variations. After their selection, a complete drawing and documentation set for the project is extracted from the RBHD produced Super BIM.

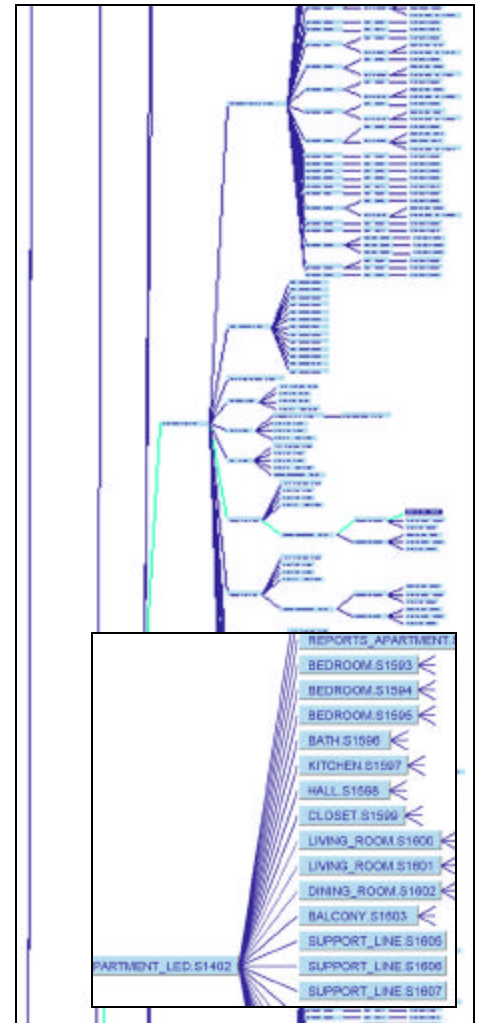
Towards Zero Design Errors

Traditionally, many detailed design decisions were left to CAD operators and supervisors at the building site. The knowledge about errors in design was seldom captured and therefore could be repeated. Selvaag management's final goal with RBHD was set that there are "zero errors" in design, and while getting there "no errors are repeated". Thus an important aspect of RBHD is the process and methods for capturing knowledge as it is accumulated.

"Design++ Makes it Possible"

"Capturing knowledge for automated re-use ensures that we remain a leader in affordable, high-quality housing while retaining a high degree of flexibility" says Ole Gunnar Selvaag, CEO and Owner.

"Design++ made this very complicated task possible", says SBT President Per-Olav Opdahl.



A snapshot and detail of the Design++ based RBHD Building Information Model.



Selvaag BlueThink's Design++ team created the Rule-Based House Developer. Here pictured together with BlueThink's President Per-Olav Opdahl (left).

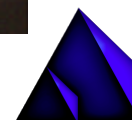
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