



VERTEX

Global Vision



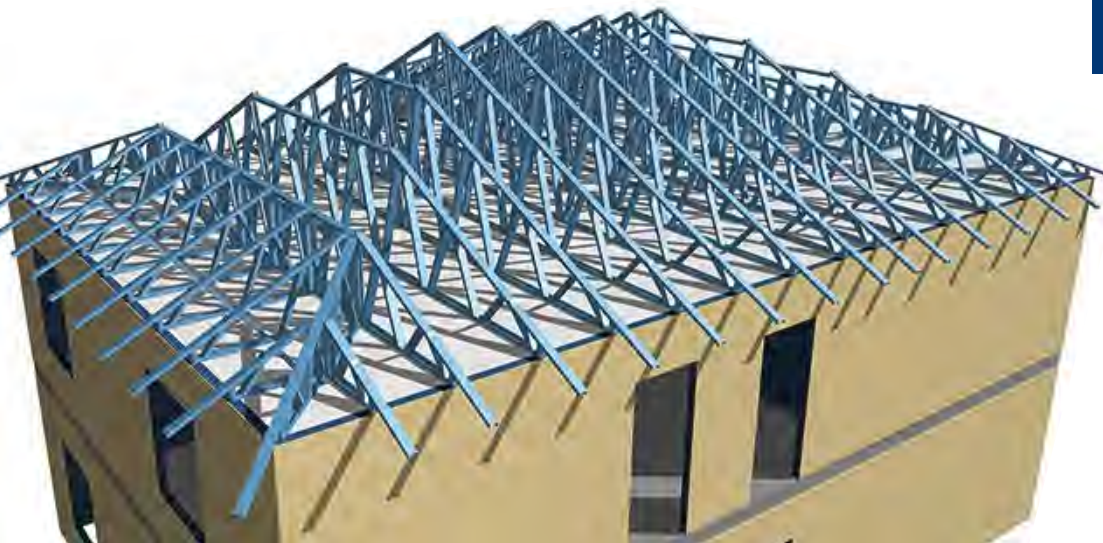
Logan Homes

individual and innovative home design



Newcom Mining Services LLC

buildings for extreme conditions



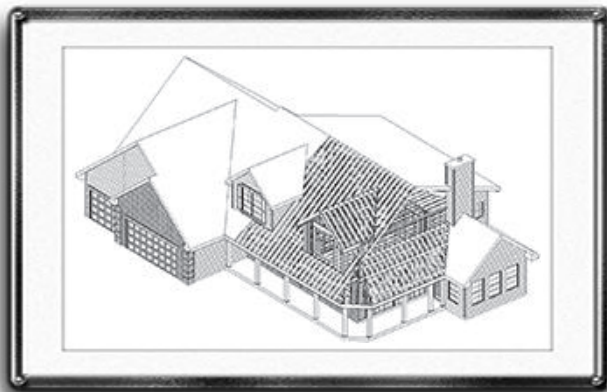
BD 2013

New version –
BIM intuition
and efficiency

Vertex – the road to the top of CAD

The 35-year history of Vertex Systems is a continuing path of brave steps in the highly competitive world of computer aided design.

THE VERTEX STORY dates back to the year 1977 when a company named Lujjuustekniikka Oy, specialized in structural analysis, was established. At the time, the founders **Mikael Piekkala** and **Pertti Vuulli**, were focusing on developing computer software for structural analysis. However, as this soon proved to be rather an unprofitable business, Piekkala



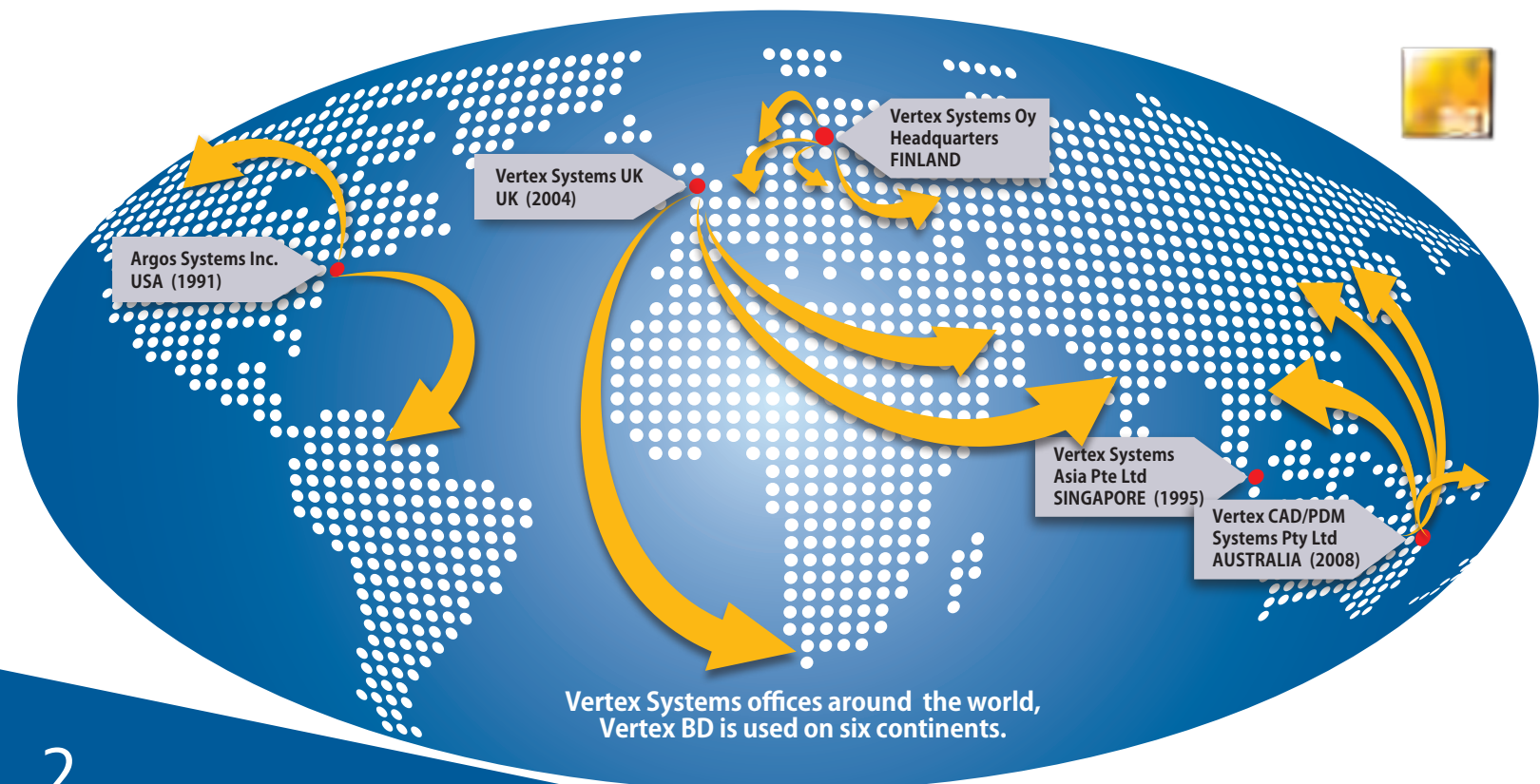
"This is where we started from..."

and Vuulli started seeking other opportunities for growth.

"At the beginning of the 1980's we were producing software for pipeline design for a company called Elomatic Oy, and then proceeded to developing home design software for the Veitsiluoto house building company. Finally, we were able to launch a groundbreaking CAD design software for the Finnish elevator company Kone Oy," says Mikael Piekkala, President, Vertex Systems.

As early as in the 1980's, Lujjuustekniikka Oy produced software that was named Vertex. The products were advanced, designed especially for personal computers at a time when many competitors were still using equivalent programs run in central computer processing units.

"Personal computers cost a fortune then, but when the prices came down they got more popular. The use of design software was complicated, and the computers were not able to handle large images. Another thing we had to combat was prejudice. Luckily today it is common knowledge that computer software can never replace the professional expertise that is needed in design work," Piekkala states.





Usability and functionality first

Visuality has always been a major feature in Vertex products. 3D modeling has always been part of house design.

“With a 3D model, before any first prototype has been built, one can reach a conclusion on the usability and functionality of a plan,” says Piekkala.

Today, realistic 3D models are an optimal solution in house building companies and, among others, in kitchen design plans.

“A design model crafted at Vertex produces a model where all the details can be calculated in advance, including the hinges and trims, making sure that all cupboard doors can be opened, etc.



“...and this is where we are now.”

In numerous Finnish companies Vertex is integrated in the NC machines to provide accurate information about the models for the machine tools, thus eliminating labour-intensive work phases in the process,” Piekkala lists as the pros of Vertex.

Vertex 3D as a sales tool

The Vertex 3D models are also an ideal tool for house sales and building site personnel. The Vertex 3D-pdf that was launched in 2011 is praised by professionals for its excellent usability. As tablet computers gain ground, this feature is bound to become even more popular.

Vertex Systems house design software was updated in the mid-1990’s as object-oriented software. Even in the new version, Vertex BD 2013, the object-oriented approach is a vital component.

“Being able to make use of the right concepts for building is a major asset we have. As developers of object-oriented software we have always been on the frontline,” Piekkala concludes with a hint of pride in his voice. ■



The Norwegian way

“It is very important for us to deliver a good product. Vertex BD is one of the best tools in the market for wooden housing at the moment. Our job is to make sure it stays that way,” says Ole K. Øverland from Proby AS.



Modern cabin in Lyngdal, Norway.

PROBY AS has since 2009 been the reseller for Vertex BD products in Norway, with an annually increasing customer base. Øverland joined Proby in 2010 with a degree in structural engineering and a passion for computers and programming, and quickly took over the responsibility for all Vertex products and services.

“I’ve worked with different types of software and in my opinion, although a little biased, Vertex BD is one of the easiest design software to learn. Its adaptability is unique,” he continues enthusiastically.

Adapting to new regulations

With the new regulations demanding more documentation and clearly defined responsibilities of the different parties in a building project, the demand for flexible software is increasing.

“There is a shift towards more cooperation between different companies, and we see a need to be able to share a building model between different parties. The past year we have actively been pursuing this with several companies and have acquired a lot of good experiences. I think our present and future customers will like the introduction of IFC and 3D DWG imports as reference geometry,” says **Reimund Espeland**, owner of Proby AS.

Espeland continues: “Since our start in 2009, right after the credit crunch, our figures and customer base have been going up. I think this is a good legacy for the services and products we supply.” ■

BD 2013, Improved BIM

HOUSES can be designed using a variety of methods and techniques. What all of the design techniques have in common is that they should provide a fast way to proceed to production and to finishing a construction project. The new Vertex BD is a quick and efficient tool for intuitive design with a variety of novel features.

Wall layer design by intuition

According to Product Manager **Jukka Haho**, the interface of the new version of Vertex BD 2013 is more intuitive in use, thus enabling fast and flexible design of the wall layers as well as the details, such as trims, which improves the usability of the architectural design.

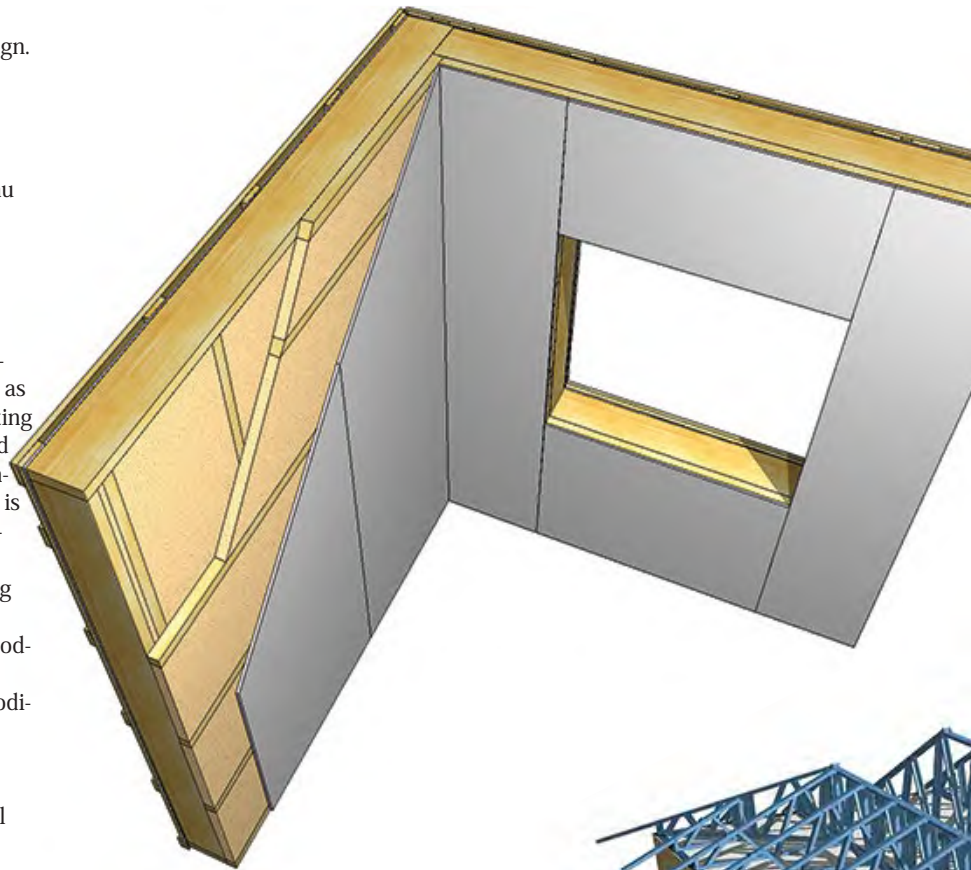
“What is meant by intuitivity here is that one can easily change the layer material by choosing a wall and then editing the chosen layer. User can easily select from context menu what to do for layer or for edge of layer. The wider use of the new context menu technology to improve the usability of BD will be launched in version 2014.

Flexibility of design

The new Vertex offers flexibility for modifying surfaces: splitting, editing edge shapes, changing materials, as well as possibilities for using constraints, such as setting surface edges for windows – when a window is moved also the edge will be moved, making use of the dimension constraints of the software. Similar functionality is now available also with floors and panels when modifying the layers for them. Another thing are the grip points for opening trims, and an easier way for adding single trims – an automatic snap at the opening side and on the surface. The grip points make it easy to modify the length of the trim boards. The automatic snap rotates the trim board in the correct direction and modifies the edges and wall surfaces.

A huge step has also been taken in the choice of trims. “The interface contains handles that light up when touched upon. Bringing new trims into a model is easy. They automatically click at their place by the window, and no manual adjustment is needed, which saves a lot of work,” states Haho.

The Vertex BD design program for house projects has been systematically developed into a user-friendly and visual tool for professionals. The new version, BD 2013, presents several novel features especially for the needs of wall layer design with a set of generation rules to be controlled layer by layer both on the library level as well as in the models. Working on details, such as renewing wall panels and improving the structures of interlocking timbers in log houses, has never been easier.

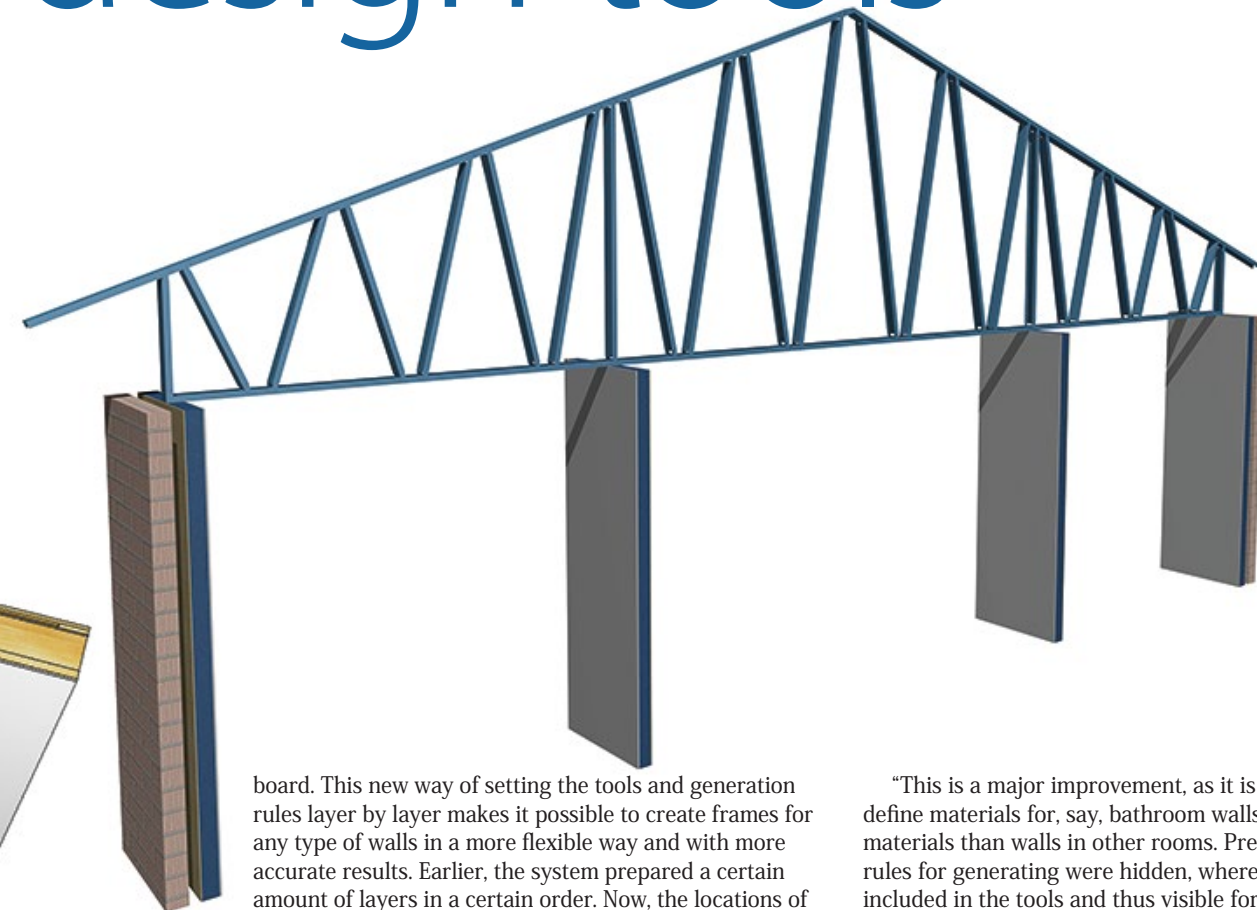


New Layer Based Framing Tool

A key feature of the new software is that the generation rules can be controlled layer by layer both on the library level and in the models. This means that it is possible to split, for instance, the sheathing layers to sections, to change materials and also the direction of the sheathing



design tools

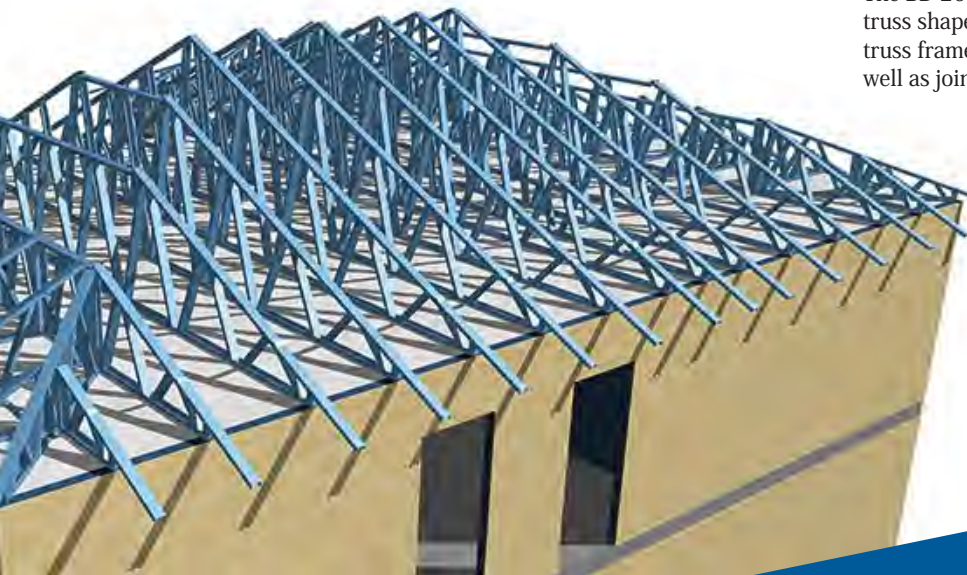


board. This new way of setting the tools and generation rules layer by layer makes it possible to create frames for any type of walls in a more flexible way and with more accurate results. Earlier, the system prepared a certain amount of layers in a certain order. Now, the locations of the batten and sheathing layers can be changed easily. This means that structures can be created within minutes and the end users can set up the frames themselves and make individual adjustments.

“This is a major improvement, as it is now simpler to define materials for, say, bathroom walls which have different materials than walls in other rooms. Previously, the detailed rules for generating were hidden, whereas now they are included in the tools and thus visible for each user. One could say that a wall panel can now be generated as easily as it can be designed in an architectural plan, says Haho.

Truss Frame Generator

The BD 2013 is also a new intelligent tool that utilizes both truss shape and the structures around the truss to generate truss frames. The profile properties can be set by the user, as well as joint properties and generation rules can be defined manually. For instance, verticals can be added at the support, at the connecting truss, on the ridge point, etc. Also the profiles between chords and webs can be defined to meet the needs of the user. ■

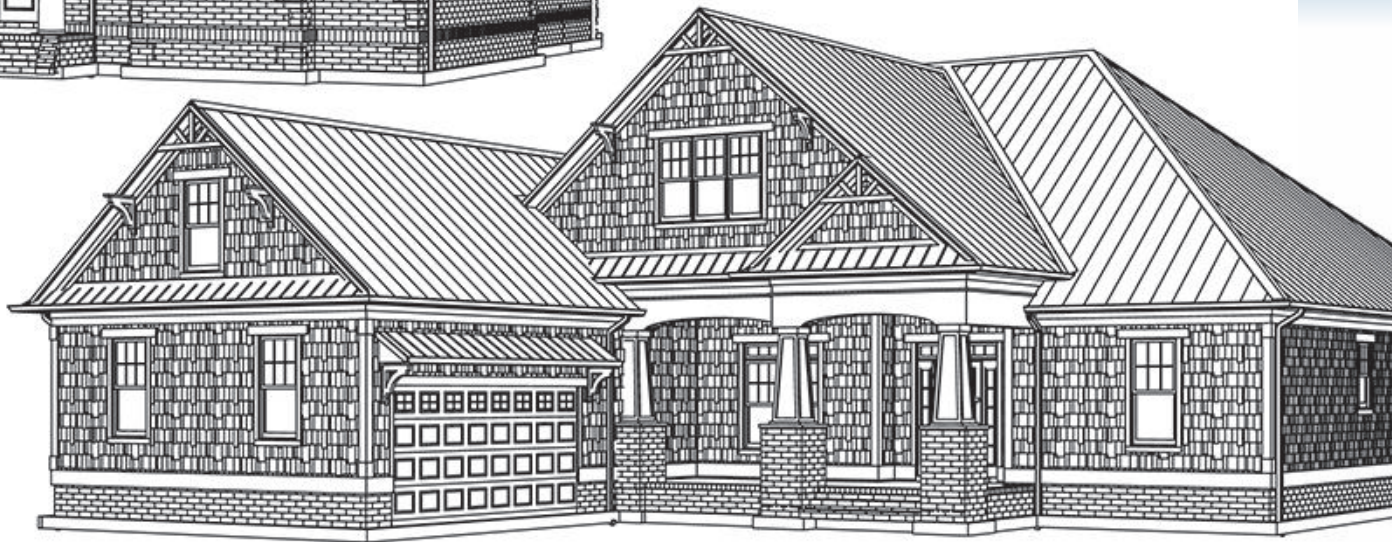




“Vertex BD leaves us more time with the customer”

Logan Homes is a home building and designing company that is among the leading companies in the field in the US market. With a wide selection of designs, each may be adjusted to create personalized home plans. A core value of the company is its belief in people. Finding time for customer service is thus a key issue, which is possible thanks to a cutting-edge software, Vertex BD.





CASEY THOMPSON, Drafting and Design Manager at Logan Homes, was given the opportunity to rebuild their outdated 2D CAD drafting department. A new system was needed that could handle an extensive collection of house plans, along with a very competitive sales option structure. The system of choice for the Constructech "Vision Gold" Award winning Logan Homes was Vertex BD.

Unique optioning abilities

"The main benefit of using Vertex software is its unique optioning ability. Having worked in the drafting industry for years with residential, educational, commercial, historical, and government projects, I was familiar with several

software applications. Most of them have 3D modeling ability, but none of them compare to the optioning features of Vertex BD," says Casey Thompson. "Vertex

BD allows Logan Homes to isolate options for pricing, initiate and manage 165 different options, and maintain hundreds of plans. This has drastically reduced the time needed to produce quality sets of plans."



Concentrating on the customer

As a full service home builder, Logan Homes works with their customers throughout the entire process; from site evaluation, plan design and customization, and through construction. "Vertex BD has allowed us to spend more time with our customers and, in some cases, allow us to entertain unique customer requests," says Casey Thompson.

"One of our customers fell in love with one of our plans, but the plan needed to be personalized to accommodate the family's son's needs. Vertex BD provided a very fast and flexible tool to redesign a portion of the house to the complete satisfaction of our customer and his son," states Casey Thompson. ■

Casey Thompson, Drafting & Design Manager at Logan Homes, was in charge of rebuilding their drafting department. The 3D modeling abilities of Vertex BD and, in particular, its versatile optioning features convinced Thompson. "Vertex BD empowered our company to manage everything from sale pricing to plans, while leveraging our resources in today's market over our competitors."



Logan Homes

Logan Homes has been creating dream homes since 1986, within premier communities and individual home sites. The company has built over one thousand homes in the Wilmington, NC area alone. They offer over 80 home plans, reflecting the newest innovations in home design, along with energy smart features that come standard in every home. Logan Homes is one of the top builders in their market, and is on track to be among the top 200 home builders in the U.S.

Vertex building design software provides Solutions for structures in the most demanding locations

Newcom Mining Services LLC is a major Mongolian company and a customer of Vertex Systems UK.

Cooperating with Vertex was the solution for finding flexible and efficient tools for Newcom’s construction projects in the demanding conditions of Northeast Asia in locations like the Gobi desert.

NEWCOM MINING LLC is a pioneer in introducing light gauge steel technology (LGSF) for industrial buildings in Mongolia, where the climate conditions are extreme and the rough terrain provides many challenges for the construction market.

Dulamsuren Luvsanjamba is Director of the recently established construction department of Newcom Mining Services LLC. Recently, the company finished a successful construction project in the Gobi

desert where workshop facilities, garages and an accommodation block were designed and manufactured utilizing light gauge steel frame technology. Vertex building design software was key to solving specific issues in this project.

Solving challenging problems

Newcom Mining Services LLC is part of the Newcom Group that operates in the fields of information technology, aviation, construction and mining equipment, and renewable energy.

“Due to our location it is difficult to have access to certain materials, but thanks to the many options provided by the Vertex software, our managers and designers are capable of easily finding flexible solutions for site problems,” Luvsanjamba says.

Through a career as a mechanical and facility engineer in electrical engineering, heating and telecommunications, Luvsanjamba has proceeded to her current position where she manages construction projects for industrial buildings in remote areas. The customers are mainly Mongolian mining companies. She gained her international experience in Japan where she studied infrastructure management. Construction projects in Mongolia are typically international commissions in cooperation with technical consultancy and engineering services, tailored to the specific needs of the customer.

“Our projects are very challenging – the design service that Vertex provided for us was professional, fast and sensitive to customer needs,” Luvsanjamba states. ■



**WORKSHOP PROJECT,
MONGOLIA**



**RESIDENTIAL CAMP,
MONGOLIA**





Wood frame

– ideal partners for passive bu

Delivering quality, healthy and affordable housing requires staying up-to-date with the latest developments and applying them in wood frame construction to provide premium performance for the customer. The new Vertex BD program offers qualities that make CAD design more efficient and give a clear picture of the project.

WITH OVER 30 YEARS experience and almost 20 years as an independent constructor, *Martin Vandereyt & Zonen BVBA* has become an established name within the construction industry, specializing in timber. During the past seven years, the company has increased its focus on complete projects in wood frame.

In Belgium, brick building is making room for wood construction. Wood frame is a very useful construction method that can be used efficiently for passive buildings. A passive or low-energy building reduces energy consumption significantly.





and Vertex Buildings, new and renovated

Intensified construction process

"In our workshop in Zonhoven we produce the basic structures for any new home: wall panels, roof panels and laminated beams. Laminated beams are produced daily for our construction projects in a 20 meter long hydraulic press. Thanks to prefabricating the beams, making the wall and roof panels in our own workshop at the building site only takes a short time. In two days, the wood frame structure is placed, on the third day outside wood finishing is added, and on the fourth day techniques are integrated: electrical, plumbing, heating and ventilation," says Director **Martin Vandereyt**.

"Our specialized team in the company works together smoothly, and thanks to the fast wood frame building method, more work can be done each year. More each year, but all of the projects are equal and carefully finished with detail," emphasizes Vandereyt.

Growth potential with Vertex BD

Until recently, Martin Vandereyt & Zonen BVBA designed

their houses in 2D. As the company always strives for improvement and innovation, they went looking for a new CAD program.

"We contacted quite a few companies and tested and compared different CAD programs.

Soon we came to the conclusion that CAD Serviceburo and Vertex BD could offer the surplus we were looking for. Moreover, thanks to the 3D model, we can offer our customers a clear picture of what their new building project or renovation will look like. In terms of both support and automation, CAD Serviceburo and Vertex BD are really remarkable. Thanks to this good combination, we were able to double our capacity. In future, we want to improve the details in the drawings and the data output

from our projects even further. Thanks to CAD Serviceburo and Vertex, we have this growth potential," Martin Vandereyt sums up. ■



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Vertex Systems Oy

Vertex Systems Oy
(Headquarters) Vaajakatu 9,
FI-33720 Tampere, Finland
Tel. +358 3 313 411
Fax +358 3 3134 1450

Editor in chief:
Kai Ojalampi

Editorial staff:
Viestintätoimisto Tulus Oy

www.vertex.fi

Vertex Systems Oy provides highly efficient software products for technical design and data management, as well as expert services.

Vertex software boosts customer's business by improving the capacity of designing, sales and production.

Vertex Systems was founded in 1977 and it has exported over 8000 software licences to 35 countries.



Streamline your house project

Sales – Design – Production – Assembly



Vertex Systems is a global supplier of industry-specific CAD/PDM software solutions.

Vertex software solutions create added value to customers' business by streamlining the processes in sales, design, production and assembly.

Vertex CAD/PDM Systems Pty Ltd
Unit 35, 120 Bloomfield St
Cleveland, QLD 4163, AUSTRALIA

Tel: +61 7 3286 5845

Fax: +61 7 3821 7478

E-mail: sales@vertexaustralia.com



www.vertexaustralia.com