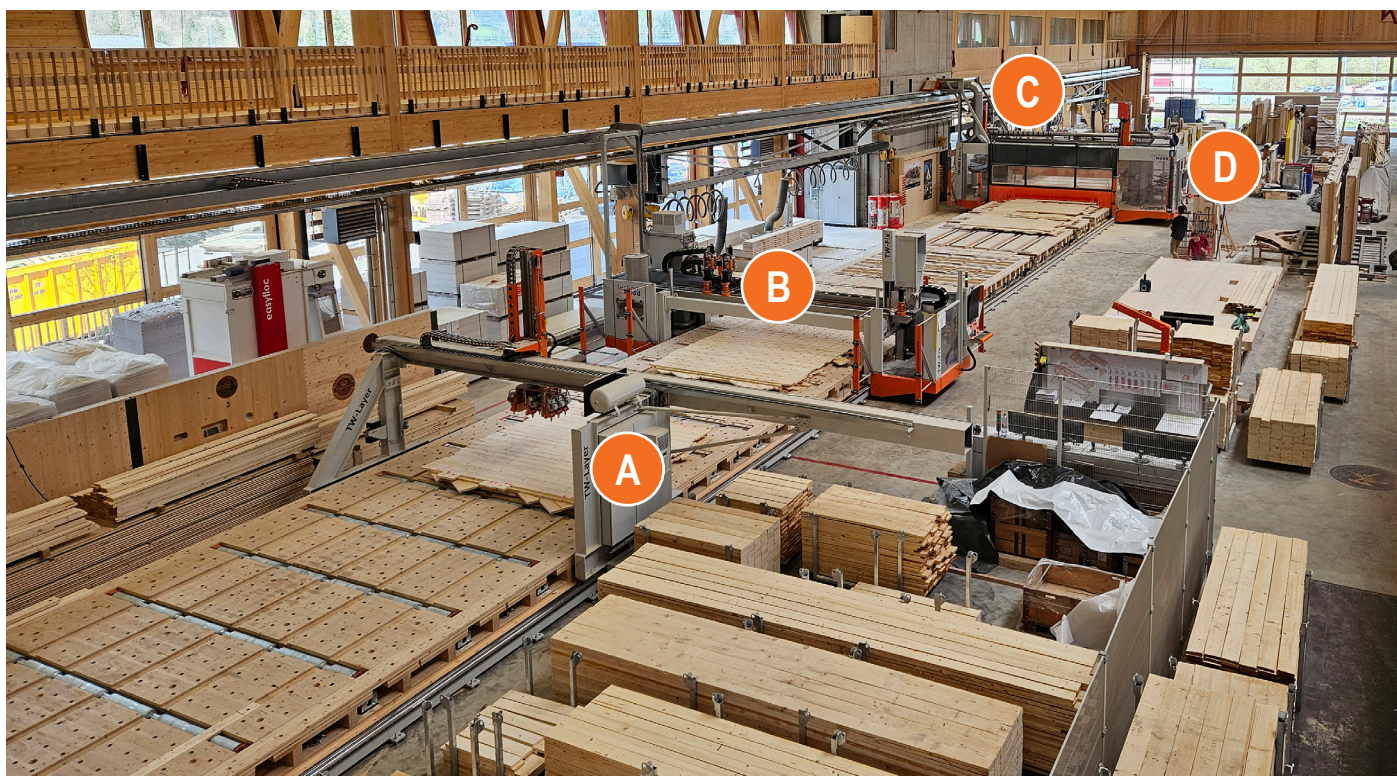


## MORE FLEXIBILITY IN WOOD-CONSTRUCTION

### Producing mass timber wood and wooden frame elements

In 2022, Schindler & Scheibling moved into a new, not exactly every day, production hall. There, in addition to classic wooden frame elements, the company also produces mass timber elements without adhesive for the in-house brand Holzecht. A TechnoWood TWOODS-Line production line is used, with and integrated TW-Mill E element construction portal for other tasks.

The new hall of the Swiss timber construction company from Uster is primarily used for the production and prefabrication of timber construction elements. In addition, the building also shows what the company stands for: for the modern and architecturally sophisticated solid wood construction made of different Swiss wood species. In addition to the revitalization of old farmhouses and the construction of halls for industry and agriculture, the company is also active in the area of single and multi-family houses. One of their specialties is the use of solid wood elements free of adhesives, which the company manufactures itself. To be able to produce these efficiently and precisely, Schindler & Scheibling invested in a production line from the Swiss mechanical engineering specialist TechnoWood. "We wanted a system that we could use as flexibly as possible. Of course, we were particularly pleased that a Swiss company offered us the best solution for this," reports project developer Fabian Scheibling.



TechnoWood's TWOODS-Line consists of the laying portal TW-Layer (A), the dowel portal TW-Fix (B) and the portal robot TW-Mill E (C), which is also used for element construction (D).

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## End-to-end process

With the TWOODS-Line, TechnoWood developed a production line especially for the production of mass timber elements. The line consists of the TW-Layer laying portal, the TW-Fix dowel portal and the TW-Mill E portal robot.

In the first production step, the TW-Layer automatically grabs boards of different lengths from different boxes and places them on the production table in the desired directions. The material-optimized laying pattern is calculated in advance by the software, with recesses for windows or doors are already being taken into account. From there, the loose boards arrive at the TW-Fix dowel portal. There, the boards are tensioned before two drilling units with 15 mm auger bits drill through or non-through holes. If the holes are topped before penetrating the bottom layer, dowel-free surfaces are created. In the next processing step, a dowel unit presses 16.2 mm thick beech dowels into the holes. These are taken from a magazine that is carried along, compressed and moistened before being introduced.



*The elements connected with beech dowels are processed in the TW-Mill E. Equipped with a second Z-axis for nailing and stapling devices, Schindler & Scheibling also uses the portal in timber frame construction.*

## Versatile portal

The final processing steps are carried out by a TW-Mill E type portal robot. The CNC system is equipped with a powerful 5-axis spindle and carries out all joinery work using Oertli tools.

In addition, TechnoWood equipped the TW-Mill E with a second Z-axis for holding up to eight nailing and stapling devices as well as an additional milling spindle. This means that Schindler & Scheibling can also use the portal for the production of classic timber frame elements.

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For this purpose, the system moves into the TW Concept Line part of the production, which TechnoWood equipped with table elements for conveying, tensioning, turning, positioning and pressing and which thus fulfills all the requirements of modern element construction. "With this plant combination from TechnoWood, we can produce extremely flexibly. The machine ran very well right from the start and the high utilization shows us that it was the right decision and that we are on the right track," emphasizes Scheibling.

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***„We wanted a system that was as flexible as possible and that could take on several tasks in our company. TechnoWood had the best solution for this.“***

*Fabian Scheibling,  
Sales & Project Development*

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*Author and photos: Austrian Agrarverlag, Günther Jauk*