

Product Story Timber Structures 3.0

Revolutionizing timber construction with conviction

From frustration to vision

In **2009**, Timbatec AG had the same problem in three competitions: The clients were interested in timber construction, but wanted large column grids and flexible usage options. The team struggles with wood-clad steel-concrete solutions - the work has little to do with timber construction and is no fun. This, and the conviction that timber construction can make a major contribution to climate protection, is the impetus to look for new solutions.

It had to be possible to construct even large buildings entirely from timber!

The vision of large wooden buildings becomes concrete.

In **2010**, co-owner and pioneer Stefan Zöllig set himself an ambitious goal: 8 x 8 meter column grids made only of timber. His conviction that there is huge untapped potential in timber construction is the driving force behind the development. Some industry colleagues declare him crazy, but the Timbatec team goes along with it. The road to the development of TS3 begins. The vision: a timber construction solution for large-scale buildings that can compete with concrete and steel in every respect.



From attempt to breakthrough

Work on the new type of prop heads begins in **2011**. Three years of development and many tests are necessary until the solution is ready. In addition to many innovative minds from the team, collaboration with ETH Zurich and with the Bern University of Applied Sciences was crucial to the success: The prop heads are load-bearing.

With ETH and the University of Applied Sciences to the goal.

2013 is about nothing less than a revolution in timber construction: joining timber face to face. We tested different fasteners, initially using finger-jointed joints. After the first tests, it becomes clear that even butt-jointed slabs can be supported with the TS3 technology. This is the breakthrough!

The first TS3 project, a carport roof in St. Antoni FR, is installed and grouted. Glue specialist Rene Wicki joins the team and becomes head of application technology.



From solution to market maturity

In **2014** is an eventful year for TS3. Blisters in the joint compound challenge the experts. The search for the cause is time-consuming but rewarding and leads to the development of the pretreatment, which is now part of TS3's standard. On December 5, 2014, TS3 reaches a milestone: Timber Structures 3.0 AG is founded.

TS3 becomes an AG and the first house is built.

In **2015**, the first TS3 multi-family house is built and occupied in Thun. The building owner is enthusiastic.

In **2016**, TS3 presents the new technologies at trade fairs, including the World Conference on Timber Engineering (WCTE) in Vienna and the Construction and Energy Fair in Bern. TS3 pioneer and founder Stefan Zöllig presents the vision of the city made of timber and calls on the professional world to build ecologically with timber. The presentations meet with great interest.

In **2017**, TS3 builds a test stand together with ETH Zurich to test the TS3 connection at high loads and under the influence of weather. TS3 is also registered as a trademark in the USA.



From houses to the city of timber

In **2018**, TS3 is appearing with Stefan Zöllig and Marcel Herzog in Oregon USA at the International MassTimber Conference. Stefan Zöllig's appearance is an accolade for the product. In Switzerland, the first TS3 multi-family houses are built at the same time: one in the Bernese Oberland and four houses in the Seeland region. This means that TS3 technology is ready for the market. In the same year, the new TS3 endurance test stand is set up at the Bern University of Applied Sciences in Biel.

TS3 technology reaches market maturity.

In **2019**, the first TS3 application engineers are trained and certified in Switzerland and

the USA. In the same year, TS3 signs the private label agreement with Henkel und Cie. AG for the use of the polyurethane casting resin specially developed for TS3. The silver medal of the «Innovationspreis Holz» is another highlight of the year.

In **2020**, TS3, together with Timbatec and other partners, builds Switzerland's first basement made of timber in Thun. This pilot project will be researched and accompanied by the Bern University of Applied Sciences BFH AHB.

In **2021**, the first four-story apartment building with a column-and-slab construction made of timber will be built in Frenkendorf BL. With

the system change from concrete to timber, around 600 tons of CO2 could be saved at Fasanenhof.

2022 The TS3 team already numbers over ten people. Sven Bill, the designated managing director and successor to Stefan Zöllig, joins the company. Zöllig has new ideas and will in future devote himself to his passion again: The development of new technologies.



Caption:

- 1: Skyline in New York
- 2: Long-term test stand at the BFH in Biel
- 3: Generation house W52, Zurich
- 4 and 5: Fasanenhof apartment building, Frenkendorf

