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120m Long, 39m Wide And 16m High – A Grown Vision

120 m long and certified by Minergie

A timber engineer in Lucerne's hinterland sets new standards: The new production plant of Renggli AG belongs to the most efficient of its kind in Europe and was officially opened in Schötz LU on March **8**, **2012**. How does an entrepreneur hit upon the idea of expanding his production halls by double the size, buying high-tech machinery on the large scale, restructuring the entire logistics and creating **30** new jobs at the same time?

Coming to the idyllic village of Gleng near Schötz, Switzerland, one can hardly imagine the ultra-modern technology that hides behind the shingled wooden façade of the production halls emerging out of nowhere. Since **1923**, the Renggli family has been leading their woodworking company, always seeking innovation. The current peak of this almost **90** years of company history is the doubling of the production plant with its new high-tech machines. The proud timber engineer has gone through a phase of intensive construction works. Since the spatial planning in **2007**, **50,000** m³ of sand have been filled up on the area measuring approx. **46,000** m², the subsoil has been leveled, the Luthern river that passes by has been re-naturalized and since the ground-breaking ceremony in March **2011**, a new fully equipped factory building measuring **62,237** m³ was erected.


The ECO 3533 B-Sprint, an allround talent

But why a building with the size of a hangar?

Not only does the new Renggli-Werk crown the history of a family business which is successfully being run by the fourth generation. The hall is also testimony to the rethinking currently underway in society, because it was the need for environmentally friendly, energy efficient and sustainable building that created the demand for such a plant. The continuous growth of the timber constructor has often caused capacity bottlenecks in the factory workshop. High time to react. Max Renggli, the CEO, and his entire team believe in the potential of the industrially prefabricated timber buildings. The experienced construction partner knows that he must make use of the opportunities state-of-the-art production facilities nowadays offer. “The level of prefabrication in wooden system buildings will continue to rise and there will be an increasing proportion, in particular of multi-storey large-scale objects, that are going to be realized in wood thanks to optimized and automated production processes. With the new plant, we are able to cope with practically all challenges”, so the CEO, Max Renggli. However, such an investment was only possible due to the demand and the trust of our customers who share our philosophy of sustainable building.”

Architecture as a Statement

The straight architecture of the extension is in perfect harmony with the rural landscape of Schötz and the shingles of the façade present themselves like **100,000** advertising spaces for wood as a building material. Except for the longitudinal steel support elements, timber frame, roof and wall elements are consistently manufactured in the company-own timber works. The façade consists of pre-fabricated wooden frame elements with window hinges at workplace level. A skylight in the well-insulated roof allows the entry of more daylight into the hall, while the sound is reflected by integrated acoustic boards.


Know-how of craftsmanship combined with high-tech

A nice story: **2,400** m² of the façade were shingled by all Renggli employees in a form of "voluntary compulsory labor service" - an impressive gift and sign of the workforce to the popular CEO, Max Renggly, that they completely support the company's philosophy and growth strategy.

Core Values: State-of-the-Art Technology

The new Renggli plant takes into consideration the requirements of demanding partners concerning processes, flexibility and capability. Even the most venturous ideas can be realized by the CNC-cutting units. With the high-tech machines the

trained craftsmen working with Renggli have new and strong allies. This is, for example, the new plate machining centre ECO **3533** B-Sprint from Reichenbacher Hamuel which allows two-sided machining of large plates and has a fully automatic loading system. Or the new center for small parts which enables the simpler cutting of cladding panels, slatted frames and other small parts. Also the constructionally demanding window installation profits: for example from the extremely generously dimensioned element station.

Reference example of a detached house built by Renggli AG

Unique Logistics

By separating cut and assembly of elements the new production process fulfils all desires concerning production depth and quality of parts. In the course of the expansion the hitherto existing production units built in **1995** were entirely rebuilt respectively enlarged and re-integrated into the new logistics system. The new plate machining centre from Reichenbacher Hamuel was installed in hall nave II. In the future the well-coordinated production team will do exclusively cutting and preparing work here. In the new hall the prepared or purchased finished products will be assembled under optimum conditions. This new production process reminds of those in the automotive industry: efficient single steps, simple scaling of capacity, shorter processing times, higher quality.

Table systems

Naturally built according to the Minergie-Standard

The ecologically exemplary expansion underlines the environmentally friendly company philosophy of the Renggli AG which realizes about **130**-**150** building projects acc. to the Minergie, Minergie-A, Minergie-P and Minergie-Eco-Standard. The Renggli factory is based on an energy-efficient building concept and meets the Minergie-Standard. A photovoltaic system on the roof together with the existing hydroelectric power station supplies about **300**,**000** kWh of clean power per year – this corresponds to the consumption of about **85** detached houses. Even the lighting is arranged in an energy-saving way; the utilization of the skylight helps save about **8**,**000** kWh of energy in the production hall per year.

Growth for safe and new jobs

With the expansion of the plant the Renggli AG also creates new jobs - still growing since the foundation in Schötz **90** years ago where there was only a handful of employees. Now **30** new employees have been appointed and thus the workforce rose to **170**. Besides the new jobs in the craft sector the expansion also brings desk jobs. CEO Max Renggli is satisfied: "It is the right time to say it: I am proud to be with the Renggli AG and such a strong team!"

Renggli AG

The Renggli AG is specialized in energy-efficient house building with timber and belongs to the pioneers of the Minergie-Standards. As a partner for the entire construction phase, Renggli realizes sustainable buildings in timber construction – always with the aim of achieving high living comfort at the lowest possible energy expenditure.

Informationen about the Reichenbacher ECO 3533 B-Sprint

- Machine dimensions (floor space) approx **24**,**000** x **14**,**000** mm
- **2** machine tables, divided into **16** vacuum areas, individually controllable, nesting table to be covered with a stainless steel plate for a plane table with double circuit pods
- Working area each table **3**,**500** x **3**,**300** mm, coupled **7**,**000** x **3**,**300** mm

4-axis handling system for panels up to 6 m long

- **5** pneumatically sinkable stops each machine table
- Feed rate: X = **90** m/min; Y = **60** m/min; Z = **40** m/min
- Axis strokes: X**1**/**2** = **8**,**000**mm; Y**1**/**2** = **10**,**100**mm; Z**1** = **900**mm; Z**2** = **550**mm
- **5**-axis working spindle, **24** kW performance, HSK-F**63**, revolutions **500** - **24**.**000**rpm
- SIVIB for monitoring the admissible tool unbalance
- Drilling unit with **40** drills BDE**3** with **8**x **1**.**7** kW performance, drive direction right
- Printing and labeling system at the Z-axis in front of the drilling head
- Automatic chain magazine for **80** tools; the working head respectively the routing spindle is supplied with the pre-selected tool by double-gripper module
- Measuring pin for the vertical measuring of part positions in the X/Y-plane; tracing head to be taken from the tool magazine
- **2**x pick-up tool places for sawing tools up to a diameter of **740**mm
- Chip removal package with **2** pneumatically activated units for pushing off the waste parts for cleaning the table and **2** additional brushes for cleaning the parts
- **2** rotary screw vacuum pumps with **942** m³/h suction capacity each
- Machine with sheet steel enclosure, two pneumatic lift gates in the front side of the enclosure Siemens control type Sinumerik **840**D sl in moveable control panel with **17**" TFT-monitor, including tele-diagnostic, multi-channel technique
- Siemens control type Sinumerik **840**D sl in moveable control panel with **17**" TFT-monitor, including tele-diagnostic, multi-channel technique
- Wireless hand control device, software NC-HOPS V**5**.**0**

www.renggli-haus.ch
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