

Press release

## **Climate- and environment-friendly construction: design, materials, and energy supply**

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**In Bodnegg, two residential buildings are currently being built in timber construction, which are largely prefabricated and produced with regional materials and energy from photovoltaic systems. The construction site is supplied with green energy via the Liduro Power Port mobile energy storage system.**

Bodnegg (Germany), July 2023 – The STERK group, an association of companies from the construction and services sector (Bodnegg, BW), and the drive specialist Liebherr-Electronics and Drives (Biberach, BW/Lindau, BY) are jointly demonstrating that climate and environmentally friendly construction is already possible today with maximum efficiency.

### **Smart design and regional materials**

The individual wooden houses for multi-purpose housing from the house STERK are technically created with glue- and chemical-free solid wood walls (MHM). All walls of the house achieve a high insulation value with their air inclusions and are prefabricated very far. This allows the construction to be implemented highly efficiently overall. Even recesses and grooves for heating, plumbing, electrical outlets and other installations are milled in advance by computer-controlled systems and the walls are thus delivered to the construction site ready for use. The wooden structures can then be erected within a week and the interior work can start immediately. On visiting the construction site, Patrick Söndgen, the mayor of the commissioning municipality, was also enthusiastic: "Production would be even more efficient if several construction projects were planned and ordered together!"

The individual solid wood walls consist of regional wooden boards that are layered crosswise and joined together to form a wall. Aluminum grooved pins are used only for the glue- and chemical-free connection of the various board layers. Likewise, the materials for the roof truss, insulation, facade, and wooden ceilings are sourced locally. The prefabrication facilities of the STERK abbundzentrum are supplied exclusively with electricity from the company's own photovoltaic system. The turnkey construction of the multi-purpose buildings is realized by the sister company STERK baudeSIGN.

## **Green energy for prefabrication and construction site**

The construction site of the multi-purpose buildings is supplied with electricity via Liebherr's battery-based Liduro Power Port (LPO) mobile energy storage system. The LPO generally enables locally emission-free operation and charging of electrified machines and thus supports the reduction of overall emissions in cities or rural regions. In this case, the storage system draws energy from the prefabrication photovoltaic system and delivers it to the construction site as needed. The timber masonry is erected using the Liebherr L1-32 fast-erecting crane. The other construction measures, e.g. interior finishing, are also supplied with energy by the LPO.

In general, it is important for the energy supply that all machines can run efficiently and with optimum performance. Especially on construction sites with limited or no access to the mains supply, this can be ensured in a climate-friendly and locally emission-free manner via an energy storage system. The Liduro Power Port can reinforce a grid connection and thus also serve the power peaks of working machines for which the grid is not designed. By using it as a supplement to the mains connection, it is also possible in principle to significantly reduce the dimensioning of a mains connection. In addition, the LPO can replace a grid connection. In this so-called "isolated grid", the mobile energy storage system is a flexible and highly efficient solution. It supplies power on demand and without surplus, i.e. with an optimal price-performance ratio. Compared to a diesel generator, which has a consistently high consumption of fossil energy regardless of its consumers, the LPO delivers power with a significantly higher efficiency and without idle phases.

## **About STERK abbundzentrum**

The STERK abbundzentrum has been a service provider in timber construction since 2014 and serves carpentries, timber construction companies and the industry with contract joinery, steel construction, wall elements and panel processing. In order to meet the noticeably increasing demand for fully ecological construction, the company was expanded in 2019 and the production line of the solid wood wall (Massiv-Holz-Mauer®) was put into operation.

## **About the STERK group**

The STERK group consists of three limited companies and serves the construction industry and end customers in the areas of timber construction, renovation of old buildings, screed and outdoor facilities. Equipped with two production facilities, high-tech joinery machines, a locksmith's shop, carpentry, professional screed equipment and a company-owned fleet of machines and vehicles, the approximately 25 employees provide the highest level of service in all aspects of construction. Company founder and managing director Klaus Sterk started STERK baudeSIGN in 2001 as a one-man operation and has since then continuously

built up and expanded the STERK gruppe. Since 2014, Franz Zodel has been co-directing the companies' fortunes as the second managing director.

## About Liebherr-Electronics and Drives GmbH

Liebherr-Electronics and Drives GmbH develops and manufactures high-quality components in the fields of electrical drive and control technology and electronics at two locations, Lindau and Biberach. In Lindau, the focus is on durable electronics for industry and aviation. The products are used in numerous machines of the company group worldwide. Numerous external customers also rely on the company's cross-industry expertise. Testing and qualification services for electronics, electronics manufacturing services (EMS) and development services round off the extensive portfolio.

## About the Liebherr Group

The Liebherr Group is a family-run technology company with a highly diversified product portfolio. The company is one of the largest construction equipment manufacturers in the world. It also provides high-quality and user-oriented products and services in a wide range of other areas. The Liebherr Group includes over 140 companies across all continents. In 2022, it employed more than 50,000 staff and achieved combined revenues of over 12.5 billion euros. Liebherr was founded in Kirchdorf an der Iller in Southern Germany in 1949. Since then, the employees have been pursuing the goal of achieving continuous technological innovation, and bringing industry-leading solutions to its customers.

## Images



Liebherr\_Liduro-Power-Port\_Bodnegg-construction-site\_01.jpg

The construction site of the two climate-friendly residential buildings is supplied by the Liduro Power Port mobile energy storage system.



Liebherr\_Liduro-Power-Port\_Bodnegg-construction-site\_02.jpg

Commissioning of the Liduro Power Port on the construction site by Klaus Sterk, Managing Director STERK baudesign



Liebherr\_Liduro-Power-Port\_Bodnegg-construction-site\_03.jpg

The construction site of the two climate-friendly residential buildings in the municipality of Bodnegg



Liebherr\_Liduro-Power-Port\_Bodnegg-construction-site\_04.jpg

Liebherr's fast-erecting crane is powered by the Liduro Power Port (LPO).



Liebherr\_Liduro-Power-Port\_Bodnegg-construction-site\_05.jpg  
The mobile energy storage LPO can be transported and used flexibly.

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