



INNOVATION

Can timber buildings become mainstream?

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Timber is not a common sight in the modern urban environment, which leans towards the sharp lines of glass, the strength of steel and the durability of concrete.

But what started off as a few niche projects in a small number of cities across Europe and North America, is rapidly taking off with a growing number of 'plyscrapers' in the construction phase. These use engineered wood such as spruce, larch or pine which is industrially dried and treated to give it increased strength and fire-resistant properties.

One of the best known mass timber buildings is Brock Commons, a high-rise student accommodation block at the University of British Columbia in Vancouver. Opening to students in 2017, it is the world's tallest building to use cross-laminated timber in its structure, standing 53 meters high over 18 floors. It was also completed four months faster than a comparable steel-concrete project thanks to prefabricated components which were slotted into place on the building site.

Also vying for the title of the world's tallest timber building will be Vienna's HoHo, an 84-meter-high multiuse project that aims to highlight the positive properties of wood when combined with state-of-the-art technologies. It is due to open in 2018.

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In Hamburg, another student accommodation complex called Woodie is made of timber units stacked like containers, inspired by the metal versions that populate the city's harbor. More recently, projects have become increasingly ambitious and focused on the city core. London's Oakwood Tower is planned to rise 300 meters, breaking all altitude records for timber constructions.

A new material for a new era

"If you want to build cost-effective building today, you can't ignore wood as a building material," says Martin Hofmann, Head of Project & Development Services, JLL Germany. "It's a renewable product that's easy to process and efficient to use."

Yet such projects are not made from engineered wood alone; more accurately described as hybrids, the incorporate elements of steel and concrete.

In Stockholm, however, Anders Berensson Architects plans to build the city's tallest building: a fully-timber high-rise, including a wooden stairwell and elevator shaft.

Building with wood come with key design benefits says Konstantin Kortmann, Head of Residential Investment JLL Germany. "As a building material, wood is natural, aesthetically pleasing and creates a comfortable room climate. We're seeing increased demand for it."

Plus, with environmental factors gaining significance in the industry, and a growing recognition of the benefits of natural materials in workspace design, wood is winning out. In the Norwegian city of Bergen, the world's previous tallest timber building, the Tree, used wood from sustainable forests.

Sustainability has become the standard in project developments both for the construction of buildings and how they're used," says Stephan Leimbach, JLL Germany's Head of Office Leasing. "When it comes to productivity, psychological aspects are also important. A wooden workplace answers employee demand for natural elements."

Coming soon to a city near you?

Despite promising signs, timber still has some way to go before it enters the mainstream. "The examples remain isolated cases, and are mainly in countries that already have established timber construction," says Kortmann. "In Germany, for the most part, wood only plays a part in interior design and we still rely on reinforced concrete for load-bearing structures."



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“What hinders larger wooden buildings is not so much the technical aspects as the legal requirements imposed by authorities,” adds Hofmann. Combustibility is a particular concern, he says: “In Germany, a commercial property of 100 percent wood is not yet possible due to such regulations.”

Hofmann emphasizes that fireproofing treatments exist to overcome these challenges. Yet it could still take some years to change habits and norms within the industry.

In the meantime, we can gradually integrate wooden elements. “Thanks to its lightweight qualities, wood is the ideal material to use for flooring in existing buildings, for example,” he concludes. “But it has the potential to be used much more. I see it gradually becoming a more common material for both the structure and design of building.”

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