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Middle East

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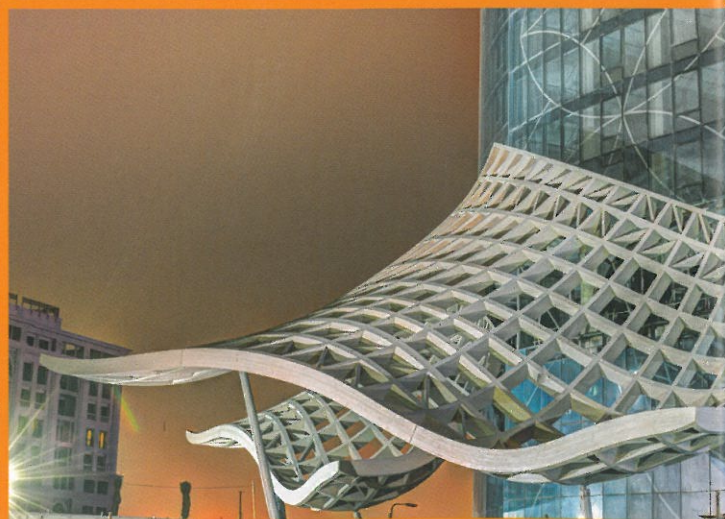
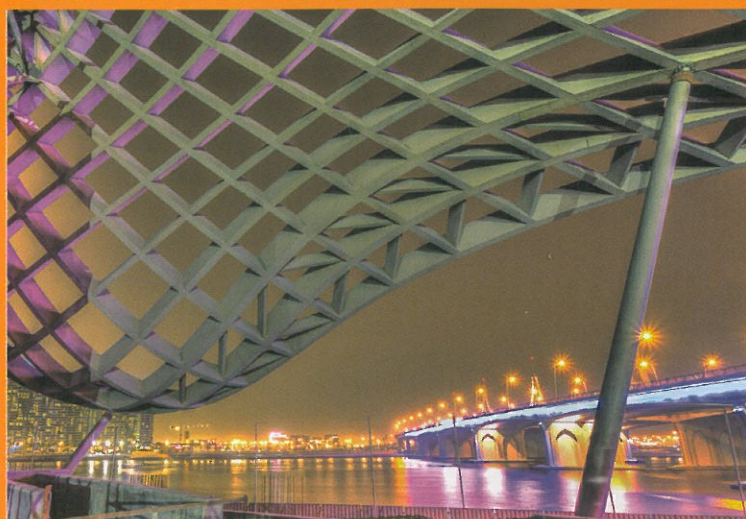
TIMBER LIMITLESS

TIMBER ARCHITECTURE
INDUSTRY CONSTRUCTIONS
GLUED LAMINATED TIMBER

Beautiful Timber Structures – Made in Germany



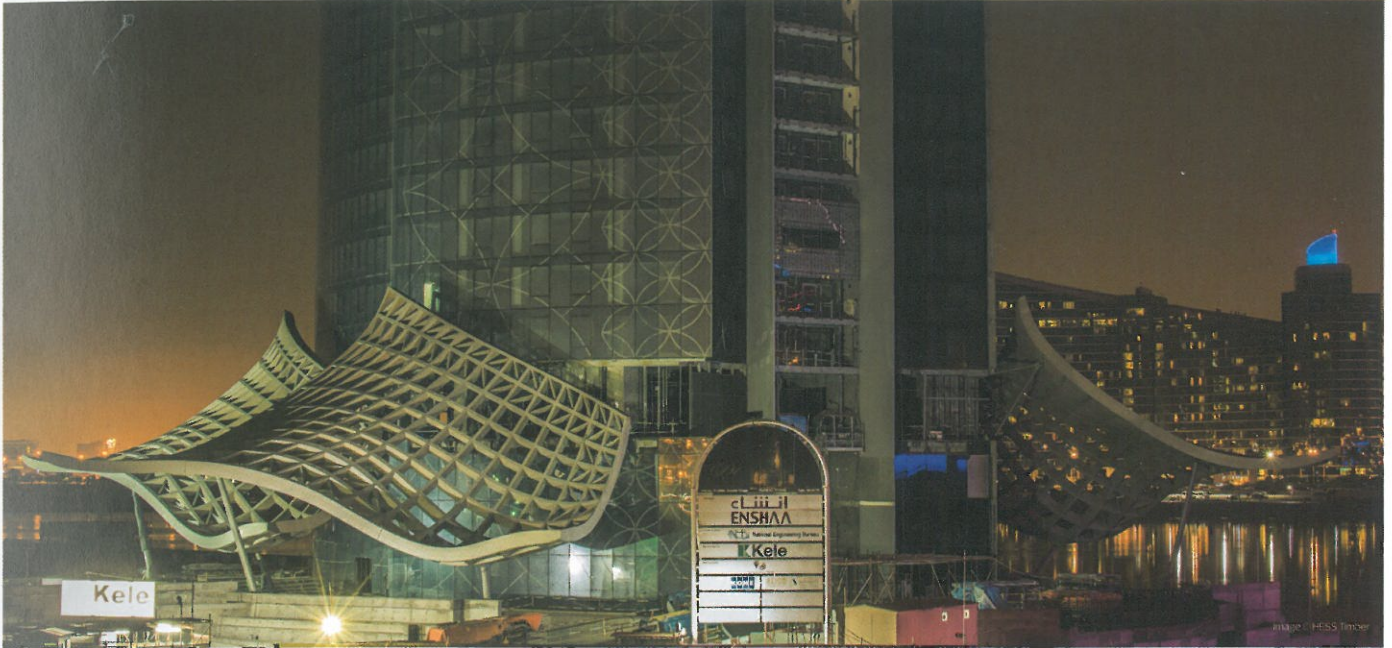
D1 Tower Dubai: Close to the Business Bay Bridge



www.hess-timber.com // Germany

Contact: Rensteph Thompson // rensteph.thompson@hess-timber.com

D1 Tower canopy is the first free-form timber structure in the Middle East

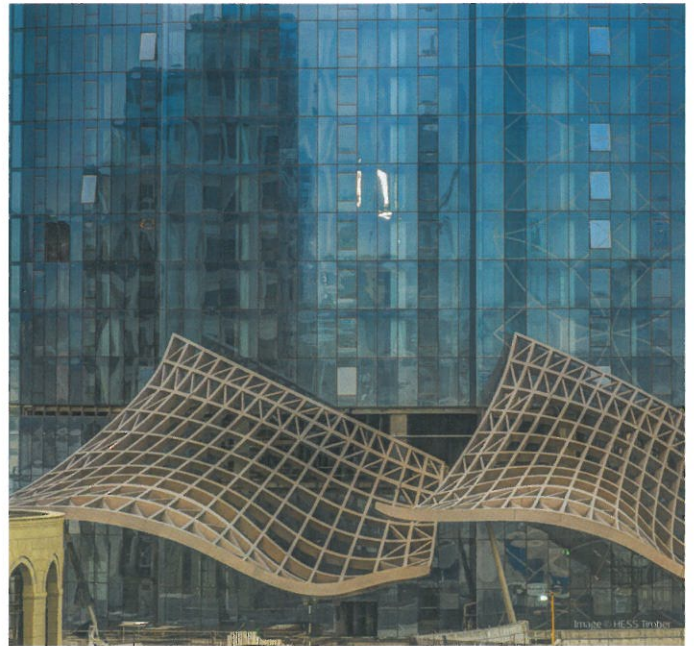


The D1 Tower, an 80 floor, 284 meter tall residential skyscraper in Dubai, United Arab Emirates, is set to feature the first free-form timber structure canopy in the Middle East. Launched by ENSHAA, construction of the highly anticipated luxury residential development is progressing well and the innovative design of D1's podium canopy, one of the buildings most striking and unique features, is now nearing completion. The geometry of the structure has been inspired by the artistry of the craftsmen of Dubai, the traditional form of the region's fishing nets and the Middle East's wooden dhows. Comprised of four timber petals the resultant shaded structure is evocative of traditional Mushrabiya (Arabian screens).

The three-storey tall timber canopy is a particular feature of the D1 Tower and has been manufactured, delivered and installed by the German glulam construction company - HESS TIMBER. The canopy construction consists of 4 single canopies, the so-called 'Petals'. The largest, which is also different to the other three, is still yet to be installed and comprises 370 different single components and a roof area of 600 square meters. The three other canopies are identical having a roof area of 370 square meters each. In total, the canopy area comprises 1,700 square meters with a volume of 350 cubic meters of glulam.

The timber canopy was designed by 'Innovarchi', and was inspired by the craft of Dhow trading boat construction that used to occur on the site. However, the canopy shapes that were originally designed by the architect had to be slightly optimized for economical reasons in order to reduce the number of the narrow curvature radii within the canopy surfaces contained in them. According to HESS TIMBER, resin-free fir wood was chosen for the production of the glue-laminated timber as with other kinds of wood inclusions and/or pitch pockets might come up owing to the high level of solar radiation.

Each canopy is made up of primary and secondary beams, which form the main part of the beam grid system. Given the high strength requirements, it was necessary to produce these by using a special timber lamella. The bracing is realized by the use of further hybrid combinations made from fir and Kerto panels. Due to the high loads, it was also necessary to additionally deploy clad steel beams



in the support axis of the three identical canopies. All canopies are connected to the building's front by diagonally inclined steel struts and are embedded on two fixed steel struts in the front area. The largest canopy is fixed on three steel struts in the front area on account of its exceptional size.

The assembly and erection of the three freely designed canopies was executed from September until December 2012 by a team consisting of six German assemblers, who were supported by local workers on site. In total, a number of 783 wood construction wood construction components and 561 nodal connections had been assembled on a complete scaffold. Furthermore, the diagonally inclined steel struts were supplied from Germany and mounted by HESS TIMBER. Interestingly, the complete amount of wood and steel parts was supplied to Dubai in a total of 29 shipment containers.