

Semiramis V-Train, Zug

2022



The Tech Cluster Zug is home to the Semiramis sculpture, which symbolizes the connection between high-tech and nature. TS3 played a key role in ensuring that the complex wooden shells now appear to float weightlessly at a lofty height.

The Project

For the Tech Cluster Zug, researchers from the group of ETH architecture professors, together with Müller Illien Landscape Architects, TS3, and other partners, built a planted architectural sculpture. The 22.5-meter-tall structure consists of five geometrically complex wooden shells that—slightly offset from one another—are supported by eight slender steel columns.

The Construction Method

Working in perfect synchrony, four suspended robotic arms pick up their assigned wooden panels, perform a highly precise dance, and finally position the panels in the space according to the computer design. Once the machines have placed their four panels side by side, they bond them together at the ends using TS3 casting resin without applying pressure. In this way, between 51 and 88 such wooden panels are joined together to form a wooden shell. The TS3 system is primarily used for the construction of floor slabs, but also enables structures such as Semiramis.

The Challenges

The slender, tall structure is lavishly planted with large shrubs and trees, giving it a substantial dead weight. At the same time, it presents a large surface area exposed to the wind. Thanks to the advantageous rounded shape of the shells, the wind is directed around the structure.



The hanging gardens of Zug



The wooden shells are supported by eight steel columns



The sculpture is lushly planted with trees and bushes

Construction data

Architecture

Matthias Kohler, Professor of Architecture and Digital Fabrication, ETH Zurich; Müller Illien Landscape Architects, Zurich

Client

Urban Assets Zug AG, Zug

Timber engineer

Timbatec Timber Engineering Switzerland AG, Zurich

Timber construction

Erne AG Timber Construction, Laufenburg

CLT Manufacturer

Schilliger Holz AG, Küssnacht