

Historical Oberamteistraße Museum, New Building Reutlingen, 2025

Location
Oberamteistraße 34
72764 Reutlingen

Client
Stadt Reutlingen

Competition
12 2017, 1. Preis

Start of Construction
03 2020 Renovation of old buildings
01 2024 New Building

Service Phases
1-9

Completion
12 2025 New Building
Expected 2029 Old Buildings

ARGE Oberamteistraße
wulf architekten gmbh, Stuttgart
Ingenieurbüro Grau GBR, Bietigheim-Bissingen

Structural Engineering New Building
Parametric Design/Facade Engineering
str.ucture GmbH, Stuttgart

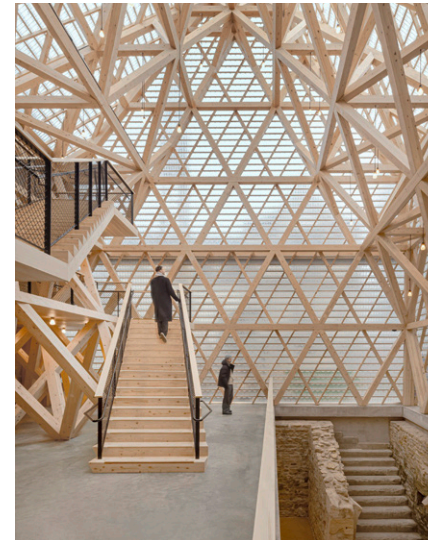
Restoration in line with monument preservation guidelines
strebewerk. Architekten GmbH, Stuttgart



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Images

- 1 View from the street
- 2 View over the rooftops of Reutlingen's historic center
- 3 Interior with wooden load-bearing structure
- 4 Historic cellar with rammed-earth floor
- 5 Location plan

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The historic row of houses at Oberamteistraße 28–32, along with the surviving basement of the “Stone House” at Oberamteistraße 34 that was demolished in 1972, are among the oldest and most interesting buildings in the former free imperial city of Reutlingen. These architectural artifacts date back to the 12th and 13th centuries, when the city of Reutlingen was founded. The ensemble is therefore one of the oldest rows of houses in southern Germany, authentically reflecting the development of building and living culture over the centuries.

The rehabilitation, which follows historic preservation criteria, has also required the construction of a new corner building where the former “Stone House” once stood, which shores up the surviving historic ensemble and protects it from collapse. The old buildings serve as a museum and are themselves exhibits, displaying over 700 years of urban, cultural, and architectural history. The new building’s outward appearance is restrained. The internal structure consists of wooden trusswork that braces the adjoining row of houses and reestablishes the lost form of the historic house. The new building facilitates barrier-free access to the old buildings and provides space for small events. The roof and facades are clad with a homogeneous layer of cast-glass “beaver-tail” tiles. Depending on the conditions of incident light, reflection, and interior lighting, the wooden trusswork behind it is more or less visible, and the building appears diaphanous and iridescent – giving it a mysterious quality, like a chimera. The newly designed outer skin makes the interior seem blurry, like a distant memory. Something that persists in the memories of those who still knew the old house is made visible again for future generations.

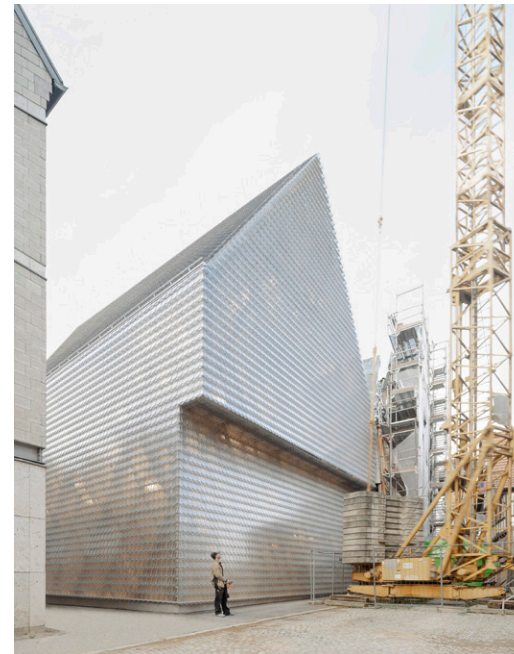
The new building’s geometrically complex, load-bearing wooden structure was developed parametrically. The architectural requirements and constructive logic align precisely. A triple-layer, gradually dissipating substructure of diagonally and horizontally overlapping wooden

members carries the glass beaver-tail tiles as external cladding for weather protection. No thermal insulation or air conditioning is required in the new building, which also serves as a protective enclosure for the historic cellar. The building utilizes only natural ventilation and smoke extraction through open joints across its entire exterior. The building was designed for circularity in accordance with the Cradle to Cradle (C2C) design and sustainability concept. Thus, all connections are screwed together so they can be easily disassembled. Concrete was generally avoided and only used where structurally necessary. The Historical Oberamteistraße Museum project is supported by the federal program “Nationale Projekte des Städtebaus” (National Urban Development Projects), enabling it to preserve and upgrade one of the oldest rows of half-timbered houses in southern Germany.

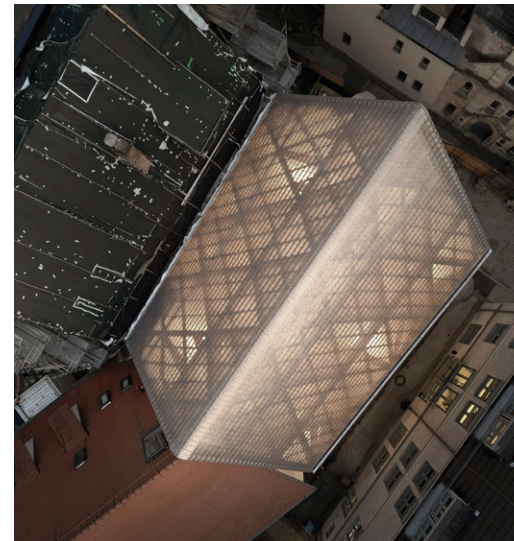
Images

- 6 The newly designed outer skin makes the inside seem indistinct
- 7 The translucent house from above
- 8 Ground floor plan
- 9 Section: The new building takes the place of the demolished “Stone House” and braces the other buildings while providing access
- 10 Model: The new building adopts the silhouette of the former “Stone House” and repairs the gap in the city

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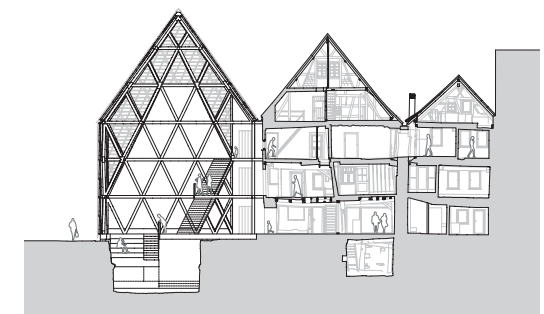
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The glass “beaver-tail” roofing rests on a triple-layer, gradually dissipating substructure that is bolted to the primary supporting structure. All glass tiles are mechanically secured using wooden spacers made of oak. The tiles are coated on the inside with a splinter protection varnish that prevents pieces from falling down if the glass breaks. Each individual glass tile can be replaced independently. To emphasize the abstract form of the new building and not detract from the impression of space, the rain gutter is designed as an internal gutter that connects directly to the crown covering of the roof and facade. The downpipe also runs inside the support structure and has been integrated diagonally into it. The new building does not require a thermal envelope or air conditioning and thus serves as a protective structure for the historic cellar. The building is ventilated and smoke is extracted naturally, exclusively via the open joints in the entire building envelope, without mechanical support. The envelope is designed so that the building gains solar heat in winter, while overheating in summer is prevented by the open joints of the overlapping glass tile layers.

Images

- 11 The building appears translucent and shimmering
- 12 28,851 glass tiles were installed
- 13 Corner detail with facade recess
- 14 Connection to the neighboring building in detail
- 15 Eaves detail with internal gutter
- 16 Functional separation into primary structure, technology, and facade

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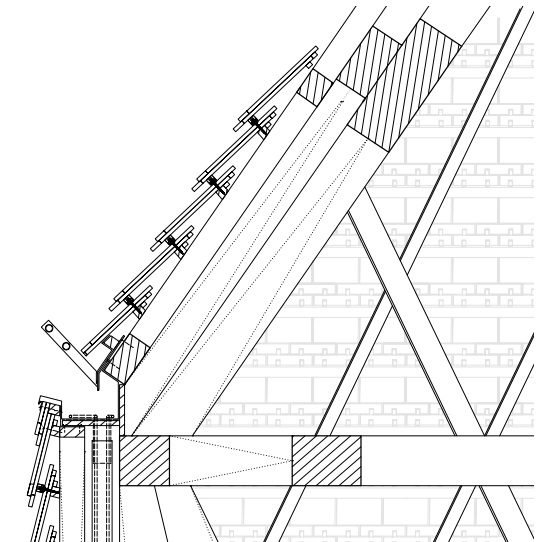
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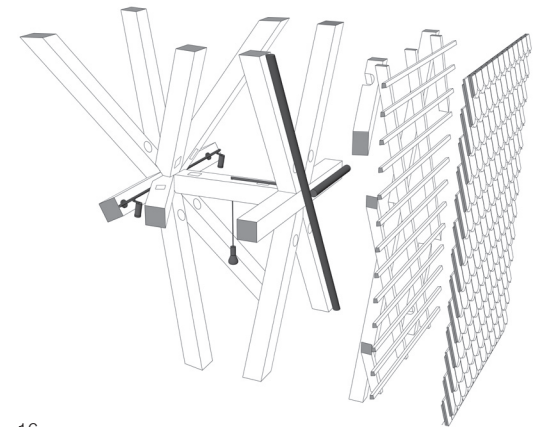
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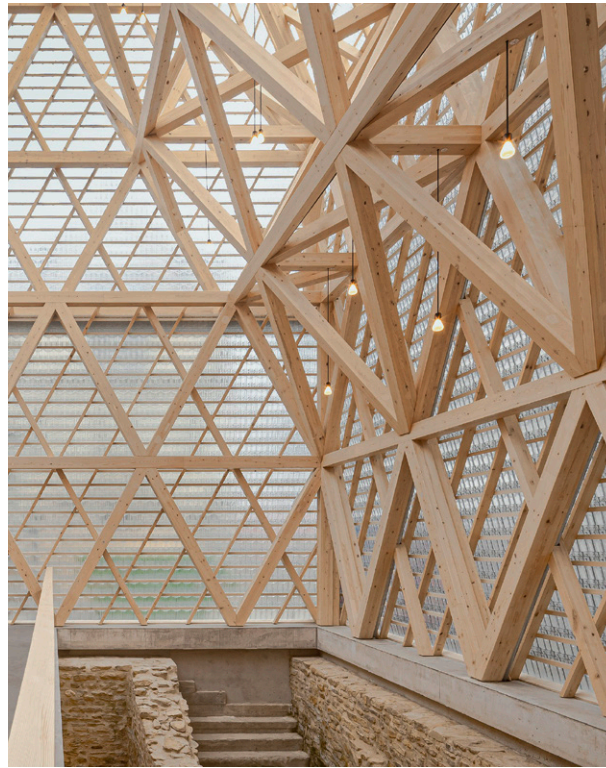


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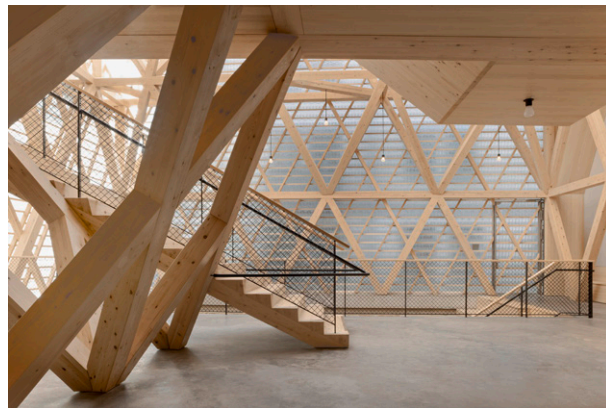


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The low-tech structural concept aims to implement as many wood-to-wood connections as possible. However, traditional carpentry joints are not suitable for spatial trusses and the maximum earthquake forces that occur in Germany. FEM modeling with realistic connection springs reduced the tensile forces in the struts by more than two-thirds. Based on traditional jointing techniques, the detail was developed from concealed stair offsets to the final form-fitting hardwood dowels. The reduction in conventional slotted sheet metal connections reduces interfaces with metal construction work and shifts the added value back to timber construction. To ensure sufficient residual cross-sections in the nodes, the TGA penetrations are relocated to a secondary supporting structure. The double-curved roof surfaces result from the narrow existing boundaries. Parametric programs generate individual strut intersections and force-fit connections in continuous beams arranged by floor. Instead of subtractive carpentry connections, additive, form-fit and force-fit hardwood dowels made of BauBuche are used. Compressive forces are introduced via orthogonal contact surfaces, tensile forces are transferred via connecting elements inclined at approx. 30°, and shear forces are transferred via contact surfaces parallel to the grain direction. The result: a lightweight construction that saves 5.3 tons of steel and 12.8 tons of CO₂eq. (© str.ucture)



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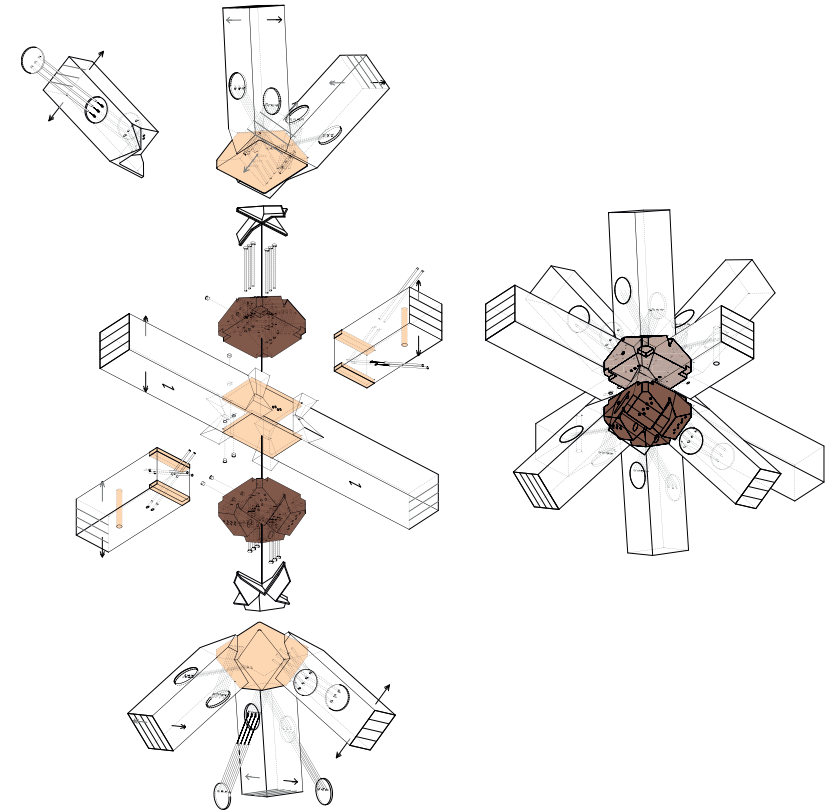
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Images

- 17 The new building protects the historic cellar
- 18 115 cubic meters of silver fir were used in construction
- 19 The wooden supporting structure has 267 nodes
- 20 Isometric node: 247 BauBuche connection lugs were created.
- 21 Support structure and lighting

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