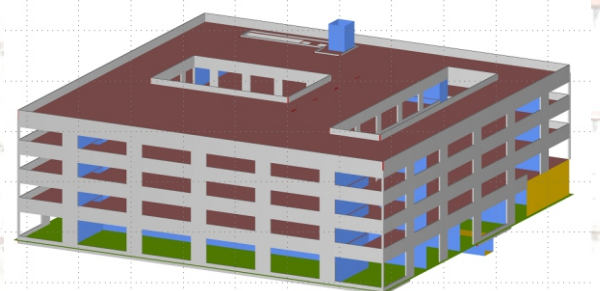
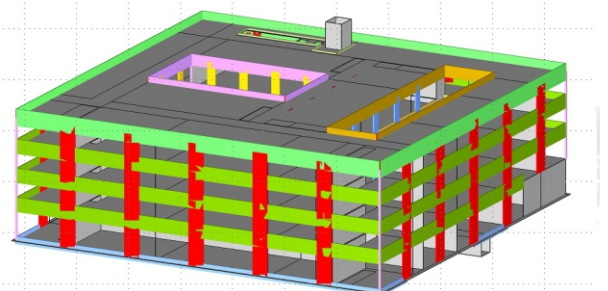
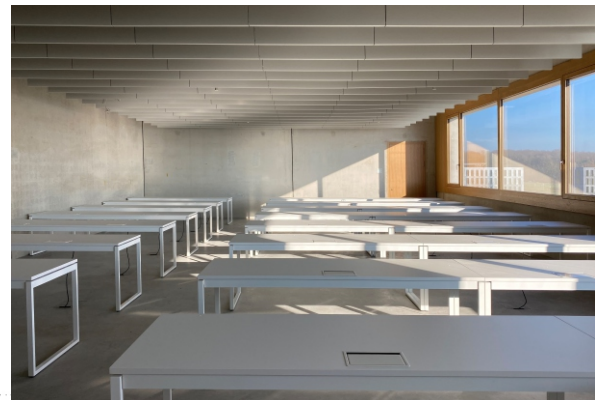


UNIVERSITY BUILDING FOR THE INSTITUTES OF COMMUNICATION, AUTOMATIZATION, DRIVE ENGINEERING AND ENERGY CONSTRUCTION Ulm (Germany)

NEW BUILDING

- Client:** The Baden-Württemberg State Office of Property and Construction, Ulm
- Architects:** The Baden-Württemberg State Office of Property and Construction, Ulm
Architectural services LPH 1-4 according to HOAI
Spreen Architekten Partnerschaft mbB, München
Architectural services LPH 5 according to HOAI
- Our services:** Structural design
Preliminary design
Final design
Approval documentation
Execution drawings
Preparation of contract award
Construction supervision
Structural fire protection
Facade planning
Proof of stability of crane foundation
- Brief description:** University buildings for the Institutes of Communication, Automation Engineering, Drive Engineering and Energy Construction of a new departmental building for the university with seminar rooms laboratories, workshops, library, administration offices and a supply centre
- 4-storey solid construction, built predominantly of reinforced concrete
 - square ground plan with two green inner courtyards
 - base plan 60 m x 60 m
 - construction on hillside, slope from street level to rear over one storey
 - problematic foundations due to an existing large water reservoir flanking the building (buffer tank as a "steel canister") with its base 10 m below the ground level and further, an existing utility duct as concrete pipe, e.g. used for ventilation both of which may not get damaged by the new building
 - shoring of the excavation pit by a back-anchored, overlapping bored pile wall, with a depth of 13 m below Ground level and Berlin shoring
 - poor, "soft" subsoil, therefore the building designed as a "rigid box", i.e. optimization of the load-bearing capacity effect of the floor slab through longitudinal stiff concrete walls
 - load-bearing system formed by slabs and walls as semi-precast elements or concreted on site
 - predominately flat slab construction with wall panels or wall-like beams
 - void formed slabs (Cobiax System) with empty conduits for building services
 - in places slabs subject to additional loads, e.g. in the basement, operational crane runways
 - spacious ground plans with spans often up to 10 m
 - prestigious, self-supporting stairs as a special construction
 - flat roof with photovoltaic system
 - energy-efficient construction using the concrete core as a temperature control, i.e. via pipes containing heat transfer fluid laid within the building slabs for room temperature control via the walls

Completion: 2021



Isometrische Darstellungen / 3D-Modelle der Tragwerksplanung mit farblicher Differenzierung der tragenden Bauteile