

## English Summary

Four fundamental objectives were important in the design process:

- Developing higher timber constructions to the level of high rise buildings. The necessary dispensations of Bavarian building regulations will be met through additional fire protection measures.
- Flexibility of use provides the possibility to create either housing or office units of varying sizes. This is possible throughout the building's life cycle without complicated conversions. The building will be lasting, stable in value and sustainable.
- The research results of the other subprojects are integrated into an exemplary and future-oriented timber construction design with a holistic approach.
- Considering the energy balance from constructing through operation and maintenance to dismantling the building.

In the course of the design process different typologies were analysed. Basic requirements were: access, construction, fire protection, orientation, flexibility, lighting, energy efficiency. The aim was to design a project which was suitable to all the essential conditions.

The chosen building typology which met best the requirements was the so called 'Punkthaus'. It's a seven floor high timber skeleton construction with a central staircase for horizontal bracing of prefabricated reinforced concrete elements. These stairs are surrounded by corridors. The building units can be split very variably. In the case of fire there are two escape routes from every point of the central corridors. The main surfaces contain working spaces or living areas, in the auxiliary spaces archives or storerooms, bathrooms, kitchens and lumber rooms are located, Sanitary objects can be connected to the floor at any spot. With a well insulated surface, a dense building volume, an optimised heat transition the 'Passivhaus' standard can be reached.