Holistic Quality Model for extending the existing building stock

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SUMMARY

Global population growth is leading to an increase in the worldwide demand for living space. Urban areas, which already have a high building density, are particularly in demand. In order to create additional living space or office space in these already densely populated areas, the extension of existing buildings is becoming increasingly important. The development of new building systems that enable resource-efficient and sustainable construction in existing buildings is one of the central research topics of the Cluster of Excellence Integrative Computational Design and Construction for Architecture (IntCDC) at the University of Stuttgart. The building systems developed should meet social, economic, ecological and technical requirements. However, as these requirements influence each other, in addition to developing the building systems, an important part of the project is the development of a holistic quality model that can take into account both the individual quality aspects as well as the interrelations between these quality aspects. A particular focus here is on the integration of the holistic quality model for quality assessment in building renovation. Within the scope of this work, the quality model developed as part of the project and the associated quality assessment will first be examined. The different types of quality assessment in the planning and fabrication process will also be considered in more detail. These will then be adapted to the specific building requirements in existing buildings. The special requirements involved in building in existing building stock will be explained in more detail before integrating the model into the planning and construction process is examined more closely. When integrating the holistic quality model into the planning and fabrication process for building in existing buildings it became apparent that integration of the holistic quality model is possible, but requires some adjustments. In particular, it is evident that different quality aspects are represented to varying degrees at different stages of the planning process. Therefore, it is also important to consider the interrelations between the different stages.
