



Hardware / Software in architecture

Artem Kitaev

Großes Entwerfen ● 253.H57 ● 10 ECTS ●
WS2021 ● applications with portfolio via TISS

Intro meeting Thursday, 07.10.2021 ● 16:00 ●
Site excursion Saturday, 14.10.2021 (tbc)

Weekly meetings Thursdays ● 10:30 - 14:30 ●
hybrid format ● English

Final presentations ● 27.01.2022

We live in a rapidly changing world: economically, climatically, politically, and culturally. With the transition from industrial society to informational society the traditional methods of construction infrastructure are not fast and flexible enough to satisfy ever-changing needs of the users. Sometimes requirements to the buildings change faster than concrete gets hard. It causes constant reconstruction and demolishing of recently built structurally strong buildings. The gap between obsolescence of the building and structural dilapidation gets inevitable. It makes the construction industry one of the most ecologically harmful industries, accountable for almost a half pollution on the planet.

“Hardware/Software in architecture” is an attempt to imagine alternative approach to design and construction of buildings. Admitting inevitability of buildings to undergo unforeseeable changes the concept proposes to develop from the beginning architecture-to-change. The building consists of two main parts: 1) everlasting structure (Hardware) and 2) flexible functional infill (Software). The Software of the building could be easily adjusted to host a new function, while the Hardware would remain untouched, addressing urban, architectural and aesthetical challenges. Exactly like in IT: to update an application there is no need to buy a new computer.

The studio will consist of 2 parts: Hardware and Software. To each of the studio parts there will be dedicated 1 semester: “Hardware” in Winter semester 2021 and “Software” Summer semester 2022. Each semester of the studio is organized as independent complete project, but allows a logical connection of Winter and Summer semesters. The students can take only Winter or only Summer semester or study both semesters in the studio, without repeating the project, type of work and learning outcomes.

The Winter semester 2021 (Hardware):
We will develop a structure which would be sensitively integrated in urban context, flexible, smartly programmed and architecturally appealing. All the mentioned above qualities should help the “Hardware” part of the building to outlive ever-changing urban conditions, prevent unnecessary demolition and wastage of construction materials as well as assure efficient usage of the city space.

The designed structure should be able to host maximum amount and diversity of functions without adjustment of structural elements. The system of circulation should allow to integrate functions of different scale. The MEP system should allow comfortably to accommodate public and private functions, housing, production, services or entertainment. The configuration of the structure should allow smooth functional transformation and coexistence of different function at the same time.