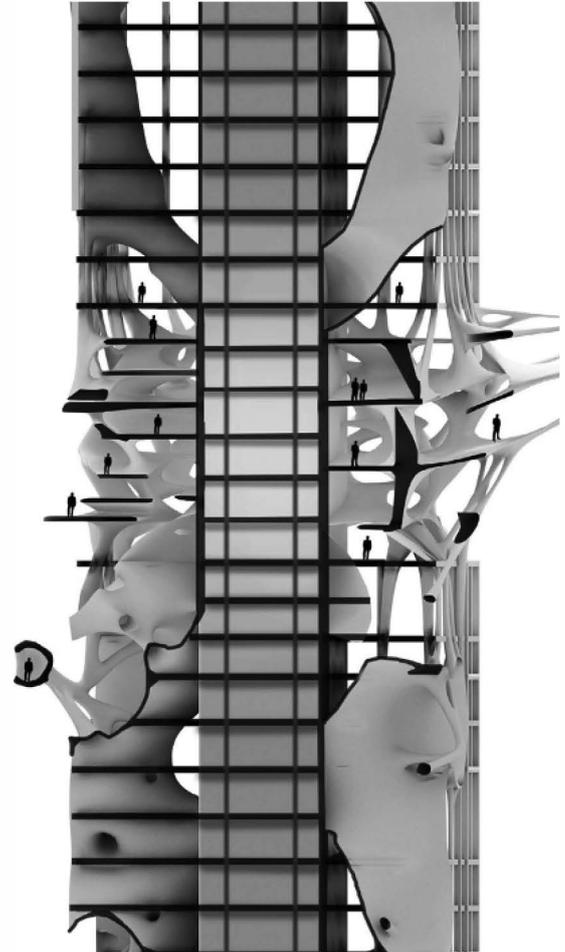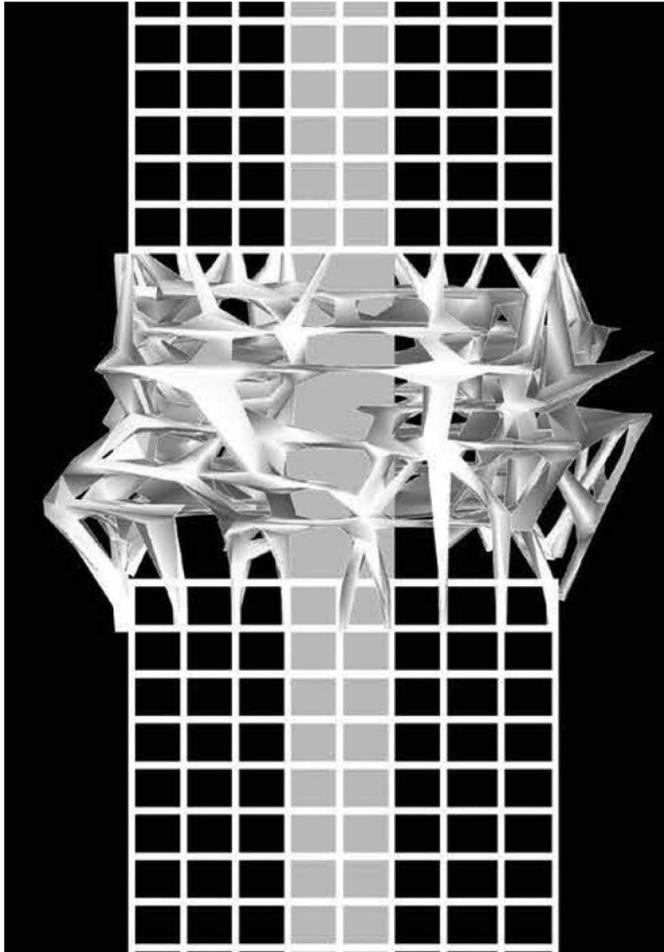# EXTRA-/ TERRESTRIAL ARCHITECTURE

AR4ETA010: TRANSLATIONAL DESIGN

Source: Revitalisation of an empty office building @TU Delft

Tutors
Henriette Bier (A)
Arwin Hidding (A)
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The inter-faculty graduation Extra-/ Terrestrial Architecture: Translational Design (E/TA: TD), explores architecture as an act of translating ideas into spatial forms, data into designs, socio-cultural values into buildings, digital models into physical structures, and robotic processes into built environments. It relies on converting ideas, knowledge, and data from various domains into architectural forms, systems, and construction processes across scales, mediums, and contexts. Furthermore, it fosters collaboration among students and tutors from all TU Delft faculties. It is open to graduating students interested in addressing translational challenges, with Architecture students specifically focusing on developing a multi-functional structure on Earth, Moon, or Mars using AI and Human-Robot Interaction (HRI) supported Design-to-Robotic-Production-Assembly and -Operation (D2RPA&O) methods.,

These methods involve computational design (that is integrating generative form finding with various optimization routines) and robotic construction and operation, while heavily relying on In-situ Resource Utilization (ISRU), circular approaches, and AI-supported technologies. The ultimate goal is to develop an autarkic AI and R/ HRI-supported D2RPA&O system employing ISRU for building multi-functional structures and to transfer developed knowledge from extra- to terrestrial applications and vice-versa.

Additional info is available on 22nd of April, 18h10 in Hall A, at the Faculty of Architecture and the Built Environment!