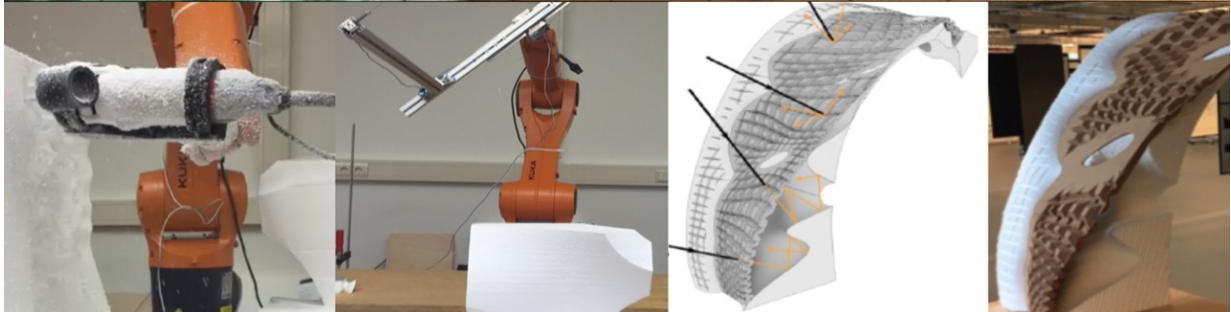


# COMPLEX PROJECTS

## MSc2 Research & Design Studio\_ INTERACTIVE ARCHITECTURE



Source: MSc 2 D2RP&O studio & workshop 2015-18

**Tutor**  
Henriette Bier

**Responsible Instructor**  
Peter Koorstra (Coordinator)

Code	AR2AA015
Credits	15 ECTS
Location	NL
Excursion	-
Costs	-

Project type Practice Related

Approved Yes  
Master 2  
Architecture  
design project

**Collaborating partners**  
Cornell (US) & PoliMi (EU)

Focus of the studio Interactive Architecture (IA) is on the impact of physically built robotic environments and robotically supported building processes on architecture. The studio operates at the scale of architectural inserts situated within the urban context. This semester the inserts are at urban furniture scale and are located in Randstad, which is the megalopolis in the central-western Netherlands.

The studio employs Design-to-Robotic-Production and -Operation (D2RP&O) processes that link computational design to robotic materialization and operation by integrating all functionalities (from aesthetic appeal to functional comfort, structural strength, and interactive behavior) in the design of building components.

The studio is introducing students to the D2RP&O of interactive urban inserts, while revisiting today's societal

challenges such as rapid urban densification, scarcity, migration, pollution, climate change, etc.

The inserts are autarchic or parasitic/symbiotic mixed-mode hubs that merge online and physical world environments and accommodate rapid changes in the urban eco-system. In this context, D2RP&O establishes the framework allowing successful implementation of robotic production and operation at building scale, which is tested by prototyping in the Robotic Building lab. The focus is on D2RP&O processes that incorporate material properties in design, control all aspects of the processes numerically, and utilize parametric design principles, which are linked to the robotic production and operation of building components and buildings.