

CRAFTSMANSHIP IN THE DIGITAL AGE

Architecture and Digital Fabrication in the Human Context

#digitaltools #designprocess #materials&products
#naturalresources

An Enquiry Programme examining the potential of digital technologies to trigger innovative responses in the design and making of architecture

INTRODUCTION AND AIMS

Current technical developments worldwide related to producing basic commodities and items of daily use, lead to new policies for an increased use of prefabrication in architecture, industrial and urban design. Implementing these policies brings numerous consequences regarding production, design and use. Thus, digital tools will increasingly enable industries to produce on a mass scale and yet be versatile, flexible and able to create customised components. The programme examines, how against this background, interdisciplinary design and fabrication processes can hold a key for a new type of digital craftsmanship to trigger innovations for a sustainable, humanistic design.

What can new technological developments in the digital age do for us humans? What possibilities are embedded in these new technologies in regard to a healthy, sustainable environment to live in? Can a new digital craftsmanship even contribute to a just future education? And more specific: Who will be the stakeholders to deliver prefabrication based on new design processes? Will this be accomplished by the traditional industry/ building sector or a new disruptive industry or business model?

PROJECTS SO FAR

LIVING PROTOTYPES. Digital Fabrication Processes and Prototypes for Resource-Conscious Living Spaces with German Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR), Zukunft Bau Innovation Programme, Royal Danish Academy, Copenhagen; University of Stuttgart; Institute for Advanced Architecture of Catalonia, Barcelona
Collaborative Project: 2021–2022

Designed for Humans: From Alvaro Siza's Modernism into the Digital Future with CAMERICH, Beijing
International Symposium in Shanghai: 8 September 2019

Shape of the Future - Urbanism and Architecture in the Age of Industry 4.0

Exhibition Talk: 29 June 2018

Craftsmanship in the Digital Age with the Netherlands Embassy in Berlin, NOWlab, Berlin and Forschungsinitiative Zukunft Bau (BBSR), Bonn

#5 Craft in Code. A Lecture by Richard Sennett

18 December 2017

#4 Alternative Sketch to Site Processes

10–11 November 2017

#3 Resetting Values for Architecture and the Building Industry

15 September 2017

#2 Innovative Building Components

21–22 April 2017

#1 Architecture, Materiality and Technology

3–4 February 2017

DOCUMENTATION

- Publication: ANCB Edition #4 Craftsmanship in the Digital Age. Architecture, Values and Digital Fabrication (2019, in English)
- Video recordings documenting the events

BACKGROUND

In the 21st century, the strong hold on minimal design started to change with the introduction of 3D-digital design and new smart materials. Digital design also gave the architects the chance to team up directly with manufacturers to develop new adaptive systems and test designs through prototyping. In this context, architects have to take on a central role in responding to rapid development processes with visionary approaches that must be formulated and tested on urban elements with a view to creating a robust living environment. In order to keep pace, the areas of intersection between different disciplines need to be continually redefined, coordinated and renegotiated. At the same time, the focus on the human being should not be left out of sight. Instead, new developments in technology should be supportive of a healthy, social and sustainable living environment.

Part of the ANCB Theme

RESPONSIVE CITY: Combining Local Knowledge with Digital Systems

The climate emergency, rapid population fluctuations and the increasing social segregation require a behaviour-changing responsiveness based on awareness and responsibility rather than on convenience. We need to reduce the impact of everyday urban life on resources, from the scale of the individual home to the global network of connectivity.

If the use of space, services and resources are to be modified, value sets need to change. Human behaviour and knowledge need to inform digital tools to achieve an integrated approach.

How can digital tools support the design of new living and working typologies that limit material wastage and are more affordable? What role can prototyping play in digitally fabricating efficient building components? How can traditional materials and knowledge be transformed into the digital age?

PARTICIPANTS

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