Research Interests – Prof. Dr.-Ing. Thomas Bock

Mission Statement of Prof. Dr.-Ing. Bock

Prof. Dr.-Ing. Bock´s mission is to extend the traditional core competences of design and build, broadening the activity area of future graduates, professionals and creating new employment opportunities. Located at TUM within the Bavarian high tech cluster – in which his Chair for Building Realization and Robotics is well connected – his Chair functions as an incubator for the development and socio-technically integrated and building related technologies. In the Master Course Advanced Construction and Building Technology, which Bock coordinated from 2011 to 2015, he achieved to concentrate students coming from eight different professional backgrounds (architecture, industrial engineering, electrical engineering, civil engineering, business science, interior design, informatics, mechanical engineering).

Bock merges within his Chair for Building Realisation and Robotics management competency (construction management, technology management, innovation management) with competency in advanced technologies (production technology, ICT, microsystems technology, mechatronics, automation, robotics, personal assistance technology) and applies it to solve future demographic challenges of our society by considering all phases of building's lifecycle (development, planning, construction, use/performance, de-construction/end-of-life).

Bock defines architecture as a service to society and construction as a production process which assists demographic transformations by advanced building performance. He believes that the delivery of future high-tech environments/buildings to reasonable cost is dependent upon highly efficient production methods. Thus his Chair follows and promotes the philosophy that frontier engineering sciences breed innovations. These innovations are driven and amplified by globalisation, closed loop resource utilisation, transformation of technological potentials, environmental and demographic challenges.

Main fields of Prof. Dr.-Ing. Bock´s research

Architectural Management: Robot Oriented Design, Automation and Robotics in Construction, Mass Customisation, Advanced Logistics, Modularity and Product Structures, Socio-technical Systems Design

Building Performance Design: Human-Ambient-Mechatronics Infrastructure, Socio-technical Systems Design, Ambient Assisted Living (AAL), Mechatronics Assisted Living, Service Science, Ubiquitous/Pervasive Computing in Built Environment, Ageing Society and Demographic Change Design, Ambient Intelligence