



Closed loop life cycling by construction automation and robotics



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Abstract:

Robot oriented design and automated prefabrication of modular systems enable near zero-waste off site manufacturing. In this talk, examples from automated precast concrete, and steel-frame building component production will be shown. Robotic on site assembly, disassembly, and renovation guarantee near zero-waste construction. Examples of robotic maintenance, deconstruction and renovation by our latest 8 cable driven parallel robot will be described.

About the author:

Prof. Thomas A. Bock is the Chair for Building Realization and Robotics at TUM (Technical University of Munich, Germany) . After his architecture studies at the University of Stuttgart and the IIT in Chicago, he was awarded his Doctor's Degree at the University of Tokyo. He was the President of International Association for Automation and Robotics in Construction (IAARC), during 2005-2007 He has won numerous international awards including, Tucker Hasegawa Award from the International Association for Automation and Robotics in Construction (IAARC), 2008, 2 Gold Medals from Russian Academy of Sciences, Section Construction Science (RAACS), Foreign Ministry Award for outstanding advancement of the cooperation between science and industry Japan-Germany (Gaimu Daijin Sho), Award for 20 for years of efforts on improvement of relations between GUS and EU from Russian Academy of Sciences, Section Construction Science (RAACS), 2011, CEN-CENELEC Standards + Innovation Award 2019, and Best Paper Awards at ISARC 2019 and 202. Information about the books he has written on construction robotics can be seen here:

[Cambridge Handbooks in Construction Robotics | Cambridge University Press](#)

His TED talks and other activities can be found here: <http://www.br2.ar.tum.de/>

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