

IntCDC

Constructive Conversations

co-hosted by LEICHTBAU  BW

AR, Automation and Robotics in the Construction Industry

LEICHTBAU  BW

Agenda

17.00 Uhr	Welcome & Introduction Dr. Wolfgang Seeliger, Leichtbau BW GmbH Prof. Dr. Peter Middendorf, IntCDC
17.15 Uhr	Kohlbecker AVAT AR - how algorithms help us to increase the efficiency of our planning and buildings Florian Kohlbecker, Kohlbecker Gesamtplan GmbH
17.30 Uhr	Connecting Installations and Expectations Rafaella Broft, NÜSSLI Group
17.45 Uhr	East End Gateway New York: Realisation of an Anticlastic Cable Net Façade with Monitoring System Mike Junghanns, seele GmbH
18.00 Uhr	Discussion Round

Florian Kohlbecker, Kohlbecker Gesamtplan GmbH

Kohlbecker AVAT AR - how algorithms help us to increase the efficiency of our planning and buildings



Abstract:

In an increasingly fast-moving global and growing world, the demands placed on our buildings are becoming more and more extensive. Faster construction times and more and more building technology and usage variations require new technologies in collaboration, planning, construction methodology and control of buildings. It is also important to be able to predict the effects of a building or urban planning on the climate.

For this purpose, we are developing the AVAT AR platform with the help of modern methods, which will give us designers, but also the constructor on the building site and above all the user the best possible control over his project. Florian Kohlbecker will use practical examples and simulations to show what is currently feasible.

Florian Kohlbecker, Kohlbecker Gesamtplan GmbH

Kohlbecker AVAT AR - how algorithms help us to increase the efficiency of our planning and buildings



About Florian Kohlbecker:

German industrialist and architect, Florian Karl Christoph Kohlbecker is the son of legendary industrial building architect Christoph Kohlbecker. He comes from three generations of leading architects. His grandfather, Karl Kohlbecker, is considered a pioneer in industrial construction, namely for building factories for leading German automotive companies. Florian spent his childhood growing up on building sites and learning about architecture at a very early age. He later studied architecture at BTU Cottbus, Brandenburg.

In 2005, Florian partnered with his older brother Matthias and took over the family business, Kohlbecker Blackforest Architects, from his legendary architect professor father.

Rafaella Broft, NÜSSLI Group

Connecting Installations and Expectations



Abstract:

Since the beginning, World Expo projects have tried to reflect a country's inventions to the world. The different participants try to represent their country through a building and an exhibition – sometimes in synergy, sometimes as two different parallel storylines. Digital elements play an increasing role on both the inside and the outside experience for the visitor. In this short presentation, Rafaella Broft will outline examples of these elements, including their value and their challenges.

Rafaella Broft, NÜSSLI Group

Connecting Installations and Expectations



About Rafaella Broft:

Rafaella started her career as the Project Engineer to the Pavilion of the Netherlands at the World Expo 2010 in Shanghai. After the project had finished, she joined University College London for an MSc in Construction Economics & Management and developed an interest in Supply Chain Management (SCM), partly due to her part-time job as a Procurement Manager at the London 2012 Olympic Site.

The last three years Rafaella has been engaged as an Operations Manager for the design and execution of twelve projects at the World Expo 2020 Dubai. With more than ten years of challenging work experience in the United Kingdom, China, the United Arab Emirates, and the Netherlands, she has endured different views to construction – what started with a passion for the creation of (temporary) structures and buildings, slowly developed into an interest in the creation of successful project-exceeding teams.

Mike Junghanns, seele GmbH

East End Gateway New York: Realisation of an Anticlastic Cable Net Façade with Monitoring System



Abstract:

Approximately 650.000 people use the junction at the famous Madison Square Garden every day and thus make Penn Station one of the most important train stations in New York. seele realized the complex cable façade of the new main entrance according to plans by AECOM/SOM.

An A-shaped steel frame combined with a cable façade and double-curved glass laminates creates a 277sqm and 12m high canopy. To realize an inclination of 45 degrees and achieve the required geometry and pre-tension in the cable net, the steel structure for the anticlastic cable façade was manufactured with a pre-camber. The installation as well as the successive monitoring of the cable structure demanded a continuous cable force measurement. In close cooperation with the research project DigitalTWIN seele realized a cloud-based continuous monitoring system taking into account the cable forces as well as the environmental boundary conditions on site.

Mike Junghanns, seele GmbH

East End Gateway New York: Realisation of an Anticlastic Cable Net Façade with Monitoring System



About Mike Junghanns:

Mike Junghanns holds a degree in civil engineering. He has been responsible for testing at seele GmbH in Gersthofen for ten years. Starting off with site management in the USA and UK the fields of experience extended to façade performance testing, glass- and structural testing, the development of pre-tensioning and monitoring concepts for cable net structures as well as building physics simulation and testing. A selection of projects Mike has contributed to include the Apple Park in Cupertino/USA, Chadstone Shopping Centre in Melbourne/Australia, European Central Bank in Frankfurt/Germany as well as the Albert Einstein Learning and Research Center in São Paulo/Brazil.