

New technology for demanding concrete structures: PERI and Sika participate in ETH spin-off MESH AG

Weissenhorn/Zurich, 21.07.2022. PERI SE and Sika AG are taking a stake in the Swiss startup Mesh AG. Mesh AG has developed the world's first robot-assisted technology for the efficient and cost-effective production of complex reinforced concrete structures without formwork.

The so-called MESH Technology makes it possible to produce complex or curved reinforcement cages, previously manufactured by laborious manual work, through an automated prefabrication process. The 3D steel-mesh structure created this way serves as both formwork and reinforcement and is filled by a specific concrete mix without using conventional formwork. On the one hand, the MESH Technology can be used for customized concrete structures, for the production of complex forms for the building industry, and on the other hand, conventional concrete structures can also be structurally optimized and realized in a material-efficient manner.

The new construction technology was developed in ten years of intensive research at ETH Zurich. In 2018, the technological breakthrough came with the robot-assisted production of a curved concrete wall at Zurich's DFAB HOUSE. The technology has been transferred to an industrial construction process in partnership with PERI and Sika since 2019. This was followed by the founding of MESH AG, an ETH spin-off based in Zurich.

"We are pleased about the successful cooperation with such renowned partners as Sika AG and ETH Zurich," said Thomas Imbacher, Managing Director of PERI SE, responsible for Innovation & Marketing. "Mesh technology is still a young technology that we have been driving forward together in recent years. We believe in the potential in various fields of concrete construction and are looking forward to developing this construction method together in the long term. We are

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very excited to work out the different applications together with our customers and partners."

Philippe Jost, Head Construction Sika: "Increasing digitalization and automation is getting more important in the construction industry. Innovative technologies enable productivity increases in construction and open up new, individual design possibilities for architects. Through our collaboration with Mesh AG and PERI, a new type of construction process is being established on the market that enables the production of complex geometries and is more cost-effective than conventional methods. This will benefit our customers and the entire construction industry."

Ammar Mirjan, CEO Mesh AG: "We are pleased and proud to be able to jointly establish MESH construction technology in the construction industry with the companies PERI and Sika. The commitment and investment show the great potential of our technology for more freedom of form, sustainability and efficiency in construction. Our different areas of expertise ideally complement each other, and we look forward to the opportunities that partnership will enable."

About PERI:

With sales of €1,614 million in 2021, PERI is one of the largest manufacturers and suppliers of formwork and scaffolding systems internationally. Headquartered in Weissenhorn, Germany, the family-owned company serves its customers with innovative system equipment and comprehensive services related to formwork and scaffolding technology with approximately 9,100 employees, more than 60 subsidiaries and well over 160 warehouse locations.

About Sika:

Sika is a speciality chemicals company, a leader in developing and producing systems and products for bonding, sealing, damping, reinforcing and protecting for the construction and automotive industries. Sika has a global presence with subsidiaries in 101 countries and over 300 factories. Sika employs more than 27,000 people and posted sales of CHF 9.3 billion in fiscal 2021.

About MESH:

MESH AG develops robotic fabrication processes and produces products for greater efficiency, sustainability and design freedom for the construction industry. MESH AG is a spin-off company of ETH Zurich and was founded in 2022. www.mesh.ch

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Photo 1

Robotic automated production of reinforcement cages in Zurich.

(Photo: MESH AG)



Photo 2

Filling the reinforcement cages with a Sika unique concrete formulation.

(Photo: PERI SE)



Photo 1

Demonstrator object near PERI Headquarter in Weissenhorn, Germany. Shows the finished highly complex reinforced concrete structure produced with reinforcement cages without formwork.

(Photo: MESH AG)

Video

<https://www.youtube.com/watch?v=WTqUdAL7xL0>

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