

## Specialist Press Release

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### **“Schrobenhausener Tage” symposium 2021: Urbanization, digitalization and climate change – current challenges in specialist foundation engineering**

**Schrobenhausen, Germany** – In the middle of April, the German and international “Schrobenhausener Tage” symposium took place in an exciting and varied webinar format. The events, with several hundred participants, were a complete success. With the motto “Specialist foundation engineering: DIGITAL – INNOVATIVE – SUSTAINABLE,” the German webinar was moderated by Hans-Joachim Bliss in compliance with COVID-19 requirements. In addition to Arnulf Christa and Frank Haehnig, Members of the Management Board of BAUER Spezialtiefbau GmbH, Michael Stomberg, CEO of BAUER AG, was also available to answer questions from participants.

In his introductory presentation “Sustainability and Innovation in the BAUER Group,” Michael Stomberg addressed the three major future topics in specialist foundation engineering: Urbanization, digitalization and climate change. He showed how Bauer is already experiencing and managing them. “Bauer has been continuously developing over recent years and as a result is one of the most experienced specialist foundation engineering providers when it comes to sustainability,” said Michael Stomberg. In addition to the goal of minimizing the carbon footprint as much as possible, the Group is also focused on noise reduction. This is achieved, for example, with the electrically powered duty-cycle crane BAUER MC 96 and a new, innovative underwater drilling technique that plays an important role in the construction of offshore wind farms. Michael Stomberg illustrated how important digitalization has become for specialist foundation engineering using the example of the Herbert Hoover Dike dam remediation in Florida – a project that was 100% digitally supervised.

As the first guest speaker at the German “Schrobenhausener Tage” symposium Wolfgang Roeck, Managing Director and shareholder of WÖHR + BAUER GmbH, reported about the two innovative real estate developments “TOM & HILDE.” In the heart of Munich, TOM is a new parking garage underneath the ring road around the city’s historic center, which creates space for the HILDE complex that also includes an expansion of the Mandarin Oriental Hotel. This project development includes retail, offices, restaurants and residential apartments. “Think mobility differently” was the motto of the overall design for TOM. The parking garage, with space for 520 cars over three levels, was designed as a mobility hotspot. The challenge: To preserve the historic face of Munich but make space in it for new services and forms of mobility, while at the same time reorganizing the urban space above ground to revitalize urban life with a bike circuit and more attractive quality of life.

The topic of Dr. Klaus Engels, Hydropower Director at Uniper Kraftwerke GmbH and Managing Director of Rhein-Main-Donau GmbH, was dam remediation as a sustainable

contribution to the energy revolution. “For us, the most important topics are always flood protection and sustainable power generation,” he emphasized at the start of his presentation. This is the case with the Rosshaupten dam that has dammed Forggensee since 1954 to even out and improve water supply in the Lech River over the course of the year as well as protecting local residents from flooding, for example in the springtime thaw period. Inspections at the end of 2017 showed an urgent need for action: Damaged sections below the dam foundations indicated permeability, which is why a solution and implementation partner needed to be found within a very short period of time. A technical concept was developed in cooperation with Bauer Spezialtiefbau, authorities and local residents were involved and the dam remediation was successfully completed in summer 2019.

The topic of sustainability in the construction of urban quarters was covered by Thomas Bergander, Managing Director and shareholder of Taurecon Real Estate Consulting GmbH, which is currently the project developer for “Quartier Heidestrasse.” This neighborhood is currently being constructed in a central area of Berlin. It includes space for residential and office buildings as well as retail, gastronomy, public space and green areas. The new development is planned to cover an area of around 8.5 ha and is part of the Europacity urban development project. BAUER Spezialtiefbau GmbH was commissioned by Quartier Heidestraße GmbH with various specialist foundation engineering works for the “QH Track” subproject, the longest excavation pit in Berlin. The key words of the project are digitalization, mobility and sustainability. “Use of the Mixed-in-Place ground improvement method, which was developed by Bauer Spezialtiefbau, and the BAUER LWS silicate gel base, saved 18,000 t CO<sub>2</sub>. This allowed us to meet the requirements of an environmentally-friendly construction method,” said Thomas Bergander. Completion is planned in 2023.

In keeping with the motto of the international “Schrobenhausener Tage” event – “Bauer Expanding The Boundaries” – was the presentation by Dr. Karsten Beckhaus, Head of the Structural Engineering Department at BAUER Spezialtiefbau GmbH, about the metro in Cairo. With around 3.5 million passengers every day, it plays an important part in the infrastructure of the Egyptian capital. In 2008, construction works started on line 3, which are divided into various phases. Work on phase 3 began in September 2017 and include construction of six underground stations, with the new line also crossing underneath the Nile. Bauer Egypt constructed around 250,000 m<sup>2</sup> of diaphragm wall up to a depth of 83 m and around 180,000 m<sup>3</sup> of underground sealing.

Knut Pielsticker, Head of Business Development at BAUER Spezialtiefbau GmbH, reported on the world’s deepest diaphragm wall in Jordan. The Dead Sea is rich in potash, which is used for the production of carnallite. Saline water is fed into earth basins for this purpose and the valuable potash is extracted using evaporation. Over the years, the dikes of these earth basins have become porous and needed to be rehabilitated. In addition to the subsoil of clay and salt, other challenges were international logistics as well as the local infrastructure. The piles for the sheet pile wall came from Luxembourg, the concrete for the slurry from Spain and the concrete for the plastic concrete from India. High temperatures of 50 °C made additional measures, such as special cooling silos, necessary. Excellent cooperation with the customer APC helped to solve all problems.

Two of the largest mines in the world – the Red Dog mine in Alaska and the Lihir gold mine in Papua New Guinea – serve as examples to illustrate the sometimes challenging environment that specialist foundation engineering operates in. Gebhard Dausch, Managing Director of BAUER Spezialtiefbau GmbH, highlighted the contrast of working in remote locations shaped by ice and fire. Fears of climate change causing thawing of the permafrost in Alaska made

ground improvement measures necessary at the Red Dog mine. In addition to the temperature range, from -35 to +15 °C, another challenge is logistics as the mine is located approximately 1,000 km north of Anchorage, the capital of Alaska. In contrast, it's not so much the cold as the heat that poses challenges at the Lihir project in Papua New Guinea. "Although the conditions were very tough, our iron discipline meant that we were able to successfully meet the challenges on site. The team worked together well," reported Gebhard Dausch. Construction of a diaphragm wall took place in geothermally active ground – with temperatures of up to 150 °C. But it wasn't only the subsoil that was hot – air temperatures also reached 35 °C.

The series of presentations at the German and international "Schrobenhausener Tage" events was rounded off with the presentation "Innovation at Bauer – pushing the boundaries" by Florian Bauer, Member of the Management Board of BAUER AG and Managing Director of BAUER Spezialtiefbau GmbH. He highlighted major challenges facing specialist foundation engineering, including climate change, urbanization and the energy revolution. As part of an exploration project in Saskatchewan, Canada in 2018, a world depth record of 251.4 m was set with a Bauer cutter. "We are naturally proud of the record, as it shows that we keep pushing the boundaries. But we need more than records to meet the trends in specialist foundation engineering. That's why we are constantly developing – and doing so very successfully," said Florian Bauer.

At the end of the German and international "Schrobenhausener Tage" symposium, Hans-Joachim Bliss thanked all the participants and expressed his hope that, despite the success of this year's webinar format, next year's "Schrobenhausener Tage" would once again be able to be held in person with guests on location.

Missed the event? Watch the video at <https://youtu.be/J1asZflKznU>

**Images: 2021-05\_BAUER\_Schrobenhausener Tage ...**



(1) Expert panel at the German "Schrobenhausener Tage" forum (from left): Wolfgang Roeck, Dr. Klaus Engels, Arnulf Christa, Hans-Joachim Bliss, Michael Stomberg, Thomas Bergander, Florian Bauer and organizer Rainer Burg.



(2) Dr. Karsten Beckhaus, Frank Haehnig, Knut Pielsticker, Arnulf Christa, Hans-Joachim Bliss, Rainer Burg, Gebhard Dausch and Florian Bauer (from left) at the international “Schrobenhausener Tage” symposium.

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### **About BAUER Spezialtiefbau Group**

BAUER Spezialtiefbau GmbH, the original parent company of the BAUER Group, has been a major driving force in the development of specialist foundation engineering. It carries out all of the customary processes of foundation engineering, primarily for excavation pits, foundations, cut-off walls and ground improvements on a worldwide basis. In doing so, BAUER Spezialtiefbau GmbH works closely together with their over 50 subsidiaries and branches across the globe. Regional networks around the world allow for the quick and flexible application of machines, teams and expertise. Bauer Spezialtiefbau offers their customers individual, creative and economical specialist foundation engineering solutions for demanding construction projects, from planning through to execution. More at [bst.bauer.de](http://bst.bauer.de)

### **About Bauer**

The BAUER Group is a leading provider of services, equipment and products dealing with ground and groundwater. With over 110 subsidiaries, Bauer can rely on a worldwide network on all continents. The Group’s operations are divided into three forward-looking segments with high synergy potential: Construction, Equipment and Resources. Bauer profits enormously from the collaboration of its three business segments, enabling the Group to position itself as an innovative, highly specialized provider of products and services for demanding projects in specialist foundation engineering and related markets. Bauer therefore offers suitable solutions to the world’s greatest challenges, such as urbanization, the growing infrastructure needs, the environment, as well as water, oil and gas. The BAUER Group was founded in 1790 and is based in Schrobenhausen, Bavaria. In 2020, it employed about 11,000 people in around 70 countries and achieved total Group revenues of EUR 1.5 billion. BAUER Aktiengesellschaft is listed in the Prime Standard of the German Stock Exchange. More information can be found at [www.bauer.de](http://www.bauer.de). Follow us on [Facebook](#), [LinkedIn](#) and [YouTube](#)!