

Press Release

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Contact:
Martina Krammer
BAUER Aktiengesellschaft
BAUER-Strasse 1
86529 Schrobenhausen, Germany
Phone +49 8252 97-3616
public.relations@bauer.de
www.bauer.de

Record: Bauer India constructs the deepest diaphragm wall element during a subway project in Patna

Patna, India – There are roughly 1.43 billion people living in India, and this number is rising. This makes India the most populous country on earth. To accommodate the continually growing population and the increased traffic load associated with this growth, especially in major urban areas, greater focus is being paid to infrastructure expansion. This is also true in Patna, the capital of the state of Bihar in northeastern India. The goal of the Patna Metro subway project is to provide the inhabitants of this metropolis with a reliable, efficient and sustainable public transportation system that shortens travel times, improves the traffic situation and reduces road congestion. In short: a project that will contribute to the general development and modernization of the public transportation network in Patna. Apart from subway lines and stations, the construction project also includes elevated railway routes along with train depots and the associated infrastructure.

Foundations for subway stations

BAUER Engineering India Private Limited was awarded the contract for diaphragm wall work at a total of four stations as well as for a retrieval shaft. “We are excited to contribute to this groundbreaking project,” says Yogeshwaran Purushothaman, Project Manager at Bauer India. “Our diaphragm wall elements act as solid and permanent foundations on which the new subway stations will be constructed.” The work started in November 2022 and is expected to be completed by March 2024. Over this period, a total of 636 diaphragm wall/barrette elements will be constructed for all four subway stations. As impermeable / structural retaining structure, they provide stability and structural support. Among other equipment, a BAUER GB 34 hydraulic grab, a BAUER GB 50 and a DHG grab on a BAUER MC 96 duty-cycle crane are being used.

75 m deep barrette foundation element

In June, Bauer India was able to set an extraordinary record during this project: The deepest barrette foundation element ever constructed at Patna Metro which was installed at a depth of 75 m using a hydraulic grab. “This is a milestone in the history of Bauer India,” remarks the project manager enthusiastically, since this depth is extremely unusual for excavation with a hydraulic grab. The remaining diaphragm wall elements will be installed up to a depth of 55 m. The Bauer India team has been confronted with a range of challenges in the process: For instance, the very different geological soil profiles across the four sites and retaining verticality during work require the utmost attention. What’s more, all work has to be executed under very limited spatial conditions within the city. “This project is an absolute highlight for the entire team,” explains Yogeshwaran Purushothaman. “We are unbelievably proud and motivated to master all the challenges involved.”

Photos: [press-photo-metro-patna-india-bauer-spezialtiefbau...](#)



(1) Bauer India carries out diaphragm wall work for four subway stations in the metropolis of Patna, India.



(2) The dimensions of the reinforcement cages are extremely imposing – the deepest diaphragm wall element reached a record depth of 75 m.

All photos: © BAUER Group

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

About Bauer

The BAUER Group is a leading provider of services, equipment and products dealing with ground and groundwater. The Group can rely on a worldwide network on all continents. The Group's operations are divided into three forward-looking segments with high synergy potential: Geotechnical Solutions, 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. The BAUER Group was founded in 1790 and is based in Schrobenhausen, Bavaria. In 2022, it employed about 12,000 people and achieved total Group revenues of EUR 1.7 billion worldwide. More information can be found at www.bauer.de. Follow us on [Facebook](#), [LinkedIn](#) and [YouTube](#)!