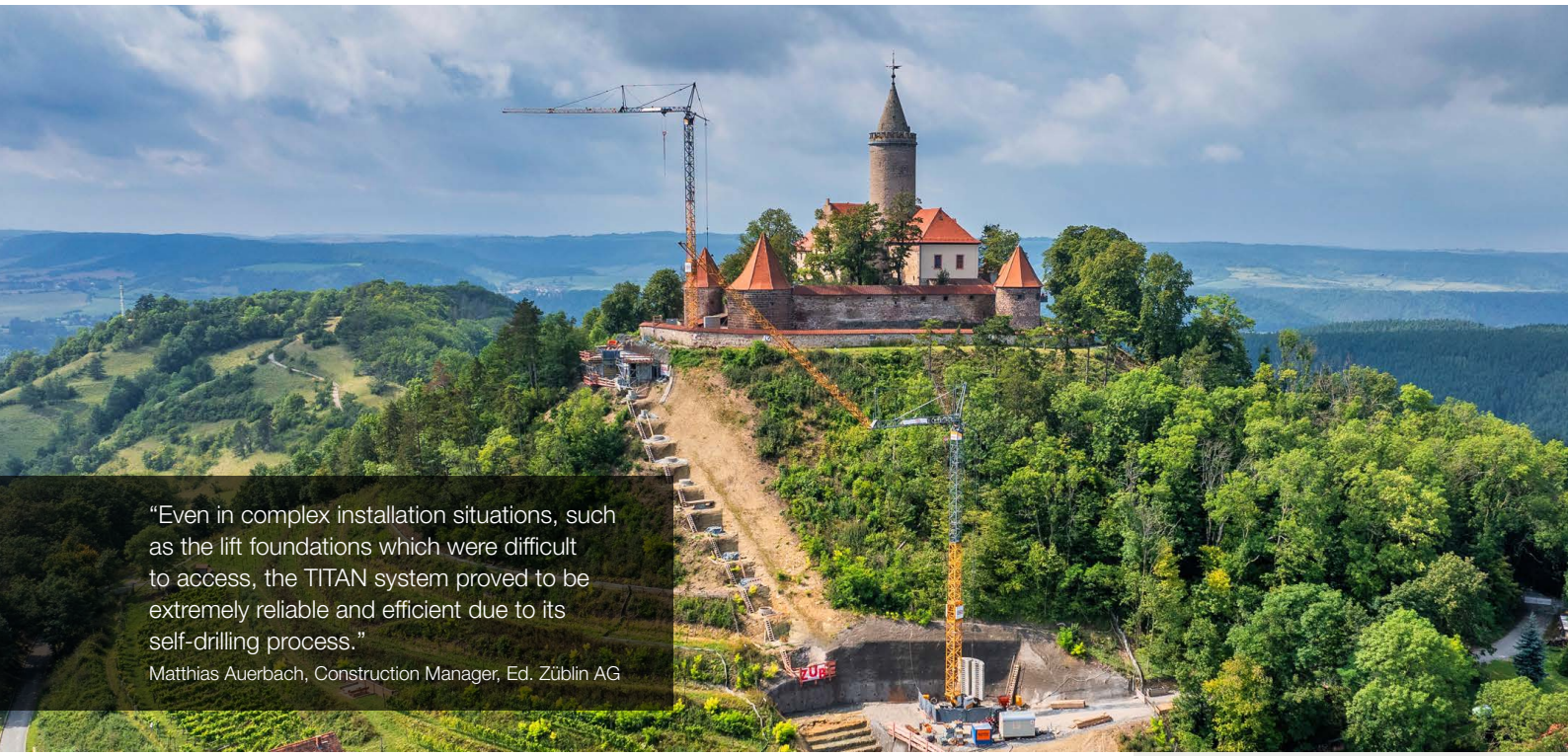
JOB REPORT

Comfort Meets Innovation: The Inclined Lift to Leuchtenburg Castle

Deep foundation, inclined tension and excavation support with TITAN micropiles



Leuchtenburg Castle, a medieval hilltop fortress known as the "Queen of the Saale Valley", rises above the Thuringian municipality of Seitenroda. Today, it houses a museum and the "Leuchtenburg World of Porcelain", among other attractions.Its exposed location may be scenic, but the steep climb is a challenge for many visitors. In order to facilitate access to the castle for everyone, Ed. Züblin AG is currently constructing a modern inclined lift. This will overcome a 61 metre difference in altitude over a length of 140 metres – a technically sophisticated installation with both underground and surface-level sections.

The challenge

The construction of the inclined lift entails considerable challenges. The route runs up steep, partly underground terrain and through a sensitive slope with existing vineyards. In addition, limited space and the location in the area of a protected monument make the work considerably more difficult. In particular, the protection of the historical surroundings and the need for minimally invasive interventions place high demands on the design of the foundation and safety systems. The geological conditions call for precise technical solutions.

The solution

For the demanding construction task, Ed. Züblin AG is relying on high-quality specialised solutions supplied by Friedr. Ischebeck GmbH. The well-proven TITAN micropile system has been used, both for the deep foundations of the summit station and for the inclined tension support of the lift route and the tunnel in the shell limestone. This system enables a precise, space-saving construction method which is compatible with a listed monument and causes minimal disruption to the historical site. These measures are supplemented by a concrete protection of the excavations in combination with TITAN 30/11 soil nails. The experienced team from quellerbau GmbH of Niederkrossen carried out the specialised excavation work. In total, around 1,105.50 metres of micropiles (foundations and inclined tension piles) were installed as well as 3,716 metres with soil nails. With the inclined lift to Leuchtenburg Castle, a forward-looking example of modern infrastructure is being created in harmony with nature and culture.

Project:
Construction of the inclined lift to Leuchtenburg Castle, Seitenroda, Germany

Construction period:
10/2023 – 08/2024 (excavation)
Total completion by March 2026

Client:
- Leuchtenburg Foundation (sponsor: Free State of Thuringia)
- Ed. Züblin AG

Building contractor:
quellerbau GmbH, Niederkrossen

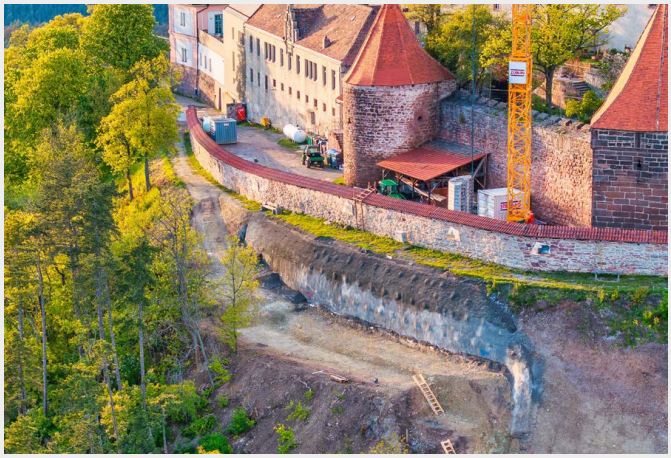
Engineering consultants:
- André Richter, Leipzig
- Bau-Consult Hermsdorf

Products used:
Foundations/inclined tension piles:
- 49 x TITAN 40/16 micropile
- 15 x TITAN 52/26 micropile
- 6 x TITAN 73/53 micropile
- 30 x TITAN 73/45 micropile
- 2 x TITAN 73/35 micropile

Soil nailing:
- 466 x TITAN 30/11 micropile

Excavation works at the valley station and shotcrete protection of the crane pad

Shotcrete protection and foundations of the summit station



The TITAN micropile system is ideally suited for work in a sensitive location with a listed monument

Installation of the rails and creation of the tunnel – Construction progress in May 2025

Picture source: All pictures © 360 Grad Drohnenfotografie / Leuchtenburg Foundation

Would you like to find out more about TITAN micropiles?
We would be happy to advise you about your project. Simply get in touch with us. We look forward to hearing from you.

FRIEDR. ISCHEBECK GMBH
Loher Str. 31–79 | DE-58256 Ennepetal | Phone +49 2333 8305-0 | www.ischebeck.com