

Job Report

LB 16 unplugged

“Innovative developments such as the world’s first drilling rig with zero emissions prove that there is sufficient room for environmentally friendly building practices on our construction sites too.”

Andreas Fromm
Managing Director ASFINAG
Bau Management GmbH



LIEBHERR

Bürs
Austria



Situation

It is a trouble spot in the western Austrian road network: the junction of the A14 motorway in Bludenz-Bürs. There are frequent traffic jams and hold-ups due to congestion. By the end of 2021 ASFINAG is to build a large roundabout with two bridges over the A14, as well as two new connections to regional roads, in order to avoid dangerous tailbacks on the motorway. The use of machines with an electric

Advantages

For this purpose, the local company i+R is using the world's first drilling rig on the market with "Local Zero Emission". The LB 16 unplugged has an electro-hydraulic drive concept and can also be used cable-free thanks to the battery, i.e. unplugged. The absence of a combustion engine has two particular advantages: the drilling rig produces no local

Implementation

The challenges for i+R are the confined construction site, as well as the restricted working height. The pile foundations must be installed directly under a power line. Therefore, the drilling rig is designed as a low head, i.e. with a shorter leader. During the project i+R is installing 148 piles and drilling 1,742 m into the ground. Approximately 1,200 m³ of concrete are being poured. The piles vary between 10 and

drive means deep foundation work can, for the first time, be executed almost emission-free. Therefore, the best possible combination of customer benefit, environmental compatibility and efficiency is achieved. Estimated over one year, approximately 35,000 litres of diesel can be saved and more than 92 tonnes of CO₂ emissions avoided.

exhaust emissions and generates considerably less noise. "You don't have to shout all the time. You can talk normally and your colleague hears, even when standing further away," explains foreman Sebastian Timpe. The quieter environment therefore also has a safety-relevant aspect since potential hazards can be better perceived.

14 m in depth and have a diameter of 900 mm. Some of the concrete is delivered by a Liebherr concrete mixer ETM 905 with electric drum drive. In normal operation the battery capacity is sufficient for the entire working day. As a plug-in hybrid the battery can be charged during the journey or externally via a plug.

Technical data - LB 16 unplugged:

Battery capacity:	10 h
Charging time:	7 h
Engine power:	265 kW

Max. drilling diameter:	1,500 mm
Max. drilling depth:	34.5 m
Operating weight:	55 t