

**Job Report**

Rotary Drilling Rig

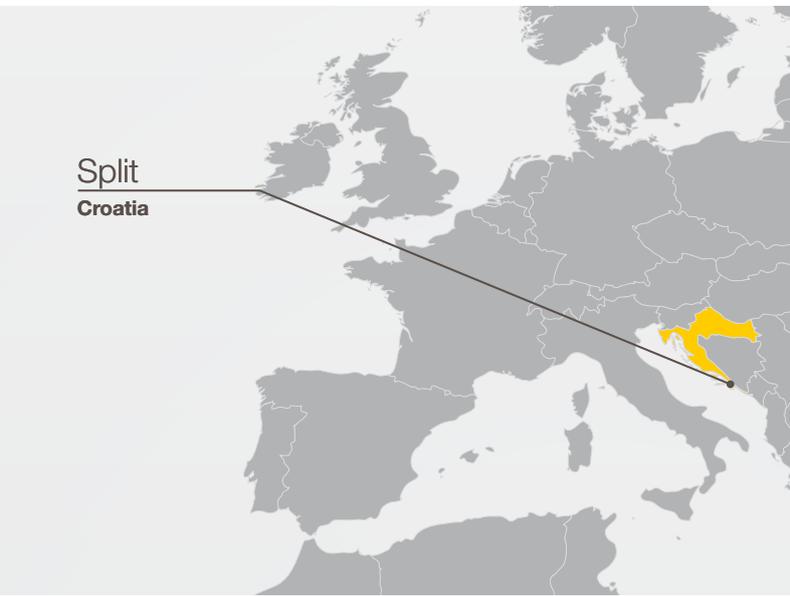
**LB 36-410**



**LIEBHERR**

Split

Croatia



## Situation

The Port of Split is the largest passenger port in Croatia and serves as one of the most important hubs for the entire Dalmatian region. Thanks to the construction of two further berths, even larger cruise ships with a length of approximately 300 m will be able

to call at the port. This means the number of passengers per year should increase from four to seven million. The berths are being built by the Croatian construction company Viadukt.

## Task

A total of 321 piles with a diameter of 1,500 mm each had to be installed in depths of up to 33 m for the foundation work. The water was between 5 and 19 m deep. Below was 5-9 m of seabed followed by 6 m of rock socket in which the piles were inserted. Viadukt used a Liebherr rotary drilling rig LB 36-410 equipped

with a rotary drive with a torque of 410 kNm and a casing oscillator of the type VRM 200. A Hartfuss progressive type auger core barrel (BU-RSC) was used as a tool. In addition, a Liebherr duty cycle crawler crane of the newest generation, type HS 8070 HD, worked as a site crane.

## Solution

In order to position the piles, temporary casings were inserted one metre deep into the rock socket. Thereafter the final depth was drilled using an auger and bucket. Subsequently the reinforcement cages as well as the permanent casings were installed. After concreting the piles, the temporary casings were pulled. Between November 2014 and May 2016, the rotary drilling rig worked round the clock unless weather conditions did not permit.

On average, one pile was completed per day. In one and a half years the LB 36-410 had more than 5,700 working hours, and in this period the downtime for service work amounted to only two days. The average fuel consumption was 25 l/h. The foundation work required approximately 20,000 m<sup>3</sup> concrete and the reinforcement cages consisted of 3,000 t steel.

## Technical Data: LB 36-410 - Kelly drilling

Operating weight:	115 t
Max. torque:	410 kNm
Engine power:	390 kW

Max. crowd force:	400 kN
Max. drilling depth:	88 m
Max. drilling diameter:	3,000 mm