

# From Oslo to Moss in Record Time: Tunnel Reinforcement Wagon

Tunnel reinforcement using the TITAN Megashore system



MossIA ANS, joint venture between Implenia and Acciona is a design and build project by the Bane NOR Intercity project in Moss, Norway. The SMS 2A project is a double track railway connecting Sandbukta and Saastad. It consists out of 2 tunnels. The Moss tunnel is 2.3 km and the Carlberg tunnel is about 2.1 km long. The project will be finished in 2030 and will increase the frequency of trains between Oslo and Moss. In combination with the Follobanen the travel time will be reduced from 55 min to 30 min after completion.

## The challenge

The tunnel, as many other tunnels as well, does not have the same size all the way. For safety and maintenances most tunnel have recess areas or areas for emergency exits. Those areas will interrupt the otherwise straight line of a tunnel. The reinforcement wagon needed to be able to overcome those challenges. Another requirement was that even large vehicles need to always have access to the other side.

## The solution

Ischebeck Nordic AS was appointed to create a reinforcement wagon for this pro-

ject. The wagon is 12 m long and 9 m high with a drive-through-opening. The wagon is equipped with internal hatches, ladders and aluminum scaffold boards to ensure a safe working platform for the reinforcement workers.

Positioned on UPE, the wagon can easily be moved using wheels. Once in position hydraulic jacks lift the wagon into position disengaging the wheels from the ground for more stability.

The adjustable side platforms, or “wings”, can be extended as the tunnel widens, providing personnel with safe and efficient way to work close to the tunnel profile.

The reinforcement wagon was moved for the first time on November 22nd 2024. It was almost effortlessly dragged into place and will be used for the final approximately 1 km of the tunnel.

## Project:

SMS 2A railway project, Moss and Carlberg tunnel, Sandbukta–Saastad, Norway

## Construction period:

June 2019 – December 2025

## Client:

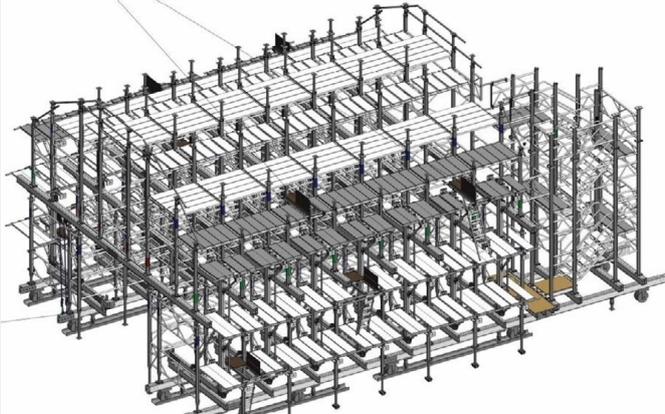
Bane Nor, Oslo

## Contractor:

Design and Build: MossIA joint venture; Implenia & Acciona

## Products used:

- TITAN Megashore system
- TITAN bridging beams
- TITAN push and pull props



3D rendering of the wagon



Wagon with drive- through opening



Horizontal repositioning of the tunnel wagon



Wheels on U-channel



Hydraulic cylinder to disengage the wheels

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We would be happy to advise you about your project. Simply get in touch with us. We look forward to hearing from you.