

Overcoming Challenges in the Fehmarnbelt Tunnel Construction: Tractel's BLRT Solution

The Fehmarnbelt Tunnel will be the world's longest immersed tunnel and the longest tunnel for both road and rail traffic. It is a huge infrastructure project connecting Denmark and Germany. This ambitious undertaking involves constructing an 18-kilometer immersed tunnel for road and rail traffic, reducing travel time between Hamburg and Copenhagen by approximately 1.5 hours.

Tractel™ played a crucial role in the project, providing a specialised solution for bulkhead installation and removal during the construction of the tunnel elements.

Challenges and Solutions:

Traditional methods: The client's initial approach using a tower crane for bulkhead installation posed safety and efficiency concerns.

Tractel's innovation: Tractel developed a specialised Bulkhead Removal and Lifting Tool (BLRT) to address the challenges of bulkhead installation and removal. Operating without human intervention in the danger zone, the BLRT ensures both safety and efficiency.

Benefits of the BLRT:

- Fully automated installation and removal of bulkheads
- Eliminates the need for operators to be present in the danger zone
- Significantly reduces installation time
- Enables the reuse of bulkheads, saving materials and reducing environmental impact

Technical Details:

BLRT specifications: The 30-ton BLRT is designed for precise and efficient bulkhead handling.

Tunnel: Each tunnel element has 44 bulkheads, and the tunnel consists of 79 elements, weighing 34,000 tons in total.

Project Impact:

Safety: The BLRT eliminated the need for human operators in a hazardous environment, significantly improving safety.

Efficiency: The automated process reduced installation time for each bulkhead to under 10 minutes, accelerating project completion.

Sustainability: The ability to reuse bulkheads contributed to a more sustainable project by reducing waste.

Tractel's BLRT solution is a testament to our commitment to innovation and our ability to address complex challenges in the construction industry. This project showcases our expertise in developing tailored solutions that enhance safety, efficiency, and sustainability.

Facts & Figures

Commencement	2021
Completion	2028
Project Type	Tunnel
Type of Unit	Bulkhead Removal and Lifting Tool
Number of units	4

