

Baltrum Crossing 2025 - 2026

HDD as the key to the energy transition in the Wadden Sea

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ARGE HDD Baltrum - Büsum

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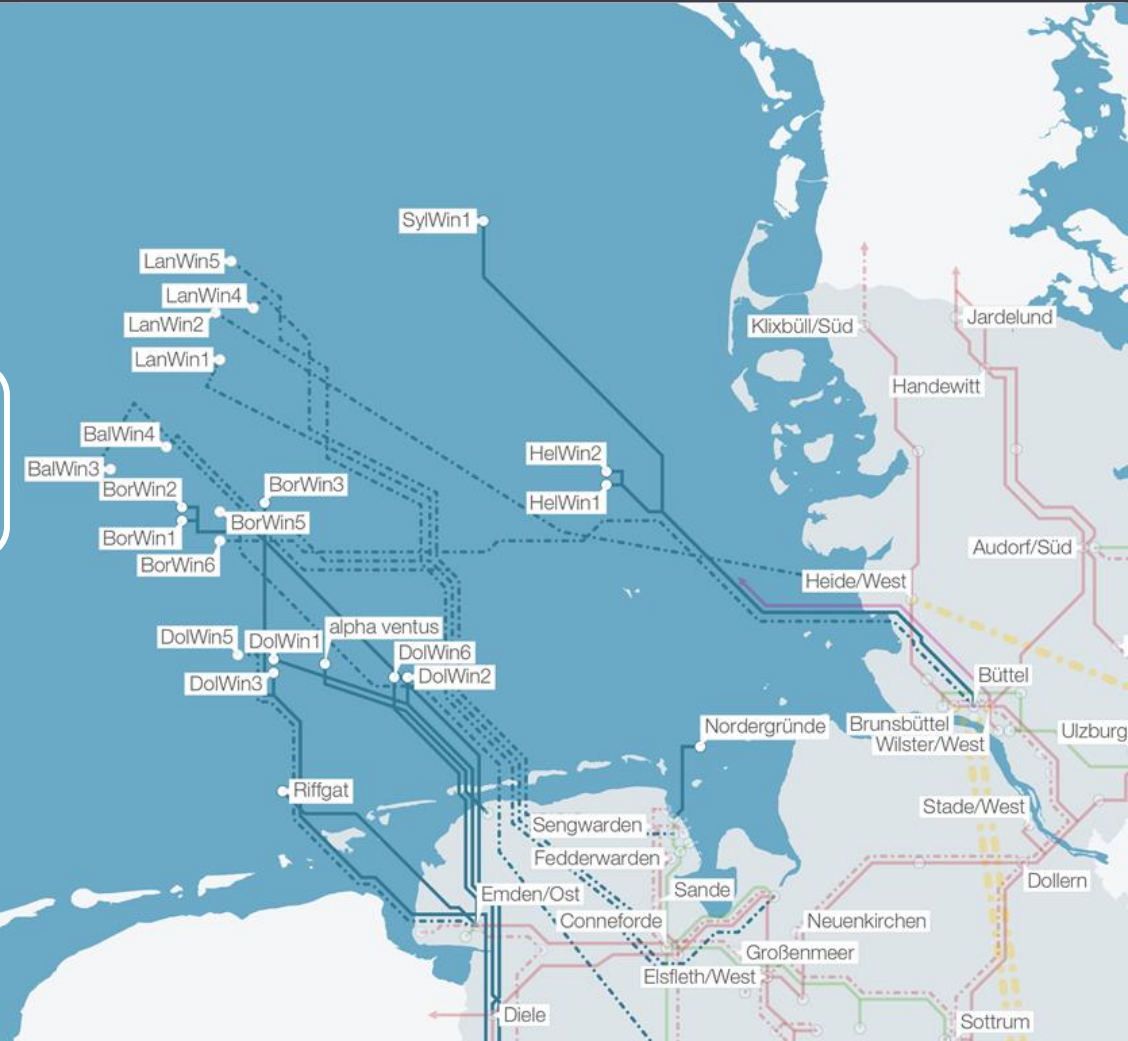
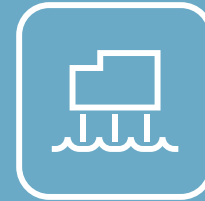
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TenneT Germany at sea Offshore projects through 2031

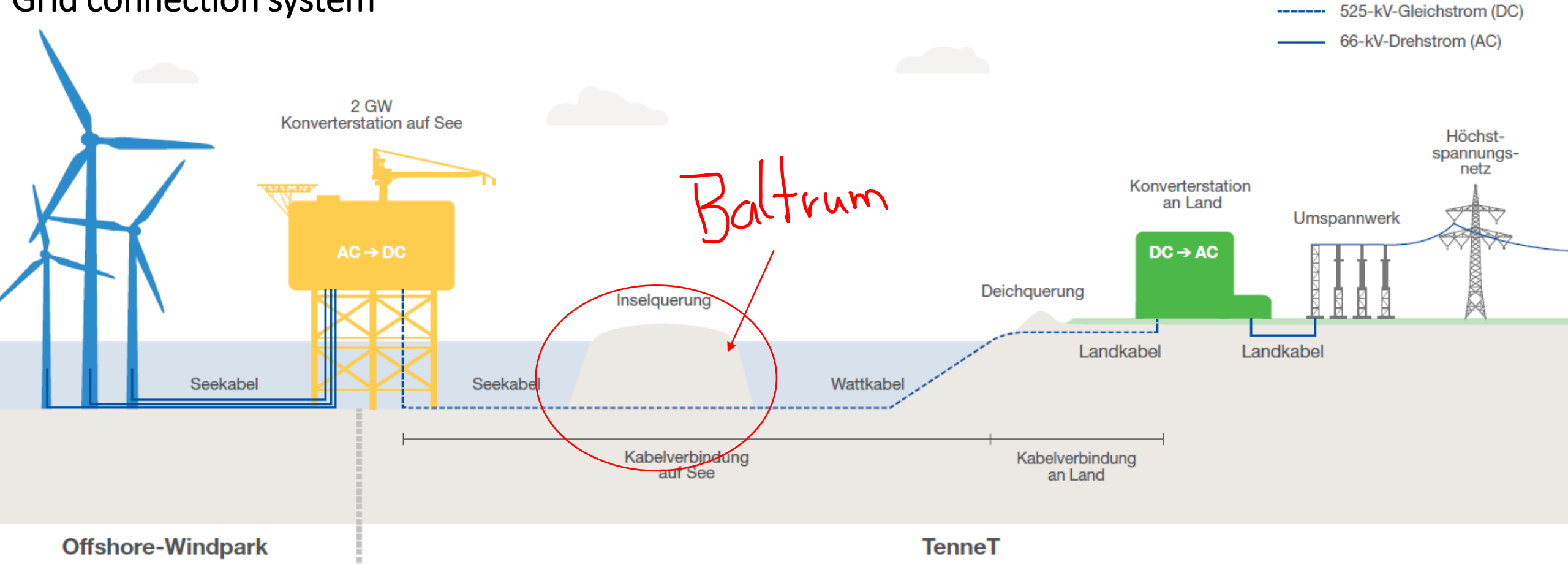
Already **13 offshore** grid connection systems
with **8 GW capacity**.

By 2031, 9 new connections are to be added.

In total, we will achieve an **offshore transmission capacity of around 22.8 GW**.



Grid connection system



Baltrum

five kilometers long,
one and a half kilometers wide,
the **Sleeping Beauty of the North Sea**, the smallest East Frisian island in terms of area.

The **475 inhabitants** live mainly from tourism,
around **70,000 guests a year**.

Car-free – little to no infrastructure.



Source: Baltrum-online.de

Project Scope

Baltrum

2025 scope – 8 × 1,800 m

1x backwash line

3x BalWin3

3x BalWin4

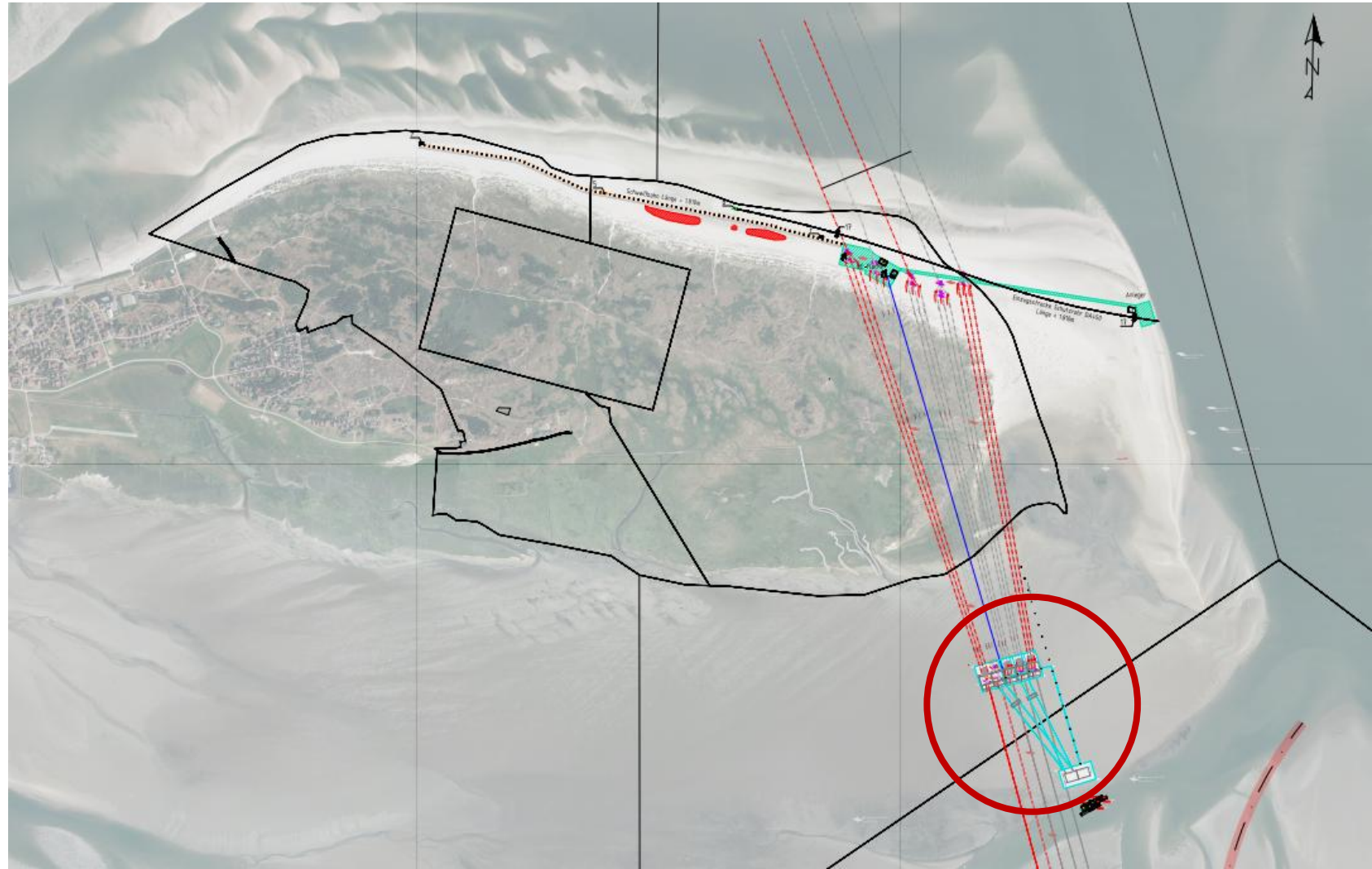
1x LanWin1

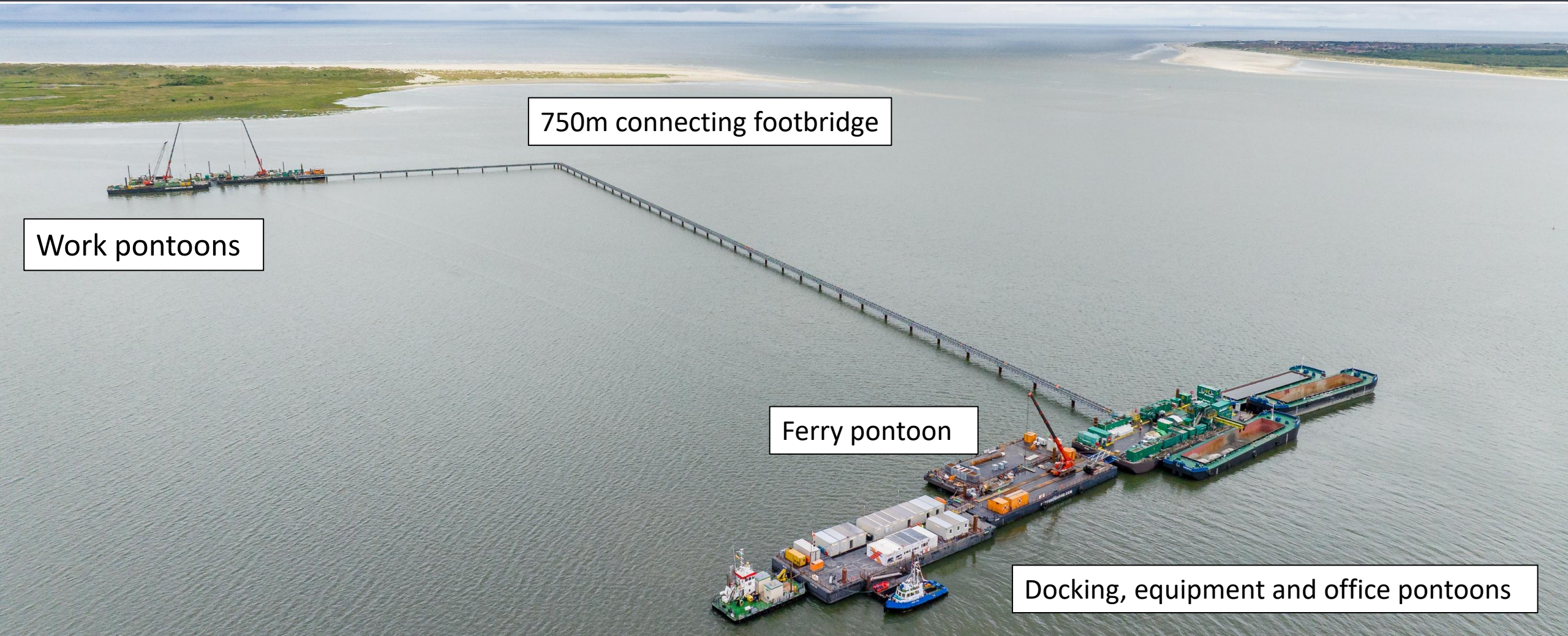
2026 scope – 8 × 1,700 m

2x LanWin1

3x LanWin4

3x LanWin5





Tide-independent logistics

Mooring and service pontoon in the fairway.

Flushing circuit via the connecting bridge.



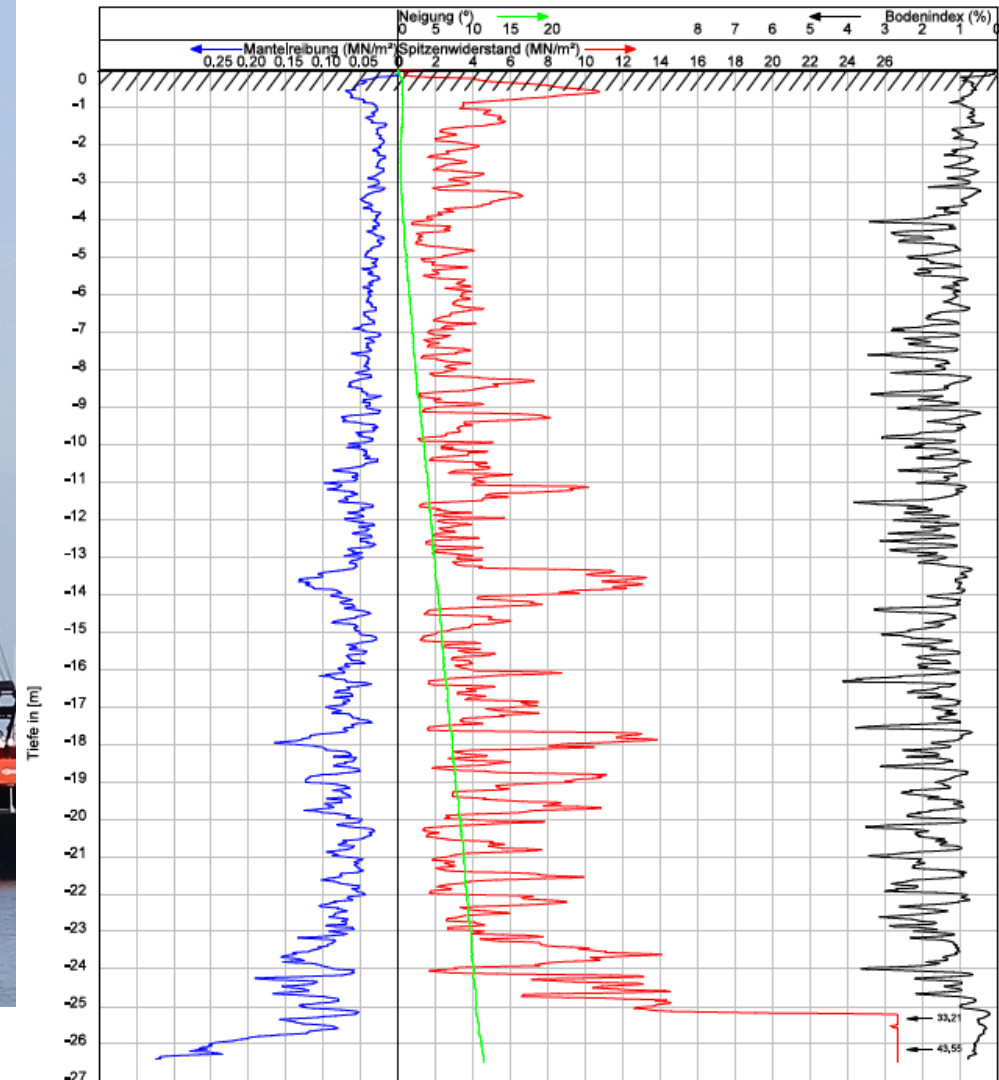
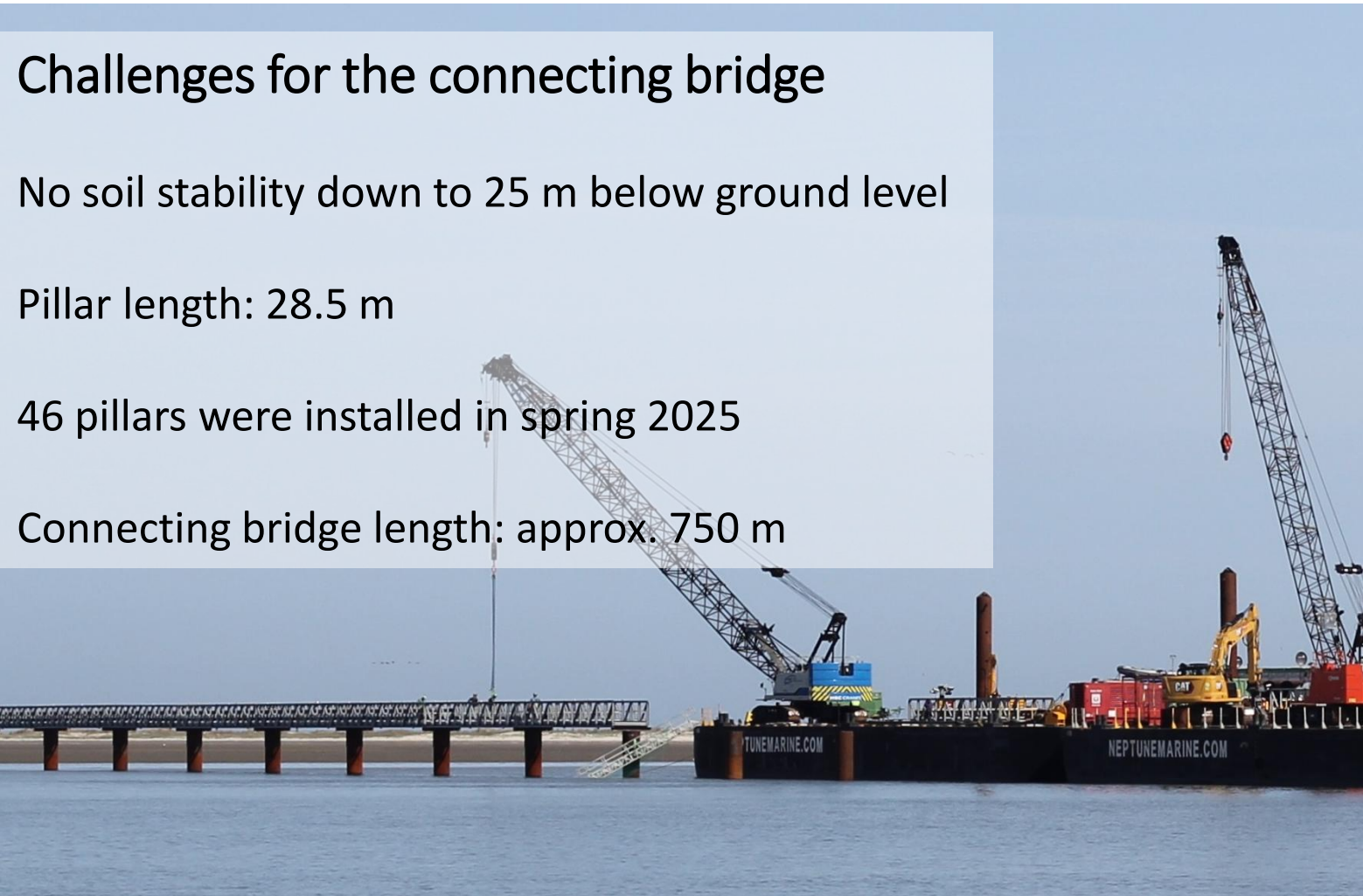
Challenges for the connecting bridge

No soil stability down to 25 m below ground level

Pillar length: 28.5 m

46 pillars were installed in spring 2025

Connecting bridge length: approx. 750 m



Rig side with:

2 working pontoons, approx. 60 × 18 m

2 Herrenknecht HDD rigs (BBT, B&D)

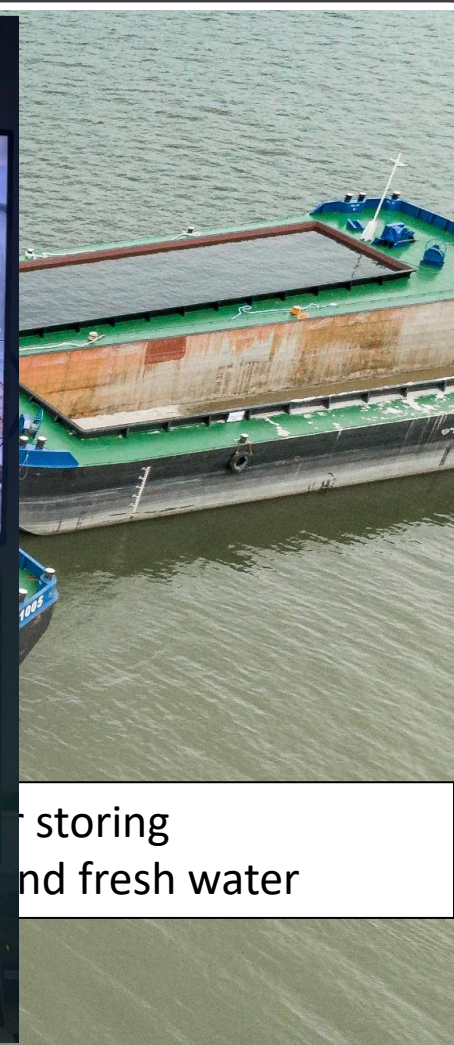
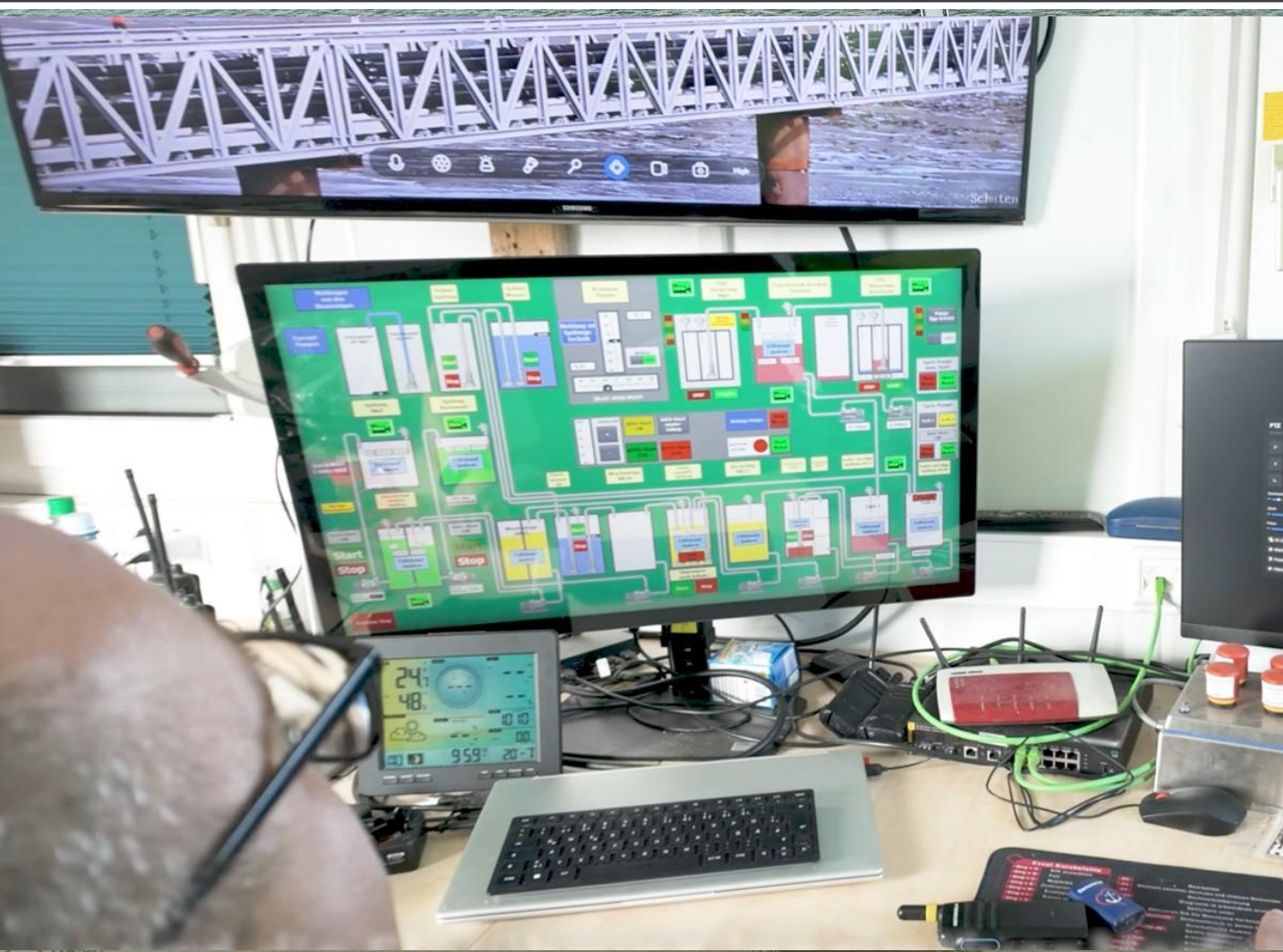
Pulling force: 2,500 kN

Drill pipe: 6⁵/₈-in. FH, length 9.50 m (total capacity approx. 7,200 m)

4 floating excavation-pit enclosures with inner shoring boxes.

Casing pipes prevent drilling-fluid losses in the launch area and stabilize the boreholes.





storing
and fresh water





Pipe side

with supply and office
containers

Storage of the 900 m
individual pipe strings on the
beach
and movement of the pipe
strings on roller blocks

“Golden weld” on the beach

Exit pits with flushing pumps



Logistics

Only possible by water...

Fresh water

Material transport

Crew transfer

Disposal



Disposal

Hauling of the barges from Baltrum to the waste disposal company in Leer Nord on the Ems

- The route length is 93 nm.
- At an average speed of 8 knots, the towing convoy needs about 12 hours



Special challenges in the project



Pipe rupture during pull-in



Storm surge events





Working in the Wadden Sea National Park

The little tern

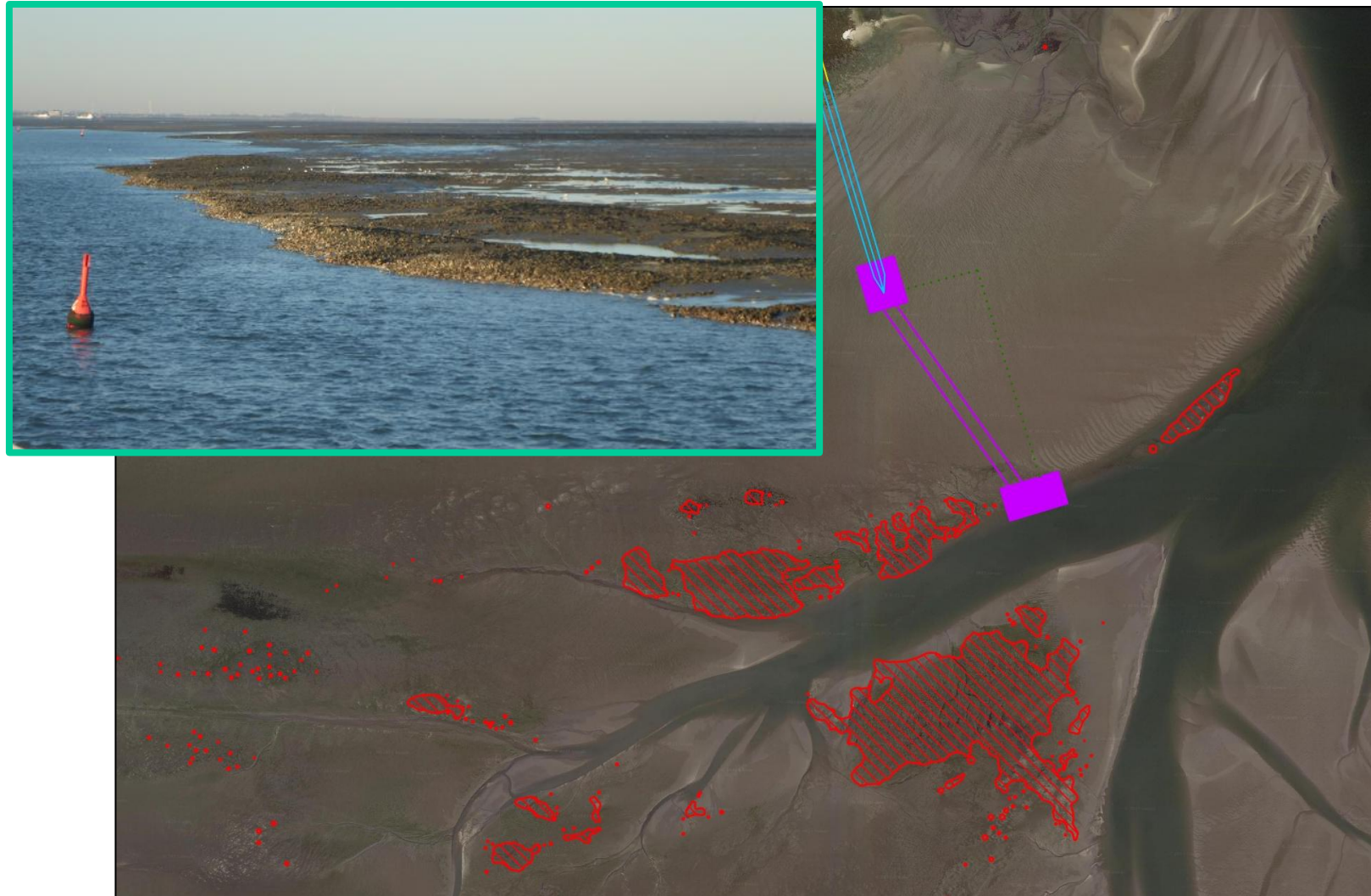
- 2025 colony: up to 100 breeding pairs
- Minimum distance from breeding birds: 200 m!



Working in the Wadden Sea National Park

Pronounced mussel beds at the edge of the navigation channel

Extra care required when operating marine equipment



Working in the Wadden Sea National Park

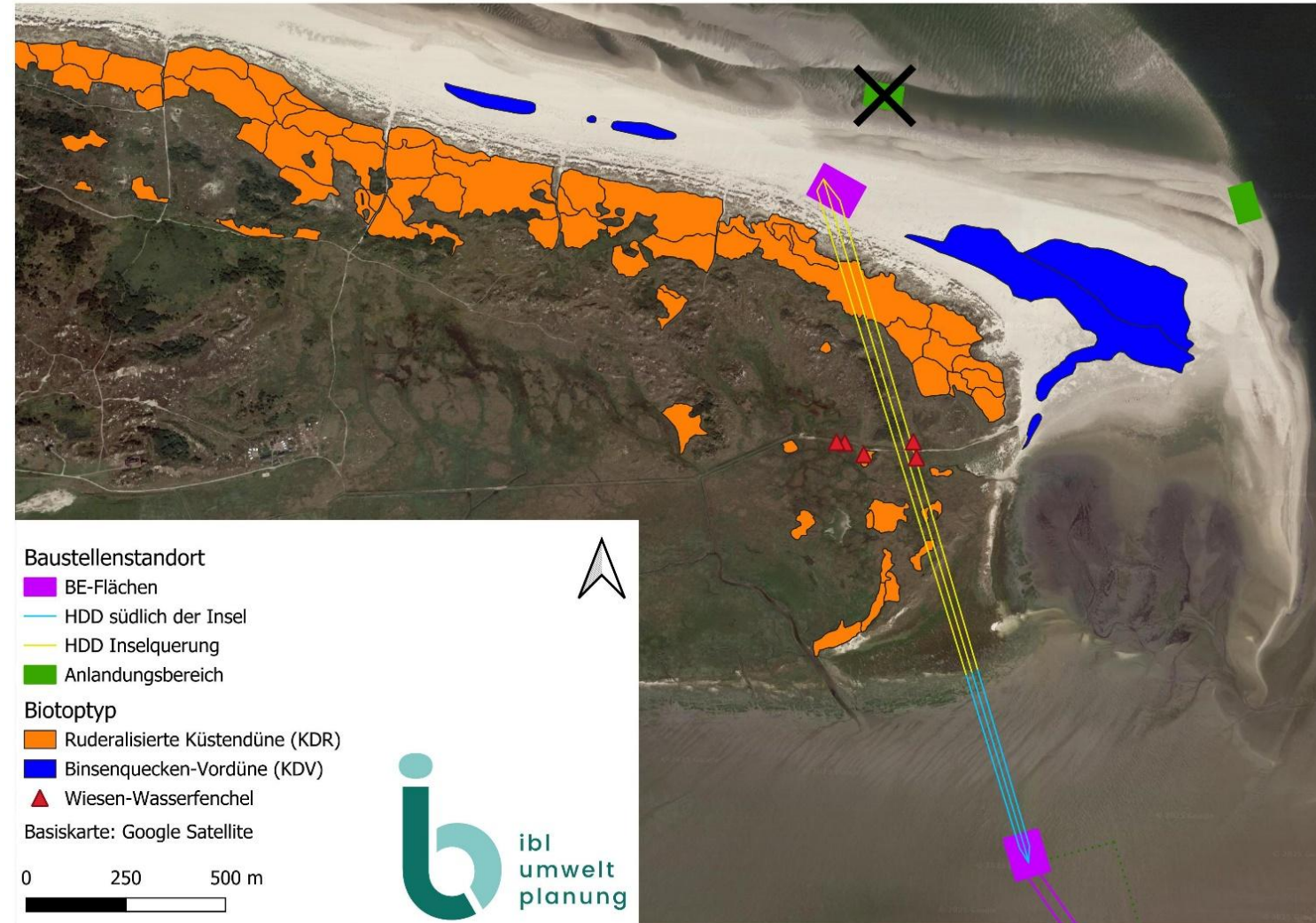
- High seal density along the entire route
- Several haul-out sites near the construction area; the main site is less than 200 m away
- The animals are curious and may approach construction activity

Seal monitoring is an additional permit requirement



Working in the Wadden Sea National Park

- Coastal dunes must not be entered
- Primary dunes must not be entered or driven on
- Creeping marshwort
- Red List Category 3 (endangered)



Project success 2025 - 2026

16 pipes pulled in:

1x backwash line

15 cable conduits

BalWin3,4, LanWin1,4 & 5



We would like to thank
all those involved for
the good cooperation
and look forward to the
upcoming projects.

Thank you for your
attention



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