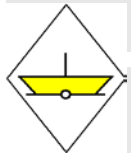


Aids to Navigation (Inland AIS AtoN) Reference application at the Elbe-Weser Corridor



Off Posn



missing



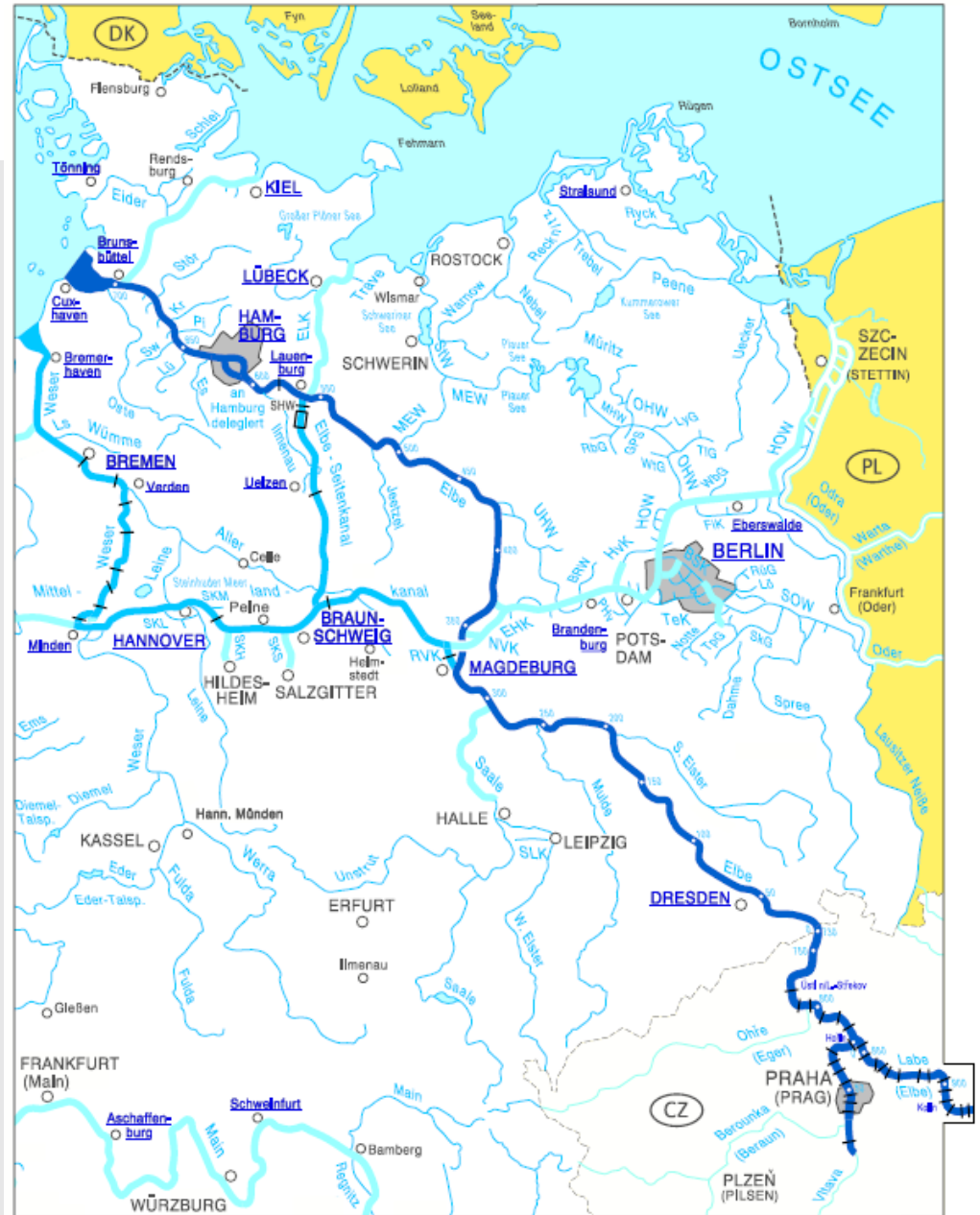
missing



Objective:

(in the frame of RIS COMEX, sub activity 5.1, International Waterway Transport, safety aspects)

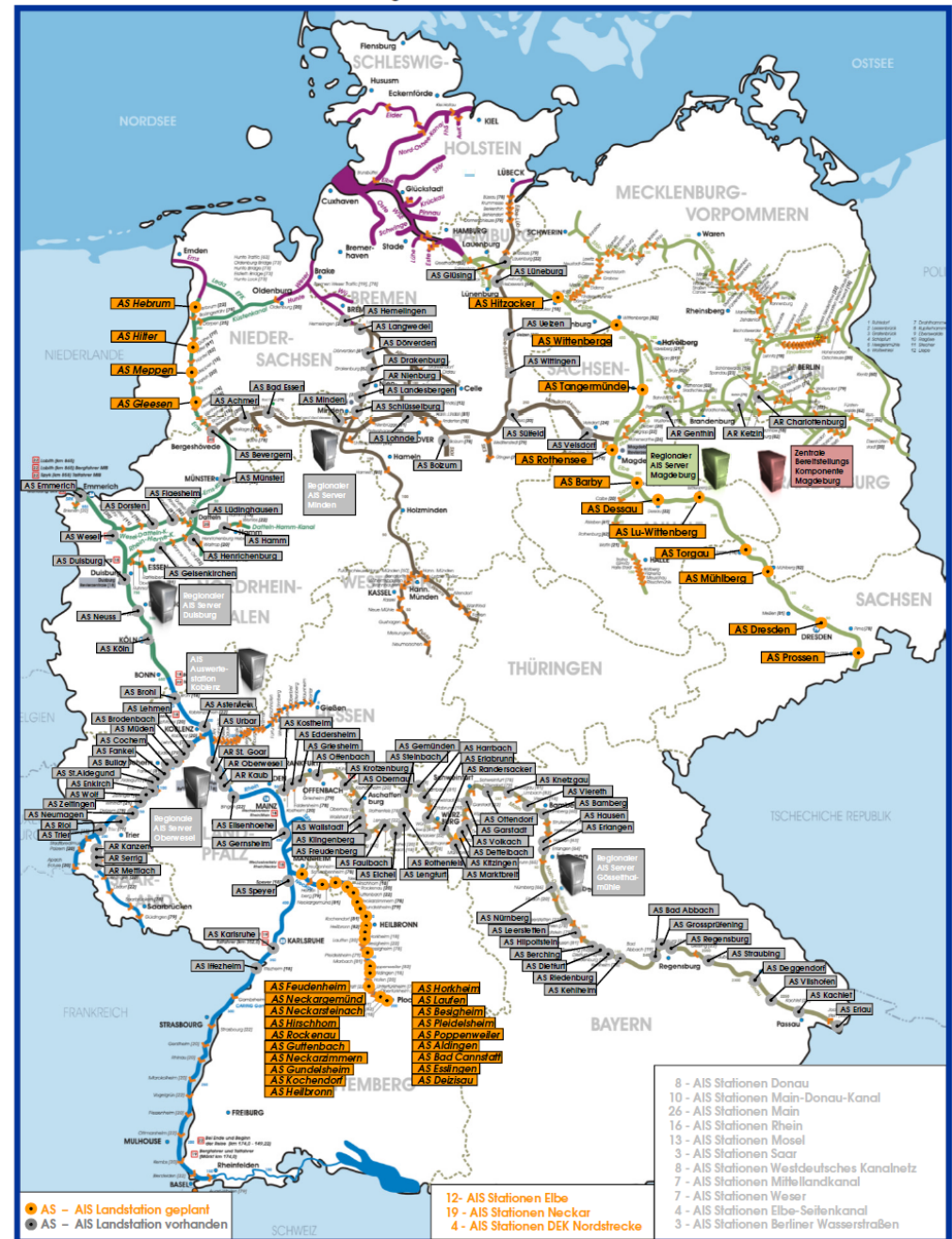
In the Elbe-Weser corridor technical possibilities offered by AIS AtoN and Inland ECDIS for improving safety of navigation of inland vessels in this corridor shall be demonstrated and tested in concrete reference applications



Future AIS land infrastructure

extended to 2.800 km of
covered stretches

- approx.150 base stations
- 10 repeaters
- 5 regional AIS servers
- 1 central AIS server
(Magdeburg) (central
delivery component)
- 1 central AIS Server for
technical operation
(Koblenz)

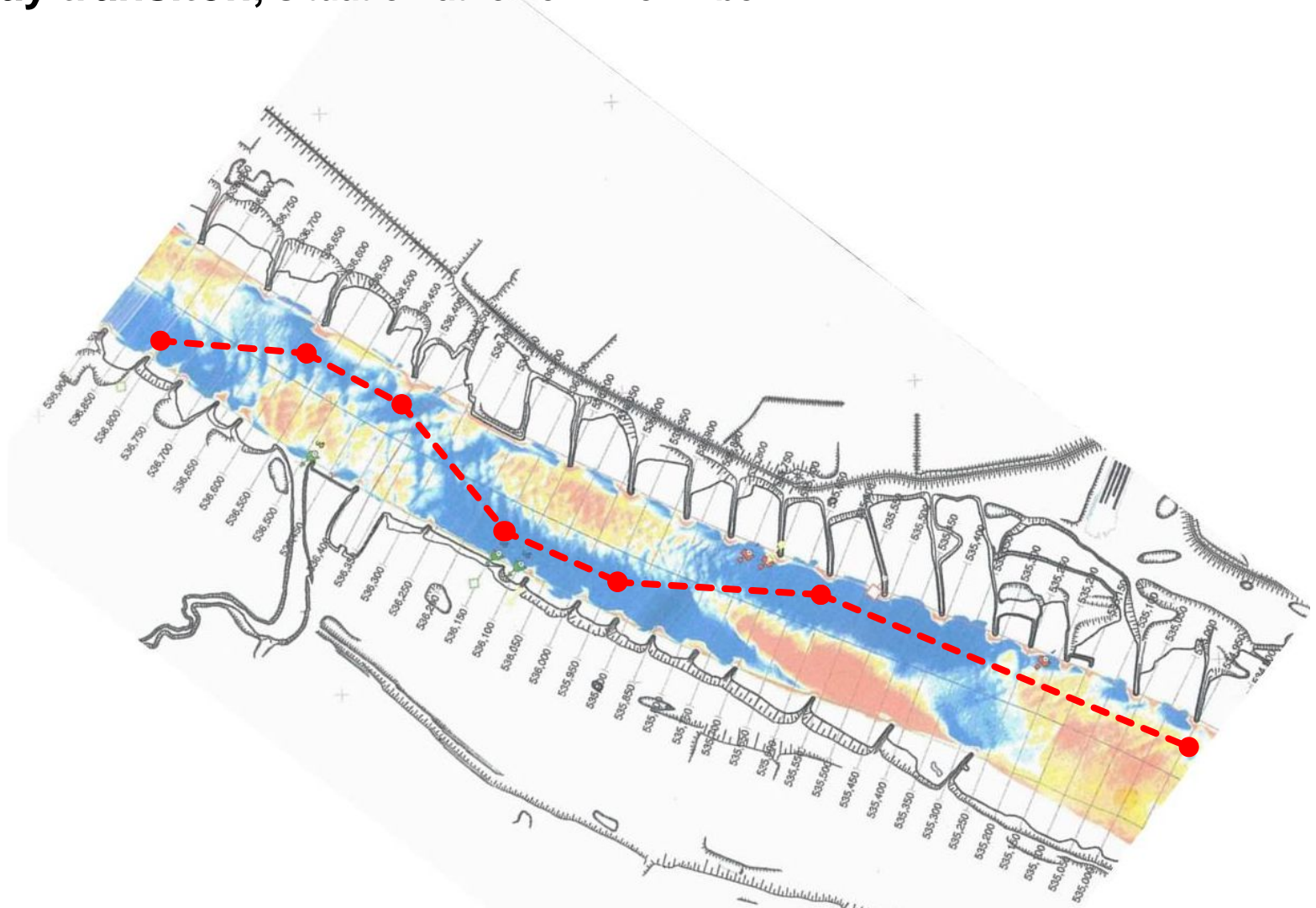


Location-based reference applications

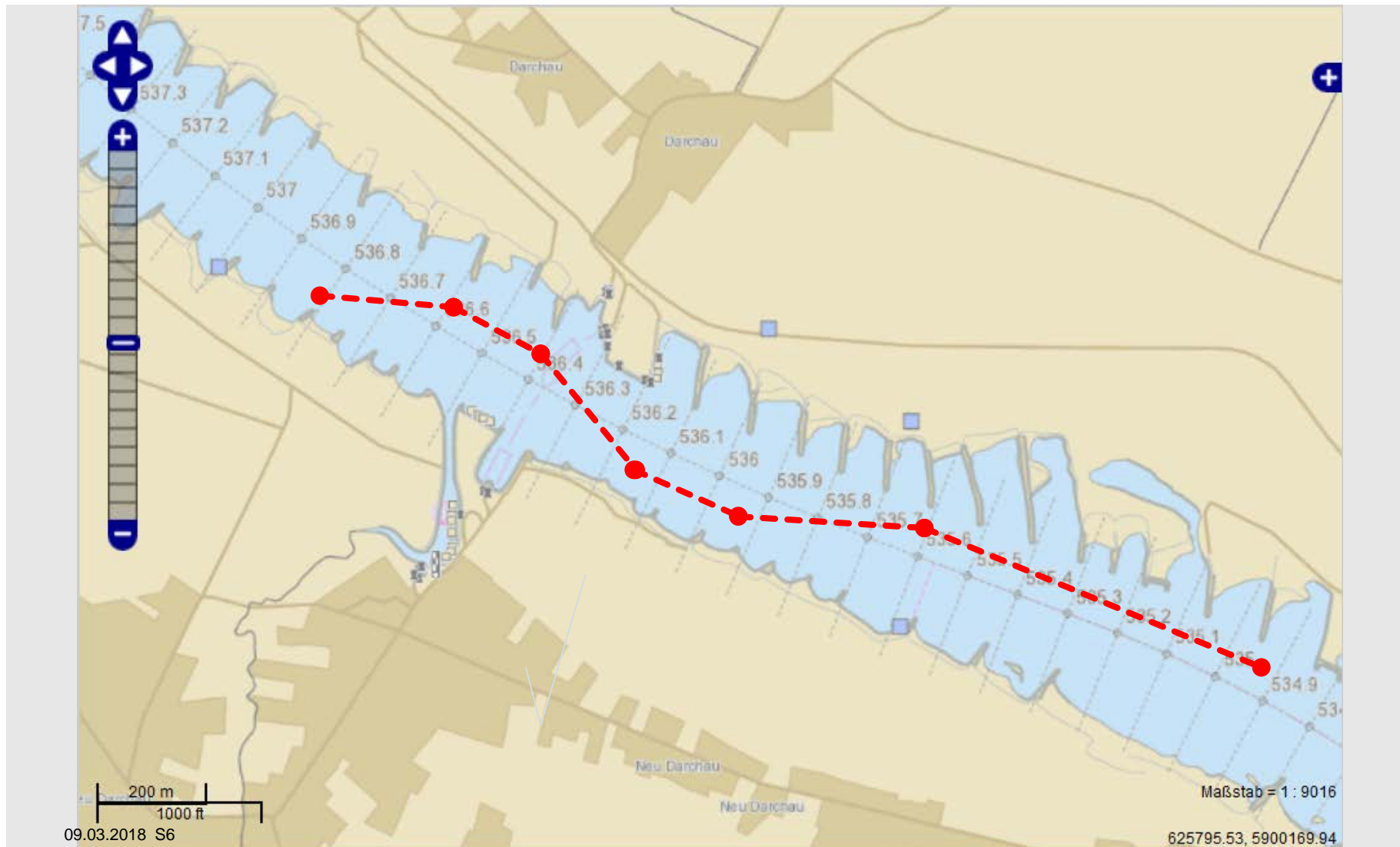
Overview

- **Marking of fairway transition to other bank**
 - Situation at lower River Elbe
 - Guidelines for marking the traffic lane (virtual AIS-AtoN)
 - Marking with mobile beacons (mobile real AIS-AtoN)
- **Display of currently crossing swinging wire ferries (danger zone)**
 - Diverse display variants
- **Display warning at limited air draught**
 - Diverse display variants
- **Display current switch status of wahrschau signal**
 - Visualization of application specific AIS message (ASM)
- **Further location-based reference applications**

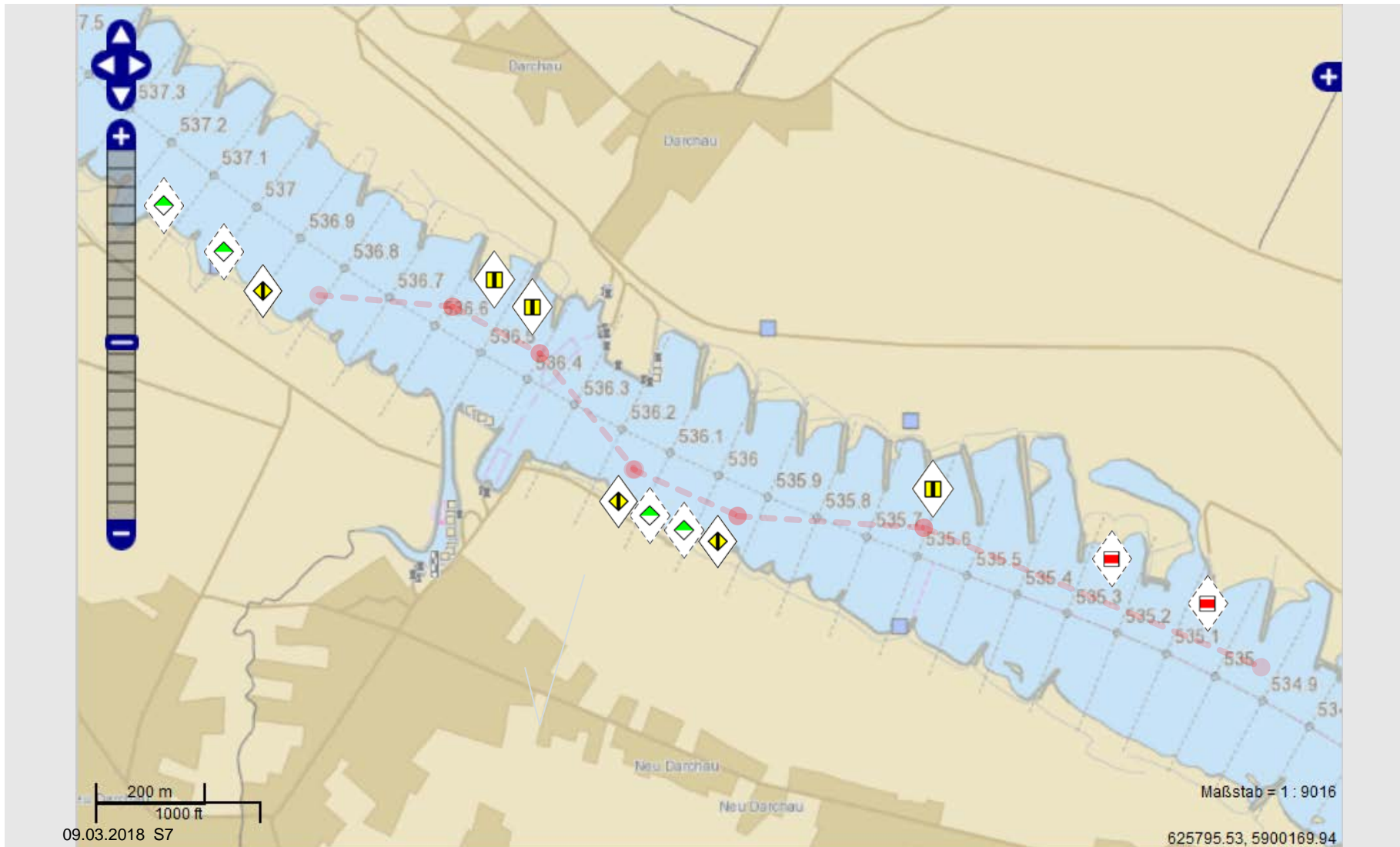
Fairway transition, situation at lower River Elbe



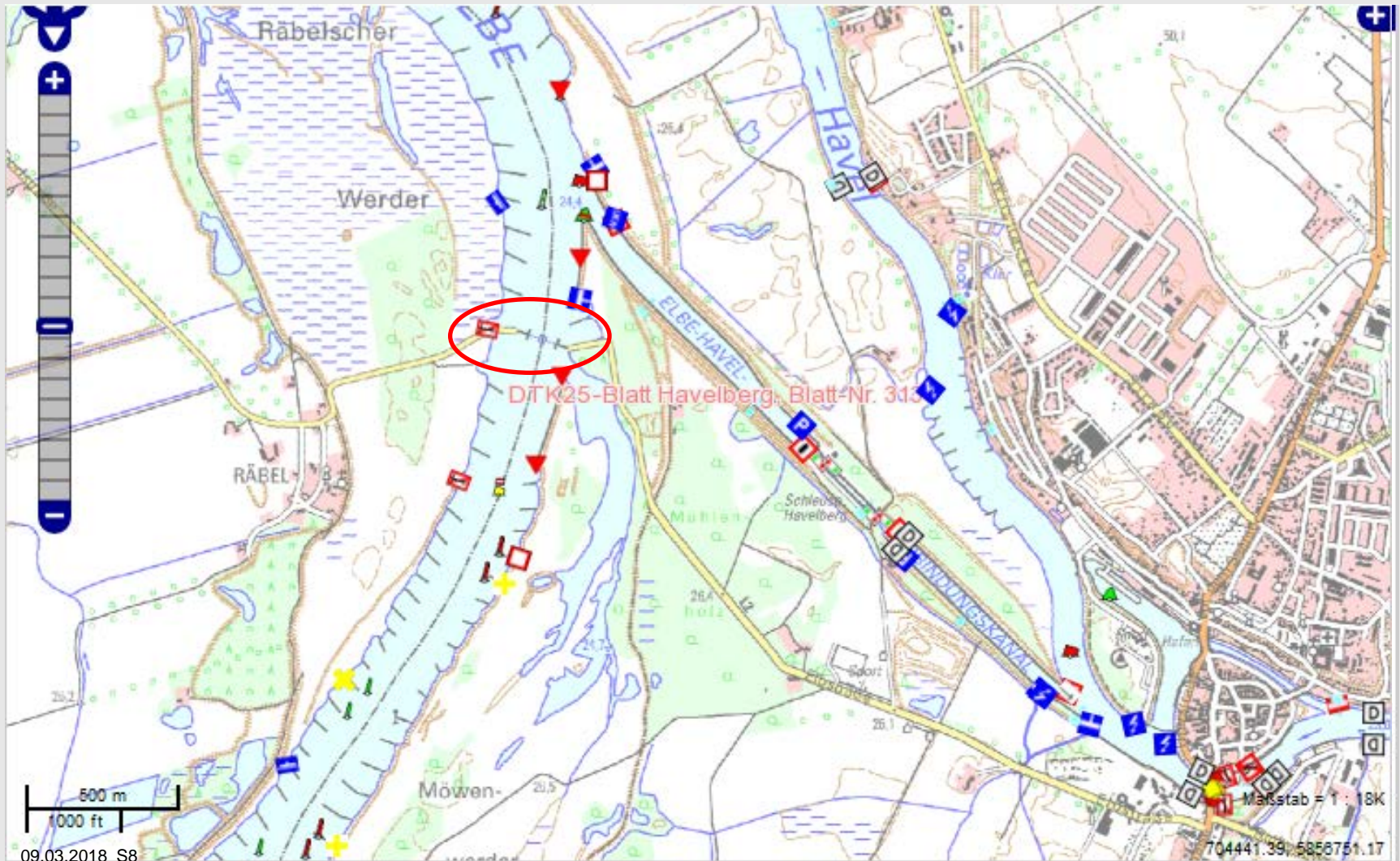
Fairway transition, variant 1: Guidelines for marking the traffic lane



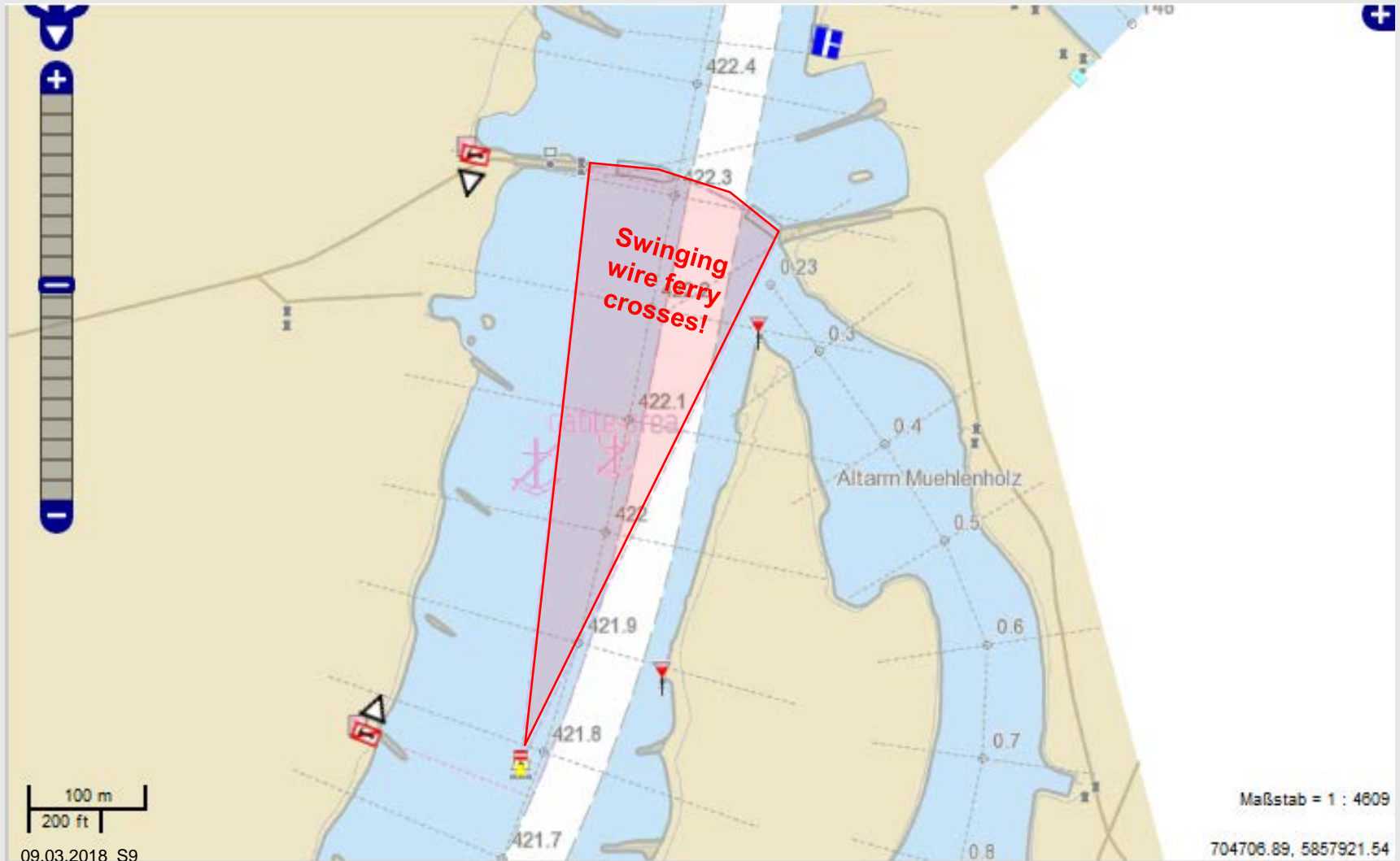
Fairway transition, variant 2: Marking with mobile beacons



Display of currently crossing swinging wire ferries



Swinging wire ferry Räbel- Havelberg



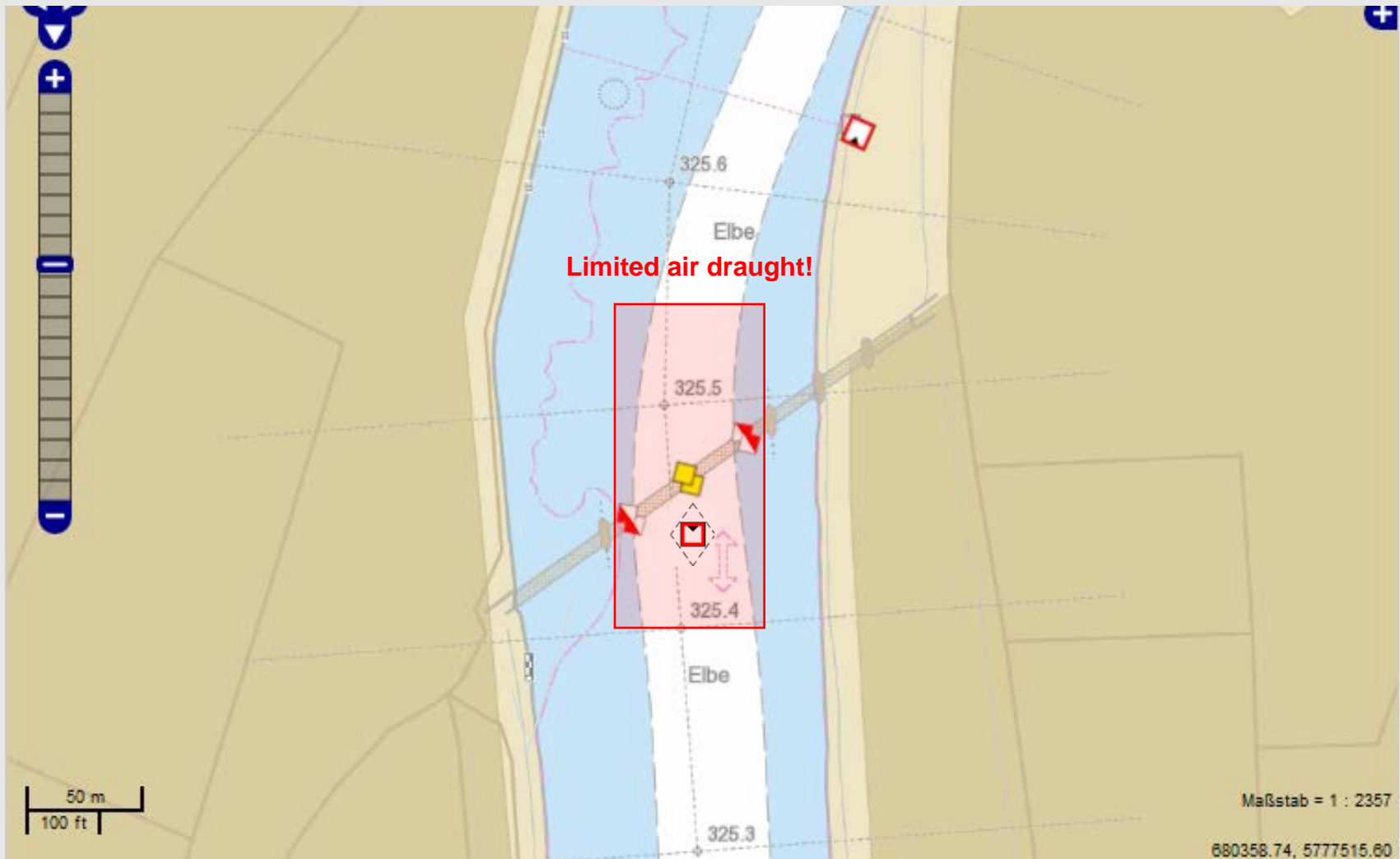
Lift bridge Magdeburg



Lift bridge Magdeburg



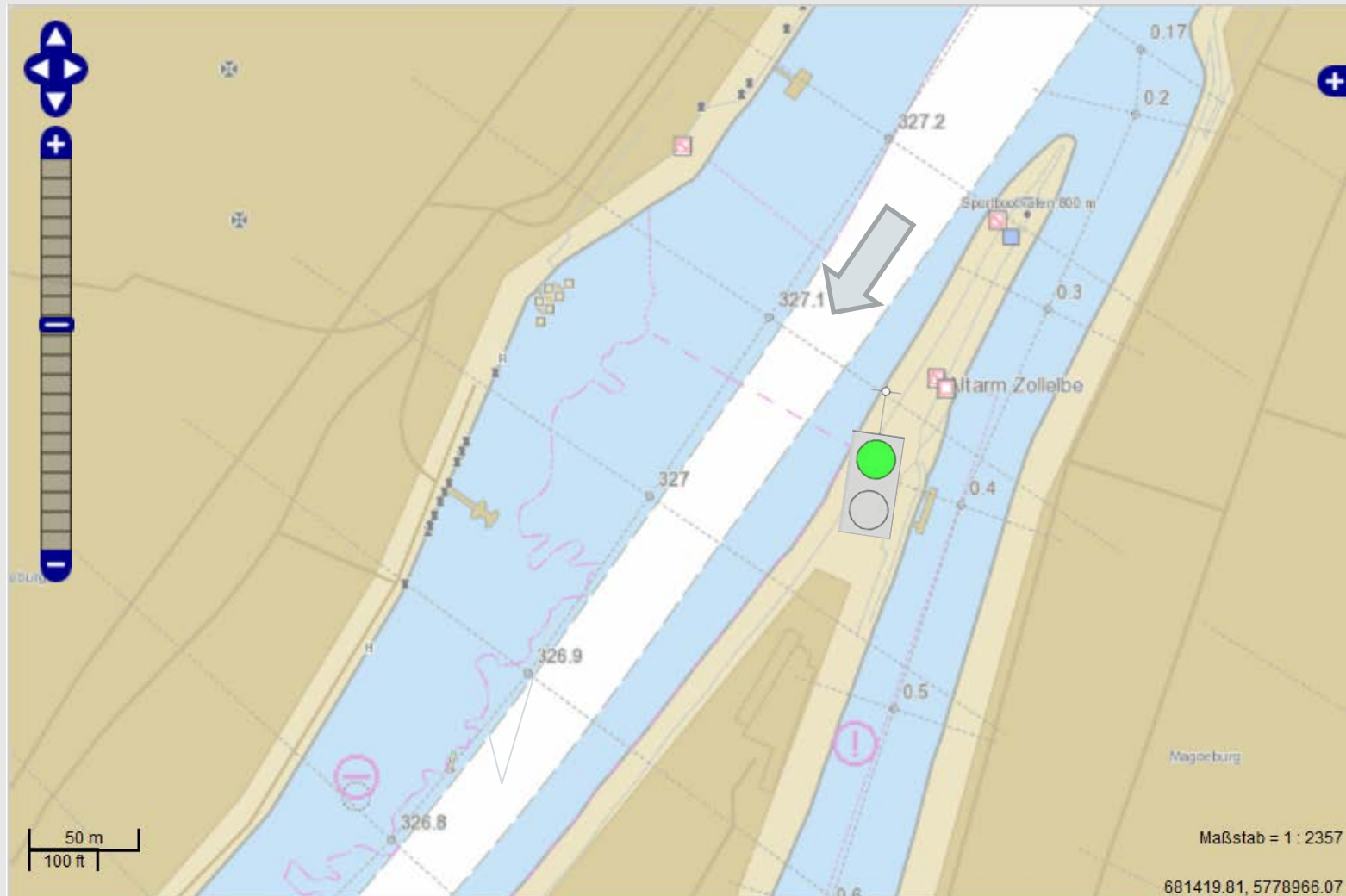
Currently limited air draught (vertical clearance)



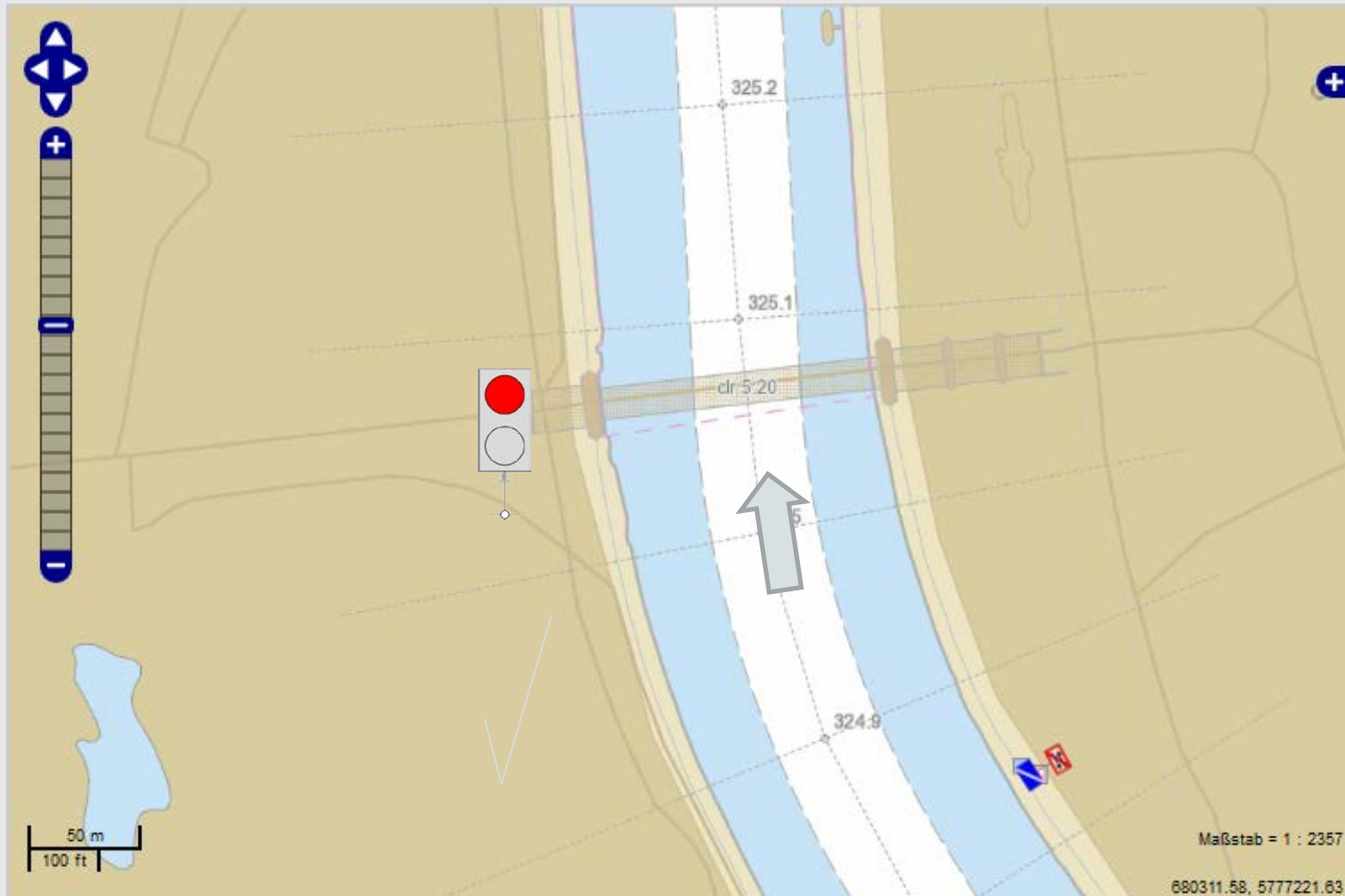
Wahrschau stretch Magdeburg (real-time signal display)



Current switch status of a wahrschau signal (ASM)



Current switch status of a wahrschau signal (ASM)



Questions in the frame of RIS COMEX

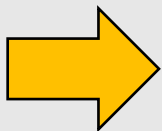
- Can AtoNs improve safety of navigation?
 - What does it mean for the design of services and systems?
 - How can it reach all user groups?
 - Where is the advantage (benefit) for the user? Spent time and money are acceptable for the user?
 - There are also advantages (benefits) for the waterway administrations that offer these services?
- Can the demands regarding availability and reliability of services be met by administrations in economic terms?
- How does the Inland AtoN concept fit in existing rules and regulations?
 - To what extent are other standards concerned, e.g. the radar standard?
 - ...

Objective:

Solid decision basis for the future use of AtoNs (real und virtual). Simultaneously the standardization (RIS standards) of the AIS AtoN concept has to be prepared.

Provision of incremental IENC updates

- Navigations signs belong to the object classes in Inland ECDIS charts (IENC) that change most frequently
- Therefore the Inland ECDIS Standard (IES) offers the possibility to generate changes in a base chart by using „incremental IENC updates“
- When we want to use AIS AtoN for marking temporary conditions, we need this method to update IENCs quickly



Realization in the frame of RIS COMEX reference application

Wir machen Schifffahrt möglich.



**Thank you for
your kind attention!**

Stefan.Bober@wsv.bund.de
Wieland.Haupt@wsv.bund.de



WSV.de

Wasserstraßen- und
Schifffahrtsverwaltung
des Bundes