

Digital Twin of the North Sea and modular approach for reuse in other applications



View:  NAP+ 107.7m

Wind:  8.7 m/s

Temperature: 12.2°C

Contents

1. Digitwin North Sea project
 - 2D browser tool
 - Demo 3D twin
2. Reuse of 3D twin components in other applications
 - Marine Protected Area

The project Digitwin North Sea – 2D Browser tool

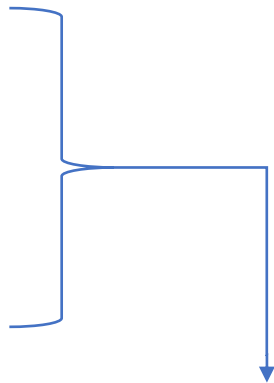
Get more insight in spatial planning and the related effects in the North Sea to help decision makers (Rijkswaterstaat).

Components:

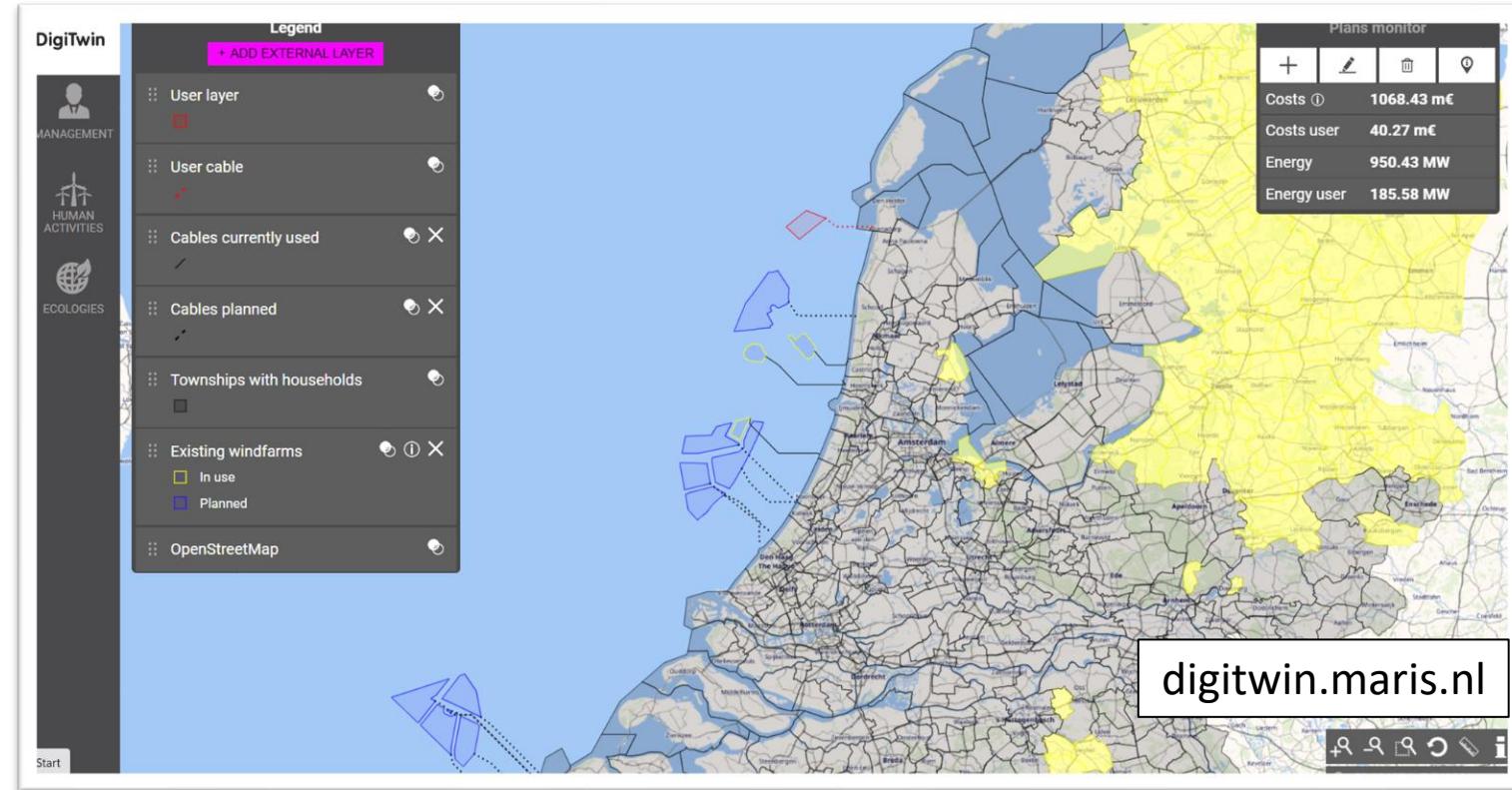
- 2D browser tool
- Demo 3D twin

North Sea is very busy:

- Wind farms
- Shipping routes
- Fishing industry
- Pipelines
- Nature
- Offshore industry
- More..



Development of a 2D browser tool that gives insight in the impact of the construction of wind farms.



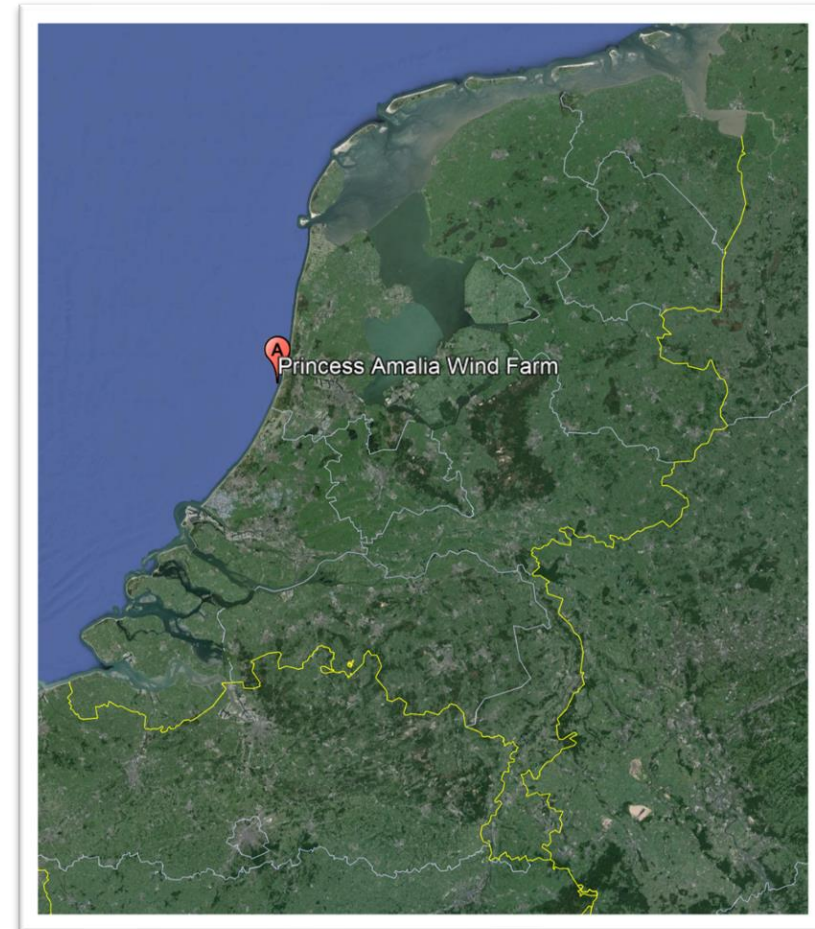
The project Digitwin North Sea – 3D demo twin

2D we are all familiar with..

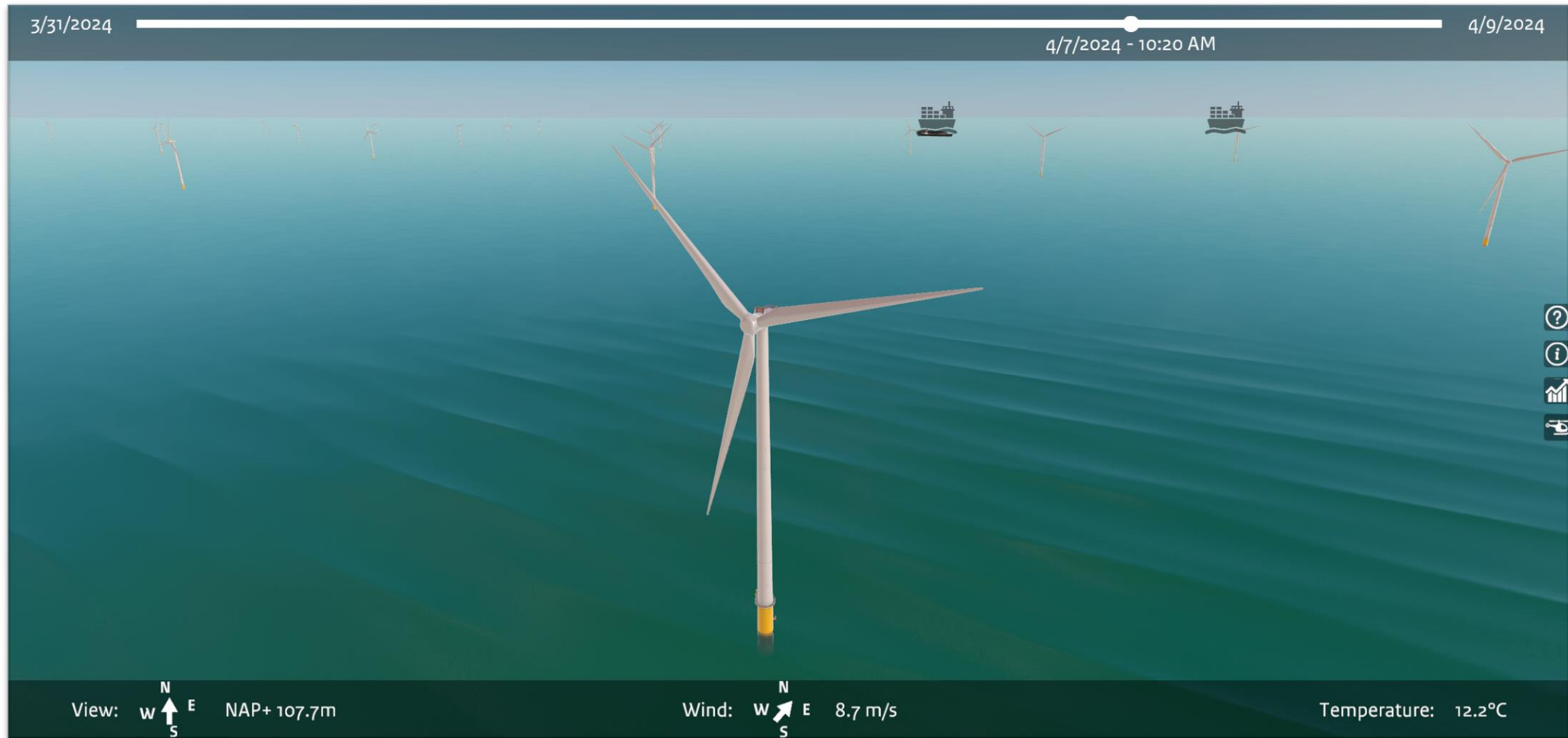
Investigate three-dimensional data visualization to help interpret data by emerging the user in a virtual world where the data is visualized realistically.

Developed a demo 3D digital twin of the Princess Amalia wind farm:

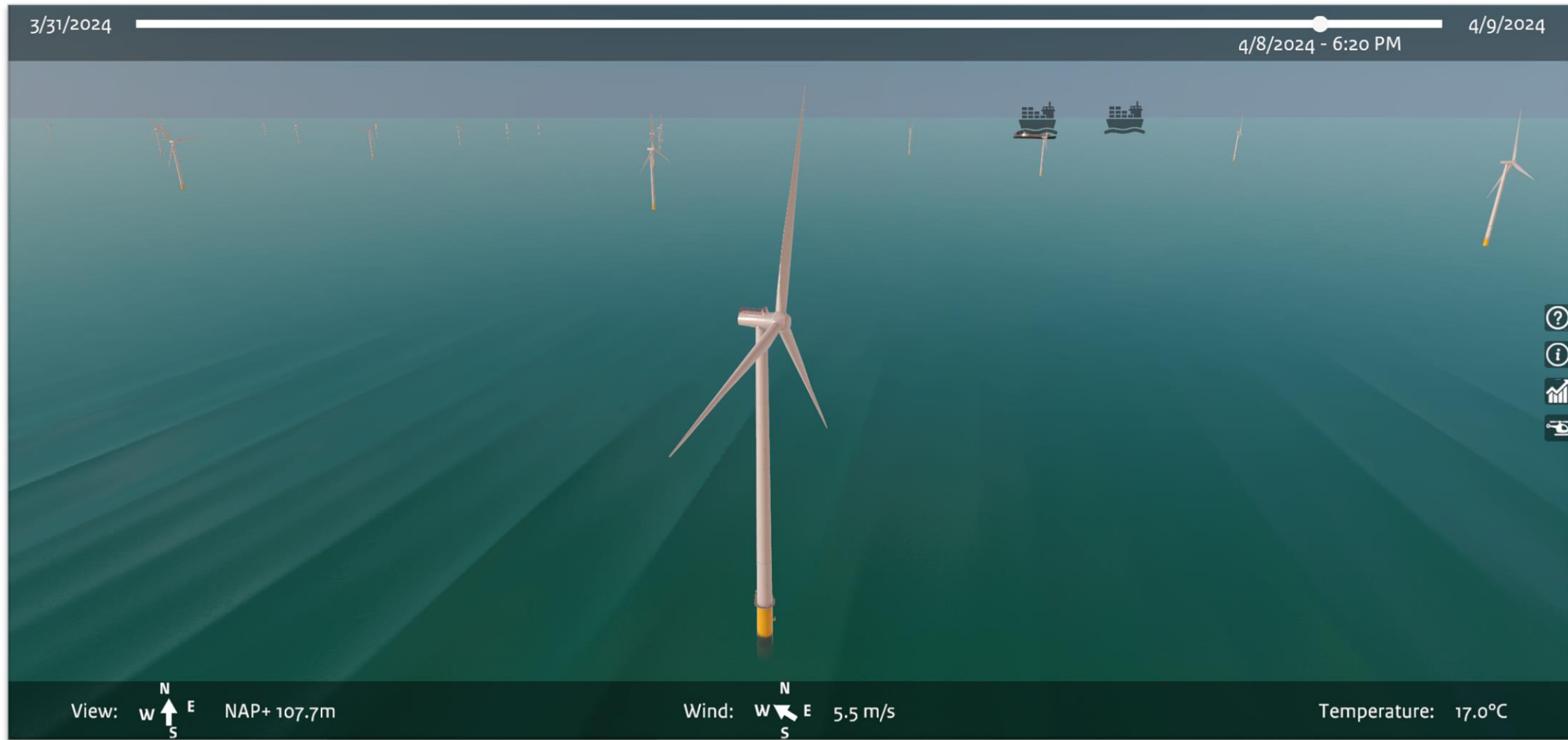
- Accessible via the browser
- Allows user to freely move around in the wind farm that is made to scale and contains:
 - near real-time information of local relevant data
 - multiple assets that the user can investigate for more information



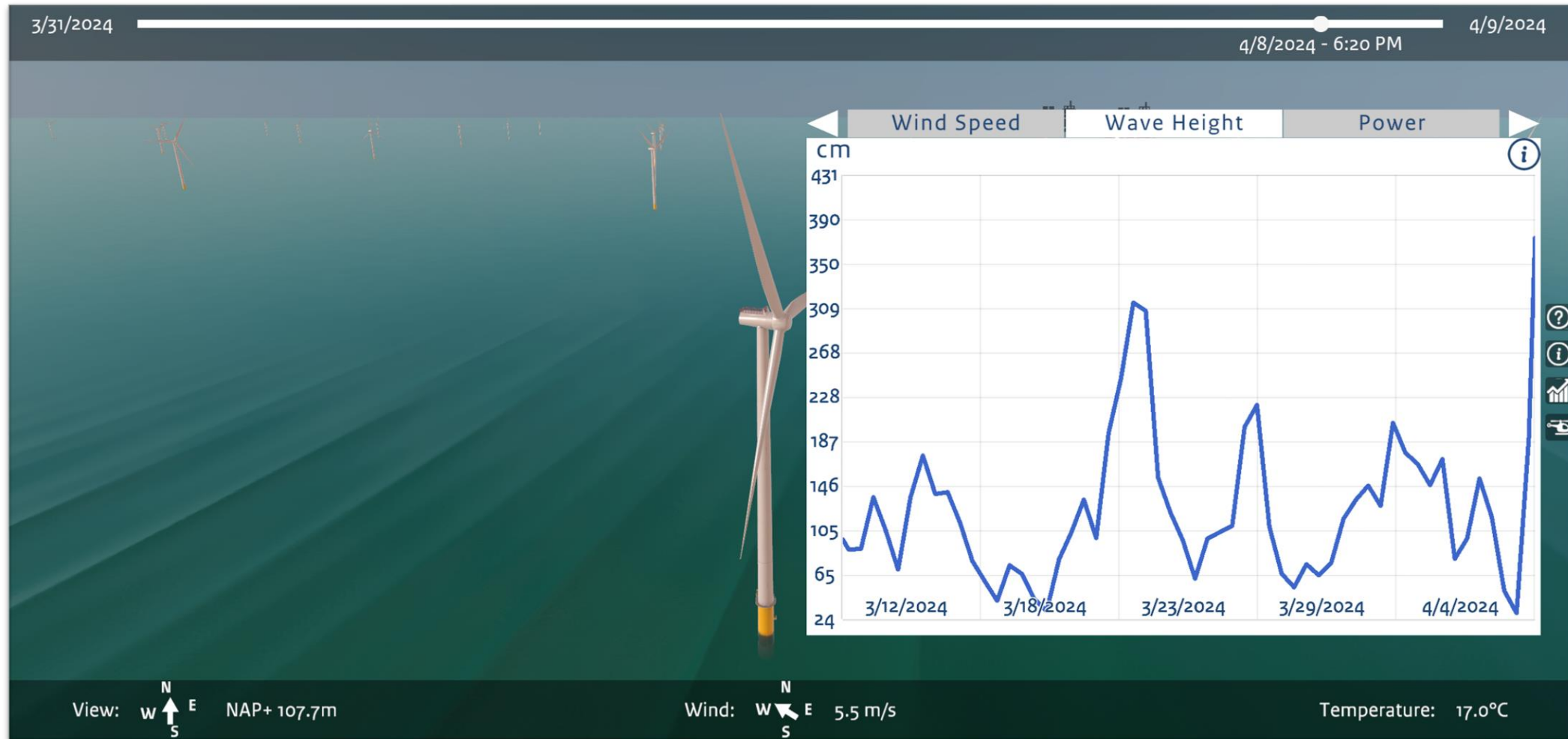
The project Digitwin North Sea – 3D demo twin – NRT Information



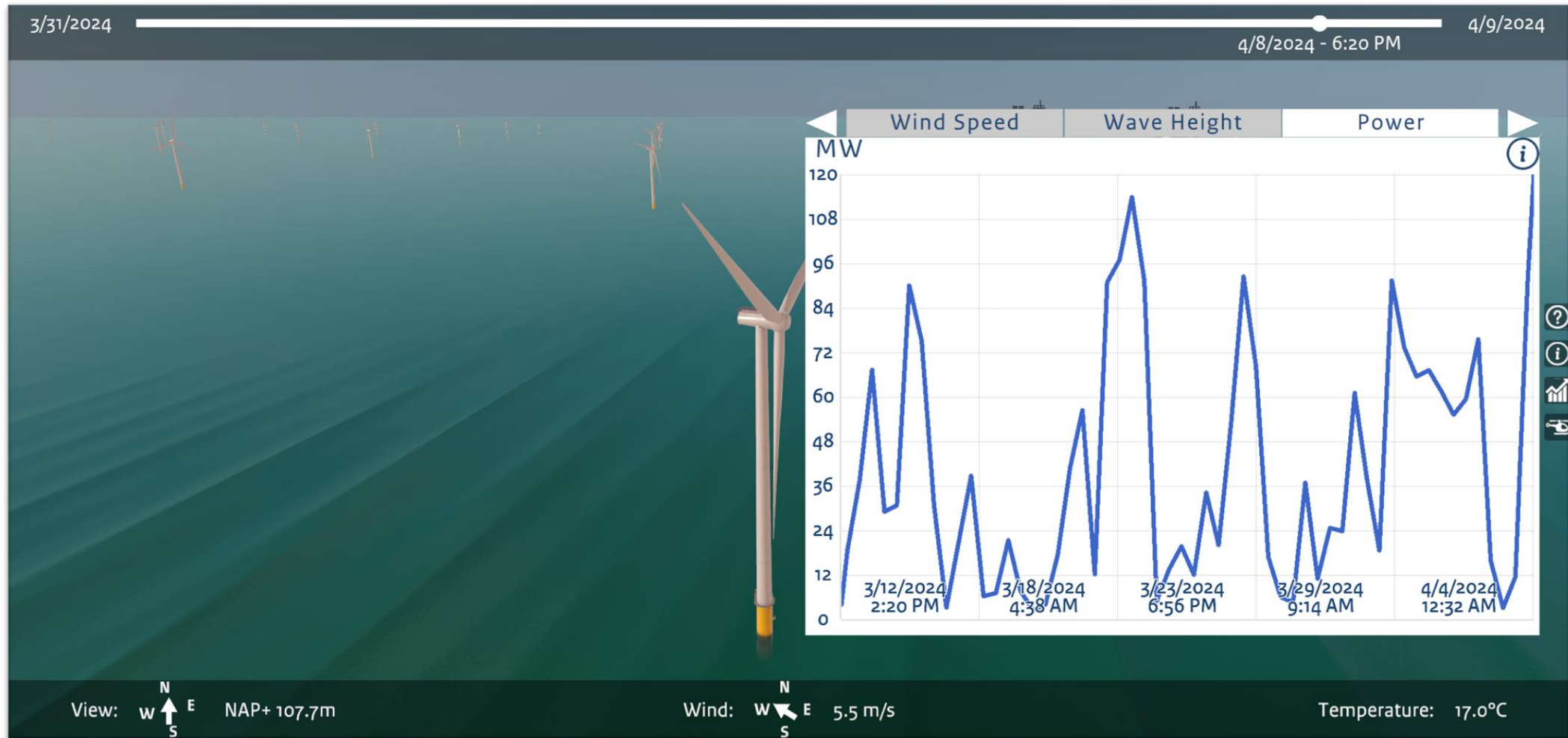
The project Digitwin North Sea – 3D demo twin – NRT Information



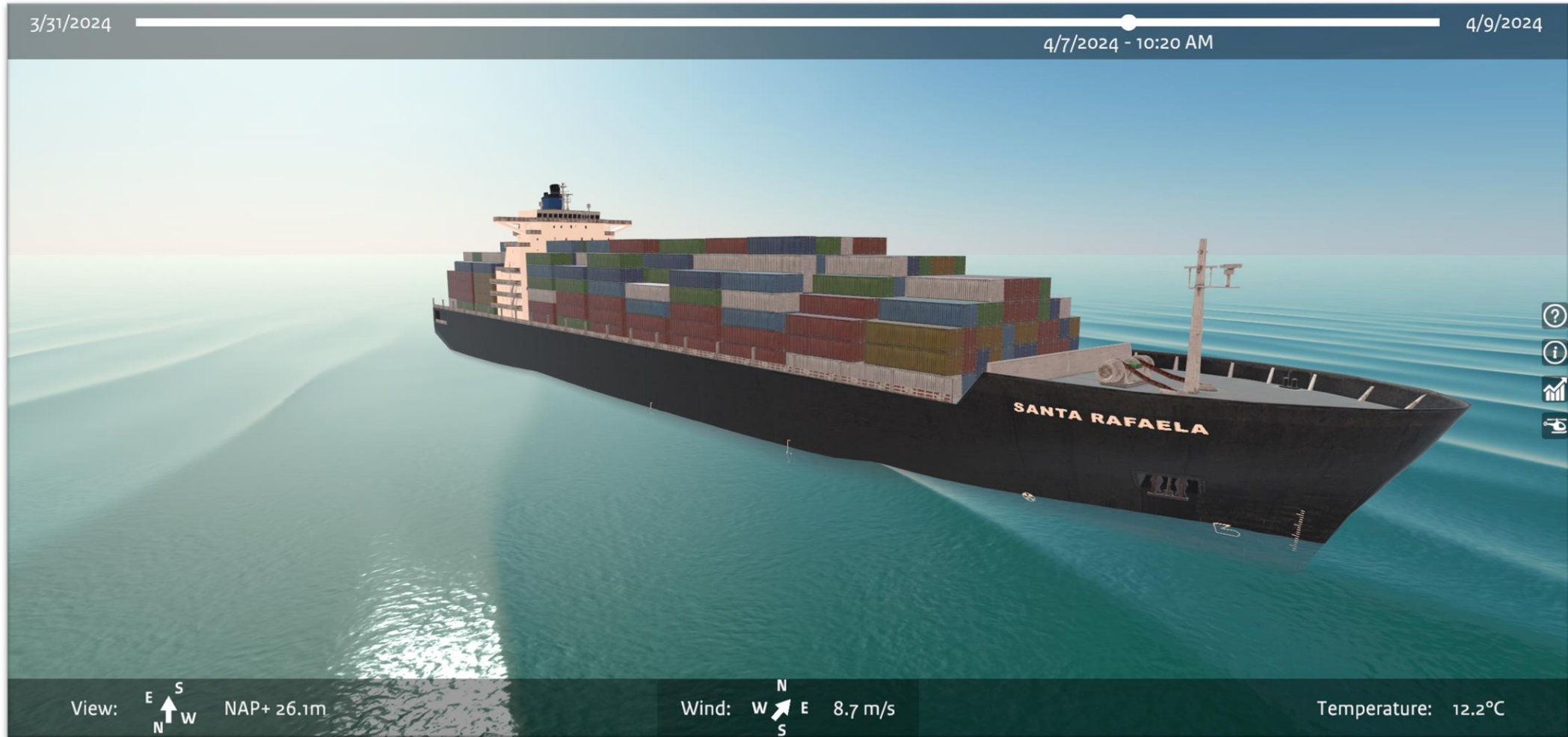
The project Digitwin North Sea – 3D demo twin – NRT Information



The project Digitwin North Sea – 3D demo twin – NRT Information

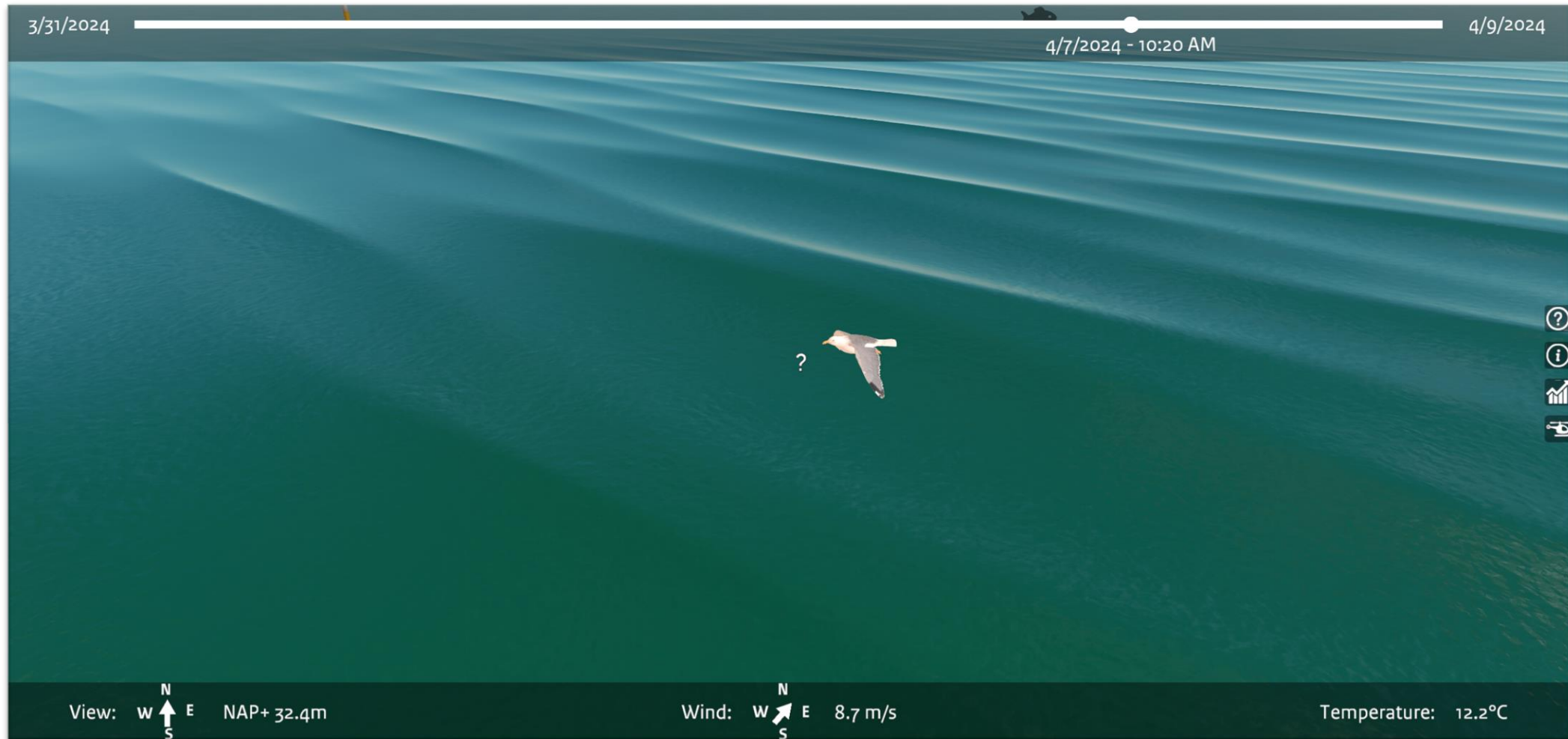


The project Digitwin North Sea – 3D demo twin – Assets



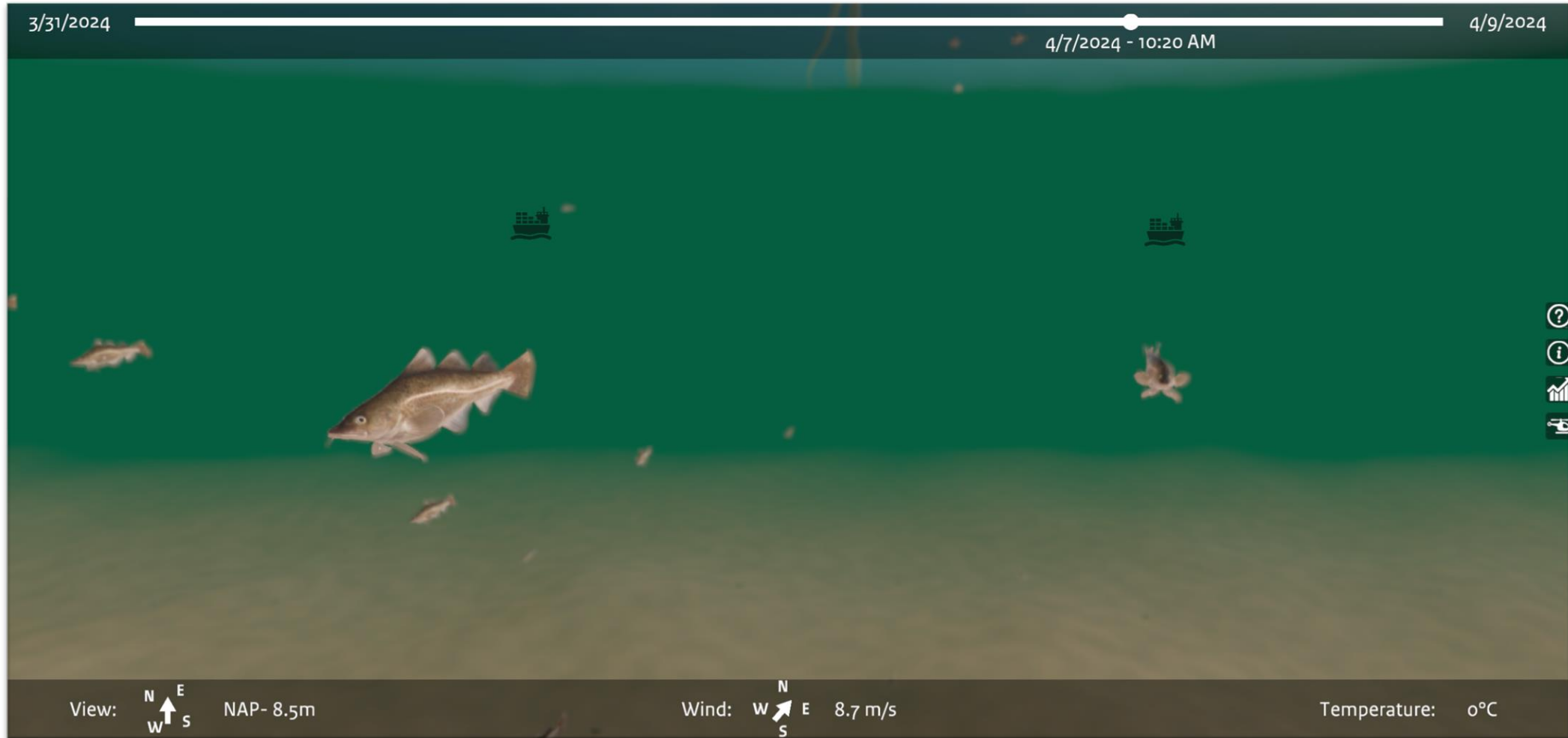


The project Digitwin North Sea – 3D demo twin – Assets





The project Digitwin North Sea – 3D demo twin – Assets

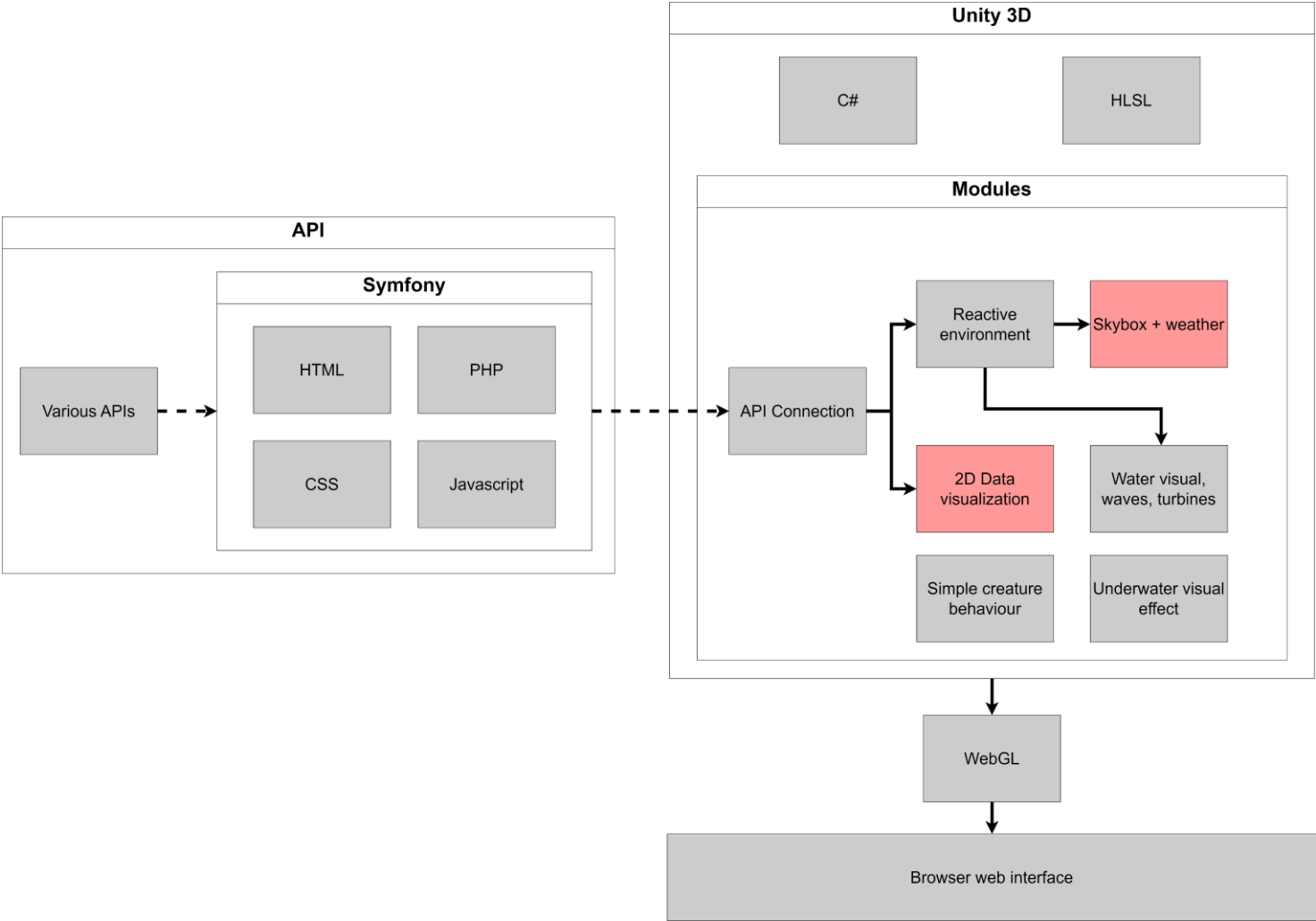


The project Digitwin North Sea – 3D demo twin – Assets



The project Digitwin North Sea – 3D demo twin

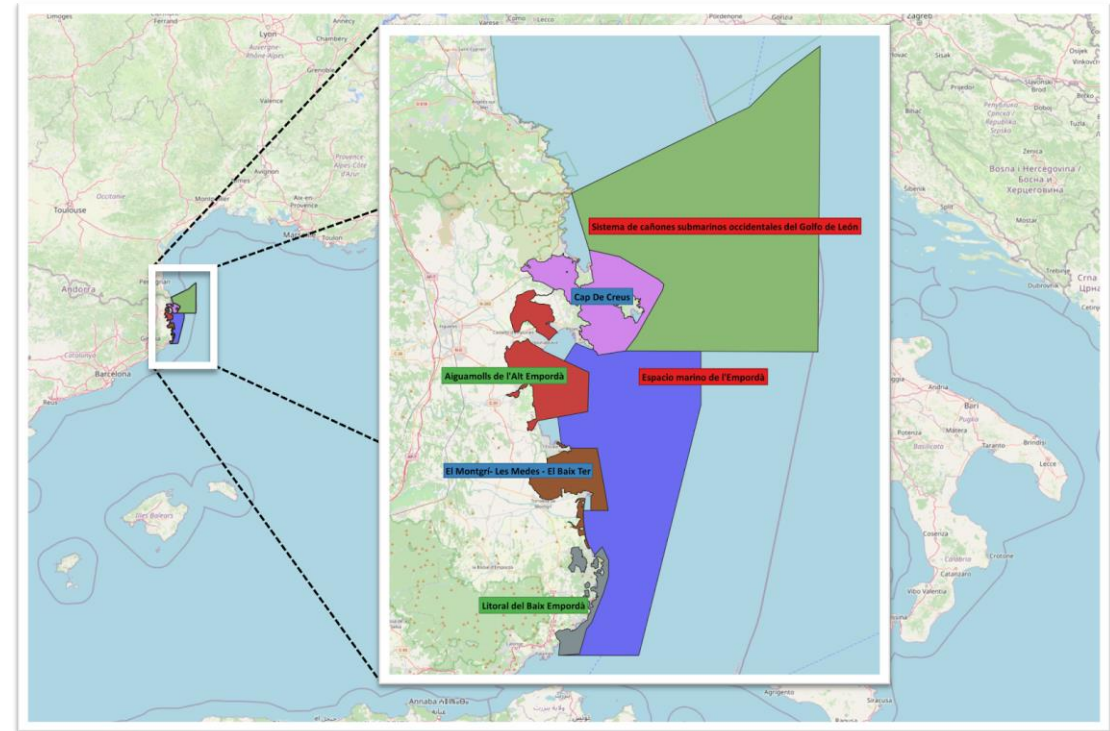
Technical architecture



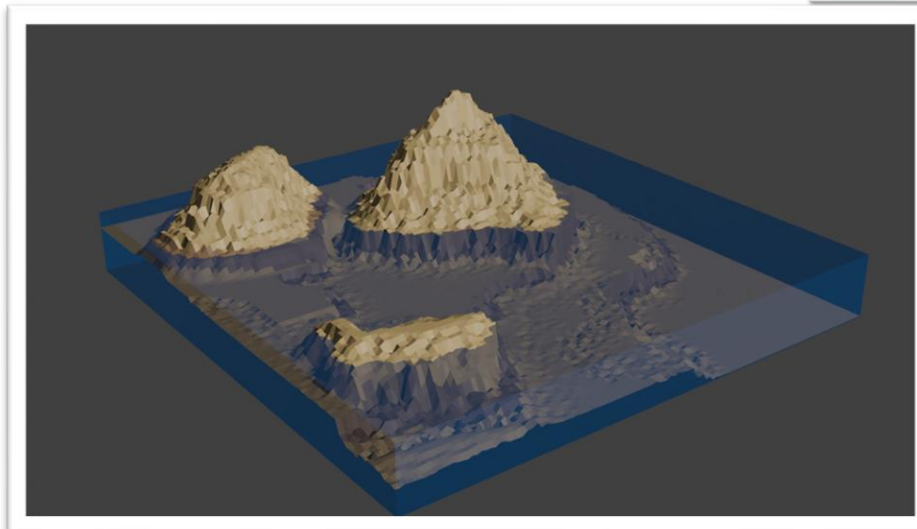
Next steps – Marine Protected Area

The demo 3D twin is built in a modular fashion, meaning the technologies developed, can be independently used for other projects:

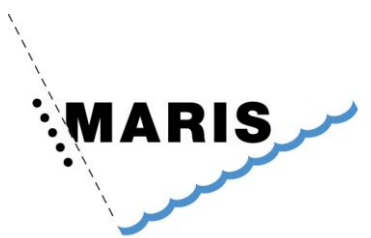
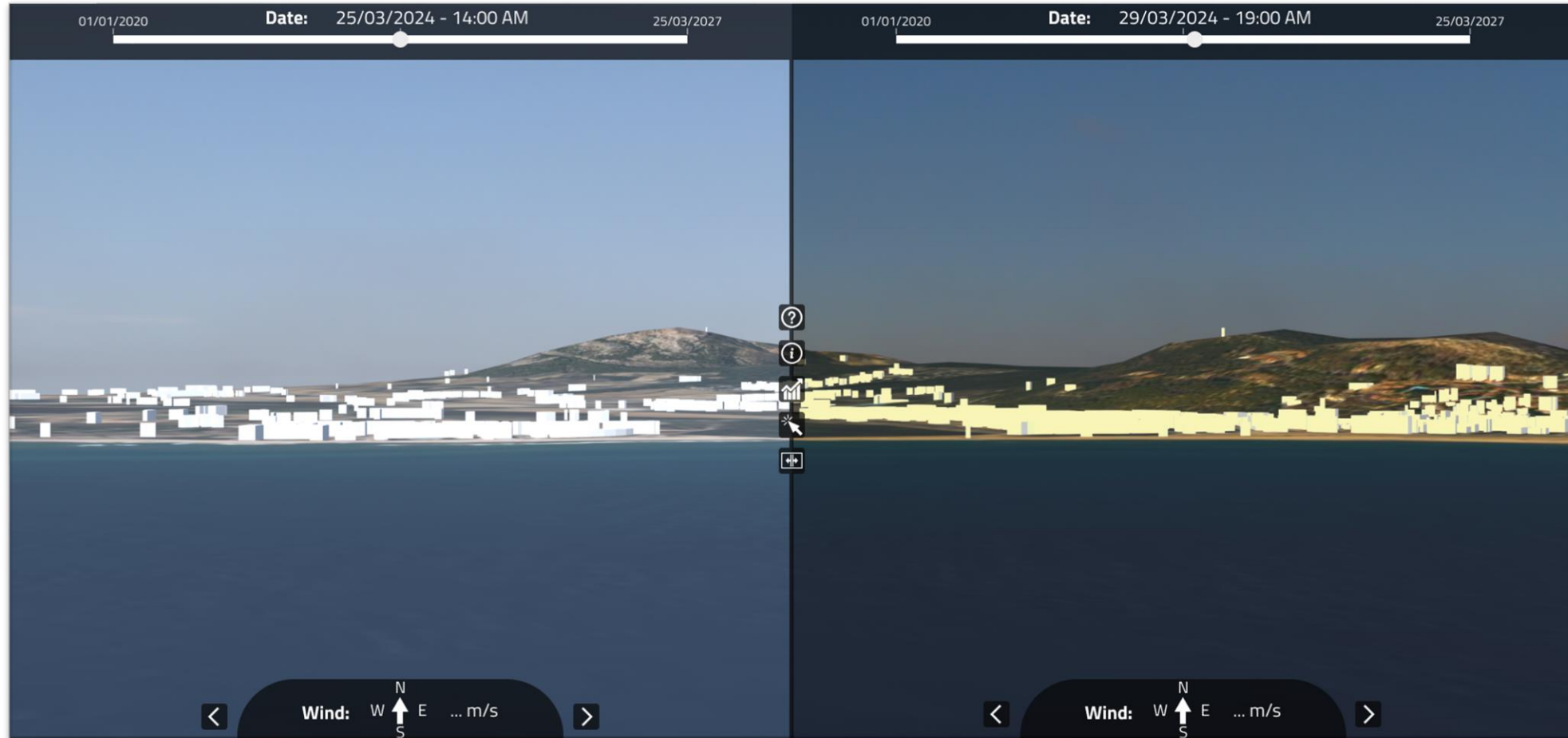
- Water
- Underwater visual effect
- Skybox + weather
- Reactive environment
- Api-connection module (Unity3D)
- Simple creature behavior
- 2D data visualization



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Next steps – What if scenario's



Thanks for your attention!

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Session information

