MOSES

Autonomous tugboats for efficient, eco-friendly and safe port operations

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DECEMBER EDITION
ONLINE STREAMING

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Machine Learning and Artificial Intelligence technologies for

Predictive Maintenance

Energy Management & Optimisation

Swarm intelligence

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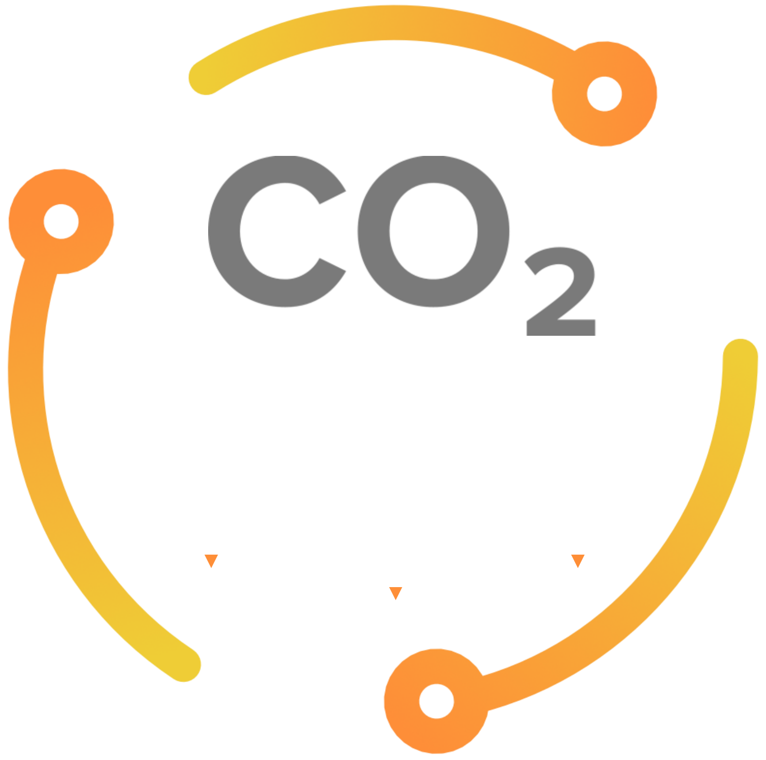
a holistic solution for autonomous vessel towage operations

why Autonomous Tugboats

a step towards the decarbonization of waterborne operations

reduced fuel consumption and GHG emissions



How can we validate this?

Our Key Performance Indicators

Cost reduction of port operations

Reduction of docking times

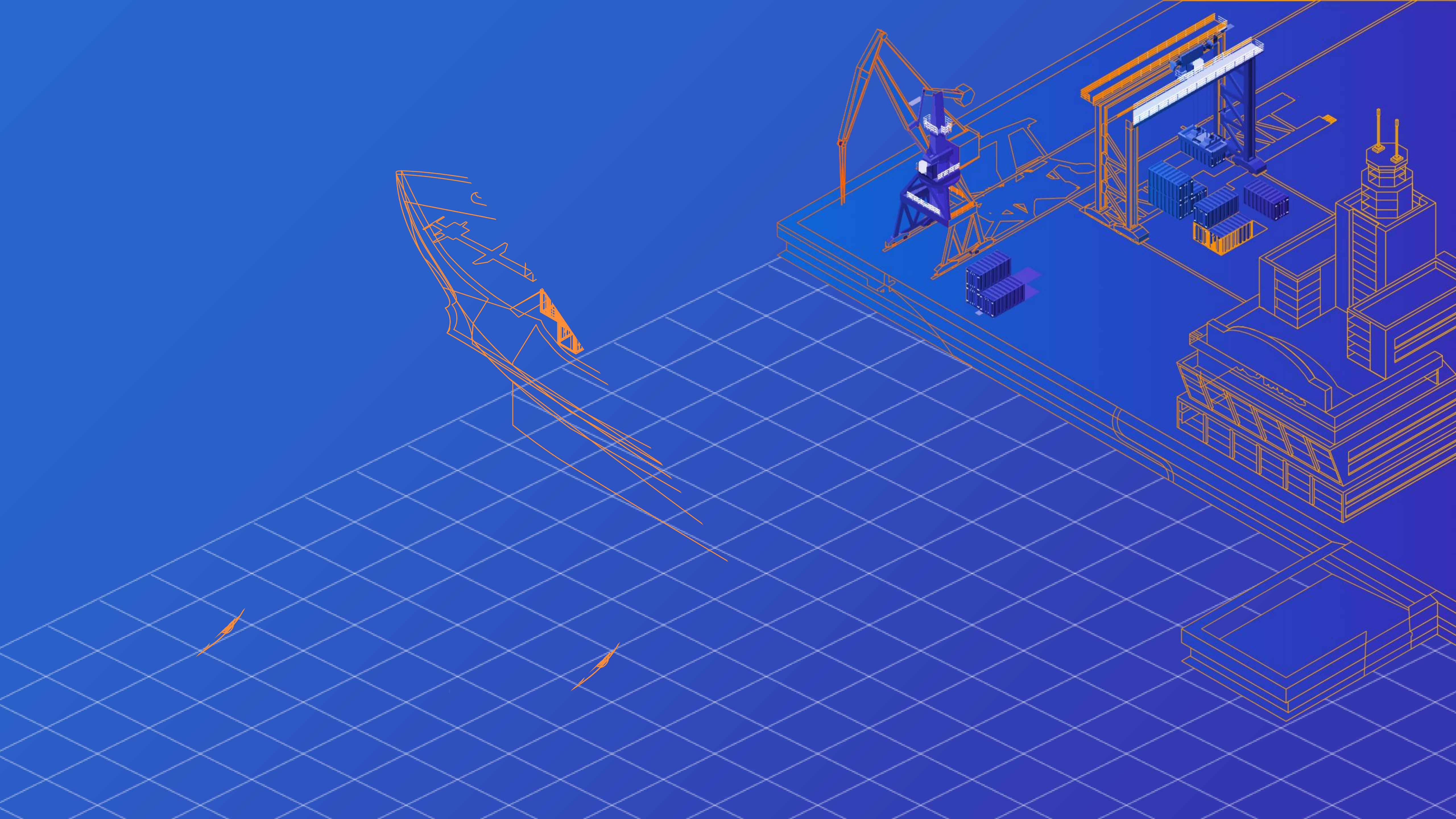
Reduction of manoeuvring times

Reduction of human-error accidents in ports

Engagement of small ports as container terminals

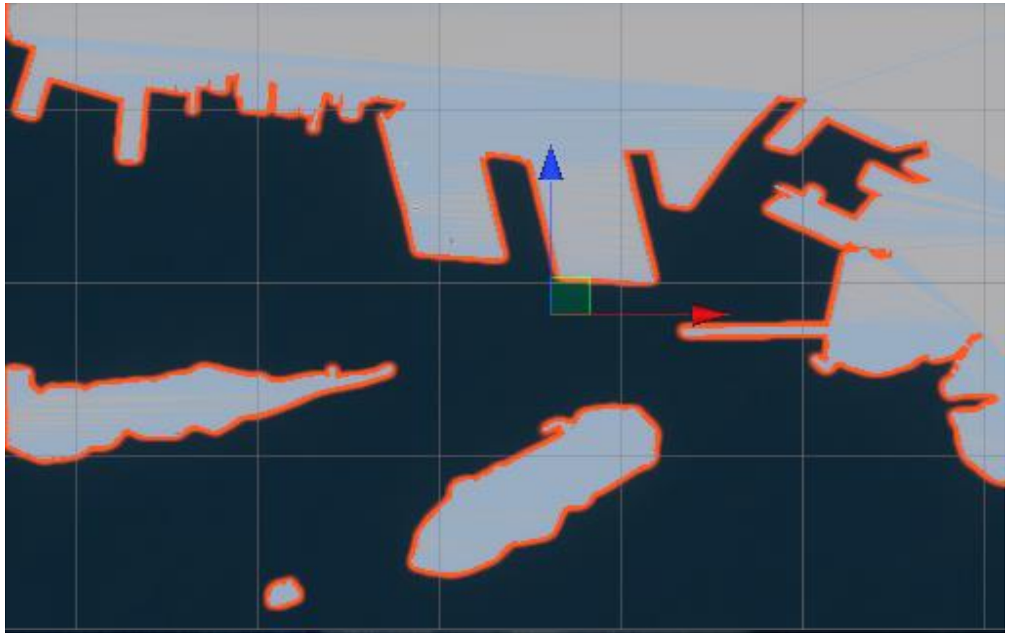
use of enabling technologies

State of the art
Simulation Environment

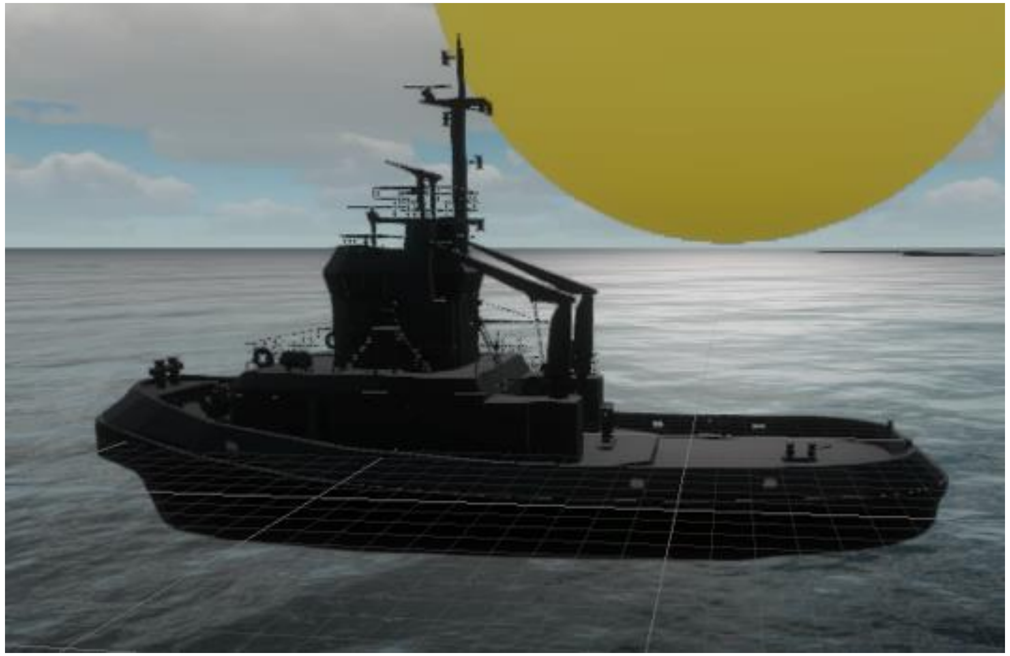


Simulation of the whole operating environment & water physics

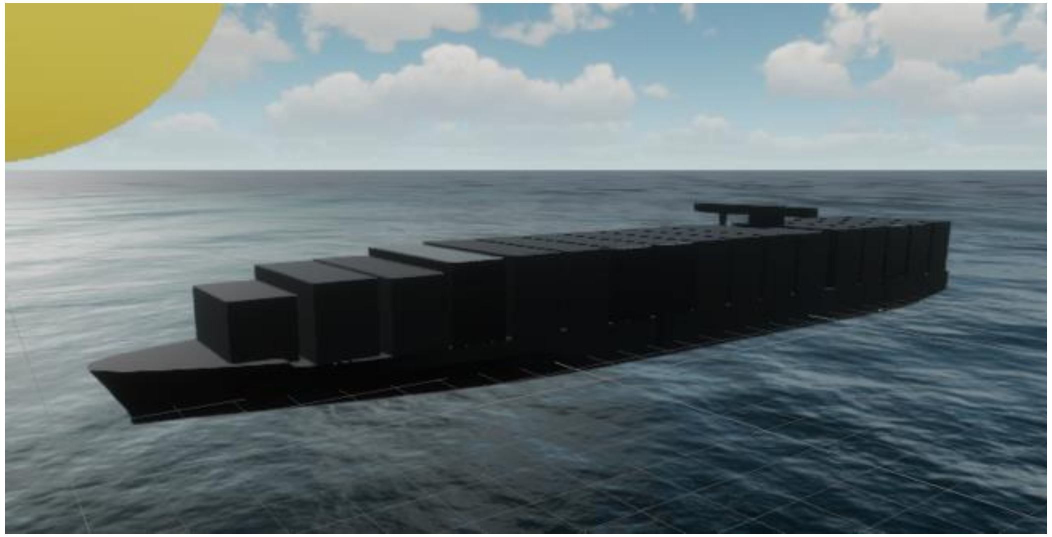
Virtual port environment



Virtual tugboat

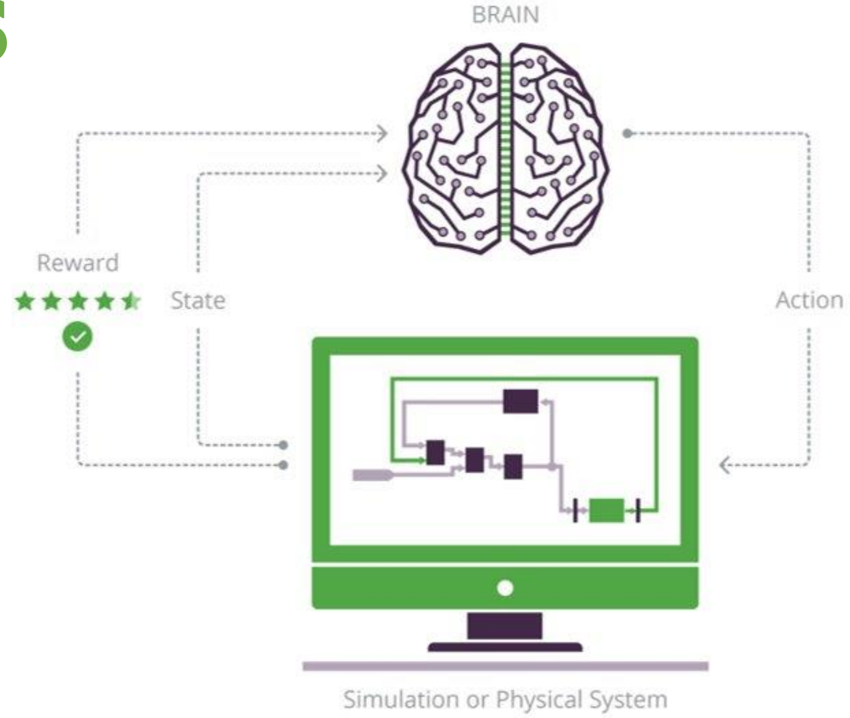


Virtual containership



integrate intelligence into a swarm of autonomous tugboats.

Implement reinforcement learning algorithms





Reinforcement is the way we learn

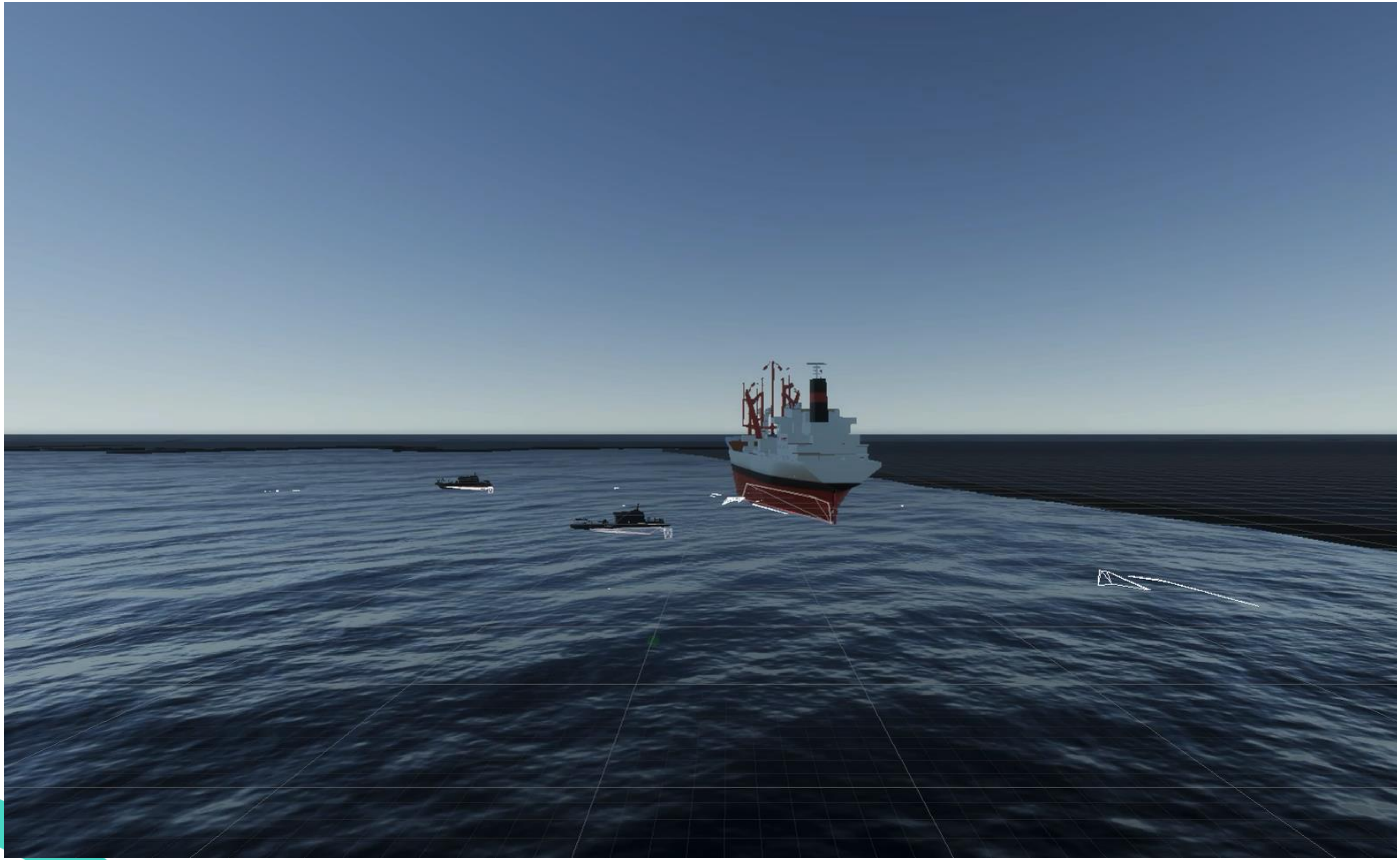


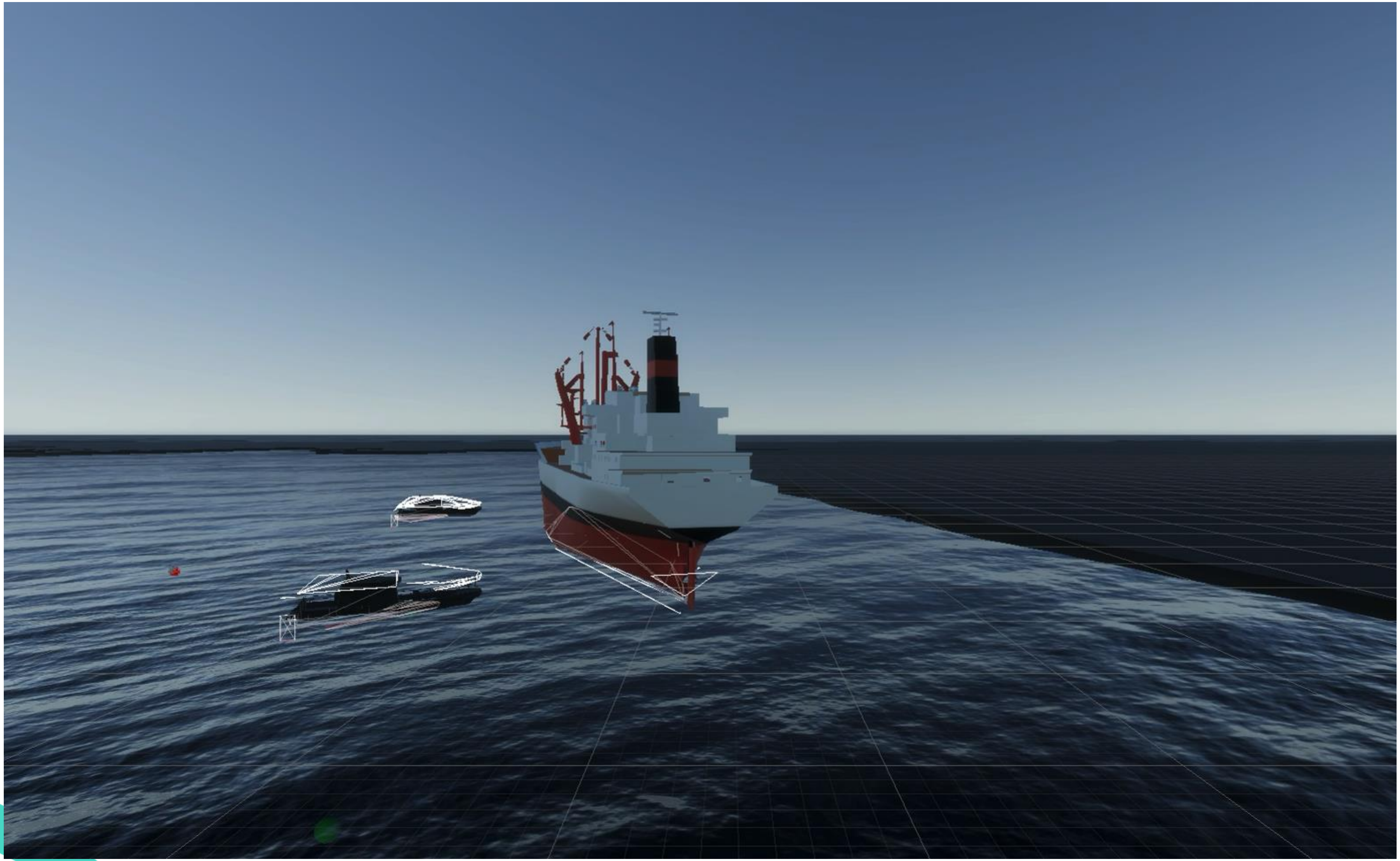
What's next then?

Integration with shore control station

Collaboration with autonomous docking system

Validation of the technology in a relevant environment





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Thank you for your attention!

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