Mission-driven Design of the new Finnish B+-icebreaker

Arctic Passion Seminar

Lauri Kuuliala

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Public

Finnish Transport Infrastructure Agency

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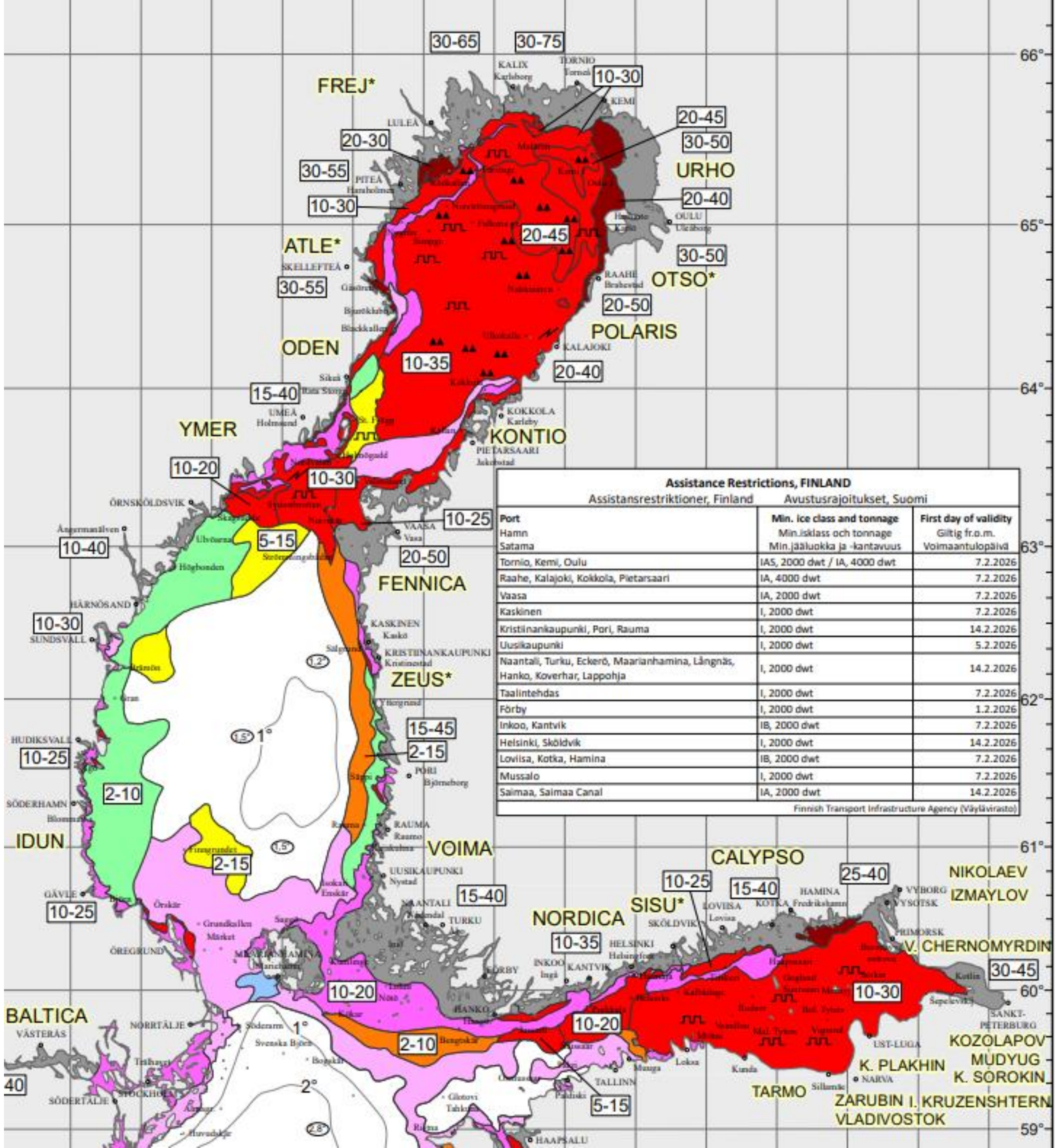
Finnish-Swedish Winter Navigation System

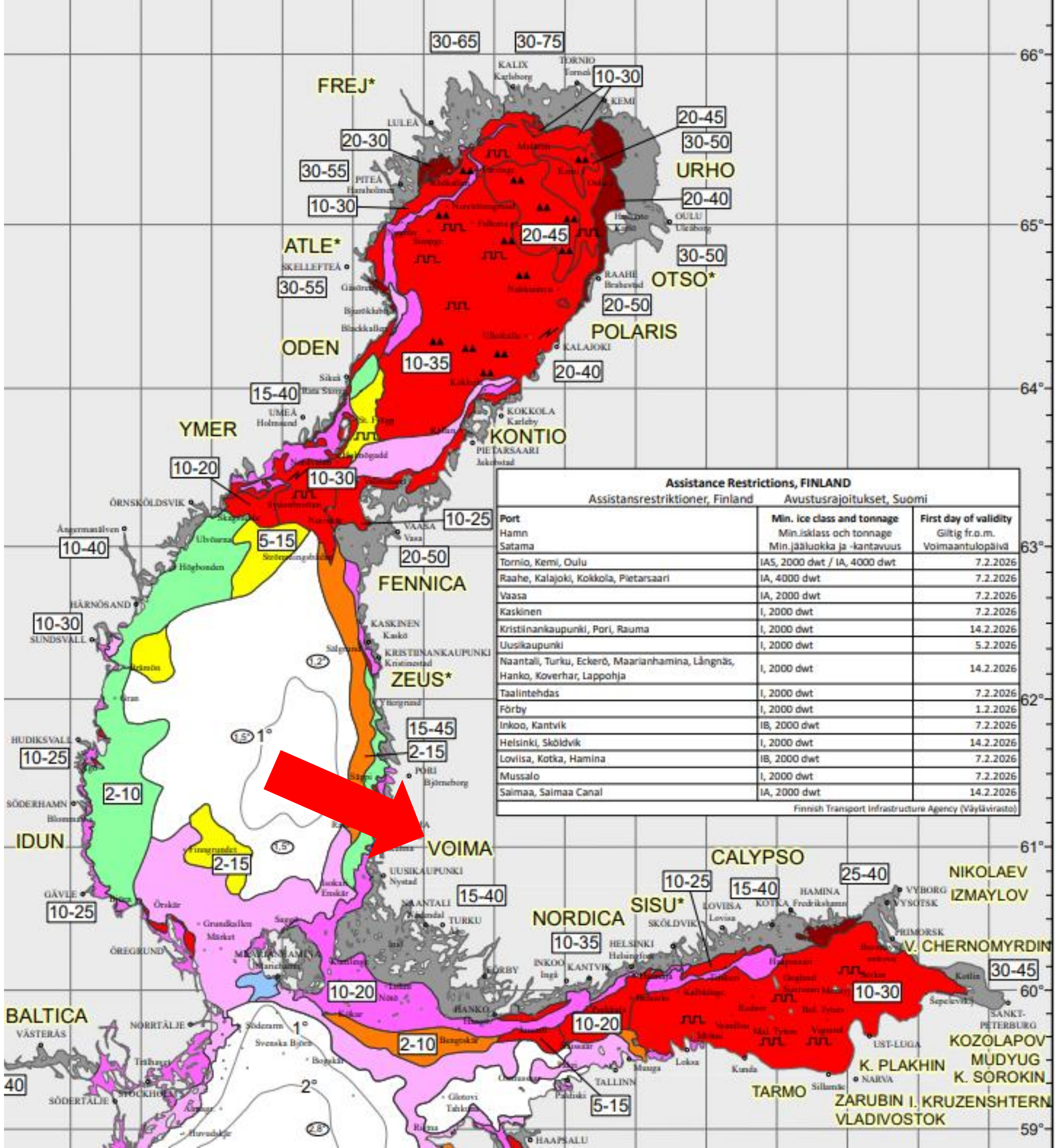


Port Hamn Satama	Min. ice class and tonnage Min.isklass och tonnage Min.jääluokka ja -kantavuus	First day of validity Giltig fr.o.m. Voimaantulopäivä
Tornio, Kemi, Oulu	IAS, 2000 dwt / IA, 4000 dwt	7.2.2026
Raahe, Kalajoki, Kokkola, Pietarsaari	IA, 4000 dwt	7.2.2026
Vaasa	IA, 2000 dwt	7.2.2026
Kaskinen	I, 2000 dwt	7.2.2026
Kristiinankaupunki, Pori, Rauma	I, 2000 dwt	14.2.2026
Uusikaupunki	I, 2000 dwt	5.2.2026
Naantali, Turku, Eckerö, Maarianhamina, Långnäs, Hanko, Koverhar, Lappohja	I, 2000 dwt	14.2.2026
Taalintehdas	I, 2000 dwt	7.2.2026
Förby	I, 2000 dwt	1.2.2026
Inkoo, Kantvik	IB, 2000 dwt	7.2.2026
Helsinki, Sköldvik	I, 2000 dwt	14.2.2026
Loviisa, Kotka, Hamina	IB, 2000 dwt	7.2.2026
Mussalo	I, 2000 dwt	7.2.2026
Saimaa, Saimaa Canal	IA, 2000 dwt	14.2.2026

Assistance Restrictions, FINLAND — Assistansrestriktioner, Finland — Avustusrajoitukset, Suomi

Finnish Transport Infrastructure Agency (Väylävirasto)

Ice Map: Finnish Meteorological Institute, 19 February 2026



Assistance Restrictions, FINLAND
Assistansrestriktioner, Finland — Avustusrajoitukset, Suomi

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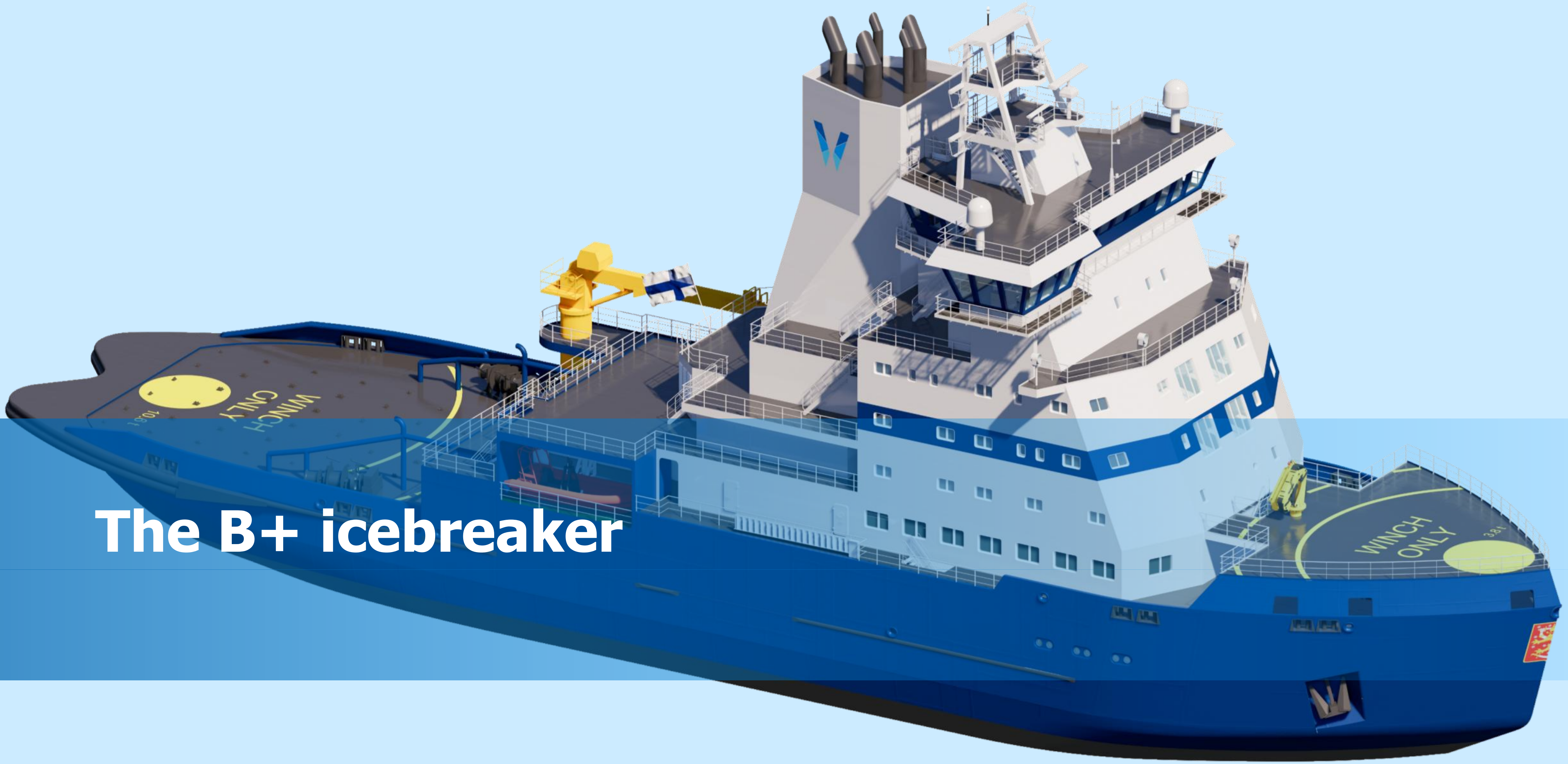
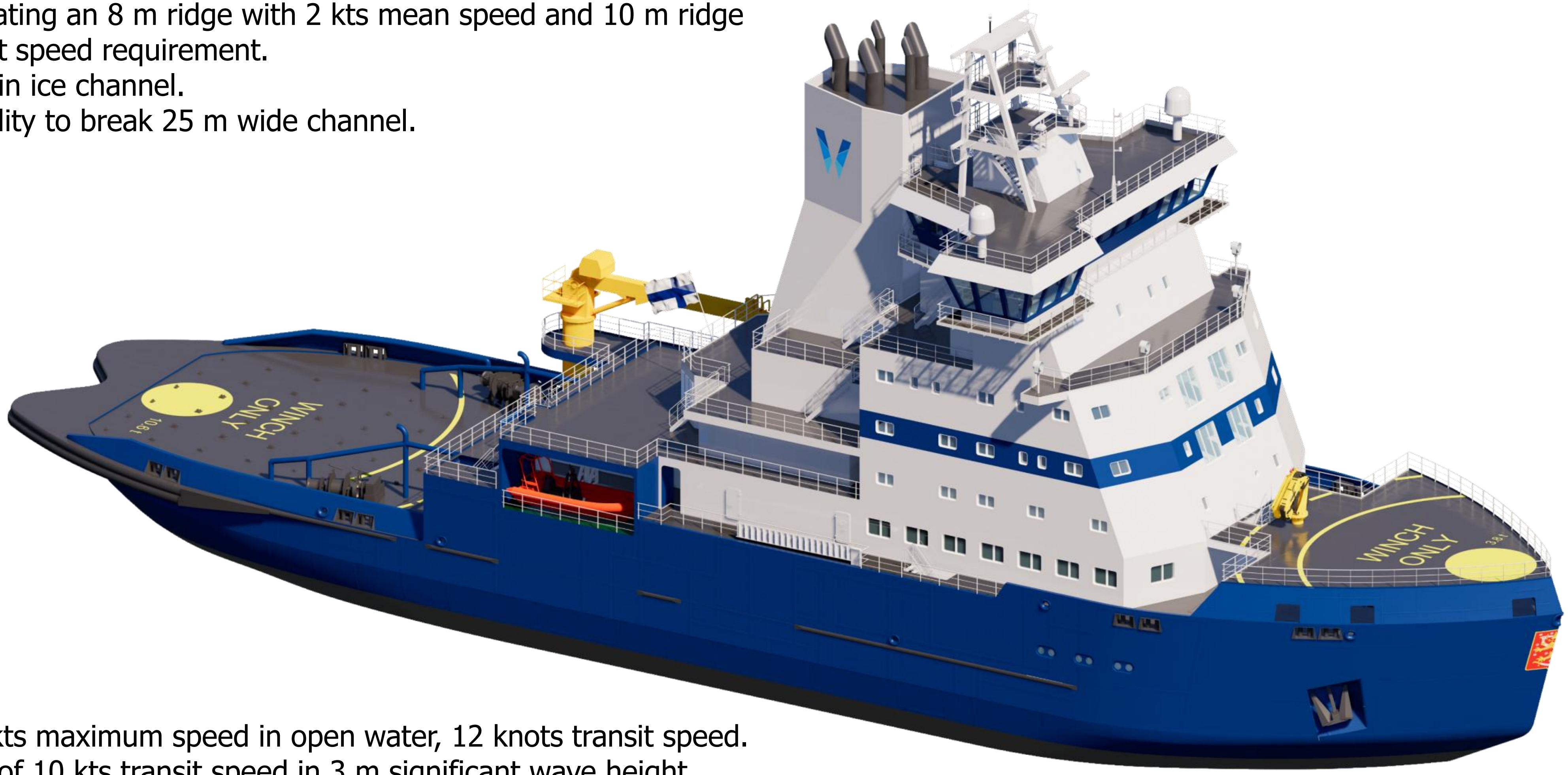
Mission of a Baltic Assistance Icebreaker

The B+ icebreaker



Icebreaking requirements:

- 8 kts in 0,6 m level ice and 5 kts in 0,8 m level ice forward.
- Penetrating an 8 m ridge with 2 kts mean speed and 10 m ridge without speed requirement.
- 12 kts in ice channel.
- Capability to break 25 m wide channel.

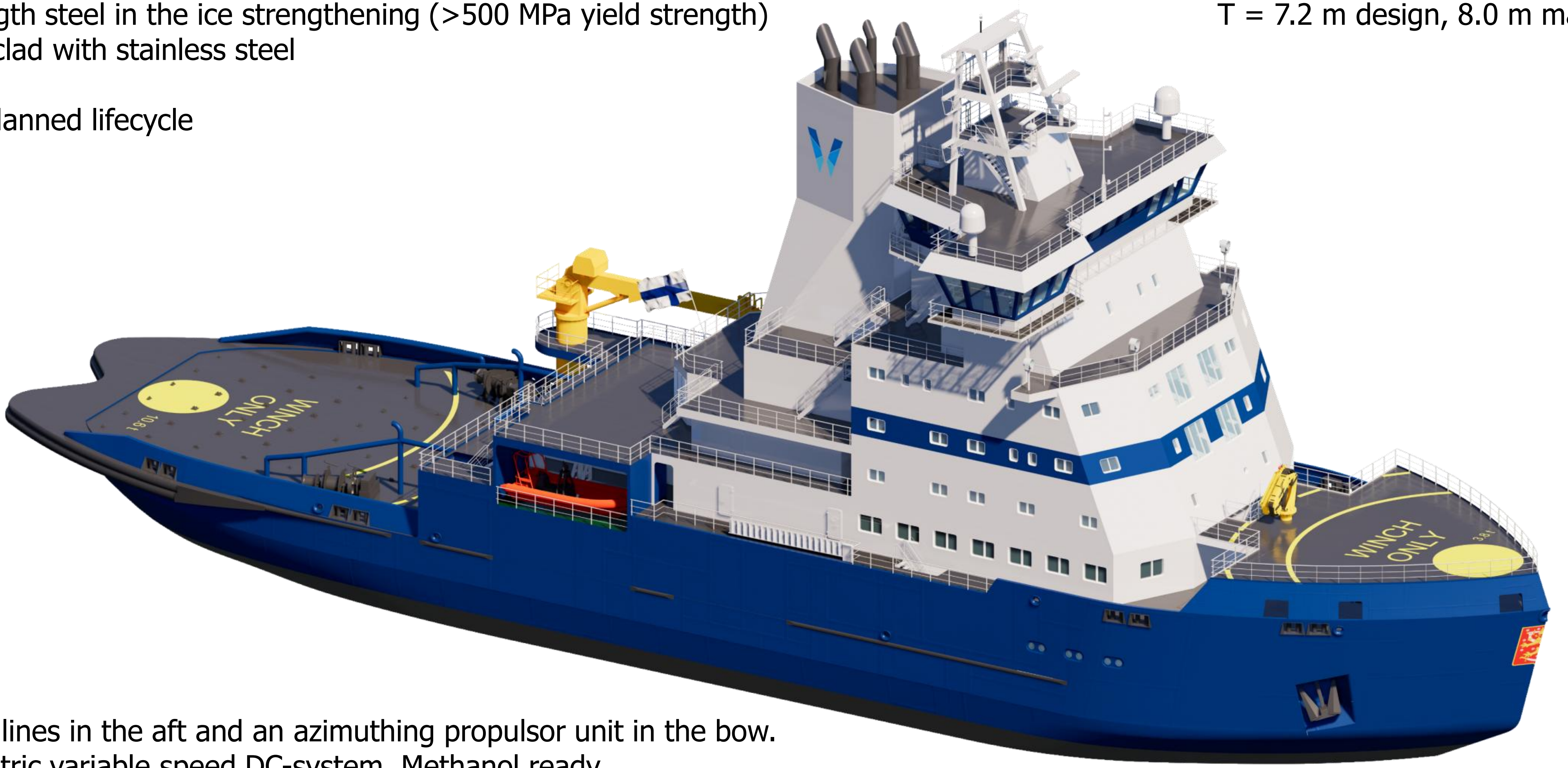


About 15 kts maximum speed in open water, 12 knots transit speed.
Capability of 10 kts transit speed in 3 m significant wave height.
20 days endurance in icebreaking.

Ice Class PC5 Icebreaker(+)
Dimensioned for the ice conditions of the Gulf of Finland
High strength steel in the ice strengthening (>500 MPa yield strength)
Waterline clad with stainless steel

50 years planned lifecycle

L = 96 m overall, under 85 m rule length.
B = 23.7 m
T = 7.2 m design, 8.0 m maximum



Twin shaft lines in the aft and an azimuthing propulsor unit in the bow.
Diesel-electric variable speed DC-system. Methanol ready.
10 500 kW propulsion power, 120 tons bollard pull.

Roll damping tank.

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Infrastructure Agency