

Gunnar Wieslander
Head of Business Area Kockums

Welcome to Saab
Submarine Seminar 2019



Saab Submarine Seminar 2019

- Future-proofing submarines
Rickard Jonasson
- Modular design
Anna Gandal
- World class production
Helena Lönegård

Important information

This presentation may contain forward-looking statements which reflect Saab AB's current view on future events and financial and operational development. Words such as "intend", "expect", "anticipate", "may", "believe", "plan", "estimate" and other expressions which imply indications or predictions of future development or trends, and which are not based on historical facts, are intended to identify forward-looking statements. Forward-looking statements inherently involve both known and unknown risks and uncertainties as they depend on future events and circumstances. Forward-looking statements do not guarantee future results or development and the actual outcome could differ materially from the forward-looking statements.

Rickard Jonasson

Contract Responsible,
Gotland Mid-Life Upgrade

Future-proofing submarines

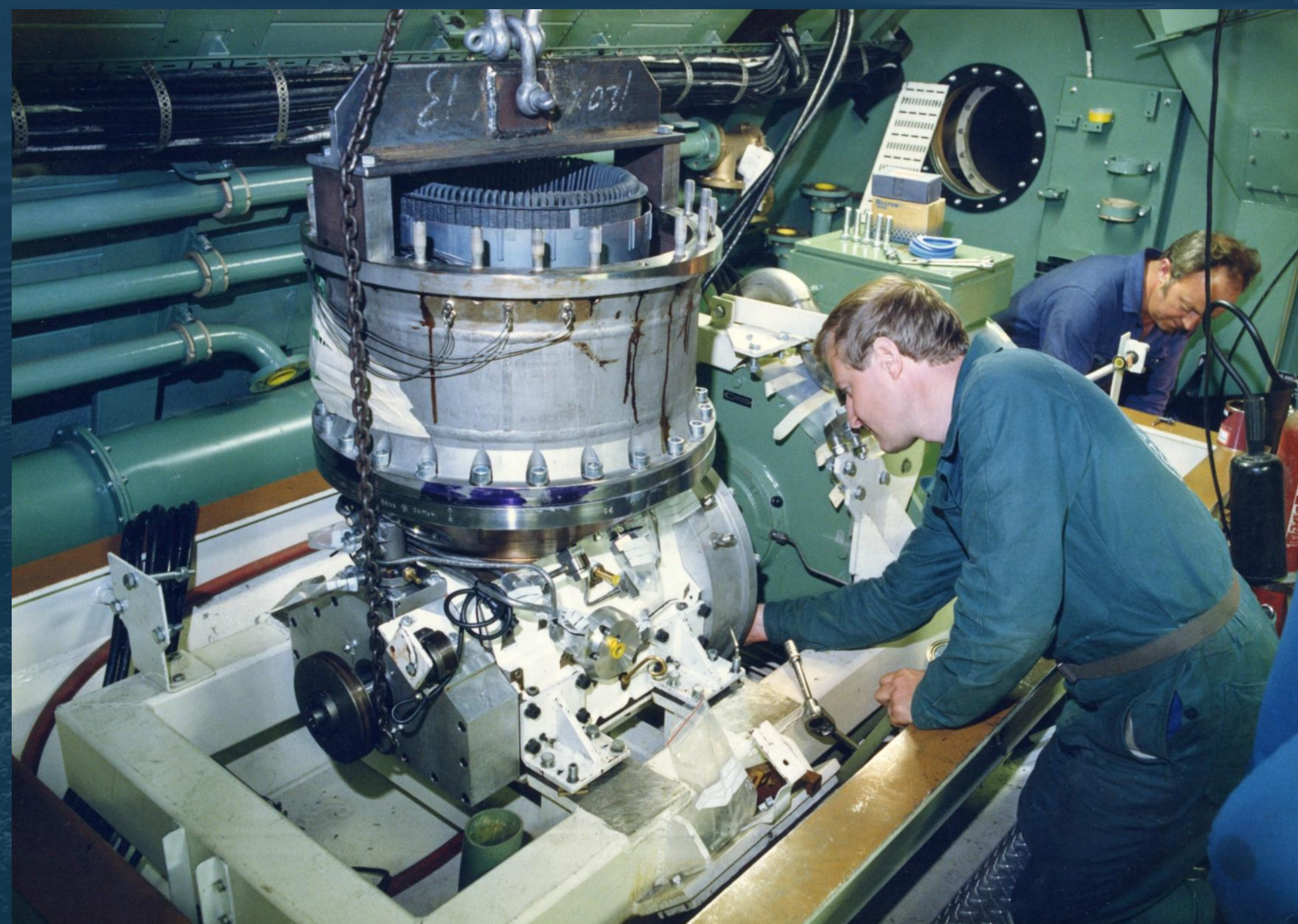
The mid-life upgrade process



Upgrades is part of our heritage

HMS Näcken 1988

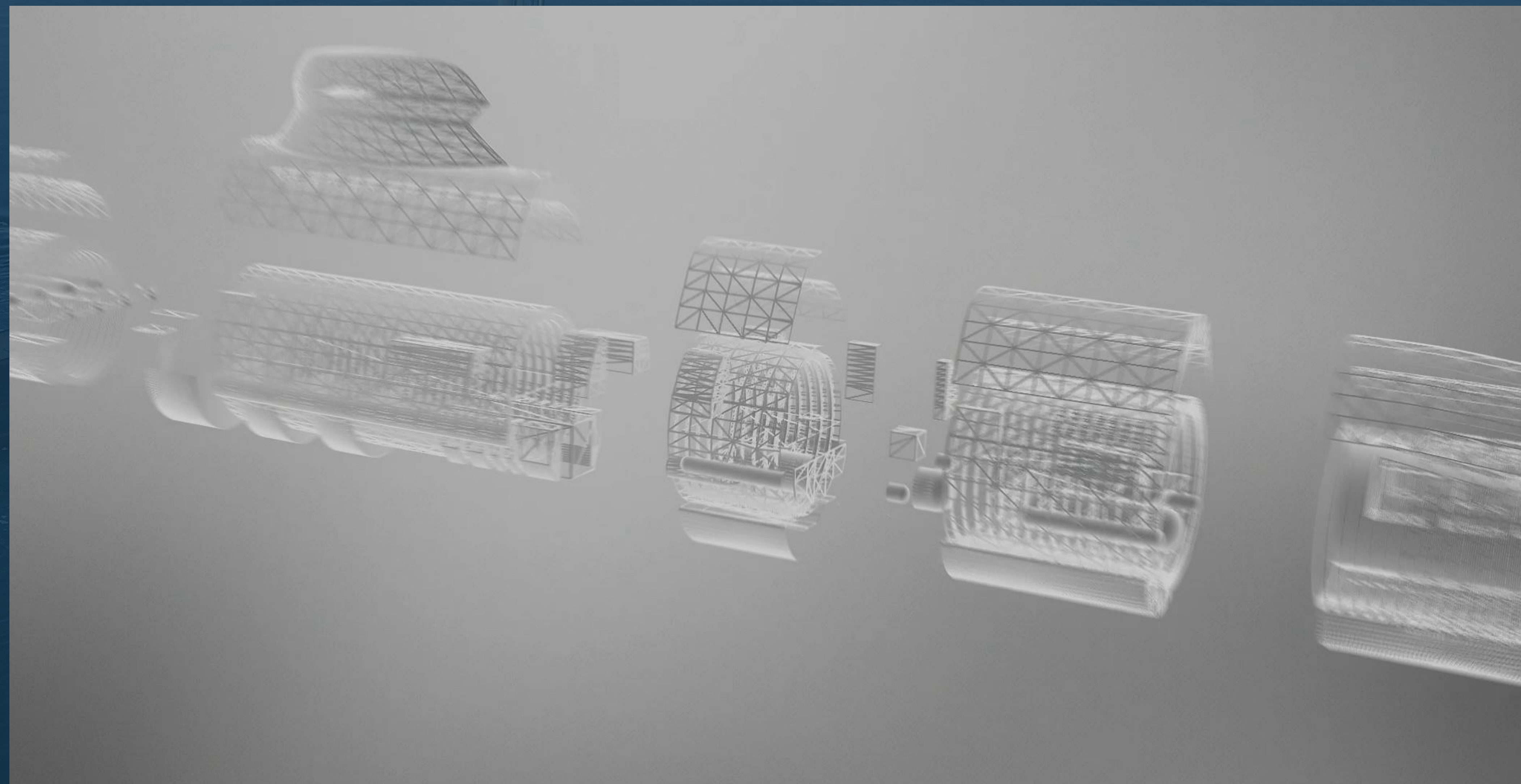
- Adding 10 meters with Stirling module



Don't try this at home

Cutting a 1500 tones submarine in half

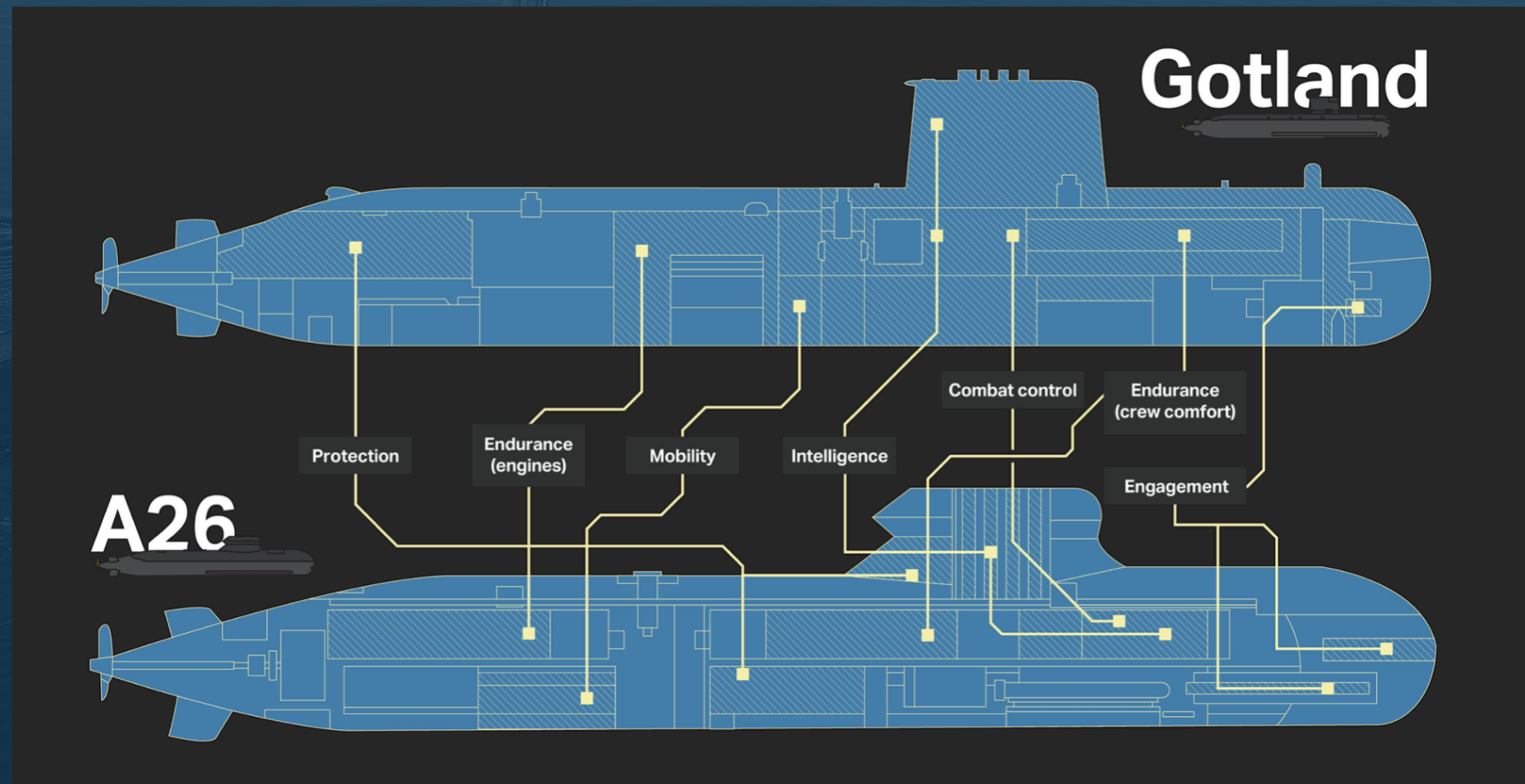
- Adding an extra section
- Improved performance
- New capabilities



Paving the way for A26

Sharing 20 most critical systems

- Combat systems
- Mast and sensors
- Land-based training for crew



HMS Gotland – The worlds most advanced conventional submarine

HMS Uppland, June 2019

- Launched and ready for sea trials



Thank you!

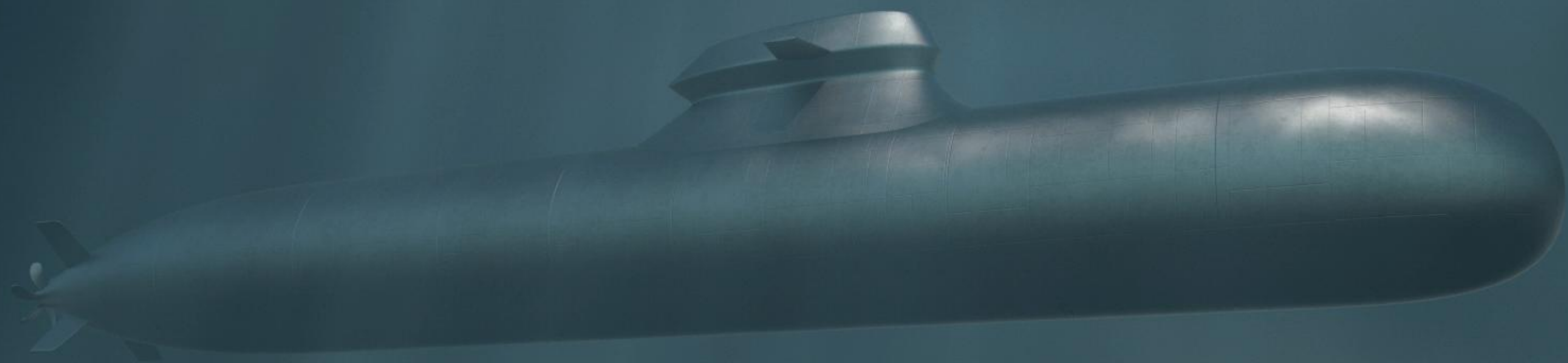
Anna Gandal

Head of Mechanical Systems

Modular design

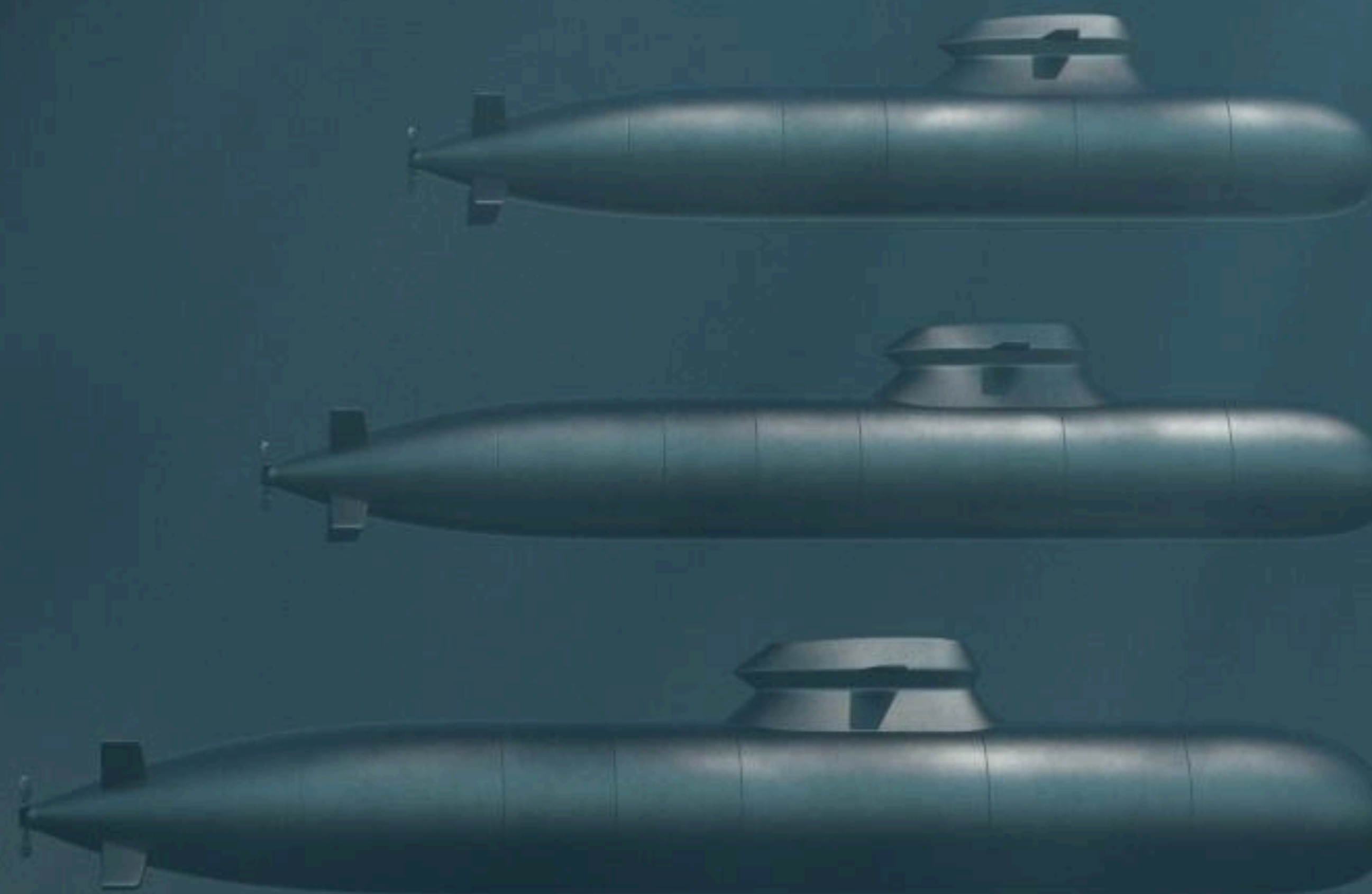
To fit various demands





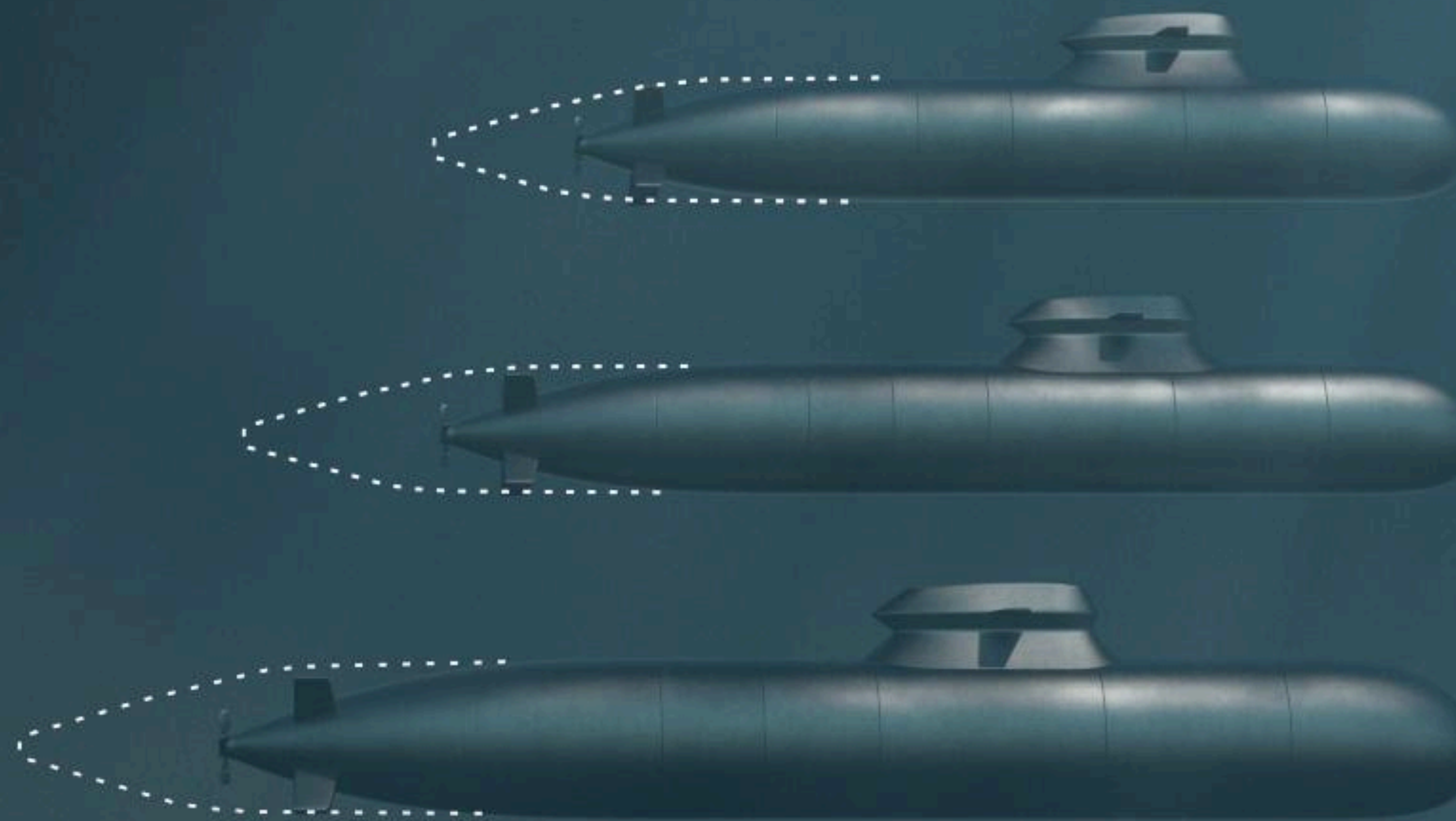
Three segments

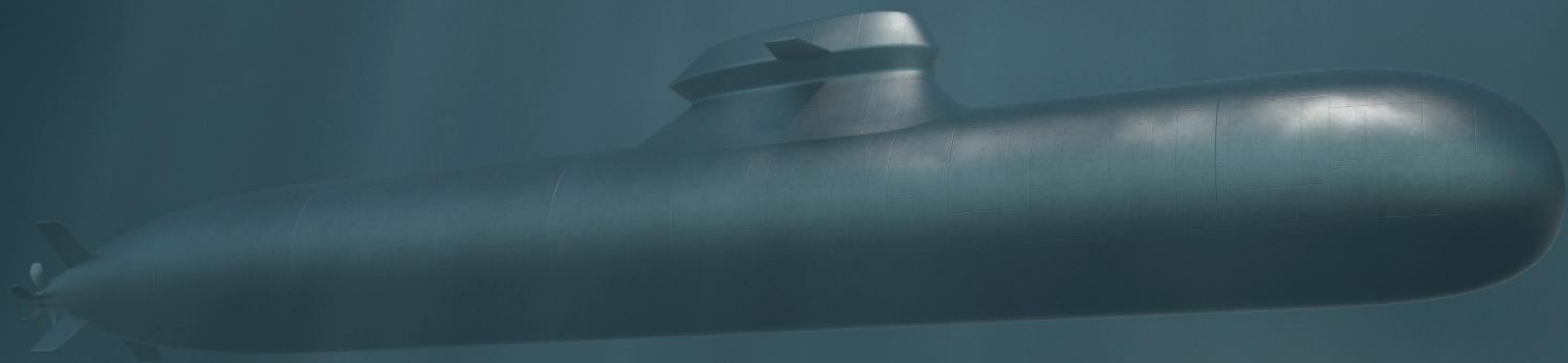
- Pelagic
- Oceanic
- Oceanic Extended Range



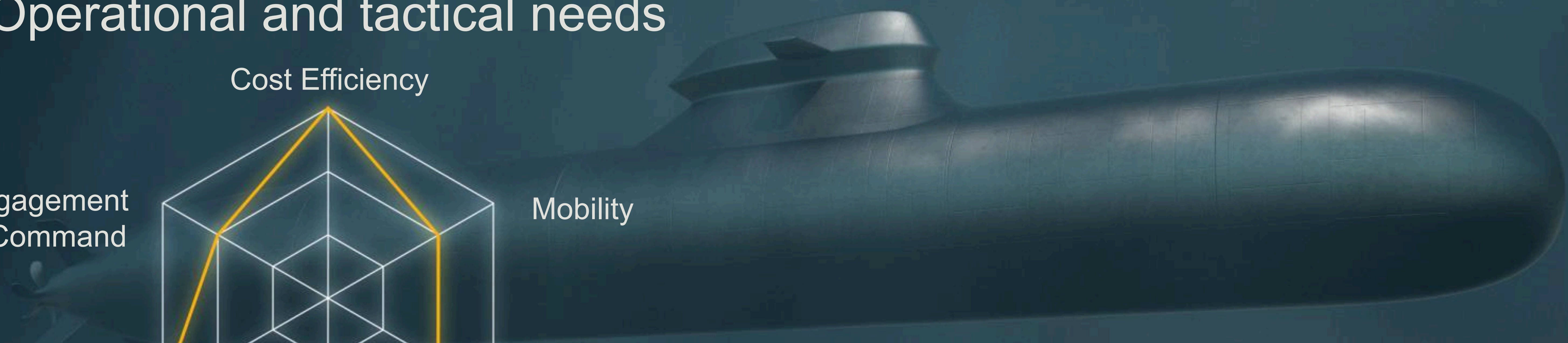
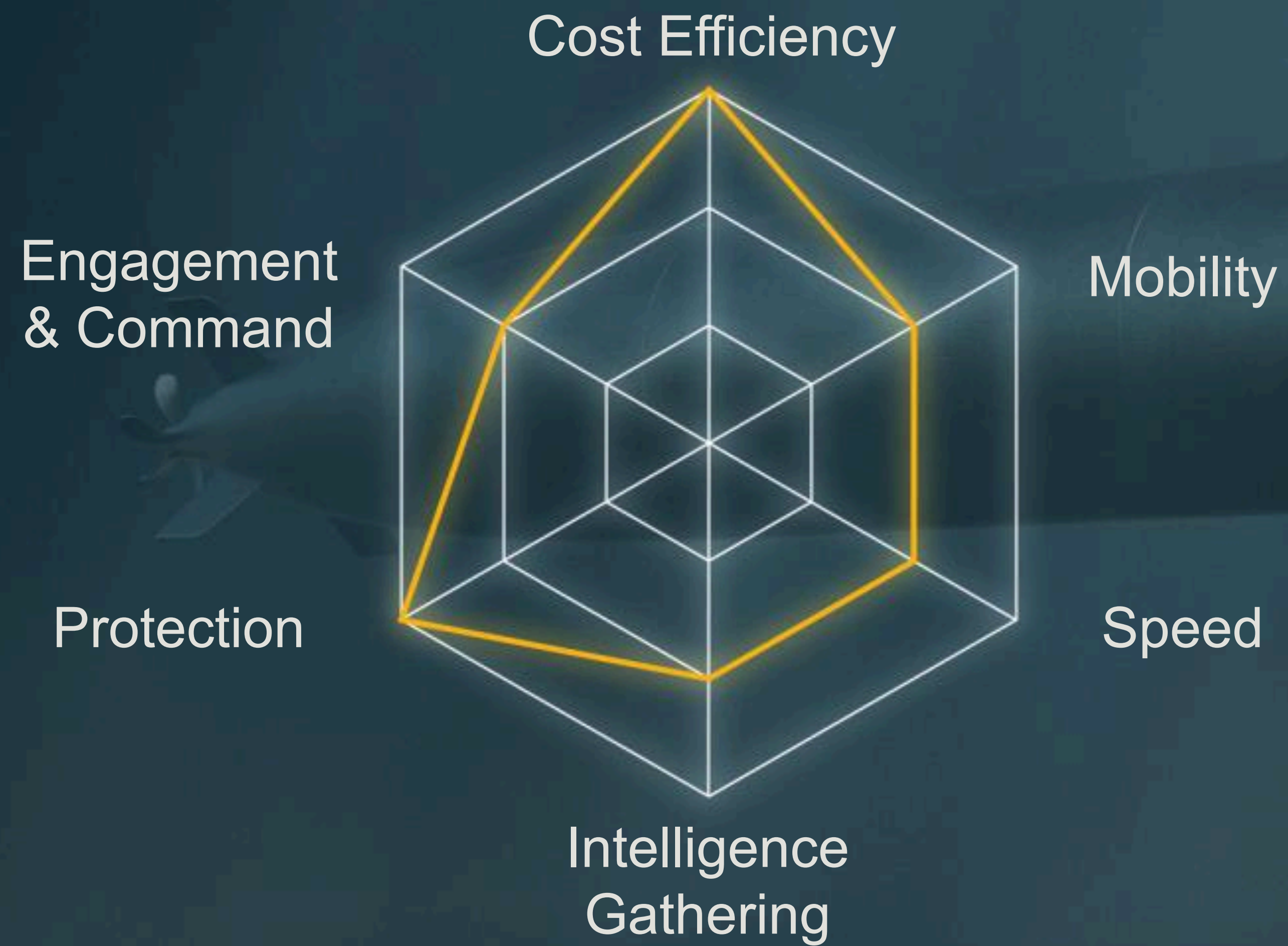
Three segments

- Pelagic
- Oceanic
- Oceanic Extended Range

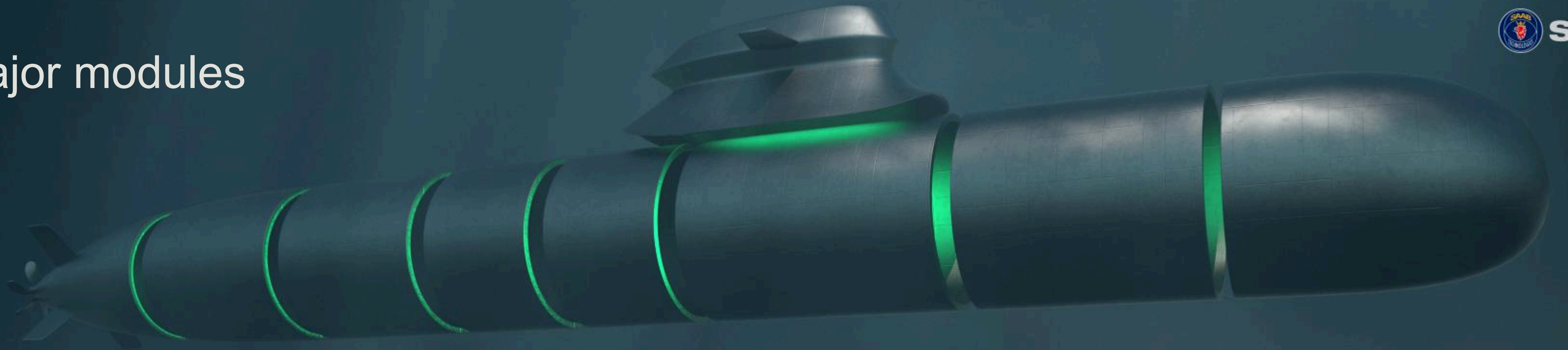




Operational and tactical needs



9 major modules



Propulsion, rudders and tanks



Power package – AIP
(Air Independent Propulsion + LOX-tanks)



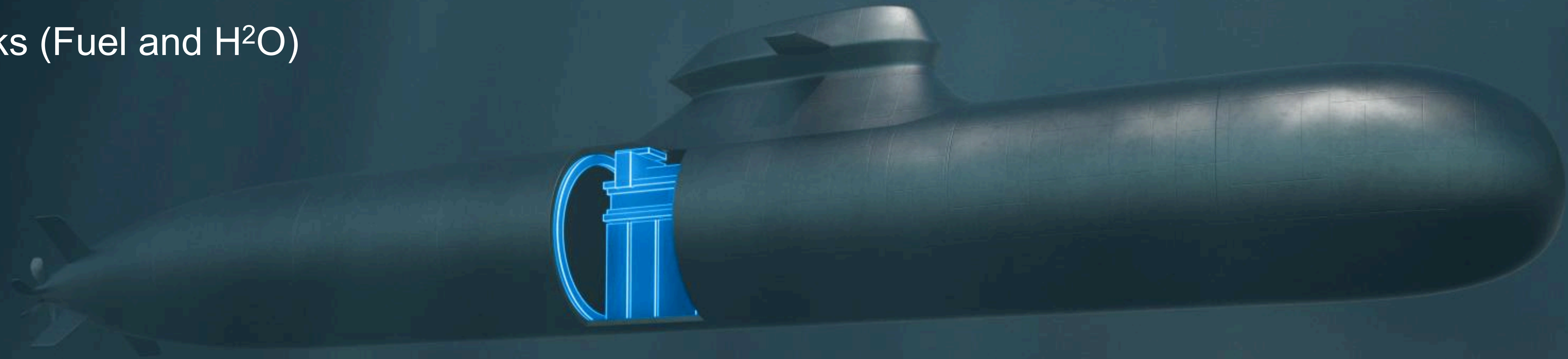
Power package – Diesel



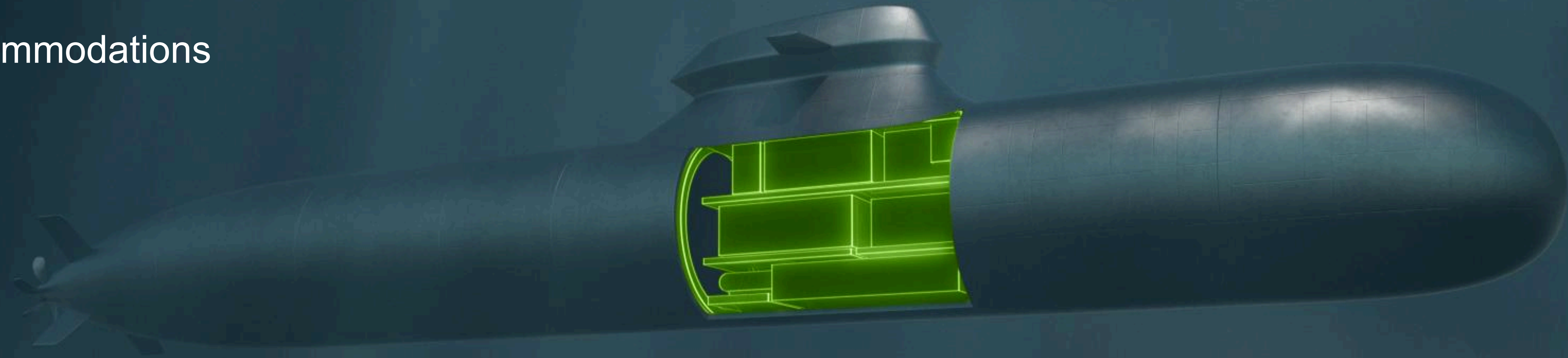
VLS Module



Tanks (Fuel and H₂O)



Accommodations



Tactical module – Control room



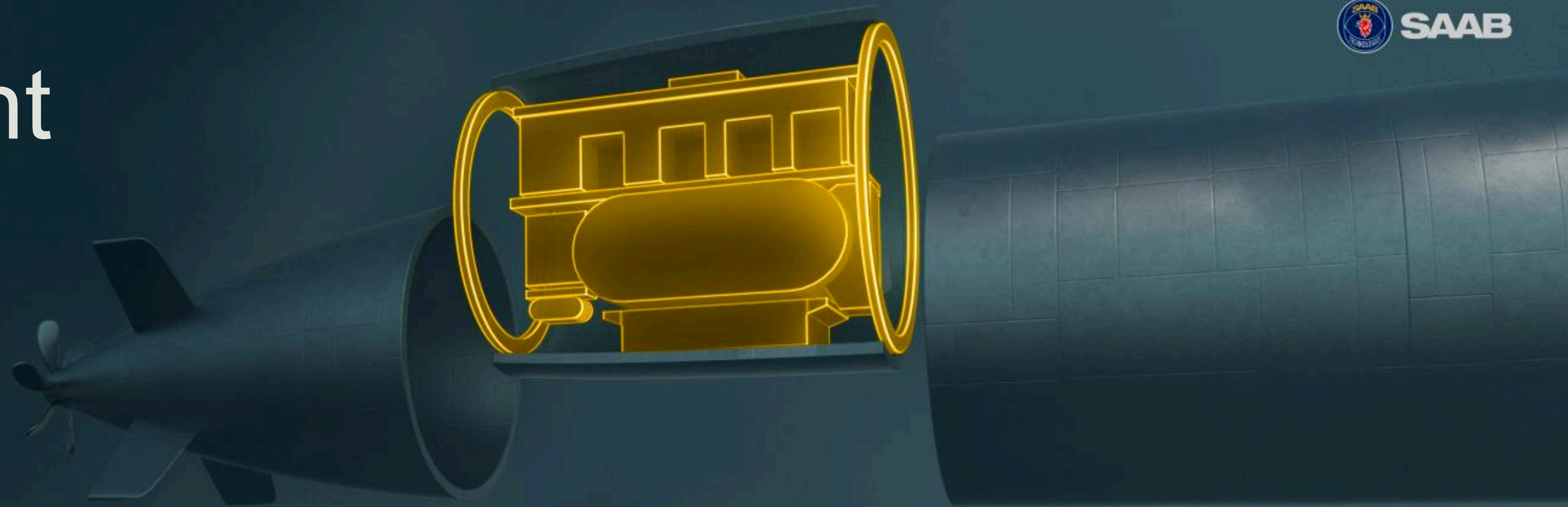
Weapon launch systems and MMP



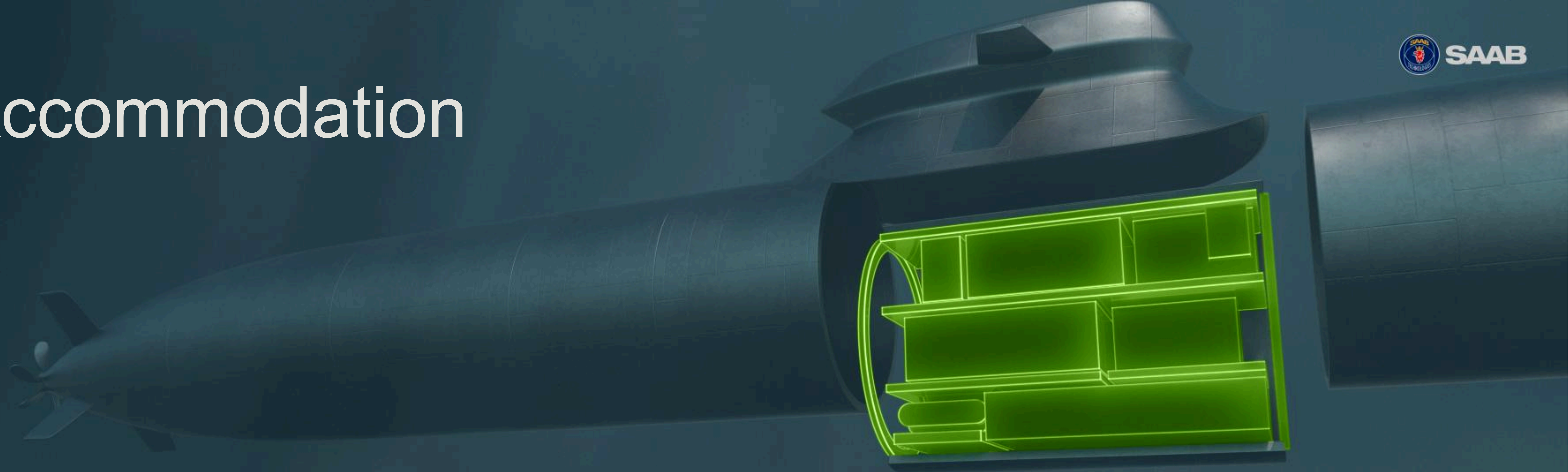
Communications and sensor suites



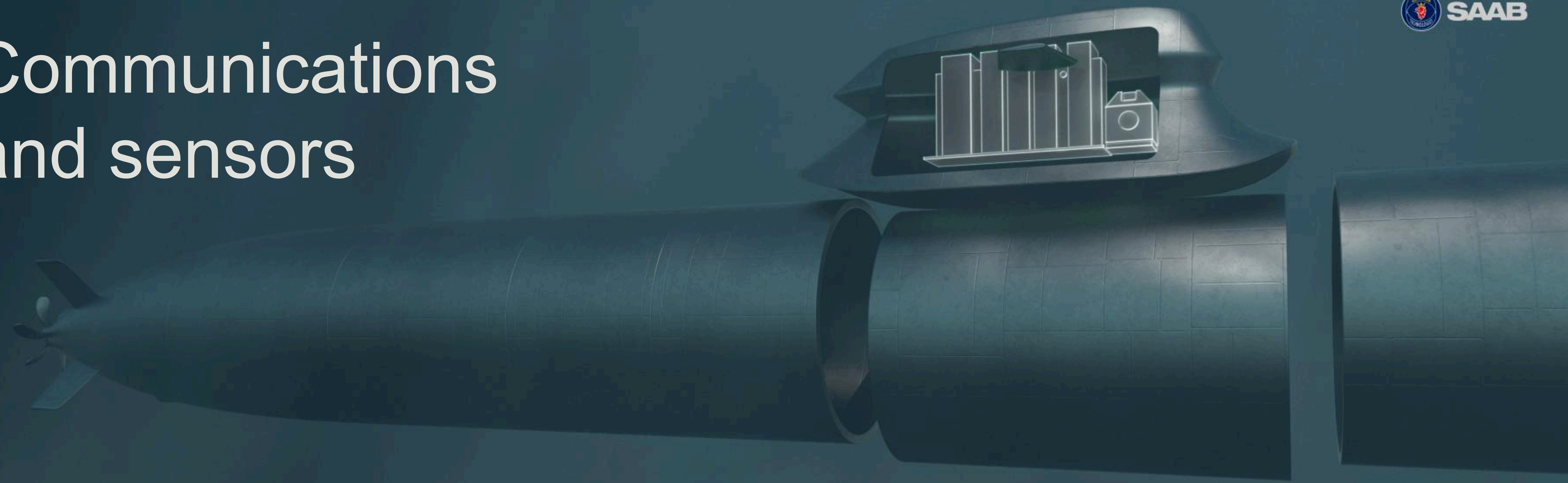
Air Independent Propulsion



Accommodation



Communications and sensors





Thank you!

Helena Lönegård

Head of Production

World class production and
Impact on current program



Saving time and people

Industrial robots for grinding and welding

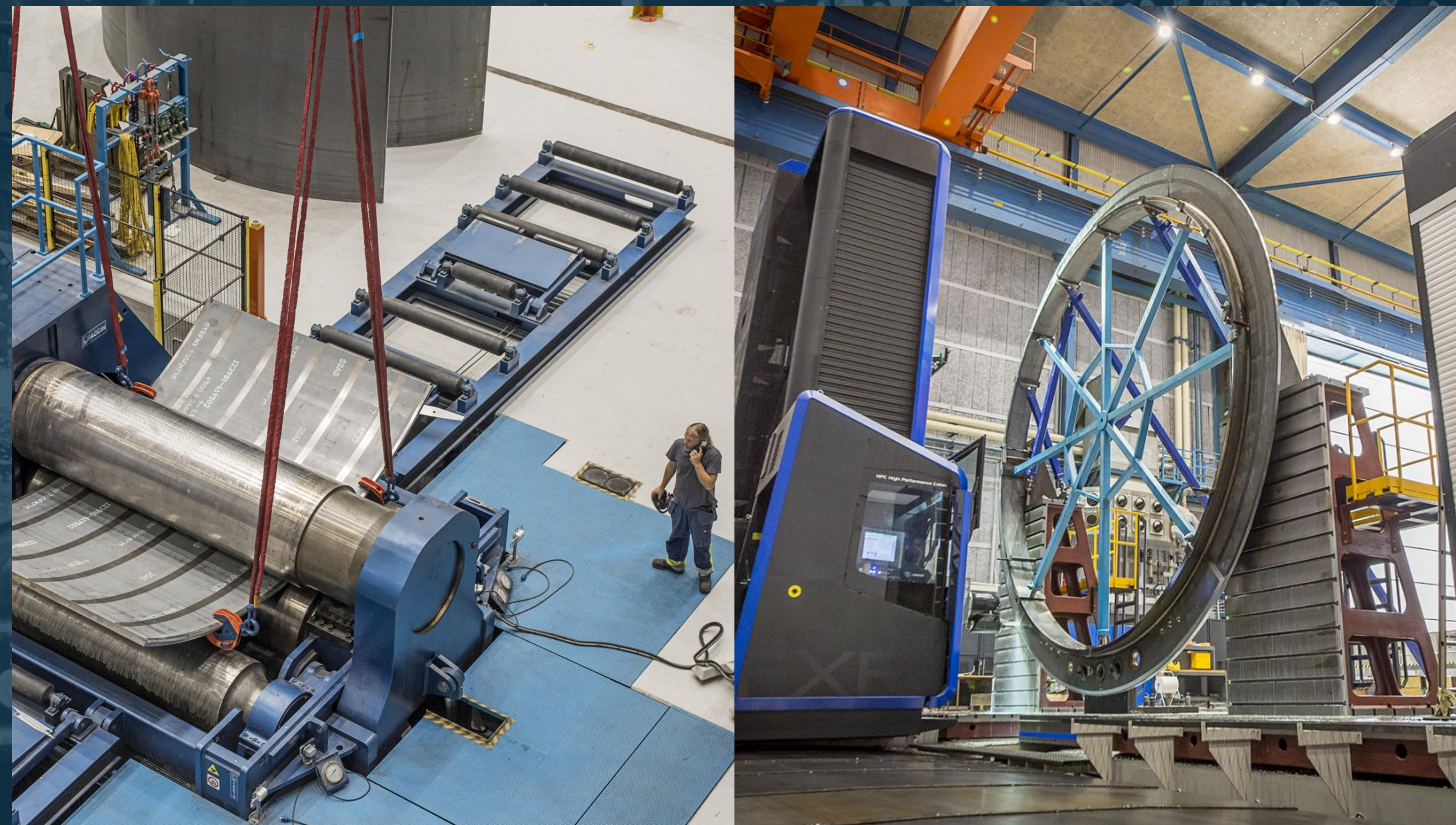
- 40 km for one submarine – Just for the frames...
- Work environment – Reduce heavy loads
- Repetitive work – Fully automated
- Standardised work flow – Fixtures and tools



Strategic investments in capacity and capability

Size ensures precision in details

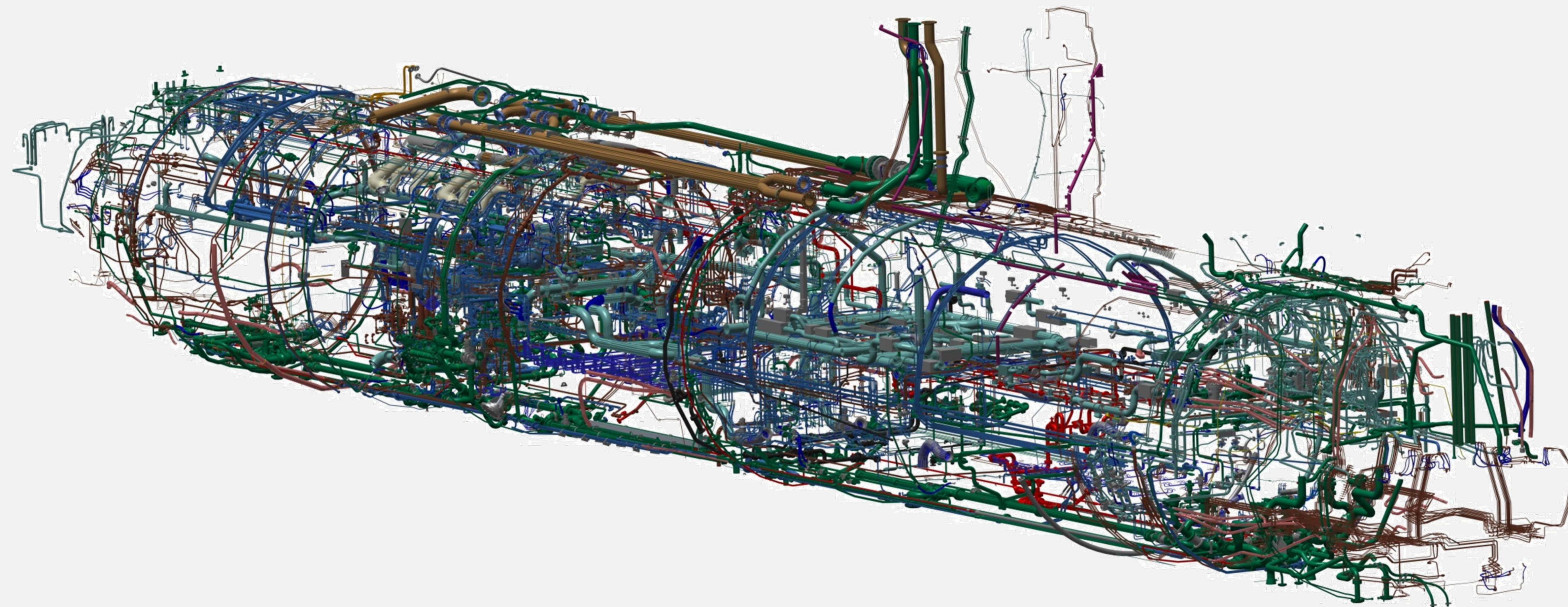
- In-house manufacturing
- Huge structures – For A26 and future contracts
- High precision – Pre-fabrication and modularity
- Model Based Definition – No extra programming



Construction of A26 – 50% of pressure hull with internal structures



The pipe challenge – Over 5000 unique parts



Proud shipbuilders

Tripled workforce in less than 5 years

- Recruitment and competence development
- Introduction of new methods and tools



Thank you!

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SAAB

Multi Mission Portal



Questions
