The sustainable economic development of Wallis and Futuna Islands and the maritime transport system

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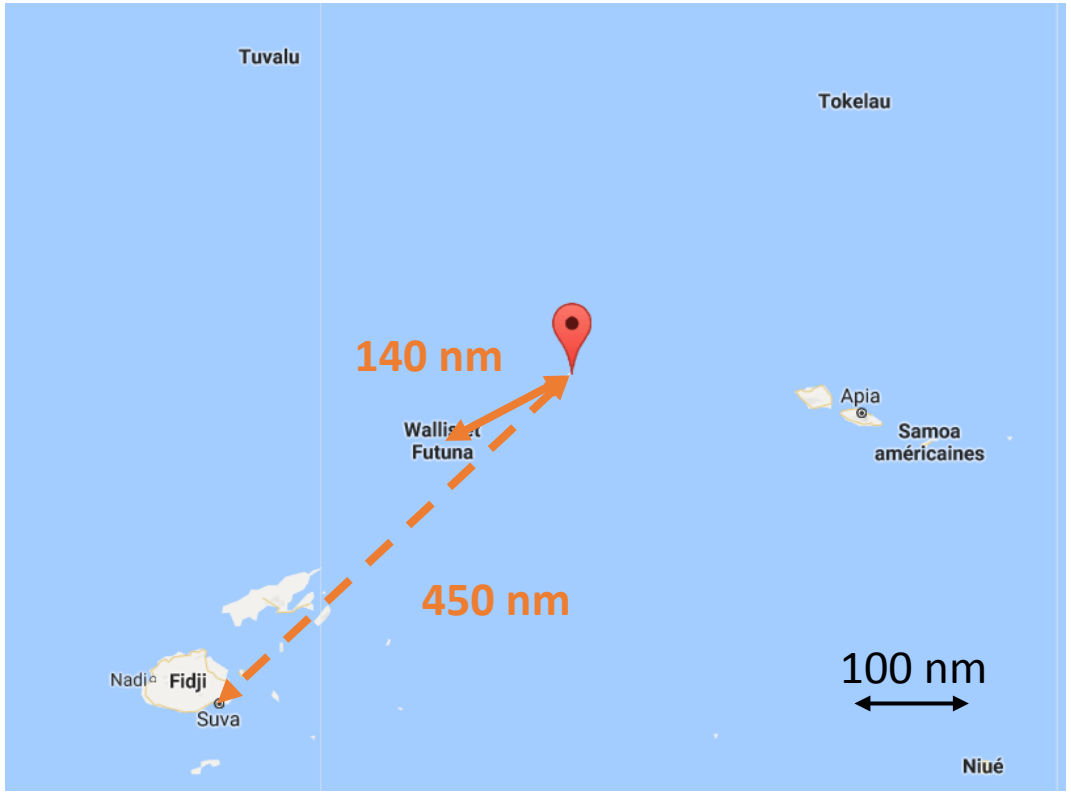
Territory of the Wallis and Futuna Islands



Source: Google Map

- French oversea territory in the South Pacific Ocean
- Main Islands: Wallis & Futuna
- Population (2016): 11.700
- Maritime considerations:
  - Specific legislative framework
  - No maritime maintenance or building facilities
  - No maritime rescue system
  - Tropical climate

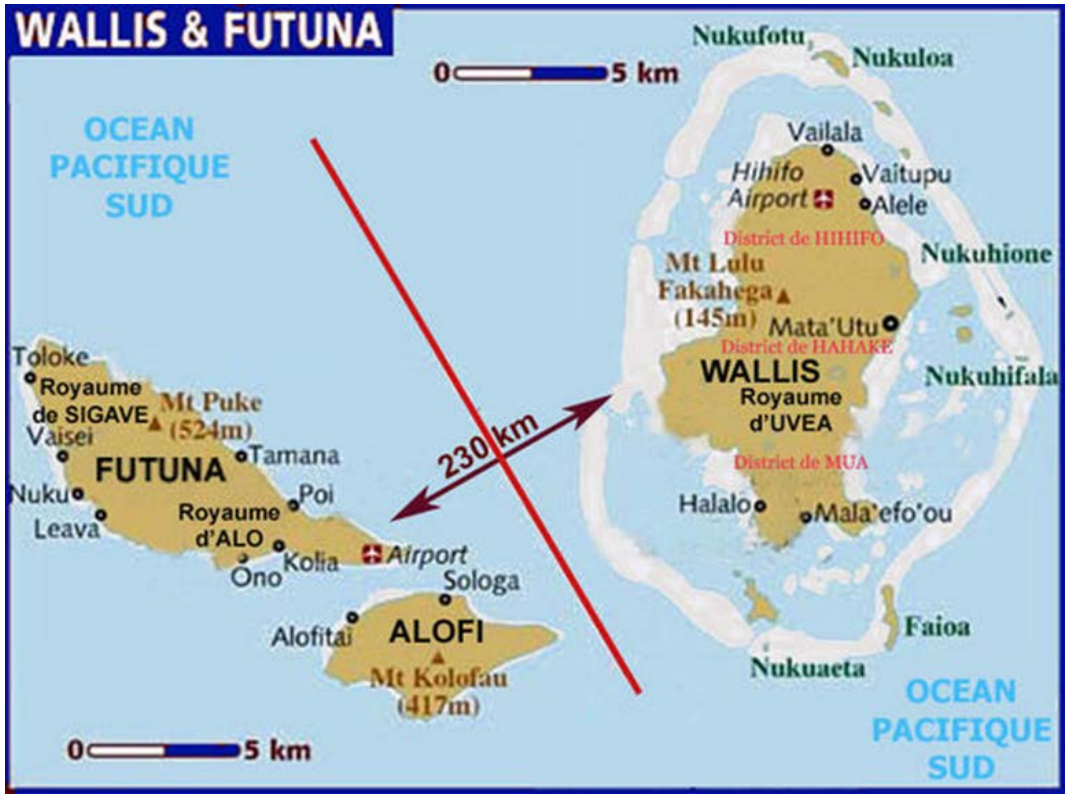
Current situation of the transport system

- Is it valuable to create a new maritime connection between main islands?
- Taking into consideration the actual transport system:
  - Freight: 40 containers at Futuna every 3 weeks ensured by a merchant vessel
  - Passengers: ≈150 pax/week ensured by 2 airplanes (13 seats)
- Problems encountered by the territory:
  - Massive emigration of young population
  - Traditional economy

Requirements for a complementary transport service

- Cargo: maximum 8 Twenty Equivalent Units (152 tons)
  - Possibility carrying Fourty Equivalent Units, Refrigerated containers
- Vessel : Improved efficiency, stability, seakeeping and motions
- Service:
  - 2 Returns trip a week, 43 passengers (2 classes), sanitary evacuation
  - Unrestricted navigation, High standard of safety
- Crew: 11 members

Definition of the service area of the vessel

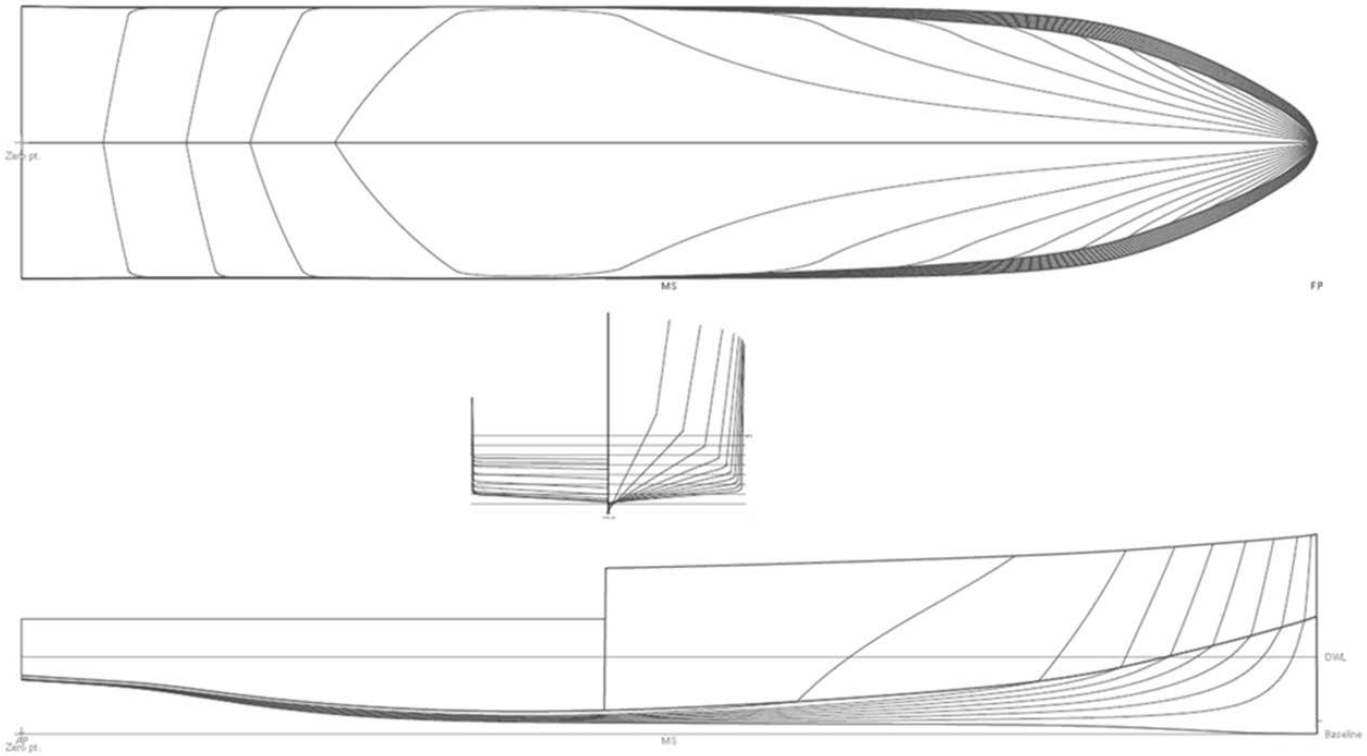


Source: Prefecture of the territory of Wallis and Futuna Islands

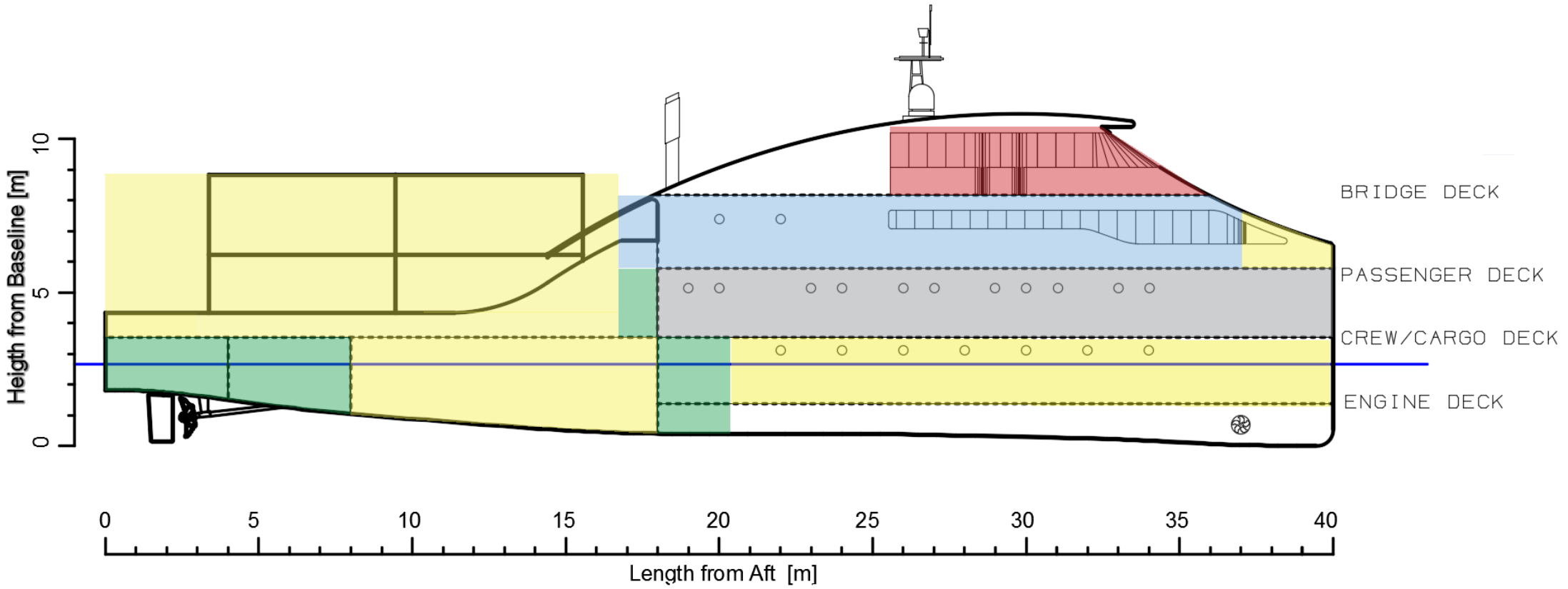
- Wallis and Futuna Return Trip:
  - Distance: 137 nm
  - Overnight trip of 13 hours
  - Service speed: 11 knots
  - Autonomy: 300 nm
- Fidji Destination:
  - Distance: 450 nm
  - Autonomy: 600 nm

Definition of the General Dimension

- Constraints:
  - Length Over All: 40 m
  - Breadth Over All: 8.4 m
  - Service speed: 11 knots
  - Pax Deck at 3 m above waterline
- Parametric design
  - Draugth: 2.6 m
  - Block coefficient: 0.56
  - Displacement: 470 tons
  - Gross Tonnage: 463

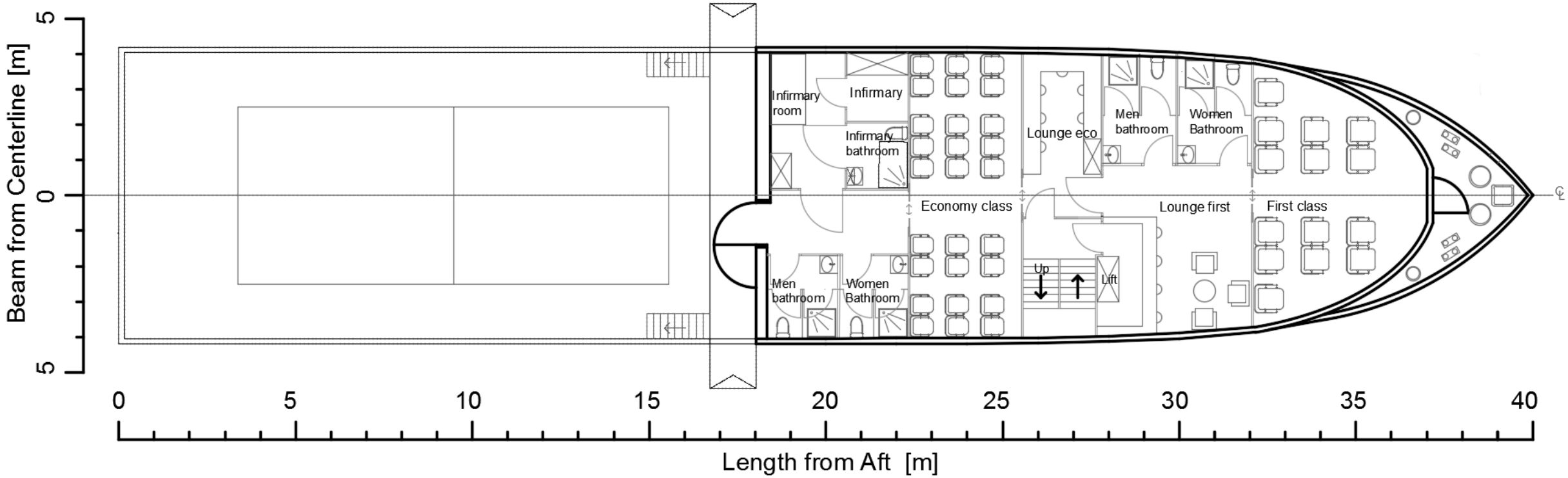


General Arrangement Overview



Description of the Passenger Deck

- Passenger Deck located at 5.8 metres above the baseline
- Seats: 27 (economy class), 16 (first class) + 1 (sanitary evacuation)

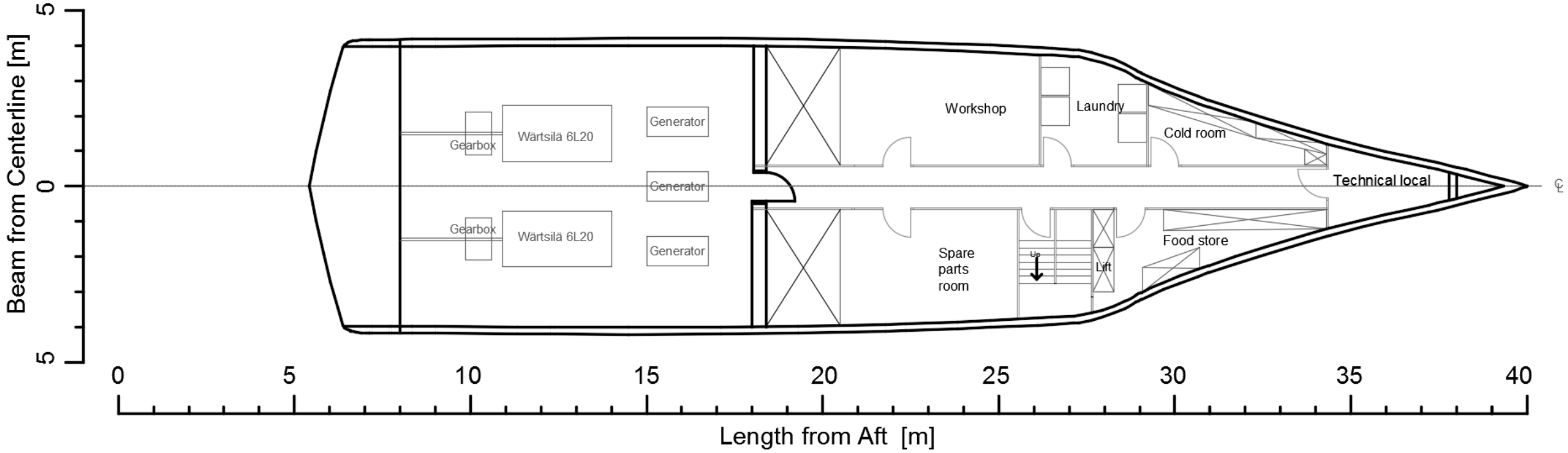


Description of the Cargo and Crew Deck

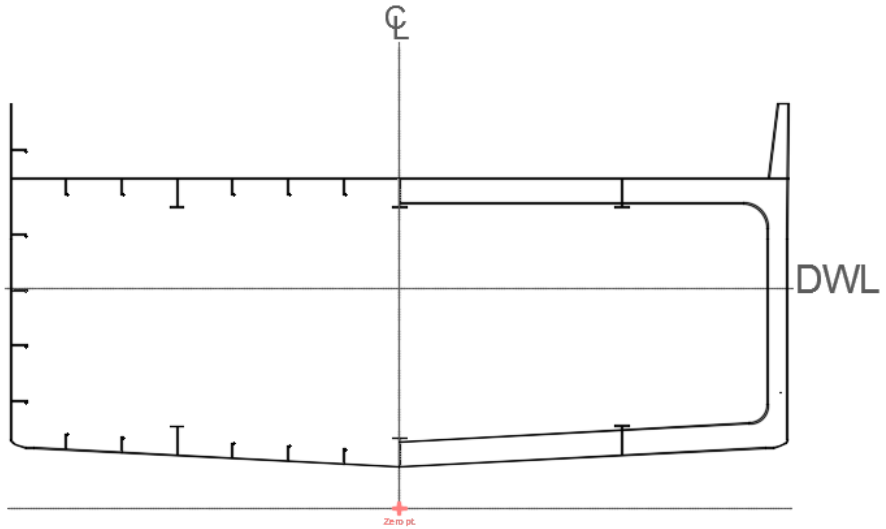
- Cargo/Crew deck located at 3.6 metres above the baseline
- 8 Rooms (11 crew members), Galley, Mess

Description of the Engine Deck

- Double bottom located at 1.3 metres above the baseline

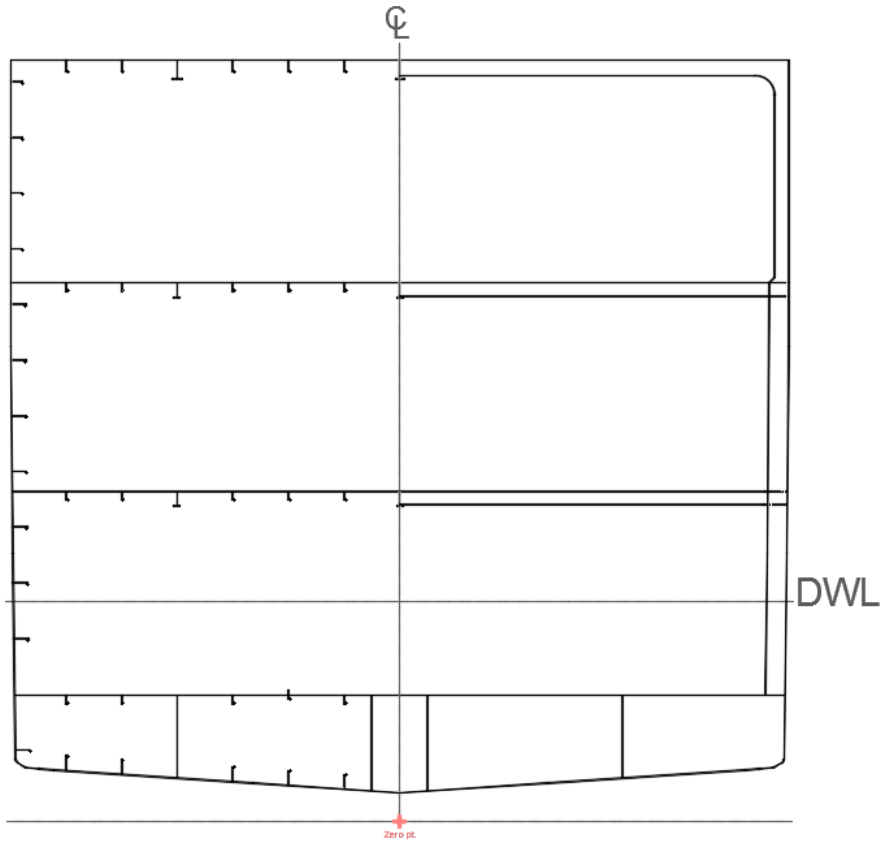


Description of the Structure



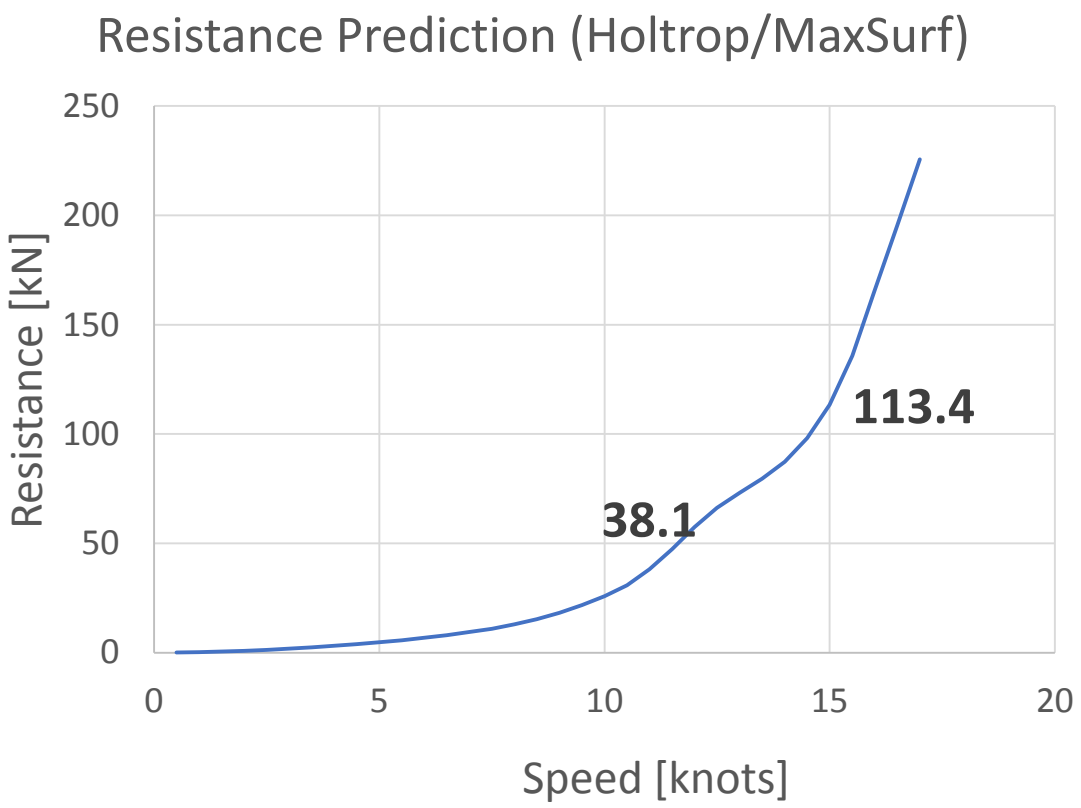
Station 6 - Engine

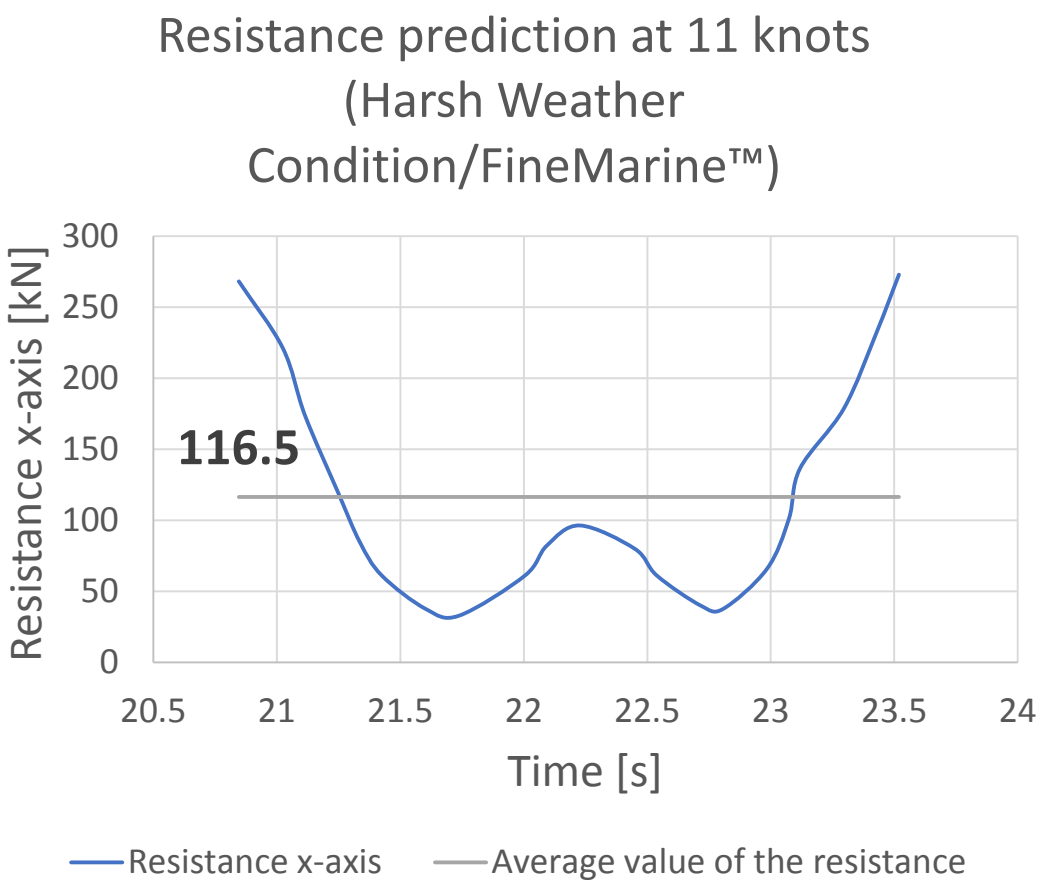
Baseline



Station 10 - Amidships

Resistance Prediction





Conceptual design

- Lightship weight estimation: 260 tons at LCG = 21.5 m
- 87 m^3 of ballast tanks (evenkeel in case of absence of cargo)
- Engine definition:
  - Twin screw propulsion
  - 2 medium speed engine of 1200 kW
  - Consumption of 250 L/Hours → 29 m^3 of Diesel Oil tanks
- Electrical installation: 3 generators of 40 kW

Assessment of Motions in head wave condition

- **VIDEO**

An efficient solution to ensure the sustainable development of the territory

- Efficient design allowing high versatility of the loading conditions
- Conceptual design in accordance with territorial constraints
- Provide a complementary offer ensuring the sustainable development of the territory

Questions?