The new «Corystes Replacement Ship»

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Fishery and Oceanographic Research Vessel for Marine institute, Ireland.

ST-366 «Tom Crean»	52.80 m x 14.0 m

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«Corystes Replacement Vessel» - what is different?

Hybrid Fishery and Oceanographic Research Vessel for AFBI, Northern Ireland.

ST-366 «Corystes Replacement Vessel»	52.80 m x 14.0 m

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MAIN DIMENSIONS, are the same..

✓ Length	52.8 m
✓ Beam	14.0 m
✓ Depth to Main Deck	7.9 m
✓ Draft, amidship	5.2 m
✓ Gross tonnage	1930 GT abt.
✓ Deadweight	abt. 600 tons
✓ Fuel capacity	235 cbm
✓ Fresh water cap.	67 cbm
✓ Crew capacity	12
✓ Scientist capacity	12
✓ URN	ICES 209
✓ Dynamic positioning	DP1

Accommodation and Laboratories

- ✓ Cabins, 18
- ✓ Messroom, 22 pers.
- ✓ Lounge
- ✓ Ship office
- ✓ Wardrobe
- ✓ Ship laundry
- ✓ Gymnasium

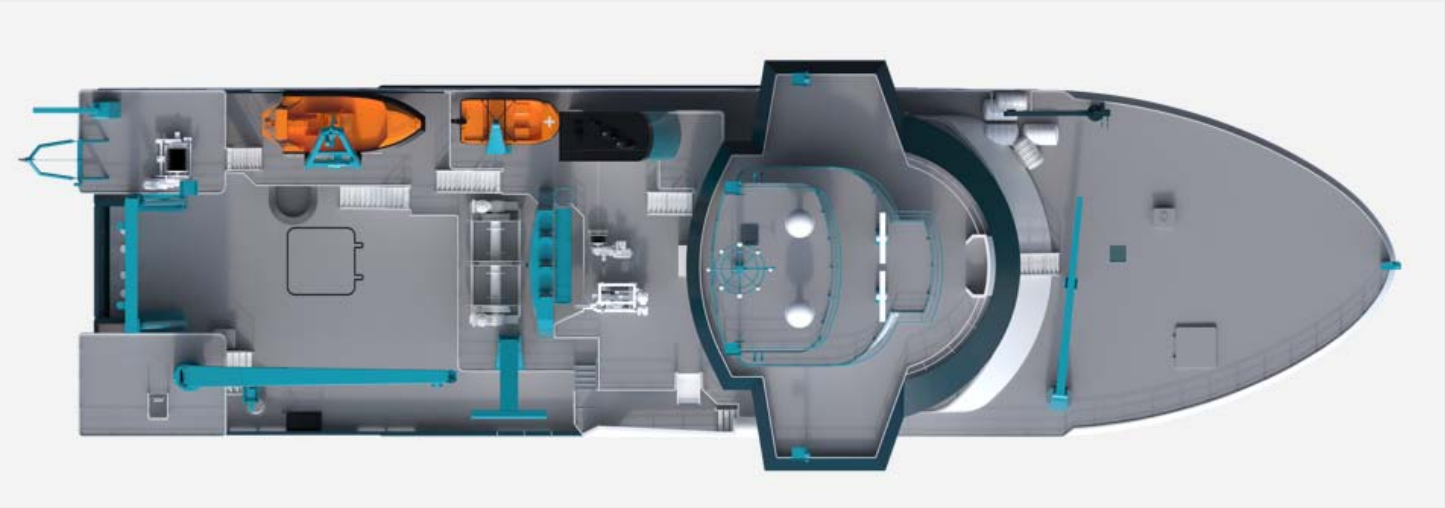
- ✓ Dry lab./Operation centre
- ✓ Wet/Fish laboratory
- ✓ CTD/Water lab.
- ✓ Chemical lab.
- ✓ CTD Hangar
- ✓ Mammal observation post, closed
- ✓ Bird observation post, open

Deck Arrangement

- ✓ 2 Trawl winches, 20 t(below deck)
- ✓ 1 Double net drum, 2 x 25 t
- ✓ 1 Gilson winch, 10 t
- ✓ 1 Headline winch, 5 t

- ✓ Deck crane, 6t/10m, 4t/15m
- ✓ A-frame, 10 t
- ✓ Sideframe, 8 t
- ✓ CTD frame, 4 t

- ✓ CTD winch, 3 t(below deck)
- ✓ Gen. purpose/Corer winch, 10 t
- ✓ Oceanographic winch, 5 t
- ✓ Hydrographic winch, 2 t(below deck)
- ✓ UMTV/Cormac winch, 1.2 t



PROPULSION SYSTEM, is different

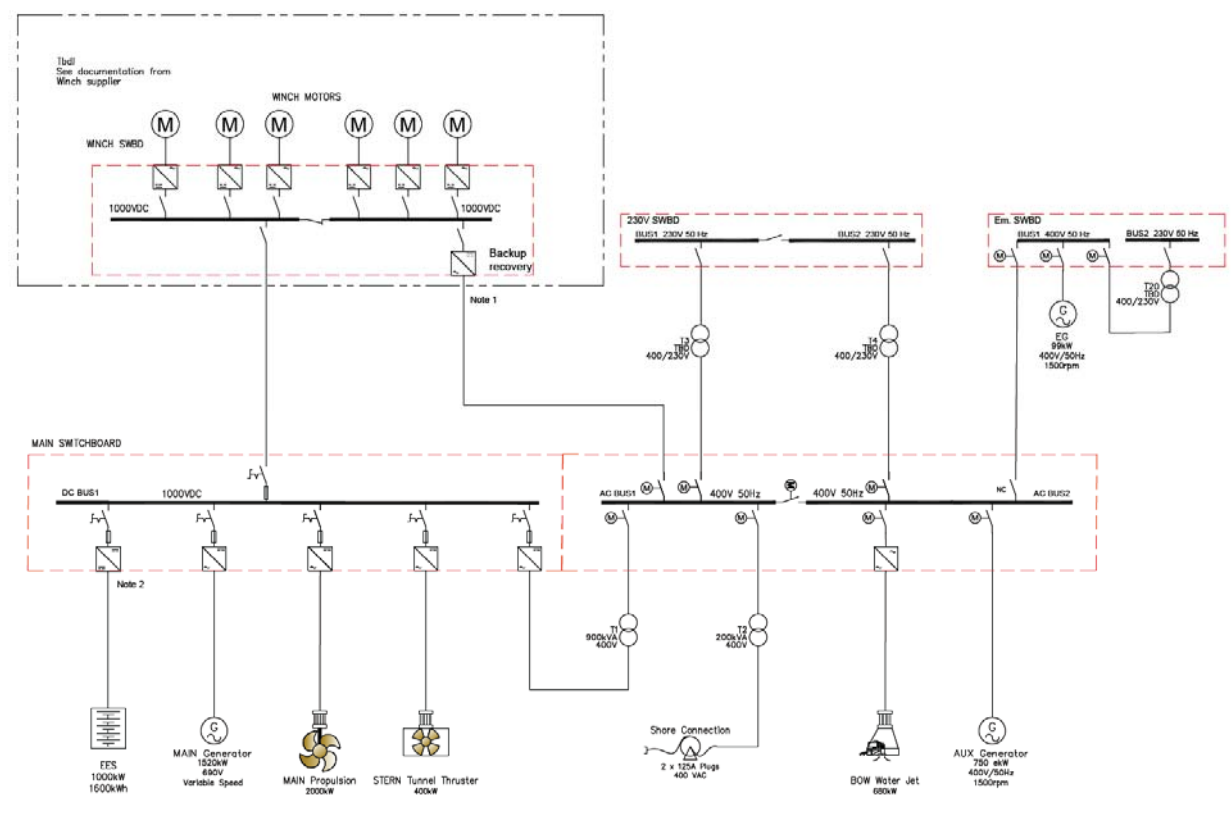
- ✓ Hybrid Diesel Electric System
- ✓ Main Diesel Generator abt. 1500 kW
- ✓ Aux Diesel Generator abt. 850 kW
- ✓ Battery package abt. 1600 kWh

- ✓ Propulsion motor 1 x 2000 kW
- ✓ Bow azimuth thruster 680 kW
- ✓ Stern thruster 400 kW

- ✓ Dynamic positioning DPI

Main Electric DC-Grid System

- ✓ S
- ✓ O
- ✓ B
- ✓ S
- ✓ U



AC vs DC

Pros and cons

AC pros

- Less cabling (if MV)

AC cons

- Fixed speed
- Poor SFOC
- Larger footprint
- Synchronisity needed
- More maintenance

DC pros

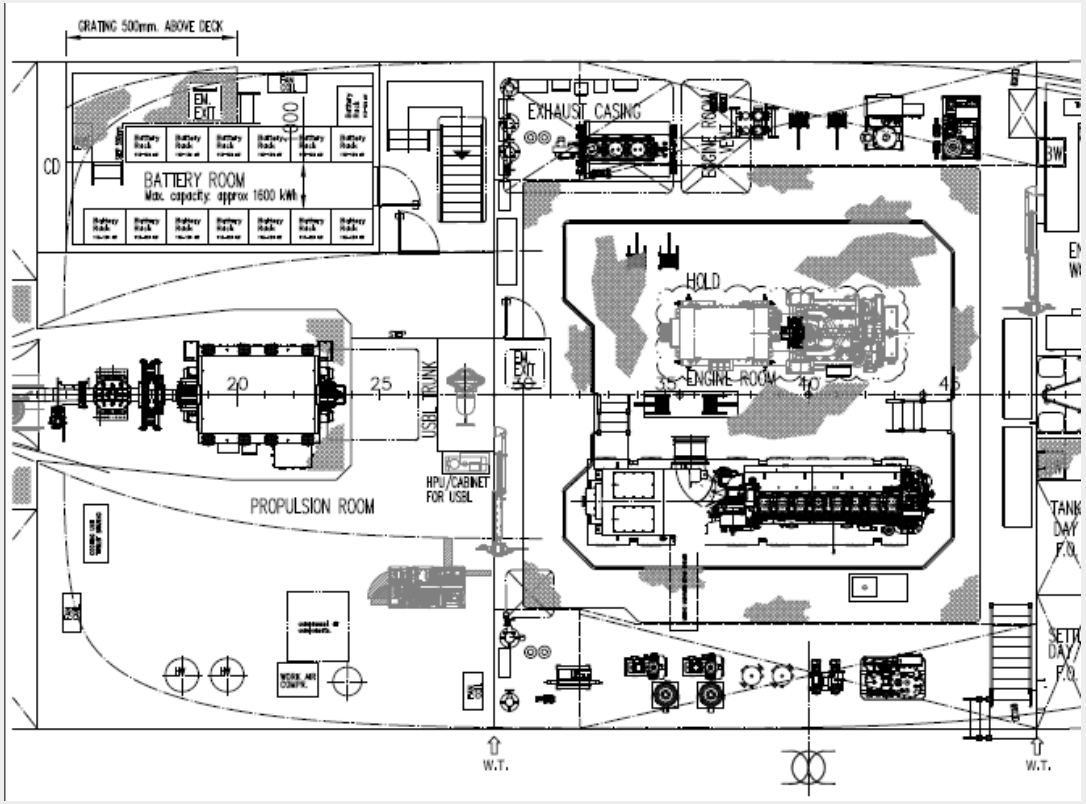
- Variable speed engines
- Improved SFOC
- Smaller footprint
- Simpler integration for alt. Energy sources
- Better performance of energy storage systems
- Faster blackout recovery (no synch needed!)
- Regeneration from consumers possible

DC cons

- AC consumer intregration more challenging
- Increased cabling, compared to MVAC

ABB

Layout Engine-, Battery- and Propulsion Room



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