



RV Investigator: operational update

Supporting, enabling and inspiring marine science

Toni Moate, Director, National Collections and Marine Infrastructure, CSIRO



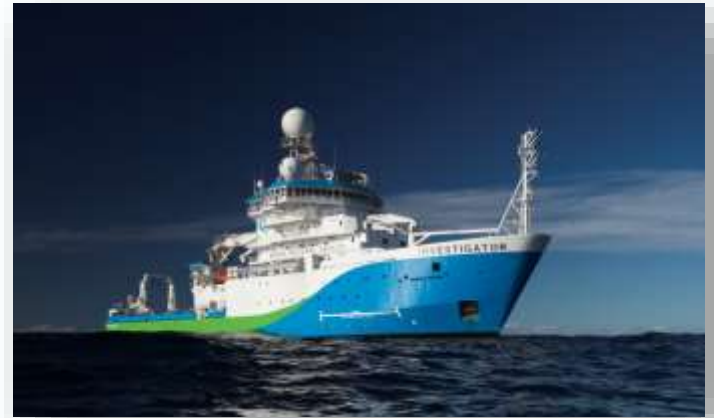
CSIRO Marine National Facility (MNF)

Marine National Facility

The MNF is a blue-water research capability funded by the Australian Government.

It is overseen by an independent Steering Committee and is available to Australian marine researchers and their international collaborators.

The MNF is owned and operated by CSIRO for the benefit of the nation.



Specifications

- Length: 93.9 m
- Beam: 18.5 m
- Draft: 6.9 m
- Range: 10,000nm @ 11k
- Endurance: up to 60 days
- Operating zone: tropics to ice-edge
- Scientists + support staff: 40
- Crew (incl. trainees): 20
- Retractable bow thruster: DP1
- Underwater radiated noise: DNV Silent R
- Three diesel engines, two AC propulsion motors



Two years of operational experience

Marine National Facility

Achievements

- Multiple research projects on single voyage
- Successful operation from ice edge to tropics
- High levels of satisfaction from researchers



Challenges

- Equipment maintenance with high tempo of operations
- HVAC issues in Antarctic waters
- Bow thruster issues (non-operational)



Achievement: Operation from ice to equator

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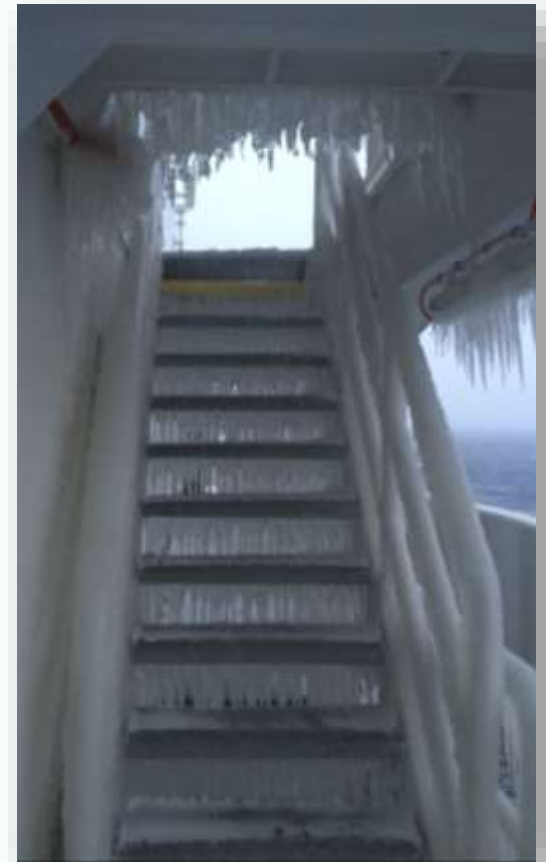
- All major science voyage objectives achieved since delivery
- Benefit magnified by facilitating complimentary projects on voyages
- Successful management of medical emergency on remote voyage
- Mental health and wellbeing strategy developed (talk by Ron Plaschke)



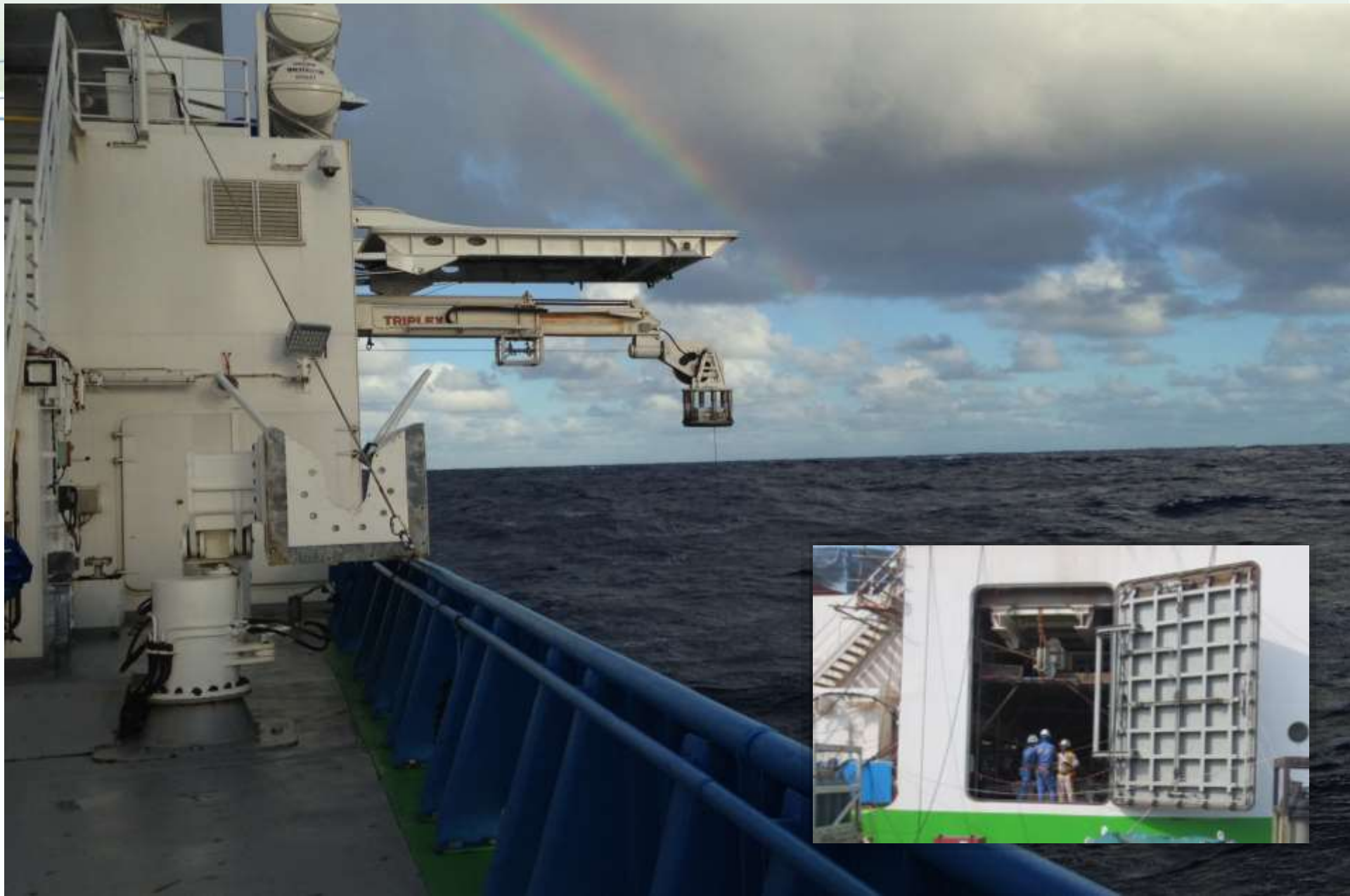
Challenge: HVAC Issues

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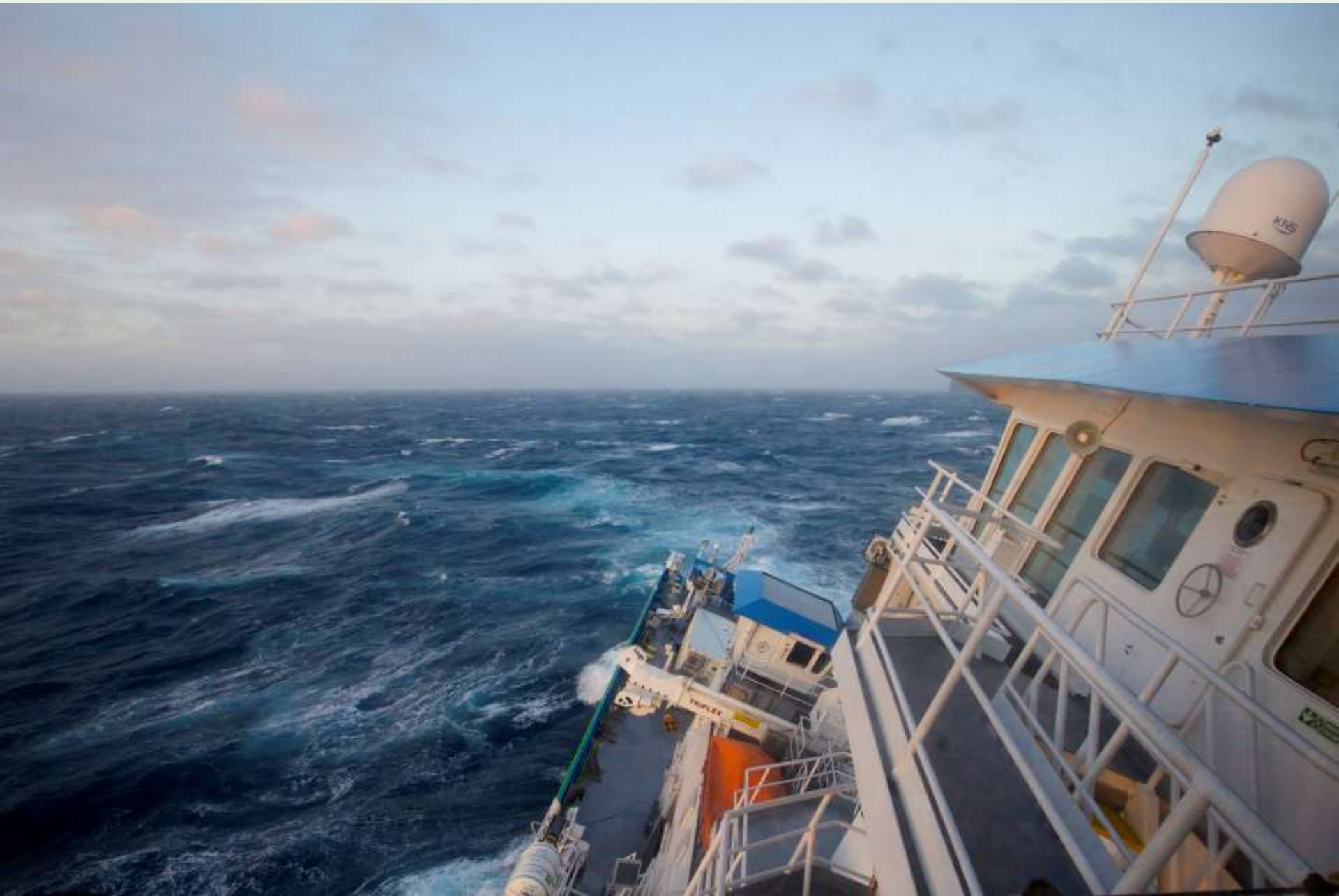
- Unable to meet server room heat load
- Poor temperature control in labs
- Operation in Antarctic waters:
 - Insufficient heating in some spaces
 - Lack of insulation on external doors
 - Pipe fitting failure (lack of insulation and heat trace)
 - Lack of insulation under bridge wings – condensation on decks
- Improvements have been made and are ongoing



CTD door modifications



Passive roll tanks



Innovation and creativity



Sea time application process

Marine National Facility

Demand for Granted Voyages remains high:

- 2018/19: **700 days** applied for
- 2017/18: **800 days** applied for

Strong interest in User-funded Voyages

- Research charters with government and industry
- Considered only if compatible with Primary Voyage schedule

Increased uptake of Piggyback opportunities





Australia's New Antarctic Vessel (AAD)

Marine National Facility

Science Capability Snapshot

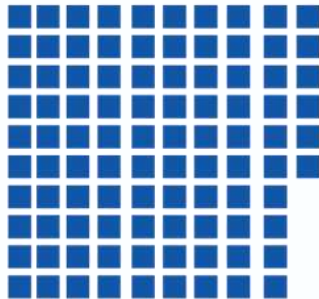
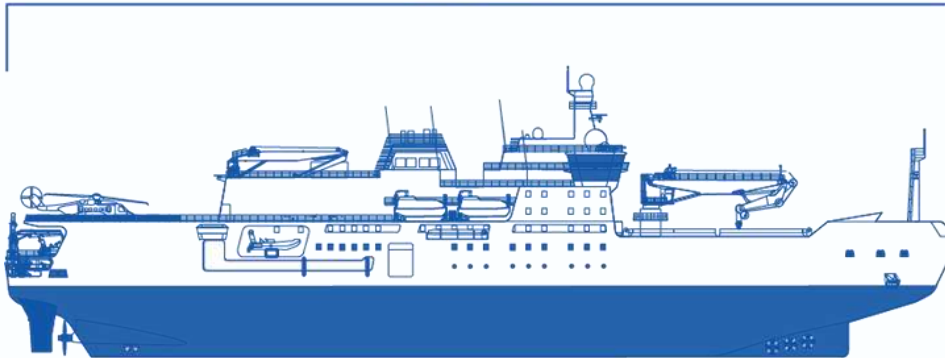
- 22 serviced science container positions (plus 96 more cargo containers)
- 500 m² aft sheltered working deck with 8 m x 10 tonne A-frame (30 tonne static)
- Large trawl setup and winch room
- 24 m stern coring support
- 4 x electro optic winch and cables
- 3.9 x 3.9 m moon pool and side CTDs
- 2 x drop keels used to 16 knots, with in-hull acoustics for in-ice work
- Science tender includes 1 of the vessels
4 multibeam systems



New Antarctic Vessel v *Aurora Australis*

Marine National Facility

length 156m



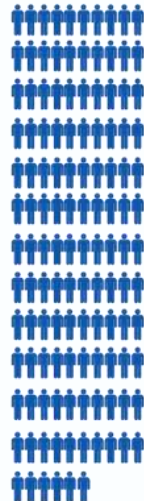
96
containers



1200
tonnes
cargo



1.9m
litres
fuel



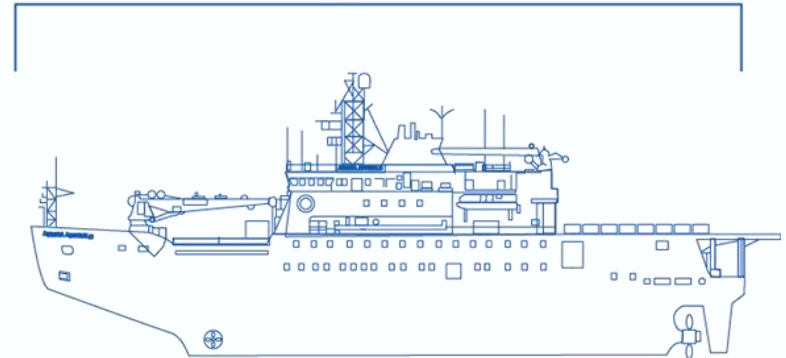
116
expeditioners



5030m3
cargo hold space

(incl 0.5m litres aviation)

length 94.9m



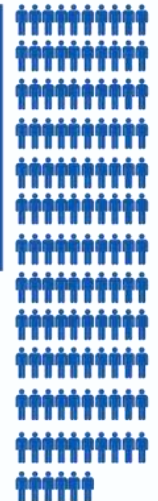
34
containers



800
tonnes
cargo



1.1m
litres
fuel



116
expeditioners



1790m3
cargo hold space

Thank you.
Any questions?

For further information:

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