

RV Investigator Mid-Life Refit 2023-2025

Lessons Learned across the Project Lifecycle

Toni Moate | 23 September 2025 | IRSO Bergen, Norway



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CSIRO Marine National Facility

- The CSIRO Marine National Facility (**MNF**) was established in 1984 to provide Australia with a dedicated capability to conduct excellent ocean research for national benefit.
- It is national research infrastructure funded by the Australian Government and operated by CSIRO, Australia's national science agency, on behalf of the nation.
- The MNF includes:
 - the multidisciplinary ocean-class research vessel (RV) Investigator
 - a suite of advanced scientific instrumentation and equipment
 - a collection of 40 years of marine data made freely available for the benefit of all, and
 - world-leading expertise in vessel and voyage management, and technology development

Strategic Drivers for Refit

- **MNF 2030** was released in 2020 and is a milestone strategy to guide the use of Australia's dedicated marine research capability for the next 10 years
- **MNF 25-Year Capability Framework** is a key deliverable under the strategy which aims to guide capital investment by the Marine National Facility to 2039
- **RV Investigator Mid-Life Refit (MLR)** was a key lifecycle management activity under the high-level framework which was scheduled for 2024

Dry docking and alongside works completed at Sembawang Admiralty Shipyard in Singapore



Mid-Life Refit Project (2023-2025)

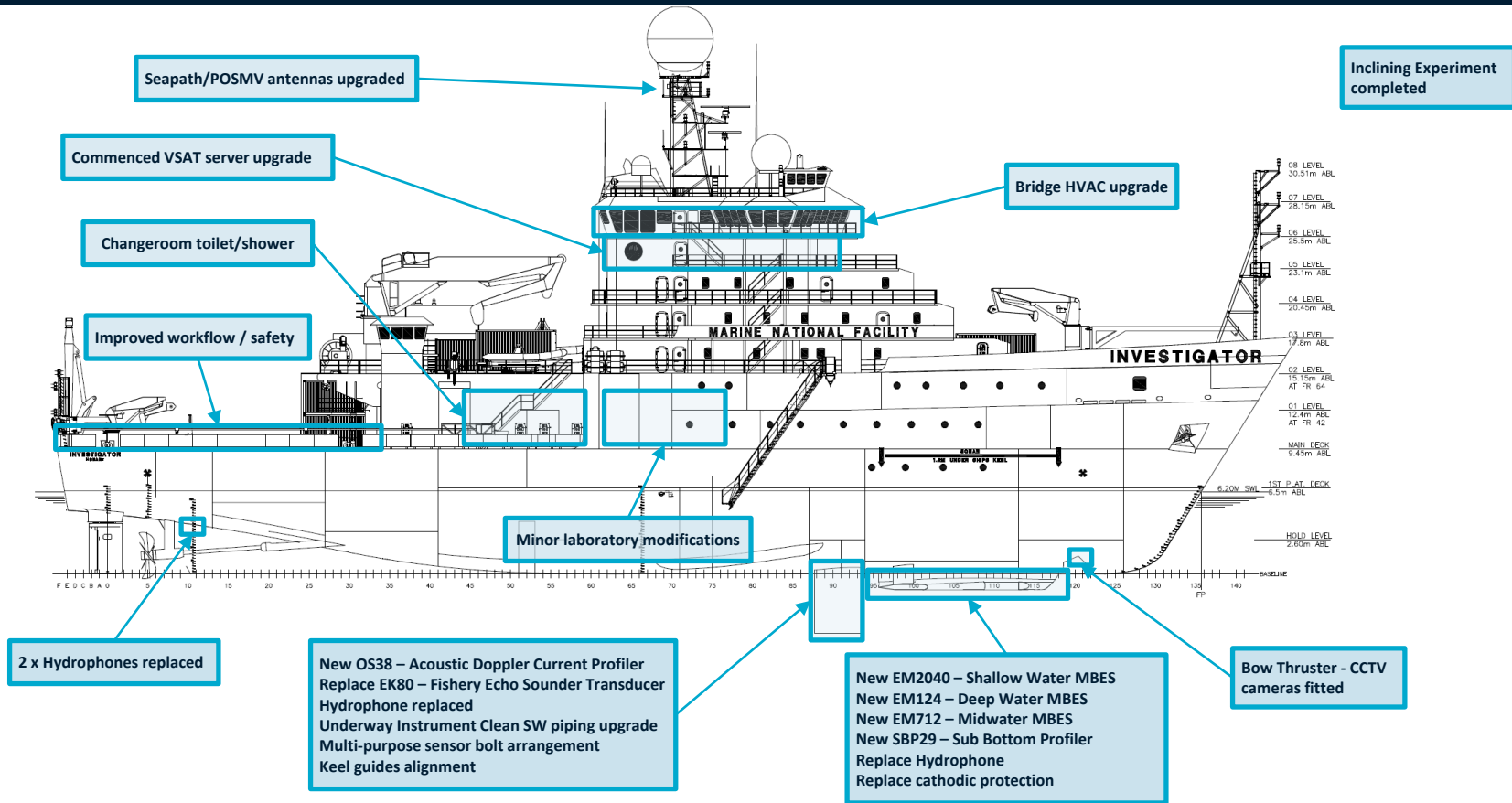
Three primary investment priorities were developed to inform scope of MLR Project and the planned new science capabilities (focus of next presentation)



**Introduction of new science capabilities was a lower priority in 2023-2025, and is a high priority for 2025-2027 (and beyond)



Dry Dock, Singapore, July to Sep 2024 (46 days at yard)

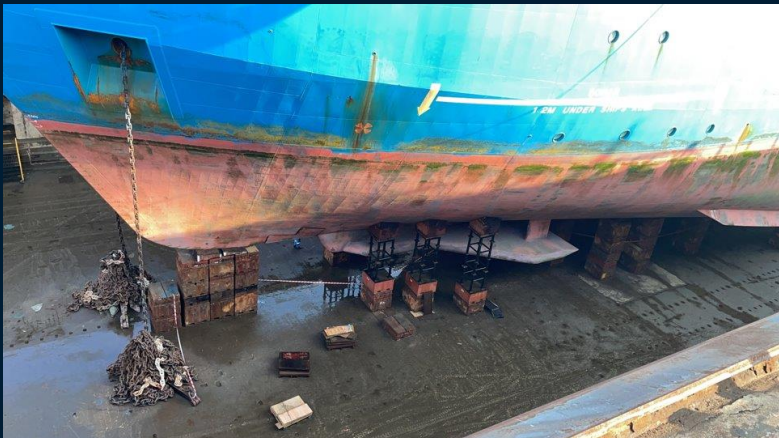




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Dry Dock, Singapore (the beginning)



Dry Dock, Singapore (the middle)





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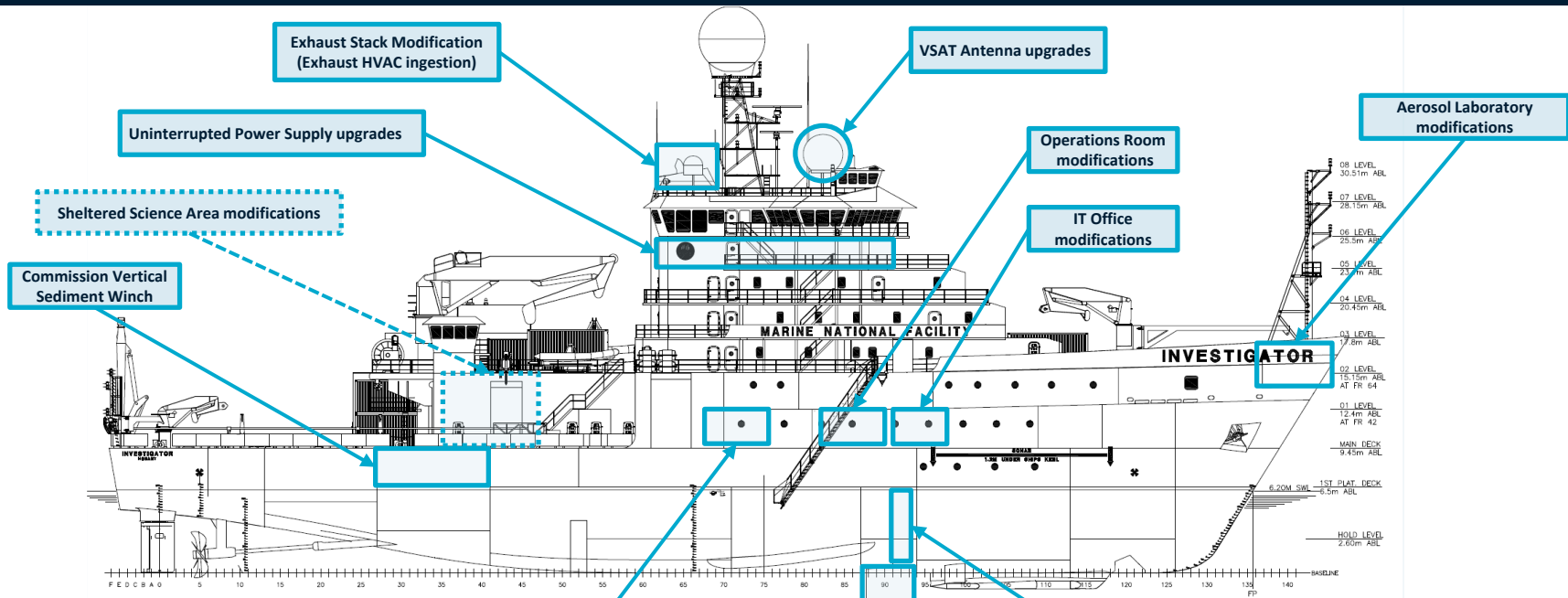
Dry Dock, Singapore (the end)



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Maintenance Periods, Hobart, Dec 2024 to Jul 2025 (76 days)



- Other Ship Systems (Cyan sponsored):**
- Annual services / surveys
 - HVAC / chilled water system calibration
 - Stability computer upgrades
 - Aft Deck modifications
 - Bridge GPS navigation upgrades
 - Bow Thruster hydraulic upgrades
 - Galley upgrades

Delivered
 Commenced



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Maintenance Periods, Hobart, Dec 2024 to Jul 2025 (76 days)



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Before



After

Challenges and Lessons Learned

- ☑ Bespoke governance arrangements implementing including dedicated Project Board (internal/external)
- ☑ Dedicated project resources were assigned to manage project outside of business-as-usual teams
- ☑ Early endorsement of Project Plan, however, scope was only defined by investment priorities at the time
- ☒ Project initiation should have occurred earlier, call for proposals should occur ~30 months from docking
- ☒ Existing ship management services agreement expired June 2023, docking due August 2024
- ☒ MLR established under project management model rather than a program management model

Project Initiation

Project Planning

Project Delivery

Project Closure

Challenges and Lessons Learned

- ☑ Shipyard quotation and selection process able to be completed within 5 months of new ship manager
- ☑ Major Kongsberg procurement / contract negotiation and approvals completed with AUD5.7m value
- ☑ Significant number of purchase orders placed by ship management for OEM spares and services
- ☒ No existing and endorsed strategic CAPEX (5yr) plans to inform project scope, additional steps required
- ☒ Significant focus on defining project scope during planning phase, rather than progressing planning
- ☒ Limited shipyard competition (bespoke RVI docking requirements) – only one quotation submitted

Project Initiation

Project Planning

Project Delivery

Project Closure

Challenges and Lessons Learned

- ☑ Comprehensive shipyard management plan incl HSE, logistics, resourcing, roles, delegations etc
- ☑ Resourcing across all seagoing / technical teams to oversee specific works / responsibilities
- ☑ All class / statutory and essential docking scopes of work were completed within planned timeframe
- ☑ Minimal HSE incidents reported (one slip/trip/fall on gangway, one paint /antifoul skin reaction)
- ☒ Challenges with shipyard, hierarchical and rigid department structures impacting progress
- ☒ Schedule planning and management with shipyard was highly reactive, impacting oversight of progress
- ☒ Total 45 days period at shipyard not sufficient, bow thruster and gondola works were schedule critical
- ☒ Lessons learned from new build not retained, material impact on gondola / acoustic upgrades

Project Initiation

Project Planning

Project Delivery

Project Closure

Challenges and Lessons Learned

- ☑ Comprehensive Project End (Closure) Report developed covering all project phases
- ☑ Total of 35 key recommendations identified for implementation prior to and for next project
- ☑ Flexibility in project / MLR funding enabled unspent funds to be roller over in current financial year
- ☑ Trials and calibration voyages are essential after docking and long maintenance periods
- ☒ Work scopes were progressively deferred throughout project, our ambition exceeded our ability to deliver
- ☒ Not all endorsed project scope was delivered by project closure, portion deferred to 2025-26FY
- ☒ Scheduling of long maintenance periods needs refinement (too many, too soon after docking)

Project Initiation

Project Planning

Project Delivery

Project Closure

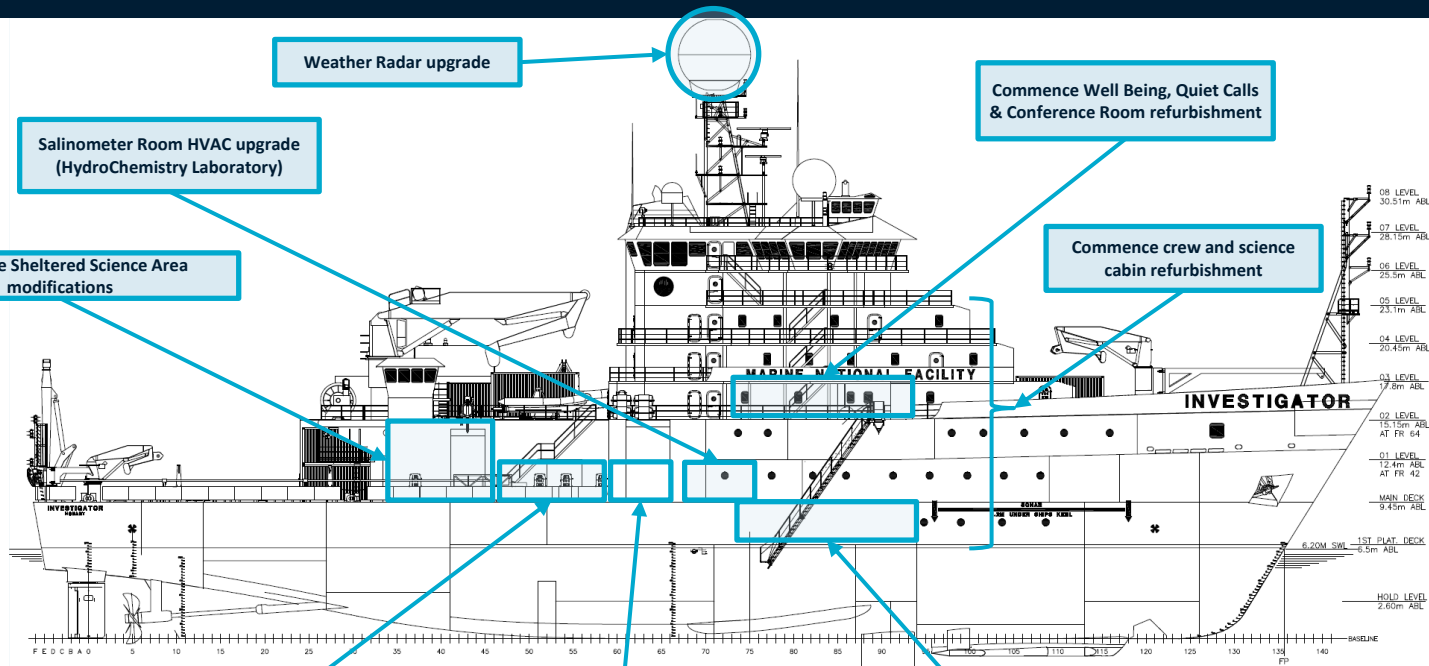


Outcomes and Future Outlook

- Significant program of investment through the MLR Project to date
- Ongoing delivery of MLR related works scheduled for FY26 and FY27 (next slide)



Planned Work Scope for FY26 (and FY27)



- Other Systems:**
- Demersal trawl net
 - Deep towed camera
 - Drop camera
 - Fugro deep towed system
 - Kasten corer
 - Dissolved oxygen titration system



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Cabin Prototype Furnishings - Display



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Outcomes and Future Outlook

- Significant program of investment through the MLR Project to date
- Ongoing delivery of MLR related works scheduled for FY26 and FY27 (next slide)
- Additional funding stream next two years for science capability uplift (next presentation)



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