Introduction of the RRS *Sir David Attenborough* 2 Years On

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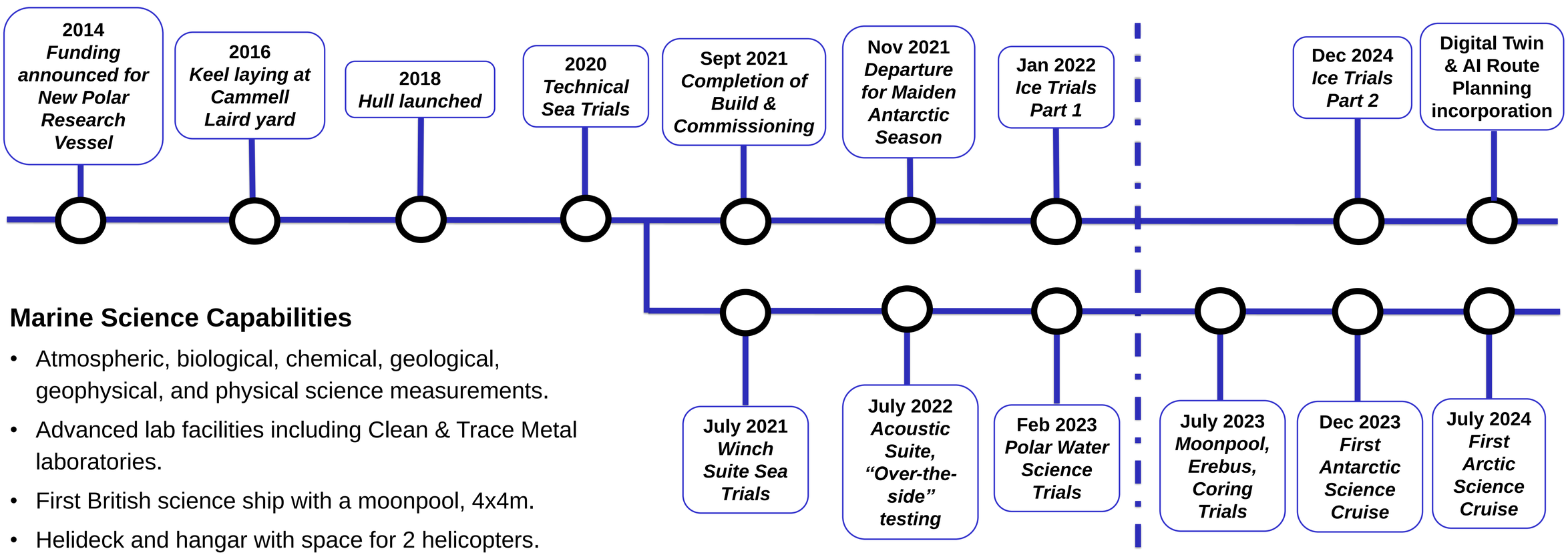
SDA in Numbers

- **Length 129m, Beam 24m, GT 15,000t.**
- **Endurance of 60 days.**
- **Range of 19,000nm at 13kn.**
- **90 berths.**
- **4,500 cbm cargo capacity (inc. 54 CTUs)**
- **PC5, 1m ice breaking at 3kn.**



Marine Science Capabilities

- Atmospheric, biological, chemical, geological, geophysical, and physical science measurements.
- Advanced lab facilities including Clean & Trace Metal laboratories.
- First British science ship with a moonpool, 4x4m.
- Helideck and hangar with space for 2 helicopters.
- Excellent Dynamic Positioning to maximise "over-the-side" deployments in poor weather.
- Science Workboat, "*Erebus*", for acoustic and geophysical sampling.
- Giant Pisten Corer, 40m long core sampling.
- Advanced acoustic suite & 3D underwater imaging.
- Deployment of multiple autonomous vehicles.
- Silent R notation – acoustically a very quiet ship

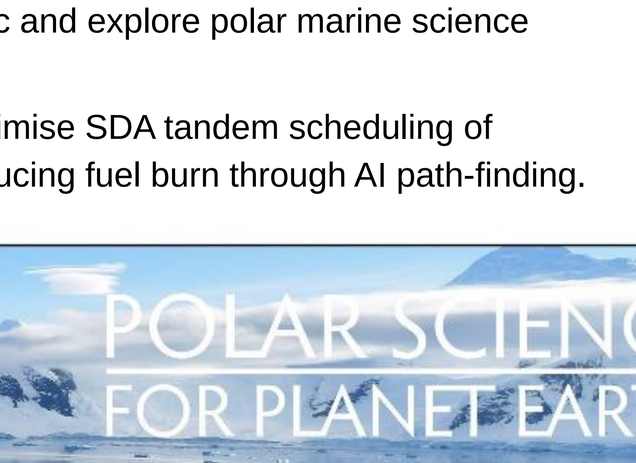
The Autosub, Boaty-McBoatface

Delivering Logistics and Science Together

- Deliver geographically aligned science & logistics.
- Proven capability of closing summer stations, uplifting terrestrial field parties, and delivering complex marine science cruises in one voyage.
- Seek opportunities for collaborations on simple logistics, to generate time for SDA to deliver specialised and complex taskings.

Challenges in making SDA science ready

- Covid lockdowns, quarantines, and limited international travel of Original Manufacturer Engineers severely hampered the final 18 months of construction and commissioning.
- Consequently, SDA unready for "Soft landing" season working in tandem with RRS *James Clark Ross,* a vessel operated by BAS until mid-2021.
- Initial season priority was logistical catch up post-Covid, and Ice Trials Part 1. Science "Rehearsal Cruise" had to be deprioritised to protect delivery of fuel, cargo, and people to BAS polar infrastructure.
- Despite successful maiden season, extended refit period required in mid-2022 to ensure logistics capability remained for 22/23 season. This came at the expense of full science sea trials cruise.



Alongside in April at Rothera Wharf

Outlook for future science delivery

- SDA itinerary to align major logistics work geographically with science programmes.
- Operate SDA as the main polar component of a NERC fleet, to minimise N/S transits and achieve maximum science output for fuel consumed.
- Ambition to overwinter the SDA in the Antarctic and explore polar marine science opportunities.
- Development of AI route planning tools, to optimise SDA tandem scheduling of logistics and science activities, whilst also reducing fuel burn through AI path-finding.