New Polar Research Vessel (NPRV)
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DESIGN & BUILD of the New Polar Research Vessel
Following a period of consultation with stakeholders, the development of a Statement of Requirements together with a concept General Arrangement (GA) was sent to eight short-listed shipyards on 27th March 2015, subsequently Daewoo (South Korea) and Fincantieri (Italy) withdrew from the competition, the yards, down-selected from a list of 28 yards that initially showed an interest in bidding are:

Babcock International Group (Devonport & Rosyth, UK);
- Lead contractor for the UK’s Aircraft Carrier Design and Build Programme.
- FTSE quoted company.
- Designer: Technolig Services – Germany.

Hyundai Heavy Industries and Construction (South Korea);
- One of the world’s largest ship builders.
- Designed and built many ice capable vessels.
- Designer – Rolls Royce

Vard (Norway);
- Recently acquired by Fincantieri, Italy.
- Shipbuilding facilities in Norway, Romania.
- Relevant experience of building polar class vessels.
- Designer: Rolls Royce

Cammell Laird (UK);
- Successfully diversified into the commercial marine market in the last 6 years.
- Contractor for the UK’s Aircraft Carrier Design and Build Programme.
- Designer: Rolls Royce

Sembawang (Singapore);
- Delivered RV Investigator in 2014 for Australia’s National Science Agency.
- Joint Venture design team: Robert Allan – Canada.
- Alion S&T – U.S.A
- L3 Marine Systems - UK

Freire (Spain);
- Family Owned Company;
- Built research ship Discovery
- Recently won contract for a 95m ice capable vessel for the Peruvian government.
- Designer: Rolls Royce

Bids from the 6 shipyards for the design (either based on the Hoodler concept design or their own) are due back to BAS on Monday 27th July 2015. Each submitted bid will then be fully appraised against a pre-agreed criteria.

A series of shipyard visits by the Project team and other interested stakeholders, are being planned for June in order to see at first hand the shipyards’ design, production and outfitting facilities.

Once the final decision is made, final negotiations will take place and the successful shipyard will be awarded a contract. Construction and acceptance sea trials etc is expected to take 4 years with the new vessel being ready for service in June 2019.

Technical Advisor:
Hoodler, London based naval architects, who were contracted by BAS to develop the initial concept design and development of the Statement of Requirements, have been awarded the Contract for the role of Technical Adviser for the phases of the project through – overseeing the design, construction, delivery, trials and guarantee period of the vessel following the selection of the shipyard which is due to be made in November 2015.

Extract from Statement of Requirements SoR dated 26 March 2015

**Polar Operation**
- Efficient hull form optimised for Low Underwater Radiated Noise and Bubble Swesdown.
- Ice breaking capability - up to 1m thick at 3 knots.
- Minimum surface area for ice accretion.
- Environmental protection of equipment.
- De-icing facilities where necessary.
- Ease of mobilisation and demobilisation.
- Self Sufficient craneage.
- Cargo tender and workboat
- Flexible cargo holds for efficient stowage of containers and cargo.
- AVTUR Bulk Cargo Tanks (flash point 38 deg C).
- Dynamic positioning.
- Flexible laboratories and working spaces.
- Scientific Moonpool, with closing doors top and bottom.
- Helicopter capable, including the provision of hangar and refuelling.
- Maximum protection of working areas.
- Reliability and redundancy in propulsion and essential safety systems.
- Minimum maintenance.
- Efficient use of energy.
- Speed and economy in transit.
- Minimum environmental impact. Compliance with requirements for NOx/Sox,d the Polar Code and the Antarctic Treaty

**Outfit to include** (specified for science capability) for subsea, seismic and acoustic surveys
- ADCP: Swath Bathymetry Shallow & Deep; Sub-Bottom Profiler; Scientific Echo Sounder; Biological Multi-frequency and Multi-beam Echo Sounder; Biological Multi Beam Sonar; Omni-directional Sonar; USBL; Positioning &Telemetry; Net Monitoring; Meteorological Weather Station
- Surveillance; Clean Electrical Supplies

**Scientific Winch System** (with a proven robust design)
- Winches for Standard CTD; Biological; Hydrographic; Deep Tow; Deep Water Coring; Metal Free CTD; General Purpose wires.
- Stern & Starboard Garnty for scientific and coring equipment; CTD handling; AUV and ROV deployment

**Fixed Scientific Space**
- Wet, Deck; Controlled Environment; Core & Sample Chill Store; Main; Clean; Aerosol; Atmospheric Science; Dark / Photo Room; Salinometer; Underwater contaminated Sea Water, Underway Instrumentation Control Room; Data Suite; Gravity Meter Laboratories and Rooms.

**Scientific Services**
- Clean Seawater (Non-Toxic) Inlet Laboratory Wiring; Distribution routes for scientific gas piping; Freezers and Fridges

**Containerised Laboratories, Systems and Services**
- Seismic System: Deep CTD winch; Hydrographic Winch; Radonucile; Ultra Clean Chemistry; Constant Temperature (Biological); Atmospheric; Aquarium; Aquarium Transport; Multi-Sensor Core Logging System; Biosecurity.

**Working Decks**
- Alt and Starboard side with bolt down matrix; Hangar Facility; Aerial Platform with bolt down matrix.

**General Outfit**
- Networking in all cabins and workspaces; CCTV Surveillance; Clean Electrical Supplies

**Hotel / Recreation**
- Accommodation: Communal Mess; Galley; Bar / Lounge; Conference Room / Library; Sauna; Fitness Centre, Laundries, Hospital.