

RSV NUYINA

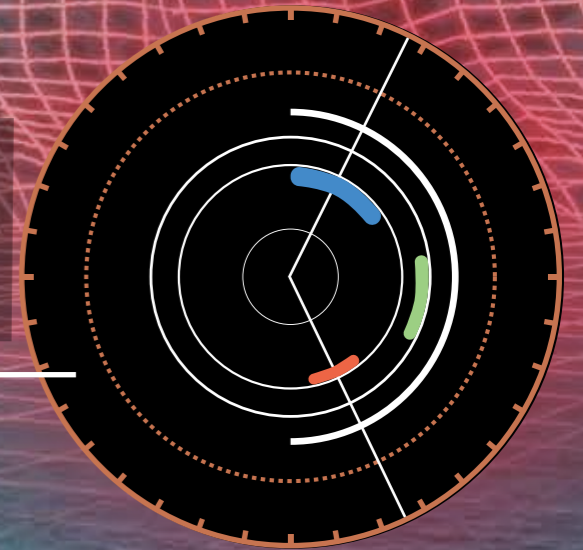
RSV Nuyina is a ship of the future, designed to answer the critical scientific questions of today and flexible enough to cope with future research and operational demands during its 30 year life span. The word nuyina means 'southern lights' in palawa kani, the language spoken by Tasmanian Aborigines.

01 SCIENCE DECK & LABS

The rear deck can support almost every conceivable scientific activity. A large 'A frame' at the stern and different winches and lifting equipment can be used to deploy fishing nets and dredges, robotic vehicles, mooring systems, cameras, and sediment corers.

07 FISHERIES SONAR

The fisheries sonar uses pulses of sound to detect schools of fish, krill or other marine organisms in the water column around the ship. The sonar can be controlled and monitored from the science operation room and the bridge.



MOON POOL

The moon pool is a 13 metre vertical shaft running from the science deck to the open ocean. Equipment such as CTDs, nets and robotic vehicles can be deployed, even when the ship is in sea ice.

02



CTD

The conductivity, temperature and depth (CTD) instrument is a workhorse of oceanography that collects water samples at different depths. These provide information about the changes in the ocean's salinity, temperature, nutrients and plankton.

03



ROV

Remotely Operated Vehicles (ROVs) are connected to the ship and powered via an umbilical cord. They can be used to explore the underside of sea ice for krill and the sea ice algae that they feed on.

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Two drop keels can be lowered three metres below the ship. They contain acoustic instruments that use sound to create images of the ocean environment - to map the sea floor or measure the amount of krill or fish in the water - and a hydrophone system to record marine mammal calls.

DROP KEELS

BARGES

The two 16.3 metre-long and 6.2 metre-wide aluminium jet barges will transport up to 45 tonnes of cargo in ship to shore operations.

06



RSV NUYINA

The ship can carry 1200 tonnes of cargo in up to 96 20-foot shipping containers. One of the two cargo holds can accommodate vehicles including tractors, LARCs (amphibious vehicles), rough terrain vehicles and Quadtracs.

CARGO 08



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The 10.3 metre-long science tender can carry up to six people and 500 kilograms of cargo. It has a moon pool to deploy instruments through the hull and an A-frame to deploy towed instruments.

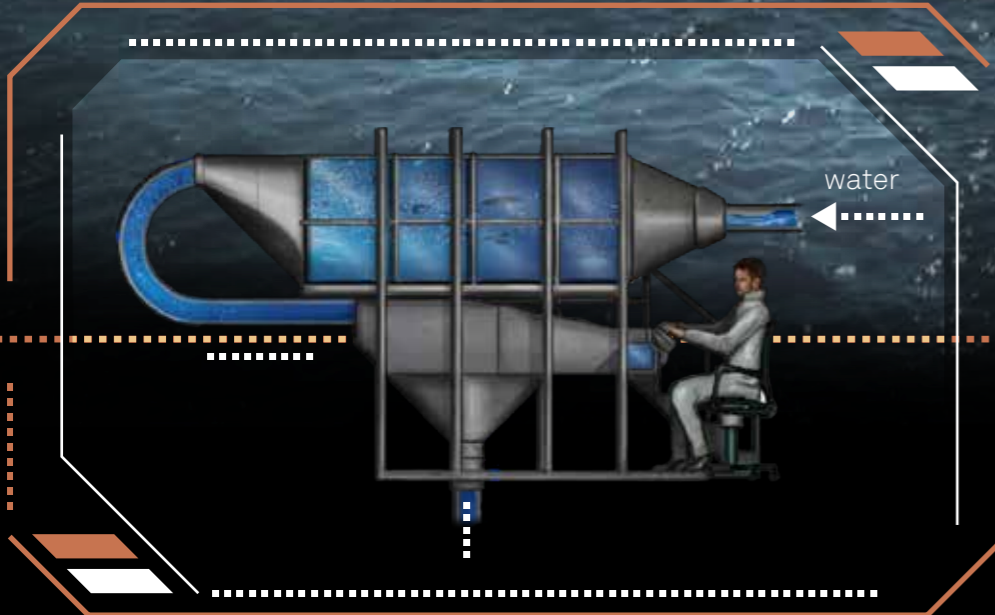
SCIENCE TENDER



WET WELL

The Nuyina's unique 'wet well' is a watertight space below the water line, that can process up to 5000 litres of seawater per minute, piped from large inlets in the ship's hull. The water feeds into large viewing tanks and 'filter tables', which allow aquarists to collect krill and fragile organisms like jellyfish in perfect condition.

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Autonomous Underwater Vehicles (AUVs) are programmed to work independently under sea ice or deep beneath ice shelves. They can carry a range of instruments for different purposes, such as mapping the sea floor or under-ice surface, and measuring water properties.

AUV

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Nuyina has two electric motors (7400 kW total) powered by diesel generators for silent operations and these can be coupled with two 16 cylinder diesel engines to provide maximum power for ice breaking (19,200 kW total). Two 50 metre-long propeller shafts connect the main engines and electric motors to the 40 tonne propellers at the stern.

11

PROPULSION

