



MARITIME & SUBMARINES PORTFOLIO 16/17



MARITIME & SUBMARINES

AUSTRALIA & NEW ZEALAND



Dominance of the maritime domain is key to national security for seafaring countries with maritime borders. With 70% of the Earth's surface being covered by water, the security of the maritime trade routes are paramount to the well-being of our societies. The maritime environment is harsh, demanding and punishing and exposes every flaw in naval systems. Whether it is above or under water, naval systems must be designed to combat threats in the three dimensional space and dominate the environment. An intimate understanding of the operational environment is crucial to delivering capabilities that can withstand the relentless pace of naval operations and deployments.

Nova Systems provides the operational and engineering solutions to help our customers meet these challenges. Our people understands the nexus between operations and engineering, and with our presence in Australasia, Asia and Europe, we are in a unique position to use our global experience and expertise to bring a fresh perspective into the problem space when designing creative solutions for our customers.

Our people combine technical skills with an in-depth understanding of what is required to deliver and sustain capability. We provide scalable solutions whether it is specialist advice or a full turn-key service, working with OEMs and the end users to deliver capabilities tailored to their needs.

John Godwin
General Manager - Maritime & Submarines
john.godwin@novasystems.com



ABOUT NOVA SYSTEMS

Nova Systems was formed in 2000, rapidly becoming one of the pre-eminent providers of specialist engineering services to the defence sector.

Today, Nova Systems employs more than 400 specialist consultants across Australia, New Zealand, the UK and Singapore, collaborating with its blue chip clients across industry sectors including utilities, government, aerospace, mining, oil, gas and rail.

We provide industry and government with world class, independent expertise. We work not just as consultants, but as trusted partners, as committed to your success as you are.

Our size and extensive network allows us to resource project teams tailored to specifically meet client needs and objectives, yet we remain nimble and flexible. We apply innovation and ingenuity, drawing on the talents and expertise of our people, applying cross-sector thinking, national as well as global perspectives and emerging best practice initiatives.

Specialist services

- Commissioning and test
- Capability development and delivery
- Project development and delivery
- Specialist engineering design
- Certification and design approvals
- Operational and systems safety
- Asset management and logistics
- Training (registered RTO)

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MARITIME & SUBMARINES

KEY CLIENTS - AUSTRALIAN DEFENCE FORCE | NEW ZEALAND NAVY | CAPABILITY ACQUISITION & SUSTAINMENT GROUP | SAAB SYSTEMS | RAYTHEON | ASC | AUSTRALIAN BORDER FORCE



MARITIME & SUBMARINES

Naval forces and the maritime industry today operate in an environment of ever increasing strategic and technological complexity. Nova Systems provides program and capability assurance for the acquisition, introduction to service, operation and sustainment of complex mission and support systems in the maritime domain. We are a global business with local knowledge and insight. We have worked extensively with end users, operators, prime system integrators and original equipment manufacturers right across the capability life cycle. Our personnel are experienced on operations at sea, in shipbuilding and ship repair programs.

Nova believes in servicing the needs of others and supporting our Clients to 'solve the problems that really matter' so that they can focus on the difference they need to make and get on with the business of securing and working in the Maritime Environment.

We do so by bringing together some of the best Consultants who are experts in their Field. They are proven to deliver and always get the job done to the highest standards. We work with Industry and Defence, so that we can help them make a larger difference in the world.

We are a world-class Capability Assurance Company

CAPABILITIES

- Operational Test and Evaluation
- First of Class Trials
- Systems Engineering
- Systems Integration
- Design Engineering
- Modelling and Simulation
- Naval Combat Systems
- Electronic Warfare
- Communications and Datalinks
- Unmanned Naval Systems
- Undersea Warfare
- Ship Aviation Operations
- Integrated Logistics Support
- Project Management
- Technical Translation
- Explosive Ordnance Services

CONTACT

Lee Kormany
Program Manager- Maritime
lee.kormany@novasystems.com

Ian Salter
Program Manager- Submarines
ian.salter@novasystems.com

AIR WARFARE DESTROYER ALLIANCE SUPPORT



Highlights The Australian Air Warfare Destroyer (AWD) project will deliver three world-class ships and their support systems to the Royal Australian Navy.

In April 2005 the Australian Government selected Raytheon Australia Pty Ltd as the Combat System – Systems Engineer, and in May 2005 selected ASC AWD Shipbuilder Pty Ltd as the Shipbuilder. ASC and Raytheon Australia join CASG in forming the AWD Alliance which is now working hard to deliver this cutting edge capability to the Navy.

Over the last 10 years, Nova Systems have provided consistent specialist support to the Commonwealth, ASC and Raytheon in a number of areas including Combat Systems Engineering, System Safety Engineering, Test and Activation activities and Integrated logistics Support.

PROJECT PROTECTOR VESSELS (PPV) & PROJECT PROTECTOR REMEDIATION (PPR)



Highlights Operational Release of the PPV Fleet has been protracted due to deficiencies revealed during initial Acceptance Testing. The Crown addressed the mediated deficiencies as a series of Project Protector Remediation (PPR) Projects.

Over a 3 year period, Nova Systems supported the RNZN to develop, and implement a Maritime Test and Evaluation Agency (MTEA).

Nova provided training, mentoring and full test and evaluation teams, working closely with the RNZN to ensure the PPR achieved Operational Release, which occurred in September 2016.



KEY EXPERIENCE

LANDING HELICOPTER DOCK (LHD) SHIP HELICOPTER INTEGRATION



Highlights Nova's genesis was through the combination of Test Pilot experience with Flight Test Engineer expertise. This is a true melding of art and science.

Nova Systems brings together the combination of T&E art and Engineering science to ensure the crucial force multiplier effect of a Ships Helicopter can be realised. This is achieved by conduct of First of Class flight trails, Ship Helo Operating Limit (SHOL) development and definition and assessment of Aviation Facilities to support the desired aviation capability.

AUSTRALIAN BORDER FORCE SATCOM EVALUATION



Highlights Off shore vessels owned and operated by Border Force were using low bandwidth SATCOM services for their communication needs where the costs were driven on a per usage basis. As the volume of data required to be transferred between each vessel and headquarters increased, the SATCOM usage costs per vessel became prohibitively expensive.

This resulted in Nova Systems developing a Hybrid SATCOM capability enabling Border Force to communicate across both Military and Civilian services and realising a significant improvement in SATCOM throughput and data reliability

As part of the evaluation process for supporting the introduction of new SATCOM capability within Border Force, Nova Systems was responsible for modelling different SATCOM procurement and cost models as well as evaluate different alternate SATCOM capability options including both commercial and military services.

NEW ZEALAND ANZAC PLATFORM SYSTEM UPGRADE (PSU)



Highlights Two NZ ANZAC Class Frigates have undergone an extensive Propulsion System Upgrade including new refrigeration plants, new engines, new electronic DC Stateboards and new Bridge electronic displays. The most critical part of PSU was the installation of new main and auxiliary system control software called Integrated Platform Management System (IPMS). This software also integrates Damage Control (DC) functionality.

Nova Systems was engaged by the RNZN to develop and conduct the First of Class operational tests for the PSU project. This resulted in an update to Class Standing Orders and establishment of processes for Command and Bridge Team to operate the Integrated Platform Management System.



KEY EXPERIENCE

FUTURE SUBMARINES DEVELOPMENT OF TEST CONCEPT DOCUMENTS



Highlights The SEA 1000 Future Submarine Program (FSP) continues planning to provide the Australian Defence force with its next generation of submarine capability beyond the planned withdrawal of the Collins Class submarine.

The FSP developed preliminary Capability Definition Documentation to support Business Cases and cost versus capability trade-offs. Nova provided Test and Evaluation (T&E) expertise in the submarine domain to develop the Strategic Test Concept Document; outlining T&E concepts, strategy and identifying stakeholders, resource requirements and funding.

Nova Systems was engaged to provide the FSP with Australian Submarine T&E subject matter expertise to:

- Ensure that the study covered the breadth of test capabilities intended by the TCD;
- Engage with the appropriate authorities and experts in Australia to produce the required level of cost detail for a first pass TCD; and
- Plan and conduct stakeholder workshops to update the SEA1000 TCD in readiness for submission to Government.

