The Future of Naval Shipbuilding
An industry perspective on Australia’s naval shipbuilding debate
In the current era, the indigenous defence industry is a key component of national defence capability. The defence industry has moved on from simply being an arms length provider of commodity goods and services. Rather, it exists as one of the fundamental elements of the national security infrastructure.

The type of industry capabilities needed to deliver against modern warfighting requirements take considerable time and investment to establish and develop, just as they deteriorate quickly and require a consistent throughput of work to maintain.

What this means is that a strategic view and commitment is required of certain defence industry capabilities and that such an approach is fundamental to any consideration of the future of Australia’s defence capability.

To be clear, defence industry should not succumb to the rent seeking approaches apparent in some other sectors, nor should it expect any free ride. After all, defence industry exists to support the nation’s defence requirements and not the other way around. However, the characteristics of a highly capable indigenous defence industry, and the need to sustain it in the national interest, should be a consideration in any strategic decision about defence posture, capability and expenditure.

Australia currently has extant capabilities for the construction of major surface combatants such as the Air Warfare Destroyer (AWD) and Future Frigate as well as for submarine sustainment, including capability upgrades, and the sustainment of other classes of vessel. I should also include in that list extant capabilities for the construction of Patrol Boats.

But it is necessary to distinguish those projects which genuinely add to the industrial self-reliance necessary for our national security from those that don’t. Australia needs to have sovereign capabilities in submarines and major surface combatants. This is particularly the case in integrating and sustaining combat systems which are incredibly valuable to the nation.

By contrast, I believe that other classes of vessel can and should be built where it makes the most economic sense to do so because a sovereignty argument can less likely attach to such industrial capabilities.

Having come to the view that we should build surface combatants and submarines in Australia, I believe we should capitalise on the investment the nation has already made in Australian shipbuilding – particularly on the back of the AWD program – and consider naval shipbuilding as a core component of Australia’s manufacturing sector.
The debate should never be about creating a subsidised shipbuilding industry in Australia but rather a path to a self-sustaining, competitive industry that manufactures in Australia with the associated economic benefits that go along with it. What we should not do is make a decision based on one or two individual projects but resolve to embark upon a national shipbuilding strategy.

The most efficient way to maintain the skills and productivity of the industry is to embark upon a rolling build program for major surface combatants and submarines. The pace of such a rolling build program is something which should be considered carefully and set early.

Such a build program should also allow Australia to better manage vessel life of type issues and avoid excessive sustainment costs associated with ageing platforms. And just as a rising tide lifts all boats, the productivity benefits in terms of knowhow and efficiencies generated from a rolling build program would provide a considerable lift in the competitiveness which Australian based shipbuilding offers for those classes other than submarines and major surface combatants such as support vessels.

Productivity and knowhow are the key to efficient shipbuilding. It is often not properly understood that labour factors contribute a relatively small proportion of the acquisition cost of a vessel. By contrast, the cost of materials and major components may be considerable, particularly when we are talking through Foreign Military Sales acquisition, but generally this supply chain can be sourced on a global value for money basis.

One commendable document in the shipbuilding debate is the Future Submarine Industry Skills Plan (FSISP) released in conjunction with the White Paper. I was pleased to serve with other industry colleagues on the expert industry panel and stand by the body of the report which provides a good snapshot of the extent of Australia’s capability across the range of relevant skills. In particular, the report addresses the maturity of our systems integration capability which has been built on the back of the Collins and AWD programs.

What matters is that the FSISP report sets out clearly the rationale for establishing a rolling build program for major surface combatants and submarines as well as generating and maintaining the skills and knowhow required to support such a program.

In a perfect world we would have an AWD construction program that would roll directly into a Future Frigate construction program – ensuring benefits such as continuity of work and maintaining the associated knowhow, productivity and skills. But what is missing at the moment is the will to bridge the “valley of death” and to connect the two programs. This could be achieved, and only achieved in my view, through a decision to acquire a fourth Air Warfare Destroyer.

From my own point of view, it is clear that other options, including offshore builds of specialised vessels such as oilers with an onshore consolidation of such vessels do not address the valley of death in terms of timing, nor do they sustain the right skills. For example, much has been said about the impact of the valley of death on shipbuilding skills but equally important is the impact on engineering skills. The same could be said of the idea of icebreakers.

It is important to recognise that the valley of death has already arrived. The ramp down of the AWD project has already begun and the pace of job losses will only escalate over the course of the next two years. That is why a solution needs to be found now.

A proper consideration of our long term national security interest demonstrates solid strategic reasons why a fourth AWD would be valuable to Australia. Where I think the process has fallen down is that the issue has wrongly been considered in an opportunity cost sense that somehow the fourth AWD would necessitate a delay in the Future Frigate program. This logic does not hold up because the Future Frigate program must be commenced immediately anyway in order to ensure the design/development phase is completed in time for a smooth transition to a construction phase that dovetails into the end of the AWD construction program.

I can only urge a reconsideration of the decision not to proceed with the fourth AWD. The option of a fourth ship is not new and has existed since the second pass decision was made in 2007. Once the final destroyer is built we will build no more and we should consider very carefully whether we want to limit the protection that is afforded to our Landing Helicopter Docks and limit future capability options to protect our sea lanes of communication in the years to come.

I hold a similar view in regards to the Future Submarine project. Australia’s Future Submarine
program cannot be considered in isolation but in parallel with a rolling build program for major surface combatants.

It is important that we draw upon the skills, knowhow and productivity benefits of a rolling build program for major surface combatants for the purpose of a new submarine program but it is essential that the rolling build programs run in parallel, not as some hybrid single rolling build program.

We must move quickly into detailed design/development of the Future Submarine if we are to ensure the construction phase can begin in sufficient time to provide a replacement for Collins that avoids the excessive costs associated with maintaining ageing platforms or, worse, a capability gap.

In considering this point it is also worth noting that the pace of the Future Submarine rolling build program needs to be set early. What we don’t want to be forced into is an early sprint – driven by an ageing Collins fleet. Rather we need to set a measured pace that allows sufficient time to appropriately manage the significant complexity of start up in a program of this nature.

Today we have a highly capable defence industry that is focused on meeting the needs of the Australian warfighter. It is an industry that continues to mature, to develop its capabilities and to build a strong reputation for performance.

Today's defence industry is the product of two decades of government policy, where it has become a fundamental part of the national security fabric and infrastructure. What flows from this is that we need to properly understand the role and potential of industry and, in our national security interests, apply the correct policy settings to its future.

“Australia needs to have sovereign capabilities in submarines and major surface combatants. This is particularly the case in integrating and sustaining combat systems which are incredibly valuable to the nation.”
Navantia and the RAN

Navantia is playing a significant role in the design and construction of the Royal Australian Navy’s future naval fleet.

Navantia, 100 percent owned by the Spanish Government, is a world reference in the design, construction and integration of state-of-the-art warships, as well as ship repairs and modernizations. It is also engaged in the design and manufacture of Integrated Platform Management Systems, Fire Control Systems, Command and Control systems, Propulsion Plants and through life support for all its products. While its main line of activity is in the naval field, Navantia also designs and manufactures systems for the Army and the Air Force.

Air Warfare Destroyer (AWD) project

In October 2007, Navantia signed a contract with the Australian Government’s Defence Materiel Organisation (DMO) for the design and transfer of technology for the construction in Australia of three ships, based on the F-100 class Spanish Navy frigates.

As the Platform Systems Designer for the AWD project, Navantia is working with the AWD Alliance (DMO, ASC and Raytheon Australia) to deliver the destroyers to the Royal Australian Navy. Navantia has built five F100s using the modular construction methodology ensuring efficiency benefits for the design of Australia’s AWDs.

Five years later, in accordance with the project schedule, the principal design is finished. Activity is now focussed on incorporating the last updates of the combat system, supporting on-board installation and opportunities for improvements identified during the construction process.

Five Ship 2 keel blocks have been delivered to Adelaide from Fene-Ferrol Shipyard in Spain in a high state of fitout ready for consolidation. Work on Ship 3 blocks is advancing in accordance with the established schedule, already painted and in final assembly phase. Delivery will take place at the end of February 2014.

Navantia has an integrated role working in close cooperation with the AWD Alliance in Adelaide. The Alliance has commended Navantia’s
resident team for providing enormous benefit to the project through hands-on advice and expertise in Australia, as well as the ability to reach back to Spain.

Landing Helicopter Dock (LHD) project

In October 2007, Navantia signed a contract to build for the Royal Australian Navy the hulls of two amphibious ships, very similar to the LHD “Juan Carlos I” that the company has built for the Spanish Navy.

The contract included the design and construction of the ships, as well as some equipment, e.g. engines and platform control systems. Navantia will build 80 percent of the ships, but both of them will be finished in Australia, where the superstructure will be added.

The engineering of the project has been finished and the process of validation and checking is highly advanced.

LHD Ship 1 was launched on 17 February 2011 and delivered to BAE Systems in October 2012, travelling on board the heavy lift “Blue Marlin”.

At this time, it is nearing the completion of trials (BDTs) for integration of superstructure and hull to combat, communications and navigation systems. These tests are prior to official sea trials which will take place in the coming months. The delivery date is scheduled for the first quarter of 2014.

Construction of this second ship, LHD Ship 2, was started in February 2010 and the keel was laid one year later. The launch took place on 4 July 2012 and construction is now more than 95 percent complete. According to schedule, the Navantia official trials are taking place in October. These trials include main systems, electric plant, propulsion, elevators, ramps, fire fighting systems and the rest of auxiliary systems.

Next December, the ship will be transported to Australia on board the “Blue Marlin” as part of a two month journey.

Navantia has an excellent relationship with the parties involved in the program: Commonwealth of Australia, BAE Systems and Navantia. The Commonwealth and BAE Systems have congratulated Navantia for the results of the sea trials and commissioning of “Juan Carlos I”, as it is the reference ship for the Canberra Class LHDs.

According to the Australian Government, the LHD Program is performing well and will be delivered on time, on budget and to contracted capability.

High Speed Landing Craft project

In October 2012, Navantia started the construction of 12 LLC high speed landing craft for the RAN to be operating on board the Australian LHDs Canberra and Adelaide.

These units are similar to the landing craft built by Navantia and in service with the Spanish Navy since 2006 and 2008. The first four craft will arrive in 2014, when the first of the new Australian LHDs become operational.

The first landing craft unit was set afloat on 16 September this year and has started trials. Six more units are in different stages of construction, and the last five have not been started yet. Four units will be commissioned in April 2014.