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The Senate Economic Reference Committee Inquiry into the Future Sustainability of Australia's Strategically Vital Naval Shipbuilding Industry

Submission from the Damen Shipyards Group

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In June 2014, the Senate referred an inquiry into the future sustainability of Australia's strategically vital naval shipbuilding industry to the Senate Economics References Committee (Committee) for inquiry and report by 1 July 2015. The Committee reported on the tender process for the new supply ships in August 2014 and the acquisition process for future submarines in November 2014. The inquiry lapsed at the end of the 44th Parliament. In October 2016, the Senate agreed to the Committee's recommendation to re-refer the inquiry to the 45th Parliament with amended Terms of Reference, reflecting advances in the inquiry into the future of Australia's naval shipbuilding industry.

The updated Terms of Reference are:

The future sustainability of Australia's strategically vital naval ship building industry, including:

- the development of contracts relating to naval ship and submarine building;
- the design, management and implementation of naval shipbuilding and submarine;
- defence procurement projects in Australia;
- the utilisation of local content and supply chains;
- the integration of offshore design work and supply chains in Australia;
- opportunities for flow on benefits to local jobs and the economy; and
- any related matters.

This submission from the Damen Shipyards Group addresses the following key points:

- The need for Australia to develop a sovereign continuous Naval shipbuilding capability;
- Export Opportunities – A paradigm shift is required to reach international competitiveness. For ship exports to be successful the following is required:
 - The right organisation to make it happen.
 - A combination of commercial and military export options.
 - To be market driven, recognising what is needed in the region; OPVs and commercial support vessels (tugs, dredges, tenders, etc) are the most likely to succeed.
- Lessons learnt from Damen's experience partnering with local shipyards to develop a sovereign shipbuilding capability; and
- Damen's Australian Experience.

Need for Australia's Sovereign Shipbuilding Capability

Damen wholeheartedly agrees that Australia needs a local capability to design, build, sustain, upgrade and export Australian built vessels. The commitment by Australia's government to achieve this target is commendable and Damen considers the foundation contract to achieve that goal is the SEA 1180 Offshore Patrol Vessel program. This program, with the Commonwealth stipulating the use of an Australian shipbuilder, will ensure a skilled workforce is available for the SEA 5000 Future Frigate program in South Australia, and will also enable the establishment of a stable shipbuilding employment environment in Western Australia.

Successfully executed, the SEA 1180 program will:

- develop capability with tangible knowledge exchange from international partners;
- transform the Australian Shipbuilding Industry into a competitive regional player for ship construction and sustainment;
- generate and sustain a flexible marketplace of collaboration between industry, research and development, academia and Defence to deliver and innovate to meet the changing requirements of the RAN, Australian commercial shipping as well as the regional export shipping market; and
- promote capability development of the current and future workforce in the Australian Shipbuilding Industry, allowing personnel from other industries to transition into ship building and providing future Australian workers with a high value add, technologically advanced and exciting career.

Damen's international experience has demonstrated that to transform a national shipbuilding capability the following outcomes are generally required:

- a shipbuilding industry that is flexible enough to meet demand in both the commercial and naval sectors;
- increase in the number of industry players and greater competitiveness within the shipbuilding market place;
- improved integration with academia and research and development organisations; and
- increased flow of intellectual property and involvement in global supply chain.

Trends in the International Vessel Export Aspirations

Damen considers that the international and regional OPV Market is a high growth area in the international naval and commercial ship market. The global OPV market is rapidly increasing as shown by Damen's current order book – five delivered in the last 12 months with a further 15 under construction. The engineering and hull configurations can be easily adapted to meet local customer (either Naval or Coastguard) requirements and they are incredibly versatile platforms performing everything from humanitarian aid, search and rescue, fisheries patrol and more complex constabulary tasks.

Importantly, the majority of OPV designs are based on commercial designs which therefore provides an opening into the commercial export market. With minor adaptation, these designs can be used for a variety of tasks such as:

- servicing the offshore resources industry with high speed crew transfer;
- carrying helicopters, boats, stores and equipment for superyachts;
- acting as a mother ship for small fishing fleets; and
- port security.

As an example, Damen builds vessels across 14 separate market sectors (e.g. aquaculture, offshore O&G, defence & security, harbour & terminal, dredging, public transport, etc.) in nearly 70 shipyards. In many instances Damen has worked with local stakeholders, Government, Naval and Industry, to increase the competitiveness of the local shipbuilders to be able to enter the export market.

In Damen's experience, Australia is now in the optimum position to establish the required vibrant shipbuilding market place that will generate the required level of competitiveness and produce quality vessels for the RAN and other Australian ship operators. This market place, with the necessary competition between multiple players, will likely need the scale of an export market to be economically viable. Damen's experience in other countries indicates that export sales are a necessary component of Australia's Sovereign Shipbuilding capability.

Damen's lessons learnt in increasing competitiveness of national Shipbuilding Capability

The ability to effectively transfer knowledge and intellectual property that sets apart a great partner for local shipbuilding development from just another shipbuilder entering the market. In Damen's experience, it has been the openness of the shipbuilding industry to work with each other and share intellectual property that has been a crucial ingredient for success of local shipbuilding capability.

In many instances around the world the local shipyards work closely with the Damen team to develop local capability while learning the key skills required to build ships on time and on budget. Some relevant examples follow that demonstrate the establishment of a globally competitive ship building industry is achievable in Australia with strong partnerships, good communication between all parties and the use of mature systems and processes from the beginning.

The Netherlands

Damen Schelde Naval Shipbuilding (DSNS). DSNS is the naval shipyard within Damen that specialises in the design and construction of naval vessels and complex commercial vessels. Royal Schelde was founded in the year 1875 and became a member of the Damen Shipyards Group (Damen) in 2000 when acquired from the Dutch Government. Damen changed the business model from domestic naval-only to an internationally focussed commercial yard building warships and commercial vessels. As well as the domestic market, warships designed by DSNS are in service with the US Coastguard, Australia (HMAS Choules), Indonesia, Morocco and Mexico. The future Antarctic Research & Supply Vessel for the Australian Antarctic Division is also being designed and built by DSNS.

Recent deliveries relevant to the RNLN include:

- *RNLN Karel Doorman.* This 205m, 28000t joint logistics and support ship was commissioned in 2015 at a cost of US\$480m. It is a highly complex ship equipped with the same sensor suite as Holland-class offshore vessels, a strong self-defence weapon capability, and has the capability to support all forms of amphibious warfare (landing craft, helicopters, replenishment at sea of fuel, cargo and ammunition, command & control, and medical).

- Holland Class Ocean Going Patrol Vessels. This 105m class of warship carries a full suite of warship sensors, is fitted with a 76mm gun and an organic aviation capability, and is proof of a highly successful international program to build a succession of complex warships in a cost-effective manner. The ship was a winner of the 2012 Royal Netherlands Society for Marine Technology (KNVTS) Ship of the Year Award, and each vessel was delivered at approximately US\$150m per vessel in 2012 prices. They are currently meeting all operational commitments for the Royal Netherlands Navy.

Indonesia

In January 2017, the first of two SIGMA 10514 Perusak Kawal Rudal (PKR) frigates was delivered to the Indonesian Ministry of Defence, on schedule and on budget. The frigate was built using a collaborative modular process operating simultaneously at DSNS in the Netherlands and PT PAL shipyard. The vessel is made up of six modules – four of these were built at PT PAL while the other two modules (the power plant and the bridge & command centre) were built and fully tested at DSNS before being shipped for final assembly at PT PAL. Indonesian shipbuilding staff were trained in both locations and fully integrated with the Damen team.



Damen Sigma 10513 Indonesian Frigate during sea trials

The second frigate was constructed with all 6 modules built in PT PAL Shipyard demonstrating a clear transfer of skills and technology to the local workforce. The ship is now in its final sea trials with delivery programmed for next month.

This project represented an example of Damen meeting its contractual obligation to Indonesia's defence ministry to deliver an extensive knowledge and technology transfer program; including the establishment of a Centre for Naval Shipbuilding based in Surabaya. This has the explicit aim of establishing a centre of naval shipbuilding expertise at the PT PAL shipyard. By collaborating closely on the first two vessels, the transfer of skills and upgrading of the yard has taken place smoothly and with a strong spirit of cooperation.

Vietnam

In the last 15 years Damen has partnered with local shipyards to build more than 350 ships in Vietnam across a broad range of markets and industries. The success of the program could not have been achieved without a comprehensive transfer of technology program and a close relationship with the Vietnamese Maritime University (VMU). According to the Vice President of the VMU, 80% of graduates are directly employed in the design and build of Damen vessels in Vietnam and in 2015, 6000 local Vietnamese were employed building Damen vessels.

The partner yards in Vietnam range from Yard 189, a shipyard still owned by the Vietnamese military in Haiphong, through to joint venture yards with ownership shared between local commercial shipyards and Damen. The quality at these yards is exceptional as shown by the recent delivery of MV Besant, MV Stoker and MV Sycamore for use by the Royal Australian Navy.



Australia's submarine rescue ships, MV Stoker and MV Besant, alongside HMAS Stirling

Brazil

Wilson, Sons and Damen have enjoyed a business relationship for 20 years. Starting with a small 19m buoy layer in 1994, this relationship has prospered with more than 90 tugs, offshore supply vessels and scientific research vessels delivered to the Brazilian market. The shipyard builds the vessels while Damen provides full engineering packages, partial material packages and has commissioning responsibilities.

The offshore designs are specifically tailored to meet the requirements of the Brazilian market ensuring the provision of local jobs, a long-term shipbuilding capability, seamless transfer of skills and technology, and a local company sustaining a local market.

These examples represent real life cases where the required characteristics for a sustainable and competitive shipbuilding industry can be generated for local shipbuilders with the right assistance.

Australian Experience

Damen has nearly 100 vessels in the Australian/New Zealand region including tugs, dredges, offshore support vessels, superyachts and 12 vessels providing direct support to the RAN



MATV Sycamore entering Sydney Harbour – July 2017

Since 2012 Damen has delivered the following vessels in support of the RAN:

- MV *Sycamore* – 94m OPV providing a wide range of training services for the RAN including aviation training, mine warfare support, officer training, practise torpedo recovery and HADR (delivered 2017);
- MV *Stoker* - 93m submarine rescue gear ship (delivered 2015)
- MV *Besant* - 83m submarine escape gear ship (delivered 2014)
- five harbour tugs (delivered 2012-13); and
- four self-propelled fuel/water bunker barges (delivered 2014).

We are confident the lessons we have learnt in other jurisdictions are relevant to Australia.

Conclusion

The future of Australia's Shipbuilding Capability will be inextricably linked to Australia's success as a nation. Damen's international experience has shown that to achieve and sustain a sovereign shipbuilding capability for Australia, there is a requirement to generate the following elements:

- selecting the right new entrants who have a proven track record of transforming local shipbuilding markets and sharing knowledge,
- a vibrant local market with multiple shipbuilders and integration with R&D, academia and other industries,
- export sales to economically sustain the larger market, and
- the integration of civil and military shipbuilding.

Damen Shipyards Group

Damen Shipyards Group operates 33 shipbuilding and repair yards, employing 9,000 people worldwide. Damen has delivered more than 6,000 vessels in more than 100 countries and delivers some 180 vessels annually to customers worldwide. Based on its unique, standardised ship-design concept Damen is able to guarantee consistent quality.

Damen's focus on standardisation, modular construction and keeping vessels in stock leads to short delivery times, low 'total cost of ownership', high resale values and reliable performance. Furthermore, Damen vessels are based on thorough R&D and proven technology.

Damen offers a wide range of products, including tugs, workboats, naval and patrol vessels, high speed craft, cargo vessels, dredgers, vessels for the offshore industry, ferries, pontoons and superyachts.

For nearly all vessel types Damen offers a broad range of services, including maintenance, spare parts delivery, training and the transfer of (shipbuilding) know-how. Damen also offers a variety of marine components, such as nozzles, rudders, anchors, anchor chains and steel works.

Damen is currently competing for the opportunity to build the Royal Australian Navy's twelve new OPVs in Australia.

FOR FURTHER INFORMATION PLEASE CONTACT

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