

SIA Executive Committee 2016-2017

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SIA Features

- The SIA is Australia's premier organisation for discussion/research on submarine matters.
- Established in 1999, it is dedicated to strengthening relationships between government and industry, and with submariners past and present.
- The SIA has a vision that builds on the centenary of submarines (1914-2014). While the participation of submarines was periodic in their first 100 years of RAN history, the second 100 years promises to grow Australia's submarine capability to its highest ever level.
- Broad membership providing skills and experience in a range of areas:
 - Submarine operations;
 - Submarine engineering;
 - Submarine design;
 - Defence science with a focus on the submarine area;
 - Defence Industry;
 - Marine archaeology and museum operations; and
 - Offshore oil and gas industry.
- Wide and informed network of people and companies with submarine knowledge and experience.
- A membership with an established reputation in the Defence Departments of Australia, Canada, France, Germany, Japan, Sweden, UK and USA.
- Awareness and dialogue with the offshore resources science, technology and industry communities.

Submarine Institute of Australia Inc



Background to the SIA and Frequently Asked Questions on Australia's Submarines

To join the SIA or enquire about
sponsorship, visit the website or email
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What are the unique characteristics of submarines?

- They are able to operate undetected in areas far away from their home base for long periods of time.
- They exploit the advantage of surprise:
 - *Able to gather a wide range of information while unobserved.*
 - *Able to wait undetected then deliver a very powerful punch when ordered.*
 - *Demand highly disproportionate effort to counter the threat they represent.*
- They deliver a very powerful effect from comparatively small numbers of personnel.

Why does Australia need submarines?

- *"...Our home is girt by sea..."* Submarines are part of the balanced maritime force that our maritime nation requires to deter would-be aggressors and to help preserve national security.
- Our national prosperity depends on continued access to the sea.
- History has taught us the effectiveness of submarines in Australia's defence:
 - *1942 to 1945: Over 150 US, British and Dutch submarines operating from Australia cut invading forces' supply lines throughout our region.*
 - *Post 1970s: Australian submarines conducted unique surveillance activities.*
- They allow Australia to play to its strengths:
 - *A small number of smart people undetected, packing a powerful punch at great distance from Australia.*

Why is Australia building 12 new submarines?

- Submarine warfare is essentially a war of probabilities and uncertainty.
 - *Australia seeks to minimise the probability that its submarines are detected and maximise the effort required of an aggressor to combat them.*
- Should be able to sustain at least 3 submarines on patrol to maximise uncertainty.
- Need 3 - 4 submarines for every 1 on patrol = 12.

How can we crew 12 submarines?

- Submarines are inherently efficient in crewing terms; only one third the crew size of a frigate.
- Navy recognises the need to attract more people to serve in submarines.
- Navy is implementing a significant development program for the submarine workforce.
- With effort and priority there is no reason why there will not be sufficient crews for 12 submarines in the future Navy.

Why diesel-electric submarines?

- The Collins program has shown:
 - *Australia has the capacity to build large world class conventional submarines, and*
 - *That these boats meet Australia's unique requirements.*

Why not nuclear powered submarines?

- Australia does not yet have the scientific and industrial infrastructure to build and support nuclear submarines.
- Given it will take many years for consideration and preparation for nuclear-powered submarines, if a decision was taken to adopt nuclear energy, including workforce development, this process should start now.

Why did Australia not select a "Military Off The Shelf" (MOTS) submarine design?

- The 2009 and 2013 Defence White Papers identified specific requirements for Australia's Future Submarines. As was our experience with the Collins class submarines, only a new design built for the range, endurance and capability that Australia's geography dictates will deliver on these requirements.

Why should we build the submarines in Australia?

- Because undersea warfare is essentially a war of probability and uncertainty, a capacity to repair and replace submarines in operation reduces the impact of attrition and increases the effort required of an aggressor to guarantee that it has removed all

Australian submarines from its path.

- The build program will develop the capacity and quality of marine and electronics engineering and systems integration in Australia and create advanced local jobs.
- Submarines built in Australia can be more effectively supported and they can be better adapted for emerging Australian requirements.
- Australia can undertake the building and systems integration at the time of its choosing and can continue it indefinitely into the future. In times of national emergency, the building program could be accelerated or even duplicated.

Where is the money going to come from?

- The build program will be spread over many years representing a balanced proportion of the planned Defence budget (<20% of annual capital equipment expenditure).
- A very high percentage of the expenditure will go to employment and further research and development here in Australia, and this will contribute to a dynamic economy.

What are the economic benefits of the Future Submarines to Australia?

- The Future Submarines Program will be a major undertaking of a similar magnitude and significance to the Snowy Mountains hydro-electric scheme or extraction of gas from the North West Shelf.
- The Collins program generated several thousand jobs, new skills and, above all else, built the confidence and competence ahead of the Future Submarines Program.
- Analysis of more recent major Australian naval programs indicates that every \$10 million that Defence spends on an Australian-built Future Submarine would generate:
 - *~\$19.5 million in national output.*
 - *~102 Australian jobs per annum.*
- Much of this benefit comes from engagement of subcontractors and suppliers in Australia to support a local build. These subcontractors and suppliers, in turn, engage local suppliers. An offshore build would have had a significantly lower economic benefit.