

# SUBMARINE BUILD and SUSTAINMENT PROGRAMS: The Strategic Nature of Reliable Sovereign Supply Chains



**16-18 NOVEMBER 2020**  
**HOTEL REALM CANBERRA ACT**  
[www.submarineinstitute.com](http://www.submarineinstitute.com)

15 May 2020

SIA Ref: 20/CFP/0515

## **SIA 10<sup>th</sup> Biennial Conference, 16-18<sup>th</sup> November 2020** **Hotel Realm, 18 National Circuit, Barton, ACT 2600**

### **CALL FOR PRESENTATIONS**

Over the years, Australia has had a number of experiences in which issues with defence supply chains outside the control of the Australian government, have had an actual (or potential) impact on the ability to execute military operations. Supply chain reliability is a critical strategic issue over which the government must have sovereign control where at all possible. The complexities of the cost versus risk equation are daunting, but the long-term benefits of strong investment in sovereign engineering production, sustainment and availability – together with technical skills training – will be major contributors to success of the national ship-building enterprise.

The theme for the SIA 10<sup>th</sup> Biennial Conference is:

### *Submarine Build and Sustainment Programs: The Strategic Nature of Reliable, Sovereign Supply Chains.*

Cost, schedule and technical risk factors for introduction of new technologies for the design and construction of the Attack class (together with Collins Class Life-of-type extension (LOTE) and sustainment) are rapidly becoming prominent issues. This conference focuses on considerations of ramping-up sovereign industrial support for building and sustaining submarine availability/capability for Australia's national ship-building endeavours, together with the potential consequences of failing to do so.

The audience we seek for this conference includes:

- Australian submarine enterprise participants
- Australian shipbuilding and repair participants
- Offshore resources companies
- Technology companies involved in underwater vehicles, remotely operated and autonomous
- Supply chain technology companies involved in Blockchain, Internet of Things, Artificial Intelligence and Machine Learning
- Maritime materials companies involved in sustainment of offshore and underwater structures

#### **Conference Program**

- **Day 1 (16 November) comprises the Opening Reception including announcement of the winner of the Submarine Engineering Excellence award.**
- **Day 2 (17 November) will include invited speakers from major stakeholder organisations.**
- **Day 3 (18 November) will include papers/presentations from this open call.**

The SIA is seeking presentations of 25 minutes plus 5 minutes for questions for oral presentation during Day 3 of the conference (Wednesday 18 November 2020). The slides will be edited and

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published online as *pdf* files with the consent of the author(s). If a written paper is offered, it will also be made available to delegates. Proposals that are blatant marketing presentations will be rejected.

**Submission Timetable:**

- Abstracts should be submitted by Tuesday 30<sup>th</sup> June 2020
- Acceptance of abstracts will be notified by Friday 10<sup>th</sup> July. 2020
- Submission of biography and photograph by Friday 11<sup>th</sup> September 2020
- Acceptance of paper (if submitted) and draft conference program notified by Monday 28<sup>th</sup> September 2020.
- Final presentations submitted using above form by Friday 23<sup>rd</sup> October 2020

**Suggested Topics for Conference Presentations**

**Workplace and Workforce Management**

- Adapting and transitioning Australian Collins class industrial sustainment capability for the Attack class building (and subsequent sustainment) program.
- Long-term cost benefit versus risk management in the context of sovereign industrial investment.
- Experience of adapting sustainment skills, to new construction, from other ship and submarine operators
- Critical issues for developing sovereign industrial capability from international sources.
- Balancing workforce requirements for the Australian submarine force between Collins Sustainment/LOTE and Future Submarine production

**Operational Capability, Test and Evaluation**

- Opportunities to test and evaluate new technologies and new operating and sustainment processes in Collins class before installation in the Future Submarine
- Protecting sensitive advances in stealth technology, sensors, communications and signal processing when integrating multi-national technology
- Expanded capability for network-centric undersea warfare with other manned and unmanned vehicles

**Information Management**

- Information management relevant to interaction between Australian ship-building industry and Future Submarine design requirements.
- Formats for operational and sustainment publications or interactive process manuals
- Quality, cost, schedule, effort and other record keeping practices that will be adopted

**Training, Education, Recruitment and Retention**

- Community education on role and functions of long-range submarines –Intelligence Gathering, Surveillance and Reconnaissance [ISR]; strategic maritime strike; deterrence.
- Recruitment and retention of submarine personnel – uniform and civilian workers in the undersea research development, test & evaluation [RDT&E] and shipbuilding and repair industries
- New educational programs for the submarine workforce – uniformed and civilian
- Application of social media and open online courses for submarine workforce professional development and support
- National and regional engineering and technical skill training development, demand and supply relevant to submarine design, construction, operation and sustainment;
- Education programs for submarine systems engineering and systems integration
- Materials science and technology education and workforce development.

**IP Protection, Transfer of, and Sovereign Development of Sensitive Technology Aspects for Attack class new construction**

- Supply Chain Cyber Security
- Stealth Technology
- Combat systems integration, test, evaluation and software development.
- Sensors and Weapon Systems



- Trusted Autonomous Systems – application, operation and support from submarines

#### **Research and Development,**

- Test and Evaluation Policy and Management – accelerating the process to accommodate rapid changes in technology
- Scientific research and development strategy and management;
- New combat system/sonar developments, platform developments
- Rapid application of emerging technology for use in the submarine force

#### **Engineering & Design -**

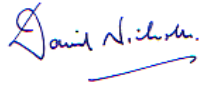
- Managing design 'margins' for the Attack class build program.
  - Australian Defence Organisation policy for research, development, test and evaluation and engineering design reviews
  - The future of additive manufacturing. Integrating the ability to print parts and the certification/qualification required
  - Safety,
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#### Abstracts:

Abstracts of proposed presentations in MS Word format (limit 250 words) should be submitted using the form available at <https://form.jotform.com/frankowen/sia2020-cfp>

The Institute is seeking conference participation from Australian and overseas academic, government and industry representatives, together with other involved organisations.

Speakers will be provided a special code permitting complimentary registration for the day of their presentation.



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