

Maximising Strategic Options in Constrained Strategic Circumstances:

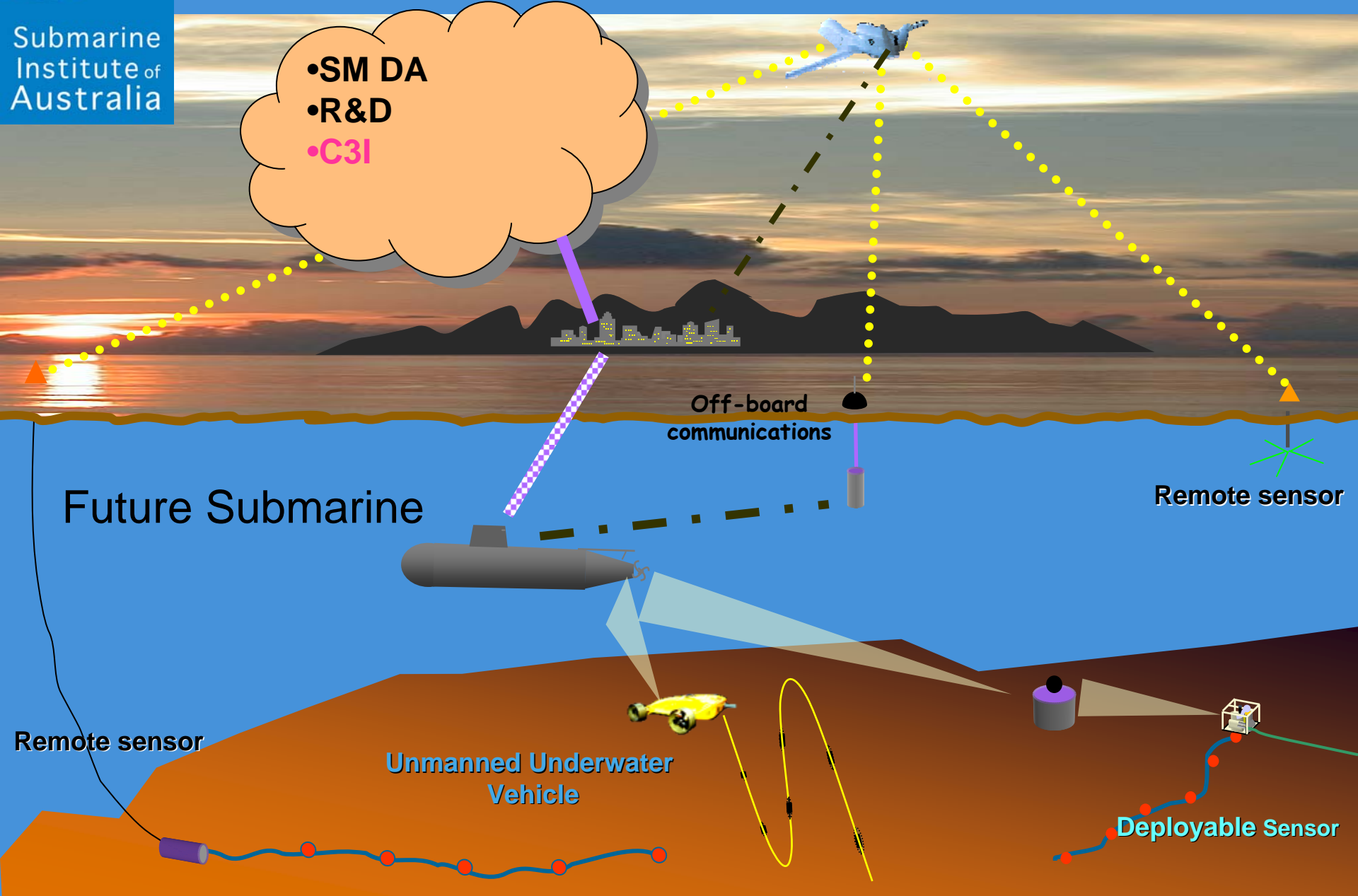
The Future Underwater Warfare Capability

Australia's Strategic Sting



Future Underwater Warfare Capability

- SM DA
- R&D
- C3I



Outline

- Australia's strategic circumstances.
 - Capability and Roles:
 - What is it that *ONLY* submarines can do?
 - What is it that submarines do better?
 - Force Structure considerations.
 - Conclusions on Design, Industry issues.
- Top Level Conclusions & Key Messages



The Strategic Setting

A Tectonic Shift

The Key Strategic Drivers

- Radicalised Islam
- China and India
- Economic power shift
- Global competition for resources



The Strategic Setting II

- Increased Importance of the Maritime Environment
- Regional Investment in SM Capability
- Australia's Need For a Strategic Sting



What is it that ONLY Submarines can do?

- Deterrence + Strategic Return on Investment
- Surveillance and Intelligence Gathering
- Land Strike – covert launch & retreat
- Battle Space Preparation –without alerting



What Is It That Submarines Do Better?

- *Anti Submarine Warfare*
- *A Unique Network Contributor*
- *Special Forces Operations*
- *Offensive Mining*



Force Structure Considerations

- Top Level Capability – What Australia Will Require of Its Future Submarine Force?
 - Maintain 2 SM at very long range > 3,000 nm
 - Maintain 2 SM in support of TF Operations 2- 2,500 nm + Training
- Defence White Paper – Opportunity not excuse
- Alliance Partner Expectations of Australia's SMs



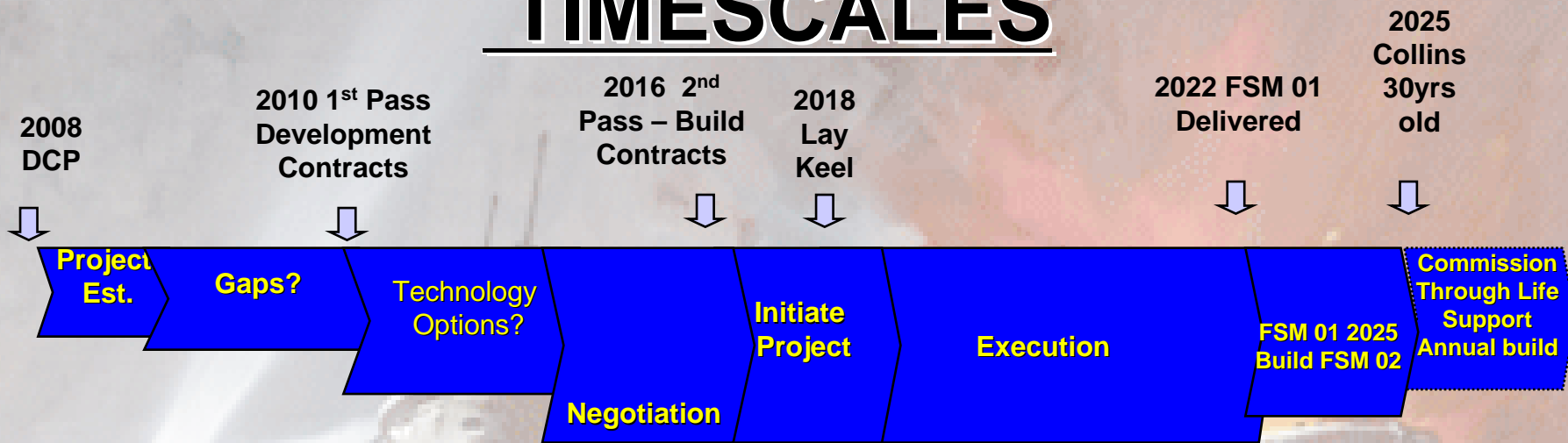
Force Structure Considerations II Can we Afford It?

- DWP the process to establish numbers
- Government decision on what can be afforded.
- Compromise on FSM = more for ships?
- Maritime Setting/Strategy
- FSM is an opportunity for Navy



Future Underwater Warfare Capability

TIMESCALES



- Top Level Capability
- ID Technology & Knowledge Gaps
- Acquisition Strategy
- Risk Analysis
- Alliances/teams form

- Design Trade Offs
- Run Alliance & teams
- R&D = fill the gaps
- Test bed Collins

- Fill technology Gaps
- Build
- Alliances/teams
- R&D
- Test Bed Collins

- Sea Trials
- Update design/build 02
- Through life support
- Test Bed Collins /FSM 01
- Spiral Development
- R&D, alliances & team



Conclusions - Strategic Setting, Capability and Force Structure

- Significant strategic discontinuities.
- Demanding environment, expanded effects.
- A critical and unique asset - the *strategic sting*
- Roles + concurrency + attrition => force structure
- Defence White Paper an opportunity not an excuse



Some Conclusions On Design Issues

- Build on the capacity established by Collins – a regional advantage.
- Unique Requirement
- COLLINS test bed reduce new technologies risk
- Time is tight: acquisition strategy, studies and R&D critical **NOW**



Some Conclusions on Industry Issues

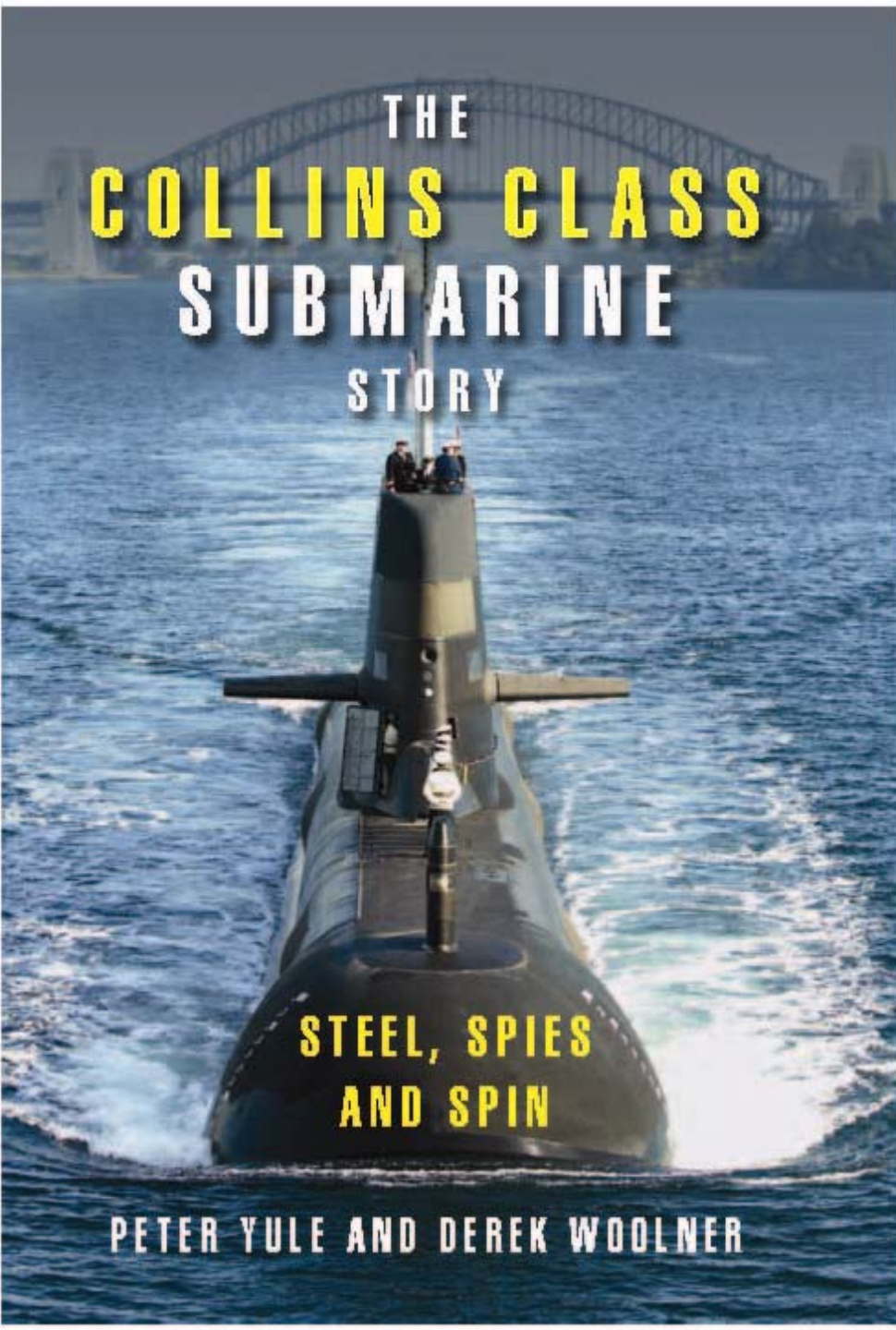
- Global Marketplace.
- Australia's industry.
- Alliances for efficiency.
- ASC



Top Level Conclusions

- FSM sea trials in 2022.
- Long lead activities - the critical path
- Collins combat and ship control systems for FSM.
- Design and construction Australian + US and European SM designers.
- Shortage of SM skills in Defence – a factor
- A **Developmental Project** - Collins pedigree.



A photograph of a submarine on the water, viewed from the front. The submarine is dark grey and has a conning tower with a periscope and other equipment. Two people are visible on the conning tower. In the background, a large steel arch bridge spans across the water. The sky is overcast.

THE
COLLINS CLASS
SUBMARINE
STORY

**STEEL, SPIES
AND SPIN**

PETER YULE AND DEREK WOOLNER



Key Messages

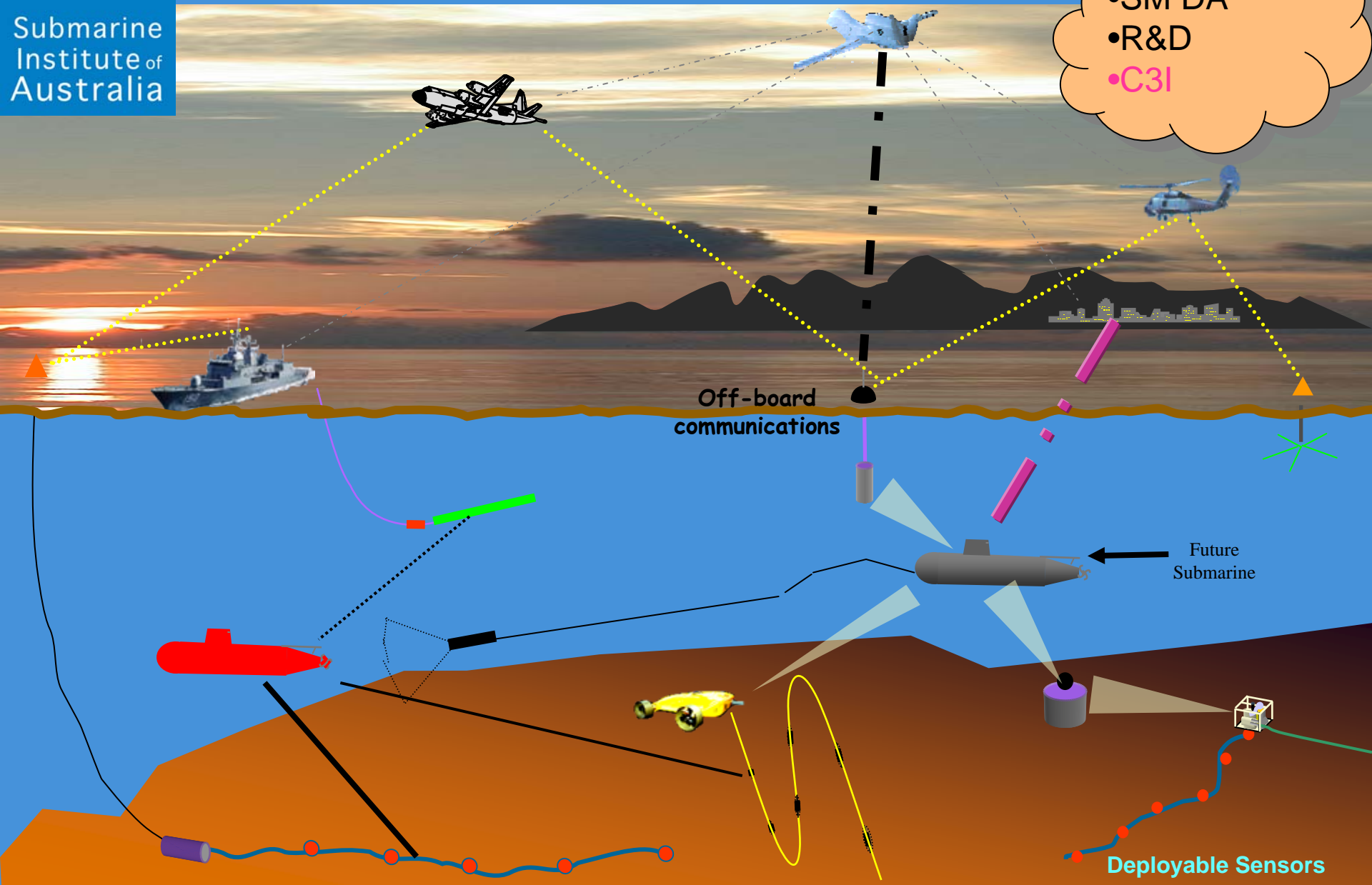
- Defence Capability Plan 2008.
- Australia/US agreement.
- European SM design partners.
- Studies, R&D projects.
- **Project team.**
- Defence White Paper.
- ASC.





Questions?

- SM DA
- R&D
- C3I



Backup Slides

- [The Key Design Drivers 1.ppt](#)
- [R&D Topics I of II.ppt](#)
- [Design Issues - Unmanned Vehicles In The Future.ppt](#)
- [Why 'At Least 2 SM'.ppt](#)



The Key Design Drivers

- Stealth.
- Mobility, Range and endurance.
- Payload = weapons + c-measures + UUV/UAV.
- Sensors and connectivity.
- Manning.
- Handling characteristics.
- Supportability and growth potential.



R&D Topics I

- *Materials.*
- *Hull.*
- *Batteries.*
- *Air Independent Propulsion systems.*
- *Propellers/propulsors.*
- *Life support systems.*



R&D Topics II

- Unmanned vehicles.
- Signature reduction.
- Countermeasures.
- Combat system and sensors.
- C3I technologies.
- Ship control.



Design Issues - Unmanned Vehicles In The Future Underwater Warfare Capability

- Force multiplier.
- Extend reach, effectiveness & survivability.
- Winning advantage in an ASW encounter.



Why 'At Least 2 SM'?

- Conventional SM mobility limitations
- Invariably more than ONE critical area requiring a SM presence
- Increase in deterrent value
- Greater uncertainty over dispositions – localising one does not solve the opponent's ASW problem

