

ITEA Conference, Washington – August 2015

International Panel: Australian T&E Collaboration Areas



Never Stand Still

School of Engineering and Information Technology



Soldiers of an Australian 4th Division field artillery brigade on a duckboard track passing through Chateau Wood, near Hooze in the Ypres salient, 29 October 1917.

Dr Keith Joiner

- Senior Lecturer T&E
- former Australian Director General T&E



Fairey Firefly aircraft prepare for takeoff from HMAS Sydney.

Pictures: Australian War Memorial Collection

Australian Perspective

- Huge areas to cover
- Indian-Pacific Ocean confluence
- Tiny population (22 million)
- Economy depends on maritime trade through archipelago
- Strong public culture of duty in World conflicts
- High-end maritime & aerospace capabilities (i.e. AEW&C, MRTT, JSF, AWD, LHD, FSM)
- Surveillance technology (i.e. JORN, AEW&C)
- High engagement ratios



T&E Collaboration Areas

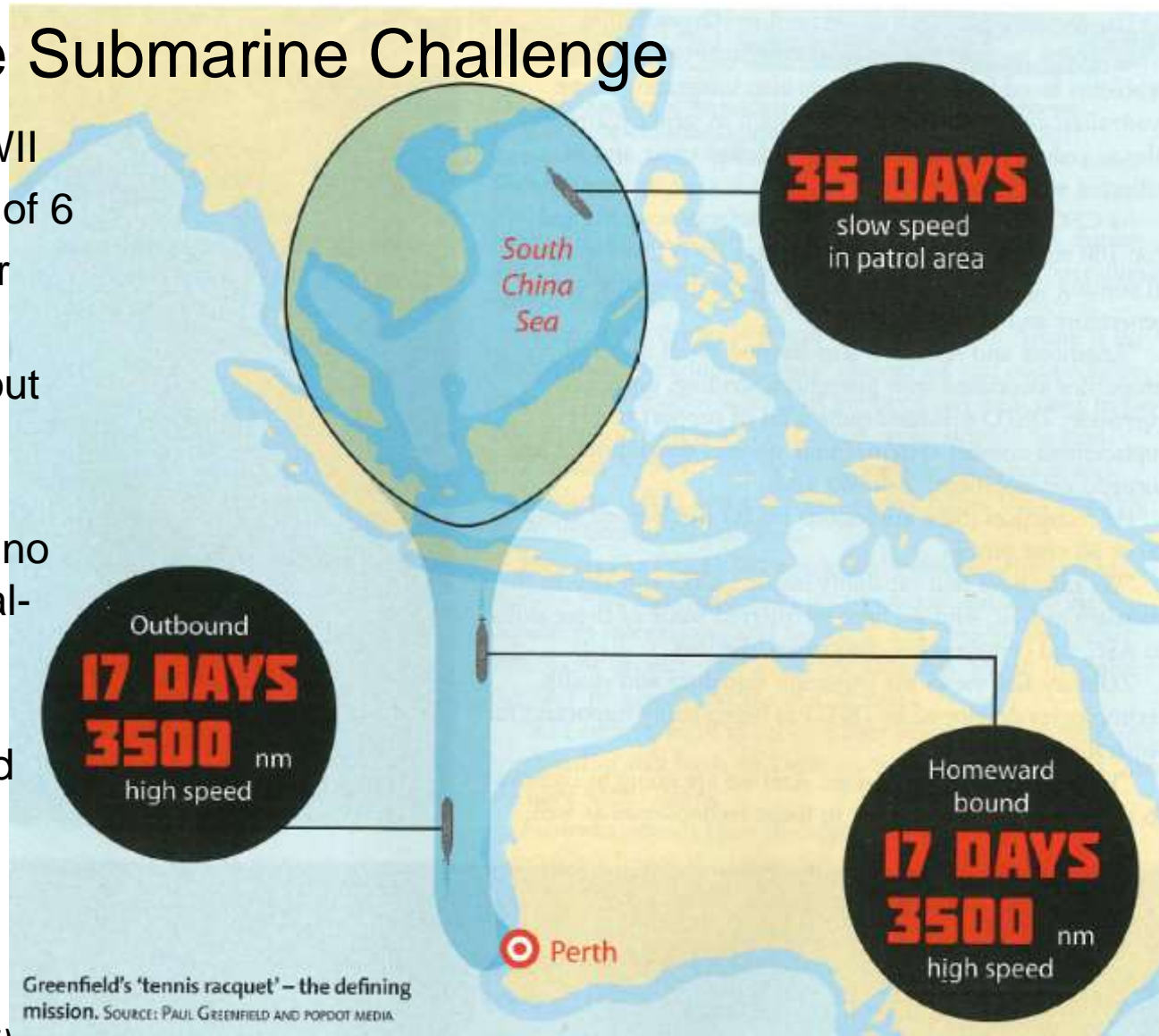
- Advanced EW especially airborne, maritime & CIED (i.e. Australia's purchase of U.S. Growler aircraft & use of PMRF & NAS Whidbey)
- High-speed missile threats & intercepts especially ship-borne & ballistic (i.e. Australia's Anti-Ship Missile Defence testing at PMRF, Air-warfare Destroyer testing at SCORE & MDA support at Kwajelin)
- Digitisation of the land force (i.e. U.S. Modernisation Brigade & participation in NIE at WSMR)
- Asymmetric warfare protection T&E (i.e. CBNRE DPR)
- Cybersecurity T&E especially of software-intensive standalone platforms (i.e. support to whole-ship & whole aircraft CS T&E, NCR)
- SATCOM Terminal & Network T&E (JITC)
- Maritime mine clearance T&E (i.e. UUVs at effective operational scale)
- Anti-submarine warfare (P-8 aircraft, future frigate, deep, shallow & portable tracking ranges & instrumentation)
- Irrespective of design/build partner for future submarine, need allied RDT&E assistance to keep this credible

The Submarine Challenge

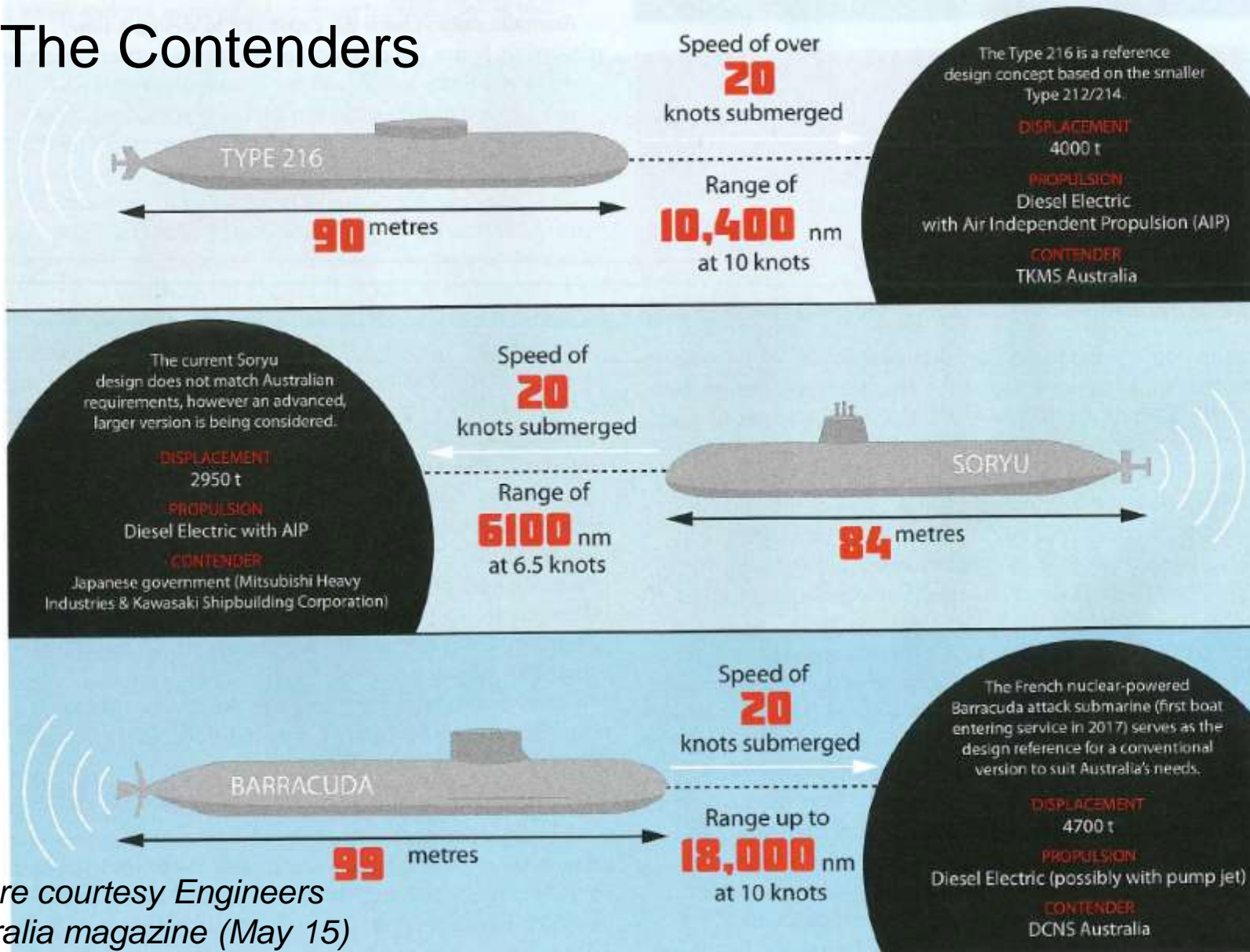
- Unchanged since WWII
- Drove Collins Design of 6
- Mission drives greater number (circa 12)
- Need to replace without going Nuclear
- Collins T&E was inefficient, left almost no infrastructure for spiral-development or sustainment*
- Need continuous build
- Need significant T&E infrastructure

* See 2011 RAND report

Picture courtesy Engineers Australia magazine (May 15)



The Contenders



Picture courtesy Engineers Australia magazine (May 15)

Australian T&E advantages

- Very large hot-wet climate ranges (top 1/3rd Mt Bundy, Bradshaw, Yampi Sound)
- Large aircraft & open-ocean ranges (Delamere, Woomera, EAXA, WAXA, NAXA)
- Large ground training areas (Cultana, Shoalwater Bay, High Range)
- Expeditionary airbases (Learmonth, Curtin, Scherger)
- Electromagnetically quiet

