



Australian Government
Geoscience Australia



POSITIONING
AUSTRALIA

Precise Positioning for the maritime sector

Anna Riddell, Positioning Australia



**Accurate and reliable
positioning for everyone.**

Positioning Australia program

National GNSS network (NPIC)

- > 200 station high reliability network
- > Public access to selected state/territory/private sector real-time data

GNSS analysis software

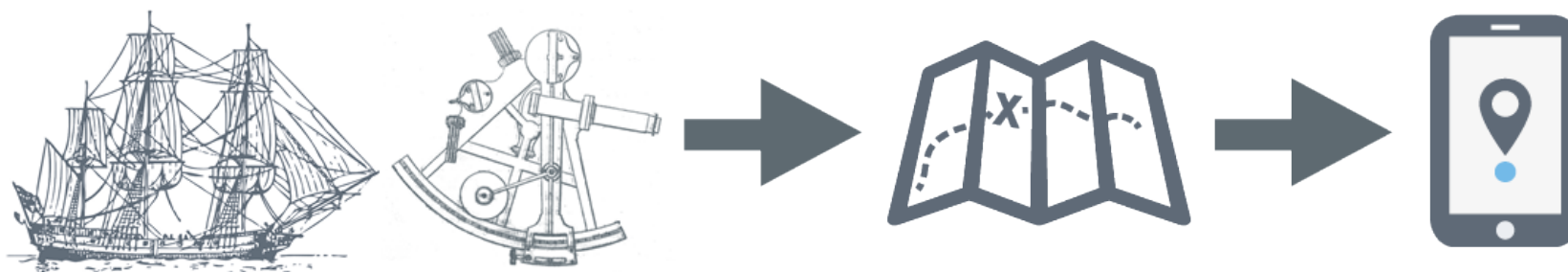
- > Open Source Software: Network, User and Combination Platforms

Satellite-Based Augmentation System (SBAS)

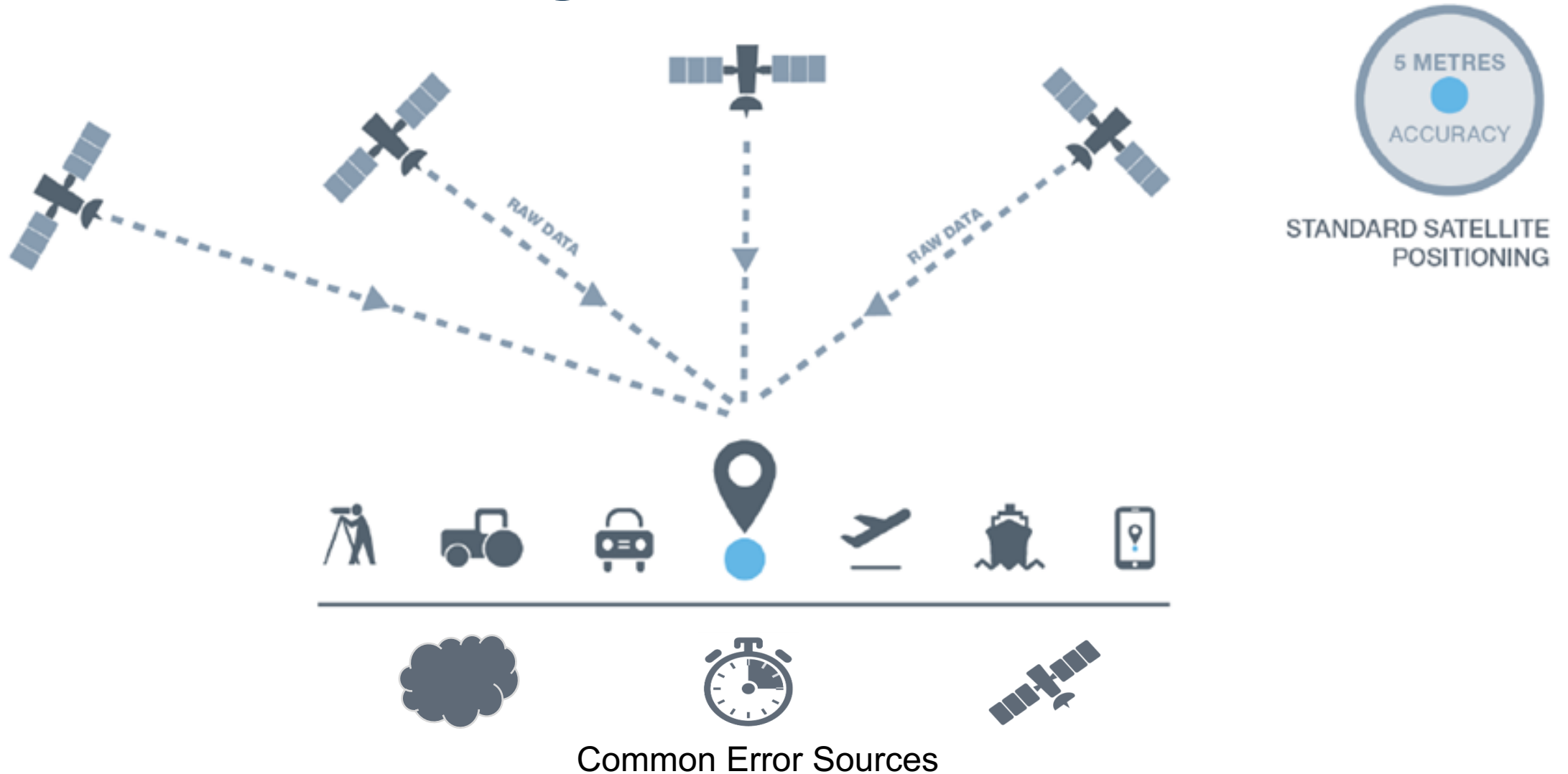
- > Australia
- > New Zealand

2018-19 Australian Federal Budget

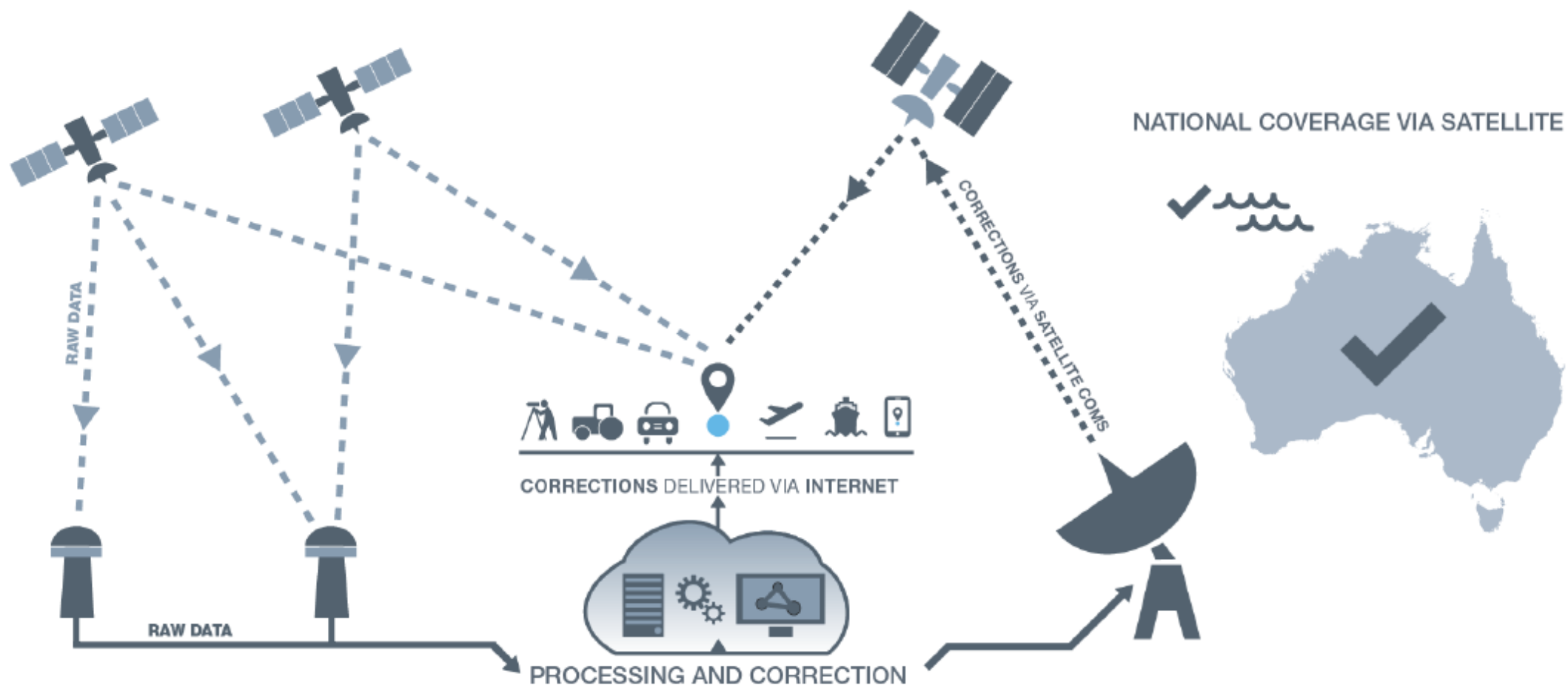
- \$64 million for National Positioning Infrastructure Capability (NPIC)
- \$161 million for a Satellite-Based Augmentation System (SBAS)
- Ongoing operational budget



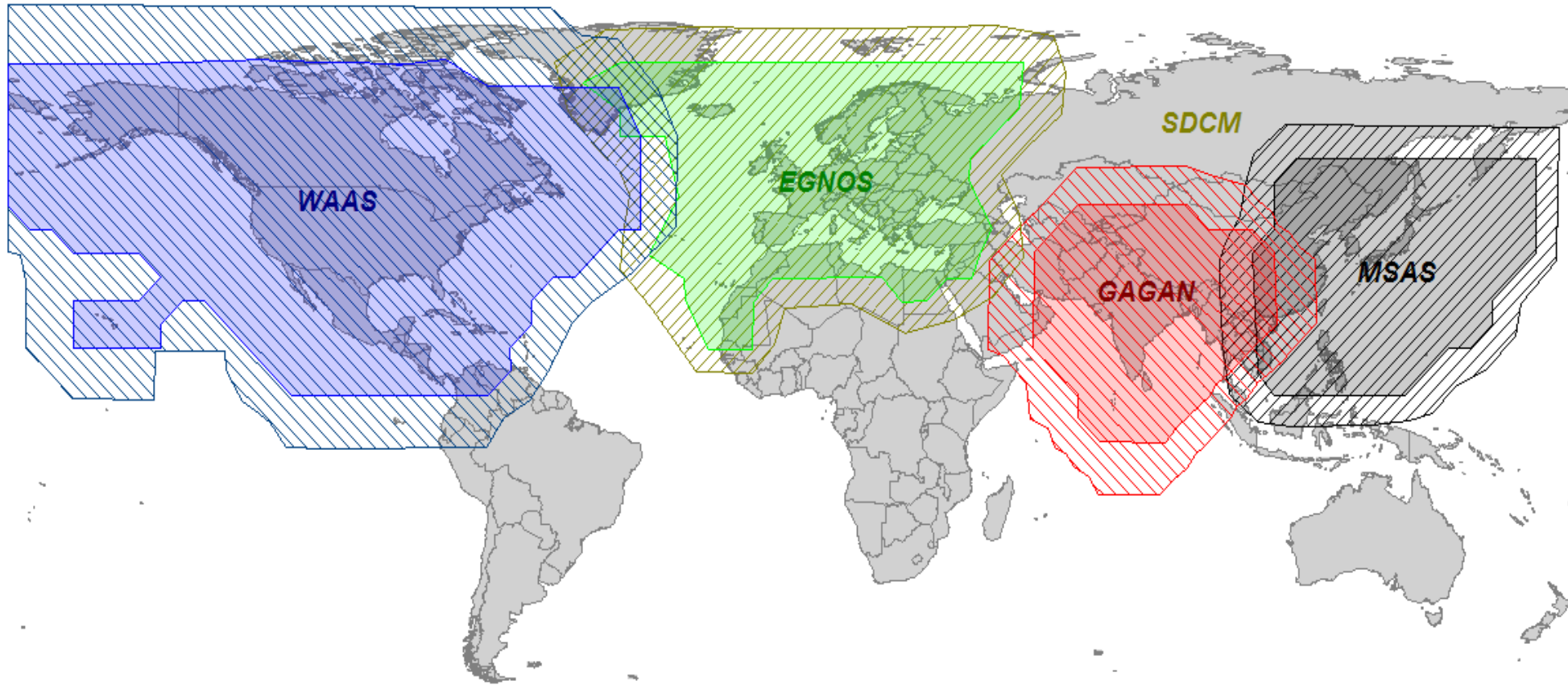
GNSS positioning: limitations



Satellite Based Augmentation System (SBAS)



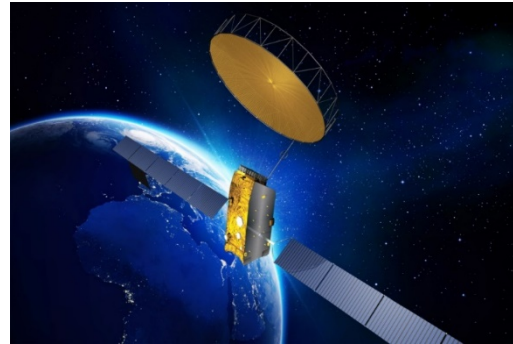
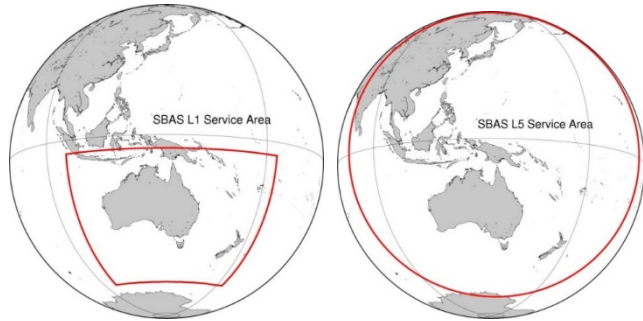
Global SBAS coverage



Services:

- L1
- DFMC
- PPP

SBAS



Test-bed

- 2-year SBAS test-bed completed February 2019
- 27 projects across 10 sectors (road, rail, maritime, aviation, utilities, resources, spatial, consumer, agriculture, construction) in Australia and NZ
- Economics benefits study which indicates a \$6bn ROI over 30 years in Australia

FIONA NASH DARREN CHESTER PAUL FLETCHER SEARCH

 **The Hon Darren Chester MP**
Minister for Infrastructure and Transport

BIOGRAPHY MEDIA RELEASES SPEECHES INTERVIEWS OPINION PIECES PHOTOS TWEETS MH370 CONTACT

Home > Chester > Media Releases > 2017 > January > \$12 million boost for positioning technology in Australia

\$12 million boost for positioning technology in Australia

- Testing of Satellite Based Augmentation Systems (SBAS) to be undertaken
- Future applications for all four major modes of transport in Australia
- Potential safety, productivity, efficiency and environmental benefits

The Australian Government will invest \$12 million in a two-year program looking into the future of positioning technology in Australia.

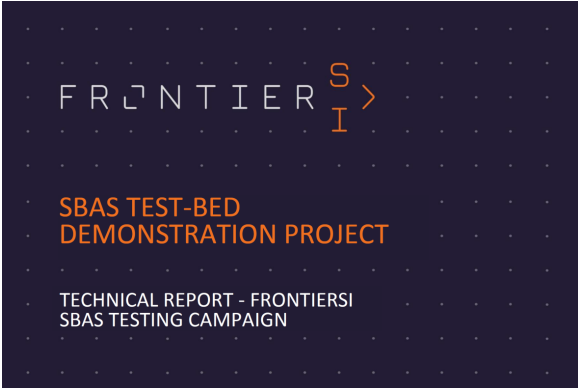
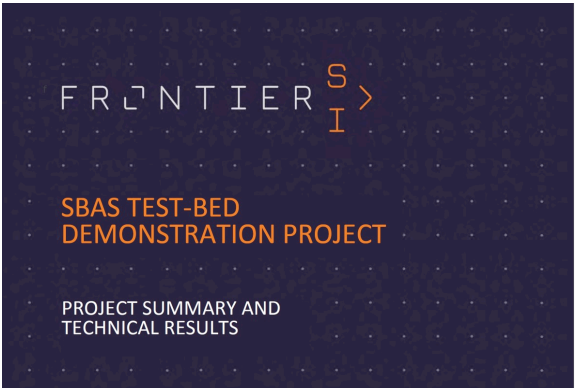
From using Google Maps on your smartphone to emergency management and farming, most Australians use and benefit from positioning technology every day without realising it.

MEDIA RELEASE
DC010/2017
17 January 2017

JOINT RELEASE WITH:
Matthew Canavan
Minister for Resources and Northern Australia



SBAS test-bed report



<https://frontiersi.com.au/project/satellite-based-augmentation-system-test-bed/>

The benefits of improved positioning technology



SBAS has economic benefits across a range of sectors

AUSTRALIA & NEW ZEALAND



Maritime demonstrator projects

- Navigation and pilotage in Sydney Harbour
 - Acoustic Imaging Pty Ltd / The Port Authority New South Wales
- A comprehensive maritime assessment on the impact of an operational SBAS and the potential business critical applications
 - Maritime Industry Australia Limited / FrontierSI
- SBAS Testing for Terminal Process Automation
 - Identec Solutions Australia and New Zealand / DP World Australia Ltd / RMIT / FrontierSI



Benefits for the maritime sector

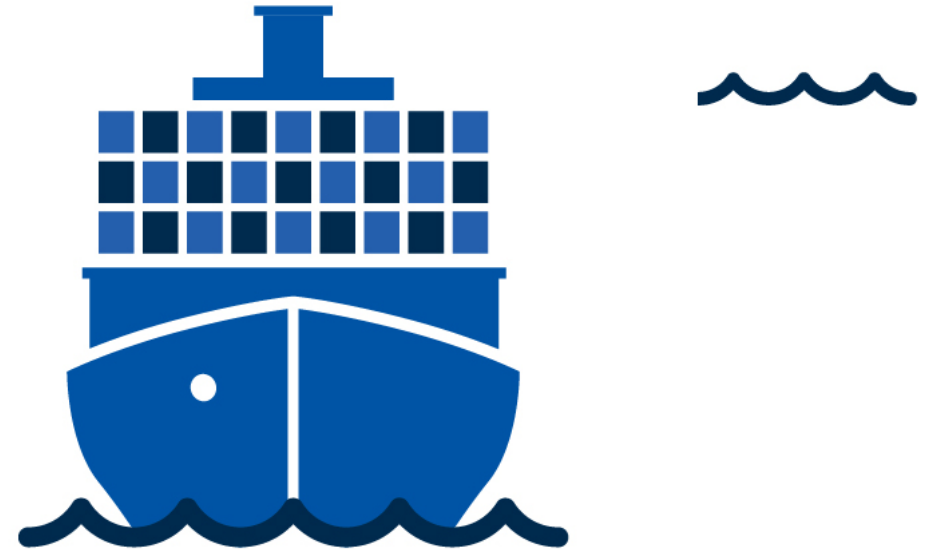
- Improving Australia's positioning capability will make our seas safer and easier to navigate.
- Positioning Australia is increasing the accuracy and reliability of positioning information that will improve maritime navigation and decrease the risk of accidents, especially in congested waters or with low visibility.
- Precise positioning will help maritime vessels avoid hazards and navigate around fixed structures and platforms.
- Positioning technology increases efficiencies, productivity and profitability for Australia's port operations from automatic loading of cargo through to SBAS enabled vessel movements.



**SAVE \$205 MILLION
THROUGH INCREASED
EFFICIENCY DURING
BLACKOUTS**



MISPLACED FREIGHT CONTAINERS REDUCED BY 16,000



INCREASED VESSEL CAPACITY OF 1375 DAYS

for port operations

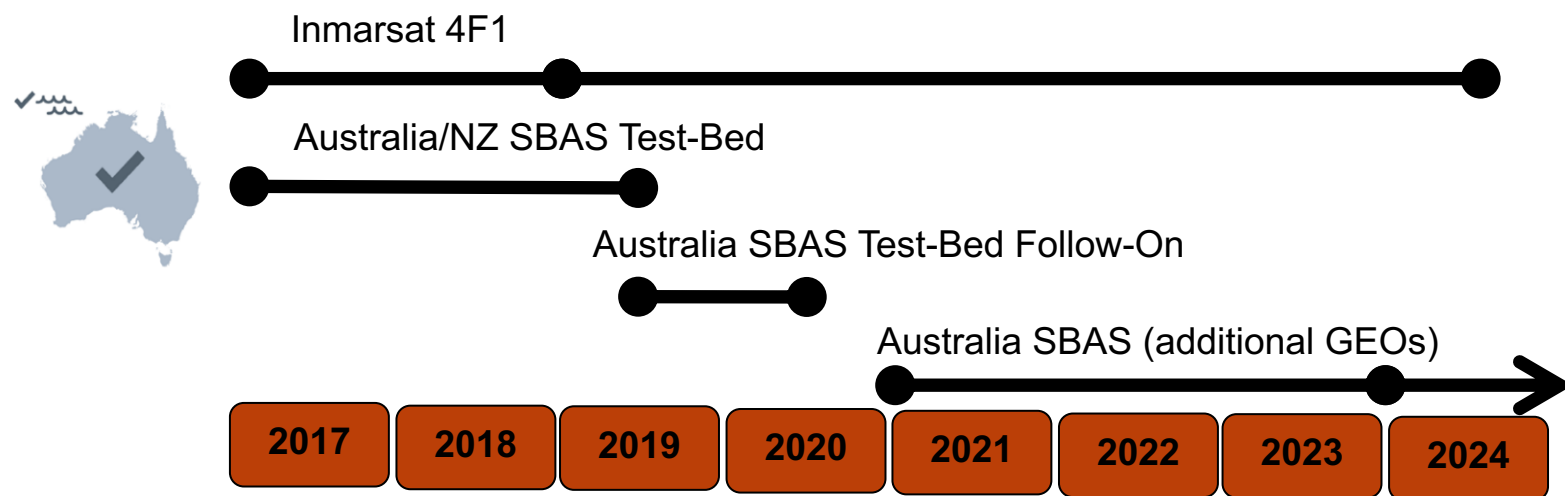


SBAS Progress

Australia to join US, Europe, Russia, India, Japan as an SBAS operator

Australia to join Europe and Japan in deploying second generation SBAS technology and in offering high accuracy (10cm) services as a public infrastructure

Tender to be released Q3 of this financial year (2019-20)





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POSITIONING
AUSTRALIA

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SBAS

SBAS

- L1 SBAS
- WAAS, EGNOS
- GPS only



DFMC SBAS

- L1/L5 and E1/E5a SBAS
- GPS and Galileo



Precise Point Positioning (PPP)

- GPS Precise Satellite Clocks and Orbits
- GPS and Galileo Precise Satellite Clocks and Orbits
- 10cm service

