

**Australian Government** 

Geoscience Australia



### Positioning ourselves for the future

# Dr Andy Barnicoat, Chief Positioning and Community Safety Division **UN GGIM-AP President**



APPLYING GEOSCIENCE TO AUSTRALIA'S MOST IMPORTANT CHALLENGES



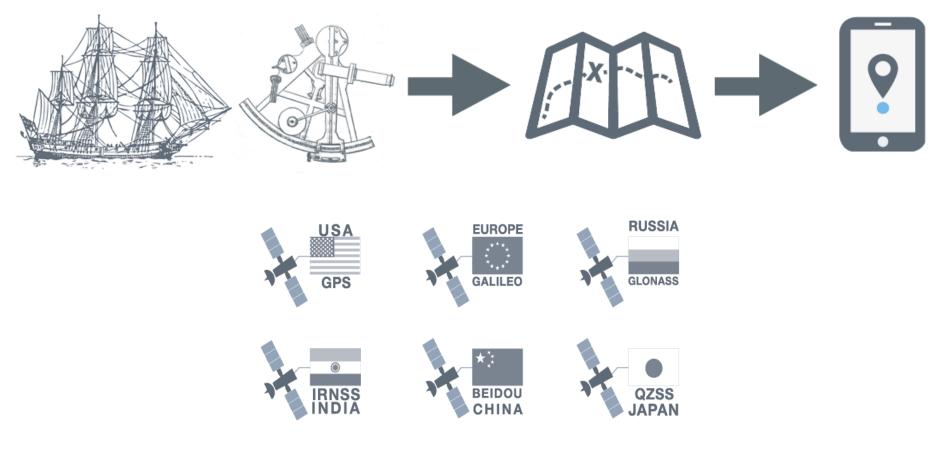
## **Our Digital World**







**GEOSCIENCE AUSTRALIA** 



GLOBAL NAVIGATION SATELLITE SYSTEMS (GNSS)

© Commonwealth of Australia (Geoscience Australia) 2019

Reduction in flight delays and diversions along with enabling larger aircraft and medical evacuation flights into remote rural areas

Image source: Royal Flying Dector Service of Australia

MS7 0

#### **GEOSCIENCE AUSTRALIA**



(Geoscience Australia) 2019

Reduction in fatalities and serious injuries avoided from the support of enhanced co-operative intelligent transport systems



Feed and fertiliser savings for farmers due to enhanced pasture utilisation from SBAS-enabled virtual fencing

**GEOSCIENCE AUSTRALIA** 



© Commonwealth of Australia (Geoscience Australia) 2019

Operating expenditure savings for a port operator from reduced time taken to complete post-processing of hydrographic surveying data in harbour environments

22.20



384,000 individuals in Australia who are blind or experience poor vision

Options: \$50 foldable long cane or guide dog which alone costs more than \$30,000 to train

Reduced risk of incidents associated with trips, falls and collisions through GNSS

Enhanced mobility through GNSS



Rail maintenance crew labour hours saved due to faster detection of network defects from enhanced geo-referencing capability





#### Last mile delivery





# **SBAS Test-bed**

🔆 💽 hep://www.arm.infrathueture.gov.au/chr.atu/minnes/19 + C 🖉 Cleve XenApp: Applications 🛛 🖬 12 million boost for position X									- 0 <b>- 2</b>			
FIONA NASH	DARREN CHESTER	PAUL FLETC	HER SEARCH	нQ					-	1	^	
	The Hon Darren Chester MP Minister for Infrastructure and Transport								V.			
BIOGRAPHY	MEDIA RELEASES	SPEECHES	INTERVIEWS	OPINION PIECES	PHOTOS	TWEETS	MH370	CONTACT	¥	10		
Home > Cheste	r > Media Releases > 2017 > January > \$12 million boost for positioning technology in Australia							() Listen		A- A+		

\$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.

# 2-year SBAS Testbed Project Completed February 2019



Australian Government Geoscience Australia













GEOSCIENCE AUSTRALIA

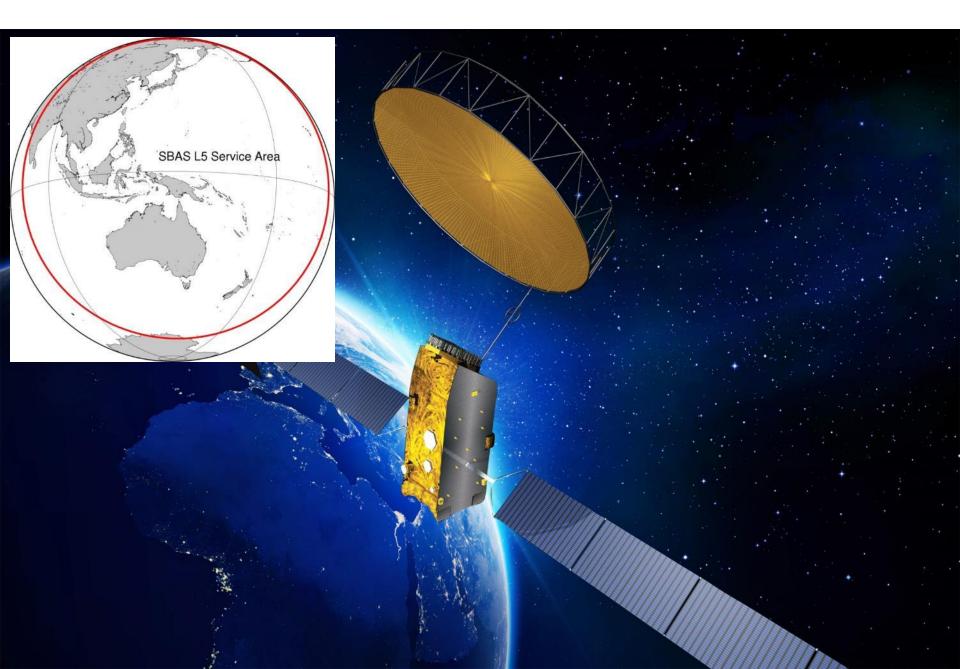
© Commonwealth of Australia (Geoscience Australia) 2019

MEDIA RELEASE

JOINT RELEASE WITH Matthew Canavan

DC010/2017 17 January 2017

### **SBAS: Inmarsat 4F1 GEO Satellite**



# **Measuring the Impact of Positioning**

Report to be publically available soon!





### **Benefits**

Report considers *only* benefits demonstrated by test bed projects

Benefits vary depending on national profiles

Australia and New Zealand financial benefits from <u>SBAS</u> exceed \$7b over 30 years

Additional benefits exist in both sectors considered and others



## **Australia's Approach to Positioning**

 Build an integrated Australian positioning capability to accelerate the adoption and development of location-based technology and applications

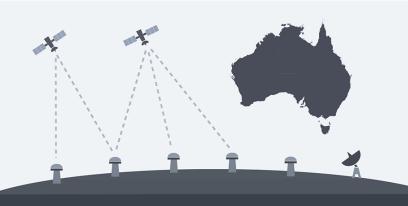




## **Australia's Approach to Positioning**

Satellite delivered precise positioning

Improved coordination



The NPI Capability will establish ground infrastructure to enhance accuracy to 3–5 centimetres by utilising signals from global navigation satellites across Australia.

Infrastructure investment

Exploit Asia's Multi-GNSS 'hotspot' SBAS for multi-sector applications

Open software

as infrastructure

#### GEOSCIENCE AUSTRALIA

© Commonwealth of Australia (Geoscience Australia) 2019



Australian Government

**Geoscience** Australia

#### Positioning ourselves for the future

#### Dr Andy Barnicoat



APPLYING GEOSCIENCE TO AUSTRALIA'S MOST IMPORTANT CHALLENGES

