International Civil Aviation Organization

**Asia Pacific First Meeting of the Asia/Pacific GBAS/SBAS Implementation Task Force**

**23 – 24 June 2020**
**(Video Teleconference)**

# AUSTRALIA-NEW ZEALAND SBAS PROGRAM

(Presented byAustralia)
(Prepared by Simon Reynolds and Jeffrey Bollard)

**SUMMARY**

This Information Paper presents an update on the development of a Satellite Based Augmentation System (SBAS) in Australia and New Zealand.

## 1. INTRODUCTION

1.1 Australia and New Zealand have established a joint project to deliver a Satellite Based Augmentation System (SBAS) capability that will be used by aviation and a number of other industry sectors. This capability will include L1 SBAS, Dual Frequency Multi Constellation (DFMC) SBAS, and Precise Point Positioning (PPP).

## 2. DISCUSSION

2.1 The Australian and New Zealand governments funded a trial of SBAS between 2017 and 2019 to determine the value of the technology to a wide range of industries, including aviation. The trial consisted of 26 projects that used the SBAS signal-in-space in a range of applications to assess its impact on business operations. FrontierSI, a not-for-profit company with expertise in spatial mapping, infrastructures, positioning, geodesy, analytics and standards, managed the projects.

2.2 A report was produced in 2019 that collates the economic benefits from all industries to produce a benefits case for SBAS in the Australian and New Zealand contexts. This report is publicly available at the following link:

https://frontiersi.com.au/wp-content/uploads/2018/08/SBAS-Economic-Benefits-Report.pdf

2.3 In the May 2018 federal budget, the Australian Government announced funding would be allocated to acquire a SBAS capability, inclusive of aviation certification. In June 2019, the New Zealand

government announced funding had been allocated to acquire a SBAS capability in collaboration with Australia.

2.4 A number of bilateral agreements were executed in early 2020, establishing a joint project team. Under the agreement, Geoscience Australia will be the acquisition organisation and on-supply the SBAS capabilities to New Zealand, and New Zealand interests will be represented during the acquisition process.

## 3. GOVERNMENT ACQUISITION PROGRAM

3.1 Geoscience Australia has established the SBAS Project to acquire a SBAS capability to deliver the benefits detailed in the SBAS Test-bed Demonstrator Trial Economics Benefits Report. A key program objective is to enable the use of Localizer Performance with Vertical guidance (LPV) Instrument Flight Procedures by suitable equipped aircraft. As a non-aviation government agency, Geoscience Australia has established inter-agency agreements with Airservices Australia as the Australian Air Navigation Service Provider and the Civil Aviation Safety Authority as the Australian National Aviation Authority to develop requirements that will facilitate certification of the SBAS for Safety-Of-Life. New Zealand has established similar relationships between Land Information New Zealand (Geoscience Australia's analogue), Airways NZ, and the NZ Civil Aviation Authority.

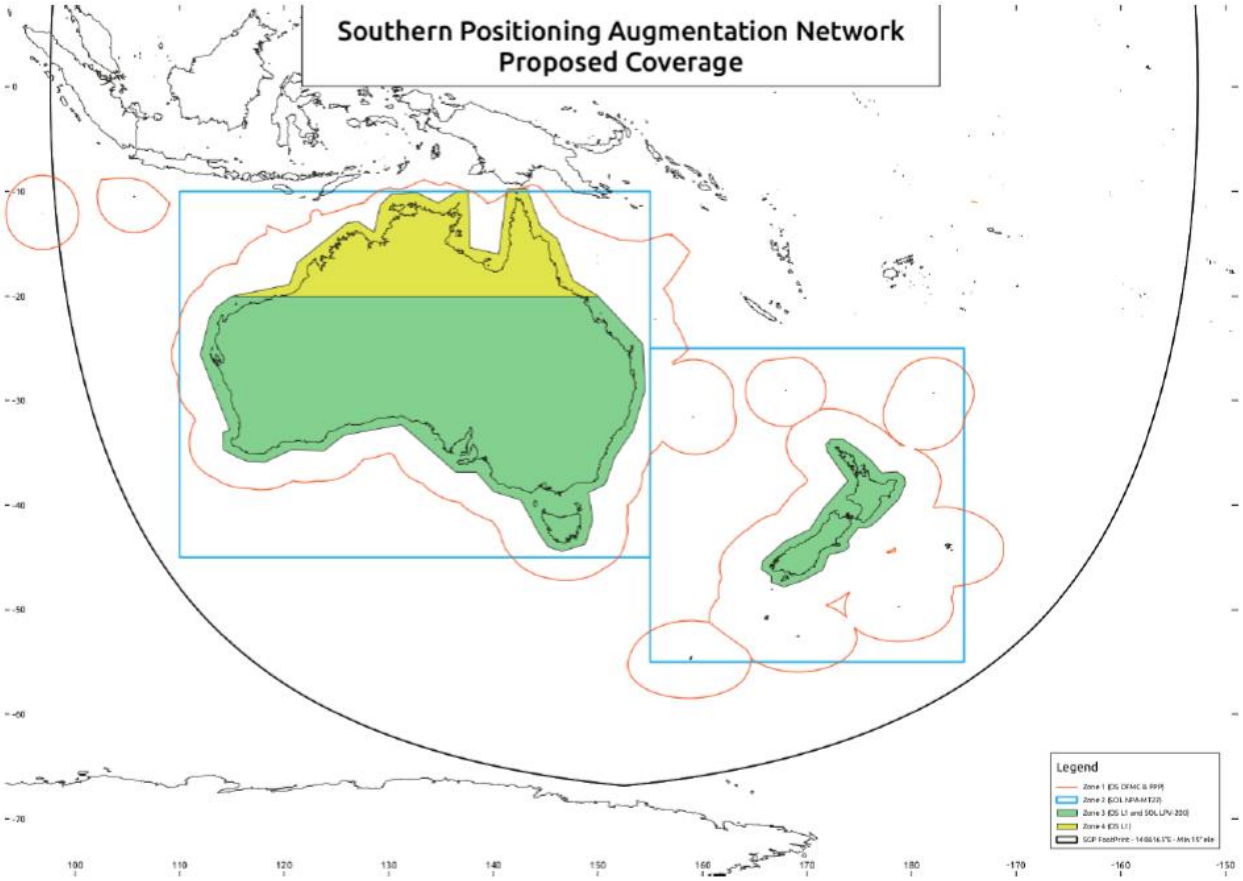
3.2 Two Requests For Information have been issued through the Australian Governments procurement information system, AUSTENDER to assess the market's capability to deliver a SBAS that meets high-level requirements to provide L1 SBAS, DFMC SBAS, and PPP.

3.3 The Request For Tender for acquisition of a SBAS capability was issued through the Australia Government's procurement information system, AUSTENDER on 13 March 2020. At the time of writing the tender open period is set to close on 22 July 2020, which will be followed by a period of tender evaluation and contract negotiation.

3.4 The statement of requirement includes:

- Establish SBAS facilities, equipment, and support solution, including the space segment
- Establish open services early in the Contract
- Conduct system safety activities and assessments to enable certification for LPV-200
- Operate and maintain the SBAS facilities, equipment, and support solution
- Provide L1 SBAS safety-of-life service
- Provide L1 SBAS, DFMC SBAS, and PPP via SBAS open services
- Provide draft NOTAMs (for SBAS IFP availabilities) and GNSS RAIM Prediction

3.5 The minimum coverage requirement is included below. Provision of LPV-200 services north of 20°S was observed to be problematic due to scintillation and presence of plasma bubbles. LPV-200 services will be provided in the green region, LNAV-only in the yellow region, and open services within the orange boarder. If used, MT27 will be defined by the blue boarder. Minimum GEO coverage is defined by the black border.




## 4. ACTION BY THE MEETING

4.1 The meeting is invited to:

- Note the contents of this Information Paper
- Discuss any issues as appropriate

— END —