



## MEETING REPORT

# National Positioning Infrastructure Advisory Board (NPI-AB)

Meeting 1 – March 2015

### BACKGROUND

In 2013 an internal-to-Government National Positioning Infrastructure (NPI) Plan was developed to examine investment in current and future infrastructure supporting Positioning, Navigation and Timing (PNT) in Australia. The Plan was developed in consultation with key stakeholders across government and industry and provided key recommendations to *Australia's Satellite Utilisation Policy (2013)*.

The NPI Plan recognised that Australia's unique visibility to all current and emerging Global Navigation Satellite Systems (GNSS) is a key enabler for delivering the NPI vision – 'instantaneous, reliable and fit-for-purpose access to position and timing information anytime and anywhere across the Australian landscape and its maritime jurisdictions.'

The NPI Plan recommended the development of a National Positioning Infrastructure Advisory Board (NPI-AB) to provide strategic guidance and advice to Geoscience Australia on designing and implementing the NPI. The NPI-AB was established by Geoscience Australia in December 2014.

This report identifies membership of the NPI-AB and summarises outcomes of the Board's first meeting held on 5<sup>th</sup> March 2015.

### MEMBERSHIP

Geoscience Australia is Chair and Secretariat of the NPI-AB. The Board comprises 10 individual experts drawn from a cross-section of industry sectors engaged in PNT activities across Australia and New Zealand.

*Geoscience Australia (Chair & Secretariat):*

**Gary Johnston**

**Dr John Dawson**

**Dr Grant Hausler**

Advisory Board:

<b>Stuart Ballingall</b>	<i>Austrroads</i>
<b>Graeme Blick</b>	<i>Land Information New Zealand</i>
<b>Dr Suelynn Choy</b>	<i>RMIT University</i>
<b>Paul Harcombe</b>	<i>Intergovernmental Committee on Surveying &amp; Mapping</i>
<b>Matt Higgins</b>	<i>International GNSS Society; QLD Department of Natural Resources &amp; Mines</i>
<b>Nick Lemon</b>	<i>Australian Maritime Safety Authority</i>
<b>Rod MacLeod</b>	<i>NovAtel Inc.</i>
<b>Ian Mallett</b>	<i>Civil Aviation Safety Authority</i>
<b>Tim Neale</b>	<i>Precision Agriculture</i>
<b>Martin Nix</b>	<i>Position Partners</i>

## **MEETING 1 – DISCUSSION & OUTCOMES**

### *Background and Introductions*

Meeting 1 was held on 5th March 2015 at Geoscience Australia in Canberra. The meeting opened with member introductions, followed by an update from Geoscience Australia on drivers for establishing the NPI-AB, including the Board's objectives to identify and address priority issues in consultation with government and industry providers and users. Geoscience Australia also introduced the work of the Australian Government Positioning, Navigation and Timing (PNT) Working Group (PNT-WG) established by Australia's Satellite Utilisation Policy<sup>1</sup> (2013). The PNT-WG, Chaired by Geoscience Australia, brings together Australian Government Departments involved in PNT and reports to the Space Coordination Committee (SCC), which is overseen by the Space Coordination Office (SCO) within the Department of Industry and Science.

#### Outcome:

- ❖ *The NPI-AB encouraged ongoing information sharing between the PNT-WG and NPI-AB to facilitate cross-sectoral engagement on government and industry activities.*

Matt Higgins updated the NPI-AB on the structure, membership and activities of the US PNT Advisory Board<sup>2</sup>, and emphasised the activities of its two main working groups on *Assured Availability* and the *Economic Value of PNT*.

Martin Nix updated the NPI-AB on current activities of the Space Community of Interest (Col) within the Attorney-General Department's Trusted Information Sharing Network (TISN) for critical infrastructure resilience (Martin co-chairs the Space Col).

#### Outcome:

- ❖ *The NPI-AB encouraged ongoing engagement with the US PNT Advisory Board and Australian Space Col regarding critical infrastructure resilience and economic studies relating to PNT.*

<sup>1</sup> *Australia's Satellite Utilisation Policy* identifies PNT, Earth Observations from Space (EOS) and Satellite Communications as space applications of national significance.

<sup>2</sup> Agenda and slides available at: <http://www.gps.gov/governance/advisory/meetings/2014-12/>.

Draft Terms of Reference for the NPI-AB were reviewed and amended to emphasise the Board's cross-sectoral scope and objectives, including whole-of-nation leadership and advocacy, and consideration of GNSS resilience and alternative PNT requirements.

Outcomes:

- ❖ *NPI-AB Terms of Reference to be finalised at Meeting 2.*
- ❖ *The NPI-AB agreed to publish meeting reports summarising discussions and outcomes from each meeting (this document is the first report).*

### *NPI Strategy*

Geoscience Australia is drafting a Strategic Plan for the NPI ('the Strategy') to identify key objectives for developing and implementing the NPI and to outline strategies and priority actions for achieving these objectives. The Strategy identifies four key objectives:

1. *Establish Whole-of-Nation Leadership for the Australian PNT Community;*
2. *Coordinate, Enhance and Protect Australia's Positioning Infrastructure and Systems;*
3. *Develop Multi-GNSS Data Products and Services;*
4. *Access Ground and Satellite Communications to Deliver PNT Products and Services Nationally.*

The primary focus of Meeting 1 was to identify and discuss cross-sectoral issues and questions relating to these objectives. Four briefing documents were circulated by Geoscience Australia to members of the Board prior to Meeting 1 to facilitate information sharing and discussion. These documents are briefly summarised below:

- ***Briefing Document 1 – Strategic Plan for the NPI:*** To facilitate Objective 1, the Strategy itself encourages and facilitates whole-of-nation leadership for the Australian PNT Community by outlining pathways to implementation for the NPI, including governance arrangements and strategic objectives.
- ***Briefing Document 2 – Positioning Infrastructure & Services:*** Document 2 provides a snapshot of current investment in GNSS positioning infrastructure and services across Australia and New Zealand, including global service providers. To facilitate Objective 2, the document summarises the location and types of infrastructure operating in Australia, along with ownership and custodial arrangements.
- ***Briefing Document 3 – Australian GNSS Analysis Centre Software:*** Developing and maximising Australia's capability to process, analyse, validate and communicate multi-GNSS information is central to the NPI. Document 3 explores these capability requirements for improving the accuracy, speed and reliability of positioning in Australia and New Zealand.
- ***Briefing Document 4 – Delivering Positioning Data and Services:*** Terrestrial and satellite-based communications systems are central to the NPI vision of accessing positioning and timing information anytime and anywhere across Australia and beyond. Document 4 identifies multiple GNSS and Space-Based Augmentation System (SBAS) capabilities that can be leveraged in Australia and New Zealand to facilitate this vision.

## Outcomes:

- ❖ *All briefing material was reviewed at Meeting 1. The Advisory Board discussed key concepts relating to each objective and suggested additional topics. The Board highlighted the need to refine and standardise (where possible) language and definitions pertaining to PNT technologies and activities to facilitate cross-sectoral engagement.*
- ❖ *Key discussion points at Meeting 1 included Australian requirements for: meeting international PNT standards across multiple disciplines (e.g. for system design, service performance and data dissemination); clarifying roles and responsibilities for governments and industry to facilitate better decision-making through greater advocacy and awareness of NPI activities; identifying and mitigating GNSS and non-GNSS vulnerabilities; exploring business models for data access and sharing; responding to Australia's growing dependence on precise positioning for social and economic activities including critical infrastructure applications; emphasising the innovation and productivity benefits of a NPI across the value-chain.*
- ❖ *The NPI-AB will continue developing each briefing document with the aim of circulating to a wider audience as NPI planning continues.*

## *NPI-AB Work Plan*

The NPI-AB outcomes described throughout this document establish short-term objectives for 2015. The longer-term work plan for the NPI-AB will be informed by these outcomes in consultation with the Australian PNT community and international partners. Two key actions were identified to progress these short-term objectives:

1. *Commence planning to establish Technical Working Groups (TWG) that bring together key stakeholders (e.g. infrastructure and service providers) to address priority issues identified by the Advisory Board. Two potential Working Groups were identified, one focusing on infrastructure and service requirements, and the other on delivery mechanisms and data standards. All Working Groups will report to the NPI-AB.*
2. *Engage with domestic and international stakeholders on NPI developments, including planning for TWGs, at the International GNSS Society (IGNSS) Conference on 14-16 July 2015. The IGNSS agenda will include presentations on cross-sectoral positioning activities from members of the Board along with panel discussions on general NPI themes, including infrastructure (e.g. CORS) management, operations and service requirements.*

The NPI-AB will continue to develop the Work Plan at subsequent meetings and will draw on feedback and consultations from the activities and events listed above. The Board's second meeting will be held in July 2015.

## **CONTACT**

To contact Geoscience Australia or members of the Advisory Board regarding the activities described above, please email your name, query, and contact details to the following address:

**NPI@ga.gov.au**

Your email will be directed to specific members of the committee as required.