

SouthPAN: Bridging the gap

New Zealand's industries are full of energy and innovation, driven by talented people with great skills and ideas. One of the challenges our sectors face is accessing reliable and accurate positioning data, which enables innovation, efficiency, productivity and growth.

Until now, access to enhanced positioning services has been difficult and costly, leading to opportunities missed and roadblocks for growth.

With SouthPAN, that is changing

New Zealand and Australia, in partnership, have invested to develop a satellite-based augmentation system (SBAS) that is breaking down barriers and bridging the gap with open access to services that provide improved accuracy, integrity and availability of positioning data.

What is SouthPAN?

The Southern Positioning Augmentation Network (SouthPAN) is an open access positioning system. It delivers improved accuracy, integrity and availability of global navigation satellite system (GNSS) positioning corrections across New Zealand and Australia via satellite and the internet, benefiting a wide range of sectors.

SouthPAN is the first SBAS in the Southern Hemisphere, with early Open services now available. SouthPAN is empowering industries across New Zealand and Australia to optimise operations, improve productivity and efficiency, maintain high health and safety standards, and drive innovation at scale to compete with global capabilities.

SouthPAN benefits our industries

+ Improved accuracy

Enabling businesses to locate their assets, vehicles and infrastructure with greater precision.

+ Increased productivity

Streamlining operations and improving efficiency through accurate data, helping optimise routing, navigation and resource allocation, reducing travel time, fuel consumption and overall costs.

+ Improved health and safety

Reliable and accurate positioning information enabling better risk management and prevention across various sectors such as construction, transport, maritime and aviation, and in emergency situations such as search and rescue operations.

+ Support for innovation

Unlocking new possibilities for innovation and opportunities for entrepreneurs and tech companies to create value-added solutions.

+ Reduced environmental impact

Optimising resource allocation, improving land management, reducing waste, and enabling efficient transportation.

+ Open access

Low barrier to entry to access and leverage accurate data.

+ Better business outcomes

Enhanced capabilities and availability of accurate data means businesses can make better informed decisions about their operations and growth to achieve their goals.

How SouthPAN works

The technology behind SouthPAN boosts the accuracy of existing satellite-positioning systems. It uses a network of ground stations to calculate and correct errors.

SouthPAN will include:

- + a network of global navigation satellite system (GNSS) reference stations
- + two SBAS-capable payloads on industry-owned satellites
- + two ground-based satellite uplink stations.

SouthPAN compares satellite data against precisely measured positions to identify and correct discrepancies. These corrections are sent to geostationary satellites and then broadcast throughout Australia, New Zealand and its maritime region. This significantly improves the accuracy and reliability of positioning information, meaning we can pinpoint a location to as little as 10 centimetres.



A simplified diagram showing how SouthPAN/SBAS works

For more information on how SouthPAN works see: [SouthPAN Fact Sheet](#)

Future improvements (indicative)

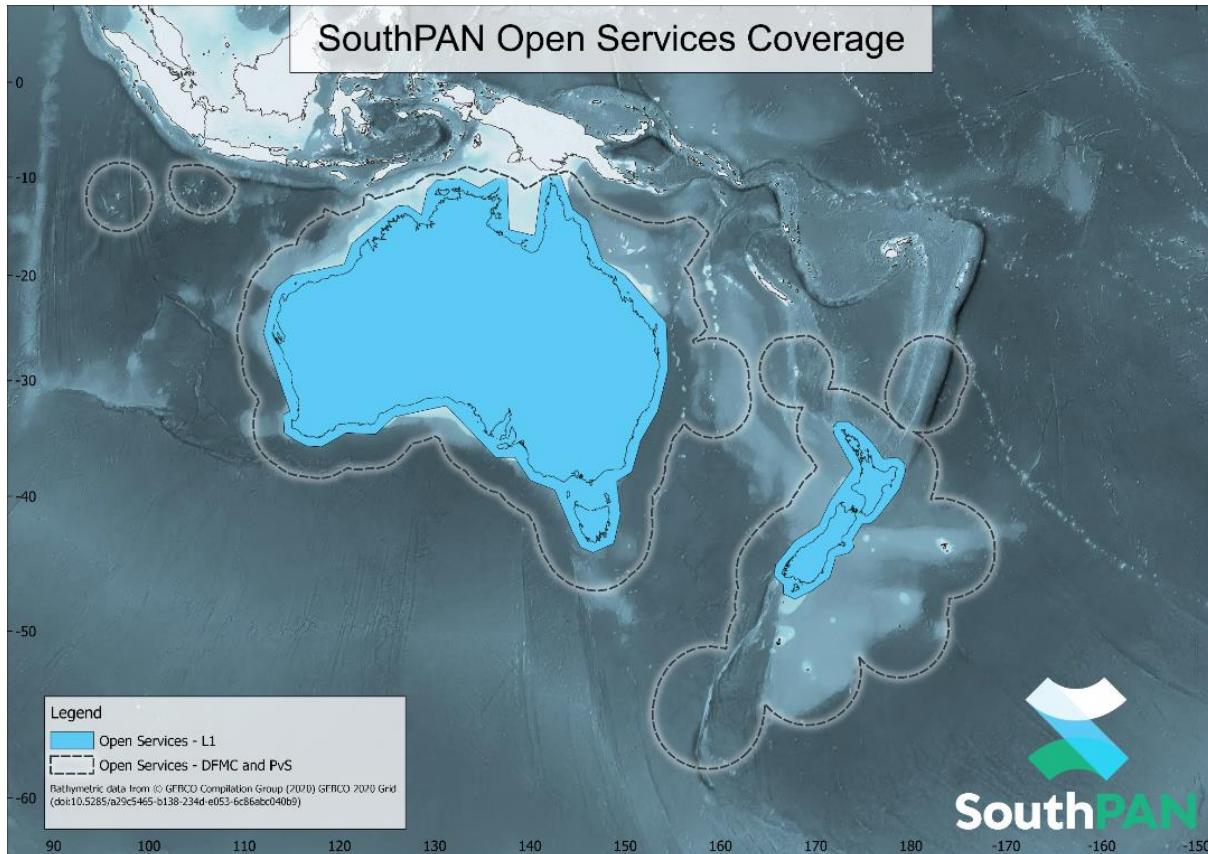
2023 – 2026	2027	2028	
New ground and space-based infrastructure integrated into SouthPAN system, improving accuracy and availability of Open Services over time.	New navigation signal introduced for Precise Point Positioning (PPP).	Safety of life certification achieved.	Full operating capability providing maximum level of service availability for Open Services and Safety-of-life services.

How you can access SouthPAN services now

First, check your device capability to process SBAS transmissions and track GPS L1. This is a minimum requirement to use the SouthPAN L1 SBAS service and some SBAS capable devices may require a firmware update to receive SouthPAN corrections. If unsure, check the device specification sheet or speak to the manufacturer.

Configure your device to use the desired SouthPAN service. This step is dependent on your device, as some SBAS capable devices automatically implement this.

For information on how to access these services now, please follow the link to the [SouthPAN services disclaimer](#).



A map of SouthPAN's Open Services coverage area

Tell us your story!

If you're interested in discussing how SouthPAN can benefit your organisation, or you are now using SouthPAN services, we want to hear from you!

You can also subscribe with us to receive SouthPAN updates. Email southpan@linz.govt.nz to get in touch.



Discover the power of SouthPAN

Follow the link or scan the QR code to visit our website and learn more.

Website: www.linz.govt.nz/southpan

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