

## Supporting NSW farmers

The NSW rural community is using precision agriculture techniques – such as Variable Rate Applications, Controlled Traffic Farming and Inter Row Sowing – to save time and reduce costs.

Automated tractors guided by CORSnet-NSW data are performing key tasks like seed placement, harvesting, fertilising, pest control and crop monitoring.

The result is less soil compaction, better targeted herbicides and fertilisers, higher crop yields and lower fuel and labour costs.

Farmers also experience less driver fatigue, as the need to concentrate for hours on end is considerably reduced.

To see a short video on how CORSnet-NSW assists precision agriculture visit [www.spatial.nsw.gov.au/corsnet-nsw](http://www.spatial.nsw.gov.au/corsnet-nsw)

## CORSnet-NSW

CORSnet-NSW is a precise positioning service that gives users access to fast and accurate positioning and guidance solutions across NSW.

In recent years, precise positioning and guidance systems have emerged as useful tools across a variety of applications such as:

- Surveying
- Agriculture
- Construction
- Emergency services
- Mining
- Scientific research
- Asset management

CORSnet-NSW uses the latest Global Navigation Satellite System (GNSS) technology to provide an accurate spatial reference network for NSW and support the growing number of precise positioning and guidance applications throughout the State.



## How does it work?

The service is delivered by a network of permanent GNSS receivers – known as Continuously Operating Reference Stations (CORS) – that are strategically located across NSW.

The CORSnet-NSW network continuously observes and corrects satellite navigation signals in order to achieve international standard, high accuracy positioning data for NSW.

The data is streamed to users via a wireless internet connection.

## Available data services

The three key data services provided by the network are:

1. DGPS data: differential GPS data that is available in real time to users in the field.
2. RTK data: real time kinematic data that is available to users in the field.
3. RINEX data: receiver independent exchange data that is archived and available to users from their desktop for post processing.

## CORSnet-NSW and the construction industry

Construction companies of all sizes – as well as local and State Government – are reaping the benefits of precise positioning data.

CORSnet-NSW data allows construction surveyors to determine ground survey mark coordinates with a high degree of accuracy. This technology has been widely adopted by surveyors because of the time and cost savings it delivers.

In addition, the construction industry is pioneering the use of machine guided earthmoving equipment to improve efficiency and safety, as well as reduce labour costs.

The CORSnet-NSW service delivers benefits to research organisations, the private sector and Government. The many benefits include:

### Accessible 24/7

CORSnet-NSW users can quickly determine accurate position coordinates across NSW at any time of the day or night.

### Gives a high level of accuracy

CORSnet-NSW provides sub metre accuracy, as well as solutions at the 2cm level. This is a substantial improvement on stand-alone Global Positioning System (GPS) receivers which can only achieve approximately five metre level accuracy.

### Easy to use

The only equipment that users need to access CORSnet-NSW data is a portable GNSS receiver and a wireless internet connection.

## Flexible

The CORSnet-NSW service enables users to move from location to location and roam the network while maintaining the best possible solution available.

## Comprehensive

The CORSnet-NSW network currently provides 2cm accuracy to key metropolitan, coastal and regional areas, with a minimum of sub-metre accuracy to the rest of the State. Coverage will continue to expand as additional CORS are installed across NSW.

## Cost competitive

CORSnet-NSW eliminates the need for users to purchase, install and maintain their own GNSS base stations which can be expensive and time consuming, and may deliver inconsistent results.

CORSnet-NSW data services are designed to cover the cost of delivery. Payment is by subscription – with a range of flexible options – and is renewable at the end of each subscription period. See our website for more details.

## Reliable

A team of technical professionals monitors the CORSnet-NSW network to make sure each station is stable, well maintained and upgraded as needed.

This ensures that users have statewide access to reliable, high quality positioning data services.

## Efficient

CORSnet-NSW provides users with a more accurate and efficient method of connecting to the State Survey Control Network. Surveyors can quickly determine position coordinates out in the field, without the need for manual calculations.



## Working with scientific research

Sea level rise along the NSW coast can now be more accurately determined with the installation of two CORS alongside key tide gauges at Fort Denison in Sydney Harbour and Newcastle Port.

Both sites were funded by the Office of Environment and Heritage and will allow CORSnet-NSW to closely monitor for any small ground movements which could affect the sea level readings.

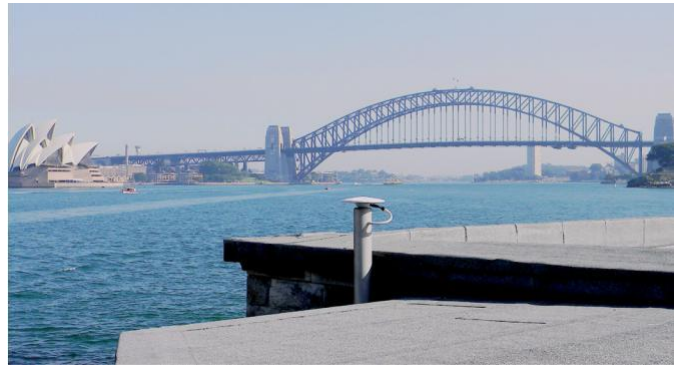
## Helping the mining industry to deliver

Precise positioning data has numerous applications in the mining industry ranging from mine site surveying, accurate selective mining and drill guidance, through to vehicle tracking and dispatch, material tracking and autonomous haul trucks.

Greater precision in the mining process and the automation of support services, delivers increased productivity and can reduce operating and labour costs.

## How to access CORSnet-NSW

CORSnet-NSW offers a range of products that are available through selected GPS/GNSS equipment suppliers. For a list of these resellers and their contact details, go to <http://corsnet.nsw.gov.au/>



CORSnet-NSW is GDA2020 compliant. Station coordinates are calculated in GDA2020 and are subject to [Regulation 13 Certification](#). For suitably equipped users, subscription based real-time products are available from suppliers in both GDA2020 and GDA94.