

GNSS for Machine Control

Positioning and Measurement Stream

New Zealand Vertical Datum 2016

NZVD2016 is New Zealand's official height system. It allows for the consistent collection and seamless exchange of heights across New Zealand. Heights used in GIS, infrastructure, planning, consents and works can now be nationally standardised.

Machine Control

GNSS on earthmoving machines is now common place in the New Zealand working environment.

One of the Challenges that New Zealand Machine control customers face is the multitude of datums that exist in New Zealand. As machine are shipped between sites it is vital that the data and configurations of the machine are in terms of the site Datum

Vertical Datum 2016 – Helping the process

When a Machine arrives on site, the “site localization” files are added to the machine so the machine can work in terms of the local datum. As Vertical Datum 16 models the geoid, the use of this datum on a machine means operators will:

1. Not have to change the vertical datum they are operating in no matter where they are working in the country
2. The Datum models the difference between GNSS heights and that of traditional levelling (orthometric heights). Therefore, by using Vertical Datum 16 they will have the machine working with orthometric heights which is aligned to gravity. Therefore, there should be no discrepancy (other than that of the GNSS accuracy) between what the machine measures and what traditional levelling would show.

Vertical Datum 16 – Benefits for Machine Control

1. Easier to manage 1 vertical datum than a multitude of National and local levelling datums
2. Heights will be in terms of traditional levelling
3. Less likely to be errors and therefore machinery more productive and efficient



Want to know more?

Contact the Survey and Spatial New Zealand Positioning and Measurement Stream:

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