Dual satellite broadcast data links in all ocean regions.

The Seastar™ NTRIP DGNSS data delivery option provides a backup to satellite broadcast delivery.

DUAL INDEPENDENT DELIVERY PATHS
Fugro Satellite Positioning DGNSS services are delivered over dual independent delivery paths. GNSS correction data sets are compiled in both Houston and Perth Network Control Centres (NCCs) then delivered via independent Satellite Uplinks to geostationary communications satellites.

In each Ocean Region there is coverage from two different communications satellites thus providing redundancy for users.

TRIPLE REDUNDANCY
To complement the standard satellite broadcast delivery channels, Fugro Satellite Positioning offers Internet delivery of correction data using the NTRIP service. (Networked Transport of RTCM over Internet Protocol).

This option requires real time access to the Internet. Typically aboard the vessel this will be provided via a VSAT broadband satellite communications terminal.
The Internet can provide a useful data delivery backup to standard broadcast channels – particularly if there is any obstruction to the antenna visibility of the broadcast satellite.

The Internet and shipborne VSAT are however considered to be reliable enough for dependence as a primary delivery channel.

For this reason NTRIP is not available as an independent commercial service but is only supplied as a backup solution for the primary broadcast channels.

**HARDWARE**

In addition to Internet access, a compatible Seastar™ receiver or demodulator is required.

Equipment such as the 3610 and 3710 demodulators, and the 9200-G2 and 9205 GNSS receivers have NTRIP capability.