



4

## GLOBAL NAVIGATION SATELLITE SYSTEMS

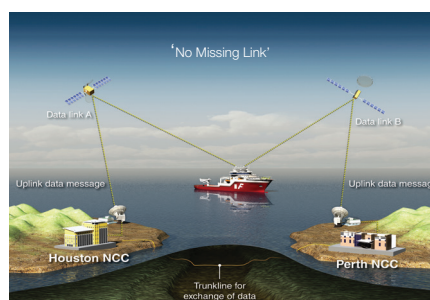
# MARINESTAR POSITIONING SERVICES

**Fugro Satellite Positioning Services is market leader in the development and operation of satellite-based positioning world-wide.**

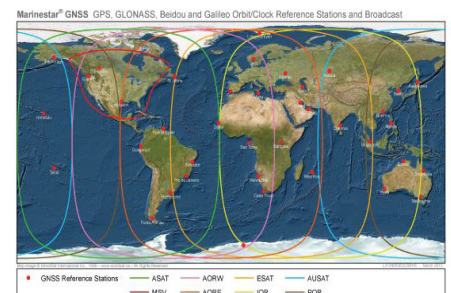
Marinestar offers a range of services tailored to the particular application and market environment (non oil and gas) to ensure a cost effective solution under every circumstance.

### MARINESTAR POSITIONING APPLICATIONS

- Deep sea international trading vessels
- Passenger/cruise ships
- Research vessels
- Hydrographic survey
- Dredging vessels
- Cable lay vessels
- Salvage tugs
- Stand by and rescue vessels
- Navy and Coast Guard
- Fishing vessels



*Fugro Data Network*



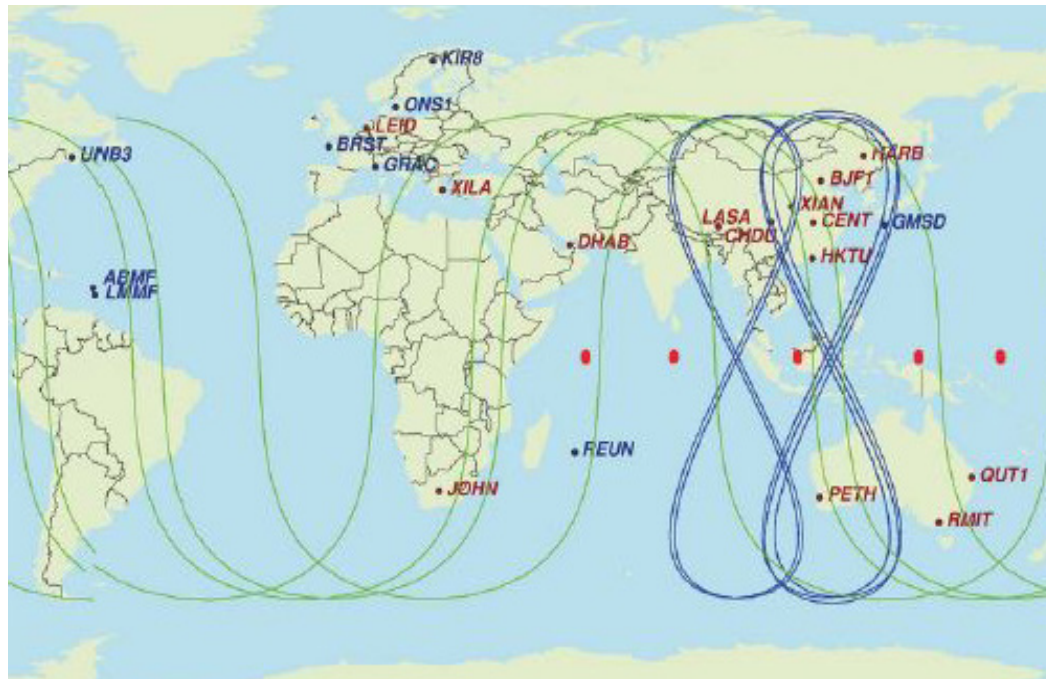
*G2/G4 Coverage Map*

## MULTI CONSTELLATION FOR MORE PRECISION, MORE REDUNDANCY AND MORE SAFETY

- Beidou
- GPS
- Glonass
- Galileo (currently still in test)

## QUALITY OF SERVICE

- 2 x 2 Network Control Center and uplink station
- 9 commercial beams
- Back-up corrections via internet (NTRIP)
- Polar options
- XYZ better than 8 cm



BeiDou Coverage Map

## DREDGING/MARINE CONSTRUCTION

- World Wide availability
- No Shore Based Infrastructure
- Accurate Absolute Positioning
- Accurate Height

## NAVY/HYDROGRAPHIC

- GPS/GLONASS Decimetre Service
- Ready for Galileo Decimetre Service
- Available on Third-Party Receivers
- Reliable Positioning for Unmanned Vessels (USV/UAV)

## WINDFARM

- Multiple Satellite Delivery
- Multiple GNSS
- Multiple Reference Networks
- Redundancy, Availability, Independence



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