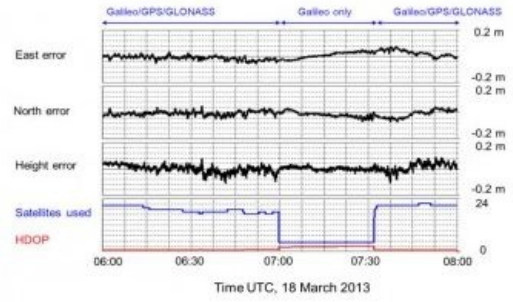
Real-time PPP Based on Galileo Signals



Since the launch of the last two Galileo satellites in autumn 2012, Fugro has been looking forward to demonstrating real-time Precise Point Positioning (PPP) based solely on Galileo signals. These two satellites have brought the constellation to a total of four satellites, the minimum required to permit calculation of a Galileo-only position. Fugro achieved this task on 18 March 2013, which was within one week of all four Galileo satellites being activated.

Fugro is now generating Galileo orbit & clock corrections which can be used in conjunction with the Fugro G2 decimetre-level corrections associated with its GPS/GLONASS PPP service. The chart shows performance of the Fugro orbit & clock service using GPS, GLONASS and Galileo satellites between 06:00 and 08:00 UTC 18 March 2013 in Oslo, Norway. Between 07:00 and 07:30 UTC, only the four Galileo satellites were used for the solution, which achieved a similar accuracy to the existing service.

It is interesting that the noise level of the position is better with Galileo alone than when GPS and GLONASS satellites are also used. This is very encouraging since, with only four satellites to choose from, the geometry of the Galileo-based solution is much weaker than the solutions before and after the Galileo-only period. This performance has exceeded Fugro's expectations and suggests a strong future for its Galileo PPP solution.

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