Trimble Introduces Future-Ready GNSS Positioning Technology

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Trimble announced Wednesday that it has developed a software-based technology supporting Global Navigation Satellite System (GNSS) to maximize flexibility and minimize cost in end-user positioning products that will use a variety of existing and planned satellite-based systems.

Trimble's future-ready GNSS technology will accommodate signals broadcast by GPS as well as signals broadcast by Galileo and the GLONASS satellite systems. This flexibility results from the implementation of the satellite receiver functionality using a commercially available, general purpose Digital Signal Processor (DSP) in lieu of a conventional ASIC custom-made for positioning applications.

Trimble is currently shipping two products that utilize general purpose DSP GNSS technology -- the Resolution-T timing receiver and the Mini-T Thunderbolt GPS disciplined clock.

These products will be upgradeable in the field to Galileo L1 compatibility when the code structure becomes available. Both timing receivers were implemented to test the technical feasibility and the cost effectiveness of the flexible DSP approach.

The DSP architecture allows for future compatibility with satellite signals which were not fully defined when the hardware platforms were introduced. For example, the Galileo signal structure that has not yet been published can be supported by a software upgrade.

In addition, signals other than Galileo will be addressed in future Trimble GNSS technology by using a flexible RF front-end. At the implementation of the Galileo system, the technology will allow for faster processors and a higher degree of performance than is available today.