HIGH PRECISION GNSS FOR MASS ADOPTION IN JAPAN: TRENDS AND PROGRESS

Vladimir Stoyanov, u-blox AG

Biography

Vladimir Stoyanov joined the Product Strategy team at u-blox AG in 2018 and is responsible for strategic aspects of High Precision GNSS ecosystem and respective u-blox offering for selected markets. Vladimir holds a Master's degree in Electronics Engineering from Sofia University of Technology and has 15 years of leadership experience in strategy, technology and product development in several industries. Prior to joining u-blox, Vladimir delivered various novel technologies and products: at the helms of Alstom & GE Grid Solutions FACTS product organization, and Powerwave Technologies' telecom infrastructure R&D.

Abstract

Approaching the next frontier of automation, unmanned vehicles operating autonomously on land air and water, would swell in numbers not only due to new emerging professional applications, but also with the growing consumer segment. In order to navigate autonomously with the necessary precision, accurate absolute position and sensors time synchronization is needed from the high precision GNSS, which becomes an important system in the core of unmanned machine control.

The components of the high precision GNSS solutions of the not so distant past, even though providing the ultimate performance, have deficiencies in mass market adoption. High cost, size, weight, power and complexity in all components from antenna, through correction service, to receiver, and complexity of the complete system, create a need for new technologies and offerings.

While improvements in space segment - more satellites and new signals, in core technology - multi-band antennas, sensors and processing cores, and in correction technology – state-space representation (SSR) broadcast services, all make precise GNSS more affordable and available, the system complexity challenge remains a blockage on the way to mass adoption. In response, system integrators bundle all high precision GNSS components in a complete system (hiding complexity), open source algorithm libraries include support for available components, and component manufacturers integrate/concentrate functionality.

At the forefront of high precision GNSS for mass market, u-blox works with key members of the ecosystem and supports the technologies and business models stimulating mass adoption. Aiming to deliver the right – intelligent, configurable and reliable products for system integrators, OEM and makers alike, and to enable easy integration of key novel components of the HPG system, like the World's first free SSR correction service – CLAS of Japan, which sets an example to be followed worldwide.