European
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GSA publishes its second GNSS User Technology Report

The second edition of the European GNSS Agency's (GSA) GNSS User Technology Report has been published and is now available for free download, providing an exhaustive review of all the latest GNSS trends and developments. Since its launch in 2016, the GNSS User Technology Report has become the go-to-source for information on the dynamic, global GNSS technology industry.

The GNSS User Technology Report, a sister publication to the GSA's GNSS Market Report, is published every two years and takes an in-depth look at the latest state-of-the-art GNSS receiver technology, along with providing expert analysis on the trends that will shape the global GNSS landscape in the coming years.

Three key segments

Like the inaugural Report in 2016, the second issue focuses on three key macrosegments: mass market solutions; transport safety- and liability-critical solutions; and high precision, timing and asset management solutions. The report opens with an overview of the latest developments and trends in GNSS, with a focus on the multi-constellation and multi-frequency that are driving new trends in the sector.

"With the GNSS User Technology Report, our aim is to provide everybody in the GNSS value chain with a comprehensive overview of the current landscape in the industry and to identify new trends so that stakeholders know in which direction the industry is moving," GSA Executive Director Carlo des Dorides said, adding: "The most important new trend identified in this issue is the rapid adoption of multiple frequencies, including for consumer devices, as evidenced by the market introduction of the first dual-frequency smartphone in May 2018".

Editor's special

The final section in this year's report – the 'Editor's special' section – is dedicated to automation and to the increasingly important role GNSS plays in a number of partially- or fully-automated tasks and functions. The most publicised examples of these are found in the transport domain – driverless cars, autonomous vessels and drones but, as the Report notes, GNSS-based automation applications go well beyond transport.

The analysis of GNSS user technology trends in the Report is supported by testimonials from key suppliers of receiver technology, including: Broadcom, Javad, Kongsberg, Leica, Maxim Integrated, Meinberg, NovAtel, Orolia-Spectracom, Qualcomm, Septentrio, STMicroelectronics,

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Thales, Trimble and u-blox. In addition, the report includes highlights from around 20 ongoing research projects from the Horizon 2020 and Fundamental Elements programmes, aiming at the development of GNSS receiver technology.

The full **GNSS User Technology Report 2018** is available for download here.

GNSS User Technology Report 2018

Highlights

- All global and regional GNSS constellations are developing, modernising and innovating, with more than 100 GNSS satellites now available over our heads.
- The vast majority of current receivers are multi-constellation, and the most popular way to provide multi-constellation support is to cover all available constellations. Today only around 30% of receivers use GPS only.
- In the mass market domain, we are seeing a divide between chipsets optimised for 'entry level' IoT products, where energy per fix is the primary driver, and 'high end', where the industry is innovating to propose enhanced positioning performance.
- The need for accuracy in the mass market is initiating new solutions, including ones based on Android GNSS raw measurements or, more significantly, using multi-frequency signals.
- The frequencies supported across all application areas range from single L1/E1 to 4 frequencies in the professional segment. The dual frequency solution showing the most growth is L1/E1 and L5/E5, however the legacy L1/E1 and L2 are still being used.
- Growing interest has been observed in PPP and RTK services proposed by private industry and public system operators, leading to new PPP/RTK concepts aiming to address a wide customer base beyond high precision.
- The need to ensure both safety and security of PNT solutions is being highlighted by all solution providers, particularly in systems where humans are out of the control loop, such as in autonomous vessels, cars or drones.

About the European GNSS Agency

As an official European Union Regulatory Agency, the European GNSS Agency (GSA) manages public interests related to European GNSS programmes: EGNOS and Galileo. The GSA's mission is to support European Union objectives and achieve the highest return on European GNSS investment, in terms of benefits to users and economic growth and competitiveness.

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