European GNSS: contribution for Autonomous Vehicles

Manuel López Martínez

European GNSS Agency (GSA, https://www.gsa.europa.eu/), Prague, Czech Republic

The launch of Autonomous Vehicles (AV) is driving a paradigm shift in several industries (automotive, vessels, drones, …). Still today, there is a need to surpass several barriers: technology development, software development, security threats, infrastructure deployment, liability aspects, customer acceptance and regulatory frameworks (including data protection).

Satellite positioning (GNSS) is already playing a role in AV and is complementary with integrated sensor data and connectivity-based information that will help to reduce costs. However, with the advent and rapid spread of connectivity in AV, cyber security has become a major concern. There is an increasing need to deliver a secure GNSS module that can provide an efficient, resilient and low-cost defence against jamming or spoofing attacks.

Europe's GNSS programmes bring multiple benefits to the positioning of AV. Powerful GNSS signals and advanced techniques using Galileo and EGNOS will bring to the industry a highly accurate absolute positioning solution, functioning seamlessly in challenging environments where other sensors may fail to provide the expected accuracy, availability, integrity and robustness of the positioning.

Manuel López Martínez
Technology Officer - European GNSS Agency (GSA)

Manuel Lopez Martínez is Technology Officer in the European GNSS Agency (GSA), where he is supporting and fostering the adoption of Galileo and EGNOS in maritime, inland waterways and search and rescue applications. He received his PhD in System Engineering and Automation from the University of Seville in 2005. He got a permanent position as Associate Professor at the University of Seville in 2008, where he was teaching until he joined the Market Development Department at GSA in 2013.