GSG-8 and SecureSync platforms combined to support GMV in the RIPTIDE project

Orolia selected by GMV Romania to provide dedicated testing and simulation solutions to configure ultra accurate spoofing scenarios.

Background

GMV Innovating Solutions S.R.L. (Romania) contacted Orolia regarding the development of the RIPTIDE project they are currently leading in the European Space Agency (ESA) NAVISP programme.

The main ambition of the Resilient PNT for the Black Sea and Danube Region (RIPTIDE) project is the development of a robust PNT framework to limit the impact of GNSS vulnerabilities on maritime and inland waterways' PNT applications within the Black Sea and Danube Lower Basin region.

In 2017, a mass GPS spoofing attack occurred in the Black Sea, raising government concerns about GNSS-reliant applications' protection.
Solution

While developing specific spoofing testing applications to be tested on a moving vessel, GMV Romania first purchased a GSG-8 Advanced Simulator based on the Skydel Simulation Engine, enabling them to run multiple scenarios on various constellations to simulate spoofing attacks on the vessel and evaluate their impact on the operational environment to support the development of their resilient PNT solution.

In order to reach the highest level of testing accuracy, Orolia recommended the SecureSync Platform as a GPS timing receiver and distribution system to synchronize the GSG-8 and, therefore, provide the simulation platform with accurate timing.

Results

GMV Romania is now able to generate multiple spoofing scenarios with the highest level of timing accuracy by combining the accuracy of the SecureSync platform with the power of the GSG-8 simulator on live sky.

This bespoke solution from Orolia allows them to test their PNT solutions in real-world situations.

Download our latest publication on how to use SecureSync for synchronizing the GSG-8 to get more detail on this implementation.

You can also read our latest application note on Timing calibration of a GNSS receiver to learn more.