

Safran's White Rabbit Outperforms Alternative PNT Industry Requirements in EU Commission Joint Research Center Test

The report states Safran's Navigation & Timing solution creates a resilient time architecture for critical infrastructure, independent of European GNSS signals

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[/EINPresswire.com/](https://www.einpresswire.com/) -- White Rabbit, an essential solution in Safran's Navigation & Timing portfolio for critical infrastructure, recently received high praise in a landmark report from the European Commission (EC) Joint Research Center (JRC) to evaluate the effectiveness of Alternative Positioning, Navigation and Timing platforms.

As technology around the world becomes more dependent on positioning, navigation, and timing (PNT) services provided by Global

Satellite Navigation Systems (GNSS), such as the European Galileo and the U.S.A. Global Positioning System (GPS), signal loss could be catastrophic. These disruptions could be triggered maliciously by a jamming or spoofing attack or by a GNSS system infrastructure malfunction.

For more than eight months, the commission studied a variety of available solutions to assess the performance of Alternative-PNT demonstration platforms in a variety of situations where there is signal loss and a backup system is necessary. The selected solutions were evaluated for precise and robust timing and positioning services in challenging indoor and outdoor environments. Time transfer technologies over different means, including fiber, wired channels, etc.

Safran's White Rabbit is a high-accuracy time and frequency distribution protocol, which combines Precise Time Protocol (PTP) packets with the frequency base of Synchronous Ethernet



(SyncE) to provide sub-nanosecond time transfer accuracy over an optical fiber. While the results of the test campaign showed that all Alternative-PNT platforms under evaluation demonstrated performances in compliance with the requirements set, White Rabbit excelled in its performance.

Safran demonstrated not only White Rabbit's ultra-accurate time transfer over fiber optics but also its high-performance time generation, resiliency (based on failover and holdover), interoperability, and user-friendly monitoring capabilities. All of those new features are being developed along with our customers and are intended to fulfill their most demanding requirements to protect their critical infrastructure.

As stated in the report, Safran demonstrated, "the ability to handle multiple master clock inputs with voting and seamless switchovers. Interconnecting as many NMIs as possible, with possible local atomic clock backups, would result in a very robust and resilient time architecture, independent from GNSS across Europe. The ability to provide resilient and accurate time through the EU communication infrastructure, ideally on the nanosecond level, would also enable robust positioning, using a combination of signals."

To download a copy of the full report, please visit:

<https://publications.jrc.ec.europa.eu/repository/handle/JRC132737>

To learn more about Safran's White Rabbit technology, please visit [the Safran Navigation & Timing website](#).

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