

PICOSTAR

Introduction

Current operations continue to highlight the increasing emphasis on gathering and exploiting real-time surveillance information across both the RF and EO domains.

With the development of miniature high-performance AESA radar capability, SELEX Galileo has opened the way to develop PicoSTAR, a fully integrated Radar and Electro-Optic payload suitable for a wide range of small fixed and rotary wing platforms such as Tactical UAVs.

Product Capability

Tactical platforms such as UAVs are currently limited to using Electro-Optical sensors due to their restricted payload capacity. Radar surveillance information is generally gathered by larger platforms operating at a more strategic level. This can result in significant delay in radar information dissemination down to the tactical level, thus making the correlation between radar and real-time Electro-Optical sensor data more difficult.

PicoSTAR provides smaller tactical platforms with the capability to gather near-simultaneous radar and Electro-optical surveillance data. In addition, the radar capability provides these platforms with an all-weather capability through the use of Synthetic Aperture Radar (SAR) imagery and Ground Moving Target Indication (GMTI). This capability can significantly enhance the Commander's overall situational awareness and threat assessment capability.

PicoSTAR is also designed to utilise Burst Illumination LADAR (BIL) advanced EO imaging technology. Developed by SELEX Galileo, BIL provides a significant increase in EO detection and identification range when compared to current passive thermal imaging systems. This provides the platform with greater stand-off capability with subsequent benefits in survivability and covertness. BIL technology also enables better exploitation of the increased detection range provided by the integrated radar system allowing near-real time EO observation of radar derived targets.

Conclusion

PicoSTAR is the first fully integrated RF/EO payload designed specifically to meet the requirements and payload capability of Tactical UAVs and other small fixed and rotary wing platforms. Its design is flexible and scalable and future developments will address wider platform applicability.

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