

Airborne



Heliborne



Naval



Ground



VIRGILIUS

INTEGRATED
SYSTEM

Virgilius is a complete break-through in the traditional approach to the ESM-ECM system architecture taking all the possible advantages from the state-of-the-art technology, stressing the signal processing techniques and market component availability aspects to deliver a superior integrated product.

Virgilius is an advanced, fully integrated Electronic Warfare system for Alarm, Surveillance and Countermeasure functionality.

It is conceived to perform emitter detection, classification, identification and to counter a large threat variety including: radar controlled Anti-Aircraft Artillery (AAA), Surface-to-Air Missiles (SAM), Air-to-Air Missiles (AAM), Early Warning, Search and modern Multifunction and LPI Radars.

Virgilius architecture is suitable for any fixed and rotary wing platform, for naval surface/submarine platforms and for ground based assets. A modular design approach makes it possible to tailor the solution to the specific needs of the Customer/Final User.

SYSTEM PERFORMANCE

- Multiplatform installation
- Advanced multifunction capability, through simultaneous ESM and ECM operation
- Compact design, thanks to the high level of functional integration and smart resource allocation techniques, guaranteeing light weight and small volume
- Fast and reliable RF emitter recognition in high dense electromagnetic environments and of complex radar waveforms
- Multi-threat capability providing jamming effectiveness against simultaneous threats
- High sensitivity and selectivity
- High Accuracy Direction finding and passive location based on digital measurement system
- Passive Emitter Tracking Capability
- Acquisition and tracking of sidelobe emissions
- Capability to cope with electromagnetic scenario evolution and with stringent maintainability requirements
- Major growth capability, granted by the modular design and software and firmware reprogrammability
- All versions can be interfaced with multi-function displays and integrated with ECM systems and platform data bus.

EXAMPLE OF SYSTEM COMPOSITION

A typical system installation consists of:

- Multi Function Unit
- DF Antennas
- Low Band Solid State Transmitters (C-D)
- Medium Band Active Phased Array Transmitters (E-H)
- High Band Active Phased Array Transmitters (H-J)

VIRGIlius

INTEGRATED ESM/ECM SYSTEM ARCHITECTURE

SSTRU



SSTRU



MFU



PAU



SYSTEM FEATURES

- Architecture based on reprogrammable digital processing units
- Optimal resource allocation through advanced scheduling approach based on artificial intelligence
- Protected wide open digital receiver with very high sensitivity
- Real-time SH digital receiver tuning permits detection under interference
- Extremely accurate signal parameter measurements and Specific Emitter Identification
- Fast geolocation
- High Accuracy DF (Passive Antenna Unit: PAU)
- High ERP, full band (C to J) ECM based on solid state phased array technology
- Receiving and transmitting Active Electronically Scanned Array (AESA)
- Smart, programmable deception countermeasures based on DRFM

PRODUCT SUPPORT

VIRGILIUS is fully supported by a complete set of equipment including:

- Field test equipment
- Ground support equipment
- Automatic test equipment
- Library programming
- Library loading/unloading

SYSTEM INSTALLATION

The Virgilius is an extremely compact and light solution providing high installation flexibility. Fully compatible, it can be deployed on any legacy and last generation platforms.

