LEONARDO ELECTRONICS

MAPPS
MODULAR ADVANCED PLATFORM PROTECTION SYSTEM

LEONARDO

ENABLE MISSION SUCCESS, ASSURE PLATFORM SURVIVABILITY

MAPPS (Modular Advanced Platform Protection System) offers aircraft Electronic Warfare (EW) survivability for rotary wing, transport, VIP and Unmanned Air Vehicle (UAV) platform types operating in challenging, congested and contested environments.

A complete, multispectral, integrated self-protection system, MAPPS provides detection and defeat of Radio Frequency (RF), Infrared (IR) and laser threats with fully autonomous countermeasures, reducing aircrew workloads, delivering Next Generation Air Survivability (NGAS).

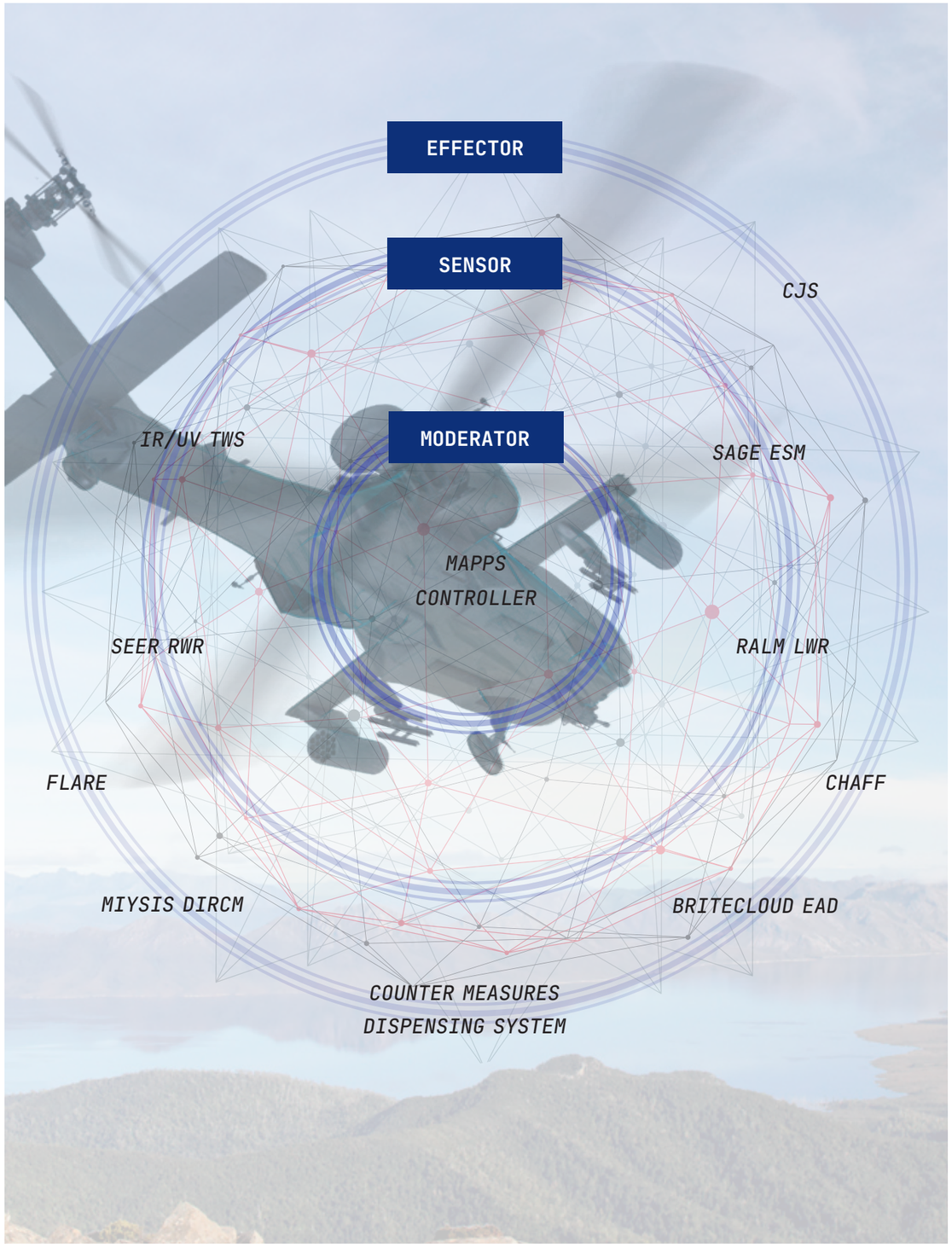
The MAPPS Controller moderates sensor inputs, ensuring overall system response performance, whilst providing enhanced situational awareness to aircrews via audio, video display, cautions, advisories and serviceability status.

Integration is the nucleus of the MAPPS product, principally via the MAPPS Controller. Customisable subsystem integration enables customer nominated product integration, reducing physical and logical modifications to the platform.

With class-leading Size, Weight and Power (SWaP), MAPPS has been designed for the integration onto rotary and fixed wing platforms.

MAPPS

Combinations of the sensors and effectors offered by MAPPS product enables the user to scale and adapt their MAPPS configuration to meet their bespoke needs.



ENHANCE AIRCRAFT SURVIVABILITY

A TRULY SCALABLE SOLUTION

A scalable, modular architecture enables users to match the MAPPS system architecture to the specific platform protection requirements.

CLASS-LEADING SIZE, WEIGHT AND POWER (SWAP)

Interface-rich, modular, advanced platform protection system, providing ease-of-integration for a suite of sensors and effectors into all platform types.

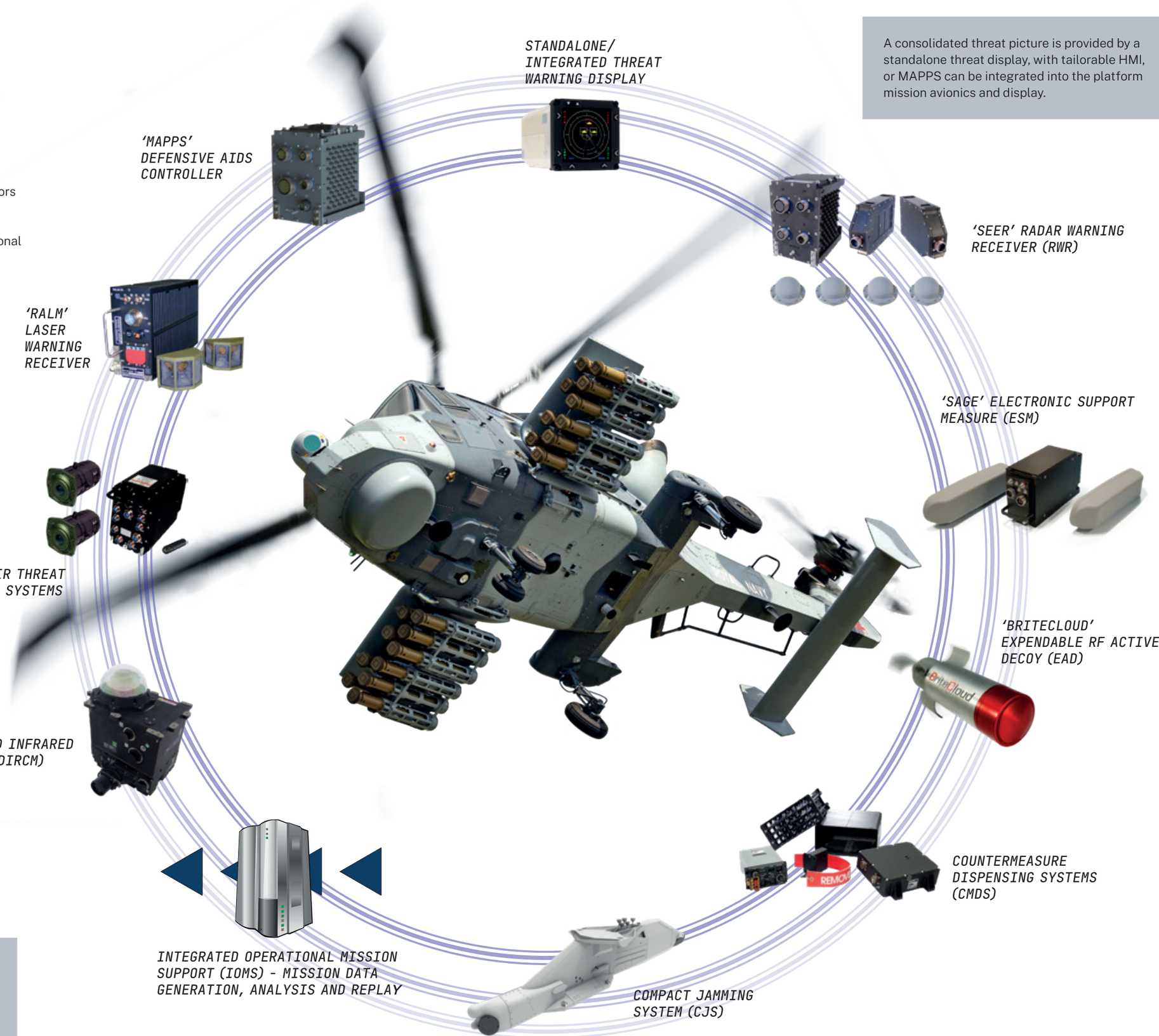
A totally programmable approach, MAPPS gives operational sovereignty and freedom of action to the end user.

MAPPS CONTROLLER

Integration of the sensors and effectors via the MAPPS Controller provides a fully integrated, coherent and prioritised threat picture, optimised countermeasures/ tactics and weapons systems linking.

The modular system architecture minimises impact to the platform software or architecture for ease of integration, or for the addition of new sensors and effectors to enhance platform survivability.

A consolidated threat picture is provided by a standalone threat display, with tailorable HMI, or MAPPS can be integrated into the platform mission avionics and display.



Programmability via the EW Toolset enables the User to define mission configurations through Mission Dependent Data (MDD). The toolset also supports post mission data replay and analysis of recorded data.

MAPPS COMPONENTS

MAPPS CONTROLLER

- Built upon a pedigree of protecting over 2000 fixed and rotary wing platforms in operational environments
- Enhanced situational awareness
- Exceptional threat management
- Reduced crew workload
- Expansion flexibility
- Integrated Threat Warning Display

KEY FEATURES

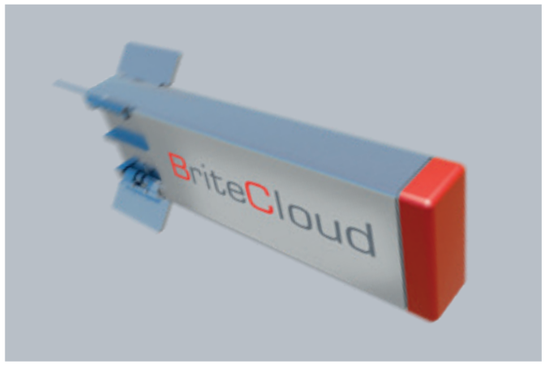
- Multi-spectral threat identification
- Most appropriate countermeasure for any given situation
- Centralised distribution of platform data
- Centralised BIT reporting
- Centralised data recording for post-mission analysis

BRITECLOUD EXPENDABLE ACTIVE DECOY (EAD)

- Self-contained, battery powered DRFM based active radar jammer
- Protection against all major threats
- Packaged in 55 and 218 compatible form factor, for minimised installation and flight clearance requirements

KEY FEATURES

- No platform modification required
- No sustainment/maintenance costs
- Creates large miss distance
- Overcomes chaff discrimination
- Austere or mission programmable



MIYSIS DIRECTED INFRARED COUNTERMEASURE (DIRCM)

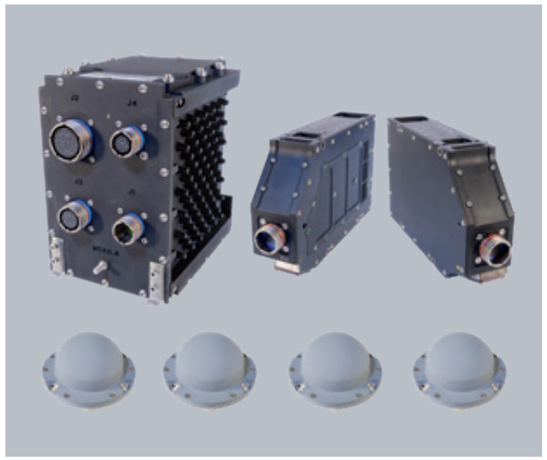
- Small, lightweight and low power demand
- All-aspect coverage and exceptional response speed
- Ability to defate multiple/advanced threats including very short range missile firings
- Laser directly coupled and alignment free
- Optimal laser energy against threats
- Highly reliable and low-maintenance
- Low through life cost and support requirements

SEER RADAR WARNING RECEIVER (RWR)

- The latest in a long line of Radar Warning Receivers designed to protect all airborne platforms, including fixed and rotary wing, manned and unmanned
- Fast, effective threat warning
- Accurate identification in congested and contested environments
- Very low SWAP
- Simple installation
- Simple controls allow display decluttering and access to track data

KEY FEATURES

- Modular and scalable to meet operational requirements - E-J band core with extensions to CD and K bands
- High quality parametric measurement and signal discrimination
- Readily integrated with existing displays and controls
- Supplied with programming tools and mission replay / analysis facility
- Full sovereign ownership and management of library data
- ITAR free and readily exportable



RALM

- Detection of laser threats
- Threat type identification
- Threat direction indication
- Can be integrated with other platform systems via MAPPS Controller
- Low false alarm rate

KEY FEATURES

- Capability to handle multiple simultaneous threats
- Capability to store history files upon request
- Quick reaction time (the system has no mobile parts)
- Rugged and reliable architecture

THREAT WARNING RECEIVER

- MAPPS supports the latest generation of IR multi-function Threat Warning System (TWS), delivering three concurrent survivability functions
- Missile Warning System – provides timely and accurate warning of multiple threatening Surface-to-Air Missile (SAM) events, both ManPADS and CrewPADS and the geolocation of the threat(s)
- Hostile Fire Indication provides timely and accurate warning of multiple threatening HFI events (gunfire (burst fire), unguided rockets and RPGs) and the geolocation of the threat(s)
- Video Imagery – provides 24/7 visibility around the platform with the same field of regard that the sensors provide for threat warning, which for 6 sensors could be full 360 degrees spherical visibility around the platform
- UV Threat warning receivers can also be incorporated into MAPPS

KEY FEATURES

- Improved platform survivability in the face of new, emergent and proliferated threats
- Significant capability improvements over older generation missile warners
- Supports the fast speeds and high accuracy required to cue advanced effectors such as a Directed Infra-Red Countermeasure Measure (DIRCM) as well as intelligent Countermeasures Dispensing Systems (CMDS)

INTELLIGENT COUNTERMEASURES DISPENSER SYSTEM

- Latest generation, extensively programmable intelligent countermeasures dispensing system
- Provides self-protection by passive Electronic Counter Measures and active with the use of Britecloud
- Can be integrated on all aircraft types including large aircraft, fast jets, helicopters and UAS
- Offers STANAG 4781 Smart Store compatibility - enables the dispenser and payloads to communicate with one another using the STANAG 4781 Smart Stores Communications Interface
- Can be easily integrated into DAS suites and on to platforms and is backwardly compatible-fit form function replacement for the older generation of CMDS
- Supports standard NATO format 118 and 218 cartridges, EADs, Modular Expendable Blocks, future smart payloads and other payload configurations supportable by design of specific magazines

KEY FEATURES

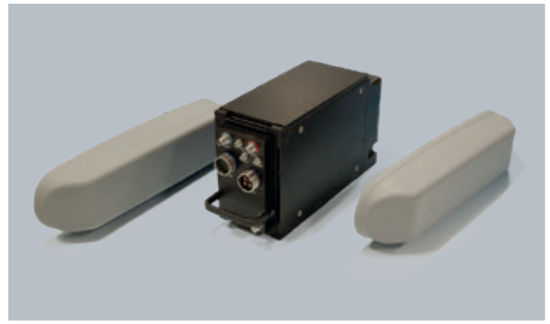
- ITAR free – making it more easily exported globally
- Operationally proven CMDS
- Currently in service on a wide range of platforms with many nations around the world.
- Offers ease of integration into DAS Suites and on to platforms.
- High reliability and robustness
- Built in resilience and redundancy

SAGE

- High performance Electronic Support system with built in RWR
- Accurate tactical picture of the RF environment
- Wideband operation for instantaneous full band detection
- Additional Narrowband Digital receiver channel for greater sensitivity and fine measurements
- Highly accurate Direction Finding measurement, leading to precise geo-location of emitters from a single platform Recording and display of track and pulse level information

KEY FEATURES

- Modular and scalable to meet operational requirements - E-J band core with extensions to CD and K bands
- High quality parametric measurement giving “Tactical ELINT” capability for library maintenance
- Specific Emitter Identification
- Supplied with programming tools and mission replay / analysis facility
- Full sovereign ownership and management of library data ITAR free and readily exportable



COMPACT JAMMING SYSTEM (CJS)

- Digital Radio Frequency Memory (DRFM) combined with an associated techniques generator, receive antennas, transmitters and power hardware
- Very compact form factor
- Provides a complete self-contained jamming capability
- Small size, high power output
- Modular
- Part of the future technology roadmap

KEY FEATURES

- Multiple mission application
- Can be incorporated into pods, pylons, off-board long range autonomous platforms etc
- Offers ability to create bespoke sovereign ECM solutions
- Can be integrated onto existing national assets or new platforms
- Offers rapid access to world class levels of RF protection

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