AIRBORNE DATA MANAGEMENT SYSTEMS

GENERAL DYNAMICS MISSION SYSTEMS OVERVIEW

The General Dynamics' portfolio of communications systems, networks, and products are engineered to provide an effective game-changing capability for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR). They enable operators to rapidly assess tactical data, communicate efficiently, select appropriate courses of action and execute mission orders with ease and confidence in any environment within the operational theater.

WHY GENERAL DYNAMICS MISSION SYSTEMS?

Our 60+ year legacy and worldwide reputation for excellence in the production of technology-based, integrated solutions for land, airborne and maritime applications are why the United Kingdom, Canada, United States, Japan, Korea and other nations choose General Dynamics year after year as a preferred supplier of airborne ISR solutions.

Customers choose our airborne Data Management Systems (DMS) to achieve high data, low operator workload solutions for today's crewed and unmanned airborne platforms and ground systems.

AIRBORNE DATA MANAGEMENT SYSTEM

The General Dynamics' industry-leading airborne DMS provides mission system management and tactical data display for air vehicle operators. It provides operators (cabin crew and non-flying pilot) with the ability to control, process, and display information from sensors and communications subsystems to form a coherent picture of the tactical situation in real time.

The system enables manned and unmanned aircraft to collect and present integrated tactical situational awareness data gathered by a variety of mission-specific sensors and systems, including:
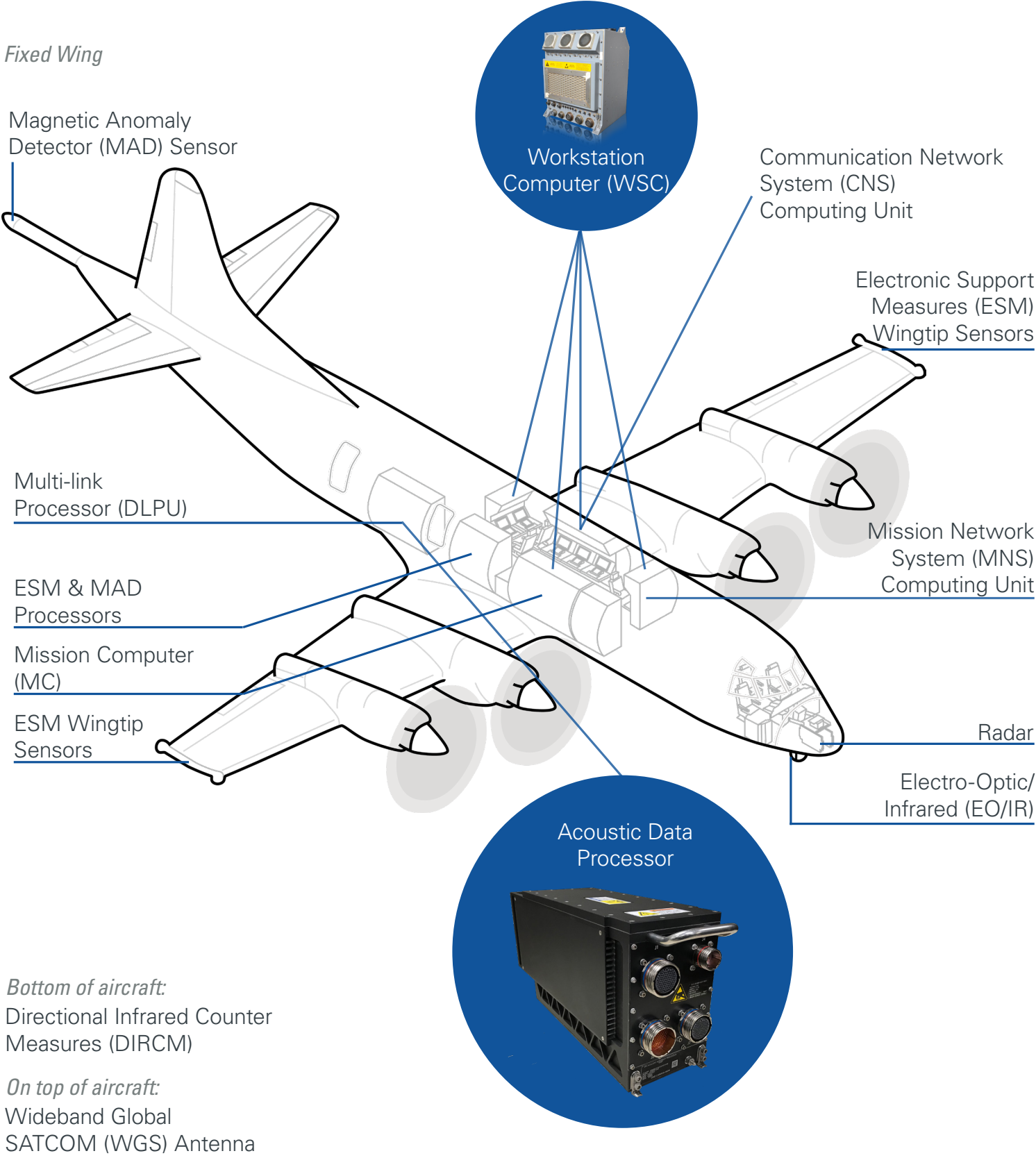
» Multi-mode radars
» Electro-optic sensors
» Electronic support measure systems
» Acoustic processing systems
» Self–defence suites
» Magnetic anomaly detector systems
» Weapons/stores management suites
» SATCOM systems
» Tactical datalinks
» Automatic Identification Systems (AIS)
» Navigation and Flight Management Systems

INTEGRATED WITH SURVEILLANCE SYSTEMS, THE DMS 2D AND 3D DIGITAL MAP DISPLAY ENABLES FULLY INTEGRATED SURFACE AND SUB-SURFACE MARITIME, OVERLAND, AND LITTORAL ISR OPERATIONS.
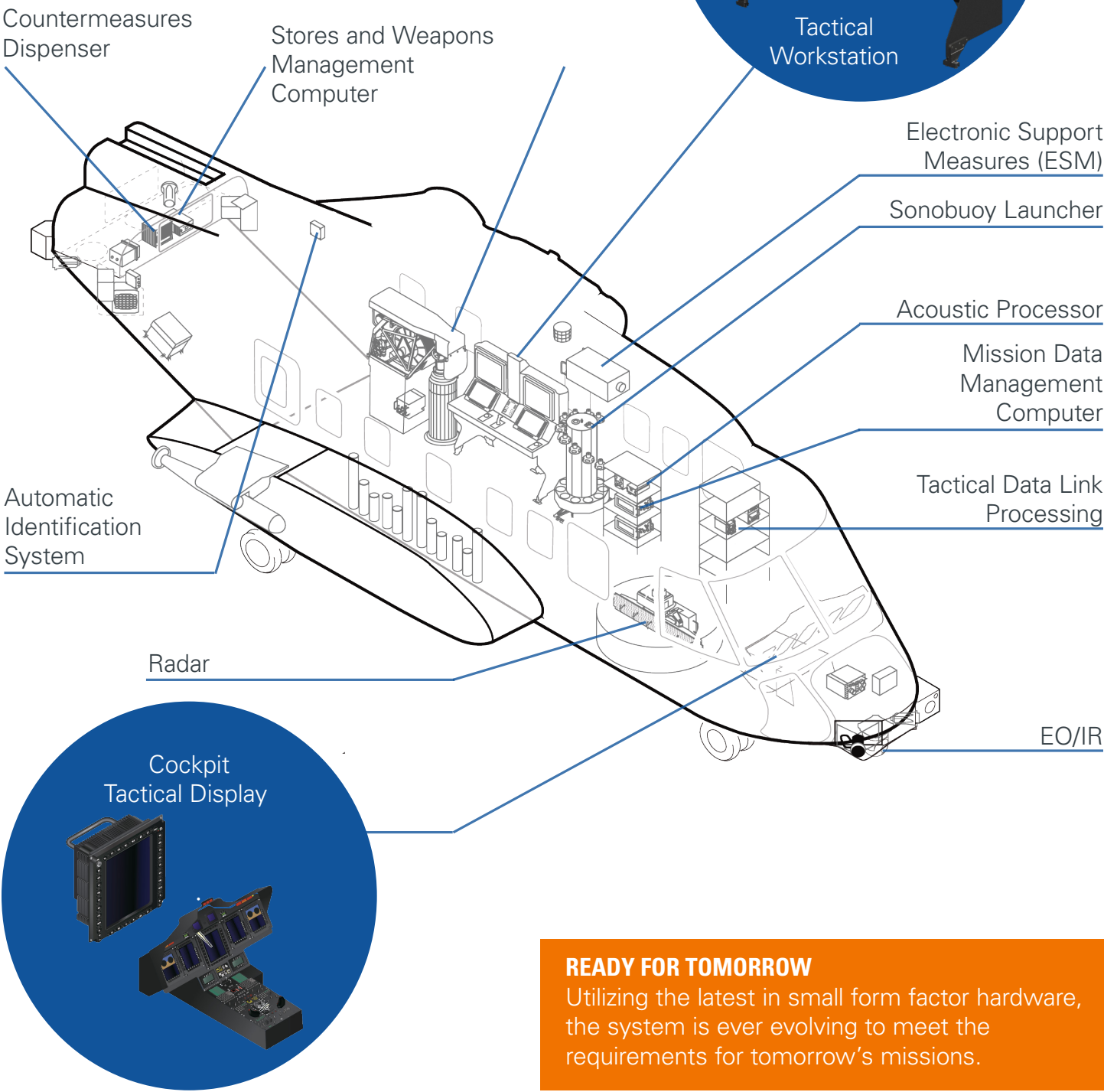
MISSION SYSTEM INTEGRATION

Fixed Wing

Magnetic Anomaly Detector (MAD) Sensor

Workstation Computer (WSC)

Communication Network System (CNS) Computing Unit

Electronic Support Measures (ESM) Wingtip Sensors

Multi-link Processor (DLPU)

ESM & MAD Processors

Mission Computer (MC)

ESM Wingtip Sensors

Mission Network System (MNS) Computing Unit

Radar

Electro-Optic/Infrared (EO/IR)

Acoustic Data Processor

Bottom of aircraft:
Directional Infrared Counter Measures (DIRCM)

On top of aircraft:
Wideband Global SATCOM (WGS) Antenna

Rotary Wing

Countermeasures Dispenser

Stores and Weapons Management Computer

Tactical Workstation

Electronic Support Measures (ESM)

Sonobuoy Launcher

Acoustic Processor

Mission Data Management Computer

Tactical Data Link Processing

Automatic Identification System

Radar

Cockpit Tactical Display

EO/IR

MULTI-MISSION READY

The fully integrated DMS eliminates multiple independent displays by assimilating the information from multiple sensors into one database, and streamlining operations through enhanced workstations. It reduces the hardware and cabling that must be installed in the limited space available on fixed- and rotary-wing platforms. COTS-based customizable system for a variety of applications across multiple domains including airborne, shipborne and land-based.

Always Aware

- » Wide-ranging tactical decision aids improve operator effectiveness and allow prompt operator response times.
- » Integrated multi-sensor suite provides mission crews with "all weather, day and night target identification and classification capability".
- » An operator machine interface developed with extensive mission crew involvement provides operators with the ability to respond effectively to real world mission requirements.
- » A complete suite of training devices, customized to end user needs, ensures operation and maintenance personnel are quickly prepared to use and support the system throughout its life cycle, starting from its initial deployment.

Operationally Effective

- » Comprehensive sensor data fusion minimizes manual target correlation and reduces operator workload.
- » Integrated display of tactical and sensor data enables operators to focus on the higher level tactical picture and improves overall situational awareness.
- » Layered information display allows operators to focus on critical mission parameters by eliminating non essential data from the tactical picture.

Fully Supported

- » In-production, aircraft-qualified mission subsystems provide proven performance and ensure operational availability and capability.
- » Maintenance concepts support end user requirements and budgets.
- » Mission preparation tools support pre-flight load of critical mission information and digital maps.
- » Post mission data recording tools enable tactical reconstruction for operator debriefing and instruction, and facilitate transfer of key mission data to intelligence and command stakeholders.
- » Small crew SAR helicopters mission systems are implemented using a single mission computer and mission data storage device. The mission computer provides display output to two cockpit displays for pilot and non flying pilot situational awareness.

Additional capabilities can be provided by integrating adjunct processing units with the primary processing elements through the Ethernet network provided by the mission computer.

DESIGNED BY OPERATORS, FOR OPERATORS

Features
- » Mission-oriented, operator-centric interface using fully programmable controls and displays
- » Operator machine interfaces and toolsets designed based on integrated human factors engineering studies and mission-tailored operational aircrew inputs
- » A fully integrated tactical navigation and sensor data processing component available to optimize mission specific tasks
- » Unique crew configurations and custom operating procedures supported across multiple air vehicle configurations
- » A wide range of digital map formats supported to optimize situational

AIRBORNE SYSTEMS PROVIDER TO THE WORLD

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Mission Systems

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