Cost-effective, flexible avionics for today’s missions and future challenges.

Flight2™ integrated avionics system

UPGRADES FOR LEGACY C-130s

Rockwell Collins
Building trust every day
We understand the challenges C-130 operators are facing today – from accessing civil airspace to meeting mission requirements to increasing obsolescence issues. Our Flight2™ integrated avionics system meets those challenges. An innovative, low-risk avionics solution based on industry standards, Flight2 meets your C-130 civil airspace and military mission requirements while minimizing development schedule and cost.

A proven track record

With over 900 fixed-wing aircraft upgraded to date, Flight2 leads the market for fixed-wing military cockpit upgrades. From C-130s, P-3s, C/KC-135s, KC-10s, E-2Cs, C-2As and E-3s, we’re a proven partner to meet your current and future airspace requirements while improving mission capability and reducing obsolescence issues. Today, more than 190 international and USAF C-130 aircraft are modified or are being modified with Flight2 avionics. In fact, Flight2 avionics have been installed on more C-130s than any other avionics system in the world.
Off-the-shelf configurations to meet your mission needs.

Flight2 is designed as a complete avionics solution with a choice of off-the-shelf configurations available today to meet your C-130 avionics needs. It’s more than an avionics system – it’s a product line approach that enables the next generation of integrated avionics capabilities. The system includes planned growth and technology insertions to prevent obsolescence for the operational life of your aircraft.

Each configuration has a common core function to ensure access to civil airspace while also improving mission capabilities, reducing obsolescence issues and minimizing aircraft downtime. Our Flight2 configurations easily integrate new displays and avionics with your aircraft’s existing analog and/or digital sensors, radios, autopilots and other systems. You can choose configurations as a stand-alone upgrade or as a starting point to add capabilities as mission needs grow and budgets allow.

Whether you need to meet essential Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) requirements while retaining applicable legacy sensors, or you need to meet CNS/ATM and mission requirements with a suite of new sensors to eliminate obsolescence – we have a proven configuration for you.

**Mission requirements**
- Air drops
- CARP/HARP
- Mission patterns
- Self-contained approaches
- NVIS
- IFF
- HUD/EVS

**CNS/ATM**
- FM immunity
- 8.33 kHz VHF
- RNP 0.3
- GPS approaches
- Enhanced Mode S surveillance
- Data-link services
- ADS-B Out

**Obsolescence**
- Engine instruments
- Flight instruments
- Air data system
- GPS
- Autopilot
- Comm/nav radios
An avionics solution for today’s missions and future challenges.

Challenge
Almost all C-130 users want to customize their avionics solutions, but the customization process entails large, often unaffordable non-recurring costs. Our Flight2 mission mobility application (MMA) system provides a cost-effective and flexible solution for C-130 customers with smaller fleets and budgets.

Solution
Flight2 MMA delivers a superset of functions and equipment within a single hardware and software integrated solution to meet the requirements of most C-130 users and C-130 models. With Flight2 MMA, you can select civil and military options that are enabled by a configurable software file. All Flight2 MMA configurations meet CNS/ATM requirements and fundamental military needs (airdrop, search and rescue (SAR) patterns, tactical/remote landings, refueling, etc.). The system is MIL-HDBK-516B military airworthiness certified, with all required analyses and artifacts processes available for reuse.

Flight2 mission mobility applications
From delivering vital supplies and troops in hostile environments to search and rescue operations and humanitarian missions, you demand a lot from your C-130 fleet. Our Flight2 MMA upgrades enable your aircraft to perform demanding military missions without compromising reliability or affordability, while complying with civil mandates.
Whether you need to meet basic CNS/ATM civil airspace requirements or you’re modifying your C-130 to meet the most challenging of mission requirements, such as Head-Up Displays (HUDs), Enhanced Vision System (EVS) and Link 16, our Flight2 MMA system can provide the right solution for you – all while minimizing development schedule and cost.

The Flight2 MMA system for C-130 upgrades provides a true open-system architecture designed for ease of C-130 upgrades with growth for future CNS/ATM and operational requirements. The system:

- Meets all international civil regulations for airspace access with growth to meet future requirements
- Is currently in operation on C-130s today
- Is provided by a proven avionics supplier and industry leader in both commercial and military marketplaces
- Is at the lowest reasonable cost and schedule
- Significantly reduces obsolescence
- Causes no loss or degradation of existing capabilities

The result is a highly efficient, adaptable, proven cockpit design capable of supporting mission requirements, both now and in the future.

Meets all international civil regulations for airspace access:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Mandates</th>
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<tr>
<td>8.33 kHz V/UHF</td>
<td>Europe mandate by 2018 for all airspace</td>
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<tr>
<td>Mode S Enhanced Surveillance</td>
<td>Europe mandates by country today; Singapore</td>
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<tr>
<td>ADS-B Out</td>
<td>USA/Europe mandate 2020; Singapore/Australia today</td>
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<tr>
<td>FANS 1/A, Link 2000+</td>
<td>Europe mandate above FL290 since 2011</td>
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<tr>
<td>P-RNAV (RNP-1) Precision Area Navigation</td>
<td>Europe mandates by country today</td>
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Typical C-130 avionics modification project schedule

### Prototype aircraft

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<tr>
<th>MONTH</th>
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</table>

- Requirements/system design
- A/C installation design
- Prototype #1 A/C hardware
- Prototype #1 installation, ground/flight test
- Flight crew, maintenance and installation training
- A/C #2 install, integration and test

### Production aircraft

- A/C #3 through xx installation and logistics support

### Ready-to-go solutions

- Capture requirements
  - Software
  - Interfaces
  - Operational
- Software/hardware design
  - Rockwell Collins design team
  - Operational working groups
- Prototype kit
  - Off-the-shelf avionics
  - Software tailoring A/R
  - A-kit design and manufacture
  - Potential offset
- Lab/bench test
  - Software Formal Qualification Test (FQT)
  - Witness FQT
- Aircraft installation
  - On-site Rockwell Collins field service engineering (FSE)
  - On-site install support
  - Possible offset
- Electromagnetic Interference (EMI), ground and flight tests
  - On-site Rockwell Collins engineering
  - On-site install support
  - Potential offset
  - Electronic load analysis
  - Antenna co-site analysis

### Avionics manufacture
- OEM reliability
- OEM sustainability
- Potential offset

### Logistics
- Spares and provisioning services
- Training
- Technical publications

### Training and simulation
- Simulation and training solution (STS)
- Instructional system design
- Virtual Avionics Procedures Trainer (VAPT)
  - Simulation solutions from desktop to full-flight simulation

### FlexForce\textsuperscript{SM} life cycle service solutions
- Contract logistics support
- Performance-based logistics solutions
- Obsolescence management mitigation
Around the clock across 40 countries, more than 2,000 air and ground platforms are operating with Rockwell Collins electronics. Our FlexForce life cycle service solutions provide the tailored support that helps keep those platforms mission ready. From advanced communications to fully integrated flight decks, FlexForce enhances operational availability while minimizing mission risk and life-cycle cost.

Ensure timely avionics training/retraining while reducing cost

Key benefits
- Reduced operational costs
- High-fidelity training early in upgrade program
- Software based for ease of reconfiguration
- Scalable to multiple aircraft platforms
- Flexible to enable future software upgrades without hardware modifications

Key features
- Wireless instructor operator station
- Modular system hardware configuration for portability
- Configurable, expandable, simulator-common software
- Virtual control display unit and multi-functional display formats

Support and services
For all of the Flight2 configurations described in this document, we can also provide complete aircraft A-Kit design, manufacturing and installation. Additionally, we can provide operator “differences” training, maintenance training, equipment repair services and database/subscription services.
Our commitment to you

We communicate with our customers regularly to fully understand their mission requirements, and we test our systems in a System Integration Lab (SIL) throughout a program’s life cycle to identify and minimize problems during aircraft installation, ground test and flight test.

Our fully integrated and missionized Flight2 solutions provide cost-effective configuration options to address your CNS/ATM needs while improving mission capability, aircraft reliability and reducing sustainment costs. Our COTS and non-development item (NDI) equipment ensures civil airspace interoperability while meeting specialized military-only mission demands. Our proven avionics performance means your C-130 upgrade will be completed on time, at the lowest cost and with the lowest risk.

Building trust every day.

Rockwell Collins delivers innovative aviation and high-integrity solutions that transform commercial and government customers’ futures worldwide. Backed by a global network of service and support, we are deeply committed to putting our solutions to work for you, whenever and wherever you need us. In this way, working together, we build trust. Every day.

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