Legacy C-130 Cockpit Upgrade Solutions

John Kiernan
Lockheed Martin
Mission Systems and Training
(607-751-4375, john.kiernan@lmco.com)

INFORMATION CONTAINED IN THIS BRIEFING IS FOR REFERENCE PURPOSES ONLY AND DOES NOT NECESSARILY REFLECT THE LATEST AIRCRAFT MODEL(S) OR CONFIGURATION(S). THIS PRESENTATION IS FOR INFORMATION ONLY. NO US GOVERNMENT COMMITMENT TO SELL, LOAN, LEASE, CO-DEVELOP OR CO-PRODUCE DEFENSE ARTICLES OR SERVICES IS IMPLIED OR INTENDED.

Copyright 2013, Lockheed Martin Corporation. All rights reserved.
PROGRAM: C-130T Avionics Obsolescence Upgrade Program

CUSTOMER: PMA-207

PROGRAM OBJECTIVE: Provide an integrated cockpit solution (mix of GFE/CFE) to address DMS, CNS/ATM and Future Growth

EMD Contract Scope: LM MST provides Cockpit “Kit” to NAVAIR
- MST “Kit” SW Integrates 19 GFE subsystems w/ 20 LM provided WRAs
- Develop full lab capability w/ Cockpit Mock-Up
- Training Curriculum
- 9 Kits (2 lab, 2 trainers, 3 Flt Tst AC, 2 LRIP)
- Production options to follow

Copyright 2013, Lockheed Martin Corporation. All rights reserved.
Designed for Retrofit Market:
Small “foot print” - no Mission Computer, modular HW configuration
• Qualified for severe environments, no “cocooning” required (MIL-STD-810G, 704A, 461F)

Scalable to address multi-mission:
• ARINC-653 SW partitioned and FACE SW provide maximum SW modularity
• Display / CDU Formats designed for easy reconfiguration
• Cockpit configuration is table driven
• Customer can own “look/feel” and configuration of the cockpit
• ARINC-739 CDU supports 3rd party integration

NDI HW Baseline offers low risk solution:
• All HW fully qualified, no HW development
• Maximized reuse from existing C-130H and C-130J programs
• SW is abstracted from HW to address DMS impacts

Designed for portability:
• Core of cockpit is being used for Helicopter and Tilt-Rotor Applications

Full CNS/ATM compliance for world wide airspace access:
• RNP - 0.3 per DO-236 and Navy FRD
• LPV (precision GPS) Approaches, WAAS/SAASM GPS
• All ARINC-424 leg types for future growth
• Supports both DAFIF and Jepp Nav Data concurrently
• ADS-B, EHS Mode S, and Civil DL (ACARS/CPDLC)
• Seamless Civil/Tactical flight plans

Copyright 2013, Lockheed Martin Corporation. All rights reserved.
**LM Value Proposition**

**FACE = Future Airborne Capability Environment**

**Benefits:**
- Designed for Full FACE™ conformance
  - Allows 3rd Party Integration
  - Portability of applications
  - Isolation of SW from HW reducing DMS impacts
- First Avionics solution fully built on FACE architecture
- No Proprietary Interfaces
- ARINC-653 SW Partitions
- ARINC-739 CDU
- Customer Can own formats

**Real World Example**

- Portrait to Landscape display – same core SW/HW
- Added Bezel control vice panels
- All new formats
- New CDU – same SW core different GUI
QUESTIONS