REDAC / NAS Ops

Flight Deck Data Exchange Requirements (FD DER)

BLI Number: A11.r

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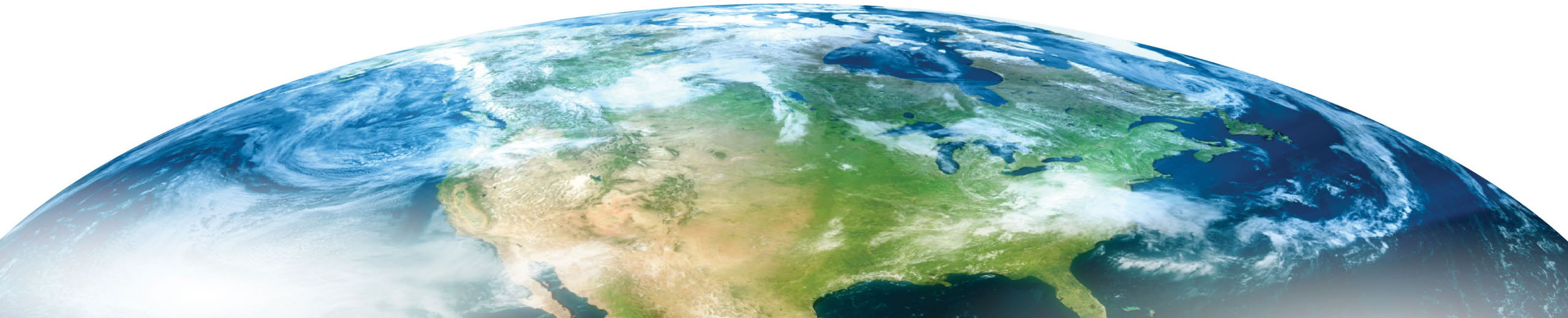
Review of FY 2020 - 2023 Proposed Portfolio



FD DER Overview

What are the benefits to the FAA

- Enable enhanced flight deck data exchange capabilities by identifying security management strategies required to mitigate potential threats and vulnerabilities around Electronic Flight Bag (EFB), Aircraft Interface Display (AID), and Internet Protocol (IP) Data Link, with additional avionics to be included in future phases. The air/ground data exchange capabilities will enable variety of flight deck applications that are expected to provide improvements to air traffic management and operations, such as Instrument Flight Rule (IFR) clearance delivery, trajectory negotiation.

What determines program success

- Ensure data exchange security to support future connected aircraft concept with its initial phase focusing on three primary components – EFB, AID, and IP Data Link
- Provide security management recommendations for the future connected aircraft concept

FD DER
Program Support

People:

- Project Manager: Nouri Ghazavi
- Project Team: Mosaic ATM and Honeywell

Laboratories:

- The program will determine the need for laboratory, e.g., penetration testing, and identify a suitable environment as the program moves forward.

FD DER – Accomplishments in Current FY

- Completed assessment current and emerging flight deck information services technologies and architecture
  - Developed air/ground data interface alternatives technical report

- Conducted Cybersecurity risk assessment on EFB and AID, and flight deck IP Data Link
  - Developed cybersecurity risk assessment reports on
    1. EFB and AID,
    2. flight deck IP Data Link technologies and architecture

Anticipated Research in FY21

Planned Research Activities

- Expand research on flight deck information services technology and architecture with an emphasis on safety critical data exchange

- Conduct analysis on data exchange security of safety critical data onboard the aircraft information avionics/systems with a focus on EFB, AID, and IP data link

Expected research Products

- Cybersecurity assessments report and recommendations for security management/ protection around EFBs, AIDs, and IP Data Link to support safety critical data application

Anticipated Research in FY22

Planned Research Activities

- FD DER will expand research scope to include additional avionics and integrated flight deck components required to enable secure connected aircraft. This may include but not limited to systems in aircraft control domain such as Flight Management System (FMS).

Expected research Products

- Cybersecurity risks assessment on flight-critical information avionics including Flight Management System (FMS).

FD DER

Research Requirements

This program will address cybersecurity concerns around avionics and onboard IP Data Link required to enable connected aircraft concept and enhance Collaborative Decision Making (CDM) between flight deck and ground operations. The program will conduct cybersecurity assessment and evaluation exercises to identify risks and determine appropriate mitigation strategy. The findings of this research will serve as recommendations to support development of future standards and policies for connected aircraft.

Outputs/Outcomes

- Cybersecurity risks assessment reports and recommendations for security management around EFBs, AIDs, and IP Data Link, as well as other flight-critical avionics required to enable connected aircraft

FY 2022 Planned Research

- Cybersecurity risk assessments of avionics and aircraft systems in Aircraft Control domain and Airline Information Services domain such as FMS and aircraft maintenance system

- Develop a prototype and conduct lab exercises to evaluate security management strategy identified through the cybersecurity risks assessment exercise

Out Year Funding Requirements

	FY20	FY21	FY22
RE&D	$ 1.014M	$ 1.005M	$ 0.879M