

Balancing Air Traffic Modernization and Aircraft Capabilities to Optimize Operations

Defining an Air Transportation-centric Environment

Presented to: ICNS Conference

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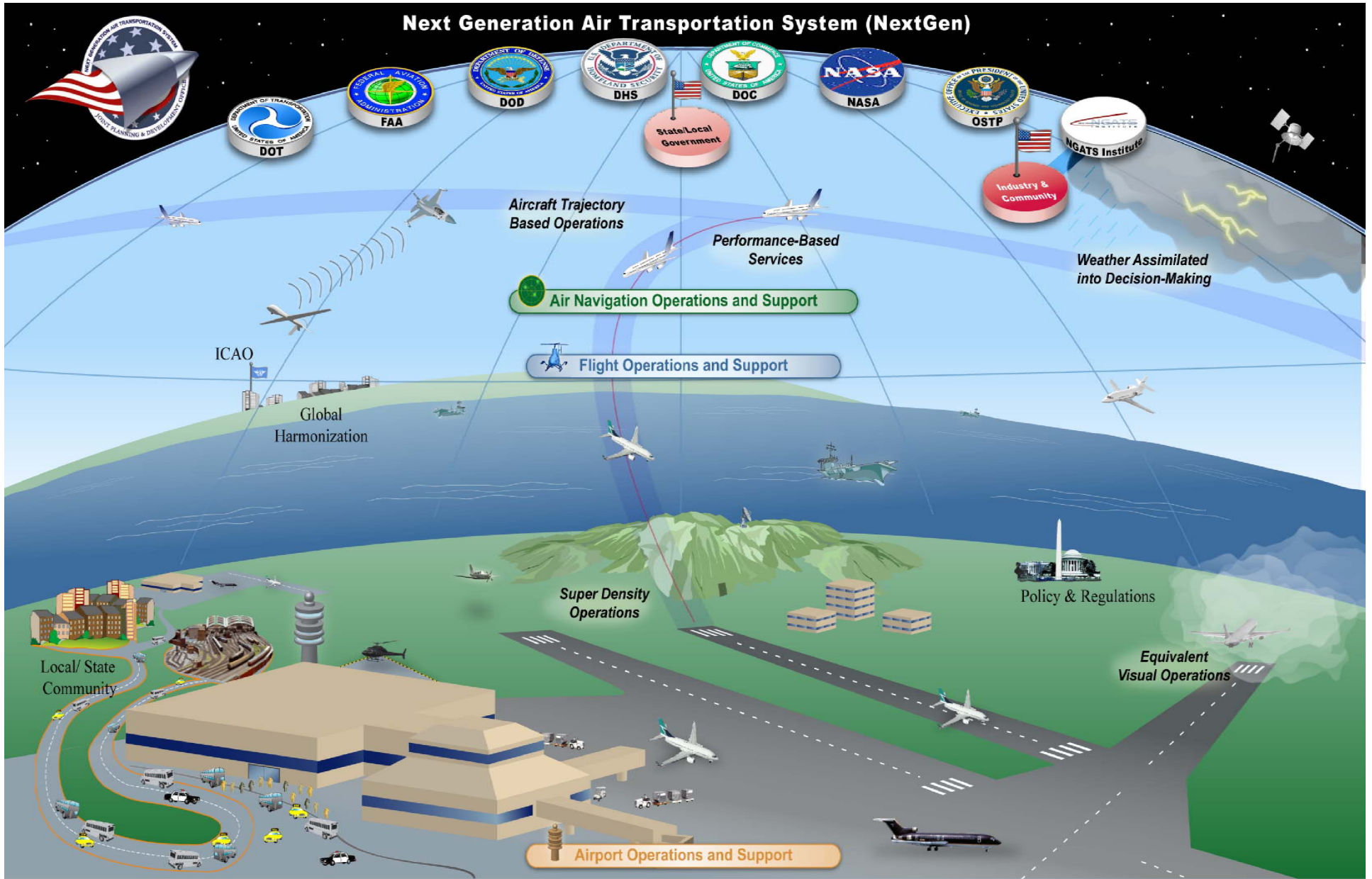
Date: May 7, 2008



Federal Aviation
Administration



Next Generation Air Transportation System (NextGen)



Flight Planning

Flight Data

Aeronautical Information

Enterprise Services

Geospatial Information

Communication

Performance Metrics

Environment

Layered Adaptive Security

Surveillance

Position, Navigation, and Timing

Safety

Weather

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Net Centric Infrastructure Services

Network-Enabled Information Access

Updated 04/06/07, Version 1.1b

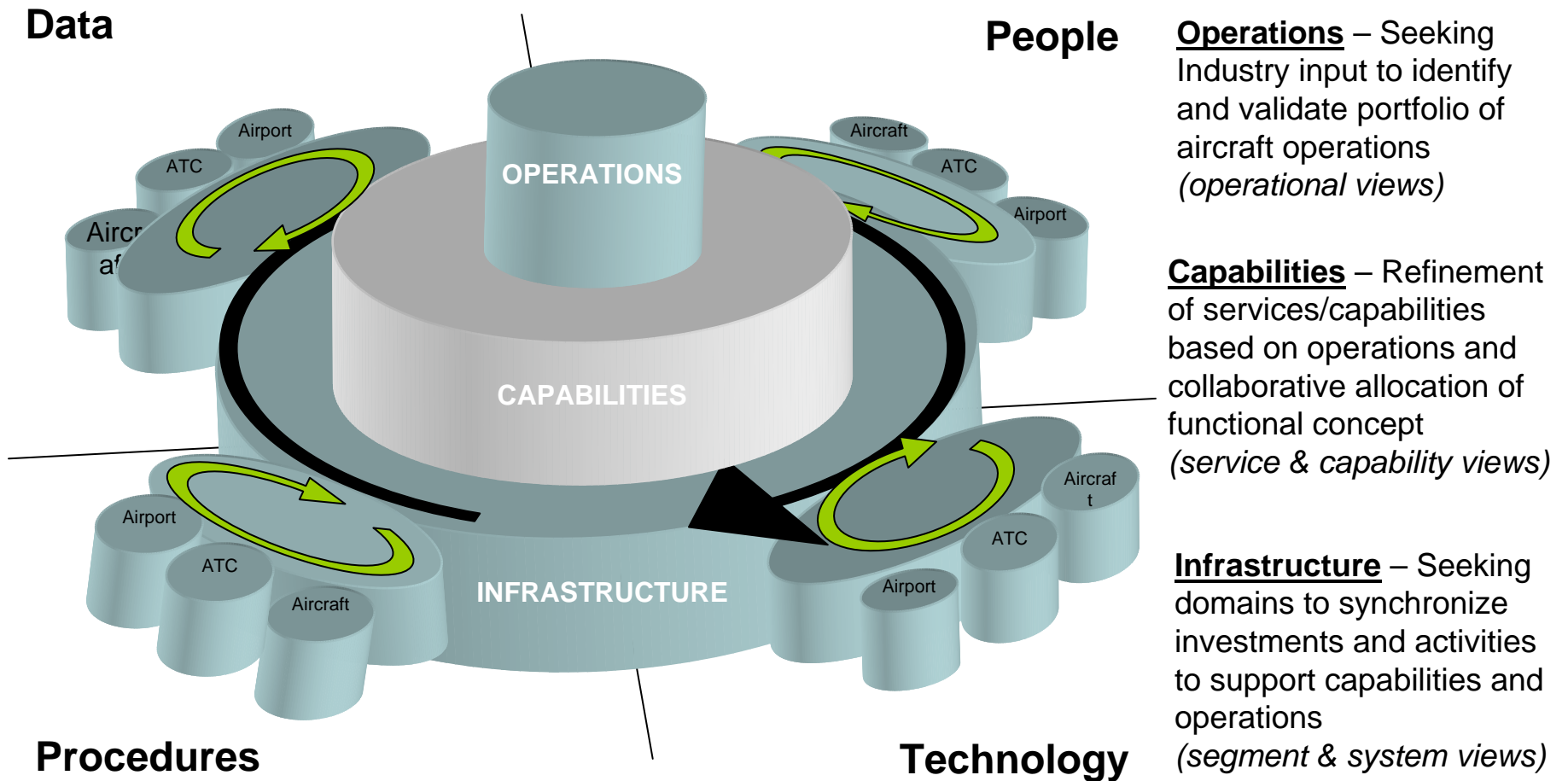
OEP is FAA's path to NextGen

- Defines framework for FAA's NextGen implementation plan
- Demonstrates how FAA's integration and implementation plan will be executed
- Aligns research and development with NextGen objectives
- Provides high-level "big picture" content
- Initiates industry collaboration process



www.faa.gov/about/office_org/headquarters_offices/ato/publications/oep/

Air-Ground Framework



Operations-Capabilities-Infrastructure

Operations - *Preliminary*

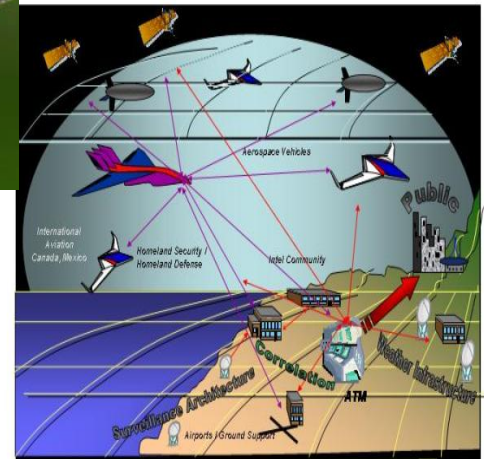
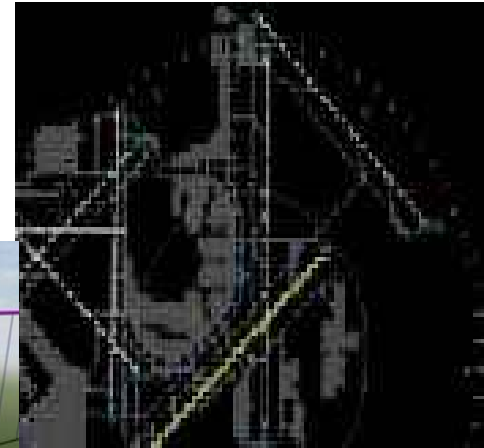
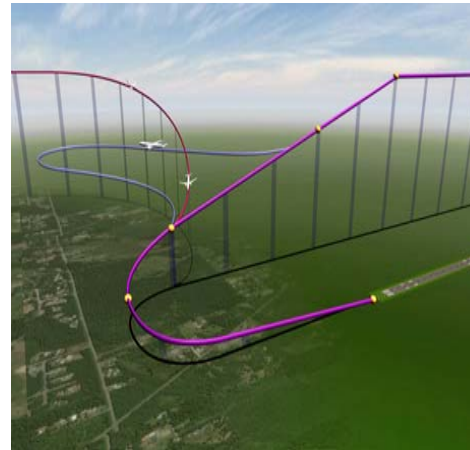
- Published Routes / Procedures (RNAV/RNP)
- Negotiated Trajectories
- Aircraft-assisted Spacing
- Delegated Separation
- Low visibility Approach, Departure, and Taxi



Operations-Capabilities-Infrastructure

Capabilities - *Preliminary*

- **System-Wide Information Management**
- **Trajectory-based Airspace**
- **Continuous Descent Approach Procedures**
- **Surface Traffic Management**
- **Operations to Closely Spaced Parallel Approaches**



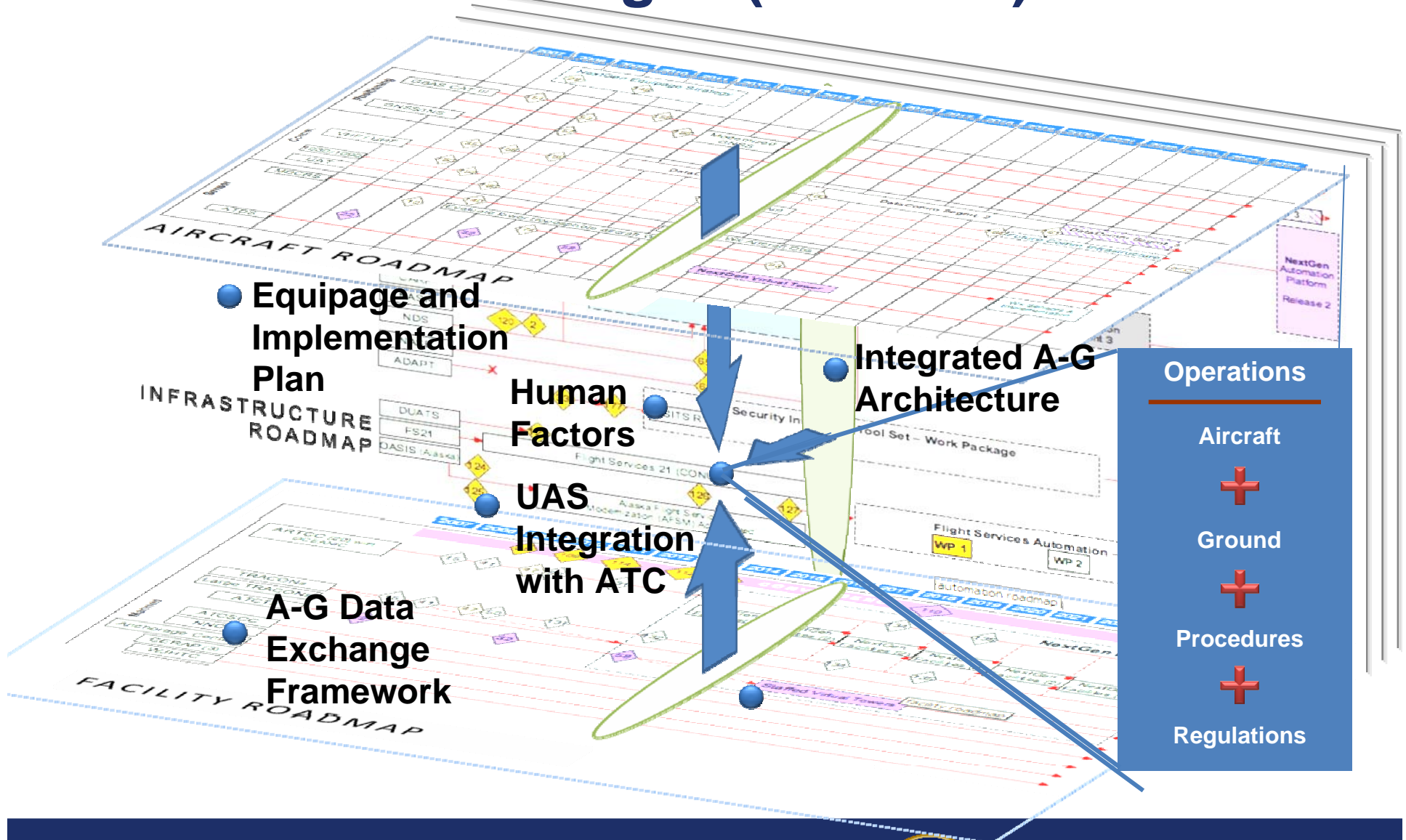
www.nas-architecture.faa.gov/nas/view_exec/home.cfm

Infrastructure - General Observations

- Trade space is small.
- The OI's can be grouped into three general builds:
 - Near and Mid-term Operations Platform
 - 1) early implementation, where the technology and standards are known;
 - 2) an upgrade of existing technology elements; and
 - Far-term Operations Platform
 - 3) new operational improvements where research is required.
- While the individual technologies may be mature, the operational requirements, functional allocation, and integration is generally missing.



Air-Ground Challenges (Notional)



Closing



- **Better management of a complex highly integrated design**
- **More cost effective acquisitions, certifications, and implementation programs**
- **More efficient operations**
- **Higher probability of performance goals being met**