

NextGen: the United States' Modernization Plan

For: ICAO ANI/WG Meeting

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Manager, America's Region



FAA's Role in International Harmonization

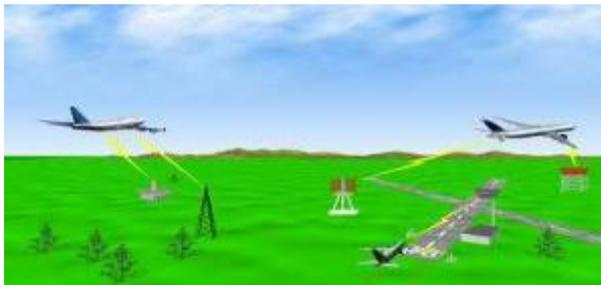
- Supported the creation of ASBUs
- Support of the GANP and block upgrades at the ICAO Assembly
 - ✦ We believe that the GANP offers a solid blueprint for global modernization
 - ✦ Block upgrades can be tailored to a country's needs, capabilities, and requirements
- Interoperability is key
- NextGen is the United States' upgrade plan



NextGen: *Delivering safety, sustainability, flexibility and economic viability*

Today's National Airspace System

- Ground-based Navigation and Surveillance
- Air Traffic Control Communications By Voice
- Disconnected Information Systems
- Cognitive-Based Air Traffic "Control"
- Fragmented Weather Forecasting
- Airport Operations Limited By Visibility Conditions
- Forensic Safety Systems
- Focus on major airports
- Inefficient routes & fuel consumption



NextGen

- Satellite-based Navigation and Surveillance
- Routine Information Sent Digitally
- Information More Readily Accessible
- Automation, Decision Support Tools
- Forecasts Embedded into Decisions
- Operations Continue Into Lower Visibility Conditions
- Prognostic Safety Systems
- Focus on metropolitan areas
- Shorter flight paths/ fuel saving procedures; alternative fuels; reduced noise



NextGen Program Organization

- Implementation Portfolios (8)

1. Improved Surface Operations
2. Improved Approaches and Low-Visibility Operations
3. Improved Multiple Runway Operations
4. On-Demand NAS Information
5. Collaborative Air Traffic Management
6. Separation Management
7. Time Based Flow Management
8. Performance Based Navigation

- Infrastructure (8)

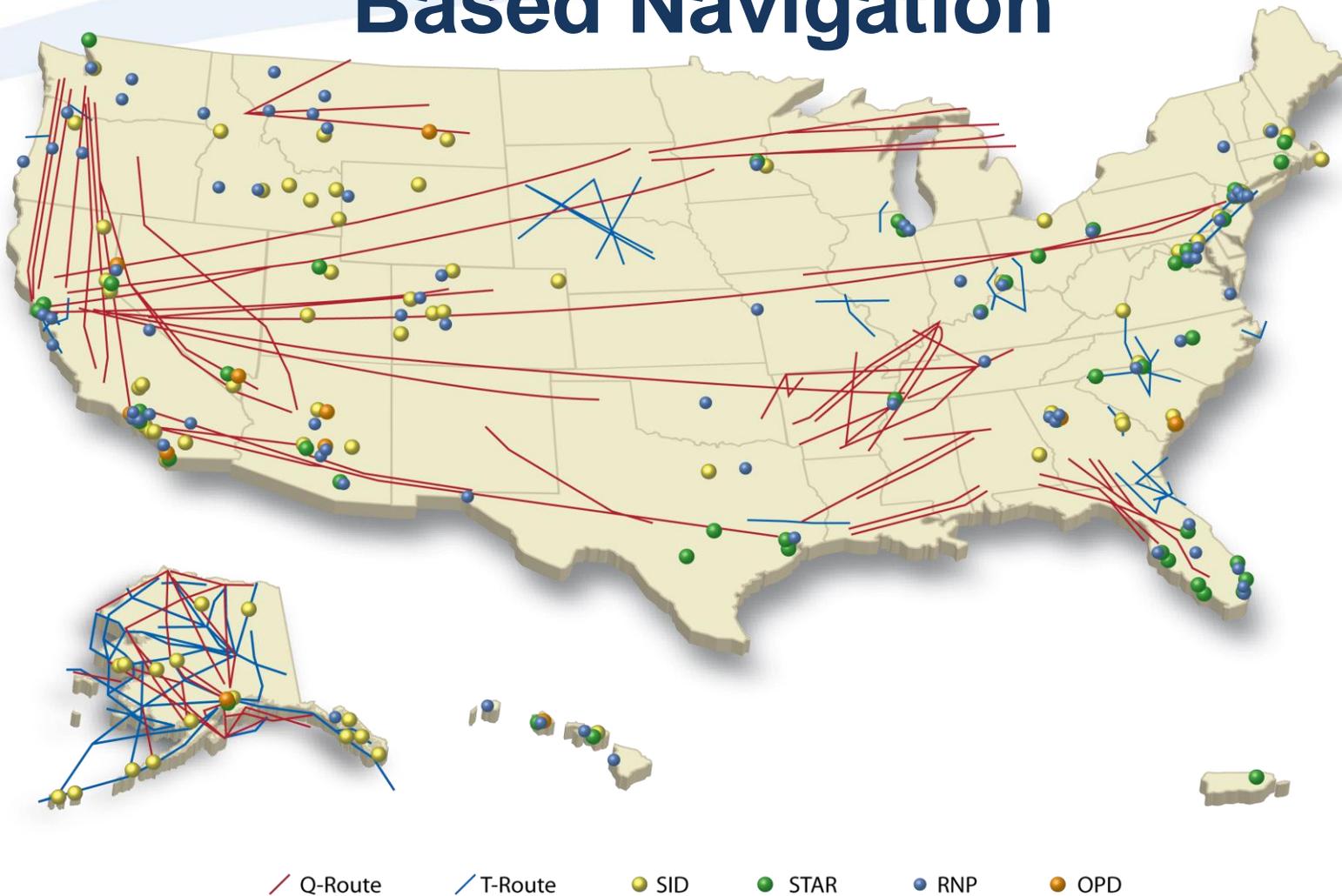
1. ADS-B
2. Data Communications
3. NAS Voice System (NVS)
4. SWIM
5. CATM
6. Demonstration
7. Future Facilities
8. Airport Improvement



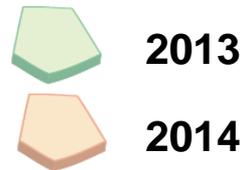
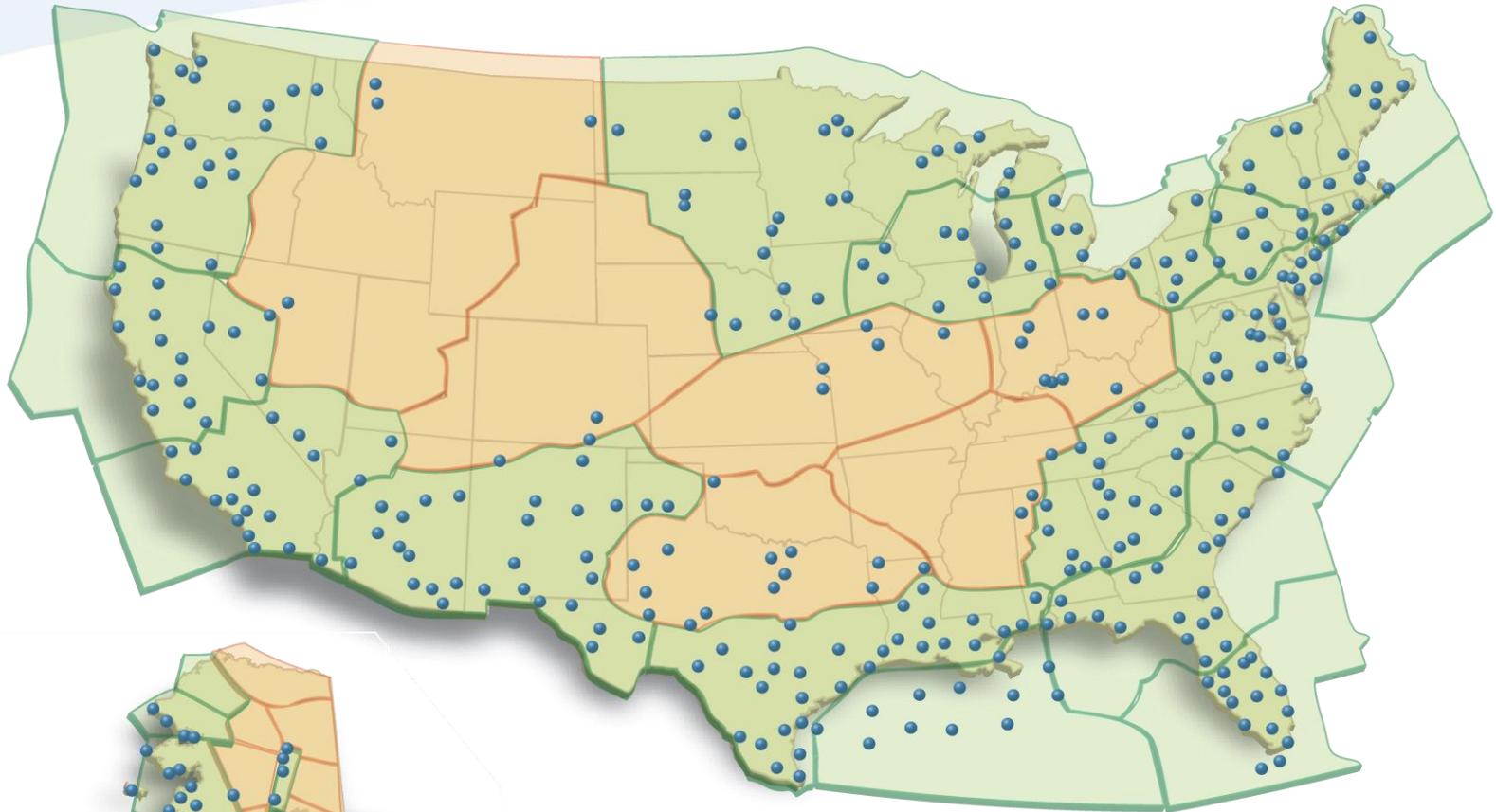
NextGen Implementation Portfolios

| NextGen Portfolios | ASBUs PIA (approximate) |
|---|--|
| Improved Surface Operations | PIA 1: Airport Operations |
| Improved Approaches and Low-Visibility Operations | PIA 1: Airport Operations |
| Improved Multiple Runway Operations | PIA 1: Airport Operations |
| On-Demand NAS Information | PIA 2: Globally Interoperable Systems and Data |
| Collaborative Air Traffic Management | PIA 3: Optimum Capacity and Flexible Flights |
| Separation Management | PIA 3: Optimum Capacity and Flexible Flights |
| Time Based Flow Management | PIA 4: Efficient Flight Paths |
| Performance Based Navigation | PIA 4: Efficient Flight Paths |

Increased Benefits of Performance Based Navigation



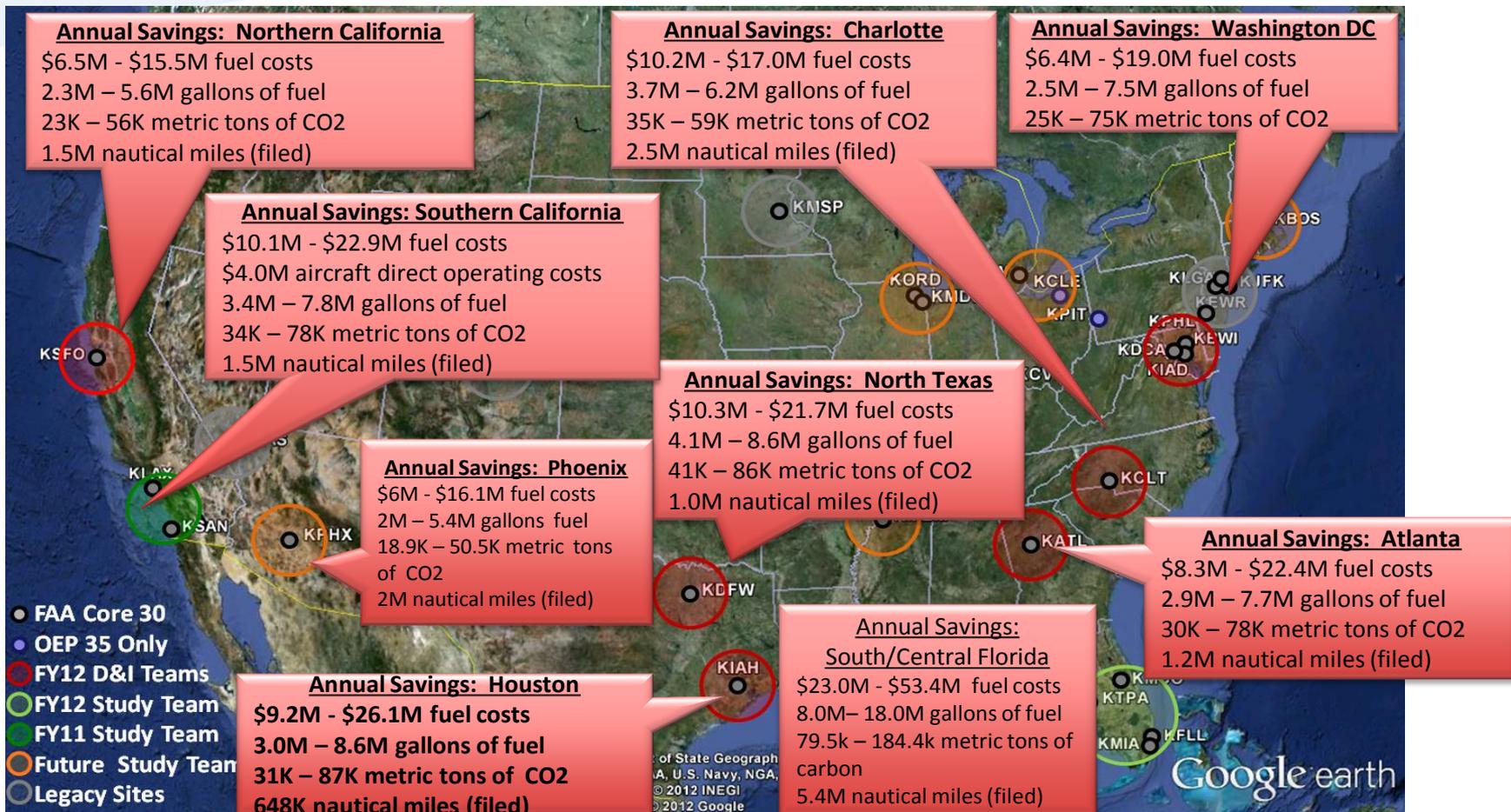
Expansion of ADS-B



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Metroplex Efforts

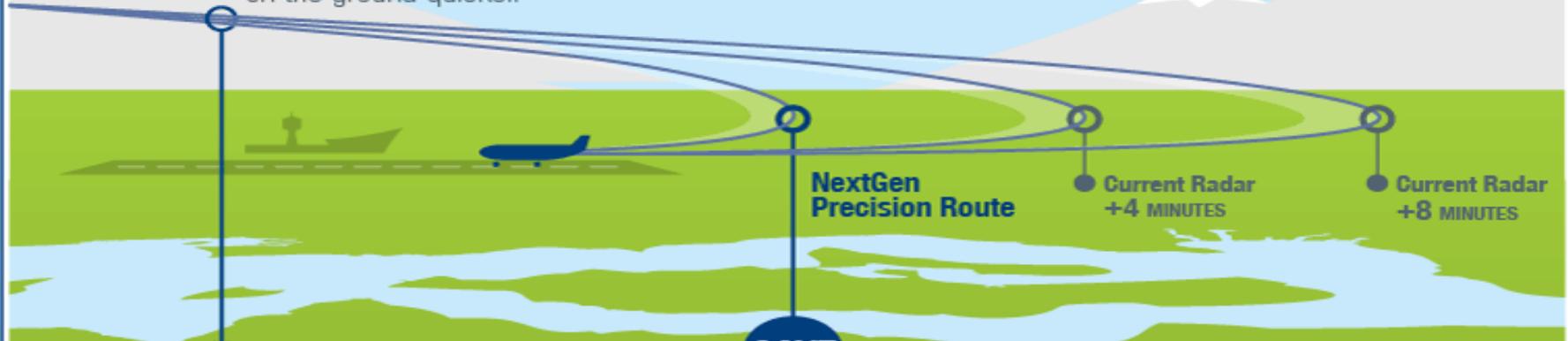


Greener Skies – Seattle

Greener Skies

SEA

New NextGen satellite procedures over Elliott Bay in Seattle are saving airlines money and fuel, and getting passengers on the ground quicker.



Alaska Airlines



154

FLIGHTS PER DAY

SAVE

:06
MINUTES
PER FLIGHT



2 BARRELS
PER FLIGHT



112,420

BARRELS ANNUALLY



ANNUAL SAVINGS POTENTIAL
\$13,490,400

www.faa.gov/nextgen

NextGEN

LPV & ADS-B: Improving General Aviation

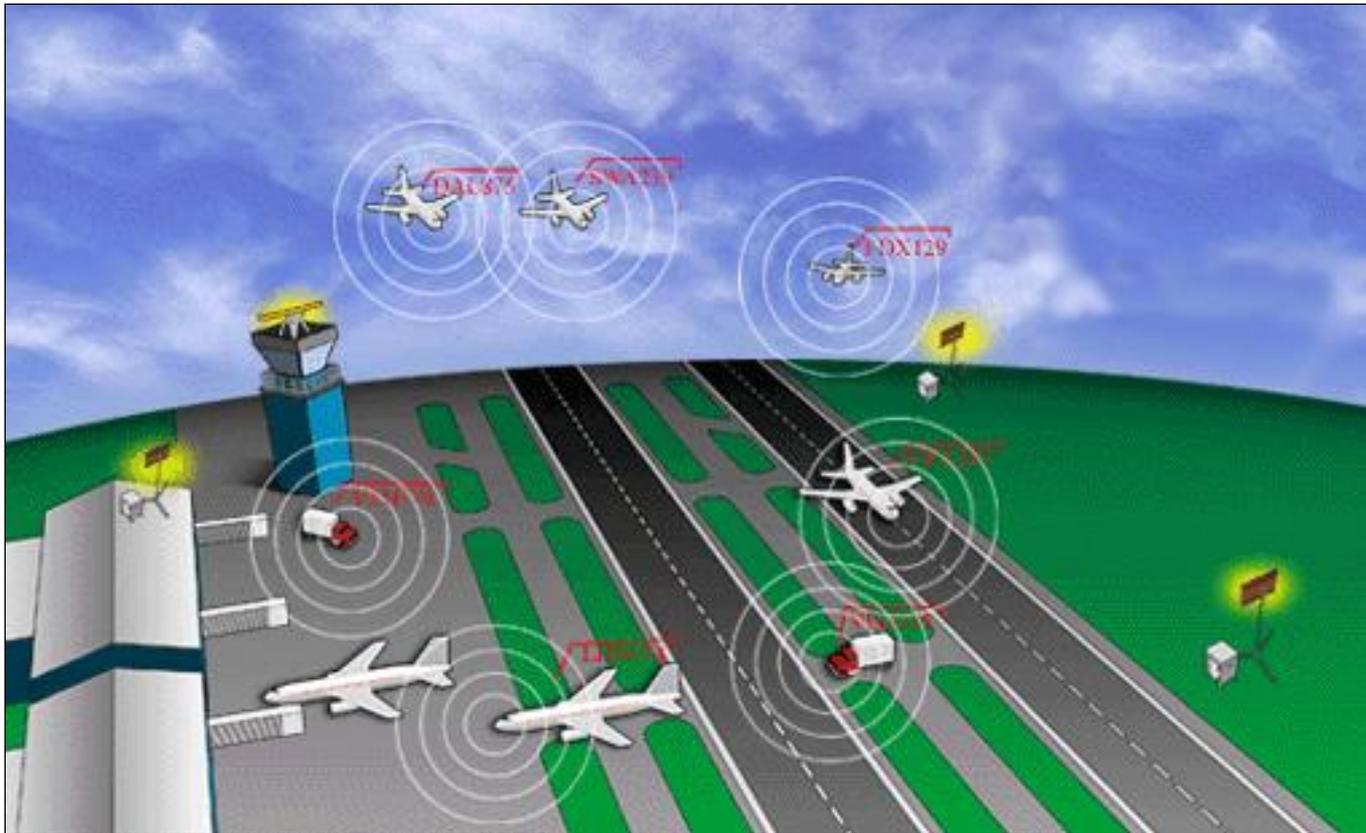


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Other Airport Improvements

More Efficient Ground Operations



Latest on Data Comm – Strategy Roadmap



Segment 1 Phase 1

- Tower Service

Tower
IOC

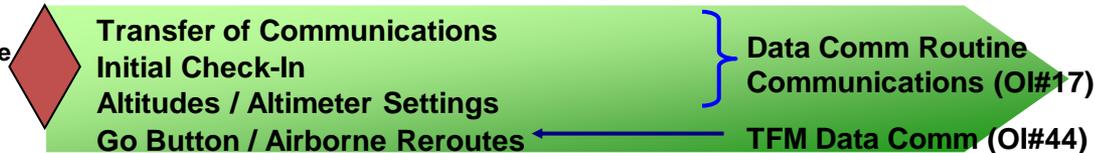


Segment 1 Phase 2

- Initial En Route Services

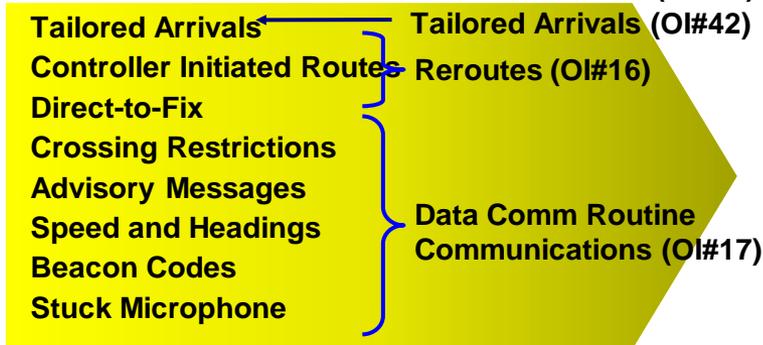
Initial Services
& Infrastructure

En Route
IOC



- Full En Route Services

Subsequent En
Route Capabilities



Segment 2

- Advanced Services

Segment 2
IOC

4D
Trajectories
D-TAXI

Avionics

FANS 1/A+ over VDL-2 transitioning to ATN Baseline 2

Ground System

FANS

ATN Baseline 2

Range for start of deployment based upon funding and Baseline 2 availability



FAA ASBU Block 0 Module Status

| ASBU Block 0 modules | Implemented Yes / No | Percentage, applicable/available | if Year of planned implementation |
|--|-------------------------|-------------------------------------|---|
| B0-25 | | | |
| Implementation of AIDC/OLDI | Yes | N/A | Includes existing domestic and international interfaces |
| Percentage of ATS units using AIDC/OLDI | 85 | 95 | Additional international interfaces to be determined based on adjacent ATS capability |
| Implementation of AMHS based on IP | Yes | 100% | 2006 |
| B0-30 | | | |
| Implementation of AIXM | No | N/A | Feb 2016 |
| Implementation of eAIP | Yes | N/A | |
| Implementation of Digital NOTAM | Yes | N/A | |
| Implementation of WGS-84 | No | N/A | Feb 2016 |
| Implementation of eTOD | No | N/A | Feb 2016 |
| Implementation of QMS for AIM | Yes | N/A | |
| B0-105 | | | |
| Implementation of SADIS 2G satellite broadcast and/or Secure SADIS FTP service | | N/A | |
| Implementation of WAFS Internet File Service (WIFS) | yes | 100% | 2010. Completed transition internationally June 2012 |



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On these slides we report progress on 10 of the Block 0 modules as mapped to NextGen. We are currently working to acquire progress reports on the remaining 8 modules in Block 0.



FAA ASBU Block 0 Module Status (cont)

| | | | |
|--|------|--|--|
| B0-10 | | | |
| Implementation of Flexible Use of Airspace | | N/A | |
| Percentage of time segregated airspaces are available for civil operations | | | |
| Percentage of PBN routes implemented | Yes | N/A | On-going |
| B0-80 | | | |
| Percentage of international aerodromes with Airport-CDM | No | The FAA participates in overall CDM | |
| Percentage of certified international aerodromes | N/A | | |
| B0-35 | | | |
| Implementation of ATFM | Yes | | |
| Percentage of ATS units using ATFM | | The FAA provides ATM at major hubs, facilities and TRACONS | |
| B0-65 | | | |
| Percentage of international airports with instrument runways provided with APV | 100% | | |
| B0-84 | | | |
| Percentage of international airports with ADS-B/MLAT | Yes | >33% | 35 airports completed by 2014; 9 additional airports completed by 2017 |
| B0-05 | | | |
| Percentage of international airports with CDO | yes | 27% | |
| Percentage of international airports with PBN STARs | Yes | 87% | |
| B0-20 | | | |
| Percentage of international airports with CCO | No | N/A | No. Climb Via not implemented yet |
| Percentage of international airports with PBN SIDs | Yes | 80% | |



NextGen Priorities based on ASBUs

(as of July 2013)

| PIA 1 | PIA 2 | PIA 3 | PIA 4 |
|--------------|--------------|-------------|-------------|
| B0-WAKE (8) | B1-SWIM (1) | B2-ACAS (6) | B0-CCO (3) |
| B0-RSEQ (12) | B1-FICE (2) | B1-ASEP (7) | B1-CDO (4) |
| B1-RSEQ (12) | B1-DAIM (10) | | B1-TBO (5) |
| B1-SURF (13) | B1-AMET (11) | | B1-RPAS (9) |
| B1-APTA (14) | | | |
| B1-RATS (15) | | | |

NextGen: America's Plan for Modernization

www.FAA.Gov/nextgen

2013 NextGen Implementation Plan now
available online



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