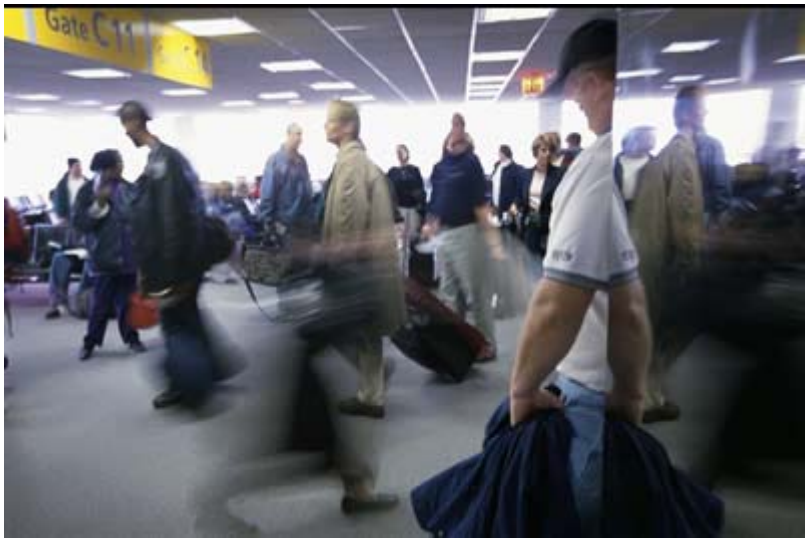
NGATS Overview

Our Air Transportation System: Crisis or Opportunity?

- System experiencing increasing volume and delays
- Stringent requirements must be met
  - Environment, safety, security
- Airlines are transforming in response to demand
- New business models are emerging

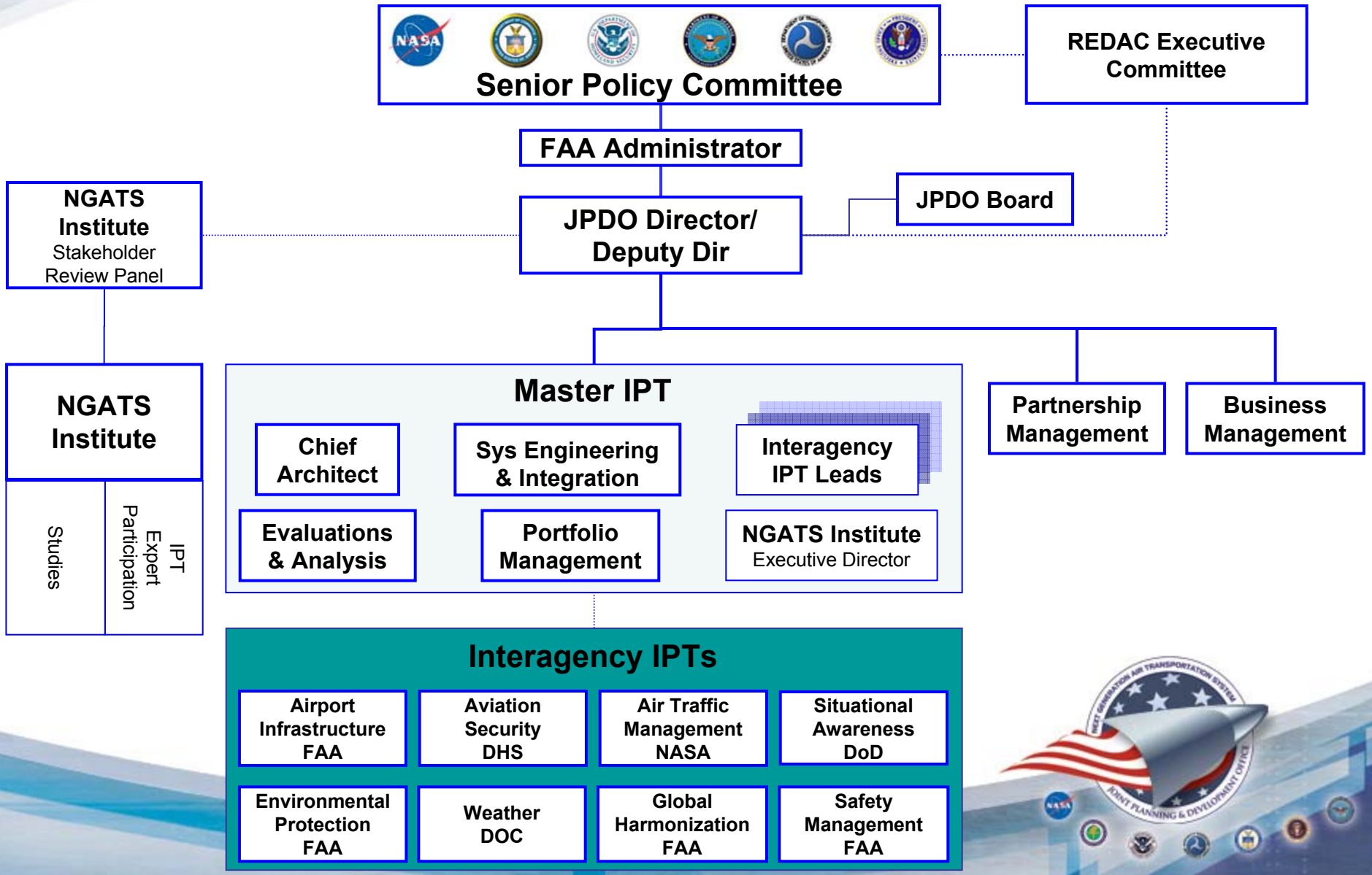


Integrated National Plan

Download .pdf version of the plan at www.jpdo.aero

- Establishes National Goals
- Sets context for Transformation
- Sets direction for Transformation (8 Transformational Strategies)
- Creates governance model for multi-agency cooperation
- Delivered to Congress in December, 2004
  - Cleared through the Administration
  - Signed by the Secretary of Transportation and the FAA Administrator

JPDO Organization



JPDO 3 Year Outlook

FY05

Achieve a clear, consistent vision for NGATS and articulate all critical institutional, policy and technology issues

Define Top-level Architecture and Roadmap

Assess Current Programs

Derive Institutional / Policy / Technology Issues & Alternatives

FY06

Achieve a clear, affordable roadmap to achieve NGATS

Refine Architecture and Roadmap

Define the Required Portfolio to Implement the Roadmap

Define Investment Options – Institutional, Policy and Technology Tradeoffs

FY07

Achieve a funded portfolio of aligned programs across agencies

Complete Architecture, Roadmap and Portfolio

Complete Program Planning of Portfolio Elements

Report on Performance

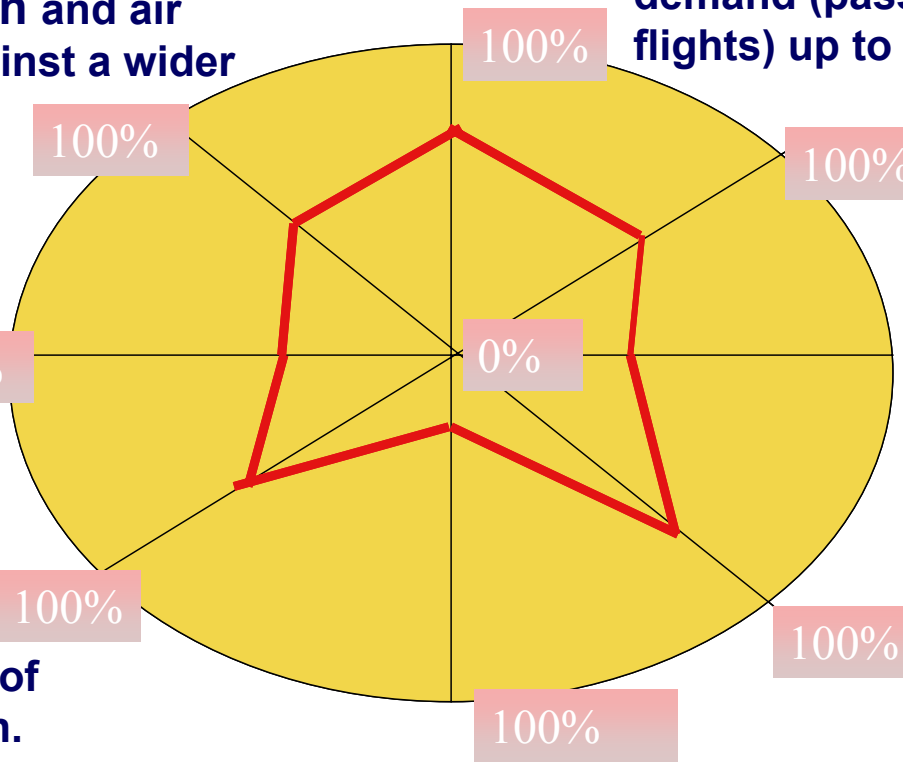
Transition from Planning to Implementation

How Will We Measure Success?

Balancing the merits of transformation.

Expand capacity to serve future demand (passengers, cargo, and flights) up to 3 times current levels.

Secure the nation and air transportation against a wider range of threats.



Ensure safety.

Curb to curb in less than thirty minutes.

Ensure our National Defense.

Reduce the cost of air transportation.

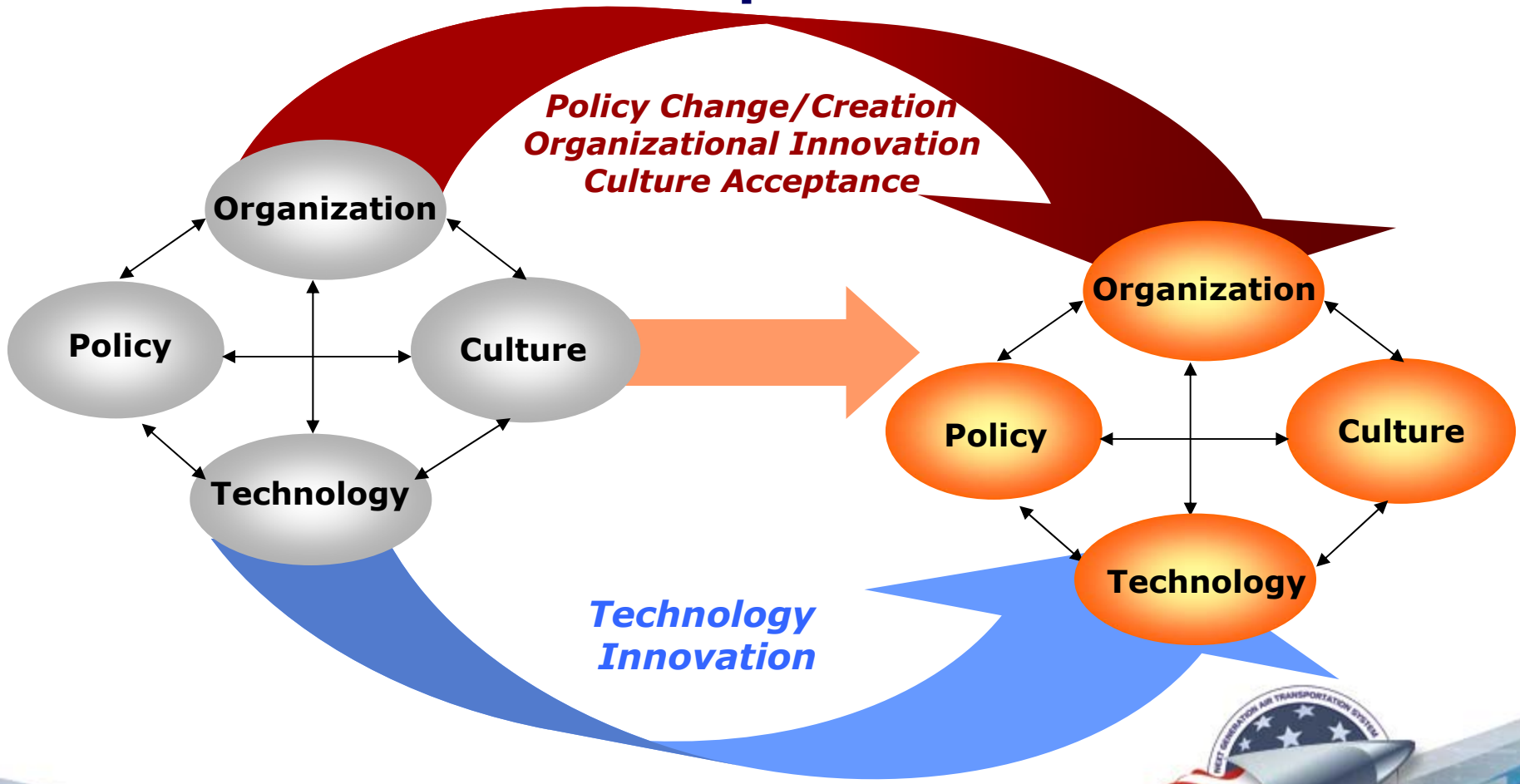
Protect the environment.

Retain national leadership of air transportation.

2025 Concept for "Airport Curb-to-Airport Curb"

- System-Wide Transformation
- Network-Enabled Information Access
- Performance-Based Services
- Layered, Adaptive Security
- Weather Assimilated into Decisions
- Broad-Area Precision Navigation
- Aircraft Trajectory-Based Operations
- "Equivalent Visual" Operations
- "Super Density" Operations

System-Wide Transformation
Requires Innovation Across All Lines of Development



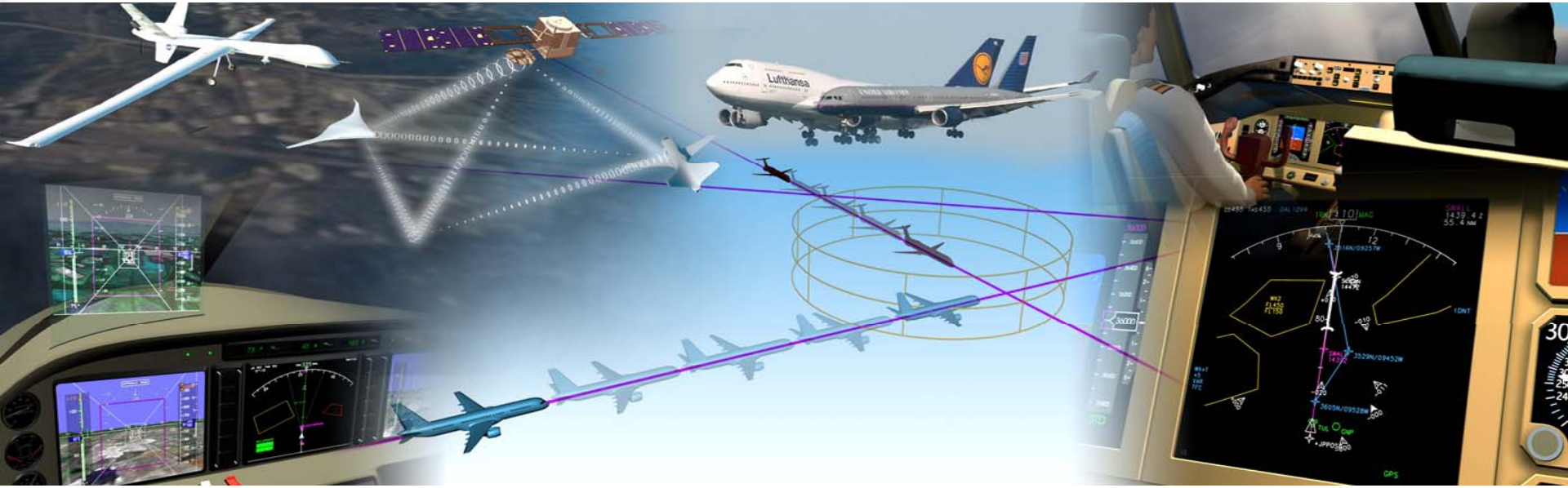
Network-Enabled Information Access

Global secure access, information handled according to "communities of interest"

- **Real-time info from private, commercial, & government sources**
- **Common awareness of day-to-day ops, events, crises**
- **Aircraft are additional "nodes" in network**
- **Integrated surveillance system across government**

Performance-Based Services

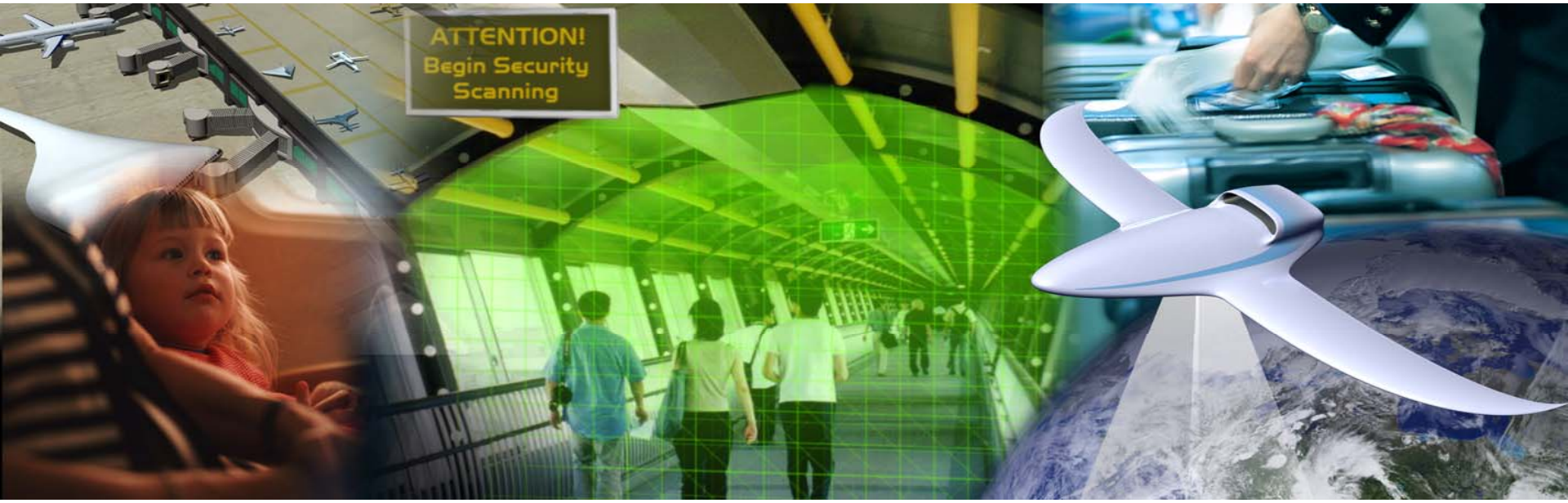
Service levels designed to capability performance



- **Multiple service levels aligned with specific user performance thresholds**
- **Services flexible to varying situations/needs**
- **Performance levels used to analyze risks (safety, security, environment)**
- **Service guarantees let users align performance with needs**

Layered, Adaptive Security

Move people/goods expeditiously from "curb-to-curb" while enhancing security



- **Adaptive Security for People, Cargo, Airports and Aircraft**
- **Risk Assessment-Driven Evaluation and Response**
- **Positive Identification for People and Cargo**
- **Preventive Threat Detection and Mitigation**

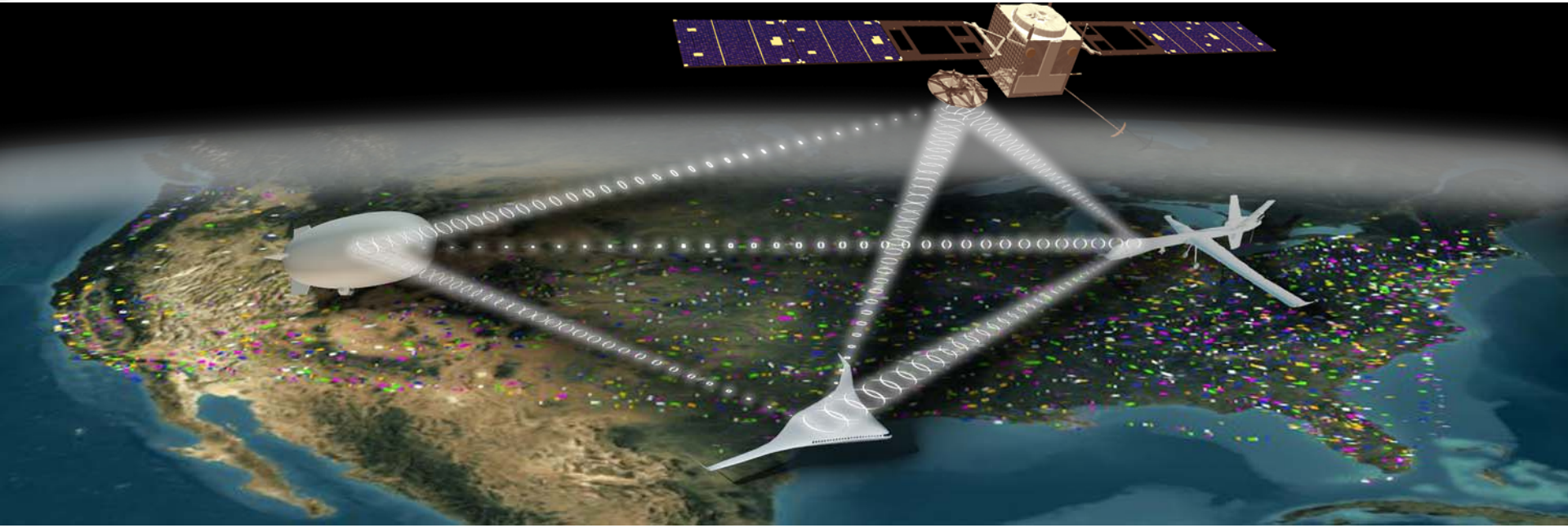
Weather Assimilated into Decisions

Common weather picture across NGATS

- **Fuse multiple weather observations and forecasts into single national database, dynamically update as needed**
- **Learning automation accounts for weather and its uncertainties in managing aircraft trajectories**
- **Identify hazardous weather real-time**

Broad-Area Precision Navigation

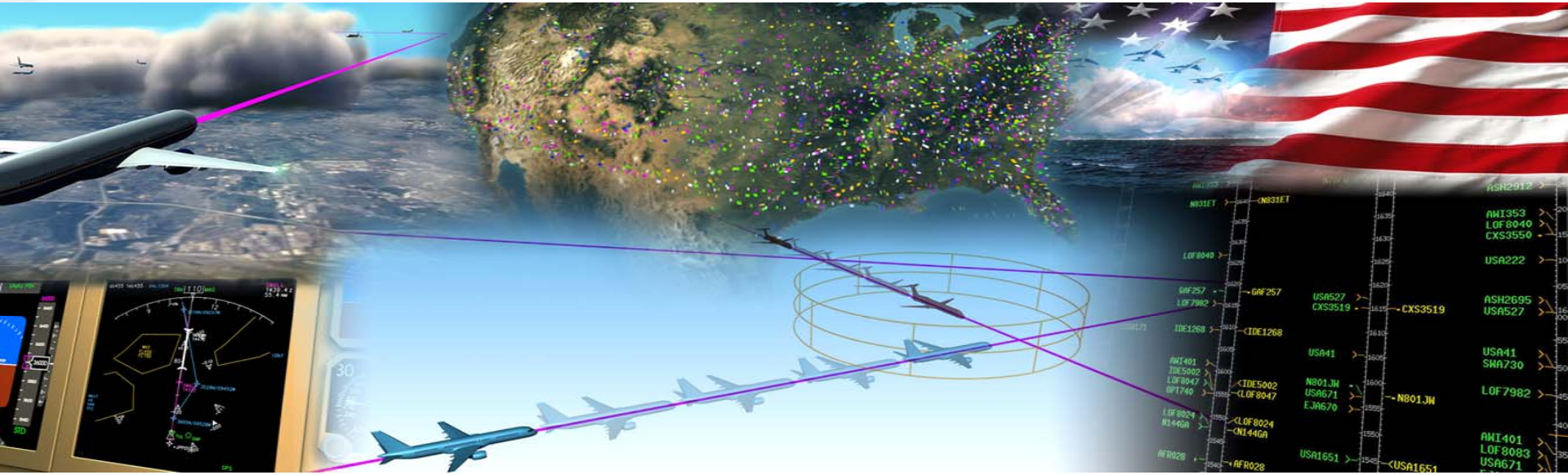
Large area precision enables flexibility



- **"Instrument landing" navigation precision with no ground-based navigation aids at any "air portal"**
- **Reliable service available over large areas**
- **Reduction / elimination of legacy systems and procedures**

Aircraft Trajectory-Based Operations

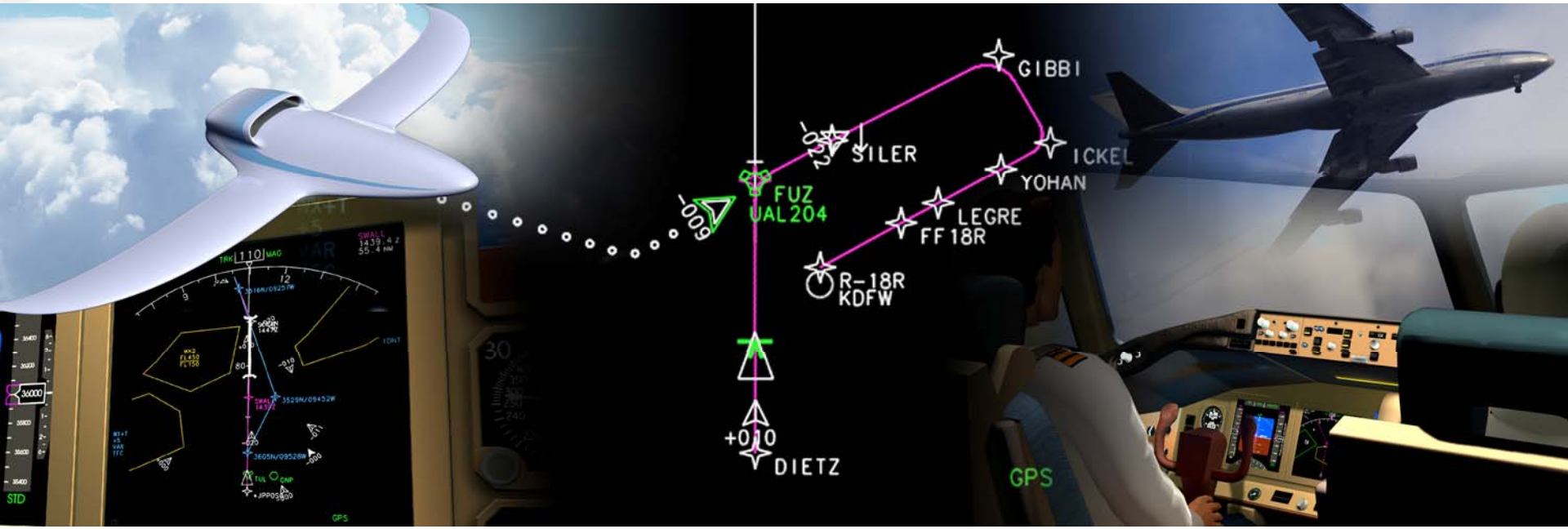
Adjust airspace configuration to meet user needs



- **Airspace configuration driven by: User needs, DoD/DHS requirements, safety, environment, overall efficiency**
- **4D trajectories are basis for planning and execution**
- **Machine-based trajectory analysis and separation assurance**
- **Users "contract" for airspace access and service**
- **Airspace reconfigurable during day of operations**

"Equivalent Visual" Operations

Increasing capacity from today's non-visual conditions



- **Allow ATM service provider to delegate "maintain separation" function to aircraft within established traffic flow or rules**
- **Service available at all "air portals", with appropriately capable "landside" (including security)**
- **More predictable operations at busy airports**

"Super Density" Operations

Peak performance for the busiest airports

- **Performance-based services, "equivalent visual" operations, and wake vortex information used to safely reduce separation distances between aircraft**
- **Airport "landside" (including security) sized accordingly**
- **Consistent with environmental requirements**

Capability Migration Roadmap

Next Generation Air Transportation System
Joint Planning and Development Office