

Joint Planning and Development Office

Fiscal Year 2011 Progress Report



Overview

The Joint Planning and Development Office (JPDO), along with its partners, made significant progress in Fiscal Year 2011 (FY11) on key efforts that are refining and enhancing the vision for the Next Generation Air Transportation System (NextGen). This report highlights these accomplishments and is intended to give a snapshot of the past year's activities.

As authorized under its founding legislation, the JPDO is charged with creating and coordinating the implementation of an integrated plan for NextGen by engaging and collaborating with multiple partner agencies, including the departments of Transportation (DOT), Defense (DOD), Homeland Security (DHS), and Commerce (DOC), as well as the National Aeronautics and Space Administration (NASA), the Federal Aviation Administration (FAA), and the White House Office of Science and Technology Policy (OSTP).

The JPDO's collaboration with a broad spectrum of partners to address specific, challenging, interagency problems relevant to both government and industry stakeholders resulted in products that established a new level of collaboration and planning for NextGen.

The JPDO continues to guide NextGen research that enables new concepts to support development and implementation while, at the same time, integrating industry expertise in moving NextGen forward. The JPDO senior leadership team ensures that these goals are achieved.

Currently, the JPDO's partner agencies are building beyond the foundational plans to accelerate and coordinate the implementation of NextGen. Therefore, it is important that the JPDO continues its transition from being a long-range research planning office to one that also manages the policy and programmatic challenges posed by implementation.

The JPDO started the year by defining activities that would best support a broad Federal view of NextGen. After considering past progress and the interests of NextGen partners and stakeholders, the JPDO's leadership team published the Fiscal Year 2011 Program Plan, which established the following three priority areas:

- Define the optimal NextGen 2025 given current data/conditions and risk analysis
- Champion the NextGen vision
- Accelerate the net-enabled aviation system operations to achieve greater data-sharing efficiencies

The following pages provide greater detail on how the JPDO and its partners advanced the NextGen vision during FY11 in keeping with these priorities.

Background

NextGen is a Congressionally mandated initiative to modernize the national air transportation system in order to reduce air traffic delays, save fuel, enhance safety, and mitigate the environmental impacts of aviation. It embraces satellite-based surveillance, digital communications, and performance-based navigation within a net-centric environment. NextGen also ensures that defense and security needs are met and that U.S. leadership in global aviation is retained. Ultimately, the return on NextGen's investments will yield positive benefits for our nation's economy.

The JPDO is responsible for developing a framework for NextGen planning and development, identifying and prioritizing key multi-agency concerns, and driving consensus in the development of investment choices and decisions. By executing its collaborative processes, the JPDO ensures efficient coordination between the Federal partners whose decisions impact NextGen, namely the FAA, NASA, DOD, DOT, DHS, and DOC. This ensures that these partners have the benefit of a multi-departmental perspective when developing future plans.

Working with its partners, the JPDO defines the capabilities that are enabling the national air transportation system to accommodate a wide range of customers. With its strategic approach, it is uniquely positioned to assess needs for research, technologies, and policies in a dynamically changing global environment. Because it is not a research performer, implementer, or operator, the JPDO's role is well suited to analyze a range of possible solutions.

The Joint Planning and Development Office

Provides a **national, big-picture perspective** that encompasses a broader Federal view than any one of the NextGen partner agencies.

Fosters collaboration among the Federal partners whose decisions impact NextGen.

Convenes the Senior Policy Committee (SPC), comprised of Cabinet-level Secretaries, to develop goals, align resources, and ensure that stakeholders are involved in decision making. This dialogue will help prevent duplication, and will **ensure NextGen systems will work with those of other Federal partners.**

Coordinates with the international community to ensure that NextGen will work seamlessly with other global aviation systems.

Report Documentation Page

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ACTIVITIES AND ACCOMPLISHMENTS

Define the optimal NextGen 2025 given current data/conditions and risk analysis
Prioritize required research and policy analysis to achieve that definition

TARGETED NEXTGEN CAPABILITIES FOR 2025 **In FY11, the JPDO created a document that presents the NextGen capabilities that are possible within a 2025 timeframe.**

The Targeted NextGen Capabilities for 2025 report provides a specific set of architecture recommendations, which not only consider the technical aspects of the NextGen tradespace, but the policy and organizational challenges as well. These recommendations are made to allow for stakeholder community and partner agency collaboration on the way forward for successful NextGen implementation.

The JPDO's original Integrated Work Plan (IWP), created through a structured Enterprise Architecture process, was a major milestone in capturing and organizing the full scope of the possible NextGen architectures. However, it was not risk-adjusted to ensure a feasible and optimal use of the community's resources. Through continued portfolio analysis and configuration management processes, which systematically explored the NextGen tradespace, a subset of the architecture that is most appropriate for the likely aviation transportation requirements of 2025 was identified. Today, this document is being distributed for community awareness and discussion.

The NextGen Targeted 2025 analysis started with the FAA NextGen Segment Implementation Plan (NSIP) Alpha and Bravo plans as baseline points, in addition to the JPDO's IWP. A number of alternative architectures, with increasing performance capabilities, levels of automation, and ground Air Traffic Management (ATM) sophistication, were developed. The architectures were assessed through coordinated analyses based on Concept of Operations (ConOps) simulations, policy assessments, architecture linkages, cost, and risk analysis. These activities were performed in collaboration with subject matter experts from across the aviation community – some of the same people who helped create the initial NextGen vision – and received more than 250 comments that were used to refine the system description.

The target architecture for 2025 was selected based on the best balance of benefits, costs, risks, and compatibility with the FAA's NSIP. This target definition will be used to advocate for activities needed to ensure that the most advanced, appropriate, and beneficial system is available to support the nation's economic growth, environmental goals, and homeland security needs by 2025. In addition, the

JPDO will continue to work with government partners and industry to advance innovations that will be needed beyond 2025 to help bring about the NextGen vision. Although the capabilities outlined in the Targeted NextGen Capabilities for 2025 report are a subset of the full NextGen vision, they offer a realistic system that is consistent with expected demand and available resources, and provide the path to full NextGen realization.

GLOBAL HARMONIZATION ROADMAP **In FY11, the JPDO developed a Roadmap that will identify and inform activities to support effective NextGen interoperability among international stakeholders.**

In order for the U.S. to maintain its global leadership role in aviation, its systems must be interoperable with the rest of the world. To that end, the JPDO established the Global Harmonization Activities Database, which tracks and compares NextGen progress with similar international initiatives, such as the Single European Sky ATM Research Program (SESAR) in Europe, and Collaborative Actions for Renovation of Air Traffic Systems (CARATS) in Japan. Using the International Civil Aviation Organization's Aviation System Block Upgrade framework as a baseline, the JPDO aligned NextGen global harmonization activities with those of international aviation programs. The listing of activities in the Global Harmonization Activities Database serves as the basis for the Global Harmonization Roadmap and the Global Harmonization Dashboard, two other tools created by the JPDO in FY11. The Roadmap and Dashboard graphically represent the harmonization activities and associated metrics based on each activity's planned completion date. Activities and metrics with the most immediate importance to NextGen are presented chronologically and grouped by functional area.

As new activities are developed by the JPDO, the data sets contained in the Database, Roadmap, and Dashboard are automatically updated within the Joint Planning Environment (JPE), a Web-accessible application developed by the JPDO. The interactive filtering capability within the JPE enables users across the globe to share and integrate information between agencies and run customized reports based on various attributes. This allows users to view all data associated with a specific functional area, harmonization area, associated organization, or planned completion date to facilitate immediate situational awareness of the Global Harmonization process, collaboration, and data analyses.

ACTIVITIES AND ACCOMPLISHMENTS

Define the optimal NextGen 2025 given current data/conditions and risk analysis
Prioritize required research and policy analysis to achieve that definition

U.S. AIR SURVEILLANCE

In FY11, the JPDO addressed and mitigated the overlapping roles, responsibilities, authorities, and capabilities that complicate the effort for Integrated Surveillance (IS) among mission partners.

Effective operation of the national air transportation system – for civil aviation, national defense, and homeland security – rests on a shared, accurate airspace picture, a capability that we do not currently have. Gaps and overlaps exist and will grow over time if uncoordinated investments are made.

The JPDO performed critical architecture and engineering work required to support the goal of developing an interagency integrated surveillance plan. Foremost was the Integrated Surveillance Concept of Operations (IS ConOps), a foundational document developed under the guidance of interagency executives and in collaboration with subject matter experts from each of the air surveillance mission partners (DOD, DHS, DOC, FAA, and ODNI). The updated IS ConOps:

- Identifies shared requirements for joint capabilities, information exchanges, and changes needed to effect a transition from today's evolving collaborative environments to a fully and deliberately integrated, interagency air surveillance "system of systems."
- Further identifies key governance and policy issues that must be addressed by the Air Domain Awareness (ADA) Board as soon as practical.

- Identifies a strategy for IS capability acquisition that is consistent with the long-term 2025 NextGen vision for NAS ATM, security, law enforcement, and defense needs.

This key interagency document — along with the companion enterprise architecture operational and organizational views, information-sharing environment framework, and surveillance-specific information — serves as the foundation for future work on surveillance requirements and ultimately whole-of-government solutions and acquisition decisions.

The JPDO also advanced the state of knowledge of national surveillance capabilities in its report, Integrated Surveillance Preliminary Functional Analysis, which compared at a high level the capabilities of the current and planned surveillance infrastructure (e.g., sensors and related networks) with the functions outlined in the IS ConOps.

Finally, the JPDO played a key role in establishing an effective, long-term governance mechanism for U.S. air surveillance. At the direction of the SPC, the JPDO led the development of the Integrated Surveillance Support Office (ISSO), which acts as the dedicated technical support capability for the governance of national air surveillance. The ISSO's objective is to create interagency technical planning documents, leading to a formal interagency coordination process for research and development, requirements development and validation, and acquisition of integrated U.S. air surveillance capabilities.

Integrated Surveillance Objectives

Federal departments and agencies with aviation and air defense missions have a **shared need for aviation surveillance information and infrastructure**; however, there is no current institutional mechanism for reconciling overlaps and coordinating the nation's surveillance assets.

The JPDO has outlined recommendations for reconciling these overlaps and facilitating the collaborative management of Integrated Surveillance services. It found that there are opportunities for leveraging future Integrated Surveillance technologies and other capabilities across agencies.

In response to a recommendation from the SPC, the JPDO is examining how departments and agencies might **establish a governance mechanism for managing services in a manner that improves safety, security, and efficiency of the air transportation system and contributes positively to national and homeland security.**

Integrated Surveillance Link to Air Domain Awareness

The JPDO's Integrated Surveillance activities are part of a larger **whole-of-government approach** to ADA as outlined in the National Strategy for Aviation Security and its supporting plans.

The effort is led by the ADA Board, which supports development of **integrated solutions, clarifies priorities, and synchronizes future interagency actions** by identifying overarching investment goals and potential policy/strategic level synergies, redundancies, and conflicts.

The ADA Board is chaired by a DHS Assistant Secretary and includes Deputy Assistant Secretary-level principals from **DHS, DOD, DOC, DOT, DOJ, and ODNI.**

The JPDO is a non-voting member, along with the other departmental components, such as the **FAA, Customs and Border Protection, and the Transportation Security Administration.**

ACTIVITIES AND ACCOMPLISHMENTS

Champion the NextGen Vision

Frame the debate and facilitate decision making to achieve advanced NextGen capabilities beyond 2025

UNMANNED AIRCRAFT SYSTEMS (UAS) ROADMAP

In FY11, the JPDO created a Roadmap that established the approach and organization for identifying the research and development (R&D) needed to enable safe operation of UAS in the NAS.

One likely driver for the path to the NextGen envisioned in 2025 is the emergence of UAS, which already play a unique role in the safety and security of many U.S. military and civilian missions, such as border surveillance, oil pipeline monitoring, and local law enforcement. The role of UAS in the NAS is expected to grow exponentially in the coming years.

As part of the Roadmap process, the JPDO hosted a series of UAS workshops that brought together senior leaders and technical experts from the JPDO, the FAA, NASA, DOC, DHS, DOD, and its Air Force Research Laboratory (AFRL). The primary objective of the workshops was to identify the key technical issues that must be resolved in order to ensure safe and consistent UAS operations in NextGen airspace. The second objective was to catalog R&D activities by each of the partner agencies and identify gaps not currently being addressed. The workshops also sought to identify areas where joint demonstrations can advance progress toward UAS integration in the NAS more effectively than single-agency efforts. Several new avenues of research were identified that will lead to even broader collaboration among government, industry, and academia.

This collaboration led to an expansion of the demonstrations to cover more ground. For example, NASA and AFRL plan to expand their present UAS integration projects to include Jointly Optimal Collision Avoidance algorithms and software for human-in-the-loop fast-time experiments. This sharing and integration of information across agencies is likely to yield valuable and timely insight beyond what could be accomplished by a single organization.

The results of the workshops and related activities were incorporated into an initial UAS Roadmap, which coordinates relevant R&D and collaboration opportunities across the partner agencies. It also describes the key R&D challenges and the role each partner agency plays as an operator and a source of technology.

UAS integration into the NAS is a national priority. The U.S. Government will spend about \$19B between 2011-2015 on UAS research and acquisitions. Many government agencies have or are planning a range of UAS operations. Cost-effective implementation requires multi-agency coordination of investment decisions.

In FY11, the JPDO established the baseline by **identifying elements within the immediate planning horizon.** Each partner agency contributed both executive and technical leadership and funding for the effort, recognizing a joint effort could be accomplished at a fraction of the cost.

The FY11 baseline roadmap correlated research challenges with regulatory needs. This resulted in faster progress through information sharing, effective technology transfer, hand off of critical research issues to the partners best positioned to address them, and **opportunities to obtain greater benefit from joint demonstrations.**

AIRLINE OPERATIONS CENTER OF THE FUTURE STUDY TEAM

In FY11, the JPDO established a Study Team to discuss NextGen planning from an Airline Operations Center (AOC) perspective, which had been neglected in earlier work.

The AOC is an airline's command center. It is responsible for keeping the entire airline running as safely and as efficiently as possible. The AOC, sometimes referred to as the Flight Operations Center (FOC) or Wing Operations Center (WOC), responds to factors such as mechanical problems, weather and crew disruptions, diversions, terrorism, and contaminated runways, often making crucial system decisions to cancel flights and adapt to crew changes.

NextGen planning must address the evolution of the AOC as a key component of the larger ATM system and eliminate any gaps in planning that might pose a risk during NextGen implementation. The JPDO sponsored the AOC/FOC/WOC of the Future Study Team in FY11 to ensure that NextGen planning addresses the AOC's evolution. This study brings focus and attention to important issues related to the AOC's evolution within NextGen, establishing a coalition of experts from operations, system providers, and researchers to prioritize topics that will influence planning efforts across agencies. The Study Team has only been in existence for a short time, but has already accomplished the following:

- Developed buy-in from industry
- Assembled a core collaboration team from industry and government that represents a mix of policy, operational, and technical experience and backgrounds related to AOCs
- Identified subject matter experts to provide input
- Drafted a team charter
- Mapped out attainable goals for FY12

ACTIVITIES AND ACCOMPLISHMENTS

Champion the NextGen Vision

Frame the debate and facilitate decision making to achieve advanced NextGen capabilities beyond 2025

AVIONICS ROADMAP

In FY11, the JPDO updated its Avionics Roadmap, taking the NextGen avionics-equipage discussion into long-term planning needs.

With its collaborative, big-picture perspective, the JPDO has a unique vantage point for identifying the NextGen capabilities that will support the long-term goals of its partners and stakeholders. The Avionics Roadmap represents industry and government working collaboratively to devise a strategic plan for avionics equipage to enable the capabilities of NextGen.

The Avionics Roadmap provides an aircraft-centric perspective to assist NextGen planners in understanding the integration necessary between principal components of the NAS. Additionally, it provides stakeholders with a view of the avionics-related capabilities required for the different types of operations envisioned for NextGen. The document focuses on the discussion and debate needed to grow consensus in the aviation community, and facilitates subsequent NextGen planning as it relates to improved aircraft capabilities and corresponding avionics requirements.

This latest version of the Avionics Roadmap addresses issues such as avionics equipage, Trajectory-Based Operations (TBO), safety enhancements, costs and benefits, and the role of UAS in the NAS. It lays out the context needed for negotiated trajectories, delegated separation, low-visibility arrivals and departures, and ATM efficiencies.

The JPDO's NextGen **Avionics Roadmap Version 2.0**, developed by the Aircraft Working Group, focuses on the **definition of far-term NextGen avionics** that will require either new aircraft equipage, standardization of aircraft equipage, or greater fleet equipage. It also addresses different segments of aviation, such as **General Aviation**, and includes new work on **UAS, Surface Movement, and Weather**.

Version 1.0 was the first **government-industry collaboration to describe NextGen from an aircraft perspective**.

In 2010, the **Working Group** released Version 1.2, which focused on mid-term capabilities and the use of presently certified equipment.

TRAJECTORY-BASED OPERATIONS SAFETY CASE PLANNING

In FY11, the JPDO formed a team to begin developing a coordinated plan to ensure an acceptable level of safety across the multiple evolutionary increments of TBO.

The JPDO Safety Working Group, a team of public- and private-sector experts, began two key initiatives related to TBO safety. It established two teams, each comprised of representatives from the JPDO staff and working groups, and the FAA and NASA. One team began collaborating on a Safety Case Plan for the implementation of TBO, and the other started a Capability Safety Assessment for TBO.

The teams are working to qualitatively characterize TBO safety risks and identify technologies and R&D needed to mitigate those risks early in the planning process. Working from JPDO plans and the TBO Study Team results, the cross-functional teams are documenting physical, functional, and procedural aspects of the TBO concept to create the basis for safety planning and assessment activities. The TBO Safety Case Plan will guide interagency efforts to coordinate and implement TBO. The TBO Capability Safety Assessment will help mature the concept from a safety perspective and inform JPDO plans.

The transformation to TBO will greatly enhance the capacity of the NAS by allowing planes to fly to their destinations faster and closer together, without sacrificing safety. Currently, air traffic controllers help an aircraft along its route based on several pieces of critical information—weather conditions, separation between aircraft, and ground-based location. With NextGen, TBO will allow aircraft to fly on precise, four-dimensional pathways, or trajectories. Aircraft will be able to fly directly to their destination, automatically separating from other aircraft and adjusting to weather conditions as required. TBO-equipped aircraft will fly with more precision with respect to their flight path and relative to other aircraft.

In the full TBO end-state vision, the traditional roles of pilots and controllers will evolve due to automation, support, and integration. Aircraft will digitally transmit and receive precise data, to include aircraft routes and the times aircraft will cross key points in the airspace. Individual aircraft trajectories and entire flows of aircraft can be dynamically adjusted to take advantage of opportunities and avoid constraints safely and efficiently.

ACTIVITIES AND ACCOMPLISHMENTS

Accelerate the Net-Enabled Aviation System Operations to achieve greater data-sharing efficiencies
The ability for all users of the NAS to share information is critical to NextGen

NET-CENTRIC OPERATIONS

In FY11, the JPDO sponsored the “One Year Challenge Demo” to exhibit a net-centric capability that allows for the exchange of operational data across functional and logical domains in the NAS.

This initiative demonstrated a seamless data exchange and an instantaneous shared situational awareness, resulting in an increased decision cycle time for senior leaders. It demonstrated that while the technology is available for the envisioned NextGen net-centric capability, there are governance and policy issues that must be addressed. The demo also reinforced the need for continued focus on visible, accessible, understandable, and trusted data. With net-centric operations, data or information can be obtained by all authorized users whether they were anticipated or unanticipated. And equally important, the data is protected against unauthorized access. Information moves from being a private asset to a community or enterprise asset.

Establishing a net-centric, interagency information-sharing environment is critical to achieving the overarching NextGen vision. The JPDO provides leadership and support in facilitating the use of net-centric technologies to advance information sharing across the NextGen community through the creation of the Net-Enabled Test Environment (NETE). NETE is a virtual test environment comprised of nodes that connect to the research networks of the NextGen partner agencies and to the Web.

In FY11, the JPDO added NETE support services to define, develop, and demonstrate technology to codify an information-sharing approach that encouraged participation from stakeholders. The JPDO facilitated interagency collaboration and information-sharing tools for data search, discovery, and reuse. This capability is known as the Semantic Metadata Catalog and Portal.

The Semantic Metadata Catalog and Portal enables semantic discoverability. The use of the term “semantic” means that the capability not only publishes the syntax of the service interfaces, but also describes the meanings of the messages and their relationships. Therefore, service discoverability and understandability is greatly enhanced. For example, potential consumers can now discover services based on more than just a simple key word search in the registry. The infrastructure will have the intelligence to understand the “meaning” behind the search term and present the relevant information.

While many agencies have adopted Service-Oriented Architecture (SOA) and implemented SOA registries, such

registries alone will not satisfy the needs of NextGen. SOA registries are typically implemented within an organization and designed to facilitate service lifecycle management in accordance with policies established for that organization.

The JPDO also led numerous other Net-Centric Operations (NCO) initiatives in FY11, providing technical guidance and system integration support, as well as governance and policy advocacy to help stakeholders further the NextGen vision. Specifically, the JPDO sponsored and provided critical technical support to several workshops and demonstrations including the Command and Control Gap Filler Joint Capabilities Technology Demonstration, the IS Demo, and the NextGen Federated Identity Credentialing and Access Management (FICAM) Workshop.

At the FICAM Workshop, the JPDO brought together all the Federal stakeholder agencies within the NextGen enterprise. For NextGen to effectively operate in the future, its interagency stakeholders, government and private partners alike, must implement federated identity credentialing, which essentially allows users to successfully and securely exchange data and information with each other. The data and information must be discoverable, accessible, secure, and timely. Working collaboratively during this three-day workshop, stakeholders determined that the technology for non-brokered federated identity authentication is available, but there are organizational culture issues, NextGen policy issues, and paradigm shifts that must be addressed. The members of the workshop developed two NextGen identity policies and a basic access control model, and set plans for a future demonstration of a non-brokered federated identity authentication capability among NextGen stakeholders. A federated identity credentialing and access management program provides all NAS partners at all levels safe, secure, and timely information sharing, allowing the right person to see the required information when needed.

NCO will integrate people, technologies, and services into one infrastructure—sometimes called a network of networks—that supplies operational and other important data to users of the NAS. As a result, everyone from **pilots and air traffic controllers to ticket agents and customs officials will be able to more easily and efficiently access the information they need.**

A fundamental attribute of net-centricity is the ability for any security-authorized user of the system to get information that is needed, when needed.

Net-centricity enables information sharing by connecting people and systems that have data and services with those that need information. It establishes an environment in which each of the data providers exposes data for consumers to discover and retrieve.

ACTIVITIES AND ACCOMPLISHMENTS & CONCLUSION

Accelerate the Net-Enabled Aviation System Operations to achieve greater data-sharing efficiencies

The ability for all users of the NAS to share information is critical to NextGen

WEATHER

In FY11, the JPDO helped achieve a major NextGen weather milestone by supporting a capability evaluation led by the National Oceanic Atmospheric Administration (NOAA) and the FAA.

Members of the JPDO Weather Team served as technical advisors during a two-day evaluation, helping participants advance toward the goal of sharing weather information in a net-enabled Federal “data cloud.” Representatives from multiple government agencies such as the FAA, National Weather Service (NWS), and the U.S. Air Force, in addition to weather research laboratories, demonstrated the successful exchange of 60 weather information data sets between five NWS locations and the FAA’s William J. Hughes Technical Center in a net-centric environment. The evaluation demonstrated an enhanced ability to exchange and integrate weather data into current and future flight operations, and illustrated the benefit

of using commercial data publishing standards to locate and deliver weather information to requesters. The demonstration successfully connected legacy weather systems that publish and consume data, and allowed the agencies to share a common architectural framework that uses open standards vital for sharing weather information and system flexibility. This evaluation set the stage for further work in FY12 that will begin synchronizing weather data from NWS with FAA requirements to translate that data into decision-assistance information.

The FAA and NOAA continued their series of capability evaluations as their Information Technology Enterprise Services (ITES) collaboration prepared to become a full multi-agency effort through the JPDO. As the year ended, NOAA/NWS test platforms connected to the JPDO’s NETE, and the FAA and JPDO started to move ITES into the multi-agency realm by planning to use the NETE as the test and validation platform for interagency data exchange and discovery.

Nearly 70% of air traffic delays are attributed to weather and studies suggest that perhaps **75% of these delays could be mitigated with better weather** prediction capabilities.

The JPDO convenes an executive panel from FAA, NOAA, DOD, and NASA to **synchronize plans**, making sure weather forecasts are accurate enough for air traffic control and that weather predictions are ready to be inserted into controller tools.

The JPDO is focused on establishing the **standards and protocols that will securely move weather data among all Federal systems**, taking into account unique terminologies in each system (ontology) and making sure each agency has an active “membership card” (identity credentialing).

Next Steps

In looking to build upon its FY11 accomplishments, the JPDO leadership has defined the following four priority areas for FY12:

- Ensure that there is a NextGen framework that will enable unmanned aircraft to operate in NextGen airspace. These unmanned aircraft provide information used by DOD, DHS, NASA, and NOAA.
- Ensure that the FAA, DOD, and DHS can see all aircraft (in the air and on the ground) at all times and have a common air picture by the use of integrated surveillance systems and multiple technologies (sensors, processors, and decision support).
- Ensure that the latest weather information is disseminated widely to all users, including pilots, controllers, towers, TRACONS, and operations centers, and is available for other Federal partners’ facilities and programs.
- Ensure that all NextGen-related decisions work seamlessly with other global aviation systems.

The JPDO will continue to apply its collaborative processes to execute these priorities.

Summary

Collaboration and information sharing among the aviation stakeholders are the key to making NextGen a reality. The JPDO continued its excellent track record in guiding progress across government and industry. The JPDO is fully committed to providing platforms, leadership, and support to forge continued cooperation.

The Administration has made NextGen a top national transportation and infrastructure priority because of aviation’s crucial role in the U.S. economy. However, the implementation of NextGen is an enormous undertaking. The number of unique systems, vehicles, operations, agencies, research areas, industries, and governments that need to coordinate on the standards, programs, and policies is extensive.

In the future, use of airspace will be more integrated, considering civil aviation, defense, and homeland security. This need for integration will make airspace more complex, while all missions must operate together. The pace of technology is also unfolding rapidly, requiring all departments and agencies to have full situational awareness of new developments. The JPDO provides the common view.

Ultimately, NextGen will be delivered and operated by people. The collective dedication of the JPDO staff together with people at every level of the aviation community will determine the success of NextGen tools, technology, procedures, and policies.