



FAA
Air Traffic Organization

Federal Aviation Administration
Air Traffic Organization

International Strategic Plan

Fiscal Year 2014



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Foreword

Aviation must be safe, efficient and sustainable both at home and abroad, so the FAA's Air Traffic Organization (ATO) is committed to playing a leading role, and working collaboratively, to ensure the success of global aviation. Worldwide, the aviation industry has a \$2.2 trillion economic impact and is expected to grow, as we've been seeing in regions like Asia and the Middle East.

With the publication of our first strategy plan four years ago, the ATO formalized a coordinated set of activities to realize our international vision. The 2014 plan builds on these efforts in support of four key strategies: achieving seamless global operations, harmonizing standards for Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) technologies and procedures, conducting targeted outreach, and providing technical and operational support. Appendix E discusses the initiatives that each of the ATO's service and business units will pursue in support of these four strategies.

Much of our international work takes place through our involvement in the Civil Air Navigation Services Organization (CANSO), the International Civil Aviation Organization (ICAO) and other forums, where members address key issues of mutual concern and exchange best practices in air traffic management and aviation safety.

Of course, we know that one size doesn't fit all. Each part of the world has unique challenges, and regional or bilateral approaches to addressing these challenges are often better ones. For instance, through the ASPIRE program, we've worked with partners in the Asia Pacific region to employ more fuel-efficient air traffic procedures on flights between select city pairs, a practice that saves money and protects the environment.

As the FAA continues to implement NextGen, we're working to promote U.S.-based technologies and procedures and ultimately achieve a greater harmonization of standards, technologies and procedures across international airspace. The ATO is also dedicated to providing operational and technical support to countries in support of their air navigation systems in many ways, such as in traffic flow management.

I would like to thank all of the ATO service and business unit directors and their offices for their efforts to develop the 2014 International Strategic Plan. I look forward to working within the FAA and with our international partners to achieve a safer, more efficient, greener airspace system that spans the globe.

Sincerely,



Teri L. Bristol
Acting Chief Operating Officer,
Air Traffic Organization



1.0 | ATO International Leadership

1.1 Air Traffic Organization (ATO) international leadership is integral to the core business of supporting the safe, secure and efficient operation of the U.S. National Airspace System (NAS). Much of our leadership role is focused on the harmonization of international standards for Air Traffic Management (ATM) services such as radio frequency spectrum allocations and new communications systems. This requires extensive multilateral and bilateral cooperation in forums such as the International Civil Aviation Organization (ICAO), the Civil Air Navigation Services Organization (CANSO), EUROCONTROL and with many other states.





2.0 | The ATO International Office

2.1 The mission of the ATO International Office is to provide effective, consistent and well-coordinated leadership, strategic guidance and support to achieve ATO and FAA international leadership goals. This is accomplished by providing services such as preparing senior level management and subject matter experts for meetings and managing regional meetings that include representation across all FAA lines of business and ATO service units to ensure common messaging and support. The ATO International Office also provides institutional knowledge of issues, organizations and contacts in global aviation.

2.2 Specifically, the ATO International Office has the following roles and responsibilities:

- Manage the ATO International Executive Steering Group to address a wide array of international activities and initiatives that potentially impact the ATO (more information on this group is contained in Appendix D);
- Collaborate across the FAA and the ATO on the development and maintenance of a unified international strategic focus to effectively address global, regional and cross-boundary plans, activities and policies, including ATM, meteorological services, safety, security and the environment;
- Promote the development of clear and consistent ATO goals, objectives and positions that support the transition to NextGen, and effectively integrate these within the broader FAA;
- Champion U.S. government and global civil aviation community initiatives;
- Direct the development of a NextGen International Strategy with the Office of the Assistant Administrator for NextGen and with the Joint Planning and Development Office (JPDO), and implement that strategy in concert with agency international strategic objectives;
- Coordinate ATO support of CANSO executive level meetings and technical working groups;
- Lead ATO preparation for, or participation in, international forums to advocate the adoption of U.S. air traffic standards, procedures and technology in support of a cohesive global air transportation system, today and into the future;
- Review ICAO-initiated policies, standards and other documents and the positions crafted in response to them in order to ensure they have been coordinated within the ATO, across other necessary FAA lines of business and through the Interagency Group on International Aviation (IGIA);
- Ensure the timely establishment of bilateral agreements to support planned ATO international activities and initiatives;
- Provide ATO senior leaders with insight into policies and technical/operational direction of foreign organizations through our representatives stationed in Brussels and Singapore; and

- Maximize the efficiency of ATO international travel and ensure necessary State Department country clearances are in place before international travel occurs.

2.3 The ATO International Office is organized regionally to align with its counterpart staffs in the FAA Office of International Affairs (API), ICAO, CANSO, the International Air Transport Association (IATA) and other regional civil aviation organizations and groups.¹

¹ For more information on ATO's initiatives with both ICAO and CANSO, please see Appendix A and B, respectively, at the end of this document.

3.0 | Relationship between Documents

3.1 This document provides an overview of, and strategic focus for, the ATO's international goals, objectives and commitments. It is an integral support component of the ATO business plan and its supporting resource planning and budgeting processes. The document also draws high-level direction from Destination 2025 to ensure that ATO activities are aligned with the overall vision of the agency. In this way, the ATO International Strategic Plan is both essential and complementary to existing FAA and ATO core and strategic business planning processes.

4.0 | ATO International Strategic Plan

4.1 The ATO International Strategic Plan incorporates and integrates goals, objectives and initiatives from each of the ATO's organizations. Because of the commonality of initiatives that the ATO supports internationally, this document provides a high-level glance at initiatives by service unit. It focuses on high-level strategies with details provided on regional support activities. The ATO vice presidents' annual plans are included as attachments to this document.

4.2 The ATO International Strategic Plan centers on the planning, development, implementation and harmonization of new communications, technologies, traffic flow management, and standards and procedures that support an overall system that is operationally driven and technologically enhanced. For example, NextGen offers an approach that will lead to a more dynamic, flexible and scalable alternative for our airspace that also must be interoperable with the international community to achieve global aviation objectives and meet the requirements of all airspace users. At a more detailed level, the document supports national and FAA goals through the provision of technical assistance to other civil aviation authorities (CAA), either directly or indirectly; multilateral assistance to established regional implementation and transition projects and planning bodies; and global support and guidance to the development of system / technology standards and recommended practices (SARP) within the umbrella of ICAO.

4.3 The ATO International Strategic Plan is composed of four key strategic areas:

1. Seamless global operations;
2. Harmonize standards for Com-munications, Navigation, Surveillance (CNS) / ATM technologies and procedures;
3. Targeted outreach; and
4. Technical and operational support.

5.0 | Strategy 1: Seamless Global Operations

5.1 The ATO provides air navigation services over approximately 29 million square miles of domestic and international airspace delegated to the United States by ICAO. In support of this vast area, the ATO operates an ATM system that is by far the most complex and, with approximately 43 million aircraft handled annually, the busiest in the world.

5.2 An integral part of the ATO's responsibility as the U.S. air navigation service provider is the direct daily interaction on a range of ATM issues with the 18 foreign governments and entities that control the 29 adjacent flight information

regions (FIR) that abut U.S. airspace. Cooperation is essential on issues ranging from air traffic flow management and meteorology to safety, environment and airspace security. The ultimate goal is seamless operations across as many boundaries as possible.

5.3 Operations across international boundaries can be based on domestic en route radar separation procedures, as is the case along most of the U.S. border with Canada and Mexico. FAA cross-border ATM security agreements with civil and military authorities of Canada and Mexico ensure the efficient and secure movement of air traffic in North American airspace. Operations across international boundaries also can be based on non-radar procedural or Automatic Dependent Surveillance (ADS) separation, such as the oceanic operations at New York, Oakland, Houston and Anchorage Centers. There are also international boundaries where ATO oceanic air traffic services abut terminal operations belonging to another country or provider, such as with the Bahamas, Bermuda and several island nations in the South Pacific.

5.4 Air traffic flow management (ATFM) procedures and data exchange arrangements with providers adjacent to the United States are very important to creating a bigger picture of real-time airspace demand. The ATO currently shares real-time traffic flow management system flight data with providers in Canada, Mexico, Central America, Colombia, Chile, the United Kingdom and EUROCONTROL, just to name a few. Operationally, the ATO also is connected to Canada, Mexico, Japan, EUROCONTROL, Brazil and other service providers through daily conference calls conducted by the David J. Hurley Air Traffic Control System Command Center (ATCSCC) and other FAA field facilities.

5.5 Seamless operations are accomplished through bilateral and multilateral agreements, local letters of agreement (LOA), participation in formal ICAO planning and implementation regional groups (PIRG), and participation in informal, airspace-specific coordination groups.

6.0 | Strategy 2: Harmonize Standards for CNS/ATM Technologies and Procedures

6.1 Our customers' safety and efficiency interests extend beyond the borders of our airspace system. Operational efficiencies gained in our airspace should be continuous to the extent possible as aircraft travel into other regions and service providers. As our aircraft operators invest in aircraft technology, they expect it to be compatible with systems and procedures used by other air navigation service providers (ANSP). Ideally, they would prefer to use the technology for the same safety and efficiency gains achieved here in the United States. Standardization of CNS/ATM technologies and procedures is critical to cross-border, regional and multi-regional interoperability. This, in turn, drives the seamless operation of regional and global systems. Such technical and operational alignment can take many forms, depending on the target technology or procedure.

6.2 CNS/ATM standardization is accomplished through several efforts. For example, the ATO participates in RTCA / European Organization for Civil Aviation Equipment (EUROCAE) committees, which develop internationally harmonized avionics standards, and ICAO technical panels and study groups where SARPs and associated procedures for air navigation services (PANS) are developed. The ATO also displays leadership through its participation in regional seminars on new and evolving capabilities and radio-communications spectrum management to ensure that other states' implementation of global standards and procedures is consistent with ours. Finally, the ATO provides information on the operational and technical procedures and methods applied by facilities such as the ATCSCC. This includes education on concepts such as Collaborative Decision Making (CDM) throughout the ICAO regions and directly with many states such as Mexico, Colombia, and Trinidad and Tobago. On a broader scale, the ATO is widely recognized for its expertise in the implementation of ATFM procedures and concepts, and works cooperatively for a common approach and shared global vision.

6.3 ICAO's Global Air Navigation Plan (GANP) presents all states with a comprehensive planning tool supporting a harmonized global air navigation system. The FAA actively participated in the development of GANP and the Aviation System Block Upgrades (ASBU) concept. Now that the GANP has been approved, work is underway by ICAO and states to update regional air navigation plans and state air navigation plans. States and ANSPs have also started implementation efforts. The FAA, through NextGen and the ATO Program Management Office, has implemented many aspects of the 18 ASBU modules in Block 0.

We continue to be actively supporting ICAO's plan for global aviation. A key area for ICAO in the coming year is reporting on the status of regional and state efforts to implement ASBU, specifically Block 0 modules. ICAO has developed the reporting forms and is developing the online tools that will gather information from the states. These new tools and dashboards will be interactive and web-based, adding even more accessibility for all. The ATO will work collaboratively with other lines of business to update ICAO on our implementation of Block 0 modules. We will also work in partnership with ICAO and other organizations such as CANSO and IATA to provide assistance to other states and ANSPs as they begin the transition to the GANP and ASBU.

7.0 | Strategy 3: Targeted Outreach

7.1 The ATO supports international initiatives through its participation in the global work programs of organizations such as CANSO, ICAO, and other regional entities and partnerships. This outreach encourages the adoption of ICAO standards and procedures, technologies and architectures to advance civil aviation around the world, and to better align future global air transportation. More specifically, outreach efforts allow the ATO to address legislative mandates regarding user equipment, influence infrastructure development, promote best business practices, and promote ATM safety, security and environment initiatives. Sometimes, these efforts involve partnering with industry and other government agencies.

7.2 The ATO works to advocate international adoption of U.S. safety technologies, test methods and procedures, analytical tools and models, and technical data and criteria to develop rules for aircraft certification and operation. These products are aimed at eliminating accident causal factors and mitigating hazard severity, thereby reducing accident, fatality and injury rates. The ATO also coordinates internationally on human factors and wake research and engineering to ensure the safety and efficiency of aircraft, airport and air traffic control operations.

8.0 | Strategy 4: Technical and Operational Support

8.1 The ATO receives requests on a routine basis for technical support related to air navigation services and facilities. In many cases, such support differs from other types of international work in that it may relate to the operation of the U.S. NAS if it involves the infrastructure of a neighboring or downstream FIR, or FAA infrastructure located on foreign soil. This makes the support rendered more tactical than strategic in focus. However, the ATO still has a significant interest in many of these requests even if a nearby state's problem does not affect the daily operation of our system, for it may affect our customers' operations. For example, our ATFM technology, procedures and programs are covered by many states that have seen first-hand the strengths and operational benefits provided in the U.S. airspace by our system.

8.2 All technical support is provided under the auspices of an international agreement signed by the FAA administrator or the assistant administrator for the FAA Office of International Aviation. In some cases, such technical support is desired by the ATO or elsewhere in the U.S. government to promote or ensure harmonization with ATO capabilities, particularly when it involves the stabilization or modernization of infrastructure of strategic allies (e.g., Afghanistan and Iraq) or adjacent providers whose airspace is under some level of ATO control (e.g., the Bahamas and Bermuda).

9.0 | Conclusion

9.1 The ATO International Office has worked closely and coordinated with multiple ATO offices to identify respective international priorities and initiatives. These offices have also developed annual work plans to more effectively communicate their respective international activities and how these activities support the overall ATO objectives internationally. These work plans are included in Appendix E to this strategy and will be updated annually along with the main strategic plan to ensure the document reflects the changing nature of international aviation and the ATO's objectives and priorities.

Appendix A: International Civil Aviation Organization

ICAO was created at the Chicago Convention on International Civil Aviation in 1944 as a specialized agency of the United Nations (UN) to promote global harmonization and interoperability for aviation. This is accomplished through the publication of standards and recommended practices (SARP) and procedures for air navigation services (PANS), with which its 190 member states are expected to comply to the extent possible, notifying ICAO and the international community of any differences their system may have with those requirements.

ICAO is headquartered in Montreal, Canada, and has divided the global community into seven semi-homogeneous regions to ensure standards meet the needs of the global community while promoting and facilitating the regional implementation of its initiatives. These regions are:

- Asia and Pacific (APAC) Office, Bangkok
- Eastern and Southern African (ESAF) Office, Nairobi
- European and North Atlantic (EUR/NAT) Office, Paris
- Middle East (MID) Office, Cairo
- North American, Central American and Caribbean (NACC) Office, Mexico City
- South American (SAM) Office, Lima
- Western and Central African Office (WACAF) Office, Dakar

The United States participates with ICAO under the auspices of a signed treaty, providing 25 percent of the organization's annual budget and serving as a member to the ICAO Council and virtually every commission, committee, panel and study group. Such participation allows the U.S. to promote global harmonization while advocating our policies, processes procedures and technologies. ATO priorities with ICAO headquarters continue to focus on coordinating required standards and recommended practices, improving cross-panel coordination, and improving coordination between panel work and front-line service delivery in the planning and implementation regional groups (PIRG).

Although global harmonization is the goal, most if not all of that operational reality occurs at the regional level. With that in mind, this ATO International Strategic Plan reflects ATO efforts that focus on the development of global standards to meet its needs, as well as its participation in the planning and implementation activities across the seven ICAO regions.

Appendix B: Civil Air Navigation Services Organization

Since its establishment in 1996, CANSO has become the global voice of air navigation service providers (ANSP) internationally. It is the only international forum for ANSPs and emphasizes the provision of safe, efficient and cost-effective services. CANSO provides a forum to foster cooperation among its members and works collaboratively with organizations such as ICAO, the International Air Transport Association (IATA), Airports Council International (ACI), the European Commission and EUROCONTROL. CANSO is an official observer and active in both ICAO and IATA. Many of the ANSPs have faced similar challenges and changes in the international aviation community. CANSO's philosophy of providing a partnership forum for its members and stakeholders from the aviation industry and governmental and inter-governmental organizations provides opportunities for collaboration and the development of best practices as an industry for a more global approach to finding solutions.

The FAA has been an associate member since 1998, and the ATO became a full member in March 2006, participating in select CANSO activities since that time. The ATO continues to take on leadership roles in the Safety Standing Committee, the Operations Standing Committee and the Policy Standing Committee.

Continued support and participation within CANSO and its work groups ensures that ATO positions are represented in a largely European-centric organization. CANSO provides the ATO with the opportunity to work cooperatively and exchange views and experiences with other global ANSPs.

The ATO participates in the following groups in support of international goals and initiatives identified in the ATO International Strategic Plan for FY 2014:

1. CANSO Executive Committee
2. Asia Pacific (Asia/PAC) CANSO CEO Committee (APC3)
3. Latin American and Caribbean CANSO CEO Committee (LAC3)
4. Operations Standing Committee
 - a. ATM Harmonization Work Group
 - b. Collaborative Airspace Work Group
 - c. Operational Performance Work Group
 - d. Aeronautical Information Work Group
 - e. Environment Working Group
5. Safety Standing Committee
 - a. Future SMS Development Work Group
 - b. Safety Performance Measurement Work Group
6. Policy Standing Committee
 - a. Global ANSP Benchmarking Work Group
 - b. Business Excellence Work Group

For more information on CANSO participation, please see www.canso.org.

Appendix C: NextGen, the Office of NextGen, and the Joint Planning and Development Office

The future of our nation's ability to move people and goods in a safe, secure, efficient and environmentally responsible manner depends upon the successful implementation of NextGen. The Joint Planning and Development Office (JPDO) was established by the U.S. Congress in 2003 to guide and support the creation of NextGen under the Vision 100 – Century of Aviation Reauthorization Act (P.L. 108-176). The JPDO was established to facilitate NextGen activities to implement current and future technologies into the NAS to ensure that the air traffic control system can manage the expected growth.

The JPDO's overall mission is to coordinate and support the implementation of a multi-agency integrated plan for NextGen that includes long-term planning and coordinated research, as well as multi-agency demonstrations and developments that integrate relevant programs of other departments, agencies and the private sector. The JPDO is the responsible central organization that coordinates the specialized efforts of the other departments and agencies involved.

The Office of the Assistant Administrator for NextGen directs the development and delivery of the FAA's implementation to meet the long-term goals established within the JPDO framework. The Office of NextGen manages and coordinates these endeavors in the NAS enterprise architecture, the FAA's NextGen Implementation Plan and the NextGen Segment Implementation Plan. These documents are developed in conjunction with all FAA NextGen stakeholders and reflect both the near-and mid-term activities and investments related to ATM, safety and environment. The ATO is the largest stakeholder in the NextGen efforts.

NextGen

NextGen is a collaborative initiative to transform the NAS, including the national system of airports, using 21st century technologies. NextGen is being realized through investments in research and development, multiple technologies, operational changes and the coordinated efforts of the FAA and the Department of Defense, Department of Homeland Security, and Department of Commerce, as well as the National Aeronautics and Space Administration, the White House Office of Science and Technology Policy, and the Office of the Director of National Intelligence.

NextGen is an example of active networking technology that updates itself with real-time shared information and tailors itself to the individual needs of all U.S. aircraft. NextGen's modernized air transportation network provides adaptability by enabling aircraft to immediately adjust to ever-changing factors such as weather, traffic congestion, aircraft position via GPS, flight trajectory patterns and security issues. In the coming years, aircraft and airports in U.S. airspace will be connected to the NextGen network and will continually share information in real time to improve efficiency and safety, and absorb the predicted increase in air traffic.

The nine NextGen capabilities represent transformational improvements to the current NAS and provide:

- Collaborative capacity management
- Collaborative flow contingency management
- Efficient trajectory management
- Flexible separation management
- Integrated NextGen information
- Air transportation security
- Improved environmental performance
- Improved safety operations
- Flexible airport facility and ramp operations

In terms of NextGen planning and as part of the annual update and data validation process, the JPDO released the FY 2013 version of the integrated work plan and enterprise architecture. The NAS enterprise architecture and the NextGen Segment Implementation Plan provide the FAA's detailed plans and initiatives to meet the long-term goals of the JPDO integrated work plan.

The overarching international goal of NextGen is to achieve harmonization of systems and procedures to ensure civil and military interoperability across international boundaries and timely adoption of global standards and operational procedures that align with U.S. requirements. Such harmonization supports safety objectives through standardization and promotes economic efficiencies. NextGen must not only transform the U.S. NAS, but also must be capable of transcending borders to realize its full benefits. We cannot build a harmonized system without partnerships with our international counterparts. In pursuing NextGen cooperation worldwide, we have developed different regional approaches, and have established regional steering groups to identify joint initiatives that are aligned with NextGen performance-based systems.

The United States and European Union recently agreed to improve interoperability of NextGen and its European equivalent, the Single European Sky Air Traffic Management Research (SESAR) Joint Undertaking, by cooperating on civil aviation research and development through a memorandum of cooperation and associated annex for global interoperability. Future cooperation annexes may include aviation research and alternative fuels. The ATO also is working cooperatively with China, Japan, Canada and a number of Asia Pacific countries to continue its global harmonization efforts. In addition to these efforts, the ATO, in collaboration with the Office of NextGen and the JPDO, has supported the ICAO's development of an updated global air navigation plan. This plan identifies the common elements of NextGen and SESAR, with an emphasis on the harmonization of these elements as building blocks for other countries and regions to adopt.

Appendix D: ATO International Executive Steering Group

The ATO International Executive Steering Group was formed in March 2008 to assist the ATO with the coordination and oversight of international initiatives within the ATO International Strategic Plan. The group also collectively addresses strategic issues and decisions to standardize external air traffic and NextGen messages, and to manage the effective use of limited ATO resources in support of organization and agency goals. The group is composed of executive-level members of the ATO who interface at various levels with the international community. The group meets on a quarterly basis, and its current membership includes the following:

Technical Operations

Jeffrey, McCoy
Deputy Vice President

Ed Lucke
Flight Inspection Services

Jo Tarrh
Operations Support

Ian Atkins
Spectrum Engineering

System Operations

Dan Smiley
Deputy Vice President

Kevin Chamness
ATO International

Franklin Hatfield
ATO Security

David Chin
Performance Analysis

Johnnie Garza
System Operations

Franklin McIntosh
ATCSCC

Mission Support

Bill Davis
Deputy Vice President

Heather Hemdal
ATO Procedures

Dennis Roberts
Airspace Services

Greg Burke
Operational Concepts, Validation & Requirements

Safety and Technical Training

Tim Arel
Deputy Vice President

Huan Nguyen
Policy and Performance

Air Traffic Services

H Michael Brown
Deputy Vice President

Tom Skiles
Operations

Program Management Organization

Jim Eck
Deputy Vice President

Vincent Capezzuto
Air Traffic Services

Malcolm Andrews
Enterprise Services

NextGen

Steve Bradford
Chief Scientist for NextGen Development

Management Services

Heather Biblow, Deputy Vice President