

## Laying the foundations for NextGen



Teri Bristol, Chief Operating Officer of the Federal Aviation Administration's Air Traffic Organization describes recent successes in NextGen.

**The FAA's progress in the modernization of US airspace continues. Every day, we are integrating NextGen into all phases of flight, making our airspace system more efficient and greener, while ensuring that all safety needs are met.**

NextGen's foundation is nearly complete. In 2014, we completed the installation of baseline ground transceivers that make up the infrastructure for automatic dependent surveillance – broadcast (ADS-B). We are in the process of working with the operator community to facilitate more rapid cockpit equipage of ADS-B, before the FAA's deadline of 1 January 2020.

Earlier this year, we also upgraded the automation at 20 en-route air traffic control centers throughout the continental United States. Our terminal modernization effort, called the Terminal Automation Modernization and Replacement (TAMR) program, is in full production mode.

### NextGen priorities

With this foundation in place, we will be in a position to deliver greater benefits in the near and long term. To realize these benefits, the FAA is working with our NextGen Advisory Committee (NAC), which includes members from industry, labor, and government.

Working with the NAC, last year we submitted to Congress the NextGen Priorities Joint Implementation Plan. The plan details specific commitments the FAA and industry are making toward four NextGen priority areas: increasing the availability and use of performance-based navigation (PBN); improving surface operations; making multiple runway operations more efficient; and implementing Data Communications.

We believe, and industry agrees, that progress in these areas will provide the most benefits in the near term.

Working through the NAC, the NextGen Integrated Working Group (NIWG)



FAA safely reducing separation standards for wake turbulence.

executed the plan. This group includes FAA officials along with more than 100 members of the aviation community. We also work closely with our labor unions on these efforts. By partnering effectively, we are able to track accomplishments, identify problems early, and resolve them together.

## Implementing success

There have been many successes to date. In support of PBN, we have an initiative underway called Metroplex – a targeted application of PBN procedures to relieve congestion in busy metropolitan areas.

These procedures include more fuel-efficient optimized profile descents, which enable aircraft to glide from cruising altitude using minimal engine power instead of the traditional stair-step method.

This year, we implemented Metroplex in Northern California and started implementation in Charlotte, North Carolina. This work builds on our Metroplex implementations last year in Houston, North Texas, and Washington DC, all of which are helping to increase airspace efficiency and improve traffic flow.

We have also published a PBN procedure called Established on Required Navigation Performance (EoR) for widely-spaced simultaneous operations at Seattle and Denver airports. EoR is resulting in a reduction in track miles, fuel burn and noise.

For instance, prior to the implementation of EoR, we were averaging nearly 1,200 RNP procedures flown at Denver Airport per month. Within the first month of EoR, Denver achieved more than 1,800 RNP operations, including some days in excess of 100 RNP operations per day – about a 30% increase! This is because we can now reduce separation on parallel approaches when using RNP.

To improve surface operations, we have implemented the System Wide Information Management (SWIM) Surface Visualization Tool (SVT) at eight TRACONs: Southern California, Northern California, Boston, Chicago, Houston, Potomac, Louisville and New York. It is also in place at the New York and Los



A Communications Management Unit that processes Data Communications messages.

Angeles en-route traffic control centers and the FAA's Command Center.

Controllers are calling SVT a “game changer.” It gives them a visual depiction of surface activity at properly equipped airports, enabling them to optimize traffic flow, cutting flight time and fuel usage. We are going to leverage SVT to support our Terminal Flight Data Manager program, which will provide these capabilities to controllers nationwide.

In support of Multiple Runway Operations, the FAA has safely reduced wake separation standards at twelve locations: Atlanta, Charlotte, Louisville, Chicago Midway, Chicago O’Hare, Cincinnati, Houston Hobby, Houston Intercontinental, Memphis, Newark, New York Kennedy and New York LaGuardia.

With Wake RECAT (re-categorization), we are saving time on arrivals and taxi-outs, which saves the airlines money. For instance, FedEx is reporting less fuel usage and emissions and a 17% increase in capacity at Memphis airport.

Lastly, we are implementing Data Communications. We reached initial operating capability for Data Comm’s departure clearance services at our key tower sites: Salt Lake and Houston’s Bush and Hobby. We will continue to deploy Data Comm at more than 50 air traffic control towers. With the departure clearance capability, we will be able to reduce taxi-out times, controller and pilot workload, congestion

on the airwaves, and the likelihood of communication errors that can occur from voice exchange.

## Rolling plan

These are just some of the highlights of our recent progress. To build on these successes, we have decided to make the NextGen Joint Implementation Plan a three-year rolling plan.

This way, we can continue our momentum, and evolve the plan to the changing needs of the national airspace system and the aviation community.

Our partnerships with the aviation community have been a key driver to our success. In this spirit, we remain equally committed to working with our international partners to achieve a safer, more seamless and efficient, global airspace system. ➤

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