

The crowded sky

Boeing is emerging as a major player in air traffic management

By Junu Kim and Daryl Stephenson



In 20 years, expect to see a lot more airplanes than today. Boeing's 2010 Current Market Outlook forecasts the world's fleet of commercial airplanes will grow from 18,890 in 2009 to 36,300 in 2029.

Government agencies realize the need to prepare the sky's infrastructure for this surge in air traffic. Last year, Boeing was one of three companies to receive a U.S. Federal Aviation Administration contract relating to an upgraded U.S. air traffic management system. Boeing's 10-year pact, worth up to \$1.7 billion, was the biggest of the three and covers research and development on technologies that could appear in an improved system.

To discuss the company's current activity in this market, three leaders in this business recently spoke with *Frontiers*: Greg Deiter, Boeing Defense, Space & Security vice president of Defense & Government Services; Neil Planzer, Commercial Aviation Services' vice president of Global ATM Solutions; and Gene Hayman, the manager of this program, known as SE2020.

There's been interest in upgrading the U.S. air traffic management system for some time. What's different now?

Hayman: For starters, the FAA has made an unprecedented commitment to invest in an upgraded system. The combined three contracts are the biggest contracts the agency has ever issued, and they put the FAA in position to accelerate the implementation of [Next-Generation Air Transportation System] concepts and technologies. And with Boeing as a prime contractor and as an awardee of the biggest NextGen R&D contract, we're square at the top as a major player, because this is where all the NextGen R&D work over the next 10 years will be performed.

Deiter: Also, we're bringing a broad and powerful team to this task. This is a textbook case of how leveraging the best of Boeing leads to business success. Defense, Space & Security brings tremendous experience in architecture and networks experience, which are underpinnings of a NextGen system, as well as experience in managing large, complex contracts. Boeing Research & Technology performs the advanced R&D. And Commercial Airplanes has not just the avionics team that's tied tightly to the airplane programs but also Commercial

Aviation Services, which brings a tremendous amount of capabilities and expertise. And remember that our team also includes major players in the industry, like Lockheed Martin, Honeywell, Airbus and Cessna.

What technologies will this system have?

Planzer: There's still much to be determined, which is why the FAA's focus is on a comprehensive R&D program. On the other hand, we know that the core element to a successful NextGen system is to use satellite positioning and to move away from radars.

Some of these technologies are available today or are about ready for testing, so you could reasonably expect to see them be part of a new system.

And airplanes will be equipped with a system called ADS-B, or Automatic Dependent Surveillance-Broadcast, that will enable them to use GPS satellite signals to more accurately identify where they are. Also, voice communication between controllers and flight crews will give way to data links that will transmit data between a flight management computer in the airplane and a computer on the ground.

How soon will the new system be implemented?

Planzer: Well, as new airplanes come off the line, they will be equipped with these new technologies. But there's no quick, affordable fix that will retrofit all older airplanes to let them use all these features. But Boeing understands that. And we have the ability to help government agencies flesh out and move as rapidly as possible with enhancements to safety and environmental efficiency at the same time. No one else has the capability of doing that.

Deiter: Modernizing our existing ATM infrastructure while continuing to serve the traveling public is a complex problem that requires a company that understands air travel, the airline business model, FAA policies, and the process of developing innovative, cost-effective solutions. Who better than Boeing to help lead this transformation? ■

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