The Man in the Middle of NextGen’s Evolution

A Sit-Down Discussion with the FAA’s Ed Bolton

Wednesday’s most candid conversation came in an informal interview setting between Assistant Administrator for NextGen Edward L. Bolton, Jr., and ATCA President and CEO Peter F. Dumont. “A Conversation with Ed Bolton” dove into topics of budget, measuring success, and NextGen’s near future.

On his primary area of responsibility, Bolton noted that NextGen is at a turning point and the need for collaboration is high. “NextGen needs to be in sync with the Air Traffic Organization (ATO),” he said. “High-level FAA employees have all commented that there has never been such cooperation at the FAA. We are a highly siloed organization. The silos will outlive me, but if you line up a goal and grade by that criteria, you can make it disappear.”

Dumont asked what success looks like – short-term, mid-term, long-term, and legacy. “Well I want to survive long enough to have a legacy,” Bolton said. He emphasized that now is the time to develop a

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“What is 4-D Trajectory? It's a complete flight plan that is intended to be the clearance the airplane will get. It is widespread, not limited. Essentially, trajectory planning becomes the key to the puzzle. It is cooperative and dynamic.”
- Dr. Chip Meserole, The Boeing Company

“The concepts from SESAR and the FAA are evolving. They are embraced more broadly and are beginning to be institutionalized by different ANSPs around the world. ATC is moving from more tactical control to separation management. We have a terrific panel (at ATCA) that is helping explore 4-D Trajectory.”
- Todd Donovan, Thales

“I have suddenly been reminded that although it is important to know what the aircraft can do, it is also important to set constraints in order to try to keep trajectory more regular. While it is important to meet the trajectory of the user, it is important to massage and moderate it to create a better solution.”
- Steve Bradford, FAA

“SESAR is a programme progressing in three steps: First to define the ATM master plan; second: development; and third: shifting into deployment. It is a very interesting time in the life of SESAR, and trajectory management is one of its key features. There are many similar pieces to SESAR and NextGen and we are working hard with our colleagues at the FAA to develop standards in order to develop the process.”
- David Batchelor, SESAR Joint Undertaking

“We have done a lot of exciting things for laying the groundwork for trajectory, especially in oceanic ATC. Moving beyond modeling, we have made TBM (Time Based Monitoring) and speed advisories.”
- Tony Ng, Lockheed Martin

“As with all transitions, it is more about systems integration and collaborative decision-making than technology support tools. This problem is not about new technology, it is about improving regularity.”
- Dr. John Cavolowsky, NASA

“By having trajectory based operations, automation tools are now more capable on improving more strategic decision making.”
- Doug Sweet, SAAB

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ATCA 2014 Technical Symposium Schedule of Events

Thursday, May 15
8 a.m. – 12 p.m.
Registration Open
Resorts’ Ballroom

8 – 11:45 a.m.
Speakers/Moderators
Room Open
Horizon Room

8 – 9 a.m.
Continental Breakfast

9 a.m. – 1:45 p.m.
Exhibit Hall Open

9 a.m.
Welcome
James H. Washington
Chairman, ATCA
COO, B3 Solutions

9 – 9:30 a.m.
Carmen Marco
Executive Director of Solution Delivery Services, FAA

9:30 – 10:45 a.m.
The Digital Enterprise
Moderator:
Steve Carver
Aviation Management Associates

Speakers:
Jim Eck
FAA
Joseph Post
FAA
Akbar Sultan
NASA

12:45 – 1:45 p.m.
Luncheon Buffet
Resorts’ Ballroom and Capriccio
Sponsored by

1:45 – 3 p.m.
Operational User & Maintainers Perspectives: Collaborating in NextGen Operations
Moderator:
David Almeida
Harris Corporation

Speakers:
Mike Cirillo
Airlines for America

Thank you to the Atlantic City Conference Committee

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Software & System Engineers
“Tech Center Tuesday was awesome. You read about FAA programs online and speak with managers digitally, but actually getting to see them in person helps you visualize the big picture.”

– Stacy Cole, All Points, LLC, and first-time Tech Symposium attendee

“I have enjoyed the presentations and the Opening Remarks set the stage for the events throughout the week. I particularly enjoyed Ed Bolton’s discussion with Pete Dumont. The timeline and scope he laid out for NextGen implementation was very informative.”

– Dr. Jerry Johnson, Thales

“Collaboration is key to supporting NextGen and ATO, but even more so in putting in the best solutions for what the NAS needs for the future. I’m looking forward to supporting that.”

– Sean Torpey, FAA, and first-time Tech Symposium attendee

“The connections and networking opportunities at the Tech Symposium have been terrific. We are a brand new organization – made of several companies – as of October 2013, and it is great to showcase our new products to the FAA.”

– Bill Barheld, AxiosTEC

From checkered flags on the ground, to radar to digital to satellites, the steady advance of air traffic control has been led by innovators from Lockheed Martin and its legacy companies. Today, more than 60 percent of the world’s air traffic is controlled by systems designed, built, and deployed by Lockheed Martin. Flying has become safer and more efficient than ever before. And billions of passengers arrive at their destinations, never knowing that they’ve flown there on a 60-year history of achievement.

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Atlantic City: Then & Now

1964: ATCA Executive Director Ed Cockerman performs a site inspection before the 1964 ATCA meeting. Below: This week's view of the boardwalk in 2014, 50 years later. Pedi cabs and food carts are more popular than ever.

Above: Visitors to Resorts cooling off in the pool.

1964: Taking a dip in the Resorts pool - at the time, the hotel was known as The Haddon House. This photo was first published in the 1964 ATCA Bulletin before an ATCA conference was held in Atlantic City.

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CSSI's TransMobility Solutions™ are designed to improve operations, streamline systems, increase safety and manage innovations for all sectors of the transportation industry. Leveraging deep roots in aviation, innovators at CSSI have pioneered analytics and best practices that ensure transportation systems are designed and equipped to safely and efficiently move people and materials.

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Bolton

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plan. Referencing the FAA’s William J. Hughes’ Technical Center that attendees visited on Tuesday, Bolton said the research and development currently being done there is exactly what we need to move forward.

Dumont touched on the fact that the industry has slowly begun to state that NextGen is “complete.” “Is it fully deployed?” he asked. “Is it time to use programs to garner the benefits from NextGen?” “Well, we did have the last ADS-B ground station delivered on the thirty-first of March, but the whole

of NextGen is an evolutionary transition,” Bolton replied. “The [National Airspace System] is being transformed in ways you don’t really understand yet. Human factors work is being done to change it for the better. It is all about the data. As we transition from being platform-centric to data-centric, and take uncertainty out of the system, working through those problems will become NextGen.”

When asked about incorporating the needs and opinions of stakeholders, Bolton noted its importance in the process. He mentioned that in this role, his first public address to this community was at the ATCA at the 59th Annual last October 2013; has also time spent with the National Air Traffic Controllers Association; travel to Oklahoma and Seattle; and engages many other organizations like the NextGen Institute. “My next goal is to go back and do in-reach to gain the lessons learned for moving forward,” he said. “In addition to that, we work closely with the ATO.”

Finally, Dumont inquired into NextGen’s budgetary outlook and Bolton expanded that the NextGen budget is currently 8 percent lower than what was originally planned. “The challenge has been finding implementation dollars and not using them too quickly,” he said. “The ATO was able to transfer $50 million to NextGen in order to boost implementation funding. If you don’t have that, you cannot create game-changers to execute down the road.

Finally, when measuring the success of NextGen to date, Bolton mentioned several tools – one being an assessment commissioned by the FAA and conducted by MITRE to determine current NextGen progress; coupled with a look at the past eight years of Inspector General reports. “I also have a watch list of the top eight issues I’m concerned about and I get a report on those things twice a month,” he said. “These will add value in what we do in terms of leading us going forward.”

Bolton closed by addressing the Tech Symposium audience – consisting of both industry and government professionals: “Thanks for being a part of this. This is the chance of a lifetime to do something great for our country. Thank you for being a part of it.”
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To learn more, please visit us at dcis.harris.com.
Exhibitor Listing & Descriptions

Booth 302
ATCA Description: ATCA is pleased to host you at the ATCA Technical Symposium. Want to learn more about membership, our events, awards, the Scholarship Fund, and more? Visit Membership Manager Tim Wagner at the ATCA Booth. We love connecting with our members! www.atca.org

Booth 101
AxiosTec was formed around a vision that all data, when treated as a commodity, could be used to increase operational efficiencies, decision-making, and returns. Most of our original founders have military background and have served time in combat where they learned how to rapidly and efficiently process information to act intelligently and decisively. They brought these lessons home and have been able to apply the same concepts in the technology world with top companies from around the country.

Booth 301
The Boeing Airspace Solutions team is working with the Federal Aviation Administration (FAA), international air traffic management agencies, and other aviation stakeholders to improve the world’s air traffic system. Objectives are to make flying safer and more secure, increase capacity as air traffic levels rise, dramatically reduce congestion, delays, fuel burn, emissions, and keep aviation affordable and accessible for commercial, military, business and general aviation operators. Boeing is currently under contract with the FAA to help develop NextGen related concepts, as mentioned above. Boeing is also in partnership with Airbus, Selex, and other European organizations to devise a new, streamlined air traffic management system for Europe under the Single European Sky ATM Research (SESAR) program.

Booth 304
Business Integra (BI) is an award-winning global provider of information technology (IT) services and solutions infused with leading-edge technologies; and has been recognized by Inc. magazine as one of the fastest growing 500 companies across both government and commercial sectors. Located just outside of our Nation’s Capital in suburban Maryland - BI provides end-to-end solutions in application development, consulting, and re-engineering across all major technologies. Our solutions and services help build enduring relationships with our clients.

Booth 309
FAA Technology Center
The FAA’s William J. Hughes Technical Center is the nation’s premier aviation research & development (R&D), test & evaluation, and second level support federal laboratory. The Technology Transfer program, via its Office of Research and Technology Applications (ORTA), encourages R&D partnerships with private industry, state and local government, academic, and other entities to leverage each other’s resources in development and commercialization of mutually beneficial products, processes, and intellectual property.

FAA WAAS
The Wide Area Augmentation System (WAAS) is an extremely accurate navigation system developed for civil aviation. Before WAAS, the U.S. National Airspace System (NAS) did not have the potential to provide horizontal and vertical navigation for approach operations for all users at all locations. With WAAS, this capability is a reality. WAAS provides service for all classes of aircraft in all phases of flight - including en route navigation, airport departures, and airport arrivals. This includes vertically-guided landing approaches in instrument meteorological conditions at all qualified locations throughout the NAS.

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**Booth 306**

Frequentis, the global market leader for air traffic management communications and information systems, will present its products at the ATCA/FAA/NASA Technical Symposium in Atlantic City. Frequentis USA, Inc., manufactures, installs, and supports communication, information and automation systems for the FAA, NASA, DoD and Public Safety providers. Holding major Government contracts, Frequentis is a global leader in safety and mission critical systems. Frequentis actively participates in NextGen and SESAR research efforts. Frequentis showcases its leading suite of automation and information management solutions, including its market-leading Tower Automation products, including smartStrips® and smartTools, as well as its Aeronautical Information Management products.

**Booth 102A**

HCRQ is a global system safety and software consulting firm that dates back over 25 years. We specialize in designing safety into and analyzing the safety of systems which have the potential to inadvertently kill, injure, result in system damage or loss, or cause environmental harm. HCRQ provides both consulting services and courses (e.g., System Safety, Software Safety, Aviation System Safety, Fault Tree Analysis). We help protect life from unsafe systems and software.

**Booth 100**

HP creates new possibilities for technology to have a meaningful impact on people, businesses, governments and society. The world’s largest technology company, HP brings together a portfolio that spans printing, personal computing, software, services and IT infrastructure to solve customer problems.

**Booth 305**

Joint Venture Solutions is a Service Disabled Veteran Owned Small Business established in 2004. We combine the engineering, integration, and technical expertise of JVS Associates Inc. with the operational air traffic management, aviation safety, and air defense expertise of JKJ Associates, Inc. JVS directly applies decades of air transportation experience to provide systems engineering, concept development, data analysis, program management, and safety management consulting services for the air transportation system.

**Booth 303**

Mosaic ATM is a small business founded in 2004 to improve the efficiency and safety of air transportation and to advance the science and application of unmanned aircraft systems (UAS). Mosaic ATM provides services to a wide range of Government and industry customers. Our staff has substantial operational knowledge of the National Airspace System (NAS), industry-recognized expertise spanning the breadth of Air Traffic Management (ATM), and in-depth understanding of the challenges and technologies at the forefront of UAS development and mission success. We combine our domain expertise with cutting-edge skills in computer science, operations research, systems engineering, human factors, deployment and support, and computer vision. Mosaic ATM has worked with a broad group of customers and partners on diverse projects, some focusing on immediate deployment and others with a longer-term focus. Mosaic ATM has a proven track record in planning and execution of prototype system research and development efforts for NASA, the FAA, the Department of Defense, and major commercial airlines, delivering practical solutions for complex problems.

**Booth 307**

The Natural Center for Atmospheric Research (NCAR) is a federally funded research and development center devoted to service, research and education in the atmospheric and related sciences. NCAR’s mission is to understand the behavior of the atmosphere and related physical, biological and social systems; to support, enhance and extend the capabilities of the university community and the broader scientific community – nationally and internationally; and to foster transfer of knowledge and technology for the betterment of life on Earth. The National Science Foundation is NCAR’s primary sponsor, with significant additional support provided by other U.S. government agencies, other national governments and the private sector.

**Booth 402 & 403**

Sunhillo Corporation is an ISO9001:2008 certified company headquartered in West Berlin, New Jersey. Sunhillo is a privately held, employee-owned small business with a 20 year history of designing, developing, and deploying systems for the national and international Air Traffic Control communities. Sunhillo provides complete lifecycle support for surveillance data distribution products. Sunhillo has released three new products recently including our Longport ADS-B Receiver Module, which receives 1090Mhz ES ADS-B and 978Mhz UAT directly into the Longport. Sunhillo’s recently released Avalon has been selected as the FAA Flight Data Input/Output (FDIO) Terminal Server Program. Sunhillo’s Terminal Server solution for the FDIO system is comprised of Avalon hardware and custom FDIO Terminal Server software applications. The Longport Express is now being deployed as a PCI Express version of our surveillance data distribution and conversion products.

**Booth 301**

The SI is a leading provider of high impact, analytical and technical expertise solving the U.S. Government’s most complex and significant problems. Free of Organizational Conflicts of Interest, the SI serves as a Trusted Agent acting in the Customer’s best interests. Headquartered in Chantilly, Virginia, the SI has lived “Mission First” for 40 years, providing critical information solutions that leverage core strengths in systems engineering and integration, analytics and cyber solutions. Comprised of approximately 2,000 engineers, analysts, IT specialists, and other professionals, the SI is dedicated to our Customer’s success.

**Booth 312**

World ATM Congress combines a large-scale exhibition, world-class conference, and social events providing premier networking opportunities and the chance to learn the latest trends and developments in air traffic control. Organised for the industry, by the industry and operated by CNSO in association with ATCA, World ATM Congress is backed by the world’s leading air navigation service providers and industry suppliers. Return to Madrid with us 10-12 March, 2015. www.worldatmcongress.org
Adrian Solomon, Thales ATM, Inc., gives a demonstration to Gary Mueller, FAA, in the exhibit hall.

Ed Bolton, Assistant Administrator for NextGen, FAA, center, is greeted by John Berthold, Sunhillo Corporation, in the exhibit hall. Bob Walczak, Sunhillo, and Dennis Filler, Director, William J. Hughes Technical Center, FAA, look on.

Audience members listen to a discussion about Trajectory 4-D Information and Exchange.

Dr. Chip Meserole smiles after answering a question from the audience during the Trajectory 4-D Information and Exchange session.
**Industry News**

**Davis Joins MSAG**
MSAG is pleased to welcome Terry Davis as Chief Scientist. Mr. Davis will lead all of MSAG’s scientific programs addressing aircraft cybersecurity, modeling and simulation, and aviation systems and communications R&D.

While at Boeing, Mr. Davis was responsible for the oversight of super computer networking, aircraft simulation, network programming, and Internet design, and developed one of the first corporate cybersecurity perimeter architectures. Terry established the original Boeing Corporate Security Perimeter in 1996 serving as Security Architect for Boeing, and Chief Network Engineer and CIO of Connexion-by-Boeing. He was the primary network architect for the original USAir Force Command Fleet satellite communications system supporting Internet, NIPERNET, SIPERNET, and high security voice and video communications with other fleet aircraft and USG ground entry points.

Prior to Boeing, Terry worked with U.S. Government agencies within the Departments of Defense, State, Interior, and Energy where his work encompassed the development of SCADA systems.

**Sabre Awards STEM Scholarship to Sarah Bednar**
Sabre Systems, Inc., a professional information technology (IT) and engineering services company is pleased to announce that North Penn High School senior Sarah Bednar of Lansdale, Pa., was awarded a $4,500 college scholarship to the University of Pittsburgh in recognition of her outstanding STEM (Science, Technology, Engineering and Mathematics) accomplishments.

The Sabre STEM scholarship program was launched in 2013 in an effort help steer students into these curriculum by helping reduce the financial barriers to attend college. Sabre will award a total of four $1,500 non-renewable scholarships to deserving students in locations where the company has a major presence.


**G&D adopts Icron’s patented USB technology**
Universal Serial Bus (USB) is the most successful interface in the history of computers with over ten billion USB devices in the global market that currently use the interface for communication. Guntermann & Drunck (G&D) rely on the patented ExtremeUSB® technology by Icron Technologies, the leading developer and manufacturer of high-performance USB and video extension technology.

For their KVM extension and switching solutions, G&D uses Icron Technologies’ patented ExtremeUSB® extension technology. Icron is regarded as the leading developer and manufacturer of high-performance USB and video extension solutions for commercial and industrial markets worldwide.

“Guntermann & Drunck have developed high-quality KVM solutions for almost three decades”, said Glenn Antonelli, Vice President of Marketing at Icron. “By adopting ExtremeUSB® into their KVM portfolio, they carry on the tradition of providing their customers with reliable cutting-edge technology.”

More info: http://www.gdsys.de

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**“What’s For Lunch?”**

**Today**

*Salads*

Caesar Salad • Cherry Tomato, Buffalo Mozzarella & Basil Skewer • Italian-Style Orzo Salad

**Entrées**

Chicken Piccata • Meatballs with Marinara • Baked Ziti Ricotta • Vegetable Medley

**Dessert**

Tiramisu

Lunch is available in the Ballroom and Capriccio restaurant.
With a long history of consulting experience with the FAA and commercial aviation stakeholders, ICF is uniquely qualified to incorporate commercial aviation business economics, regulatory compliance, and market-based business perspectives into NextGen technology development and implementation.

icfi.com/aviationmodernization