

Air Traffic Management Solutions

Exelis

Air Traffic Management Solutions

For over 70 years, Exelis has been a trusted provider of mission critical products, solutions, and services that support civil air navigation service providers (ANSP) and defense organizations globally.

For a partner committed to your critical missions, trust the expertise of Exelis.

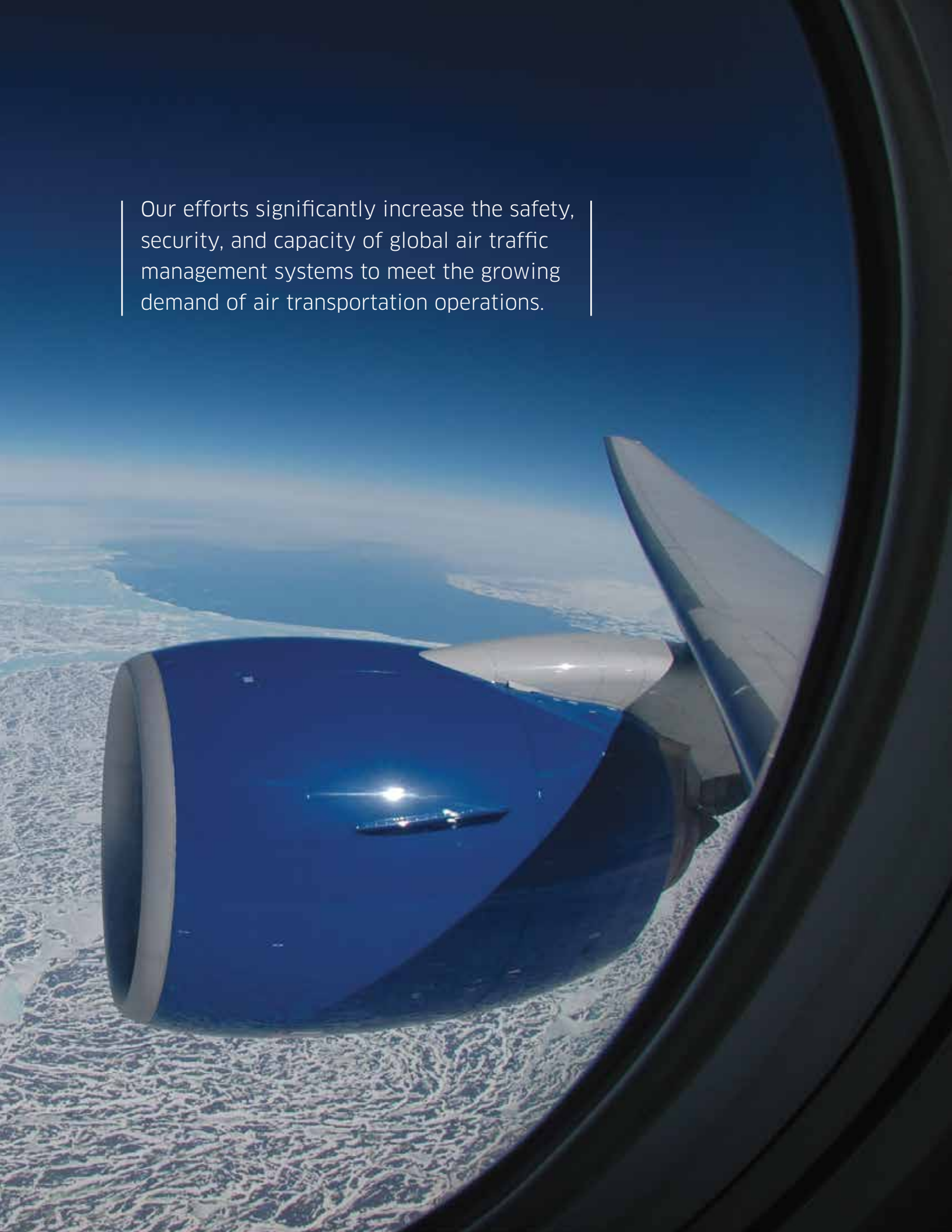
From large scale Automatic Dependent Surveillance-Broadcast (ADS-B) networks, rapid-response radar systems, and voice switching solutions to the provision of web-based, real-time situational awareness applications, Exelis is a global provider of comprehensive Air Traffic Management (ATM), airport, and airline management solutions and technologies.

We establish partnerships with our customers to ensure that our solutions significantly increase the safety, security, and capacity of the global ATM system. We are proud to deliver solutions that allow for the rapid expansion and growth of the air transportation industry.

A composite image featuring a runway in the foreground, an airplane in flight in the middle ground, and a bright sky with clouds and a sun in the background. A white diagonal line runs from the top right corner towards the bottom right, passing through the text.

Engineering Picture Perfect Skies.

Our efforts significantly increase the safety, security, and capacity of global air traffic management systems to meet the growing demand of air transportation operations.



Exelis

Air Traffic Management

Products, Solutions, and Services

ADS-B SURVEILLANCE NETWORKS & CRITICAL INFRASTRUCTURE

Exelis has delivered the world's largest ADS-B based surveillance system to the U.S. Federal Aviation Administration (FAA). This system, consisting of more than 600 ADS-B ground stations, three major data processing and distribution centers, and service delivery point equipment at more than 150 FAA air traffic control facilities, was delivered on schedule and on budget and is being operated and maintained by Exelis.

VOICE COMMUNICATIONS SOLUTIONS

Exelis offers advanced, fully distributed Voice Over IP (VOIP) switching solutions allowing for fully networked communications. Our solutions facilitate completely flexible inter- and intra-facility communications and universal access to all communications assets from anywhere on the network. Our role-based solutions allow rapid reconfiguration for normal Air Traffic Control (ATC) sector reconfigurations within and across facilities and for flexible response to ATC facility contingencies.

DEFENSE SURVEILLANCE SOLUTIONS & MOBILE ATM RADAR SYSTEMS

Exelis is a world leader in airborne, land-based, shipboard, and coastal surveillance solutions. Our legacy of innovation enables us to provide the most advanced, open architecture solutions and Active Electronically Scanned Array (AESA) antenna technologies available. Our radar solutions leverage six decades of experience to provide the highest levels of capability, performance, and reliability to ensure mission success.

WEB-BASED SOLUTIONS FOR AIRLINES, ANSPs, AND AIRPORTS

Exelis delivers a web-based suite of applications that enables airports, airlines, and ANSPs to proactively manage their operations, revenue, and environmental impact. Our applications improve our customers' operational situational awareness and predictability, resulting in improved on-time performance, optimized resource utilization, and increased operational efficiency and safety, while minimizing environmental impacts.

AIR TRAFFIC CONTROL ENGINEERING SERVICES

Exelis offers unmatched expertise in ATC systems, continuously working with our customers to develop the future of ATC surveillance and communications. We lead a world-class team of aviation industry partners in conducting leading-edge research and concept development work throughout the full spectrum of air traffic control. We assist the FAA in realizing the vision and operational concepts that make up the Next Generation Air Transportation System (NextGen) initiative.

Automatic Dependent Surveillance Broadcast (ADS-B)

An ADS-B based surveillance system is a lower cost, more accurate and more frequently updating air traffic surveillance solution that is currently being deployed by a number of leading ANSPs globally. Exelis, under contract to the FAA, has deployed a nationwide solution for the United States. The ADS-B system gathers satellite-based position and identification data transmitted by aircraft through a robust network of ground sensors, processes the data and distributes surveillance reports to ATM automation systems via a highly secure network. The system deployed for the FAA also ingests radar based surveillance, weather and aeronautical data for broadcast to airborne aircraft providing unprecedented airborne situational awareness.



● ADS-B Tower

Exelis has Deployed and is Operating and Maintaining the World's Largest ATC Surveillance Network

The Exelis team, currently under contract to the FAA has designed and built, and is currently operating and maintaining the U.S. national ADS-B network. The system is delivering outstanding ADS-B and multilateration surveillance performance and is scalable to any ADS-B requirement. In addition to outstanding surveillance performance, the system enables the nationwide networking of surveillance and provides features such as duplicate removal and geographic filtering for the creation of data sets tailored for system users, target validation to protect against spoofing, Global Navigation Satellite System constellation health monitoring and ground station spoofing protection, and a sophisticated network monitoring and control overlay allow rapid response to system issues. We offer a true system solution that has included within it the lessons learned from its operations and maintenance since our first service volume acceptance in August of 2007. The Exelis deployed ADS-B surveillance system is a cornerstone of the FAA's NextGen initiative.

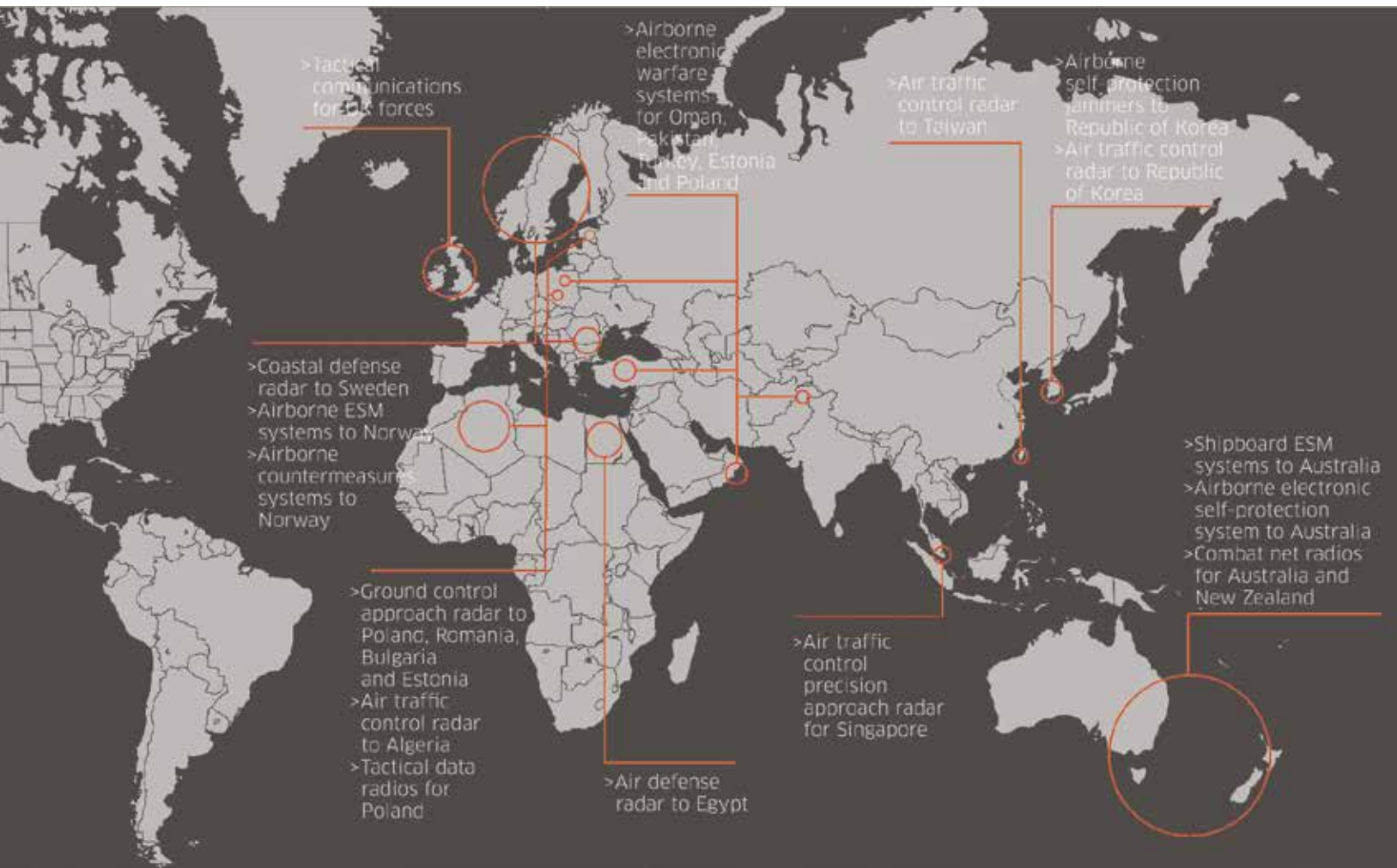
The Future of Surveillance. Global, Space-Based ADS-B



In support of Aireon, Exelis is acting as the Aireon space based ADS-B solution systems engineer. Exelis is under contract to provide ground data handling and distribution of Aireon ADS-B data. The ADS-B system gathers satellite-based position and identification data transmitted by aircraft through a robust network of ground sensors, processes it, and distributes fused surveillance tracks to ATM automation systems via a highly secure network.

AIREON'S GLOBAL ADVANTAGE

Designed to leverage existing investment in next-generation air traffic management systems and meet future global infrastructure demands, space-based ADS-B will revolutionize air operations for anyone who takes to the skies. It eliminates air traffic control blind spots, optimizes air operations, enables developing nations to adopt a uniform standard with minimal infrastructure costs, and creates business and innovation opportunities.



Defense Surveillance & ATC Radar Systems

For nearly 70 years, Exelis has been the world leader in delivering mobile, transportable, and fixed ATC installations for military and dual use airfields. Our team has produced, installed, and supported more than 2500 ATC/ATM systems in 63 countries. Leveraging this innovation and experience, our solutions provide the highest levels of capability, performance, reliability, and support to ensure mission success.

Exelis has developed a unique capability, Radar Assisted ILS (RAILS), which allows pilots with ILS-equipped aircraft to make precision approach landings without the need for conventional ILS infrastructure on the ground.

Mobile ATM Solutions. Anytime, Anywhere.

The Exelis Ground Control Approach/Precision Approach Radar (GCA/PAR-2020) system is an X-band, AESA-based system that provides customers with secondary surveillance, area surveillance, and precision approach radar capabilities in one compact system. It's modular, open architecture and solid-state design achieves availability and reliability superior to any other radar-based landing system.

The Exelis Terminal Airport Surveillance Radar (TASR), which meets the demanding requirements of the International Civil Aviation Organization (ICAO), is an S-band radar system that provides full airport surveillance capability. We have delivered the TASR worldwide to customers in Turkey, Oman, Korea, and Algeria.



A white commercial airplane is parked on a tarmac at sunset. The sky is filled with soft, orange and yellow clouds. In the background, a tall control tower stands prominently. The airplane is the central focus, with its engines and wings clearly visible. Ground service equipment, including a mobile staircases and a belt loader, is positioned around the aircraft. The overall scene conveys a sense of calm and operational readiness at an airport.

Helping airports achieve
better productivity and
enhancing safety.

Interoperable Communications Solutions

Critical Voice Communications Control Systems for Airports and Air Traffic Control

Exelis C4i has extensive experience in providing highly reliable Voice Over Internet Protocol (VoIP) communications systems to air transport operators. Our Switch**plusIP**[™] system offers a complete end-to-end IP based solution which allows air transportation operators to capitalize on existing network infrastructure as well as the scalability and flexibility that is only possible with a modern communications system. Through the seamless integration of communications assets (radios and telephones) as well as closed circuit television (CCTV), alarm monitoring, facility controls, and public address system, Switch**plusIP**[™] delivers a full range of solutions to maximize efficiency for all airport operations.

SWITCHPLUSIP[™] PLATFORM FEATURES

- > Support for single and distributed multi-site systems
- > Flexible, customizable graphics touchscreen user interface
- > Scalable from one to hundreds of users
- > Coverage for multiple radio technologies, including P25, Tetra, MPT1327, MDC1200, Tone Remote, Two-Tone Paging, HF-ALE, UHF, and VHF
- > Control of local and remote radio assets channel, talkgroup, frequency, power, mode, etc.
- > Seamless integration of two-way radio, telephony, facility control, fire alarms, public address, CCTV, voice and data recording, LAN and WAN and security systems
- > Any-resource-anywhere-anytime capability
- > Support for IP and legacy telephony integration (SIP, E1/T1, PRI/BRI, FXO, FXS)
- > Access to configurable operational and emergency procedures with integrated asset management and vehicle dispatch
- > Radio brand agnostic interoperable communications
- > Enhanced fault tolerance and high availability system design
- > Access and control of live video feeds to the operator interface including pan, tilt, and zoom for capable cameras
- > Ongoing software feature development to eliminate obsolescence



Exelis C4i understands the crucial nature of communications in the public safety environment and the need for system reliability, rapid response time, and ultimate interoperability.

Switch*plusIP*[™] for Air Traffic Control, Airport Operations, and Emergency Response

AIR TRAFFIC CONTROL

Switch*plusIP*[™] is compliant with international air traffic management standards, providing a modern, IP based, highly reliable, and intrinsically safe system. It can easily network via existing IP based communications infrastructure. Switch*plusIP*[™] is suitable for geographically distributed operations allowing ATM operators to capitalize on efficiency gains from remote operations.

Applications include:

- Control centers
- Tower operations
- Transportable and event mobile towers
- Airfield lights control
- Recording and playback
- Training and simulation

AIRPORT OPERATIONS

Switch*plusIP*[™] is a customizable system that offers a full range of solutions for all aspects of airport and airside operations. It provides the ability to integrate all forms of conventional and digital radio networks and telephony services including global subscriber mobile (GSM), CCTV, alarms and facility control. Switch*plusIP*[™] provides seamless interoperability for any operations center. Using modern IP technology, Switch*plusIP*[™] can utilise existing investments in network infrastructure.

Applications include:

- Curb to gate operation centers
- Public address announcements
- Airline operations
- Airport operations
- Security centers

EMERGENCY RESPONSE

Switch*plusIP*[™] Alarmon[™] is an advanced emergency response coordination system specifically designed for rescue and fire fighting control rooms. It provides an interoperable communications platform (radio and telephone) for coordination of emergency responses with all agencies, while integrating alarm monitoring, facility control, resource management (personnel and vehicles), and incident management into an easy-to-use touchscreen interface.

Capabilities include:

- Interoperable communications
- Emergency response coordination
- Resource management
- Facility control
- Alarm monitoring

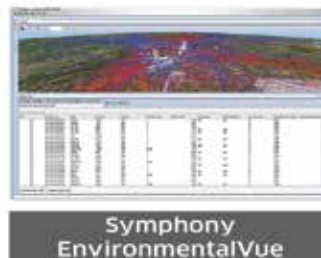
Solutions for Airports, ANSPs, and Airlines

Many of today's airports and airlines struggle with the challenge of improving operational efficiency and maximizing revenue growth opportunities. Over the years, airports, ANSPs and airlines have often chosen disparate solutions from a variety of vendors to try and achieve these improvements, frequently patching together various applications and data sources. Without a common operating picture, most airports, ANSPs and airlines make real-time decisions based on an incomplete and sometimes inaccurate view of their operations. The Exelis Symphony® suite of applications offers airports, ANSPs and airlines a strong alternative.

Symphony® by Exelis

The Exelis Symphony suite of applications is a comprehensive, integrated airport and airline operations management platform that provides airlines, ANSPs, and airport operators with applications that assist in the proactive management of surface and en route operations, revenue and billing, environmental compliance, fleet and asset tracking, and traffic flow monitoring.

AN INTEGRATED SUITE OF HIGH PERFORMANCE APPLICATIONS



Symphony is a secure, web-delivered application suite that fuses reliable surveillance tracking with flight status and system constraints, 2D and 3D visual map displays, historical replay tools, and predictive analytics to replace data. Symphony replaces multiple, disparate software systems and data sources with one seamless, easy-to-use solution.

This integration provides our customers with total operational situational awareness, and offers an unprecedented level of enterprise-wide collaborative decision making functionality. The Exelis-hosted architecture helps our customers reduce IT infrastructure costs while ensuring data is secure and protected.

Over 65 diverse customers from airlines to the world's busiest commercial airports currently rely on the Symphony platform for managing their critical business functions.



The applications you need to maximize your operational efficiency in the air and on the ground.



Comprehensive flight data
from one reliable source.

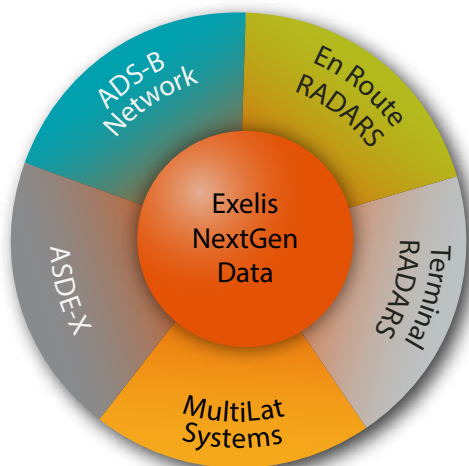
Data and Information Services

The vast Exelis surveillance network provides a comprehensive view of all airborne and surface assets.

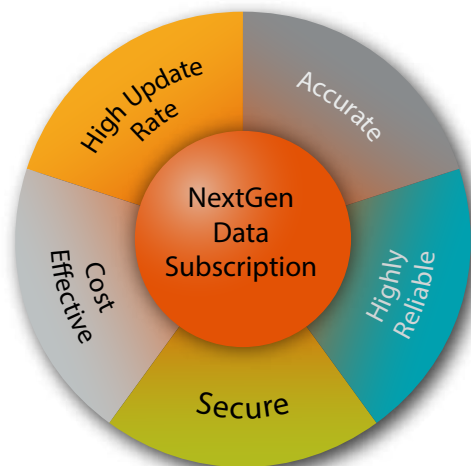
NextGen Data - A Single Source for Real-Time Aircraft Surveillance

In the U.S., Exelis NextGen data service is the trusted source of real-time and historical flight information that can be used to optimize the business operations of aircraft operators, airports, business aviation, and companies providing services tied to aviation operations.

Exelis provides the most complete, accurate, and rapidly updating tracking and flight status data service built on the reputation and reliability of our advanced surveillance infrastructure.



Surveillance data fused from multiple ANSP air traffic control systems



A single source of real-time aircraft surveillance data for all aviation stakeholders

Exelis fuses real-time nationwide data from multiple FAA-trusted surveillance sources, including the ADS-B network, existing terminal and en-route air traffic control surveillance radars, and output from the Airport Surface Detection Equipment, Model X (ASDE-X). The data service is delivered through an open, scalable, and secure architecture.

Our real-time NextGen data solutions provide customers with a centralized repository of archived information for replay and historical analysis, and also powers our web-delivered Symphony applications for flight track visualization, environmental compliance, and situational awareness.

Improving Air Transportation From The Ground Up.

Exelis offers unmatched expertise in ATC systems, providing support services to the FAA associated with planning, analysis, engineering, and operations of air traffic control systems.



Air Traffic Control Services

NEXTGEN SYSTEMS ENGINEERING SE2020

From take off to landing and everything in between, the world-class Exelis SE2020 team, in partnership with the FAA, is performing leading-edge concept development and prototyping work to realize the vision and transformational benefits of the U.S. NextGen initiative.

FAA AIR TRAFFIC ORGANIZATION TERMINAL (ATO-T) CONTRACT

As a prime contractor, Exelis is providing engineering and scientific support services to FAA Air Traffic Terminal customers, performing a diverse set of engineering activities in the planning, implementation, integration, and transition of the National Airspace System. Other tasking includes technical and engineering support for ATC procedures and processes, human factors, logistics, environmental, and occupational safety and health.



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