



# SkyLine-X™

AIR TRAFFIC MANAGEMENT SOLUTION

## Air Traffic Management Solution to Improve Performance, Efficiency, and Safety

Increasing delays, international airspace challenges, and growing environmental impacts are outpacing the capabilities of many existing air traffic management systems. With passenger volumes on the rise, the global aviation system faces a challenge: How to accommodate more flights without compromising safety and negatively impacting airlines' bottom-line.

Many of the world's busiest airspaces are meeting this challenge with Leidos' aviation solutions—operating across 60% of the world's air traffic and 80% of the world's oceanic airspace.

SkyLine-X™, our newest solution, improves air traffic flow management from takeoff to landing, dynamically adjusting journeys in the air to make air traffic flow faster, safer, and more environmentally friendly. Built from the best components of proven, globally deployed air traffic management technologies and enhanced by next generation features co-developed in partnership with Air Navigation Service Providers (ANSP) and technology providers, SkyLine-X™ offers greater flexibility and capabilities than any other air traffic management solution on the market. With its unique portfolio of automation, surveillance, navigation, and landing solutions — backed by Leidos' extensive cyber, analytics, and technology expertise — SkyLine-X™ sets new standards for air traffic performance, efficiency, and safety.

## SkyLine-X™: Bringing Innovation to the World's Skies

SkyLine-X™ provides an array of advanced air traffic management capabilities to improve aircraft safety, performance, and efficiency across the world's airspace. As a standards-based system running on open-source platforms, SkyLine-X™ offers greater flexibility to integrate new aviation system block upgrades (ASBU) than any other air traffic management solution on the market. With robust scalability, interoperability to existing and future systems, and ability to configure the interface for improved usability, SkyLine-X™ is designed to meet the needs of airports and air traffic controllers.

SkyLine-X™ features a new modern human machine interface (HMI), giving it a modern look and feel that was built through a collaborative process with operational controllers and UX experts. This provides a highly intuitive and efficient approach to air traffic control. Drawing upon modern user interface concepts and inherently understood iconography, user acceptance and training times are significantly decreased. Tying the intuitive interaction model and modern look and feel together is a highly configurable UI architecture that allows customers to shape the SkyLine-X HMI to their needs without significant development effort.



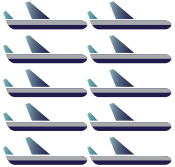
## Why SkyLine-X™?

- ▶ Reduces air travel delays and congestion with certified 3-mile separation tracker
- ▶ Increases throughput, cuts fuel usage, and reduces environmental emissions by optimizing the flow from runway to runway
- ▶ Provides scheduling predictability through point-in-space metering
- ▶ Improves aircraft guidance with operationally proven 4-D trajectory
- ▶ Easily integrates with existing and future technologies
- ▶ Facilitates flight data sharing with ANSPs via encrypted AIDC/OLDI interfaces
- ▶ Provides flexible configuration of features and functions
- ▶ Increases controller efficiency by allowing execution of most functions from the datablock
- ▶ Operates reliably due to dual channel architecture and poison pill cyclic redundancy protection
- ▶ Scales easily to handle greater amount of traffic
- ▶ Fast, cost-effective implementation (be operational in months, not years)



### **IMPROVED SAFETY WITH MODERN SURVEILLANCE**

Reduces flight risk and enables 3-mile separation by allowing controllers to monitor and control airplanes with greater precision over a greater distance thanks to high-performance sensors and sophisticated algorithms. Easily integrates with varied surveillance sources including short/long/surface radars, multi-lateration, and ADS-B/C. Multiple safety features include conflict advisory, minimum altitude, approach path monitoring, and VFR intrusion alerts.



### **GREATER THROUGHPUT WITH TRAJECTORY-BASED OPERATIONS**

Improves throughput, flight efficiency, flight times, and schedule predictability using four-dimensional trajectory-based operations which automatically inserts SIDs and STARS and supports PBN/RNAV routes. With fewer trajectory distortions and operational medium-term conflict detection, controllers are able to safely handle more traffic.



### **FASTER, SAFER CONTROLLER PILOT COMMUNICATION**

Using standards-based, state-of-the-art technology, SkyLine-X™ provides faster, safer, and more efficient voice and data communications solutions for air traffic controllers. Supports various voice and data modes, including FANS 1A+ / ADN, and encrypts all messages outside the system.



### **EFFICIENT COLLABORATION**

Enables airports, airlines, and air navigation service providers to exchange operational information across flight information regions. Encourages better, lower cost information sharing for improved planning and resolution of ATM-related disruptions by providing controllers access to collaboration interfaces directly from the datablock. Supports ICAO standard AIDC and OLDI interfaces.



### **GREATER CAPACITY WITH TIME-BASED FLOW MANAGEMENT**

SkyLine-X™'s time-based scheduling tool, operational at 8 of the world's 10 busiest airports, uses metering points further out from arrival airports, even across FIR boundaries, to improve air traffic scheduling and increase airport capacity. Provides flight crossing and delay absorption time recommendations and speed advice at a dynamic distance from merge points enabling pilots to make small adjustments earlier in the journey and lessening the need for larger, more expensive adjustments such as vectoring later on. This ultimately reduces no-notice holding, increases airport capacity by 3-5%, and decreases fuel use by as much as 11%.



### **IMPROVED TERMINAL SPACING AND SEQUENCING**

Using continuous curved path navigation, SkyLine-X™ helps controllers merge various traffic into a more efficient final approach flow, reducing fuel burn to near idle.



### **INCREASED RUNWAY UTILIZATION WITH INTELLIGENT APPROACH**

Using wake and head wind analysis to set time-based separation on final approach—versus traditional distance-based separation—SkyLine-X increases runway utilization and throughput. Using RECAT EU spacing, Intelligent Approach increases runway utilization in all weather (highly effective during high headwinds), provides automated spacing for mixed mode operations, and increases capacity during low visibility operations providing considerable time and cost savings to airports. In addition, full pairwise spacing is a near-term solution feature.



### **ENHANCED PLANNING WITH ACCURATE WEATHER**

To reduce travel delays, drive down costs, and enhance mid- and long-range planning, SkyLine-X™ integrates data from a range of weather sensors and sources to provide a complete weather picture, flight plan filing, and tracking to general aviation pilots.

# Why Partner with Leidos?

As a trusted technology provider to the U.S. Federal Aviation Administration, U.S. Transportation Security Administration, EUROCONTROL and Pacific Rim ANSPs, and 70 airport operators around the globe, we're committed to keeping our customers ahead of the rapidly growing demands of the global aviation market.

Our comprehensive suite of airport solutions—from passenger tracking to resource management, AODB to aeronautical billing, forecasting and revenue planning, departure sequencing to time-based flow measurement—help our customers more efficiently handle more than a billion passengers and 3 million flight movements annually. Combined with 24x7x365 global support, on-time delivery, and consistent reliability, Leidos is a name you can trust to support your air traffic needs.

## Next Steps

Looking for a way to handle increased passenger traffic and operate more efficiently? Our SkyLine-X air traffic management solution provides the advanced capabilities, scalability, and reliability you need today, and as you grow.

### FOR MORE INFORMATION

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