Innovation. Mathematics. Science. Metron Aviation is the most trusted and proven innovator in the air traffic management (ATM) industry. A subsidiary of Airbus Americas, Metron Aviation has an honored past of developing ATM and air traffic flow management (ATFM) solutions for the global aviation industry. By working with all stakeholders in the ATM ecosystem—Air Navigation Service Providers (ANSPs), airlines, airports, civil aviation authorities and other influencers—Metron Aviation understands what is at the heart of these issues and is able to tackle even the most vexing ATM challenges.

A team of operational authorities, the brightest minds in science and math as well as cutting-edge technology experts, Metron Aviation is preparing the skies for tomorrow by delivering increased capacity, enhanced safety, optimized efficiency, and greater predictability and sustainability. It does so by offering a variety of airspace design, air traffic flow management, aviation environment and energy, and weather solutions. Each solution is customized for the necessary stakeholders through collaborative decision making and the team’s unique concept engineering expertise.
OUR HISTORY

Founded in 1995, Metron Aviation pioneered the advancement of ATFM research and is recognized today for its proven track record in deploying and supporting world-class ATFM systems. Flight Schedule Monitor (FSM), which was developed by Metron and deployed system-wide in 1999, is an integral part of traffic management for the Federal Aviation Administration’s (FAA’s) Air Traffic Control System Command Center (ATCSCC) and more than 100 other FAA facilities, as well as NAV CANADA and 24 domestic and international airlines.

In 2011, Metron Aviation was acquired by Airbus Americas, and became part of Airbus ProSky, Airbus’ air traffic management subsidiary group, growing the company’s partnership with international stakeholders and providing access to the latest avionics and aircraft technologies. Metron Aviation’s ATFM solutions continue to deliver return on investment by eliminating delays, reducing fuel burn and improving efficiency, worldwide.

Metron Aviation is the leader in ATM innovations. From concept to training and software to implementation, our solutions eliminate delays, reduce fuel burn and improve efficiency, worldwide.
OUR SOLUTIONS

Each of Metron Aviation’s products and services delivers stakeholders a solution to their unique concerns. Metron Aviation’s creativity and flexibility allow the team to apply their global knowledge to a local challenge. Its breadth of experience with ANSPs, airports, airlines and civil aviation authorities ensures the solutions will be a success.

On average, air traffic doubles every 15 years and Airbus predicts an average of 4.7% of yearly growth for the next 20 years: This means roughly 20,000 additional aircraft in the air by 2032 with some regions experiencing double digit growth rate. This fleet growth will result in a greater need for ATM solutions that allow for increased capacity, efficiency and sustainability.

Air Traffic Flow Management

Air Traffic Flow Management (ATFM) is the manner in which ANSPs, aircraft operators, and airports can efficiently balance demand to available capacity. Metron offers flow management solutions for all phases of flight—from gate-to-gate. Its ATFM system, Harmony for ANSPs, is an Integrated Air Traffic Flow Management solution that provides a framework for exchanging flight data among users who share the need for a common view of air traffic flow operations.

With the ability of Metron Harmony for ANSPs to draw flight data from multiple sources, air traffic is monitored in real-time to ensure users have the most up-to-date demand and capacity information from selected airports and airspaces. Users are able to model and implement Traffic Management Initiatives to align air traffic demand with available capacity through specific airport-based and airspace-based flow programs. The aggregated available data provides ANSPs, aircraft operators and airport operators the capability to examine the current and predicted demand and capacity of key resources. In-depth post analysis and reporting features allow users to continually improve operational performance.

Metron Harmony has a global footprint—having deployment in countries within North America, Australia, Africa, Latin America and Asia.
WEATHER TRANSLATION

Weather is one of the greatest aviation challenges of our time. Impacting efficiency and capacity, weather has the ability to cancel and delay flights unlike any other factor affecting our skies. Metron Aviation offers solutions to predict its effects and minimize overall traffic impact. By improving weather resiliency, we will be able to mitigate the effects on millions of travelers throughout the world.

Airspace Design

Metron Aviation is at the forefront of airspace design and analysis. Its deep expertise in aviation analysis allows Metron to provide comprehensive airspace optimization research, airspace capacity studies, and dynamic airspace configuration research and frameworks. In addition, its unique position allows these studies to be implemented with decision support tools not available through any other organization. These design and analysis capabilities result in increased efficiency and capabilities.

Metron has analyzed the airspace surrounding some of the busiest airports in the United States including Las Vegas and Newark—as well as around the world—including in China and the UAE.

Aviation Environment and Energy

Metron Aviation possesses a comprehensive understanding of the environmental impact of air transportation and is committed to helping the aviation industry address vital environmental and energy-related challenges. By doing so, it will improve the sustainability and harmonization of global aircraft operations and enhance the efficiency of the national airspace. Metron is at the forefront of noise studies, alternative fuel research as well as comprehensive energy efficiency studies, working with the Federal Aviation Administration, IATA and global airlines to develop the latest sustainable solutions.

OUR CAPABILITIES

Research and Development
Concept Validation
Analysis
System Development and Implementation
OUR METHODOLOGY

Concept Engineering

Metron Aviation is at the forefront of research and development, through its innovative approach called Concept Engineering (CE). The CE methodology includes key components, such as mission analysis, concept exploration and concept deployment. It then uses the Human-In-The-Loop (HITL) exercises to rapidly turn groundbreaking concepts into prototypes and, ultimately, operational systems. A test-bed provides a laboratory for studying the interaction of decision support tools with the decision makers, under a variety of normal and irregular conditions. Operational simulations through this practice dramatically improves delivery schedules and lowers project costs, while helping customers rapidly turn new concepts into deployed capabilities.

Collaborative Decision Making

Collaborative Decision Making (CDM) is the process of engaging stakeholders to share data and decide on a course of action considering the individual stakeholders needs. Metron Aviation embraces CDM in our engineering processes and our operationally deployed solutions. Through real time decision making sessions, Metron Aviation guides all stakeholders—ANSPs, ATC, airlines, airports, etc.—to feel engaged and committed to an end-game solution.

THE METRON AVIATION TEAM

The Metron Aviation team is a committed group of innovators, subject matter experts, and math and science experts. The group works together to provide partners and clients with world-renowned solutions to ATM challenges.