CUSTOMER CASE STUDY

PASSUR Aerospace, Inc.

PASSUR KNOW NOW™

Aeromexico Achieves Global #1 On Time Airline Designation

PASSUR's Role in Aeromexico's Success

2.3
Minutes saved in taxi-in times per flight

91.1
Percent On-Tine Performance

Project overview

In 2024 Aeromexico was named 'The World's Most On Time Airline' by the aviation statistics company, Cirium. Aeromexico has publicly cited PASSUR's ARiVA platform as a critical contributing factor in this remarkable achievement.

Since 2019, PASSUR has been partnered with Aeromexico (AMX) in helping to optimize its Mexico City hub operation with superior flight arrival predictions, alerts for gate conflicts and other irregular operations, and workflow software to coordinate complex airfield movements like aircraft tows.

ARiVA is also used by the Mexico City International Airport (AICM) and SENEAM (Mexican air traffic control) organizations to help them coordinate in real time with Aeromexico.

PASSUR and Aeromexico continue to innovate, with plans for advanced disruption alerting, enhanced airfield geo-location services, and expanded flight prediction services.

The partnership between PASSUR and Aeromexico illustrates how the combination of data, predictive technology, and workflow collaboration software can be a critical package supporting an airline's ambition to remake its internal processes in support of an ambitious goal like superior on time performance.

Opportunity

Mexico City International Airport (AICM) is key to Aeromexico's operational performance, since 85% of its entire daily schedule flows through that airport. AICM is a complex, congested operation – Mexico's largest – with more than 320,000 flight operations in 2024 and more than 45.3 million passengers. AICM is the third largest airport operation in Latin America (measured by passenger traffic). AICM is also subject to significant disruptions due to factors like volcanic eruptions, earthquakes, torrential rains, and high elevation.

Because of the congestion at AICM, and the importance of that operation to AMX's overall performance, several challenges on the airfield were having an outsize impact:

- Last minute gate changes due to unexpected gate occupancy and poor arrival time forecasts
- Extended taxi-in times and gate delays on arrival
- Complex aircraft towing operations to reposition aircraft

The impact of these operational challenges include:

- Unnecessary fuel burn (excess cost and CO_2 emissions)
- Missed connections (bags/passengers/crew)
- Reduced on time performance
- Reduced aircraft utilization time (each aircraft is in a revenue-producing state, i.e. flying with passengers vs. sitting on the ground empty)

AEROMEXICO

About Aeromexico

Aeromexico is Mexico's global airline and has its main hub at Mexico City International Airport.

Its destinations network features Mexico, the United States, Canada, Central America, South America, Asia, and Europe.

The Group's operating fleet is comprised of Boeing 787 and 737 jet airliners and Embraer 190 models.

Aeromexico is a founding member of the SkyTeam airline alliance, which celebrated its 24th anniversary and serves 184 countries with its 18 SkyTeam airline partners.

Voice of the Customer

"PASSUR is an important contributor to Aeromexico's award of #1 On Time Performing Airline in the world. Our optimized aircraft tow operation, managed by Aeromexico's skilled ground operations team on the PASSUR ARiVA platform, is an essential component of that outstanding achievement — part of a larger integration of the ARiVA platform into Aeromexico's operations. We are very pleased with the Aeromexico-PASSUR partnership."

Juan Carlos Almanza, Director of Mexico City International Airport Operations/Underwing for Aeromexico.

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Solution approach

PASSUR's contribution is delivered through its ARiVA platform – a single, common operating view for airlines and airports to optimize their operations through situational awareness, alerting, decision support and collaborative workflow tools. ARiVA is fed by the largest real-time and archived repository of flight, airport, and airspace data – a global database that is processed with Artificial Intelligence and Machine Learning to support hundreds of operational and business use cases.

Key elements in PASSUR's contribution to AMX performance at AICM include:

Highly accurate arrival time predictions, driven by global data, AI and machine learning

PASSUR's proprietary flight arrival prediction technology uses multiple sources of real time and historical data about flight, airspace, and airport conditions; physical models of each aircraft type; and dynamic techniques such as Machine Learning and Artificial Intelligence to continuously refine the predicted arrival time (ETA).

An earlier, more accurate ETA is foundational to optimizing functions like gate allocation, passenger connections, and aircraft turnaround times (time it takes to transition a plane from arrival to departure).

Gate conflict and alternate gate availability alerts

The ARiVA platform visualizes the actual status (occupancy) and the incoming demand for all gates, and flags potential conflicts which will result in extended taxi -in times, misconnections, fuel burn, and schedule delays; and shows alternative available gate capacity, and enables AMX to dynamically reassign aircraft to alternate gates to prevent these negative impacts. From this Gate Optimization module, the airline can dynamically: reassign an aircraft to a new gate; move an aircraft to the Aircraft Tow list; and move the aircraft into a Departure Sequence list for its next leg.

Aircraft tow planning and real time execution

ARiVA enables the airline to plan an entire day of aircraft towing in advance; add or delete tows on the fly; and manage each aircraft tow through its entire timeline of operational milestones. The airline completely remade its aircraft tow process with the ARiVA tow module at its core. Every single aircraft tow in the complex, congested Mexico City Airport operation is managed on ARiVA, with multiple stakeholders collaborating in real time – including Mexico City air traffic controllers (SENEAM) and the airport operator (AICM) – enabling each to perform their role in the airfield operation without the need for repetitive radio communications, phone calls, texts or emails.

The ARiVA platform is used not only to coordinate decision making within Aeromexico, but also between the airline and its key stakeholders – AICM operations and SENEAM operations. Both of these entities have access to ARiVA and use it to assist in coordinating their operational roles in the airfield operation.

Results

The operational metric that Aeromexico uses to measure the outcome of this program is a reduction in aircraft taxi-in times. Since PASSUR began working with Aeromexico in 2019, Aeromexico has saved an average of 2.3 minutes of taxi-in time for every single flight into Mexico City International Airport. When multiplied across hundreds of flights per day, this quickly adds up to significant positive, cascading impacts on the following metrics:

- On time performance
- Reduced fuel burn
- Successful passenger and bag connections
- Higher aircraft utilization

In March 2024, PASSUR was recognized at an Aeromexico company awards ceremony for playing a crucial role in Aeromexico's OTP success, on the occasion marking the airline's hitting a milestone of 25,000 aircraft tows performed using AMX's new operational concept and PASSUR ARiVA.

In recognizing Aeromexico, Cirium wrote: "Aeromexico has consistently demonstrated superior On Time Performance, earning recognition as one of the most reliable airlines worldwide. In September, the airline achieved an OTP of 91.13%, a nearly 5% improvement from August's 86.54%. These results reflect Aeromexico's effective operational strategies, meticulous scheduling, and proactive approach to minimizing delays across its network."

PASSUR KNOW NOW

PASSUR® Aerospace provides data, decision support, and collaborative workflow optimization technologies in aviation operations, finance, and environment. We deliver these capabilities through our ARiVA data and software platforms.

ARiVA helps airports, airlines and air traffic organizations improve operational efficiency, maximize revenues, reduce delays and disruptions, and enhance safety and sustainability.

PASSUR provides data and software solutions to airlines, airport operators, private aviation, ANSPs, and data integrators around the world.

For more information, please visit www.passur.com

Click to view PASSUR's video about ARiVA at Aeromexico:

English version
Spanish version

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www.passur.com

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PASSUR has been a critical component in Aeromexico's on-time performance success, helping to move the airline from 86.5% to 91.1% on-time flights.