PASSUR
Airline Solutions Overview
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About PASSUR

Our mission is to improve global air traffic efficiencies by connecting the world’s aviation professionals onto a single aviation intelligence platform, making PASSUR an essential element in tackling the $30 billion of current system-wide inefficiencies.

We are an aviation intelligence company that makes air travel more predictable, gate-to-gate, by using predictive analytics generated from our own big data to mitigate constraints for airlines and their customers.

The largest connected, global aviation customer network includes thousands of individuals, over 125 airlines, over 60 airports, over 200 business aviation organizations, and the US government.

The largest surveillance and data network of its type in the world includes terabytes of data from sensors, including aircraft, all over the world.

- We’ve been storing flight, airspace, aircraft, and airport data—hundreds of parameters, thousands of updates (every 1.0–4.6 seconds)—for over 10 years, in hundreds of locations.
- We have over 180 company-owned surveillance sensors, covering hundreds of airports and their airspace.
- We integrate and fuse additional data sources—government flight plans, en-route tracking, surface tracking, satellite-based aircraft positional updates, onboard aircraft positional updates, airline flight status data, and airport gate and status data.

Here are a few examples of how PASSUR facilitates data-driven decisions made by our experienced customers, who help make a difference to everyday travel:

1. 53% of all US domestic commercial flights are managed with PASSUR predictive analytics for predicted arrival times by using years of archived data and real-time airspace analysis, allowing airlines and airports to always be ready for the aircraft. This capability reduces gate “unmets,” helping connections of people, crew, and bags, and getting the plane ready for its next departure. (If not, passengers are more likely to wait at the gate for the door to open, bags don’t get to their destination, or connections are missed.) This single capability could save one airline over $15 million each year.

2. We maximize airspace, runways, and gate usage by using predictive analytics to determine how airports should be configured to get the most out of their capacity. (If not, decisions are less likely to be data driven but instead based on experience only, resulting in fewer planes landing during busy times of the day.) This single capability could save one airline over $12 million each year.

3. We help airlines, airports, and air traffic control prioritize departures to maximize capacity and minimize delays by helping to ensure that all three stakeholders work in unison with the most accurate, timely information. (If not, departures push back from the gate whenever they’re ready, creating blocked gates and extended taxi delays.) This single capability could save one airport and its airlines over $15 million each year.
# Airline Solutions Overview

**PASSUR’s Mission for Airlines Is Threefold:**

- To improve global air traffic efficiencies by putting intelligent information and decision support solutions in the hands of smart people.
- To connect the world’s aviation professionals onto a single platform.
- To ensure an unimpeded flight, gate-to-gate, by addressing the key chokepoints along the flight trajectory.

PASSUR identifies the constraints, provides solutions to address them, and then measures the results, all on a single platform—PASSUR Integrated Traffic Management (PITM). PITM is a web-hosted, integrated business intelligence platform that targets key constraints throughout the entire flight lifecycle to optimize fuel costs and emissions, schedule integrity, and the passenger experience.

PASSUR targets the $30 billion-plus costs of delays, cancellations, diversions, and other disrupted operations—and the related costs in passenger goodwill and brand perception.

We see the costs and complexities previously thought to be “a cost of doing business” as a major opportunity for optimization, cost cutting, passenger care, and brand stewardship.

We work with many of the largest, most innovative global airlines, including all of the top North American airlines and—through our global Connectivity and Collaboration program—125 international airlines.

**PASSUR’s Solutions Enable Airlines to:**

- Predict arrival times more accurately.
- Anticipate pending airport delays.
- Manage congested airways, surface operations, and irregular events more effectively.
- Coordinate with other aviation organizations to help ensure smooth and predictable operations.

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<th>Market Need</th>
<th>PITM Solutions</th>
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<td>Address “disruption events” through the entire flight lifecycle on a continuum of integrated capabilities (“gate-to-gate”) impacting specific operational and financial metrics</td>
<td>Target major constraints throughout the lifecycle of a flight</td>
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<td>Emphasize decision support in addition to situational awareness</td>
<td>Predictive analytics provide recommended actions and predicted outcomes, and support a proactive vs. reactive posture</td>
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<td>Minimize internal IT resource requirements</td>
<td>Web-based delivery means reduced airline IT requirements</td>
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<td>Generate immediate, measurable benefits—financial, operational, and customer experience</td>
<td>Proven in real-world airline operating environment with detailed ROI calculators provided; integrated platform allows for reduction in other vendors/providers</td>
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<td>Deploy systemic solutions</td>
<td>Covers entire airline network; creates common operating/collaborative platform within airline ops/hub control, between mainline/regionals, and with airports</td>
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SUMMARY
Inaccurate Estimated Times of Arrival (ETAs) lead to poor connections for passengers, baggage, and crews; inefficient use of aircraft and gates; and poor turn-time performance. The PASSUR ETA provides the industry’s most accurate gate-to-gate flight arrival predictions, allowing an entire airline or airport system to optimize all existing business and operational processes, no matter what the weather.

- The costs of inaccurate ETAs for a typical airline at a hub airport can reach tens of millions of dollars annually.
- PASSUR provides the most accurate ETA in the industry, validated by more than 10 independent airline studies.

HOW PASSUR SOLUTIONS HELP TO ADDRESS THE PROBLEM
Airlines today integrate the PASSUR ETA into their key operational systems, including flight, gate, reservation, and baggage systems—as well as their passenger-facing websites.

WHAT MAKES IT UNIQUE
The PASSUR ETA is based on proprietary algorithms, fed by multiple data sources in real time, including live and historical flight position and airspace performance information from the network of PASSUR surveillance systems.

KEY METRICS IMPROVED
- Passenger, bag, and crew connections
- Number of gate holds/gate unmet
- Gate swaps
- Ground support head count
- Turn-time performance

WHAT THE AIRLINE WILL DO DIFFERENTLY
All of the airline’s existing processes, workflows, and systems are optimized—with no training required and no new software to learn.

INDUSTRY USE
53% of daily North American landings for scheduled passenger carriers are powered by the PASSUR ETA.

SNAPSHOT CASE STUDIES
- A major US airline reduced the number of “unmet aircraft” (aircraft that arrive at the gate with no service teams to deplane them) at its largest hub from more than 12 per day to essentially zero.
- An airline hub director reported that his entire operation was running more optimally immediately upon implementation of the PASSUR ETA.

PASSUR ETA Study: Reducing Variability in ETAs

More than 10 independent airline studies have shown PASSUR arrival predictions—powered by the PASSUR surveillance network and algorithms—to be significantly more accurate than internal airline ETAs, resulting in greater schedule integrity, fewer missed connections, and reduced costs related to gate holds.
Surface Management

SUMMARY
Surface constraints and bottlenecks are costly in terms of fuel burn, emissions, schedule integrity, and passenger goodwill. PASSUR Surface Management reduces extended tarmac delays and taxi-in/taxi-out times, prioritizes high-value flights, and facilitates an efficient turn management process.

HOW PASSUR SOLUTIONS HELP TO ADDRESS THE PROBLEM
PASSUR Surface Management improves the efficiency and safety of operations through common situational awareness, complete surface surveillance, and decision support.

WHAT MAKES IT UNIQUE
PASSUR Surface Management is seamlessly integrated with terminal and en-route flight tracking for a true gate-to-gate flight and airspace visualization platform—including affordable, high-reliability surface surveillance tailored for commercial requirements of airlines and airports (not the safety requirements of Air Navigation Service Providers). Beyond flight tracks, it includes dashboards of key performance metrics, information tables, alerts, and predictive analytics to enable true “management by exception.”

MEASURE, MONITOR, AND MANAGE YOUR MOST IMPORTANT METRICS
Airlines using PASSUR Web Tracker gate-to-gate flight, airport, and airspace visualization can already view detailed airport surface operations and status. Now PASSUR customers can create customized Key Performance Indicators and metrics that tap directly into PASSUR’s flight, airspace, and airport master databases, based on their specific business and operational needs, to drive “management by exception.”

- Build your own performance metrics—and then determine how you want to visualize, track, and be notified onscreen of important changes.
- Reduce the risk of DOT three-hour and four-hour fines.
- Customize each airport’s alerts to reflect the operating or surface traffic conditions, to stay proactively aware of congestion and delay risks, or to stay notified about a specific high-value flight from gate-out to wheels up.

KEY METRICS IMPROVED
Gate availability and gate management
- Fewer gate holds
  - Less fuel burn/carbon emissions
- Better bag/passenger connections
- Fewer obstructed pushbacks
- Improved DO and A14

Departure sequencing/metering
- Schedule integrity for high-value flights
- Fewer minutes of delay
- Fewer minutes of taxi-out fuel burn
  - Lower fuel costs and emissions
- Reduced risk of DOT tarmac delay fines

Deice dwell time
- Fewer minutes spent in deice queue (into deice pad and after deicing)
- Less secondary deicing
- Fewer delay minutes on departure
- Reduced fuel burn related to deice queue (pre and post)

Return to gate
- Fewer long-onboard delays (tarmac delays)
- Reduced risk of DOT three-hour and four-hour fines

WHAT THE AIRLINE WILL DO DIFFERENTLY
Airlines are empowered to prioritize their departure and arrival sequences, precisely time aircraft pushbacks, and make better return-to-gate decisions.

INDUSTRY USE
60% of daily flights at airports with surface tracking are managed on PASSUR Surface Management.

SNAPSHOT CASE STUDIES
Seasonal benefits, first winter of Deice Metering, two major US airports:
- $2.7 million savings to the airlines from:
  - Reduced secondary deicing
  - Reduced fuel burn
  - Fewer diversions

KEY PERFORMANCE INDICATOR DASHBOARD
At-a-glance view of key airport and terminal airspace metrics, allowing on-the-fly changes to optimize unused capacity—reducing delays and taxi-out fuel burn, and prioritizing high-value flights.
Surface Metering and Sequencing

SUMMARY
Uncoordinated arrival and departure sequencing at constrained airports with today’s "first-come, first-served" policy creates unacceptable delays and disruptions, and ignores airline and airport business objectives. PASSUR Surface Metering and Sequencing enables airports to maximize the use of existing resources and demonstrate proactive, forward-thinking management of the operation on behalf of airlines and travelers.

HOW PASSUR SOLUTIONS HELP TO ADDRESS THE PROBLEM
PASSUR’s Surface Metering and Sequencing solution creates a "virtual departure queue," in which departures are metered before they "call for service" from the tower. As a result, once aircraft enter the active taxiway, they are ready to depart quickly.

An automated slot management program fairly and equitably organizes departure and arrival slot requests and assignments, reducing the number of aircraft waiting to take off, and ordering arrivals and departures to most efficiently use gates.

With this solution, carriers can efficiently and accurately predict arrival vs. departure demand and system capacity, ensuring optimal operations and minimized performance impacts.

WHAT MAKES IT UNIQUE
PASSUR has led the industry in the development of departure metering and sequencing solutions designed to optimize commercial operational and business priorities, with the most deployments in North America in the most diverse number of configurations. PASSUR solutions are uniquely optimized by unmatched accuracy of forecasted demand and capacity, which ensures that the metering and sequencing programs are optimized for anticipated conditions.

KEY METRICS IMPROVED
Schedule integrity for high-value flights
- Fewer minutes of delay
- Fewer minutes of taxi-out and taxi-in fuel burn

Reduced fuel costs and emissions
- Reduced risk of DOT tarmac delay fines

Deice dwell time
- Fewer minutes spent in deice queue (into deice pad and after deicing)
- Less secondary deicing
- Fewer delay minutes on departure
- Reduced fuel burn related to deice queue (pre and post)

WHAT THE AIRLINE WILL DO DIFFERENTLY
Using PASSUR’s collaborative metering and sequencing software, airlines are able to coordinate with Air Traffic Control (ATC), ground operations, and all other airlines to maximize the available gate, ramp, runway, and departure fix capacity.

INDUSTRY USE
A program pioneered by PASSUR in North America is now used at several of the largest North American airports.

SNAPSHOT CASE STUDIES
Annual benefits from PASSUR Departure Metering at a major US airport:
- 14,800 hours total reduced taxi time
- $11 million savings in fuel costs
- 48,000 tons reduced emissions
SUMMARY

Ground Delay Programs (GDPs) and other Traffic Management Initiatives (TMIs) frequently place excessively high constraints on arrival rates, which in turn impose a harsh financial and customer experience penalty on airlines. PASSUR’s Traffic Flow Management solution provides a data-driven, common operating platform that enables airlines and ATC to collaboratively arrive at the right rate based on instant data mining processes that match the weather forecast to historical performance under identical conditions.

- In many cases, constraints can be adjusted or managed to benefit the airlines’ collective arrival rates, cutting costs significantly during the process while improving reliability and the customer experience.
- This allows the operation to be calibrated to an agreed-upon target rate that reflects operational, business, and traffic management needs.
- This PASSUR capability is the foundation for other successful traffic management programs, such as departure metering and sequencing, which depend on the same accurate forecasted performance profiles to ensure they are optimized.

HOW PASSUR SOLUTIONS HELP TO ADDRESS THE PROBLEM

Through a unique process of data mining and predictive analytics, the PASSUR solution removes subjectivity in setting rates for traffic management initiatives, replacing it with a range of performance target options, depending on the specific business objectives and operating configurations of the airline and ATC. This enables a data-driven, collaborative process and prevents excessive delay minutes or holding and diversions.

WHAT MAKES IT UNIQUE

This PASSUR solution enables operators and ATC to arrive at a precise and accurate calibration of arrival and departure rates up to 16 hours in advance. It is based on a unique repository of historical flight, airspace, and airport data; an accurate and precise forecast of actual inbound demand; and a software engine that allows users to quickly match demand and performance capacity to the weather forecast and their own operating requirements.

PASSUR Flight Status Monitor (PFSM)

PASSUR customers can now add a new layer of predictive visibility to see true inbound demand (airport-wide, their own airline, or specific flights) to determine the exact adjustments needed to preserve schedule integrity, prioritize high-value flights, proactively manage connections—and reduce congestion, disruptions, delay minutes, cancellations, and diversions.

KEY METRICS IMPROVED

- Rate of arrival acceptance during GDPs
- Departure rate associated with GDP performance
- Total delay minutes per GDP

WHAT THE AIRLINE WILL DO DIFFERENTLY

- ATC coordinators will be able to negotiate a flow rate into/out of a given airspace that conforms to a higher historical performance rate and favors the airline’s operating and business needs.
- If the pending imbalance seems severe beyond the ability to negotiate a more favorable rate from ATC, the airline can begin proactively canceling or consolidating flights to prevent diversion conditions.

INDUSTRY USE

- Two of the top US airlines actively use this solution daily for their most congested hubs and airspace.
- The rate and configuration prediction algorithms that power this solution are used in the PASSUR Departure Metering and Sequencing programs in place at several North American airports.
- The flight arrival prediction times are used by three of the top five US airlines to calculate arrival demand throughout their networks.

SNAPSHOT CASE STUDIES

- A major US airline that has fully deployed this solution at some of its key hubs eliminated 48,000 delay minutes associated with TMIs in one year, 27% over its annual goal.
- During one trial of this program, an airline’s dispatchers successfully increased the rate of arrival during a GDP at an airport by a factor of four flights per hour. To do so, they compared the runway configuration during a previous GDP under identical weather and operational conditions to the lower-rate GDP and advised ATC of the discrepancy; the rate was raised immediately.

Accurately predicting true arrival demand and setting the right arrival rate and runway configuration based on correct forecasts allow all available capacity to be used—resulting in higher schedule completion and fewer expensive delays, cancellations, and diversions.
Diversion Management

SUMMARY
Diversions are an expensive, chronic, and disruptive element of flight operations, costing US carriers at least $300 million annually for domestic flights alone.* With the PASSUR Diversion Management solution, carriers decrease the number of diversions they experience and optimize ones that are unavoidable, improving profitability, passenger care, and environmental metrics considerably.

- A diversion is not a single, discrete event but rather a set of cascading actions that cause severe disruptions to airline schedules, major costs, and significant passenger frustration and ill will.
- Diversions cost can range from $15,000 for a narrow-body domestic flight to over $100,000 for a wide-body international flight.**

HOW PASSUR SOLUTIONS HELP TO ADDRESS THE PROBLEM
The PASSUR Diversion Management solution provides advanced analytics (e.g., expected release from holding pattern) to alert dispatchers, ATC coordinators, and pilots to divert early, not divert, or select the least diversion-congested alternate airport.

WHAT MAKES IT UNIQUE
PASSUR’s Diversion Management solution is part of an integrated suite that reduces costs and constraints gate-to-gate, powered by the largest commercial traffic management surveillance network in the world. It provides the data granularity, completeness, and precision needed to create predictive, real-time, postoperational visibility into diversions.

KEY METRICS IMPROVED
- Prevent diversions
- Optimize diversions (when executed early or prioritized in the stack)

WHAT THE AIRLINE WILL DO DIFFERENTLY
- Process diversions earlier, as appropriate, to prevent unnecessary additional fuel burn/time in the air holding
- Manage diversions in both terminal and en-route environments
- Identify and manage diversion prevention/optimization opportunities centrally for the entire airline system

ELEMENTS OF THE SOLUTION
- Diversion Management module
- Tarmac Delay Management module
- Surface Management module
- Connectivity and Collaboration platform

INDUSTRY USE
- This solution is used by airlines to manage holdings and diversions for 25% of the flights in the NAS (and increasing).
- 12 major North American airports manage surface operations on the PASSUR platform.
- 100+ airports manage major events and disruptions on the PASSUR Connectivity and Collaboration platform.

SNAPSHOT CASE STUDIES
- During the Chicago ATC fire of 2014, diversion management was coordinated on the PASSUR platform with the airlines in real time. As a result, although there were 89 diversions from ORD, they were spread out among 34 airports—and no single airport received more than 11% of the diversion total.
- A major Northeastern airport that uses PASSUR Diversion Management reports that it regularly receives alerts to inbound diversions in advance of FAA flight plan changes or airline advisories.

Prevent or optimize diversions, reduce fuel burn, and stay ahead of upcoming congestion and delays through a unique dashboard that monitors and notifies airlines of holding and diversion activity nationwide.

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* Derived from industry benchmark cost ranges for narrow-body domestic diversions only; based on DOT ASQP annual reported diversions from top 10 US carriers, US to US diversions only.

**Summary**
Extended or unpredictable “turn times” (the interval between an airframe’s arrival and departure) can lead to expensive schedule disruptions and passenger ill will that ripple through an airline’s network throughout the day. PASSUR’s Turn Time Management solution helps airlines and airports successfully optimize tight turn times by monitoring and proactively alerting to bottlenecks at each phase of the aircraft’s cycle from arrival to departure, allowing flight and passenger handling resources to be adjusted to ensure an on-time process.

**How PASSUR Solutions Help to Address the Problem**
The Turn Time Management solution is a joint offering between PASSUR and INFORM GmbH. PASSUR’s flight, airspace, and airport efficiency solutions, combined with INFORM’s hub control and turn-management platform, enhance the accuracy of important metrics and milestones in a flight’s transition from arrival to departure.

**What Makes It Unique**
Solution elements include PASSUR’s Estimated Time of Arrival (ETA) predictions, en-route and terminal airspace constraint predictions, Air Traffic Management (ATM) key performance indicator alerts, and real-time surface surveillance and gate conflict alerting. The INFORM solutions include turn monitoring, prediction of real and potential bottlenecks in above- and below-wing ground operations, optimized deployment and allocation of mobile and static resources, and a suite of equipment localization and mobility options.

**Key Metrics Improved**
- Passenger, bag, and crew connections
- Number of gate holds/gate unmet
- Gate swaps
- Ground support head count
- On-time departures
- Airframe utilization

**What the Airline Will Do Differently**
Airlines will adjust the deployment of resources to reflect an earlier and more accurate prediction of when aircraft will arrive at the gate, the status of the airframe as it transitions from arrival to departure, and the status of passengers as they process to the gate and board for departure.

**Industry Use**
The flight, airspace, and airport predictive analytics that are a core element of the traffic flow component of Turn Time Management are widely used and trusted by the largest US airlines and dozens of leading airports—including flight arrival, airport configuration and performance predictions, and arrival and departure rate predictions.
PASSUR Intelligent Query (P-IQ)

SUMMARY
Airlines and airports have multiple opportunities to adjust their plans by making different decisions and choices throughout the day to ensure that their operation is delivering the greatest efficiencies, revenue, and cost savings.

PASSUR Intelligent Query (P-IQ) enables airlines and airports to segment their most important operational objectives, and then automatically alerts and notifies them to actions they can take to achieve their goals.

HOW PASSUR SOLUTIONS HELP TO ADDRESS THE PROBLEM
P-IQ allows users to extract from a mass of data a set of clear options to make a different decision that will have a measurable impact on specific priorities, like on time departures, connections, or deice times (among many others).

It is a capability that automates and streamlines opportunities for efficiency gains, revenue optimization, and cost savings on a daily basis. In the past these opportunities were hidden from view because neither the data nor the query capability nor the alerting platform was available to the end user.

WHAT MAKES IT UNIQUE
- PASSUR’s Flight, Airport, and Airspace databases, together with the fusion of PASSUR’s Air and Surface Radars, customer data, FAA data, and multiple additional industry data sources. There is no comparable database or capability.
- The PASSUR Aviation Intelligence Center of Excellence—our team of subject matter experts with extensive backgrounds in airline, airport, ATC, and business aviation operations. These team members have created a rich baseline of “save scenarios” within the P-IQ tool, based on their detailed knowledge of the industry and of the National Air Space.
- PASSUR’s team is also available to work with customers to expand on the baseline scenarios to quickly identify new, specific metrics appropriate to each customer’s needs.
- The P-IQ software fuses the unique PASSUR data and subject matter expertise into a powerful new engine that enables and prompts the user to identify multiple new metrics that represent efficiency and cost saving opportunities.

KEY METRICS IMPROVED
The first version of P-IQ is focused on Surface Management metrics and opportunities, including:
- Preserving on-time scores, such as reportable DOT metrics like A14/D0
- Optimizing delay programs (opportunities to prioritize one delayed flight over another, “SWAP Opportunities”)

PASSUR INTELLIGENT QUERY (P-IQ)

P-IQ, integrated with PASSUR’s Visual Flight Tracker, provides users with the capability to build customized rules, based on their unique business requirements and needs, to enable alerting and management by exception.

- Optimizing turn times (by resolving gate conflicts)
- Prioritizing departure sequences (through notifications of flight “ready state”)
- Deconflict surface bottlenecks (through notifications of deice queues and extended taxi times)

Future releases will include, among others, opportunities to:
- Optimize fuel costs (e.g., tankering opportunities)
- Preserve connections (bags, passengers, crew)
- Avoid crew timeouts (FAA Crew Rest notifications)
- Streamline weight and balance closeout

WHAT THE AIRLINE WILL DO DIFFERENTLY
Airlines will be able to identify opportunities for optimization related to specific flights throughout the day, which correspond to their specific operational and business priorities. For example, users will be alerted to lists of flights that are at risk of missing A14 or D0, but can be managed to preserve their on-time status.

P-IQ allows the user to access pre-set metrics designed by PASSUR’s subject matter experts (in consultation with our customers), to create lists of flights that meet specific windows of opportunity to take action to achieve a desired operational objective.
SUMMARY
Landing fees represent hundreds of millions of dollars in costs to airlines—a major component of closely tracked Cost Per Enplanement (CPE) metrics. If airports are inefficient or inaccurate in capturing all billable weight, airlines using that airport must make up the difference—either in midyear “true-ups” or following-year rate increases. The PASSUR Landing Fee Management program provides assurance and validation that all fees owed are being captured and assigned to the right airlines through a completely independent, data-driven, detailed review of all operational activity that goes into the airport’s landing fee revenue.

- PASSUR audits of 22 airports show an increase of 1%–4% of revenue by capturing more landings using our data and processes than by using traditional methods.
- With complete capture of all billable weight, airlines can reduce their landing fee unit costs from 1%–4%. Even when an airline is extremely accurate in its self-reports, cargo, diversions, extra flights, itinerant traffic, and general aviation activity can frequently go uncaptured.
- The program ensures that airlines pay only their fair share and nothing more; that their individual fees will go down while the airport collects all that is owed; and that the time and effort required to manage their fees are reduced.

HOW PASSUR SOLUTIONS HELP TO ADDRESS THE PROBLEM
PASSUR’s solution provides unique data independence, accuracy, and reliability—combined with proven reporting, audit, and billing services—to give airports and airlines the assurance that all billable weight is being captured, that the cost of the airfield is being distributed fairly and equitably, and that the process is transparent, automated, and standardized.

WHAT MAKES IT UNIQUE
- Independent data, with tail number captured per flight, from PASSUR’s proprietary fused flight, airport, and airspace surveillance network and databases
- Years of historical information about flight and fleet activity
- Proven, mature, and evolved data processing, reporting, and fee management tools
- Industry adoption—more than 35 airports are on the platform—covering 33% of all daily scheduled landings in the US

KEY METRICS IMPROVED
- Reduction in total landing fee costs
- Fewer and smaller midyear corrections, revisions, and “true-ups”
- Less time and labor required to manage fees

WHAT THE AIRLINE WILL DO DIFFERENTLY
- Use the same standardized, automated system at all airports
- Reduce the frequency and magnitude of revised payments due to “true-ups”
- Pay only their fair share, while ensuring all others are paying theirs
- Stop submitting landing counts and landed weight self-reports

INDUSTRY USE
- More than 35 airports currently use the PASSUR Integrated Fee Management program, representing over $1 billion in landing fees managed on the platform.
- System-wide, an average of 33% of all daily scheduled landings are managed on the PASSUR platform.

SNAPSHOT CASE STUDIES
- PASSUR audits of 22 airports showed that they capture 1%–4% more landed weight using the PASSUR solution compared to their current processes, which translates directly into a 1%–4% reduction in landing fees paid by airlines.
- One mid-sized Midwestern airport audit showed a weight capture loss in two months totaling $157,000 (1.7%) in landing fees—primarily from diversions and non-scheduled activity.
- One mid-sized West Coast airport showed it had missed billing 780 flights over two months, primarily cargo and charter, resulting in a landing shortfall of 5%.

Optimizing Rates and Charges

INTEGRATED FEE MANAGEMENT
Airlines and airports ensure that landing fee revenue is collected fairly and transparently, and missing revenues are captured, by standardizing and automating the process onto a single platform, using PASSUR data and software.
Connectivity and Collaboration

SUMMARY
Many types of complex, expensive operations—like diversion or severe weather events, accidents and security incidents, or planned large movements—can only be managed if the key stakeholders are communicating and collaborating in real time, using the most up-to-date common operating platform. PASSUR Connectivity and Collaboration addresses one of the key missing pieces in connectivity and collaboration: the two-way flow of accurate, timely, and complete information between airport operators and airlines.

HOW PASSUR SOLUTIONS HELP TO ADDRESS THE PROBLEM
The PASSUR Connectivity and Collaboration platform allows airports to communicate and coordinate with airlines and other key stakeholders to ensure that operations are optimized with airport-critical information that is otherwise unavailable.

Airport Communicator
The newest release of the most widely distributed collaborative information exchange platform in the industry, created to optimize large events, major disruptions, and daily operations by linking all key stakeholders in real time with airport updates and other critical information in one place. The new release further enhances seamless communication and coordination through mobile-device compatibility, greater user-configurability, and new airport-directed content management.

Airport Information Network
The single North American platform for collaborative management of tarmac delays, diversions, field conditions, and communication of airport intent and planning, including:
- Critical airport updates and performance metrics in real time.
- Diversion saturation by airport in real time.

ITOP (IATA Tactical Operations Portal)
Provides airlines globally the ability to minimize same-day constraints in the US via access to critical information about US operations, expert traffic management support, and communication about airline intent and planning.

WHAT MAKES IT UNIQUE
Airports provide detailed updates on airfield, terminal, and other information not communicated in traditional NOTAMs from a single platform that reaches all key stakeholders worldwide—and receive updates from their airline stakeholders, domestic and international, on the same platform from one authoritative source. No other single platform unites all key stakeholders in real time with the same breadth of information, timeliness, and industry adoption.

KEY METRICS IMPROVED
- Timeliness of airfield and airline updates
- Reduced tarmac delay fines and incidents
- Operational metrics directly affected by the lack of timely updates, including:
  - Secondary/repeat deicing
  - Delays or cancellations at the upline airport
  - Diversions (prevented/optimized/recovered)

WHAT THE AIRLINE WILL DO DIFFERENTLY
Airlines can now coordinate directly with airport operators and other key stakeholders in planning and real-time mode to avoid extensive and expensive disruptions, and proactively protect schedule completion.

INDUSTRY USE
This program, pioneered by PASSUR in North America, is now in use at 26 airports. A more basic version of the program is used by an additional 75 North American airports. The platform is also the conduit for collaboration and coordination with 125 worldwide airlines through the IATA help desk at the FAA command center.

SNAPSHOT CASE STUDIES
- During the Chicago ATC fire of 2014, diversion management was coordinated with the airlines on the PASSUR platform in real time. As a result, although there were 89 diversions from ORD, they were spread out among 34 airports—and no single airport received more than 11% of the diversion total.
- Airports received the first alert of that event on the PASSUR platform—before any other official source.
- Minneapolis–St. Paul (MSP) reported reducing multiple, repeat outbound communications by 66% during large weather events in the first year of implementing the program.

AIRPORT INFORMATION NETWORK
This national view of airport status, along with IATA ITOP airline status and Airport Communicator detailed airfield status, is a valuable ecosystem of connectivity between airlines, airports, ATC, and other stakeholders to manage impacting weather events, unexpected disruptions, and large planned events.
SUMMARY
Aviation executives and operational professionals are asking for metrics that represent meaningful indications of performance—good or bad—and ways to interpret that performance: over time, in relation to goals and objectives, and in relation to their peers. These professionals are increasingly demanding a simpler and more effective way to deal with the mass of information to determine what is important, timely, relevant, and actionable.

PASSUR is a pioneer in the development of data visualization and analysis in the aviation industry, having introduced operational dashboards over 10 years ago. These dashboards aggregate information from multiple public and proprietary sources, distill what’s most important, and present that information in a way that supports meaningful and measurable actions.

PASSUR has now introduced its newest generation of dashboards and analytical tools, starting with the Aviation Industry Performance Tracking and Analysis Dashboard for RTCA—the first industry dashboard for reporting on and analyzing air transportation system performance improvements attributable to the deployment of key NextGen capabilities.

HOW PASSUR SOLUTIONS HELP TO ADDRESS THE PROBLEM
Identify the Most Important Problems to Target and Metrics to Report:
Understanding which information is important to look for and how it should be presented, to support the most precise and meaningful analysis or action—based on our Aviation Intelligence Center of Excellence team’s extensive experience and background in aviation operations, finance, environment, air traffic management, systems automation, and data visualization.

Data Aggregation and Management
PASSUR aggregates multiple data sets from many different industry sources, including data from the PASSUR network of surveillance systems, airline systems, airport systems, publicly available sources, and multiple third party partners.

Big Data Mining
We integrate, process, and store these multiple data sets to create the necessary information mass that enables:
 Data mining for pattern recognition, statistical analysis, and performance measurements over time
 Predictive analytics based on past performance
 Detailed base lining of performance for airlines, airports, airspace, and the entire National Airspace System

Metrics and Data Visualization
PASSUR is a pioneer in the development of aviation operations dashboards, which simplify, aggregate, and distill extensive information into the most relevant operational and business metrics, presenting them in a way that supports immediate performance assessment and actionable decisions.
 Metrics and data dashboards support real time, predictive, and post-operational needs
 PASSUR dashboards support “management by exception”—allowing only the most relevant or important information to be visualized

Taking Care of the “What” and the “Why”
PASSUR dashboards and metrics support a view of both the facts (“what happened”) and contextual interpretation of the facts (“what are possible explanations for why it happened?”).

WHAT MAKES IT UNIQUE
 Aviation Intelligence Center of Excellence: Expertise in airline and airport performance as well as in the NAS and NextGen. PASSUR’s team includes leading experts from FAA air traffic control, traffic management, and system operations, plus those from airline and airport traffic management, dispatch, operational performance, finance, and environmental management
 A unique database of flight, airspace, and airport performance data, largely powered by an independent surveillance network
 A widely-deployed aviation intelligence solutions platform used by hundreds of industry stakeholders to measure and optimize NAS operations
 Over 10 years of experience in dashboards and data visualization

WHAT WE’RE DELIVERING
PASSUR delivers a number of metrics-driven dashboards, including System and Airport Performance, Diversion Management, and Traffic Flow Optimization.

The newest phase of PASSUR metrics and dashboarding is the Industry Performance Tracking and Analysis Dashboard created for RTCA. This is the first industry dashboard for reporting on and analyzing air transportation system performance improvements attributable to the deployment of key NextGen capabilities—a transparent mechanism to collect data, develop the reports in a dashboard, provide the ability to analyze the results, to determine the success of the recent NAS improvements and in cases where the benefits are not as expected, to discover and mitigate the underlying issues. The goal is for the FAA and industry to arrive at a common statement of performance.

PASSUR Airline Solutions Overview