



CIRIUM

THE ON-TIME PERFORMANCE REVIEW 2023

AIRLINES & AIRPORTS

JANUARY 2024

cirium.com

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Celebrating the airline industry's operational performance and 2024 industry outlook



by Jeremy Bowen, CEO, Cirium

The airline industry has emerged from the shadows of the pandemic, showing signs of robust recovery and resilience. As we review the year 2023 and look forward to 2024,

it's clear that the sector is not just surviving but thriving in many aspects.

The 2023 On-Time Performance Review showcases the airline industry's performance rebound. It's a pleasure for Cirium to acknowledge the industry leaders of this resurgence. **A special congratulations to Delta Air Lines for winning the prestigious 2023 Platinum Award for the third year in a row, achieving an impressive 84.72% on-time rate.**

Cirium's on-time performance analysis, a staple in the industry for over 15 years, has been pivotal in evaluating the punctuality of airlines and airports. In 2023, the industry saw significant growth, with over 32+ million scheduled passenger flights. This increase, coupled with an upsurge in seat capacity, underscores the sector's expansion.

As we look towards 2024, Cirium remains committed to delivering comprehensive and unbiased on-time performance (OTP) data. This information, derived from an extensive

array of sources including airlines, airports, and civil aviation authorities, offers a neutral, third-party perspective. Our independent board of advisors, experts in the field, guarantees the accuracy and fairness of our reports, ensuring they reflect a true picture of the industry's performance.

In reviewing 2023, global passenger numbers made a significant comeback, narrowly surpassing pre-pandemic levels by the peak summer months. This recovery, while uneven across different regions, marked a pivotal moment for an industry that had faced unprecedented challenges. **The US and Western European markets led the way, with passenger revenues in the US domestic market reaching 20% above 2019 levels by the third quarter.** This surge in demand, however, came with its own set of challenges, including increased competition and rising operational costs.

Business travel, a key segment for the industry, continued to lag behind due to ongoing cost management and a growing focus on sustainability within corporate policies. This was reflected in the major Global Distribution Systems (GDS), where agency bookings remained below pre-pandemic levels throughout 2023.

Looking ahead to 2024, the outlook remains cautiously optimistic. The recovery is expected to continue, albeit at a slightly moderated pace. While passenger numbers might end slightly lower than pre-pandemic levels, revenue growth is projected to be robust, potentially surpassing 2019 figures. However, this optimism is tempered by the need for the industry to balance supply and demand effectively, especially considering the rising input costs.

The Asia-Pacific region, particularly China, has shown a delayed but steady recovery trajectory, contributing to the

global upswing in demand. This regional growth is expected to play a significant role in driving the global industry forward in 2024.

However, the industry faces new challenges and uncertainties. **The lessons learned from the pandemic, combined with ongoing geopolitical tensions and environmental pressures, are shaping a new era of strategic thinking and operational efficiency in the airline industry.** How airlines navigate these factors will be crucial in determining their success in the coming year.

In conclusion, the airline industry is on a path to recovery, marked by significant strides in 2023 and a positive but cautious outlook for 2024.

Congratulations again to Delta Air Lines, the winner of this year's Cirium Platinum Award. Well done to all the winners in the airline and airport categories.

The Cirium team looks forward to providing more critical aviation data in 2024. The journey ahead is laden with opportunities and challenges, as the sector adapts to a rapidly changing global landscape.

2023 Winner

THE PLATINUM AWARD OPERATIONAL EXCELLENCE



This prestigious accolade is a testament to Delta's unwavering commitment to punctuality and operational excellence. The Cirium Platinum Award, given to airlines that excel in on-time performance while navigating considerable operational complexities reflects the hard work and dedication of Delta's team.

The airline announced its largest ever Latin America and Caribbean winter schedule, adding 35,000 seats. It added new routes and nonstop services, including those from JFK to Naples and Munich and Minneapolis to Dublin reflecting continued strategic growth and network expansion. Yet it continued to maintain its remarkable operational performance.

Delta maintained an on-time arrival rate of 84.72% across all flights tracked in 2023.

Such an outstanding performance, especially considering the vast operational diversity and the challenges of minimizing flight disruptions, sets Delta apart in the airline industry. Delta's consistency in achieving this award for three years in a row is an extraordinary feat, underscoring the airline's commitment to operational excellence.

The Cirium Platinum Award is not just about on-time performance; **it also considers the airline's network, volume of flights, and the ability to limit the impact of flight disruptions on passengers.** Delta's accomplishment in these areas, particularly during challenging times for the airline industry, speaks volumes about its operational efficiency and customer-focused approach.

Congratulations to the entire Delta team for their hard work and dedication, which have contributed to this amazing success. Delta's achievement sets a high standard for operational performance in the airline industry, and it is an inspiration for others.

Delta Air Lines has once again showcased its exceptional operational capabilities by winning the Cirium Platinum Award for the third consecutive year.



Mike Malik
Chief Marketing Officer
Cirium

2023 Winners

AIRLINES & AIRPORTS



Airlines

North America
Delta Air Lines

Latin America
Copa Airlines

Europe
Iberia Express

Middle East & Africa
Oman Air

Global
avianca

Asia Pacific
All Nippon Airways

Airports

Global Minneapolis-St. Paul International Airport

Large Minneapolis-St. Paul International Airport

Medium Osaka International Airport

Small Mariscal Sucre International Airport

THE OTP BOARD



Our on-time performance is backed by an independent board of advisors

The Cirium On-Time Performance (OTP) Advisory Board is a structured and collaborative team of **external advisors that supports Cirium's OTP program**.

Cirium is the first and only company that has an OTP Advisory Board, which includes:

- **Luis Felipe de Oliveira**
Director General, ACI World
- **Henry H. Harteveltdt**
President, Travel Industry Analyst, Atmosphere Group
- **William Boulter**
Consultant and former Airline Executive
- **Ben Baldanza**
Board Director, JetBlue Airways – PATA
- **Jeremy Bowen**
Chief Executive Officer, Cirium
- **Mike Malik**
Chief Marketing Officer, Cirium

Most businesses in the industry rely on Cirium's OTP results to gauge their performance and this independent oversight provides confidence and trust.

The purpose of this Board is to advise, assist and support on the OTP results both on a monthly and an annual basis.

The members of the board augment the knowledge of our internal team and bring fresh thinking to the company. Their expert knowledge and experience of airline and airport flight operations ensures an accurate and balanced view of the Cirium OTP results.

Advisory Board acts as a sounding board for the OTP operations team, reviewing the results before they are published and provides ideas for improving our methodology.

Indeed, the Board also helps the organisation gain new insights and advice to solve business problems and explore new opportunities by stimulating robust, high-quality conversations.

However, Cirium cannot describe the purpose of a board better than Bill Emmott, former Editor of The Economist and a prominent advisory board member, who said: "They are there to give focus to or sometimes challenge research and intelligence work being done in the company, thus avoiding groupthink and giving direction on big-picture issues."

"They are there to give focus to or sometimes challenge research and intelligence work being done in the company, thus avoiding groupthink and giving direction on big-picture issues."

The industry standard for on-time performance

Cirium is releasing the 2023 Annual On-Time Performance report which analyses and recognizes the world’s airlines and airports who have demonstrated remarkable resilience, navigating through challenges, and adapting to changing market dynamics.

Our aim is to provide airline industry stakeholders with a neutral, third-party perspective on on-time performance data. We ensure that our analyses consistently adhere to defined metrics, based on the widest and deepest pool of data collected and curated from more than 600 sources of real-time flight information.

Our OTP criteria remains the same and identifies the airlines and airports who met their published scheduled arrival times.

Airlines

To qualify for the Cirium OTP Review, there is an **80% actual gate arrival time data coverage requirement** for all airline categories. These categories include Global, Major (by region) and low-cost carriers.

For the **Global airlines category**, we consider the Top 10% of all passenger airlines by capacity and volume criteria — by Available Seat Kilometres (ASKs), flights and seats—the airline must also serve at least three regions.

For **Major Airlines by Region**, the threshold for ASKs, flights and seats, varies by region to accurately reflect the size of operations in that region.

The thresholds are:

Region	Flights, Seats, ASK, Threshold
ASIA PACIFIC	Top 30%
EUROPE	Top 30%
LATIN AMERICA	Top 30%
MIDDLE EAST & AFRICA	Top 30%
NORTH AMERICA	Top 15%

The **low-cost carrier (LCC) category** reviews airlines that are industry recognized and/or self- identified lowcost carriers. For this category, we consider the Top 60% of LCC airlines. LCC airlines must fall in the Top 60% for flights, seats, and destinations to be considered.

Airports

There is an **80% actual gate departure data requirement** for all airport categories.

Each month Cirium reviews the total number of flights in a given month (approximately 3 million) for every airport globally in an ordered list, then looks at where the percentile demarcations fall. For the annual OTP review, **we take the total number of flights in a given year for every airport.**

The Global airports category is based on the following:

- 25-40m seats
- Actual gate departure coverage 80% or better
- Must serve at least three (3) regions (inclusive of its own)

For further details on the other airport categories, please see the report calculations in the appendix.

About the On-Time Performance Review

The definition of an **On-Time Arrival** is when a passenger flight/ aircraft arrives at the gate within 15 minutes of the scheduled arrival time; an **On-Time Departure** is when a passenger flight/ aircraft departs the gate within 15 minutes of the scheduled departure time. On-time arrivals are used to rank airlines, and on-time departures are used to rank airports.

THE MOST ON-TIME AIRLINES

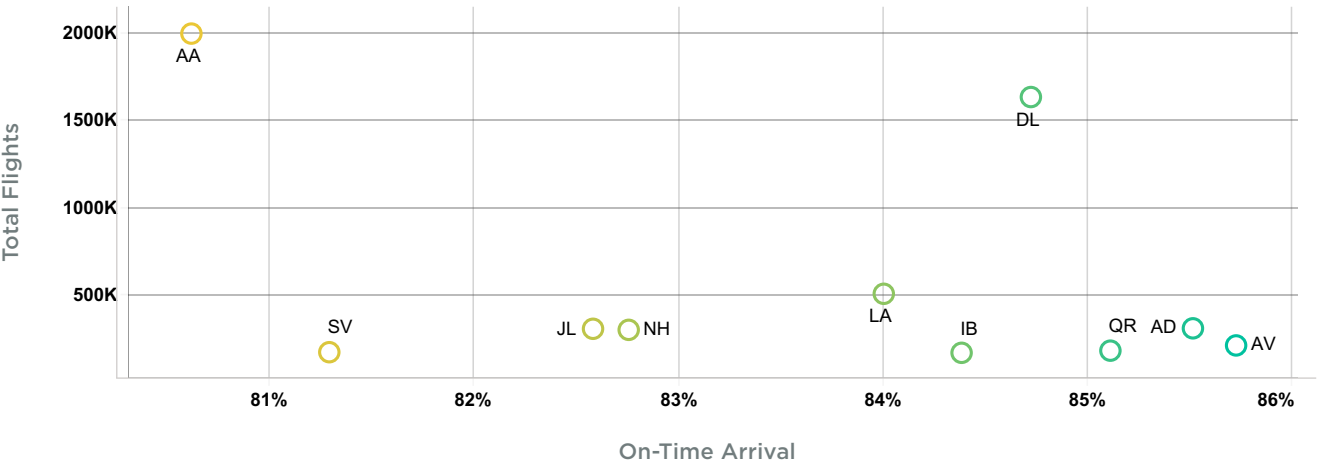
GLOBAL AIRLINES REPORT WINNERS



Top 10 Winners with Summary of Top Performers

	On-Time Ranking	On-Time Arrival	Tracked Flights	Completion Factor	Total Flights	Summary of Top Performers
SA AVIANCA (AV)	1	85.73%	99.24%	99.08%	213,039	Total On-Time Arrivals 83.67%
Azul (AD)	2	85.51%	98.43%	97.12%	310,972	
Qatar Airways (QR)	3	85.11%	98.34%	99.85%	183,090	
Delta Air Lines (DL)	4	84.72%	99.98%	98.82%	1,635,486	Total Tracked Flights 99.08%
Iberia (IB)	5	84.38%	99.17%	98.69%	170,750	
LATAM Airlines (LA)	6	84.00%	98.70%	98.80%	508,721	
ANA (NH)	7	82.75%	99.96%	98.89%	302,279	Total Flights 5,805,739
JAL (JL)	8	82.58%	99.90%	98.59%	308,302	
Saudia (SV)	9	81.29%	97.19%	99.80%	174,256	
American Airlines (AA)	10	80.61%	99.89%	98.93%	1,998,844	

Relative Performance



Operational Highlights

	Completion Factor	Within Block Time	On-Time Arrivals	On-Time Departures
SA AVIANCA (AV)	99.08%	73.68%	85.73%	86.10%
Azul (AD)	97.12%	69.51%	85.51%	86.34%
Qatar Airways (QR)	99.85%	74.13%	85.11%	84.07%
Delta Air Lines (DL)	98.82%	80.29%	84.72%	84.24%
Iberia (IB)	98.69%	74.45%	84.38%	83.13%

EXPERT COMMENTARY

GLOBAL

Resilient Performance in a Challenging Year



David White
Senior Director of
Advanced Initiatives
Cirium

Global airlines must deal with global problems in order to fulfill their missions. 2023 presented some significant headwinds that all carriers in this category had to face. Despite the challenges, the leading airlines managed to finish the year with impressive on-time performance metrics.

Post-pandemic growth in demand coincided with commercial aviation capacity constrained by external factors that were mostly beyond the airlines' control. Staffing shortages among the ranks of air traffic controllers, pilots, crew, and ground services made it difficult to satisfy a rapidly rebounding demand especially in the US and Europe. Supply chain shortages delayed the delivery of more modern and efficient aircraft. Safety and reliability concerns for certain engine models caused prolonged grounding of key parts of their existing fleets. War and political violence closed heavily trafficked airspaces. Volatile fuel prices and inflation put pressure on fares and margins. Despite all of that, the global carriers, as a group, turned in a composite OTP of 83%, down only slightly from last year's 83.6%.

In addition to the global challenges, this year's winner in the Global OTP Category, avianca (formerly Avianca), had to deal with a unique set of situational complexities.

avianca succeeded in reinventing itself following its emergence from bankruptcy in December 2021 with a plan to modernize its fleet, improve customer satisfaction, increase operational efficiency, and to help fill the void left by the cessation of operations by low-cost Colombian carrier Viva.

When its bid to merge with Viva and rescue the ailing carrier was denied by the Colombian civil aviation authority, Avianca adapted to fill the void by adding more seats to its A320 aircraft, expanding its network, and lowering prices.

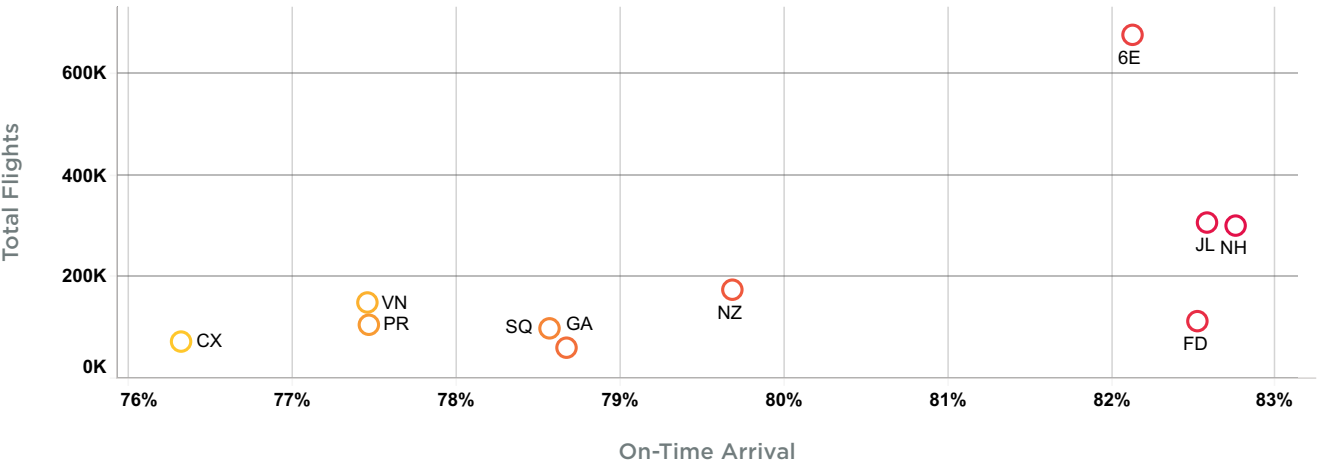
The world's second oldest airline has made itself new again with new aircraft, new branding, new destinations, and an expanded mission. avianca added 7 new A320-200neo aircraft to its fleet in 2023 in addition to the 8 put into service in 2022, with more than 80 A320-200neo deliveries scheduled over the next 7 years. 2023 also marked the airline's return to profitability after showing significant losses in 2021 and 2022. Its Q3 financial statements indicated >30% growth in passengers, ASK, and RPK over the same period in 2022. **avianca embodies the qualities necessary to thrive in challenging times – agility, adaptability, resilience, determination, and a clear strategic vision. Cirium offers avianca its heartfelt congratulations on an outstanding 2023 performance.**

ASIA PACIFIC AIRLINES REPORT WINNERS

Top 10 Winners with Summary of Top Performers

	On-Time Ranking	On-Time Arrival	Tracked Flights	Completion Factor	Total Flights	Summary of Top Performers
ANA (NH)	1	82.75%	99.96%	98.89%	302,279	Total On-Time Arrivals 73.51%
JAL (JL)	2	82.58%	99.90%	98.59%	308,302	
Thai AirAsia (FD)	3	82.52%	99.03%	99.98%	113,871	
IndiGo (6E)	4	82.12%	94.84%	99.34%	678,446	Total Tracked Flights 96.81%
Air New Zealand (NZ)	5	79.68%	99.10%	96.54%	175,876	
Garuda Indonesia (GA)	6	78.67%	98.68%	98.85%	61,525	
Singapore Airlines (SQ)	7	78.57%	99.94%	99.92%	99,653	Total Flights 3,763,980
Philippine Airlines (PR)	8	77.46%	98.54%	97.20%	106,720	
Vietnam Airlines (VN)	9	77.46%	80.33%	99.13%	150,674	
Cathay Pacific (CX)	10	76.32%	99.44%	99.58%	73,578	

Relative Performance



Operational Highlights

	Completion Factor	Within Block Time	On-Time Arrivals	On-Time Departures
ANA (NH)	98.89%	61.46%	82.75%	84.50%
JAL (JL)	98.59%	65.03%	82.58%	84.28%
Thai AirAsia (FD)	99.98%	73.75%	82.52%	81.35%
IndiGo (6E)	99.34%	62.53%	82.12%	84.51%
Air New Zealand (NZ)	96.54%	75.12%	79.68%	76.88%

EXPERT COMMENTARY

ASIA PACIFIC

Models of Consistency, in a Four-Way Race to the Finish Line for APAC Leaders



Mike Arnot
Juliett Alpha Media

All Nippon Airways (ANA) and Japan Airlines (JAL) have consistently ranked at or near the top of our Global and Asia-Pacific (APAC) categories since the inception of The On-Time Performance Awards. Last year, ANA emerged victorious in the APAC category, a source of great pride for the Japanese carrier and its team.

The results for 2023 reveal ANA's continued success, albeit with a narrow margin.

The competition in the APAC region remained intense throughout the year, with JAL following closely behind by near fraction of percentage taking 2nd place.

Throughout the year, the OTP rankings in APAC were frequently occupied by Thai AirAsia (FD), the 20-year-old low-cost airline that showcased exceptional performance. Thai AirAsia's achievement is particularly noteworthy considering the over 113,871 domestic

and international flights it operates. As an established yet continuously expanding low-cost carrier, Thai AirAsia's commitment to punctuality and ultimately contributing to customer satisfaction taking the #3 position in photo finish with ANA and JAL.

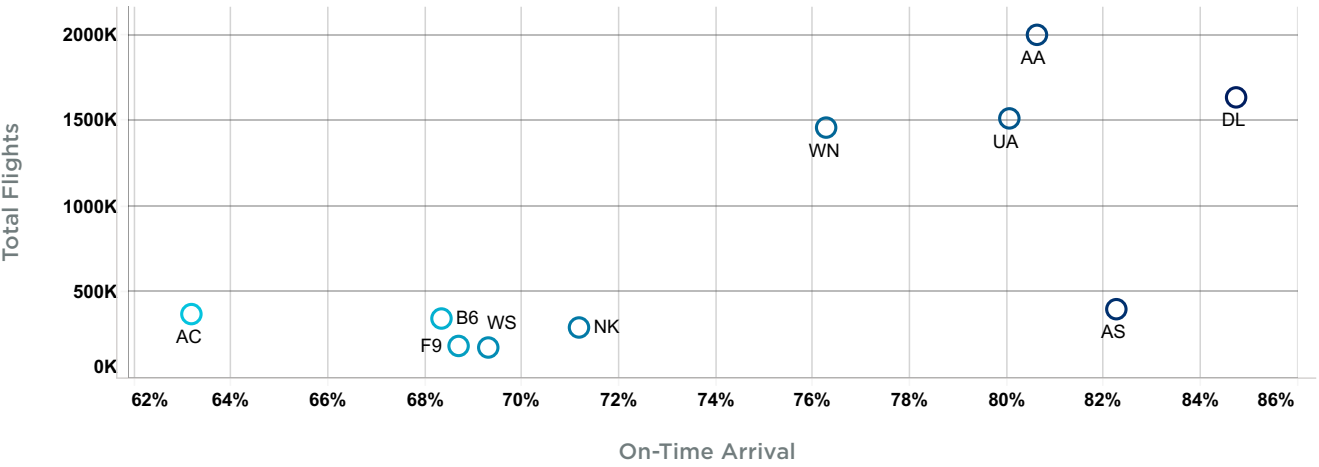
These carriers have truly mastered on-time performance. However, given their determination, it is likely that they will strive to further improve in 2024. While the statistical difference between the three APAC carriers is minimal, we would have preferred to see them share the award. Nevertheless, rules are rules and, as such, the 2023 APAC award goes to ANA this year, with an impressive OTP of 82.75% across 302,279 flight operations. **Honorable mentions well deserved for for Japan Airlines with an OTP of 82.58% on 308,302 flights and Thai AirAsia with OTP of 82.52% on 113,871 flights for their outstanding performance in 2023.**

NORTH AMERICA AIRLINES REPORT WINNERS

Top 10 Winners with Summary of Top Performers

	On-Time Ranking	On-Time Arrival	Tracked Flights	Completion Factor	Total Flights	Summary of Top Performers
Delta Air Lines (DL)	1	84.72%	99.98%	98.82%	1,635,486	Total On-Time Arrivals 74.45%
Alaska Airlines (AS)	2	82.25%	99.94%	99.35%	404,925	
American Airlines (AA)	3	80.61%	99.89%	98.93%	1,998,844	
United Airlines (UA)	4	80.04%	99.94%	98.29%	1,513,432	Total Tracked Flights 98.49%
Southwest Airlines (WN)	5	76.26%	99.38%	99.38%	1,459,926	
Spirit Airlines (NK)	6	71.16%	87.23%	99.03%	298,600	
WestJet (WS)	7	69.29%	99.87%	98.22%	182,296	Total Flights 8,412,060
Frontier Airlines (F9)	8	68.68%	99.28%	98.34%	191,369	
JetBlue Airways (B6)	9	68.33%	99.57%	98.17%	350,731	
Air Canada (AC)	10	63.17%	99.80%	96.29%	376,451	

Relative Performance



Operational Highlights

	Completion Factor	Within Block Time	On-Time Arrivals	On-Time Departures
Delta Air Lines (DL)	98.82%	80.29%	84.72%	84.24%
Alaska Airlines (AS)	99.35%	65.02%	82.25%	84.32%
American Airlines (AA)	98.93%	72.34%	80.61%	82.19%
United Airlines (UA)	98.29%	74.10%	80.04%	81.03%
Southwest Airlines (WN)	99.38%	73.93%	76.26%	75.36%

EXPERT COMMENTARY
NORTH AMERICA

North American Airlines in 2023: Riding the Winds of Change



James Hetzel
Product Marketing Director
Cirium

As we reach the end of 2023, it is evident that this has been a significant year for the airline industry, particularly for North American carriers, which is the home to four of the five largest passenger airlines worldwide in terms of flight operations. The industry has experienced a whirlwind of developments, including a continuous increase in travel demand after the pandemic, strain on airport infrastructure, labor shortages, and rising fuel costs. Additionally, the diverse routes and varying weather conditions in North America present additional complexities for airline operations.

Despite these challenges, North American airlines have excelled in maintaining high operational efficiency and punctuality. Their ability to navigate these complexities is a testament to their resilience and adaptability. In terms of arrival performance, the overall rate for 2023 was 74.45%, with approximately 400,000 more scheduled flights compared to 2022, which had an on-time arrival rate of 74.26%.

North American airlines have successfully adapted to these market challenges, while meeting the continuous increase in travel demand. Their investment in technology, coupled with an unwavering commitment to customer service, undoubtedly contributed to the impressive on-time punctuality statistics for the year.

Delta Air Lines once again claims the top spot in terms of performance, with 84.72% arriving on-time on over 1.5M flight operations. Following closely behind, and deserving honorable mention, was Alaska Airlines boasting an OTP of 82.25% on over 400,000 flights and American Airlines at 80.61% on over 1.9M flights. These airlines performed exceptionally over the course of the year overcoming tremendous travel demand and disruptive weather events. Congratulations to Delta Air Lines for their exceptional and consistent on-time performance!

In 2023, North American airlines underwent a remarkable transformation. They skillfully navigated the dynamic market landscape and elevated their operations in the face of increasing air travel demand. As we look ahead to 2024, we anticipate sustained operational excellence as challenges arising from labor shortages and airport infrastructure are gradually addressed and resolved.



EUROPE AIRLINES REPORT WINNERS

Top 10 Winners with Summary of Top Performers

	On-Time Ranking	On-Time Arrival	Tracked Flights	Completion Factor	Total Flights	Summary of Top Performers
Iberia Express (I2)	1	84.58%	99.73%	99.57%	40,985	Total On-Time Arrivals 80.82%
Iberia (IB)	2	84.38%	99.17%	98.69%	170,750	
Austrian (OS)	3	82.99%	99.97%	98.84%	113,587	
LOT - Polish Airlines (LO)	4	82.83%	98.55%	99.40%	96,112	Total Tracked Flights 98.65%
Norwegian Air Shuttle (DY)	5	82.75%	99.41%	99.60%	82,791	
Vueling (VY)	6	80.85%	99.83%	99.01%	216,594	
Finnair (AY)	7	80.39%	96.23%	99.46%	100,566	Total Flights 1,153,284
Norwegian Air Sweden (D8)	8	76.65%	99.23%	99.45%	56,852	
Icelandair (FI)	9	76.48%	95.19%	97.04%	34,514	
KLM (KL)	10	76.29%	99.21%	96.80%	240,533	

Relative Performance



Operational Highlights

	Completion Factor	Within Block Time	On-Time Arrivals	On-Time Departures
Iberia Express (I2)	99.57%	76.49%	84.58%	84.91%
Iberia (IB)	98.69%	74.45%	84.38%	83.13%
Austrian (OS)	98.84%	80.23%	82.99%	78.27%
LOT - Polish Airlines (LO)	99.40%	85.28%	82.83%	76.74%
Norwegian Air Shuttle (DY)	99.60%	69.10%	82.75%	83.50%

EXPERT COMMENTARY
EUROPE

On Time, On Target: Iberia Express' Stellar Operational Record in 2023



Mike Malik
Chief Marketing Officer
Cirium

Iberia Express has consistently demonstrated outstanding operational performance, distinguishing itself in the highly competitive airline industry.

In 2023, Iberia Express achieved the highest on-time performance (OTP) score in the European category, recording an impressive 84.58%.

This achievement reflects the airline's unwavering focus on maintaining a punctual schedule—a critical factor for passengers when selecting an airline.

The airline also showed significant capacity growth for its 2023/2024 winter schedule, with a 10% increase compared to 2022. This expansion includes strengthening connections between the Iberian Peninsula and the Canary Islands, as well as expanding routes to Ibiza and several international destinations, such as Marrakech, Cairo, Dublin, Manchester, and Naples. Despite this growth, Iberia Express maintained operational discipline and effectively synchronized its schedules across its network.

Another notable achievement in 2023 was Iberia Express's attainment of the IATA Environmental Assessment (IEnvA) environmental certification.

This certification underscores the airline's commitment to environmental sustainability, focusing on efficient operations and fleet renewal. The airline's dedication to reducing emissions and enhancing environmental performance is commendable.

What sets Iberia Express apart from other airlines is not only its exceptional punctuality but also its strategic role within Iberia and the International Airlines Group (IAG). As a subsidiary, Iberia Express benefits from Iberia's strong brand recognition and extensive network, while contributing significantly to the group's overall performance and profitability. The airline's success in maintaining high OTP rates is a key factor in bolstering the group's reputation and reliability among passengers.

In conclusion, **Iberia Express's operational performance clearly demonstrates its excellence in the airline industry. The airline's punctuality, efficient operations, and strategic alignment within the Iberia and IAG frameworks differentiate it from competitors.** This performance is a sustained effort, reflecting the airline's commitment to operational excellence and customer satisfaction. As the airline industry continues to face post-pandemic challenges, the team at Iberia Express has built a proven track record that positions it for continued success and growth.



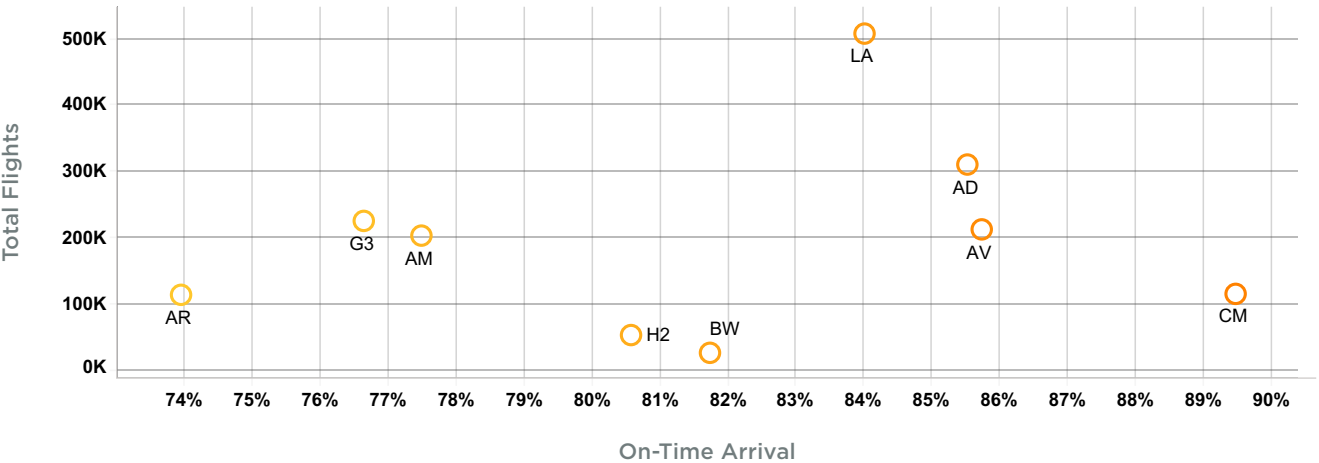
LATIN AMERICA AIRLINES REPORT WINNERS



Top 10 Winners with Summary of Top Performers

	On-Time Ranking	On-Time Arrival	Tracked Flights	Completion Factor	Total Flights	Summary of Top Performers
Copa Airlines (CM)	1	89.46%	99.42%	99.84%	115,657	Total On-Time Arrivals 81.67%
SA AVIANCA (AV)	2	85.73%	99.24%	99.08%	213,039	
Azul (AD)	3	85.51%	98.43%	97.12%	310,972	
LATAM Airlines (LA)	4	84.00%	98.70%	98.80%	508,721	Total Tracked Flights 98.77%
Caribbean Airlines (BW)	5	81.73%	99.75%	98.10%	26,644	
Sky Airline (H2)	6	80.57%	96.20%	99.16%	53,459	
Aeromexico (AM)	7	77.48%	99.83%	99.12%	203,632	Total Flights 1,772,209
Gol (G3)	8	76.63%	98.21%	98.50%	225,858	
Aerolineas Argentinas (AR)	9	73.95%	99.15%	98.87%	114,227	

Relative Performance



Operational Highlights

	Completion Factor	Within Block Time	On-Time Arrivals	On-Time Departures
Copa Airlines (CM)	99.84%	69.62%	89.46%	91.71%
SA AVIANCA (AV)	99.08%	73.68%	85.73%	86.10%
Azul (AD)	97.12%	69.51%	85.51%	86.34%
LATAM Airlines (LA)	98.80%	69.78%	84.00%	84.59%
Caribbean Airlines (BW)	98.10%	41.44%	81.73%	84.10%

EXPERT COMMENTARY

LATIN AMERICA

Timely performance for Copa Airlines



Jay Morgan
*Director, Professional Data Services
Cirium*

In a very demanding year Copa Airlines soared to the top of our on-time rankings.

Copa operated at a very high level of on-time performance, with 89.46% of its flights arriving on time, surpassing avianca (85.73%) and last year's winner Azul (85.51%). In addition, Copa achieved significant reduction in cancellations (63%) year over year—a noteworthy improvement in the passenger experience.

In 2023 LATAM (84.07%) recorded over 494,000 flights — more than double the number of the other carriers in the top nine, apart from Azul that flew approximately 303,000 flights.

Latin America continued to see growth in operations throughout 2023. Increased demand for domestic and international travel, cargo, plus the addition of Aerus and Mexicana de Aviacion set the stage for newly opened routes and significant new aircraft orders and leases.

Scheduled Latin American commercial passenger flights increased by 16% year over year.

The top carriers in the region operated at 117% of their pre-pandemic levels and are fully expected to continue to see growth in 2024.

These are very encouraging statistics overall. In a year that saw the restructuring of three major Latin American carriers. These airlines added new routes to their schedules and modernized their fleets demonstrating that they are keeping pace with a very strong post-COVID recovery.

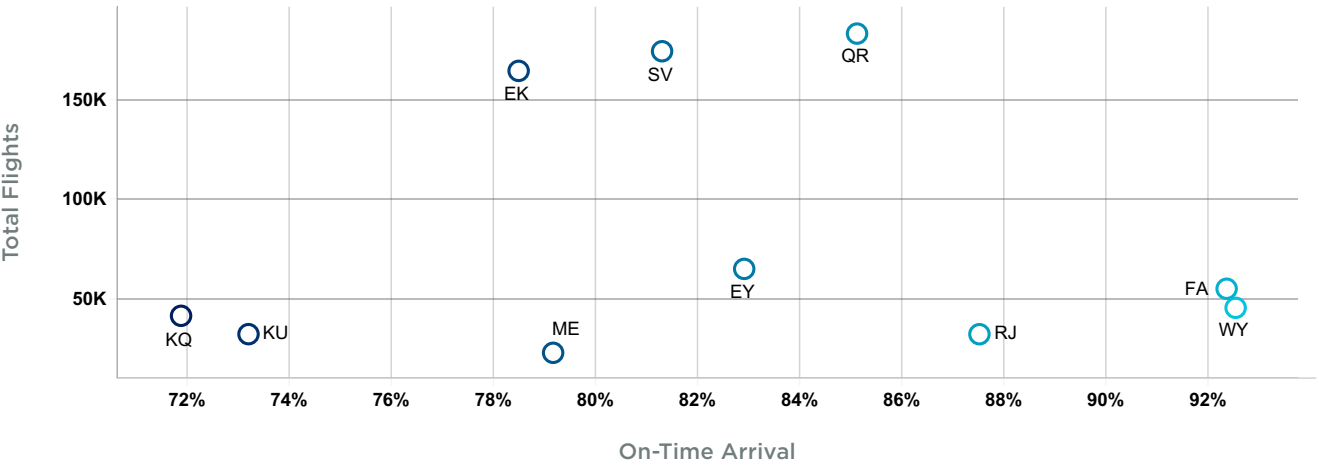
MIDDLE EAST & AFRICA AIRLINES REPORT WINNERS



Top 10 Winners with Summary of Top Performers

	On-Time Ranking	On-Time Arrival	Tracked Flights	Completion Factor	Total Flights	Summary of Top Performers
Oman Air (WY)	1	92.53%	93.69%	99.65%	45,908	Total On-Time Arrivals 82.44%
Safair (FA)	2	92.36%	88.81%	99.91%	55,444	
Royal Jordanian (RJ)	3	87.51%	99.49%	99.56%	32,706	
Qatar Airways (QR)	4	85.11%	98.34%	99.85%	183,090	Total Tracked Flights 94.10%
Etihad Airways (EY)	5	82.90%	98.72%	99.85%	65,376	
Saudia (SV)	6	81.29%	97.19%	99.80%	174,256	
Middle East Airlines (ME)	7	79.15%	88.11%	99.21%	23,397	Total Flights 819,251
Emirates (EK)	8	78.48%	99.72%	99.82%	164,442	
Kuwait Airways (KU)	9	73.18%	90.79%	99.72%	32,727	
Kenya Airways (KQ)	10	71.86%	86.13%	98.09%	41,905	

Relative Performance



Operational Highlights

	Completion Factor	Within Block Time	On-Time Arrivals	On-Time Departures
Oman Air (WY)	99.65%	79.88%	92.53%	96.89%
Safair (FA)	99.91%	78.46%	92.36%	91.59%
Royal Jordanian (RJ)	99.56%	70.39%	87.51%	89.62%
Qatar Airways (QR)	99.85%	74.13%	85.11%	84.07%
Etihad Airways (EY)	99.85%	71.03%	82.90%	83.46%

EXPERT COMMENTARY
MIDDLE EAST & AFRICA

Soaring from
strength to
strength



Lydia Webb
Marketing Director
Cirium

After delivering an impressive on-time performance amid the 2022 World Cup tournament, **Oman Air once again achieved the highest on-time performance score of 92.53% for the Middle East and Africa region in 2023. This was also the highest score among all carriers across all categories.**

Oman Air celebrated its 30th anniversary this year – a journey which began in March 1993 with a single flight between Muscat and Salalah. The airline has grown from a small regional carrier since then to **an award-winning airline with over 45 destinations connecting visitors from around the world to Oman.**

To meet the rising demand in tourism, the airline launched an expanded network and schedule in 2023, with significant frequency increases on existing routes, and the addition of new destinations—**representing a 60% increase in the number of flights from Muscat compared to last year.**

Oman Air also took delivery of a new Boeing 737 MAX 8 from CDB Aviation in 2023 – a total fleet size of 52 aircraft. The 737 Max 8 is configured with 12 Business and 150 Economy Class seats to support the airline’s expanding network. The expanded network, schedule and fleet demonstrate Oman Air’s ongoing efforts to contribute to the economy of the Sultanate of Oman while also exhibiting its drive for increased global reach. The airline’s anticipated oneworld Alliance membership in 2024, will help broaden its network’s global reach and provide travelers with greater travel options and other benefits.

On-Time performance in the region was especially competitive with Safair (FA) following closely behind taking 2nd place with an OTP of 92.36% on 55,444 flights and Royal Jordanian (RJ) taking 3rd place with an 87.51% OTP on 32,706 flights.

Congratulations to Oman Air for its outstanding commitment to on-time performance while they continue to position themselves as a major international carrier, and has set several benchmarks for quality, comfort, and hospitality. Additionally, **we commend and give honorable mention to Safair and Royal Jordanian for their fine performance.**

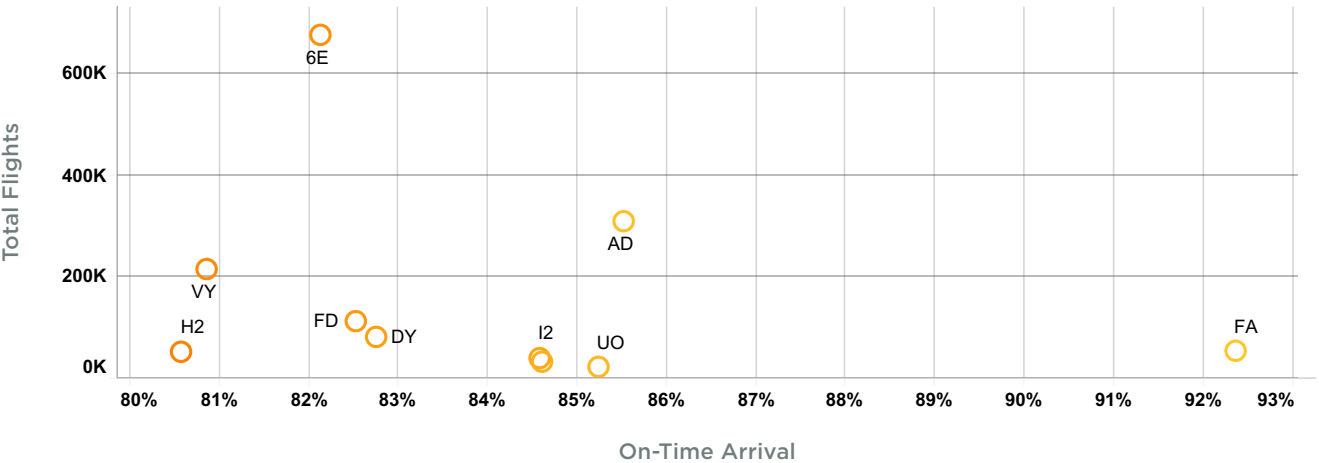
LOW-COST CARRIERS AIRLINES REPORT WINNERS



Top 10 Winners with Summary of Top Performers

	On-Time Ranking	On-Time Arrival	Tracked Flights	Completion Factor	Total Flights	Summary of Top Performers
Safair (FA)	1	92.36%	88.81%	99.91%	55,444	Total On-Time Arrivals 84.11%
Azul (AD)	2	85.51%	98.43%	97.12%	310,972	
Hong Kong Express (UO)	3	85.23%	96.71%	99.71%	23,761	Total Tracked Flights 95.33%
Jetstar Japan (GK)	4	84.60%	80.29%	98.54%	33,932	
Iberia Express (I2)	5	84.58%	99.73%	99.57%	40,985	Total Flights 1,610,255
Norwegian Air Shuttle (DY)	6	82.75%	99.41%	99.60%	82,791	
Thai AirAsia (FD)	7	82.52%	99.03%	99.98%	113,871	
IndiGo (6E)	8	82.12%	94.84%	99.34%	678,446	
Vueling (VY)	9	80.85%	99.83%	99.01%	216,594	
Sky Airline (H2)	10	80.57%	96.20%	99.16%	53,459	

Relative Performance



Operational Highlights

	Completion Factor	Within Block Time	On-Time Arrivals	On-Time Departures
Safair (FA)	99.91%	78.46%	92.36%	91.59%
Azul (AD)	97.12%	69.51%	85.51%	86.34%
Hong Kong Express (UO)	99.71%	69.02%	85.23%	86.66%
Jetstar Japan (GK)	98.54%	78.68%	84.60%	81.51%
Iberia Express (I2)	99.57%	76.49%	84.58%	84.91%

EXPERT COMMENTARY
LOW-COST CARRIERS

Low-Cost Carrier
Performance:
A Critical Metric
for High Aircraft
Utilization



Jeremy Bowen
Chief Executive Officer
Cirium

When low-cost carriers reach their peak, they not only offer customers affordable fares but also achieve high operating margins. In fact, they often rank among the top performers in the airline industry. On-time performance directly correlates with customer satisfaction and efficient aircraft utilization, which are the core strengths of low-cost airlines.

Indeed, the on-time performance of the top three Low-Cost Carriers (LCCs) not only matches but often exceeds that of many traditional legacy airlines. Timeliness is crucial for a business model that relies on maximizing aircraft utilization and minimizing costly flight delays that have a direct impact on operating costs.

This year, Cirium is pleased to report that the South African carrier,

Safair (FA), led the charge for all low-cost carriers globally in 2023 with 92.36% of their 55,444 flight operations arriving on time, edging 2nd place Azul (AD) operating 310,972 flights with an OTP arrival of 85.51% and Hong Kong Express (UD) with an OTP arrival of 85.23% on 23,761 flights.

Cirium congratulates Safair for this feat, as well as honorable mention to Azul and Hong Kong Express. After all — low-cost carriers fly in the same space as the world’s largest carriers, with all of the same challenges.



Cirium's On-Time Performance Program

– an Advisory Board Member view



by William 'Willy' Boulter

Cirium runs the world's foremost OTP monitoring system, producing monthly reports and an annual summary from the satellite-enabled monitoring of over 32 million flights annually.

On-Time Performance is core to the running of a successful airline, and the good ones take it very seriously indeed – not only does OTP impact customer perception, but also cost management, environmental impact, network design and even soft issues like crew morale, which will again influence customer experience. Airlines are businesses which depend on regularity and consistency – their schedules are governed by aircraft utilisation, crew availability, airport slots and international traffic rights, none of which can be easily switched or varied at the drop of a hat. Good OTP is critical, literally, to keep the flights in the air.

Cirium runs the world's foremost flight monitoring system, producing monthly

reports and an annual summary from the satellite-enabled monitoring of over 32 million flights annually. The system is aggressively neutral: as members of the Advisory Board, we ensure that the data is presented accurately and properly across the world's regions, highlighting the top performers monthly and recognising the annual winners appropriately.

Now a consultant looking across the industry, I started my career at an airline which was obsessive about OTP as it drove 45-minute published connections through the hub of Hong Kong (Cathay Pacific), and my final airline appointment was with a company that almost invented the concept of OTP in its home market (IndiGo). With these experiences, and seeing some less successful approaches in between, it is a pleasure to contribute to the Cirium Advisory Board, alongside my distinguished colleagues.

Our duties include checking and approving the Cirium monthly OTP reports, discussing improvements and reviewing policy issues a couple of times a year, but the impact is huge. **Airlines have started using the Cirium data in staff incentive programmes, others take such delight in winning that the Cirium logo becomes part of their livery**, whilst some are extremely vocal if they fail to pass their local rival in the "Top 10" tables (the data is the data, fortunately, and incontrovertible – flights either arrive within 14 minutes of their published arrival time, or they don't!). Of course, we also monitor the world's

Cirium OTP program helps airlines compete better, improve their own systems relentlessly, and above all enhance their service to the customer.

airports too, based on flight departure performance: here again **Cirium provides proper, neutral performance data which owes nothing to subjective customer surveys or clever manipulation by the local marketing team – the results are the results.**

When I joined the industry, good OTP was 75%+ arrivals or departures within 15 minutes – now it is heartening to see that the best airlines are achieving above 85%, and many LCCs achieve 90%+ often. Naturally, better technology across the spectrum has assisted, from aircraft engines to Air Traffic Control – however, I am convinced that the spotlight of the **Cirium OTP program helps airlines compete better, improve their own systems relentlessly, and above all enhance their service to the customer.** It's great to be part of the team.

AIRLINE WINNER PROFILE GLOBAL AVIANCA



On-Time
Arrival Rate
85.73%

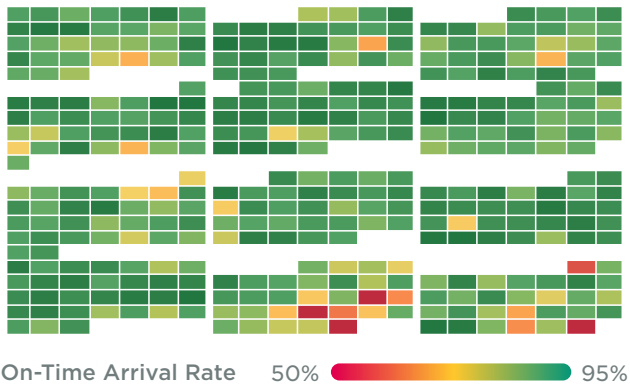
Active
Tails
131

Total Flights
Scheduled
213,039

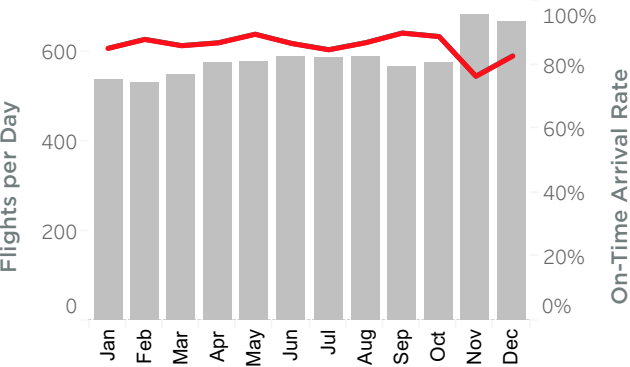
Avg Daily Utilization
(per Tail)
8.09 hr

Total Distance
Flown
280.59M km

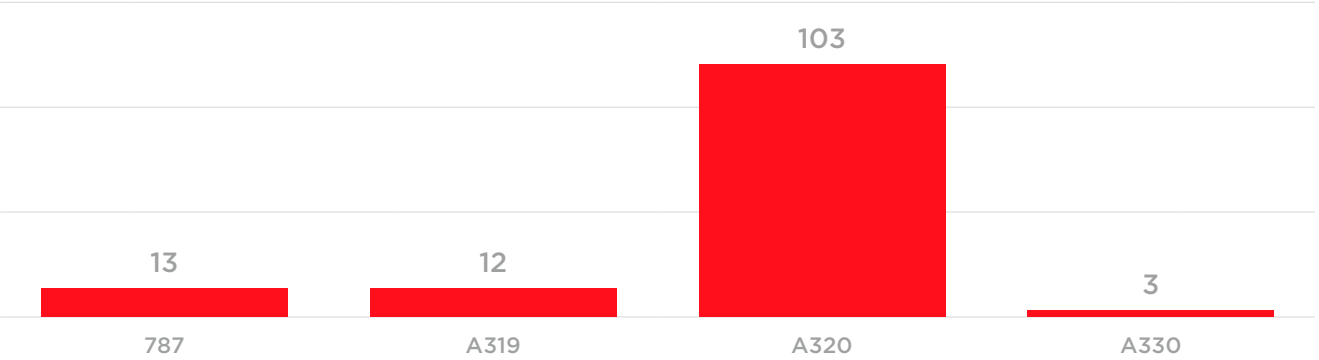
Daily On-Time Performance Calendar



Monthly Trends
Flight Volume | Performance



Mainline Fleet Composition



Airport Hub Grouping



Most Flown Routes

	Flights	Seats	On-Time Arrival %
MDE - BOG	7,726	1,275K	79.87%
BOG - MDE	7,695	1,271K	82.03%
CLO - BOG	6,641	1,099K	85.40%
BOG - CLO	7,633	1,097K	85.09%
BOG - CTG	5,780	961K	85.32%

Operator Country: Colombia

149,406
Arriving Flights

149,401
Departing Flights

This information was collated from *The Cirium Core*, a comprehensive data platform for the Aviation & Travel industry.

AIRLINE WINNER PROFILE

ASIA PACIFIC

ANA

On-Time
Arrival Rate
82.75%

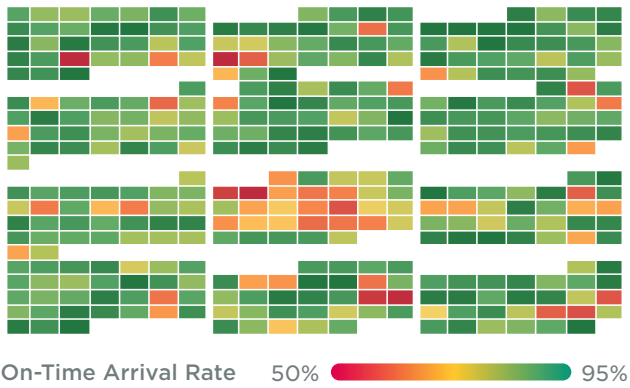
Active
Tails
203

Total Flights
Scheduled
302,279

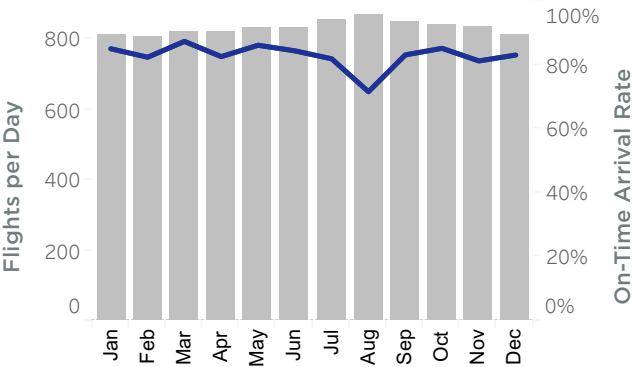
Avg Daily Utilization
(per Tail)
8.46 hr

Total Distance
Flown
400.42M km

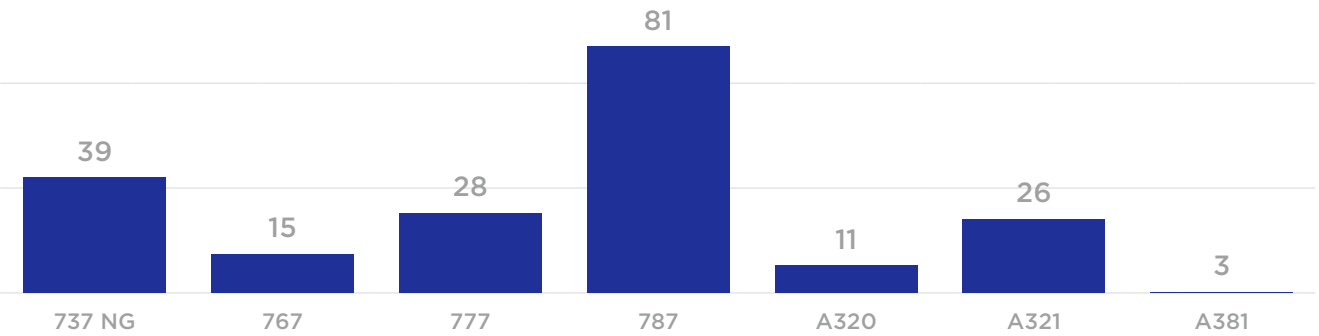
Daily On-Time Performance Calendar



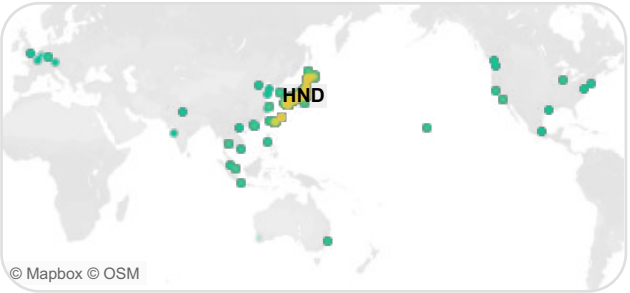
Monthly Trends
Flight Volume | Performance



Mainline Fleet Composition



Airport Hub Grouping



Most Flown Routes

	Flights	Seats	On-Time Arrival %
HND - FUK	6,902	2,297K	76.36%
FUK - HND	6,753	2,222K	69.84%
CTS - HND	6,198	2,331K	79.55%
HND - CTS	6,198	2,332K	75.76%
ITM - HND	5,431	1,733K	83.17%

Operator Country: Japan

282,469
Arriving Flights

282,497
Departing Flights

This information was collated from *The Cirium Core*, a comprehensive data platform for the Aviation & Travel industry.

AIRLINE WINNER PROFILE NORTH AMERICA DELTA AIRLINES



On-Time Arrival Rate
84.72%

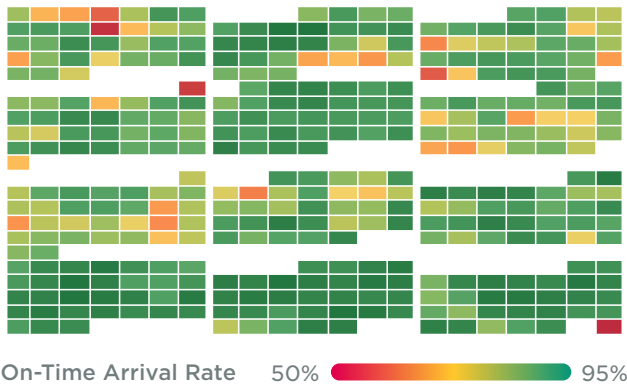
Active Tails
946

Total Flights Scheduled
1,635,486

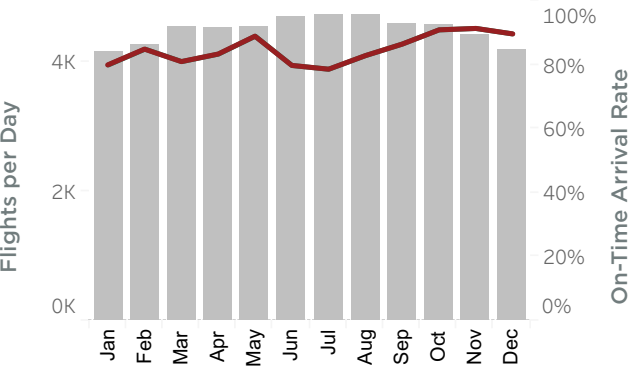
Avg Daily Utilization (per Tail)
10.00 hr

Total Distance Flown
2,446.20M km

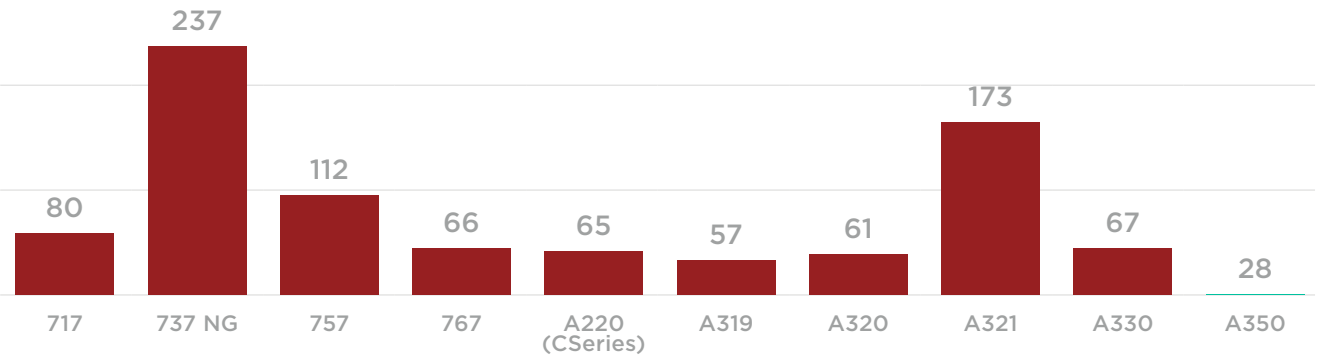
Daily On-Time Performance Calendar



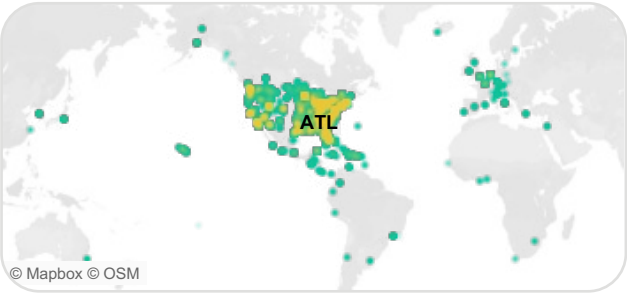
Monthly Trends
Flight Volume | Performance



Mainline Fleet Composition



Airport Hub Grouping



Most Flown Routes

	Flights	Seats	On-Time Arrival %
MCO - ATL	5,201	1,098K	78.76%
ATL - MCO	5,192	1,096K	75.09%
LGA - BOS	4,586	373K	84.17%
BOS - LGA	4,584	372K	85.68%
ATL - LGA	4,486	837K	83.77%

Operator Country: **United States**

1,547,639
Arriving Flights

1,547,642
Departing Flights

This information was collated from *The Cirium Core*, a comprehensive data platform for the Aviation & Travel industry.

AIRLINE WINNER PROFILE EUROPE IBERIA EXPRESS



On-Time Arrival Rate
84.58%

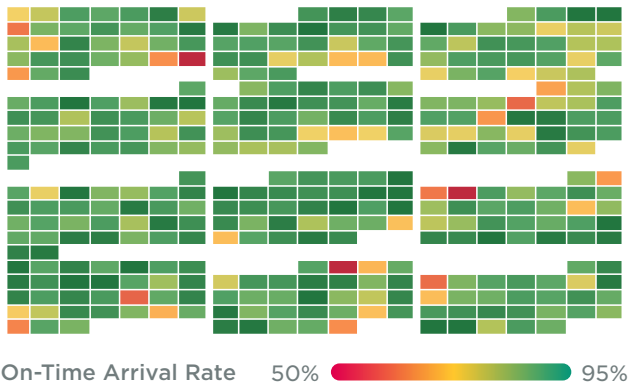
Active Tails
31

Total Flights Scheduled
40,985

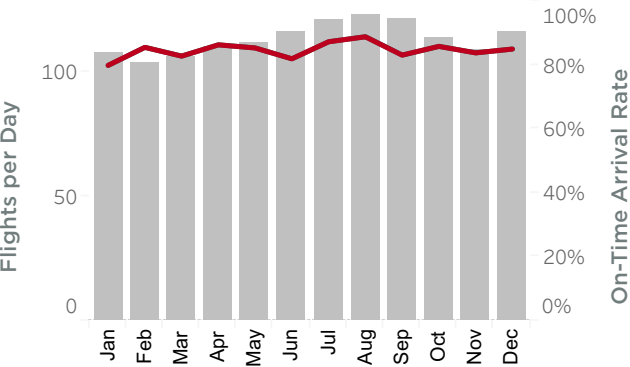
Avg Daily Utilization (per Tail)
8.41 hr

Total Distance Flown
52.66M km

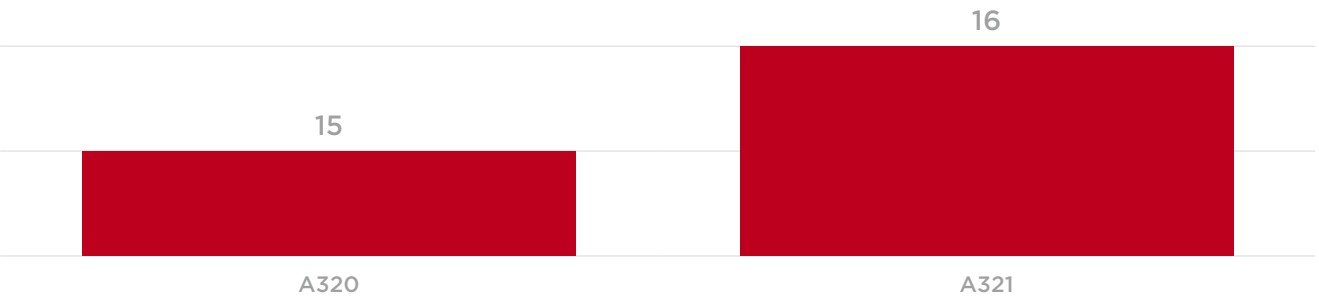
Daily On-Time Performance Calendar



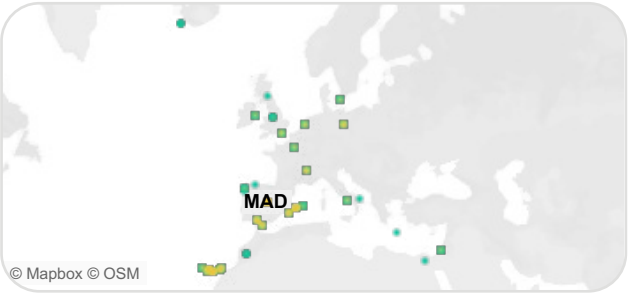
Monthly Trends
Flight Volume | Performance



Mainline Fleet Composition



Airport Hub Grouping



Most Flown Routes

	Flights	Seats	On-Time Arrival %
MAD - LPA	2,533	525K	88.72%
LPA - MAD	2,532	525K	86.23%
MAD - PMI	2,294	454K	91.01%
PMI - MAD	2,294	454K	87.09%
TFN - MAD	2,195	466K	83.22%

Operator Country: **Spain**

34,598
Arriving Flights

34,602
Departing Flights

This information was collated from *The Cirium Core*, a comprehensive data platform for the Aviation & Travel industry.

AIRLINE WINNER PROFILE LATIN AMERICA COPA AIRLINES



On-Time Arrival Rate
89.46%

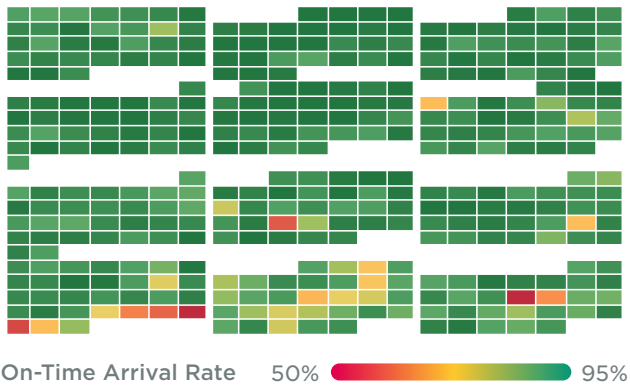
Active Tails
96

Total Flights Scheduled
115,657

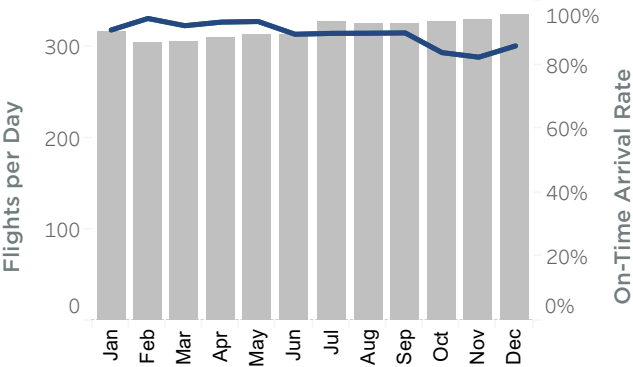
Avg Daily Utilization (per Tail)
11.59 hr

Total Distance Flown
256.24M km

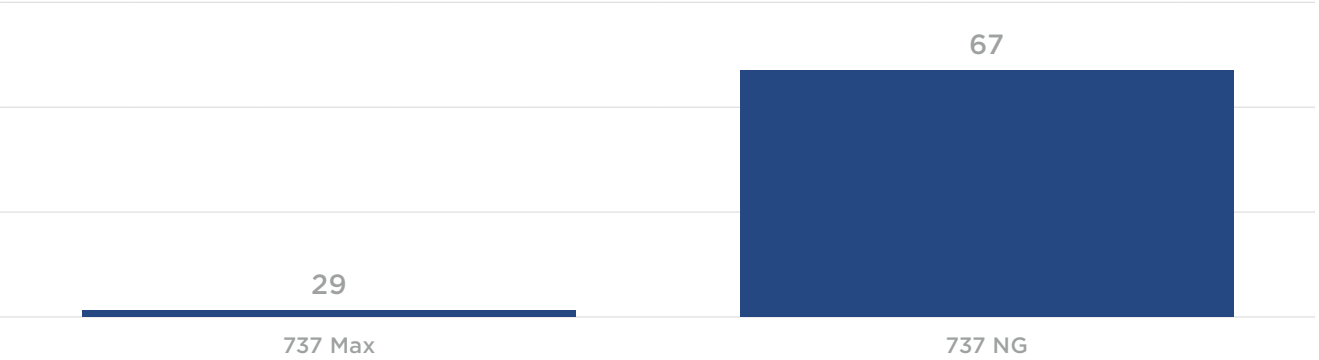
Daily On-Time Performance Calendar



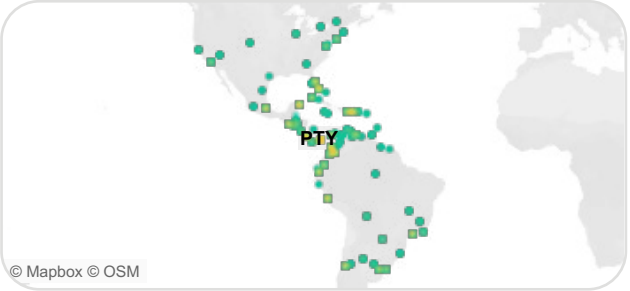
Monthly Trends
Flight Volume | Performance



Mainline Fleet Composition



Airport Hub Grouping



Most Flown Routes

	Flights	Seats	On-Time Arrival %
SJO - PTY	2,831	439K	92.23%
PTY - SJO	2,830	439K	87.42%
CUN - PTY	2,658	408K	93.03%
PTY - CUN	2,658	408K	89.61%
BOG - PTY	2,543	393K	93.58%

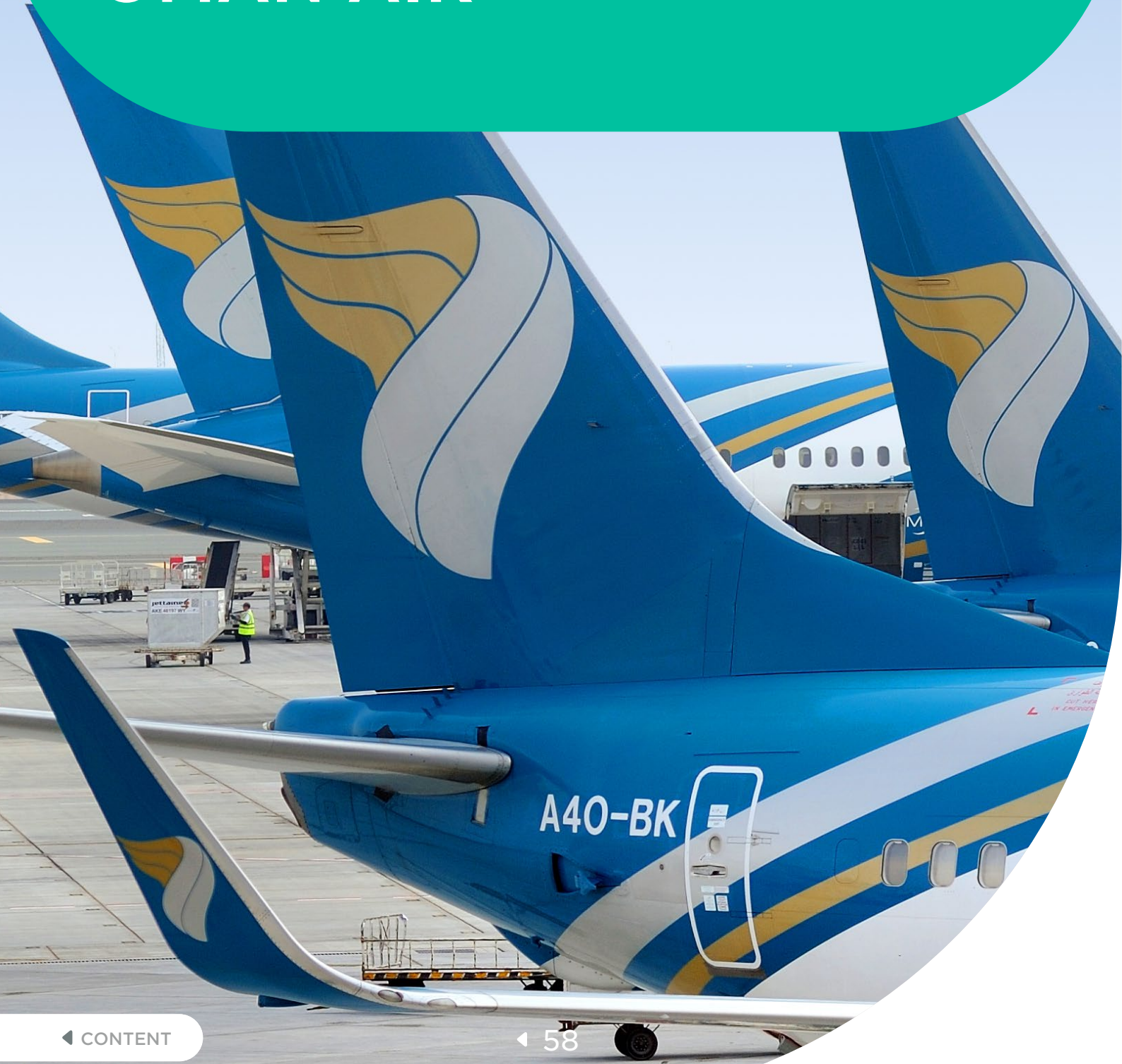
Operator Country: Panama

57,834
Arriving Flights

57,796
Departing Flights

This information was collated from *The Cirium Core*, a comprehensive data platform for the Aviation & Travel industry.

AIRLINE WINNER PROFILE MIDDLE EAST & AFRICA OMAN AIR



On-Time Arrival Rate
92.53%

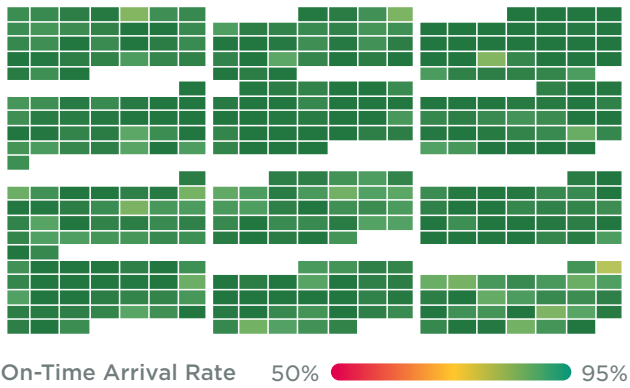
Active Tails
42

Total Flights Scheduled
45,908

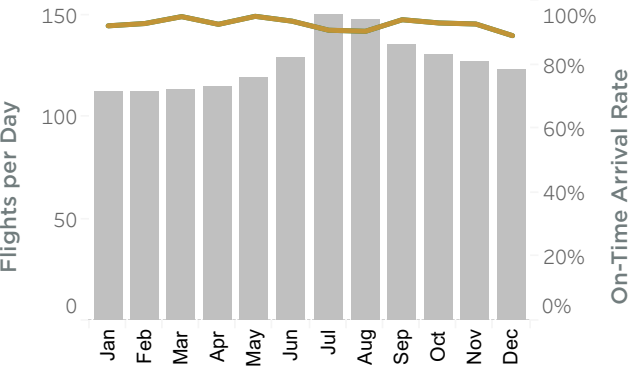
Avg Daily Utilization (per Tail)
10.47 hr

Total Distance Flown
105.00M km

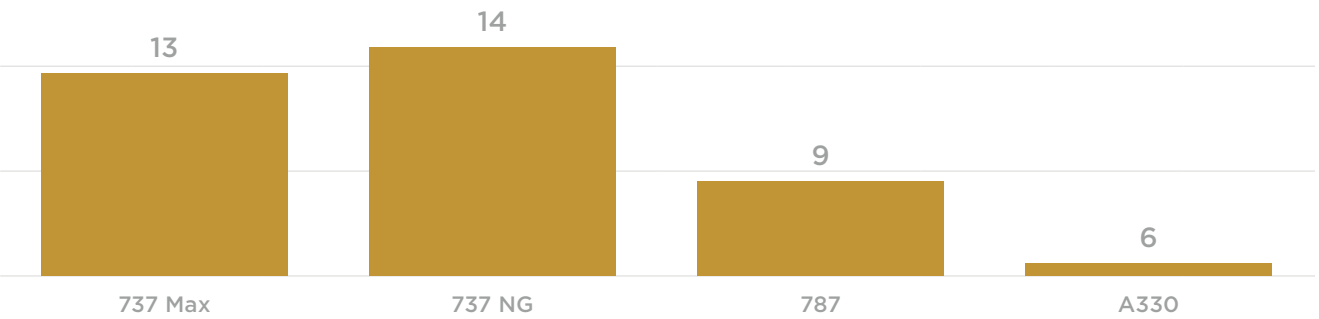
Daily On-Time Performance Calendar



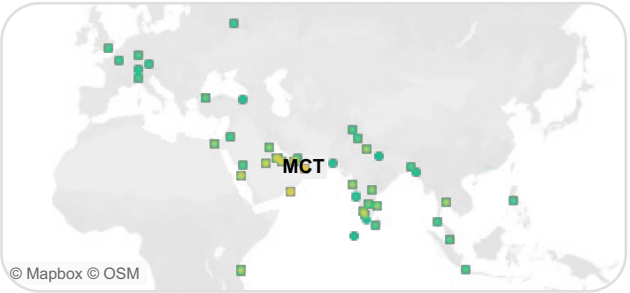
Monthly Trends
Flight Volume | Performance



Mainline Fleet Composition



Airport Hub Grouping



Most Flown Routes

	Flights	Seats	On-Time Arrival %
MCT - SLL	1,831	317K	93.04%
SLL - MCT	1,829	318K	93.27%
MCT - DXB	1,623	276K	96.36%
DXB - MCT	1,622	275K	95.92%
DOH - MCT	1,182	192K	97.20%

Operator Country: **Oman**

24,676
Arriving Flights

24,680
Departing Flights

This information was collated from **The Cirium Core**, a comprehensive data platform for the Aviation & Travel industry.

AIRLINE WINNER PROFILE LOW-COST CARRIERS SAFAIR



On-Time Arrival Rate
92.36%

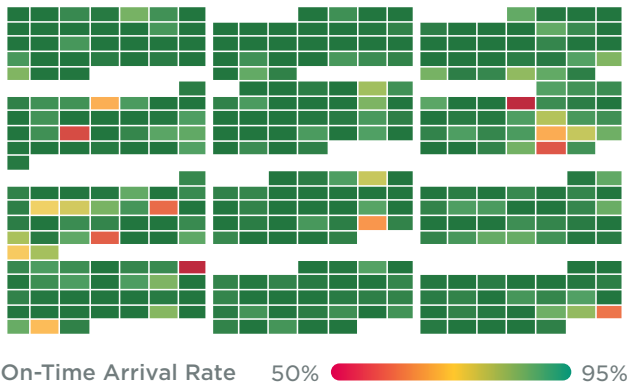
Active Tails
42

Total Flights Scheduled
55,444

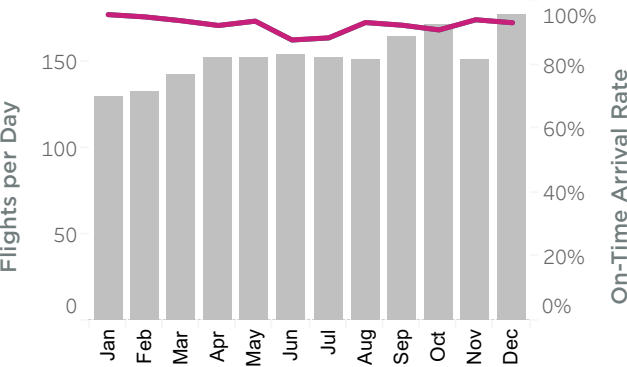
Avg Daily Utilization (per Tail)
10.47 hr

Total Distance Flown
105.00M km

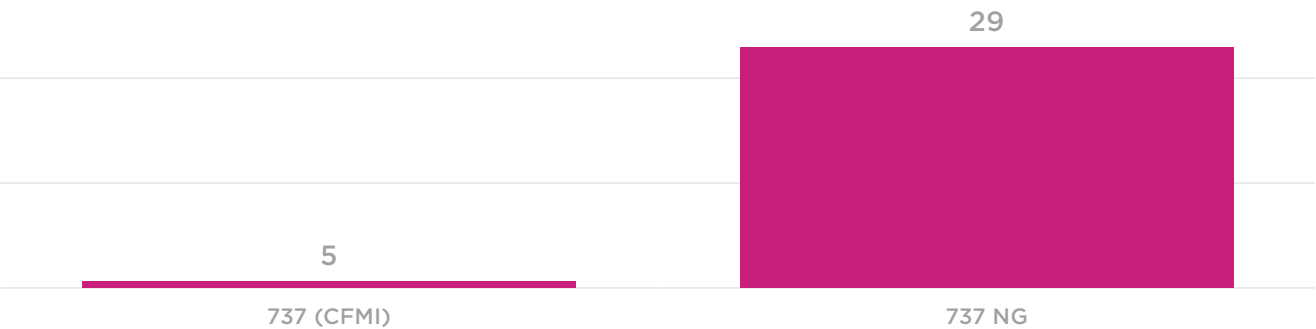
Daily On-Time Performance Calendar



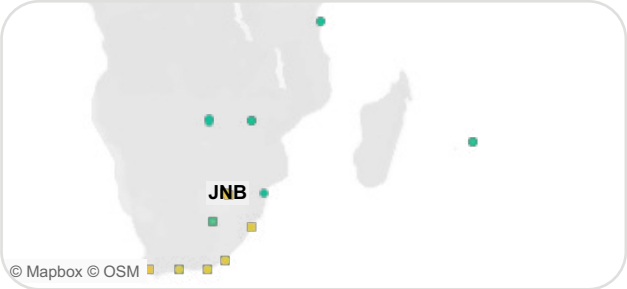
Monthly Trends
Flight Volume | Performance



Mainline Fleet Composition



Airport Hub Grouping



Most Flown Routes

	Flights	Seats	On-Time Arrival %
JNB - CPT	7,398	1,348K	89.02%
CPT - JNB	7,397	1,348K	92.66%
DUR - JNB	6,387	1,161K	93.18%
JNB - DUR	6,387	1,161K	93.70%
CPT - HLA	2,608	476K	96.29%
HLA - CPT	2,608	476K	94.76%

Operator Country: **South Africa**

54,816
Arriving Flights

54,817
Departing Flights

This information was collated from *The Cirium Core*, a comprehensive data platform for the Aviation & Travel industry.

The Interesting Phenomenon of On-Time Performance

by Tony Brooks

On-Time-Performance (OTP) is a subject that's regularly mentioned in the news. I'd like to share my thoughts on what it is, how it is measured and why it is such an important metric, especially today in an environment of increasing demand, high costs and tight labor and parts supply. OTP statistics are important enough to be regularly mentioned within an Airline's financial results along with Passenger Load Factors and Yield information and are used as a Key Performance Indicator (KPI) by many.

On-Time Performance is a measurement which allows us to compare the punctuality rates between airlines according to their published schedules. A flight is considered 'on-time' when it arrives or departs within 15 minutes of its scheduled timetable. In August 2023, the South African Low-Cost-Carrier (LCC) Safair enjoyed 93.13% on-time-arrivals, ranking the carrier first from over 1,300 airlines tracked. This was an impressive result taking into account the fact that LCC's operate traditionally high-density, short-turnaround flights and sit generally lower down the rankings.

Passenger satisfaction can fluctuate according to the level of OTP attained by a particular Airline and is a powerful tool in brand marketing campaigns when consistently high. However, the level of OTP can affect other areas of an Airline's operation which sometimes get overlooked.

An airline with a consistently low OTP may find it more difficult to plan future maintenance events if an aircraft's schedule is constantly changing due to delays.

With maintenance slots themselves becoming more difficult to reserve through labor shortages and parts supply issues, an aircraft could be temporarily grounded through expired maintenance as a direct result of low OTP results.

We now live in a world where aviation-related emissions statistics are forever under the microscope. Aircraft regularly burn fuel waiting for available gates and as air travel demand increases with many airports close to maximum capacity, delays and resulting pollution coupled with financial implications will only get worse.

A consistently low OTP will ultimately prove expensive for an operator.

Using 2022 Department of Transport (DOT) Form 41 data for U.S. scheduled Airlines, it was estimated that,

every minute of delay for one aircraft costs around \$100. It is estimated delays cost over \$1 billion each year to the industry,

a vast sum which could be put to better use towards investment in airline and airport infrastructure.

With so much more at stake with poor OTP performance than passenger satisfaction, global Airlines have a valuable tool in OTP which can help contribute towards providing practical solutions going forward.

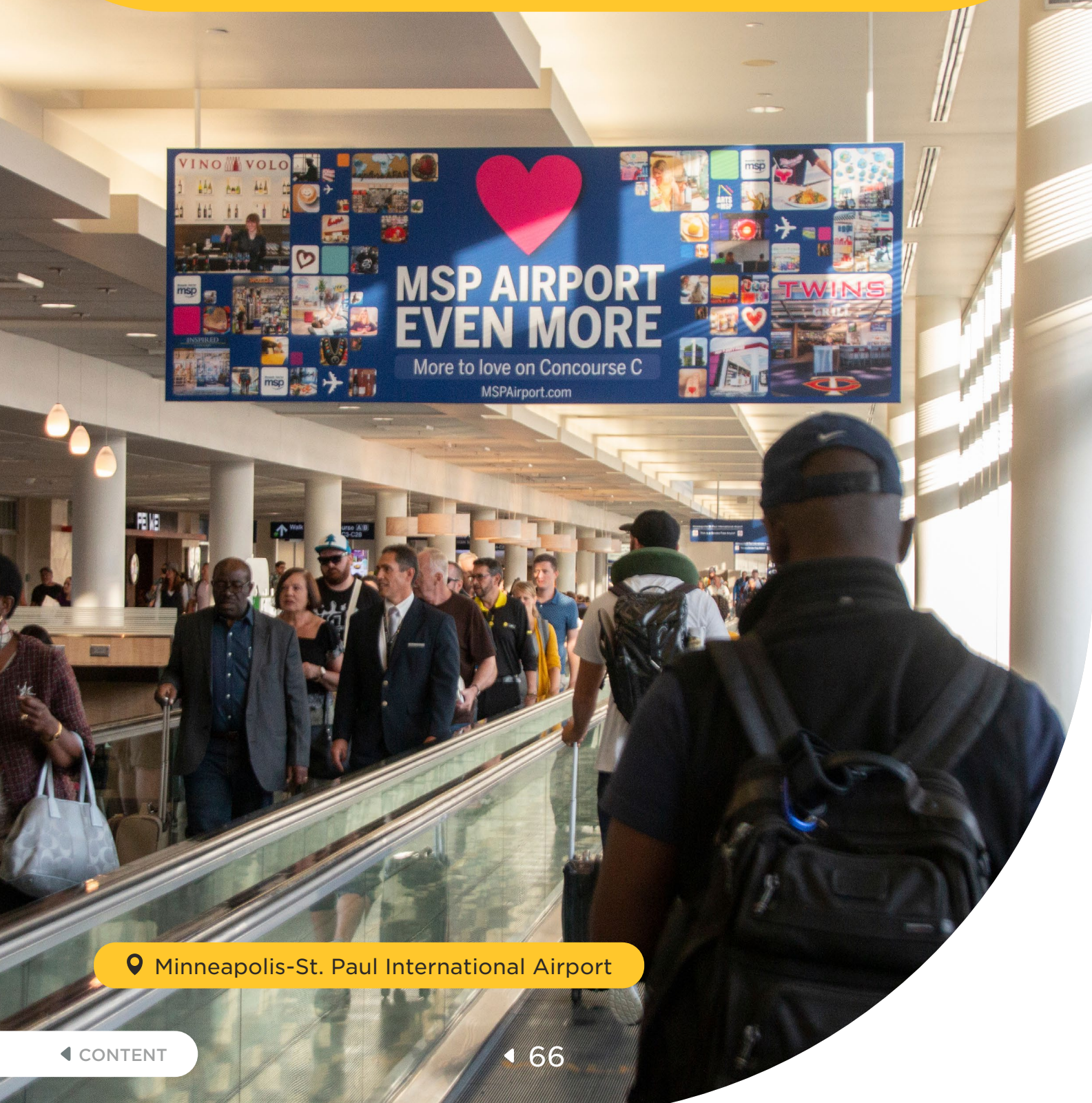


THE MOST ON-TIME AIRPORTS



GLOBAL AIRPORTS

TOP 20 WINNERS



Top 20 Winners with Summary of Top Performers

	On-Time Ranking	On-Time Departure	Tracked Flights	Total Flights	Avg Dep Delay	Routes Served	Summary of Top Performers
Minneapolis-St. Paul International Airport (MSP)	1	84.44%	96.70%	289,817	63	157	Total On-Time Departures 78.16%
Rajiv Gandhi International Airport (HYD)	2	84.42%	93.51%	168,426	53	82	
Kempegowda International Airport (BLR)	3	84.08%	90.38%	237,461	54	93	
El Dorado International Airport (BOG)	4	84.01%	87.74%	292,486	53	101	Total Tracked Flights 96.91%
Salt Lake City International Airport (SLC)	5	83.99%	99.85%	226,705	66	100	
Detroit Metropolitan Wayne County Airport (DTW)	6	83.09%	99.76%	276,049	68	123	
Seattle-Tacoma International Airport (SEA)	7	82.97%	99.49%	399,583	54	126	Total Flights 6,748,934
Philadelphia International Airport (PHL)	8	82.75%	97.98%	246,152	75	122	
Hamad International Airport (DOH)	9	82.04%	99.40%	223,952	41	191	
Haneda Airport (HND)	10	80.51%	99.08%	455,001	32	103	Total Seats 1,082.56M
Charlotte Douglas International Airport (CLT)	11	80.36%	98.62%	484,056	69	185	
San Diego International Airport (SAN)	12	80.32%	99.04%	189,479	59	82	
Washington Dulles International Airport (IAD)	13	80.26%	95.53%	212,599	71	140	Total Routes 2,777
Oslo Airport Gardermoen (OSL)	14	80.08%	97.41%	197,307	39	144	
Los Angeles International Airport (LAX)	15	79.76%	96.59%	503,851	63	194	
O'Hare International Airport (ORD)	16	79.67%	97.97%	679,614	68	247	
Phoenix Sky Harbor International Airport (PHX)	17	79.59%	98.00%	386,189	61	148	
Benito Juarez International Airport (MEX)	18	79.42%	96.27%	333,349	54	104	
Nashville International Airport (BNA)	19	79.30%	95.78%	203,893	62	110	
Hartsfield-Jackson Atlanta International Airport (ATL)	20	78.89%	99.04%	742,965	58	225	

Operational Highlights

	On-Time Departure	On-Time Arrival	Total Routes Served	Total Airlines Served
Minneapolis-St. Paul International Airport (MSP)	84.44%	84.62%	157	16
Rajiv Gandhi International Airport (HYD)	84.42%	80.81%	82	30
Kempegowda International Airport (BLR)	84.08%	77.79%	93	37
El Dorado International Airport (BOG)	84.01%	82.61%	101	35
Salt Lake City International Airport (SLC)	83.99%	84.71%	100	13

EXPERT COMMENTARY

GLOBAL AIRPORTS

Minneapolis St. Paul leads the way; Indian airports strengthen their on-time performance and Latin American airports make headway



Luis Felipe de Oliveria
ACI World Director General

According to ACI World, **2024 is expected to be a milestone for global passenger traffic as it reaches 9.4 billion passengers**, surpassing the year 2019 that welcomed 9.2 billion passengers (102.5% of the 2019 level).

Upside factors include the consolidation of the reopening of the Chinese market and surge in domestic travel, supply chain disruptions gradually subsiding, and inflation slowing down. While downside risks remain present, we continue to witness the dedicated efforts and commitment of ACI airport members and partners—such as their on-time performance—and we are filled with optimism about the industry's future.

The airport categories in the On-Time Performance Review are based on the current level of flight activity. **American airports reach great results with Minneapolis St. Paul leading in the Global and Large airport categories. American Airports – Salt Lake City International Airport, Detroit Metropolitan Wayne County Airport, Seattle-Tacoma International Airport and Philadelphia International Airport take fifth, sixth, seventh and eighth place respectively in the Global category. Indian airports strengthen their on-time performance and continue last year's trend – Rajiv Gandhi International Airport and Kempegowda International Airport leap to second and third place in both the Global and Large Airport categories.**

Japanese airports continue to prove their on-time performance lead with Osaka International Airport holding first position in the Medium Airport category,

while Chubu Centrair International Airport takes second position in the Small Airport category.

Latin American airports make significant headway in all airport categories; Mariscal Sucre International Airport leads in the Small Airport category and Jose Joaquin de Olmedo Airport achieve third place; Tocumen International Airport, Jorge Chavez International Airport, and Brasilia International Airport secure second, third and fourth in the Medium airports category; and El Dorado International Airport the fourth in the Global and Large airports categories—all participating in the top 5 of their respective groups. Their stellar performance could not be better timed: Latin America and the Caribbean is in fact forecasted by ACI World to be the first region to surpass its 2019 level, reaching 707 million passengers, or 102.9% of the 2019 level by the end of 2023.

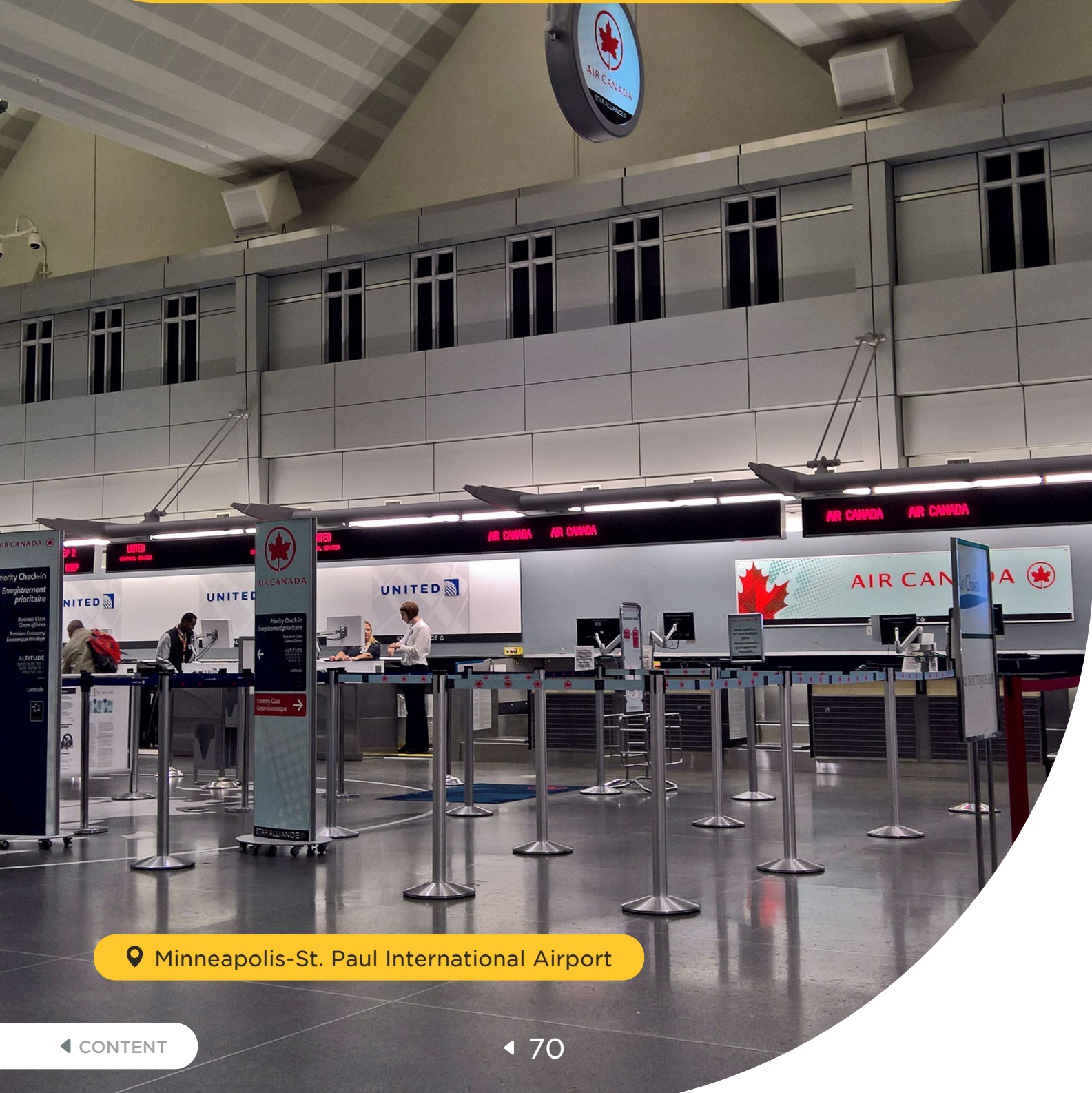
It is clear that airlines' performance is attached to airport results and vice versa, showing once more the joint efforts to build efficiency with benefits for passengers and the whole aviation ecosystem.

Congratulations to the top airports in each of the categories for their exceptional on-time performance as we continue to build a sustainable aviation ecosystem fit to welcome current and future travellers with efficiency, performance, and an exceptional passenger experience. We can only operate successfully and reach new heights as an ecosystem when all aviation stakeholders come together around the needs of passengers and communities worldwide.

📍 Minneapolis-St. Paul International Airport

LARGE AIRPORTS

TOP 20 WINNERS



Minneapolis-St. Paul International Airport

Top 20 Winners with Summary of Top Performers

	On-Time Ranking	On-Time Departure	Tracked Flights	Total Flights	Avg Dep Delay	Routes Served	Summary of Top Performers
Minneapolis-St. Paul International Airport (MSP)	1	84.44%	96.70%	289,817	63	157	Total On-Time Departures 78.52%
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Kempegowda International Airport (BLR)	3	84.08%	90.38%	237,461	54	93	
El Dorado International Airport (BOG)	4	84.01%	87.74%	292,486	53	101	Total Tracked Flights 97.14%
Salt Lake City International Airport (SLC)	5	83.99%	99.85%	226,705	66	100	
Ronald Reagan National Airport (DCA)	6	83.20%	99.95%	294,154	71	106	
Detroit Metropolitan Wayne County Airport (DTW)	7	83.09%	99.76%	276,049	68	123	Total Flights 6,457,229
Seattle-Tacoma International Airport (SEA)	8	82.97%	99.49%	399,583	54	126	
Philadelphia International Airport (PHL)	9	82.75%	97.98%	246,152	75	122	
Hamad International Airport (DOH)	10	82.04%	99.40%	223,952	41	191	Total Seats 1,004.28M
LaGuardia Airport (LGA)	11	81.34%	99.50%	360,999	72	93	
Haneda Airport (HND)	12	80.51%	99.08%	455,001	32	103	
Charlotte Douglas International Airport (CLT)	13	80.36%	98.62%	484,056	69	185	Total Routes 2,641
San Diego International Airport (SAN)	14	80.32%	99.04%	189,479	59	82	
Washington Dulles International Airport (IAD)	15	80.26%	95.53%	212,599	71	140	
Oslo Airport Gardermoen (OSL)	16	80.08%	97.41%	197,307	39	144	
Los Angeles International Airport (LAX)	17	79.76%	96.59%	503,851	63	194	
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Benito Juarez International Airport (MEX)	20	79.42%	96.27%	333,349	54	104	

Operational Highlights

	On-Time Departure	On-Time Arrival	Total Routes Served	Total Airlines Served
Minneapolis-St. Paul International Airport (MSP)	84.44%	84.62%	157	16
Rajiv Gandhi International Airport (HYD)	84.42%	80.81%	82	30
Kempegowda International Airport (BLR)	84.08%	77.79%	93	37
El Dorado International Airport (BOG)	84.01%	82.61%	101	35
Salt Lake City International Airport (SLC)	83.99%	84.71%	100	13

MEDIUM AIRPORTS
TOP 20 WINNERS



— Top 20 Winners with Summary of Top Performers —

	On-Time Ranking	On-Time Departure	Tracked Flights	Total Flights	Avg Dep Delay	Routes Served	Summary of Top Performers
Osaka International Airport (ITM)	1	90.71%	99.47%	136,150	30	35	Total On-Time Departures 78.46%
Tocumen International Airport (PTY)	2	90.51%	98.93%	125,731	57	89	
Jorge Chavez International Airport (LIM)	3	89.10%	84.99%	155,787	56	66	
Brasilia International Airport (BSB)	4	86.62%	98.16%	108,758	39	52	Total Tracked Flights 94.78%
Portland International Airport (PDX)	5	86.03%	99.83%	142,661	62	77	
Arturo Merino Benitez Airport (SCL)	6	84.98%	98.66%	136,163	56	63	
Jose Maria Cordova International Airport (MDE)	7	84.31%	89.38%	82,850	60	40	Total Flights 2,657,590
Viracopos Airport (VCP)	8	83.93%	99.30%	111,180	37	73	
Netaji Subhas Chandra Bose Airport (CCU)	9	83.91%	84.50%	137,176	60	69	
New Chitose Airport (CTS)	10	83.80%	99.82%	146,013	36	42	Total Seats 456.01M
Naha Airport (OKA)	11	83.68%	96.69%	130,043	31	39	
Norman Y. Mineta San Jose International Airport (SJC)	12	83.21%	99.81%	110,144	52	43	
Fukuoka Airport (FUK)	13	82.60%	96.00%	178,694	34	47	Total Routes 1,362
Sacramento International Airport (SMF)	14	82.58%	98.91%	111,333	54	42	
Chennai International Airport (MAA)	15	82.46%	92.69%	139,014	50	68	
Abu Dhabi International Airport (AUH)	16	81.03%	93.38%	118,901	46	128	
Addis Ababa Bole International Airport (ADD)	17	80.67%	98.26%	124,284	37	118	
Daniel K. Inouye International Airport (HNL)	18	80.56%	83.76%	158,407	50	58	
Helsinki-Vantaa Airport (HEL)	19	80.29%	99.76%	128,623	37	122	
Don Mueang International Airport (DMK)	20	79.94%	83.31%	175,678	40	91	

Operational Highlights

	On-Time Departure	On-Time Arrival	Total Routes Served	Total Airlines Served
Osaka International Airport (ITM)	90.71%	86.62%	35	4
Tocumen International Airport (PTY)	90.51%	90.32%	89	19
Jorge Chavez International Airport (LIM)	89.10%	83.63%	66	33
Brasilia International Airport (BSB)	86.62%	83.68%	52	8
Portland International Airport (PDX)	86.03%	82.14%	77	18

EXPERT COMMENTARY

MEDIUM AIRPORTS

Middleweight Champions: Medium-Sized Airports are Soaring High in On-Time Departures



James Hetzel
Product Marketing Director,
Cirium

In the bustling world of aviation, medium-sized airports often find themselves in a unique position - big enough to serve a significant volume of passengers, yet small enough to avoid some of the logistical nightmares that come with mega-airport status. Today, we're shining a spotlight on these middleweight champions, particularly those that have demonstrated exceptional performance in on-time departures throughout 2023, serving between 15,000,000 and 25,000,000 travelers annually worldwide.

Our annual report highlights the top 20 airports worldwide in this category. The data clearly shows that there are several medium-sized airport hubs that excel in departure on-time performance.

Leading the pack and taking the #1 ranking is Osaka International Airport (ITM), the international gateway for Japan's Kansai region, boasting a departure performance of 90.71% on over 130,000 flights for the year.

Deserving of honorable mention, is Tocumen International Airport (PTY) in Panama, a gateway airport to the Americas, with a departure OTP of 90.51% on over 121,000 flights. Also ranking high is Jorge Chavez International Airport (LIM) in Lima, Peru, with a departure OTP of 89.10% on over 150,000 flights.

These top performers are accompanied by numerous other medium-sized airports that have demonstrated impressive on-time departure performance. Congratulations to Osaka International Airport for their exceptional performance!

While ensuring on-time departures is crucial, it is equally important to adopt a comprehensive approach to airport management. The exemplary performance of medium-sized airports in 2023 has demonstrated that success stems from a combination of robust infrastructure, strategic partnerships, economic growth, and a culture of innovation. This serves as a valuable lesson for airports of all sizes, emphasizing the significance of embracing these principles.

Osaka International Airport

SMALL AIRPORTS

TOP 20 WINNERS



📍 Mariscal Sucre International Airport

— Top 20 Winners with Summary of Top Performers —

	On-Time Ranking	On-Time Departure	Tracked Flights	Total Flights	Avg Dep Delay	Routes Served	Summary of Top Performers
Mariscal Sucre International Airport (UIO)	1	90.29%	86.04%	41,576	72	27	Total On-Time Departures 79.08%
Chubu Centrair International Airport (NGO)	2	90.17%	87.93%	73,159	40	43	
Jose Joaquin de Olmedo Airport (GYE)	3	88.83%	87.49%	36,077	91	17	
Boise Air Terminal (Gowen Field) (BOI)	4	87.30%	99.16%	50,635	70	26	
Cape Town International Airport (CPT)	5	86.71%	80.65%	80,267	47	42	Total Tracked Flights 93.77%
Tenerife North Airport (TFN)	6	85.30%	94.85%	69,188	38	26	
Guararapes-Gilberto Freyre International (REC)	7	85.17%	97.64%	74,340	45	52	
Pittsburgh International Airport (PIT)	8	85.06%	91.78%	96,064	72	61	
Tancredo Neves International Airport (CNF)	9	84.78%	99.86%	94,401	43	67	Total Flights 1,368,521
Kona International Airport at Keahole (KOA)	10	84.76%	86.09%	39,186	50	21	
John Glenn Columbus International Airport (CMH)	11	84.71%	98.96%	87,110	69	46	
Indianapolis International Airport (IND)	12	84.62%	98.06%	92,470	70	47	
Afonso Pena International Airport (CWB)	13	84.58%	99.51%	51,822	45	31	Total Seats 198.89M
Beirut-Rafic Hariri International Airport (BEY)	14	84.14%	92.90%	51,209	42	62	
Christchurch International Airport (CHC)	15	83.88%	98.76%	65,896	38	25	
Eppley Airfield (OMA)	16	83.81%	99.24%	46,166	67	32	
Rafael Nunez International Airport (CTG)	17	83.59%	90.16%	43,411	56	34	Total Routes 812
Cincinnati/Northern Kentucky Airport (CVG)	18	83.58%	97.64%	86,335	74	52	
General Mitchell International Airport (MKE)	19	83.51%	99.05%	56,461	75	33	
Kansai International Airport (KIX)	20	83.39%	89.64%	132,748	45	68	

Operational Highlights

	On-Time Departure	On-Time Arrival	Total Routes Served	Total Airlines Served
Mariscal Sucre International Airport (UIO)	90.29%	86.24%	27	17
Chubu Centrair International Airport (NGO)	90.17%	83.98%	43	39
Jose Joaquin de Olmedo Airport (GYE)	88.83%	85.34%	17	13
Boise Air Terminal (Gowen Field) (BOI)	87.30%	83.01%	26	9
Cape Town International Airport (CPT)	86.71%	87.14%	42	31

EXPERT COMMENTARY

SMALL AIRPORTS

¡Bien hecho, Ecuador! Small Airport Winners from Central America



Mike Arnot
Julieta Alpha Media

Mariscal Sucre International Airport had the best operational performance in 2023 among the world's small airports.

Located near Quito, Ecuador, the airport is referred to as Tababela, and is relatively new — it opened in 2012. It's Ecuador's largest airport. The two largest carriers there are Avianca and LATAM, each flying around 1M seats in 2023, with Avianca flying around 43% more seats from there since 2019. Mariscal Sucre beat out Chubu Centrair, the Japanese single runway operation just outside of

Nagoya, Japan. ANA is the largest carrier there, whose strong on-time performance factors into both that carrier and this airport's excellence.

The top three small airports are rounded out by José Joaquín de Olmedo International Airport, serving Guayaquil, Ecuador, and Ecuador's second largest airport, after Mariscal Sucre. **2023's results are an excellent result for these Ecuadorian airports.** Cirium categorizes airports by percentile, and a small airport serves between the 25th and 50th percentile by total flights served in a month, with an actual gate departure coverage 80% or better.

📍 Mariscal Sucre International Airport

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CIRIUM SCHEDULES DATA PARTNERSHIP

APPENDIX



Usage and attribution

We ask you to cite Cirium if you extract and use the data and information in this report in your own content and marketing. Where possible please also link to www.cirium.com.

The data presented in this report derives from The Cirium Core, which holds information from over 2,000 sources. Cirium verifies and quality checks all the data as we process it. Cirium is solely responsible for all insights and analyses provided in this report.

As a neutral partner in the industry, we rank airlines and airports from an independent position. It is our mission to accelerate the industry's digital transformation.

Examples of how to cite us:

“According to data provided by Cirium, an aviation analytics company, **89.66% of Delta Air Lines' flights arrived on time** for the month of December.”

“Cirium, a company that provides data for the aviation industry, revealed that **82.87% of All Nippon Airways' flights** across the country **arrived on time** in December.”

“Cirium's study of **Vueling's on-time performance** in December shows that **85.70% of its flights arrived on time.**”

“Cirium's airline on-time performance analysis shows **89.02% of Oman Air's flights** nationwide arrived on-time in December.”

For questions about citing Cirium's on-time performance analysis, please contact at media@cirium.com.

Jeremy Bowen

Chairperson, Advisory Board

Jeremy Bowen is the CEO of Cirium, the aviation analytics company that is helping to **shape an intelligent future for air travel.**

Cirium is part of the global information-based analytics company RELX. Jeremy originally joined its FlightGlobal brand, the aviation arm of RELX, in 2018. He became CEO in 2019 during the same period as the company rebranded to Cirium, after significantly growing its data portfolio with the acquisitions of Diio, FlightStats, Ascend and Innovata. At the same time, Jeremy led the divestment of its legacy publishing business, FlightGlobal.

During his leadership, Jeremy has additionally set a new vision and strategy for Cirium, aligning company operations, driving a new collaborative culture with the acquisition of Snowflake Software, to further expand Cirium's data portfolio and technology offering.

Jeremy has been in the data and analytics world all his career, previously with RELX's Accuity business for eight years—a company focused on the financial services sector. Before this role, he spent 15 years with data insights company Dun & Bradstreet in leadership positions in the UK, Australia and New Zealand.



CIRIUM

Ben Baldanza

Advisory Board Member

B. Ben Baldanza is a **transformational leader in the US Airline industry.** As the CEO for Spirit Airlines, he led a team that created a new sector of airlines in North America and became an economic powerhouse, offering travel opportunity for millions.

He has been named as one of the industry's "25 Most Influential Leaders" twice and has helped to set trends that have been adopted by the rest of the industry.

Prior to Spirit, Ben held executive roles with US Airways, Continental Airlines, and TACA Airlines. He began his career at American Airlines, Northwest Airlines, and UPS.

Today Ben serves on the Board of Directors for JetBlue Airways, Six Flags Entertainment, and several private companies. In these independent roles, he provides value from his diverse set of business experiences and willingness to challenge current conventions when necessary. He is competent and current on modern corporate board governance.

Ben has earned degrees from Syracuse University and Princeton University's Public Policy School, focused on economics,

business efficiency, and public policy. He teaches in the Economics program at George Mason University in Fairfax, VA and co-hosts a weekly podcast that is now in the top 1% of all podcasts in terms of weekly listeners. Ben is married to Marcia Baldanza, a Doctor in Education with a career in public school innovation. They have one son, Enzo Anthony, 16 years old, and live in Arlington, Virginia.

jetBlue
AIRWAYS

Henry Harteveltdt

Advisory Board Member

Henry H. Harteveltdt is one of the travel industry's **most respected analysts**.

He started the Atmosphere Research Group – a San Francisco-based independent, objective travel industry market research and strategic advisory firm in 2011, following a nearly 11-year career as Forrester Research's global head of travel research.

Before becoming an analyst, Henry spent more than 15 years in marketing, product, planning, PR, and distribution roles at a variety of leading travel firms, including Continental Airlines, Fairmont Hotel Management Company and GetThere.

ATMOSPHERE
Research Group



Willy Boulter

Advisory Board Member

Willy Boulter has **40 years of experience in the airline industry**, most recently as Chief Commercial Officer of IndiGo, India's largest airline with a fleet of over 250 aircraft.

For the first 20 years of his career, he worked at Cathay Pacific in several positions, including heading the Japan market, Revenue Management, and IT.

He was Commercial Director of Virgin Atlantic from 2002 to 2008, and then the CEO of Russia's first LCC, Sky Express.

He has also worked for airlines in the Middle East, specifically Gulf Air and Etihad, and was CCO in the Emirates-sponsored team that turned around TAAG Angola Airlines in 2015-18.

He is a graduate of Oxford University and served in the British Army in the UK, Canada and Hong Kong. He is a Fellow of the Royal Aeronautical Society and currently splits his time between England and Yokohama.

IndiGo



Luis Felipe de Oliveria

Advisory Board Member

Joined ACI World as **Director General in June 2020**, bringing with him vast experience in commercial and technical aviation.

He successfully led the Latin American and Caribbean Air Transport Association (ALTA) between October 2017 and May 2020, promoting positive change in the organisation.

Prior to joining ALTA, Luis served as World Fuel Services' Vice President Supply Development for Latin America and Caribbean where he was responsible for improving World Fuel's aviation fuel business in the region.

For 10 years, Luis served IATA, leading fuel and airport campaigns with governments, oil companies, fuel service providers and airports for the Americas, Africa and the Middle East regions, based in Switzerland.

He also served 12 years at Shell with a focus on Latin America and the Caribbean and Africa and Europe, based in the Netherlands.



Mike Malik

Advisory Board Member
Committee Chairperson

Mike Malik is Chief Marketing Officer at Cirium having **joined the company in 2018**. He rebranded the company from FlightGlobal and brought together other brands the company had acquired in the last decade under one umbrella brand.

Mike has been in the airline and aviation industry throughout his career and has held several executive level positions.

Mike was Chief Commercial Officer for UBM Aviation, President of Aloha Air Cargo & Aloha Tech Ops, and Chief Information Officer for Aloha Airlines. He was also one of the founding team members of Maxjet Airways, where he was Chief Marketing and Information Officer. Prior to this, he was President and CEO of Shepherd Systems, an airline sales force automation and business intelligence company. He spent nine years at Sabre and assumed roles in London and Hong Kong where he was Vice President, Asia Pacific. While in Hong Kong, he was a special consultant to the executive management team of Cathay Pacific Airways.

As an executive consultant to several airlines, Mike assisted them in deploying new technology into their operations.

This included Lufthansa for day-of-operations control, Swissair for pricing and Cathay Pacific Airways for revenue management, crew management and maintenance operations.

Mike is currently an advisory board member to Aerobrand, an airline branding and design company that rebranded Lufthansa Airlines in 2018.



CIRIUM



Glossary of terms

AIRLINE CODE	The IATA code for the airline. This is the code of the Marketing Airline.
AVAILABLE SEAT KILOMETERS (ASK)	The number of seats available multiplied by the number of kilometers between origin and destination.
BLOCK TIME	Referred to as B0. The percentage of flights that were completed within their scheduled time.
COMPLETION FACTOR	Completion factor which is the percentage of tracked flights that were completed (e.g., not canceled)
COVERAGE	The percentage of published flights for which we have an actual arrival gate time for airlines and an actual departure time for airports against which we can measure a flight’s performance versus its schedule.
ON-TIME ARRIVAL	The percentage of completed flights that arrived at the gate on time. On time is defined as arriving within 15 minutes of the scheduled arrival time. The on-time arrival ranking is used to determine the top performing airlines.

ON-TIME DEPARTURE	The percentage of completed flights that departed at the gate on time. On time is defined as departing within 15 minutes of the scheduled departing time. The on-time departure ranking is used to determine the top performing airports.
ON-TIME RANKING	For each list of airlines and airports, on-time performance is ranked where a rank of 1 equates to the best performance.
SEATS (MILLIONS)	The estimated seat capacity of all scheduled flights.
TOTAL FLIGHTS	The total number of scheduled single segment flights (consisting of one origin and one destination).
TRACKED FLIGHTS	The percentage of published flights for which Cirium tracked an actual gate arrival time, cancellation or diversion.

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CIRIUM SCHEDULES DATA PARTNERSHIP

TRUSTED

Over 100 years of industry experience

- Rigorous quality control
- Reliable, resilient & secure

COMPREHENSIVE

Unsurpassed data coverage

- 900+ IATA and Non-IATA airlines
- 280,000 updates daily

INNOVATIVE

Technology to enable schedule insights
and distribution

- Industry-standard SSIM and customized file delivery
- Modern and robust schedule and connection API service



CIRIUM
aviation analytics

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Report calculation

Airline calculations

We examine our flight status and arrival data curated from over 600 global sources, including published schedules, government agencies, civil aviation authorities, airlines, airports, and major airline reservation systems.

Our data processing team has logic, processes, and protections in place to corroborate the information we gather for flights worldwide. Our categories for this report are grouped into three areas: **Global**, **Major (by region)**, and **low-cost carriers**. There is an 80% Actual Gate Arrival Time coverage requirement for all categories.



Key evaluation criteria

Available Seat Kilometres (ASK) — the number of seats available multiplied by the number of kilometres flown — captures an airline’s total production in terms of their total passenger carrying capacity and distance flown.

Flights

The total number of flights flown — captures the airline’s total volume of passenger flights flown.

Seats

The total number of seats flown — captures the airline’s total volume of seats flown.

Regions Served

The total number of regions served by an airline — captures the airline’s global prominence across report regions. An airline is considered to serve a region if it operates one (1) or more flights per day to or within that region. An airline’s home region counts as one of its regions served.

Actual Gate Arrival Time (AGA) Coverage

The percentage of flights in Cirium’s database for which the AGA field is present — ensures a minimum data quality standard required to evaluate the airline’s performance. Airlines can boost their coverage by becoming a Cirium Data Supplier. Find out more at www.cirium.com/about/data-supply/

Completion Factor

The percentage of flights not cancelled — captures the airline’s ability to complete their flights as scheduled.

Regional Thresholds

We report OTP figures inclusive of all flights operated under a carrier’s brand (mainline, wetlease, subsidiaries. To qualify for the Cirium OTP Report, there is an 80% actual gate arrival time data coverage requirement for all airline categories. These categories include Global, Major (by region) and low-cost carriers.

For the Global Airlines category, we consider the Top 10% of all passenger airlines by capacity and volume criteria — by Available Seat Kilometres (ASKs), flights and seats—the airline must also serve at least three regions.

For Major Airlines by Region, the threshold for ASKs, flights and seats, varies by region to accurately reflect the size of operations in that region.

The thresholds for each region are listed in the table below.

Region	Flights, Seats, ASK, Threshold
ASIA PACIFIC	Top 30%
EUROPE	Top 30%
LATIN AMERICA	Top 30%
MIDDLE EAST & AFRICA	Top 30%
NORTH AMERICA	Top 15%

The low-cost carrier (LCC) category reviews airlines that are industry recognized and/or self- identified lowcost carriers. For this category, we consider the Top 60% of LCC airlines. LCC airlines must fall in the Top 60% for flights, seats, and destinations to be considered.

Actual Gate Arrival (AGA) Coverage is calculated based on direct operational measures only. These are reported directly by our data sources or observed using ADS-B Positional Data.

Report calculation

Airport calculations

Each month Cirium reviews the total number of flights in a given month (approximately 3 million) for every airport globally in an ordered list, then looks at where the percentile demarcations fall. For the annual OTP review, **we take the total number of flights in a given year for every airport.**

Airports are selected based on a combination of factors, including:



Global Airport

- 25-40m seats
- Actual gate departure coverage 80% or better
- Must serve at least three (3) regions (inclusive of its own)

Large Airport

- 25-40m seats
- Actual gate departure coverage 80% or better
- Note: this category can include airports in the global airport category

Medium Airport

- 15-25m seats
- Actual gate departure coverage 80% or better

Small Airport

- 5-15m seats
- Actual gate departure coverage 80% or better

Why the world trusts our rankings

Cirium applies the **highest level of quality assurance to the data** that supports the On-Time Performance Review. We ensure the highest level of accuracy, timeliness, and coverage of the data, which is why the data and analyses are trusted by airlines and airports globally.

The experienced and dedicated Cirium data team collect, verify, and clean the data and then apply logic, algorithms and security to it.

This comprehensive structure is in place to achieve the 'quality balance' of the data that we use to rank airlines and airports.

Sophisticated tools and statistics validate the information and remove outliers and multisource verification fills in the gaps in single data sources. In cases of conflict, advanced algorithms identify the most reasonable data points, crosscheck the information, and determine consistency of information. Our expert team apply their in-depth knowledge in data and aviation to add extra validity to the data.

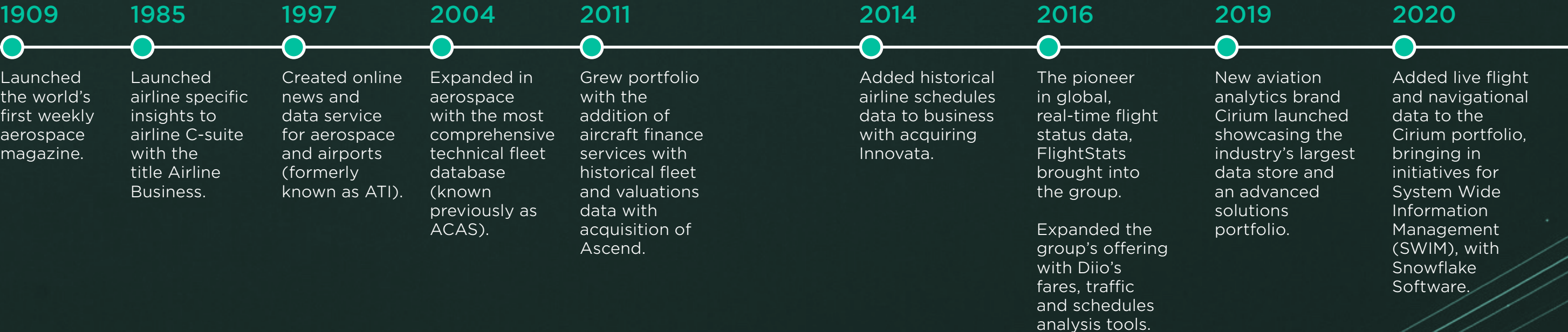
Cirium has a strict definition for what we consider as flight coverage for an airline or airport. For an airline to qualify for Cirium's On-Time Performance rankings, a carrier must meet the coverage standards, and we must have data fields which include estimated departures, actual departures, departure dates and arrival gates.

Cirium's approach to on-time performance data and the process involved means we immediately notice when changes or deviations occur.



Cirium history

Cirium brings together powerful data and analytics to keep the world moving. Delivering insight, built from decades of experience in the sector, enabling travel companies, aircraft manufacturers, airports, airlines and financial institutions, among others, to make logical and informed decisions which shape the future of travel, grow revenues and enhance customer experiences. Cirium is part of RELX PLC, a global provider of information-based analytics and decision tools for professional and business customers.



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