DATA’S POWER IS IN ITS ACCESSIBILITY
Aviation has always had enormous quantities of data but is only just beginning to manage and exploit it

CEO Interviews LATAM, Korean Air | Sustainable fuels Achieving 5% carbon reduction by 2050 | ICAO IATA speaks to the Secretary General Juan Carlos Salazar | Airline projections Outlook upgraded to $27.7bn
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*Compared to 83% for competition, per third-party data.
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CATHAY CARGO  MOVE BEYOND
Traffic set to return to normal

December traffic stood just 2.5% below 2019 levels, with a strong performance in quarter four, teeing-up airlines for a return to normal growth patterns in 2024. The recovery gained momentum as we went through 2023. We were pleasantly surprised by the early opening of China, which was a very positive development. The recovery in travel is good news. Consequently we were able to upgrade our 2023 profit forecast to $23.3 billion. But we’ve always got to put profitability in the airline industry into context. Although it sounds like a big figure, when you look at it as an aggregate across the industry, in margin terms we’re still significantly below where we need to be and significantly below where we were prior to the pandemic. In the main, while it was a good year, it was still frustrating for many airlines because of issues outside of their control. We continue to see ATC disruption in the US and Europe. And we had a lot of supply chain issues which have impacted the capacity that airlines would have wanted to put into the market. Nevertheless, the restoration of connectivity is powering the global economy as people travel to do business, further their educations, take hard-earned vacations, and much more.

Willie Walsh
IATA Director General

On sustainable aviation fuels
Our push to connect our world even more strongly than before the pandemic must not come at the expense of our environment. We saw a strong increase in SAF use in 2023, but SAF is still only 3% of all global renewable fuels production. A massive collective effort is needed to increase SAF output as a proportion of overall renewable fuel production as quickly as possible.

On GNSS Spoofing
Airlines are seeing a significant rise in incidents of GNSS interference. To counter this, we need coordinated collection and sharing of GNSS safety data; universal procedural GNSS incident guidance from aircraft manufacturers; and a commitment from states to retain traditional navigation systems as backup in cases where GNSS are spoofed or jammed.

On Dangerous Goods
The safe carriage of dangerous goods has become common practice, thanks to the strict adherence to global standards and guidelines. IATA will continue its advocacy work with key stakeholders to maintain a globally aligned, and practically focused approach to the regulated transport of dangerous goods. This will lead to more efficient and robust supply chains whilst upholding aviation’s number one priority of safety.

On the Red Sea situation
The recent disruption to maritime routes in the Red Sea has seen some shippers pivot to air cargo. The increased demand saw a spike in air cargo yields on related trade lanes. A similar spike is expected in January as disruptions intensified. While not all cargo is suitable for air transport, it is a vital option for some of the most urgent shipments in extraordinary circumstances. And that is critical to the continuity of the global economy.
There are over 60 elections taking place worldwide in 2024. This is an ideal opportunity for newly elected governments to provide the right policies for a safe and sustainable air transport industry so that aviation, in turn, can continue to deliver social and economic benefits.
oneworld joins IATA CO2 Connect

IATA and the oneworld alliance will work together in the field of CO2 emission calculations with all 13 oneworld member airlines committing to contributing operational data to IATA’s CO2 Connect emissions calculator. This will further improve the quality and accuracy of the tool, as the percentage of airline-specific fuel burn data used by the calculator will substantially increase, with the data provided by the following oneworld member airlines: Alaska Airlines, American Airlines, British Airways, Cathay Pacific, Finnair, Iberia, Japan Airlines, Malaysia Airlines, Qatar Airways, Qantas, Royal Air Maroc, Royal Jordanian, and SriLankan Airlines.

IATA Senior Vice President, Sustainability and Chief Economist, Marie Owens Thomsen said: “Travelers want to make informed choices regarding their CO2 footprint and IATA CO2 Connect set out to provide CO2 emission calculations based on operational data. We are delighted that oneworld will become the first airline alliance to join this initiative, bringing in its 13 member airlines as data contributors. Their decision underscores the importance of the industry’s objective of providing consistency and alignment in this field.”

oneworld Environmental and Sustainability Board Chair and General Manager Sustainability, Cathay Pacific, Grace Cheung said: “oneworld is proud to be the first global airline alliance to support IATA’s work to provide customers with high-quality estimates of the CO2 emissions of their flights. Our collaboration with IATA on CO2 Connect will in turn help key players across the aviation sector, including airlines, aircraft manufacturers and travel management companies, to make better choices for travelers.”

IATA launched CO2 Connect in June 2022, with the objective of using member airline data, such as fuel burn, belly cargo and load factors, to provide high-quality per flight passenger CO2 emission calculations. IATA CO2 Connect calculates CO2 emissions for 74 aircraft types, representing around 98% of the active global passenger fleet, and considers traffic data from 881 aircraft operators representing about 93% of global air travel.
IATA and EASA announced the conclusions of a workshop jointly hosted at EASA’s headquarters to combat incidents of GNSS spoofing and jamming.

The workshop’s high-level conclusion was that interference with satellite-based services that provide information on the precise position of an aircraft can pose significant challenges to aviation safety. Mitigating these risks requires short-, medium- and long-term measures, beginning with the sharing of incident information and remedies.

“GNSS systems offer tremendous advantages to aviation in increasing the safety of operations in a busy shared airspace,” said EASA Acting Executive Director Luc Tytgat. “But we have seen a sharp rise in attacks on these systems, which poses a safety risk. EASA is tackling the risk specific to these new technologies. We immediately need to ensure that pilots and crews can identify the risks and know how to react and land safely. In the medium term, we will need to adapt the certification requirements of the navigation and landing systems. For the longer term, we need to ensure we are involved in the design of future satellite navigation systems.”

Willie Walsh, IATA’s Director General added: “Airlines are seeing a significant rise in incidents of GNSS interference ... the support and resources of EASA and other governmental authorities are essential. And airlines will be critical partners.”

IATA has completed the annual revision of its industry manuals for cargo and ground handling operations, incorporating the latest changes and revisions made to many of the underlying industry standards, as well as any State and operator variations. These reflect the sector’s ongoing commitment to further improving safety, introducing more sustainable operations, and enhancing the passenger experience and cargo handling. In total more than 300 changes have been made, including: Updated guidance on the transport of mobility devices, particularly when powered by lithium and other batteries; Amendments to Live Animal Regulations (LAR); Complete revision of application of Perishable Cargo Regulations (PCR) and Temperature Control Regulations (TCR); IATA Cargo Handling Manual (ICHM) now includes guidance on developing an Operational Risk Assessment (ORA) and possible mitigation strategies; Ongoing drive for standardized training and operational procedures in Ground Handling.

In addition to the necessary changes in the manuals, IATA published various trend reports in the fields of Dangerous Goods, Special Cargo, Cargo Operations and Ground Operations.

IATA and ICAO COLLABORATE ON DANGEROUS GOODS

IATA and ICAO have extended their long-standing cooperation on setting and implementing global standards for the safe carriage of dangerous goods by air. An agreement to this effect was concluded at the IATA Executive Offices in Geneva during a visit by ICAO Secretary General Juan Carlos Salazar during which greater collaboration between the two organizations was discussed.

As IATA and ICAO extend their collaboration, IATA began issuing guidance for the carriage of Dangerous Goods on aircraft in 1956 and has been updating and devising standards ever since.
SunExpress is an airline that delights in bucking a trend. Against all the odds, during the depths of the pandemic in 2021, the airline—which operates largely in the Türkiye-western Europe market—improved on its 2019 passenger numbers. Even as the industry celebrates a near full recovery in 2023, compared with the pre-COVID period, SunExpress was operating at 146% of 2019’s available seat kilometers.

“We like to do things differently,” says Max Kownatzki, CEO of SunExpress. “But the expansion is in line with the growth rate of the market we operate in, which is approximately 8%-12% annually. That’s why we need to continue developing our operations.”

SunExpress has 33 more aircraft coming from a previous order and is taking up all options in its new, 90-strong aircraft order for Boeing Max 8s and 10s, which will see its fleet exceed 166 aircraft by 2035. Tourism and visiting friends and relatives (VFR) traffic, connecting Turkish people living abroad with Türkiye, has given the airline a strong platform on which to build. In addition, generating about 90% of its revenues in euros helps with currency volatility. In September-December 2023, the airline put on more than 2,000 extra flights equating to 380,000 seats.

“We also have a diverse customer base,” says Kownatzki. “We are flying our aircraft for 16 hours a day or more and we have expanded into such new markets as the United Kingdom, which grew more than 80% last year. We have expanded our partner network and are even flying domestically in South Africa now.”

SunExpress leased two Boeing 737s to South African Airways (SAA) during the southern hemisphere’s summer season and will support SAA’s operations with four aircraft next year. “And we have partnered with the passenger cruise line MSC to provide our crew work opportunities during our slower winter season,” adds Kownatzki.

Unique culture
For Kownatzki, however, the real reason for the success of SunExpress is its people and the unique spirit they create. The airline has some 4,000 employees representing 36 nationalities and is proud of its low turnover of staff. Recently, several pilots returned to the airline after previously taking up other offers. The company culture and family spirit were cited as reasons for these returns.

“That was especially welcome as obviously we need more pilots and crew as we grow,” says Kownatzki. “We are recruiting 169 pilots and about 400 cabin crew this year.”

SunExpress does its own multi-pilot license ab initio training. About 120 people have already graduated, 60 were enrolled last year and a similar number is expected to be enrolled in 2024.

The airline also runs a full diversity and inclusion program and has signed IATA’s 25by2025 initiative. “That’s the minimum hurdle we have to leap and will just be the start,” says Kownatzki. “Diversity is a driver of what it means to be an attractive employer.”

The culture at SunExpress is also influenced by its parent airlines—Lufthansa and Turkish Airlines. Both carriers are
Pitted Airline CEOs’ given my CEO start date at the beginning of the pandemic. And after the pandemic, we were challenged with the earthquake, geopolitical tensions, ground handling staff shortages and other factors. But SunExpress thrives in a challenging environment and there is no place I would rather be, especially in a time of crisis.”

“I have never had a routine day, but at SunExpress we are a family, and I can always rely on the output this family delivers,” he adds. “Everybody plays their part in making SunExpress successful and we embrace that.”

For more information on SunExpress, please visit www.sunexpress.com/en/

Performing well in their own right and are also searching for talent with new aircraft on order.

But Kownatzki says it’s a two-way relationship with the owners leveraging the agility and innovation at SunExpress as much as SunExpress utilizes the connections and might of its parents.

Turkish Airlines has the Chair of the Board of Directors and the Deputy CEO while Lufthansa provides the Vice-Chair of the Board and the CEO.

Flying through headwinds
Even with the support of two of the largest airlines in the world, SunExpress will have to overcome some strong headwinds in the years ahead.

The staffing and aircraft supply issues are well documented, but Kownatzki highlights the threat of increasing supplier cost. SunExpress’ ATC costs, ground handling fees, and costs for air travel taxes jumped 70% in 2023 compared with 2022. “The cost increase hits the industry hard,” says Kownatzki. “We cannot pass most of these costs on to the passenger. If we did that, we would be out of business.”

Meanwhile, Germany, a major market for SunExpress, saw a -0.3% GDP contraction last year. Economic volatility will likely be a feature over the coming year, heightened by continuing geopolitical tensions.

“But the positives outweigh the negatives,” Kownatzki concludes. “At first, the press regarded me as one of the ‘Most

2024 – 01 Airlines
Fuel price
The fuel price is expected to average $113.8/barrel (jet) in 2024, leading to a total fuel bill of $281 billion or 31% of all operating costs.

Total industry revenues in 2024 are expected to grow 7.6% year-over-year.

Industry expenses will grow 6.9% to $914bn.

4.7 billion people are expected to travel in 2024.
$254 vs $315

The average real return air fare in 2023 was $254, 20% lower than the average fare of $315 in 2019 (measured in constant 2018 dollars).

Regional Roundup E = estimated  F = forecasted

<table>
<thead>
<tr>
<th>Region</th>
<th>2023 NET PROFIT (E) (MARGIN)</th>
<th>2024 NET PROFIT (F) (MARGIN)</th>
<th>2024 DEMAND (RPK) vs. 2023</th>
<th>vs. 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>$14.3 bn (4.2%)</td>
<td>$14.4 bn (4.0%)</td>
<td>+6.3%</td>
<td>+8.1%</td>
</tr>
<tr>
<td></td>
<td>$7.7 bn (3.5%)</td>
<td>$7.9 bn (3.3%)</td>
<td>+10.5%</td>
<td>+7.0%</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>-$0.1 bn (-0.1%)</td>
<td>$1.1 bn (0.5%)</td>
<td>+13.5%</td>
<td>-1.4%</td>
</tr>
<tr>
<td>Latin America</td>
<td>-$0.6 bn (-1.5%)</td>
<td>-$0.4 bn (-0.8%)</td>
<td>+7.4%</td>
<td>+7.4%</td>
</tr>
<tr>
<td>Middle East</td>
<td>$2.6 bn (4.3%)</td>
<td>$3.1 bn (4.8%)</td>
<td>+6.3%</td>
<td>+9.9%</td>
</tr>
<tr>
<td>Africa</td>
<td>-$0.5 bn (-3.4%)</td>
<td>-$0.4 bn (-2.7%)</td>
<td>+7.3%</td>
<td>+3.0%</td>
</tr>
</tbody>
</table>

97% of travelers expressed satisfaction with air travel in a recent poll of 6,500 people in 14 countries.

airlines.iata.org
CEO Interview
As the largest airline in Latin America, Roberto Alvo, the CEO of LATAM, is proud of how it has battled through the tough times of COVID to emerge more resilient and agile as a group.

Is it difficult to create a single brand when you have different entities?
I think having a single brand operating different entities is an operational and cultural advantage. We provide our customers with a unique and consistent value proposition, a better delivery of seamless traveling, and a deeper, more compelling sense of belonging.

What is more challenging is associating the brand to the different countries where we operate domestically. Latin America has a long-standing tradition of having carriers identified with their respective countries and as the only truly South American airline group we need to realize the opportunity to become the flag carrier to a region.

Tell us about your restructuring and whether you are happy with your financial performance?
We completed our restructuring in November 2022. Despite the difficult times we all endured, I am very proud of how LATAM has emerged as a group. We are stronger than in 2019. It is a leaner organization with a solid balance sheet and we are very agile as a group.

As our public financial results show, LATAM is performing solidly post Chapter 11. The strength and diversity of the business model has been a critical factor. In addition, the group's more competitive cost structure and network strength have enabled our affiliates to maintain significant market shares and at the same time take advantage of growth opportunities that have arisen—LATAM Airlines Colombia's recent expansion being an example.

This financial strength ensures that we can navigate the uncertainties that may still lie ahead, while allowing us to embrace future opportunities.

How important is the relationship with Delta to your future success?
The Joint Venture with Delta has allowed LATAM to strengthen its presence in the fiercely competitive North American Market, delivering substantial benefits for both airlines and our passengers.

Finding the balance between growth and sustainability

Roberto Alvo, CEO LATAM, says it is possible for aviation to increase air connectivity while reducing its environmental impact.
In the first year of the partnership, we have launched six new routes, operated 15,000 flights, and transported more than 3 million customers.

Since October 2022, LATAM and Delta have increased their seat offering by 75% and are leading the capacity share for service between the United States and South America.

The result is the best connectivity between North and South America in the industry, uniting more than 120 destinations served by LATAM with more than 200 North American destinations operated by Delta.

Has cargo become more important to you and how do we improve digitalization in this sector?

Cargo has always been at the core of our strategy as we recognize the synergy it generates for our passenger network and the important role air cargo plays in our region’s economy.

During the pandemic, we continued to invest in freighter expansion, enhancing our product capabilities, and modernizing our IT legacy systems, despite the difficult circumstances. Digitalization became one of our top priorities, enabling us to streamline collaboration with customers through eBooking, IATA’s EDI standards, e-freight programs, and real-time e-tracking.

What are the main challenges and opportunities in the Americas?

The macroeconomic context and the socio-political reality of the region continues to be challenging. The world is still recovering from the effects of the pandemic, economic stagnation, and economic shocks from armed conflicts that can affect passenger demand and profitability.

There is also a need to invest in modernizing airport infrastructure and, of course, the existential question of how to decarbonize the industry in a sustainable way.

I want to take advantage of this last point to talk about the opportunities. With six of the 10 most biodiverse countries on the planet, South America is uniquely positioned to provide nature-based solutions that could not only serve as a source of carbon credits but also offer the industry an opportunity to make a real difference in terms of supporting conservation projects.

Furthermore, it has the potential to be a global leader in the production of sustainable aviation fuels (SAF) due to its available natural resources and wealth in renewable energies.
For this to happen, it is necessary for both public and private stakeholders to collaborate, play their roles, and dare to lead the energy transition that the industry requires.

**Can the region become a major producer of SAF and what can governments do to accelerate the process?**

South America has tremendous potential for the development of SAF, but government leadership is key.

In South America, there are only nascent and often disparate policy discussions. For example, there is no commercial SAF production and though there are a number of early-stage projects, they are unlikely to reach a critical mass in the near future.

A strategic approach is needed by governments to ensure a balance between decarbonization and aviation’s continuing contribution to connectivity and socio-economic development.

This is no easy feat. That’s why, together with Airbus, we have financed an MIT study to evaluate options in the region and potential public policy alternatives.

**Will the industry get to net zero by 2050? And what more can industry partners—such as the OEMs, airports, and air navigation service providers—do?**

I believe that reaching net-zero will be the biggest challenge for aviation in the first half of this century, as we are one of the most difficult industries to abate even though air travel is at the same time totally necessary for all societies.

In this sense it is a balancing act. On the one hand, we must reduce our carbon footprint but on the other hand, we need to continue offering connectivity, which plays a fundamental role in social and economic development.

**How can we continue to widen access to air travel while reducing our carbon footprint?**

**How can we decarbonize in a sustainable way?**

I believe there is no single answer to this question. As an industry, in the short-term, we need to support respective governments to define strategies and roadmaps to meet our net-zero commitments in a sustainable way, considering all pathways.

Operational efficiencies, improvements to airspace design, air traffic management, and the use of clean energy in ground operations are all potential quick wins.

I’m confident that if each of us plays our role in this, if we are considered and consistent in our decision-making as an industry, and collaborate proactively with governments and other stakeholders, then we will be able to achieve carbon neutrality by 2050.

**Looking further ahead, are you optimistic about the future of the industry?**

I’m optimistic. I believe that in South America, there is still room for further growth considering the level of development of aviation and the economies in the region. So, the question is not whether we will continue to grow or not, but rather how we grow in a sustainable way.

**How do we get governments to understand the value of aviation, especially in Latin America where there is no viable alternative?**

Actually, I believe governments understand the value of aviation, at least in terms of connectivity.

Aviation plays a fundamental role in the social and economic development of countries. It is an essential part of people’s lives because it not only represents leisure or business trips but also is necessary to access medical care, education, and other services that are not always available where they live.

For example, in Chile we play an important role connecting Rapa Nui, the most remote populated island on the planet. During the pandemic we were forced to stop our flights, but our commitment to the island did not stop. We collaborated with the community and helped keep the residents of Rapa Nui supplied and connected.

“Despite the difficult times we all endured, I am very proud of how LATAM has emerged as a group. We are stronger than in 2019”

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runway excursions and incursions are two of the five global high-risk categories of occurrences (G-HRCs) currently identified in the International Civil Aviation Organization’s (ICAO’s) Global Aviation Safety Plan. Accurately detecting disturbances at the perimeter of airports is important for the safety of passengers and airport staff alike. However, as the grounds of an airport usually span several miles, monitoring this area is challenging and complicates security operations.

As a critical line of defense, perimeter detection systems are becoming a core part of airside safety. During day-to-day operations, complex environments challenge the reliability and adaptability of protection measures along airport perimeters. This includes the likes of overgrown foliage, wayward pedestrians, wind, and rain. Conventional technology-assisted measures—such as vibration cables and microwave intrusion detection sensors—frequently generate false alarms, and other genuine issues are easily missed. Adding to the complexity, systems are often isolated from each other, making it difficult to implement the correct response once alarms are generated. The need for frequent alarm overrides deteriorates system trust and usability. Such systems also incur high construction and operation and maintenance (O&M) costs.

Perimeter detection solutions that converge multiple technologies are beginning to emerge in the airport industry to respond to these issues. Among them, integrated solutions like optical- and video-based perimeter detection are regarded as important approaches to safeguard airport perimeters.

**Huawei’s Perimeter Security with Fiber Sensing Solution**

Huawei’s Perimeter Security with Fiber Sensing Solution for smart airports is a scenario-based solution tailored for the airport industry. Using distributed fiber optic sensing along with AI foundation models, the solution can deliver 24/7 comprehensive long-distance coverage in any weather. The solution accurately identifies various types of intrusions and generates very few false alarms. This means more intelligent airport perimeter systems, safer operations, and a better work environment for airport staff.

Distributed Fiber Optic Sensing + AI Algorithms

Huawei’s Perimeter Security with Fiber Sensing Solution for smart airports is a scenario-based solution tailored for the airport industry. Using distributed fiber optic sensing along with AI foundation models, the solution can deliver 24/7 comprehensive long-distance coverage in any weather. The solution accurately identifies various types of intrusions and generates very few false alarms. This means more intelligent airport perimeter systems, safer operations, and a better work environment for airport staff.

The distributed fiber optic sensing technology used in the solution relies on vibration-sensing optical cables, which greatly enhance airport perimeter detection. Huawei’s Perimeter Security with Fiber Sensing Solution withstands harsh weather conditions well because of its scenario adaptation, SuperColor cameras, and image stabilization despite strong winds. The solution relies on vibration-sensing optical cables that can differentiate interference like poor weather conditions from actual risks based on waveform learning. Efficient operations before and during an incident filter out factors such as ordinary passersby and inspection workers. This ensures vibration-sensing optical cables can effectively filter out interference from small animals, and alarms are reliable and valid.

In addition, the solution can be managed on a centralized software platform, which supports diversified functions, such as report, alarm, and warning. The platform displays the overall perimeter situation on one map.

Near-Zero Missed Alarms, Improving Airport Safety

Huawei’s Perimeter Security with Fiber Sensing Solution protects aircraft and ground handlers in protection zones.
Perimeter Security with Fiber Sensing Solution

Enhance airport safety with “0” Missed Alarms

Huawei: Sponsored Feature

eliminates or controls potential risks, and identifies and manages the impact of human factors on airport security to the maximum extent. This way, it improves airside safety and airport operational efficiency. Solution benefits include:

- **Near-zero missed alarms:** The solution employs all-optical coherent noise suppression and enhanced oDSP algorithms to prevent missed alarms. For this, it collects vibration signals with high sensitivity in the wide dynamic range (WDR) mode, and increases the optical signal collection rate to 99.9%.

- **Very few false alarms:** The solution integrates environment features with detail features to precisely distinguish intrusions from environmental interferences. It ensures that the daily false alarm per kilometer is as low as just one even in adverse weather conditions like strong winds and heavy rain. In addition, after collecting vibration signals, the solution extracts key intrusion features through vibration feature reconstruction and uses the domain-wide situation judgment mechanism to improve the alarm accuracy to 90%. The system can resist level-7 winds and heavy rain, significantly lowering the false alarm rate.

- **Easy deployment and O&M:** Conventional airport perimeter detection systems frequently generate false alarms and suffer costly O&M as a large number of sensing devices need to be deployed. Huawei’s solution deploys only one optical cable to detect and locate intrusions accurate to meters along a 20-km perimeter. The front-end optical cable is passive and O&M-free.

- **High-precision positioning accelerates incident response and handling:** So far, the solution has been successfully deployed for commercial use at airports managed by Guangdong Airport Authority. In practice, the solution is more secure than conventional ones; in particular, it misses almost no alarms in such scenarios as ladders being put up against the razor wire of the metal fence. The solution outperforms vibration cables in terms of anti-interference performance across many scenarios, such as level-7 winds, heavy rain, and wake turbulence. It ensures less than five false alarms are generated on average every day along a 7.3km perimeter, reduces invalid reviews, and enhances system usability. Additionally, the solution improves the average precision of intrusion positioning to less than 1.32 meters, making it an ideal choice for building intelligent perimeters for airfields.

Aimed at developing smart airports, Huawei will continue leveraging its advanced information and communication technologies to comprehensively improve civil aviation services in terms of safety, efficiency, experience, and carbon footprint.

- **For more information on Huawei’s solution, visit** https://rb.gy/ck7jgq

Leading Infrastructure to Accelerate Industrial Intelligence

MWC 2024 Feb 26-Feb 29 | Barcelona, Spain

Huawei Smart Transportation BU

2024 – 01 Airlines
From back-office systems to schedules to IATA’s latest proof of concept of a fully integrated digital identity travel experience, the ability to capture and securely transfer data is the pillar on which all advanced technologies rely.

Aviation’s good fortune is the amount of data it has, which translates into enormous potential to transform operations and customer service. Its challenge is properly utilizing this data, capturing, structuring, and analyzing it to make it useful.

“Aviation gets vast quantities of data from across its operational and value streams,” says Kim Macaulay, IATA’s Chief Information and Data Officer. “But data’s power is in its accessibility, and this is where the industry needs to improve. We cannot continue to work on data in silos.”

Unified IT infrastructure
IATA has revamped its services to help airlines manage and exploit their data for their own benefit and for the good of the industry. A data team has been established consisting of data management experts, data scientists, and engineers that ensures IATA masters fundamental data functions. Supporting technologies, such as machine learning will also be put in place in a unified IT infrastructure that promotes cross-sector data availability.

Airline IT personnel will therefore more easily find a counterpart in IATA and be able to discuss nuanced, technical issues, making it easier to arrive at solutions. The set-up also provides huge scope for collaboration on building use cases and furthering the industry’s digital transformation.

“Data was not a separate function before,” explains Macaulay. “It was tied up in the various programs and only discussed in the context of that program. But now we can more generally talk about data quality and analytics and have far more constructive conversations about the best way forward. There are new tools, new people, and an improved structure.

Aviation has always had enormous quantities of data but is only just beginning to manage it and exploit its potential

IATA is investing in its capabilities to create more opportunities for the industry.”

Macaulay—who is tasked with leading IATA’s data team and establishing best practices in data collection and retention for industry use—stresses that the IATA team will always be sized to ensure efficient and secure operations while relying on outsourcing for additional tasks, such as data input and processing.

“The point is that IATA understands the value of data, is a trusted airline partner in handling that data, and we can feed our learning throughout our industry services and products,” she says. “We will have more data than ever before, we will learn quickly, and just about every aspect of the industry stands to benefit from our work.”

An IATA Data and Analytics Task Force (IDATF) consisting of airline representatives in data management, business analytics, data science, innovation, and enterprise optimization will inform an important portion
of work. Each year, the group will set an agenda to tackle identified actionable priorities where data and advanced analytics can be used to support the airline community.

**Regulations and cybersecurity**

In the data world, privacy and cybersecurity are paramount. In terms of privacy, there are well-established, stringent regulations in various jurisdictions, and these will be always followed where appropriate. That is no easy task, however, as every day brings new regulations either from a specific country or on a specific data element.

Because airlines operate in multiple jurisdictions and can serve a passenger from anywhere in the world, there is a real need to establish a data privacy framework to guide all endeavors in this area. Macaulay, who has a banking background, notes the progress that has been made in the financial sector in this respect and calls for something similar.

Cybersecurity, meanwhile, is an increasingly important topic and the ability to share best practices and technologies will be critical to the success of the industry's digital transformation. The key will be managing the supply chain, suggests Macaulay, and ensuring the processes are in place that allow all stakeholders to take responsibility for keeping the data secure.

Data loss prevention and incident event monitoring tools are being expanded, and the move to data warehousing also brings additional security features. Before, the security focus was on servers and laptops, but in future data storage will rarely be so localized. A more holistic view of cybersecurity will bring greater trust and create a virtuous circle that then facilitates more data sharing.

**Data mountain**

Aviation has always had enormous quantities of data but is only just beginning to manage it and exploit its potential. That data will soon be integral to providing and improving customer and operational services.

Consider forthcoming industry developments on the customer side. ICAO is working on various digital travel credentials, including a visible digital seal—a 2D barcode that is digitally signed—and a data structure barcode, with the aim of establishing standards that enable all travel documents to be held on a smartphone. There is also the European Travel Information and Authorization System (ETIAS), which comes into force in 2025. ETIAS is planned to cost €7 and will be valid for three years or until the associated passport expires. Airlines will be responsible for verifying that their passengers have a valid ETIAS 48 hours prior to departure. The US Transport Security Administration is also upgrading its credential authentication technology.

On the operational side, there is IATA’s new Schedule Data Exchange Program, which has its first airline signatories. The aim is to have 75 airlines providing schedule data in 2024 and, as with some safety programs, those that provide information will be granted access to the anonymized industry data, helping to inform their network planning.

“Data is a key asset and aviation data belongs to the industry,” Macaulay concludes. “IATA is developing its data function and programs so that airlines have greater control over their data and access to it at all times. Rather than data existing in verticals, we will create a horizontal structure. With that ability will come some key insights that help to develop products and services across the board and generate significant value for our members.”
HOW TO USE SAFC TO SHARPEN YOUR COMPETITIVE EDGE

The Infosys Cobalt Airline Cloud (ICAC) platform can help airlines with the complexities surrounding SAF certification.

Sustainable aviation fuels (SAF) are a critical element of the aviation sector’s goal to achieve net zero carbon dioxide emissions by 2050. SAF are produced from different feedstocks, each with its own environmental attributes. Accredited agencies certify SAF using a “mass balance” system under which the environmental attributes remain attached to the physical fuel.

Stakeholders in the aviation ecosystem are working to boost SAF supplies, upgrade airport infrastructure to handle SAF, and work with regulators and tax authorities to reap the incentives of using SAF. SAF certificates (SAFc) and the Book and Claim systems, are expected to accelerate SAF adoption and provide a new avenue to offset emissions, and also claim the tax rebates. Airlines need to act now to ensure they are ready to benefit.

The SAFc marketplace is expected to be a game-changer

An evolving marketplace promises to promote SAF adoption by reducing costs and incentivising participants. The SAFc marketplace comprises a SAF registry, certifying authorities, SAF producers, blenders, traders and SAF buyers (airlines). SAF producers are issued digital SAFc that include information about the feedstock, production facility, environmental attributes, and so forth. Because they separate environmental attributes from the physical SAF, SAFc can be traded. A book and claim model allows airlines to buy SAFc from different sources like blenders and traders, apart from the producers/refiners. This will help offset Scope 1/Scope 3 emissions.

Cloud and blockchain technologies can help airlines benefit from SAFc while also improving operational performance and the customer experience

Blockchain technologies are inherently suited to build SAFc marketplaces as well as the stakeholder-specific systems with which they must integrate. Blockchain-based SAFc solutions deliver several benefits:

- Robust governance-holistic, on-demand view of the entire ecosystem; single version of the truth where data is not owned or controlled by any party.
- Tamper-proof generation and transmission of SAFc in the form of Fungible Tokens.
- Reduced risk of cyberthreats.
- Allow SAFc tokens to be used by intermediaries such as blenders who can create fractional tokens akin to Bitcoin fractions. Allow future SAF oil traders to claim ownership of the ‘stock’ in virtual capacity and then hold/resell, with full lineage of ownership.
- Automated issuance, trading, and retirement of SAFc.
- Support for multiple SAFc standards.
- Real-time traceability and audit trails.
enabling immutable tracking of certificates from issuance to retirement.
- Accurate SAFc accounting, including elimination of risks of double-counting credits.

Airlines cannot rely only on SAFc; they must take ongoing steps to reduce emissions from operations. For this, airlines need to monitor data around load, weather conditions, punctuality, turnaround times at airports, fuel burn, check-in, baggage handling, in-flight services, and more. The data resides in disparate systems, which makes it difficult to provide decision-makers with a unified view. Such a landscape is not amenable to supporting “work from anywhere.”

An integrated solution such as the Infosys Cobalt Airline Cloud (ICAC) platform will hugely improve airlines’ ability to navigate these complexities. Built using the principles of composable architecture, the ICAC platform enables the entire ecosystem to run efficiently, securely, and reliably. It helps generate actionable insights to guide strategic and operational decision-making and is ideal for airlines to achieve two goals with one investment: accelerate their cloud adoption journeys and readiness to benefit from SAFc.

- To explore how our blockchain-based SAFc offerings can address your needs, or for more information on the Infosys Cobalt Airline Cloud platform, write to: TravelPractice@infosys.com.

For more information, please visit www.infosys.com/industries

“The data resides in disparate systems, which makes it difficult to provide decision-makers with a unified view”

airlines.iata.org
Now that the pandemic is over, new markets and consolidation may be back on the agenda for airlines around the world. Chairman and CEO Walter Cho explains where Korean Air is heading next.

What is the latest on the merger with Asiana?
Approval from the European Union (EU), the United States, and Japan is still pending.

We met with the EU in July 2023, and can now meet all their requirements, so we expect that approval shortly. With the United States and Japan, it is the same story although a slightly different process in each case. I am very confident that by the end of the year at the latest, the merger will be finalized.

At that point everything will become Korean Air. Our low-cost carrier (LCC) subsidiaries will also merge to be one LCC. We will have a lot of work to do because the merger will mean we operate just about every aircraft and engine type available so we will certainly need to simplify the fleet structure. And there will be new branding, new uniforms, and much more too. It will be a busy, but exciting time for us.

Always first, never a follower

Walter Cho, Chairman and CEO, Korean Air, says that taking business risks is essential to being successful.

WORDS: GRAHAM NEWTON
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Are we seeing a return to consolidation following the pandemic?
The way we view aviation changes according to circumstances, which is why you must always be flexible.
Consolidation during the pandemic simply wasn’t possible. Remember, at one point in 2020, air travel essentially shut down. But, like every carrier, we realized how vulnerable we were and that once operations started up again we would have to restructure the business model and take a fresh look at the opportunities available.
Asiana was on the market before, but to be honest, pre-COVID I wasn’t interested. The pandemic gave me a different perspective though. It is the right decision to merge now because it gives Korean Air a clear pathway forward and a stronger future. We can now look beyond mere survival and start to plan again for sustainable growth.
How about alliances? Is SkyTeam and your relationship with Delta still relevant?
There would be no joint venture (JV) with Delta if not for SkyTeam and Delta is the most valuable partnership we have ever had. So, for us, they are very relevant.
SkyTeam is a broader, more flexible set of partnerships than our JV with Delta. But the alliance brings seamless travel for all our customers and the network will become even stronger once we have completed the merger with Asiana.
What are the prospects for Asia-Pacific in 2024 and what are the main challenges?
The China market is critical for us and for the region and that hasn’t yet fully recovered. Korean Air is at about 40% of its pre-COVID figures for China.
There will be a slightly negative perception of China regarding travel that we will have to overcome and there is also concern over the political situation with Taiwan. But the most important thing is China’s economic situation.

CEO Interview

Korean Air is at about 40% of its pre-COVID figures for China

That will be the biggest factor in demand. It isn’t great at the moment but I’m sure it will recover.

How important is cargo to your strategy?
In 2018, I talked with my executives about possibly reducing our cargo operations and focusing on the passenger side of the business. My Head of Cargo of course advised against that and that is possibly the best piece of advice I ever had!
Korea is a big exporter and though cargo was important, COVID definitely moved it up the agenda. We did so well throughout the pandemic because of cargo and we were one of the few carriers to post positive financial results and keep all our staff. Cargo will remain an important part of our strategy going forward and I’m sure will continue to have a strong impact on our revenues.
We are investing in new freighters and heavily investing in our facility at Incheon to make our cargo handling processes as seamless as possible. We want Incheon to be the cargo hub of the world.

Are you confident you will have enough skilled personnel in future?
Korean Air is still a very attractive employer in the national market. As mentioned, we sustained our staff levels throughout the pandemic, and we managed to keep everyone busy doing something. That enhanced our reputation, so I don’t think we need to worry about a shortage in the foreseeable future. In fact, we are hiring a lot of people this year, including pilots, and we are seeing a very decent response.

Can aviation achieve net-zero carbon emissions by 2050?
I was one of the IATA Board Members that signed off on that and there is no doubt that the goal is a good, first step.
But we must be sure about what we mean by carbon neutral and be clear in explaining that. To be frank, we will also need a big
Of course, nothing can replace the human touch in a service industry. If a robot serves you food at a restaurant, does that make it a more luxurious service? I don’t think so. You need to be sensible and realistic. Face-to-face service will dominate at least for the foreseeable future.

Has the pandemic made you a better leader? I don’t know but I certainly gave my executives more headaches and sleepless nights when I agreed to the Asiana merger in 2020!

I think we all learned about risk management. In 2019, at the Paris Air Show, we put in a big order for new aircraft. I now wish I had ordered more. Decisions that are good at the time are good decisions. You can’t judge in retrospect, and you can’t worry about what might be. My belief is that it hurts to be cautious in business because you will never win if you are a follower. In my view, the pandemic confirmed that.

We started adopting cloud technology in 2018, for example, and we were the only company in Korea that did that at the time. And I actually started trying to persuade my team to do it years before that. Now, we have fully migrated all our data. But it meant that we were really adaptable when the pandemic hit. Companies suddenly realized the need for virtual meetings and remote working, but we already had that all set up. That is what risk can bring you.

The only area where I remain risk-averse is safety. That is always an airline’s first responsibility and that can never change. Anything that improves safety is always a good thing.

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How will you ensure a sufficient supply of SAF? We are looking into SAF production, because we all know that supply is not what it should be. More than half our fuel is bought overseas so we will look to get SAF from those markets first, but we do have an agreement with a Korean producer that they will supply us in future.

What are the industry developments that excite you? I am an early adopter by nature and always buy myself the latest smartphone. So I’m willing to take a risk when it comes to new technologies and implementing them in our business.

I am excited by artificial intelligence (AI). It will bring the world closer together and that is also what aviation is about, so it’s a natural fit. We will certainly be using AI where possible because it will bring a big jump in customer service by helping passengers overcome language barriers, process difficulties, and so forth. It will be a game-changer at the airport and onboard.

“We will certainly be using AI where possible because it will bring a big jump in customer service by helping passengers overcome language barriers, process difficulties, and so forth. It will be a game-changer at the airport and onboard.” Walter Cho, Chairman and CEO, Korean Air
After weathering the COVID-19 storm, the aviation industry is gradually recovering. According to an April 2023 IATA report, passenger numbers are now just 15% below 2019 levels and the gap is narrowing each month. While challenges still exist in the form of global economic uncertainty, the focus has shifted from surviving to building for future growth.

A dynamic and future-proof communications network is essential to integrated rebuilding. Huawei believes that airport network communications should be reliable, agile, simplified, green, and converged. Customer experience, reliability, and security at airports are first principles in designing airport communications systems.

One network
Airport terminals and airside areas have diverse requirements and often run on complex siloed networks carrying vast amounts of data. The technology being developed for airports of the future must ensure the reliability of services across legacy systems that now require inter-operability.

To meet the trend for converged networks in the aviation industry, Huawei has introduced a fully connected fiber network solution. This is designed for smooth future upgrades and places converged networks at the heart of the future communications models.

Innovation
Rooted on the creative “IP+Optical” technology, this innovative network solution enables 100G transmission on the backbone layer and ensures efficient hosting of multiple services on the cross-domain access network, building a next-generation integrated airport network and laying a digital foundation for smart airports.

The fully connected fiber network solution has three key features:

• Easy O&M: based on Huawei NCE-Campus network management system, implementing fast service planning and improving management and operation efficiency.

• Reliable: using Huawei’s heritages in hard slicing isolation technologies, which simplified the network and greatly reduce the number of single fault areas and providing safe, reliable, and energy-saving airport networks.

• Sustainability: using optical fibers to replace traditional copper cables, featured by its light weight, and small size, extending to the end with less cabling, it also allows for smooth upgrades and lays possibilities for a more sustainability industry going forward.

For more information, visit https://e.huawei.com/en/industries/aviation

Huawei’s Fully Connected Fiber Network is a dynamic network solution that drives airport efficiency.
In late December 2023 in Dubai, the United Nations Climate Change Conference (COP28) agreed to “transition away from fossil fuels in energy systems.” UN Climate Change Executive Secretary Simon Stiell said that while “we didn’t turn the page on the fossil fuel era in Dubai, this outcome is the beginning of the end.”

Meanwhile, the Third Conference on Aviation Alternative Fuels (CAAF/3) hosted by the International Civil Aviation Organization (ICAO) was an important step forward for the industry as it agreed a global framework to promote sustainable aviation fuels (SAF) production in all geographies.

The agreement calls for fuels used in international aviation to be 5% less carbon intensive by 2030. At this point, at current rates, CO2 emissions for international aviation are expected to reach 682 million tonnes, meaning SAF and low carbon aviation fuels (LCAF) need

**Achieving 5% carbon reduction by 2030**

Two major global events have provided the context for aviation’s decarbonization efforts.

WORDS: GRAHAM NEWTON
Sustainable fuels

To achieve this requires about 17.5 billion liters or 14 million tonnes of SAF to be produced. Airlines’ desire to buy SAF at this quantity is already there. Forty-three airlines have nearly $50 billion of voluntary agreements in place that equate to approximately 13 million tonnes and that will doubtless increase. The demand for SAF is so strong that they added $756 million to a record high fuel bill in 2023.

Supply is a different story, however. In 2023, airlines were able to put just 0.5 million tonnes of SAF into their aircraft. To get to the 14 million tonnes of SAF required by the CAAF/3 agreement, as well as other commitments, means that SAF need to account for about 25-30% of the 63 million tonnes of renewable fuels that will be produced in 2030.

“In 2023, though, it accounts for only 3%,” says Hemant Mistry, IATA’s Director, Energy Transition. “We had hoped SAF would be about 0.5% of total aviation fuel by now but it is only 0.2%. SAF production is increasing though, and we hope additionally that SAF will be 6% of renewable fuels in 2024, which should get us to SAF representing 0.5% of total jet fuel.”

There are new refineries pledged to SAF support coming online. A new $7.7 billion biorefinery is under construction in Panama, for example. Due to come online in 2027, the biorefinery is reported to have earmarked SAF as a core product and Panama’s logistical excellence will add to the proposition. And Neste’s Singapore plant was expanded early last year.

Furthermore, IATA reports that though only 10 facilities are producing SAF, over 150 projects in 35 countries are being explored that could be used for SAF production by 2029.

Policy support

Even so, significant policy support will be essential. “Governments want aviation to be net zero by 2050,” says Mistry. “Having set an interim target in the CAAF process they now need to deliver policy measures that can achieve the needed exponential increase in SAF production.”

Incentivizing the scaling up of SAF production is a primary focus though mandates are coming into force in the European Union and elsewhere. In total, about 40 countries have either implemented or are known to be discussing SAF-related policies.

Promoting the diversification of feedstocks will be an essential element of any good policy. Approximately 85% of SAF facilities coming online over the next five years will use the hydrotreatment (HEFA) pathway, which relies on inedible animal fats (tallow), used cooking oil, and industrial grease as feedstock. But these substances are limited in quantity and high in price.
Sustainable fuels

Other certified pathways include Alcohol-to-Jet (AtJ) and Fischer-Tropsch (FT), which use bio/agricultural wastes and residue. In fact, there are eight pathways certified for SAF production with an additional seven being assessed in the coming years.

“We need to leverage all SAF technologies to provide diversification and regional options, including those with side-benefits, such as environmental restoration,” says Mistry. “Aggregating wastes or recultivating land adds socio-economic benefits, for example, and every region has an opportunity to create new value chains.”

Accounting framework
Mistry also insists that real momentum is needed in a SAF accounting framework so that everybody works from the same set of rules.

A SAF accounting framework would:
• Enable SAF production where it is most efficient.
• Stimulate SAF uptake where demand would not justify local SAF production.
• Minimize the costs of logistics, such as transport.
• Avoid emissions from the transportation of SAF.
• Expand the customer base compared to physically matching supply and demand, providing a clear market signal favoring the ramp up of SAF production.
• Facilitate compliance with mandatory as well as voluntary emissions reduction schemes.
• Allow corporates customers to address their Scope 3 emissions.

“A SAF accounting framework will work against error, supplication, and fraud,” says Mistry. “It isn’t easy to track SAF once mixed with jet fuel. Modern digital technology and recognized tracking and verification systems that facilitate the auditing of SAF environmental attributes will help promote SAF deployment and uptake worldwide.”

Elements that should form part of the framework include the avoidance of double counting and immutable tracking. For the former, the emissions reduction from the same batch of SAF must not be claimed more than once under the same scope. For the latter, inputted data must not be altered or edited throughout the supply chain.

Other crucial factors involve interoperability (so that a batch of SAF can be recognized in different registries), agnosticism (so that accounting works within different regulatory frameworks), and divisibility (the environmental benefits of a batch of SAF delivered to the same airport can be split between two or more different buyers).

Passenger support
Mistry points to passenger support for aviation’s efforts to encourage SAF production. In a recent survey, 86% of travelers agreed that governments should provide production incentives for airlines to access SAF. In addition, 86% agreed it should be a priority for oil companies to supply SAF to airlines.

“As an industry, we are committed to reaching net-zero carbon emissions by 2050,” concludes Mistry. “That means we need a cost-effective and environmentally efficient way to incentivize the scaling up of SAF production but avoid the physical matching of SAF supply and demand in any specific geographic location. There is a long road ahead and oil companies and governments must support our ambition. But we can get there and meet the CAAF/3 goal and other commitments on our way to the 2050 aspirational target.”

Hemant Mistry, IATA’s Director, Energy Transition

“Airlines 2024 – 01

“86% of travelers agreed that governments should provide production incentives for airlines to access SAF.”

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Hemant Mistry, IATA’s Director, Energy Transition
Fostering the good created by safe and sustainable aviation

Juan Carlos Salazar, Secretary General of the International Civil Aviation Organization (ICAO), talks to IATA’s Tony Concil about the organization’s role in tackling aviation challenges.

The International Civil Aviation Organization (ICAO) is pleased to work with organizations such as IATA to deal with challenges the aviation industry faces.

Following the two aviation incidents in early 2024, are you still confident in aviation safety? Flying is safe, but the two incidents are a reminder that aviation safety can never be taken for granted. Safety is something that we need to be aware of every day and is built by every professional in the industry. Everybody has a role to play—airlines, airports, and air traffic controllers—in focusing on aviation safety.

The system is robust, and the investigations will make sure we learn whatever lessons we need to learn to make aviation safer. That is the spirit in which we work.

Thinking more broadly than these specific accidents, is the investigation process working? Voluntary reporting and a ‘Just Culture’ are critical elements in improving aviation safety. The sharing of information is vital, and we must make sure that everybody is comfortable with that if we are to evolve as an industry. Accident reports are important to improving safety, but looking ahead, we need systems that can predict future accidents and not rely on learning once an accident has happened.

How important was the CAAF/3 meeting and does the industry have the structure in place to achieve net-zero emissions by 2050? I’ll take the opportunity to first state very clearly that aviation needs to address the externalities—including those to the environment—that it creates in a very concrete manner. This is an objective that is a must for civil aviation to continue to deliver the social and economic good that we all recognize and that attracted us to work in this incredible sector.

With that in mind, the agreement reached at ICAO’s Conference on Aviation and Alternative Fuels (CAAF/3) to achieve a 5%
reduction in aviation’s carbon intensity by 2030 with sustainable aviation fuel (SAF), lower carbon aviation fuels (LCAF) and other aviation cleaner energies was critical. It gives confidence in the resolve of both the industry and governments to make the 2050 net zero CO2 emissions target a reality.

The objective is bold, placing significant responsibility on the shoulders of the industry, with ICAO and governments bearing a crucial part of the burden. We must work together to come up with the right incentives and policies, particularly when it comes to increasing the production of SAF.

**What are the next steps to scale up SAF production?**

ICAO has a toolkit for governments. We prefer not to promote any particular incentives or policies but rather respect the different approaches that governments are taking and enable practical learning. Time will demonstrate which ones are more effective.

We also want to work more with developing member states to produce feasibility studies that identify potential opportunities and create a framework that will de-risk investment in SAF production. We need to build SAF production capacity and provide a concrete way forward.

**What role will CORSIA play or is it being undermined by taxes and charges?**

ICAO will continue to work towards the global implementation of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). CORSIA is a meeting point for the vast majority of our member states and there is a growing understanding of the scheme as we enter the implementation phase.

And as we start seeing a positive impact in offsetting the industry’s carbon emissions, we also expect to see more interest from countries or regions that have been skeptical so far. We are confident about the process and that all the elements are in place for CORSIA to deliver meaningful carbon offsets and emissions reductions.

**What role can ICAO play in resolving aviation issues, especially in conflict zones?**

ICAO is a specialized agency of the United Nations. Our concern when it comes to conflict zones is to make sure that aviation is safe, and that passengers and crew are not endangered. Unfortunately, some of the greatest losses of life in aviation have been related to conflict zones and we never want that to happen again.

We produce a number of guidance documents to help airlines and we also have specialized teams and work in conjunction with our partners, such as IATA, the Civil Air Navigation Services Organization, Airports Council International, and our member states. All countries recognize the role ICAO must play and respect our work in keeping the skies safe. We try to make sure that there are as few disruptions as possible and that airlines can continue to operate safely.

**Is aviation still an attractive employer for the younger generations?**

It is difficult to judge but clearly the industry must work to attract young professionals. After COVID and the resulting job losses across the sector, there is a real need for people. There is no hard data, but we are told that younger talent now prefers the option of working remotely and with more flexibility. Sometimes, that is not easy in aviation.

But air travel, connecting people and businesses, is still attractive. So, I hope that we will continue to see younger professionals joining the industry and providing fresh input into the challenges that face us.

This is also an opportunity to address the gender gap. At ICAO we have programs such as the ICAO Gender Equality Programme and the Next Generation of Aviation Professionals (NGAP) that involve advocacy, training, and internships. These provide...
opportunities to ensure we have female as well as male professionals—future leaders—entering the industry.

**Do people understand aviation’s role in the UN Sustainable Development Goals?**
Civil aviation’s role in development is not well reflected in the SDG framework. And the reality is that aviation’s role as an essential catalyst for development is not as visible as it needs to be at the global, international or national levels. Air connectivity will continue to be an enabler of the broader development agenda. And we will need to do an even better job of helping people to see practical examples of what this means.

**How important is the relationship between ICAO and IATA?**
It is of the utmost importance. The expertise, knowledge and know-how that industry contributes to ICAO is incredibly important. I cannot praise enough the contributions that IATA experts make to ICAO’s work. I can only insist that we need this even more today because the challenges that are emerging need even closer cooperation to respond rapidly. ICAO’s doors are wide-open to the industry’s expertise.

**What challenges would you like to see resolved by the end of 2024?**
Internally, we have a transformation agenda for ICAO. I expect that by the end of this year we will have some traction on the key digital transformation and people strategy projects that we have within ICAO.

This will help us to meet the expectations of our member states for ICAO to align its results even more closely to their needs and those of the civil aviation system. A key element in achieving this will be strong partnerships. I want ICAO to be the partner of choice for organizations like IATA when tackling challenges to civil aviation in all parts of the world. We have a good track record of delivering successful results as partners. And I see plenty of potential to achieve even more by working together more intensely.

**What’s the best part of being ICAO Secretary General? And what has been your best day so far?**
The best part of this job is working with aviation professionals who, throughout my professional life, have inspired me! As Secretary General, I get exposed to all manner of experts, which is both exciting and humbling.

The job also comes with challenges, not least of which is managing a complex multinational organization of which states and industry have very high expectations. ICAO must meet these expectations with thin resources. That means doing more with less. That is not particular to ICAO, it is the way of the world. And that is why the technological modernization of ICAO is a priority. And it is also why partnerships are so important.

I cannot tell you what my best day is because I believe that it is yet to come. Every day, I see progress. Every day, I become aware of more areas where ICAO can help aviation to develop. By modernizing ICAO and developing even closer partnerships ICAO will become even stronger. And, in some years, I will be able to hand my successor an organization that has continuously become more efficient and more effective in fostering the good created by safe and sustainable civil aviation.
IATA has announced strengthened profitability projections for airlines in 2023, which will then largely stabilize in 2024. However, net profitability at the global level is expected to be well below the cost of capital in both years. Very significant regional variations in financial performance remain.

"Considering the major losses of recent years, the $25.7 billion net profit expected in 2024 is a tribute to aviation’s resilience. People love to travel and that has helped airlines to come roaring back to pre-pandemic levels of connectivity. The speed of the recovery has been extraordinary; yet it also appears that the pandemic has cost aviation about four years of growth. From 2024 the outlook indicates that we can expect more normal growth patterns for both passenger and cargo,” said Willie Walsh, IATA’s Director General.

"Industry profits must be put into proper perspective. While the recovery is impressive, a net profit margin of 2.7% is far below what investors in almost any other industry would accept. Of course, many airlines are doing better than that average, and many are struggling. But there is something to be learned from the fact that, on average airlines will retain just $5.45 for every passenger carried. That’s about enough to buy a basic ‘grande latte’ at a London Starbucks. But it is far too little to build a future that is resilient to shocks for a critical global industry on which 3.5% of GDP depends and from which 3.05 million people directly earn their livelihoods. Airlines will always compete ferociously for their customers, but they remain far too burdened by onerous regulation, fragmentation, high infrastructure costs and a supply chain populated with oligopolies,” said Walsh.

Outlook drivers
Overall revenues in 2024 are expected to rise faster than expenses (7.6% vs. 6.9%), strengthening profitability. Although operating profits are expected to increase 21.1% ($40.7 billion in 2023 to $49.3 billion in 2024), net profit margins increased at less than half the pace (10%) largely due to increased interest rates expected in 2024.

Industry revenues are expected to reach an historic high of $964 billion in 2024. An inventory of 40.1 million flights is expected to...
be available in 2024, exceeding the 2019 level of 38.9 million and up from the 36.8 million flights expected in 2023.

**Passenger revenues** are expected to reach $717 billion in 2024, up 12% from $642 billion in 2023. Revenue passenger kilometers (RPKs) growth is expected to be 9.8% year-on-year. Although that is more than double the pre-pandemic growth trend, 2024 is expected to mark the end of the dramatic year-on-year increases that have been characteristic of the recovery in 2021-2023.

The high demand for travel coupled with limited capacity due to persistent supply chain issues continues to create supply and demand conditions supporting yield growth. Passenger yields in 2024 are expected to improve 1.8% compared with 2023.

Reflecting the tight supply and demand conditions, efficiency levels are high with the load factor expected to be 82.6% in 2024, slightly better than 2023 (82%) and the same as in 2019.

IATA’s November 2023 passenger polling data supports the optimistic outlook.

- A third of travelers polled say they are traveling more than they did pre-pandemic. Some 49% indicate that their travel habits are now similar to pre-pandemic. Only 18% said that they were traveling less.
- Looking ahead, 44% say that they will travel more in the next 12 months than in the previous 12 months. Only 7% say they will travel less and 48% expect to maintain similar levels of travel in the coming 12 months as in the previous 12 months.

**Cargo revenues** are expected to fall to $111 billion in 2024. That is down sharply from an extraordinary peak of $210 billion in 2021, but it is above 2019 revenues, which were $101 billion. Yields will continue to be negatively impacted by the continued growth of belly capacity (related to strong growth on the passenger side of the business) while international trade stagnates. Yields are expected to further correct towards pre-pandemic levels with a -32.2% decline in 2023 followed by a -20.9% decline expected in 2024. They will remain high by historical standards, however. Note that yield progression has been extraordinary in these last years (-8.2% in 2019, +54.7% in 2020, +25.9% in 2021, +7% in 2022, -32.2% in 2023).

**Expenses** are expected to grow to $914 billion in 2024 (+6.9% on 2023 and +15.1% on 2019).

**The fuel price** is expected to average $113.8/barrel (jet) in 2024 translating into total fuel bill of $281 billion, accounting for 31% of all operating costs. Airlines are expected to consume 99 billion gallons of fuel in 2024.

High crude oil prices are expected to continue to be further exaggerated for airlines as the crack spread (premium paid to refine crude oil into jet fuel) is expected to average 30% in 2024.

Industry CO2 emissions in 2024 are expected to be 939 million tonnes from the consumption of 99 billion gallons of fuel.

The aviation industry will increase its use of sustainable aviation fuels (SAF) and carbon credits to reduce its carbon footprint. We estimate that SAF production could rise to 0.53% of airlines’ total fuel consumption in 2024, adding $2.4 billion to next year’s fuel bill. In addition, the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) is a global market-based carbon offsetting mechanism designed to stabilize international aviation emissions. The CORSIA-related costs are estimated at $1 billion in 2024.

Non-fuel expenses have been controlled relatively well by airlines despite inflationary pressures. With fixed costs being distributed over a larger scale of activity as the industry recovered from the pandemic, non-fuel unit costs are falling in line with pre-pandemic level. In 2024 airlines expect non-fuel unit costs of
Airline projections

39.2 cents per available tonne kilometer (ATK) in 2024, which is 1.6% above 2023 levels and matches 2019 levels. Total non-fuel costs are expected to reach $633 billion in 2024.

Risks
Industry profitability is fragile and could be affected (positively or negatively) by many factors:

- **Global economic developments** Easing inflation, low unemployment rates, and strong demand for travel are all positive developments. Nonetheless, economic strains could arise. In China, for example, slow growth, high youth unemployment and disarray in property markets if not managed properly, could impact global business cycles. Similarly, should tolerance of high interest rates weaken, and unemployment rise significantly, the strong consumer demand that has supported the recovery could weaken.

- **War** The operational impacts of the Ukraine war and the Israel-Hamas war have been largely limited to re-routings due to airspace closures. On the cost side, the conflicts have pushed up oil prices, which is impacting airlines globally. An unexpected peace in either or both cases would bring benefits to the industry, but any escalation could produce a radically different global economic scenario to which aviation would not be immune.

- **Supply chains** Supply chain issues continue to impact global trade and business. Airlines have been directly impacted by unforeseen maintenance issues on some aircraft/engine types as well as delays in the delivery of aircraft parts and of aircraft, limiting capacity expansion and fleet renewal.

- **Regulatory risk** On the regulatory front, airlines could face rising costs of compliance, and additional costs pertaining to passenger rights regimes, regional environment initiatives, and accessibility requirements.

2023
Airline profitability for 2023 performed better than expected in IATA’s June outlook. Revenues for 2023 are now expected to reach $896 billion ($93 billion higher than expected). Expenses also grew to $855 billion ($74 billion higher than the previous forecast). That translated into a $23.3 billion industry wide net profit. Although that is significantly above the $9.8 billion forecast in June, the additional $13.5 billion profit is equal to just 1.4% of revenue. The net profit margin is just 2.6% meaning that airlines will have earned on average $5.44 per passenger carried in 2023.

The improvement was entirely driven by the passenger business that saw revenues increase compared with the previous forecast by $96 billion, to $642 billion. Cargo revenues in 2023 were $134.7 billion, which underperformed the $142.3 billion expected in June.

The Traveler’s Viewpoint
Air travel continues to deliver value to consumers. A recent public opinion poll (14 countries, 6,500 respondents who have taken at least one trip in the last year) revealed that 97% of travellers expressed satisfaction with their travel. Moreover, 88% agreed that air travel makes their lives better and 80% agreed that air travel is good value for money.

Consumers can expect airfares to continue to track rising costs, particularly oil. IATA data, however, show that competition continues to drive price benefits for consumers. The average real return air fare in 2023 is expected to be $254 which is 20% lower than the average fare of $315 in 2019 (measured in constant 2018 dollars).

Aviation remains committed to its goal of achieving net-zero emissions by 2050. Travelers are expressing high levels of confidence in this commitment, with 84% believing it is the right goal, 79% saying that we will be able to fly sustainably, and 78% agreeing that aviation leaders are taking the climate challenge seriously.

In brief...
The Traveler’s Viewpoint
Passengers are counting on a safe, sustainable, efficient and profitable airline industry. IATA public opinion polling demonstrated the important role that travelers see the airline industry playing:

- 89% agreed that air travel is a necessity for modern life
- 89% agreed that air connectivity is critical to the economy
- 88% said that air travel has a positive impact on societies
- 83% said that the global air transport network is a key contributor to the UN Sustainable Development Goals (SDGs)

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Airlines 2024 – 01
IATA WORLD LEGAL SYMPOSIUM
Vancouver, Canada
21–23 February 2024

IATA WORLD CARGO SYMPOSIUM
Hong Kong (SAR), China
12–14 March 2024

IATA WINGS OF CHANGE AMERICAS
Santiago, Chile
10–11 April 2024

CNS PARTNERSHIP CONFERENCE
Dallas Fort Worth, USA
14–16 April 2024

IATA GROUND HANDLING CONFERENCE
Reykjavík, Iceland
7–9 May 2024

IATA AVIATION ENERGY FORUM
Vienna, Austria
28–30 May 2024

IATA ANNUAL GENERAL MEETING
Dubai, UAE
2–4 June 2024

IATA SLOT CONFERENCE
Bogota, Colombia
11–13 June 2024

IATA WINGS OF CHANGE FOCUS AFRICA
Johannesburg, South Africa
2–3 July 2024

IATA WORLD SUSTAINABILITY SYMPOSIUM
Miami, USA
24–25 September 2024

IATA WORLD SAFETY & OPERATIONS SYMPOSIUM
Marrakech, Morocco
1–3 October 2024

IATA WORLD FINANCIAL SYMPOSIUM
Bangkok, Thailand
28–31 October 2024

IATA WORLD PASSENGER SYMPOSIUM
Bangkok, Thailand
28–31 October 2024

IATA AVIATION ENERGY FORUM
Kuala Lumpur, Malaysia
12–14 November 2024

IATA SLOT CONFERENCE
Singapore, Singapore
19–22 November 2024

IATA WINGS OF CHANGE EUROPE
Rome, Italy
19–20 November 2024

IATA WINGS OF CHANGE MIDDLE EAST
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