THE PROMISE OF CARBON REMOVAL
Carbon capture will be a key tool in reaching aviation’s goal of net zero carbon emissions by 2050

CEO Interviews KLM, Vietnam Airlines | Disability Are we entering a golden age of accessibility? | Finances Value creation in payment sector | Passenger experience Speed and convenience are top priorities
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The World of Tomorrow's Airline IT
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Although the catastrophic failure of 28 August has shone a light on NATS, the truth of the matter is that Air Navigation Service Providers (ANSPs) across Europe get away with poor performance every day of the week.

These are monopoly service providers. Economic history confirms what we see in ANSP performance—monopolies devolve to the most minimum standard of service unless they are strictly regulated. As long as ANSPs have no consequences to their mistakes, they will struggle to improve.

As it currently stands, the system is essentially rewarding failure. Delays continue to increase, environmental targets are missed, and still charges for the “service” rise.

One of the solutions would be to finally implement the Single European Sky. But let’s be honest, that isn’t happening any time soon, even if the compelling promise of a 10% reduction in emissions should be irresistible.

EU states can’t even agree to strong performance targets and independent regulation of their own ANSPs, much less accept cross-border rationalization and efficiencies.

We will continue to push for change, but in the meantime, we have to explore other avenues. One of those is sharing the cost of helping passengers when ANSPs are at fault for service failure.

Willie Walsh
IATA Director General

On Schiphol flight cuts:
“The decision of Minister Harbers to push forward with the Schiphol flight cuts shows a contempt for democratic and legal scrutiny, and a cavalier approach to the Netherlands’ treaty obligations with respect to international law. By ramming this action through in its last weeks in office, the caretaker government has hurt the Dutch economy and aviation workers without due consideration of alternatives that could reduce noise without sacrificing livelihoods.”

On continuing demand for aviation:
“Having seen the economic, social, and personal losses when airlines could not fly during the COVID-19 crisis, this industry is determined to secure a sustainable long-term future by achieving net zero carbon emissions by 2050. We know that our customers want a world in which they can enjoy the freedom to travel sustainably.”

On the 2023 Global Passenger Survey results:
“Passengers have made it clear: they want to spend less time booking and move through the airport faster. And they are increasingly willing to use biometric data to complete more pre-departure tasks off airport to achieve this.”

ANSPs must pay the price of failure
The UN International Day of Persons with Disabilities is celebrated annually on December 3. Accessibility to aviation is essential, and the industry is working hard to ensure everyone can benefit from aviation’s ability to connect the world. It is a complex sector that defies simplification, but significant progress is being made every day.
A fully integrated digital travel experience

IATA and industry partners successfully tested the first fully integrated digital identity travel experience, from shopping for flights to arrival, on a journey from London Heathrow (LHR) to Rome Fiumicino (FCO) with British Airways.

“Our vision for future travel is fully digital and secured with biometric identification. While the technology exists to do this at each stage of a journey, linking these steps together has proven challenging. This will open a world of possibilities for simpler journeys in the future,” said Nick Careen, IATA’s Senior Vice President for Operations, Safety and Security.

The journey illustrated the potential of a future fully integrated digital travel experience leveraging biometrics with:

- **Personalized Offers**: The LHR-FCO passenger shared their loyalty card data (stored as a verifiable credential in their smart phone’s digital wallet) with a travel agent. This enabled airlines using the New Distribution Capability (NDC) to make personalized offers through the travel agent channel.

- **Simplified Orders**: Once the traveler has chosen among the offers, an order is generated as a verifiable credential that can be stored in a digital wallet. No more Passenger Name Records (PNR), e-tickets or electronic miscellaneous documents are needed.

- **Effortless Travel Requirements Check**: Along with the digital wallet, a digital passport (stored in the traveler’s digital wallet) will be a key enabler. By sharing the nationality data of the digital passport, passengers can confirm their travel document requirements.

- **Simplifying and Securing Check-ins**: The LHR-FCO traveler also chose to share their digital passport and order data with their airline, British Airways, to receive a confirmation that they are ready-to-fly and seat assignment via text message. Traditional boarding passes may become optional if travelers are offered and accept a contactless experience at the airport.

- **Contactless Airport Experiences**: For travelers who choose to share their biometric data, storing your phone and proceeding hands-free through the airport will be possible. Biometric gates cleared the way for the LHR-FCO traveler through security, into lounges, and onto the aircraft.

The companies involved in the project include Accenture, Amadeus, Australian Border Force, AWS, Branchspace, British Airways, IDnow, Aeroporti di Roma, SICPA, Trip.com, and Verchaska.
IATA marked the first 20 years of the IATA Operational Safety Audit (IOSA).

“Over the past two decades, IOSA has made a major contribution to improving safety, while reducing the number of redundant audits. Although it is a condition of membership in IATA, more than 100 non-IATA member airlines also see the value of participating and we welcome others. Likewise, while more than 40 governments use or are intending to use IOSA in their safety oversight programs, many more do not,” said Nick Careen, IATA’s Senior Vice President Operations, Safety and Security.

On aggregate, airlines on the IOSA registry have a lower accident rate than airlines that are not on the IOSA registry. Since 2005, the all-accident rate for airlines on the IOSA registry is 1.40 per million sectors, compared with 3.49 per million sectors for non-IOSA airlines. In 2022, IOSA registered carriers outperformed those not on the registry by a factor of four (0.70 accidents per million sectors vs. 2.82 accidents per million sectors).

Reflecting the strong safety performance of airlines on the IOSA registry, IATA entered IOSA’s third decade with a call for:

• Regulators to recognize the significant contribution to safety that IOSA makes as the global standard for airline operational safety and to incorporate IOSA into their own safety regulatory oversight programs.
• Airlines not yet on the IOSA registry to join.

Some 417 operators are on the IOSA registry, of which 107 are non-IATA members.

IATA has launched the IATA Safety Leadership Charter, which is aimed at strengthening organizational safety culture through commitment to eight key safety leadership guiding principles. It was developed in consultation with IATA members and the wider aviation community to support industry executives in evolving a positive safety culture within their organizations.

“Leadership matters. By signing up to the IATA Safety Leadership Charter, these industry leaders are visibly demonstrating their commitment to the criticality of safety culture within their own airlines and the need to build on the work that has gone before,” said Willie Walsh, IATA’s Director General.

Safety Leadership Guiding Principles include:

• Leading the obligation to safety through both words and actions.
• Fostering safety awareness among employees, the leadership, and the board.
• Regularly assessing and improving organizational Safety Culture.

IATA LAUNCHES SAFETY LEADERSHIP CHARTER

IOSA was launched in September 2003 with Qatar Airways as the first airline to be audited and join the IOSA Registry.
Measuring the success of net zero

IATA reemphasized that every drop of fuel avoided counts in the aviation industry’s quest to achieve net-zero carbon emissions by 2050 with the latest result from the IATA Fuel Efficiency Gap Analysis (FEGA).

LOT Polish Airlines (LOT) is one of the airlines to undertake FEGA, which identified the potential to shave its annual fuel consumption by several percent—an annual reduction of tens of thousands of tonnes of carbon from LOT’s operations.

“Every drop counts. Since its inception in 2005, FEGA has helped airlines identify cumulative savings of 15.2 million tonnes of carbon by cutting fuel consumption by 4.76 million tonnes. LOT is the latest airline exploring all opportunities to achieve every efficiency possible in fuel consumption. That’s good for the environment and the bottom line,” said Marie Owens Thomsen, IATA’s Senior Vice President Sustainability and Chief Economist.

The FEGA team analyzed LOT’s operations against industry benchmarks in flight dispatch, ground operations, and flight operations to identify fuel savings potential. The most significant ones were identified in flight planning, emission reduction through implementation of aviation procedures and refueling operations.

“Every last drop: Exploring every efficiency possible in fuel consumption counts in achieving net-zero carbon emissions by 2050

80% of travelers using special assistance services said that their expectations were met

Source: IATA 2023 Global Passenger Survey

Making progress in serving passengers with disabilities

IATA announced the results of its 2023 Global Passenger Survey (GPS) related to accessibility of air transport to passengers with disabilities, showing significant satisfaction levels among passengers who used special assistance services.

“In 2019, the IATA Annual General Meeting adopted a resolution reflecting our members’ commitment to ensure every traveler has access to safe, reliable, and dignified travel. While we all have more work to do to support the needs of our passengers with disabilities, we believe this survey result demonstrates progress towards that commitment,” said Conrad Clifford, IATA Deputy Director General and Corporate Secretary.

The survey also aligned with airline experience that more travelers than ever are requesting assistance. With aging populations in many key air transport markets, this trend is likely to continue. Like many other industries, airlines will struggle to find the resources needed to cater to this important demographic.

“As demand for special assistance grows, we [must] find more tailored ways to meet the needs of travelers with special needs. At present, a special assistance request is almost always met with wheelchair services. But the actual requirement of the traveler may be very different. They may simply need help with wayfinding through crowded airports, or have difficulty negotiating stairs, or be visually impaired. We are working on ways to ensure that wheelchairs are available when needed as well as the right options for the diversity of traveler needs,” said Linda Ristango, IATA’s Assistant Director for External Affairs.

Accessibility: Although the Global Passenger Survey shows progress, there is always more work to do.
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Though airline passenger service systems (PSS) solutions have evolved over the years, they remain rooted in age-old communication and storage formats that continue to constrain retailing innovation. After decades of battling these hurdles, the airline industry is finally moving forward with a vision to modernize its systems of record and merchandising capability.

Enablement through offers and orders
On the path to modern retailing, a move to offers and orders will enable many commercial capabilities that are simply not feasible today. Equally important, an offer and order management platform that transparently adheres to open standards as set by IATA will provide airlines with the modularity that reduces vendor lock-in and enables airlines to optimize for individual needs.

“We are glad to see the industry’s progress towards offers and orders, and we’re excited for the opportunity to help enable such a transition to open standards that unlock modularity,” says Alex Mans, Founder and CEO at FLYR. “Now, it’s up to airlines to take the next step.”

With key innovators in the airline space starting to prepare for this transition, those who delay their journey may find themselves left behind, stuck with elevated operating costs and limited revenue diversification potential. So what are a few of the key principles for a practical transition to offer and order management?

- **Co-existence of PSS and offer/order**
The move to modern retailing is not an overnight change. To prevent interruption of downstream systems and channels that continue to depend on legacy constructs, offer and order must co-exist with the PSS throughout the transition period.

- **NDC and ONE Order to underpin all direct channels first**
Direct channels should represent an airline’s foremost retailing capability. By moving to dynamic offers, airlines can maximize their revenue potential. And, by moving to IATA ONE Order to store orders, airlines can control cost and rely on a future-proof system of record. They can also combine third-party products such as hotels, cars, airport shuttles, etc., and manage them under ONE Order. This makes management, particularly during flight irregularity, much simpler.

- **Backward compatibility with standards**
Global distribution systems (GDS), departure control systems and other industry networks can rely on the translation of offer and order into “legacy language.” Then, with global channels already relying solely on offer and order, other downstream systems can be converted without the need for a big bang cutover.

Finally, for modern retailing to instill a lasting change, modularity and open standards are key. Adherence and acceleration of open standards that promote modularity unlock the possibility of a truly future-proof reality for scalability now and in the years to come. Long-term success also hinges on the important combination of both an open and modular approach and the use of advanced technology, creating a flexible ecosystem that allows airlines to customize their offers as well as collaborate and interface with non-air products such as hotels, car rentals, cruises, and tours.

“Vendor and channel lock-in will kill the time is now to start the adoption of next-generation retailing capabilities, break free from legacy constraints, and deliver profitable, personalized travel experiences.

LEADING THE MODERN RETAILING MOVEMENT

The time is now to start the adoption of next-generation retailing capabilities, break free from legacy constraints, and deliver profitable, personalized travel experiences.

“Enabling the future of airline retailing requires innovation within an ecosystem where connectivity between partners is easily achieved. FLYR is here to make that a reality”

Alex Mans, Founder & CEO, FLYR
reliance on a PSS for their direct and NDC channels, with support for GDS and codeshares coming in early 2024."

Take the steps to build a more personalized customer experience, improve profitability, efficiency, and scalability across your organization, and adopt advanced technology solutions that are modular, open, and ready to support you today, in the future, and beyond.

Learn how FLYR is making modern retailing for airlines a practical reality, not a future promise. Visit www.flyr.com/airlines

progress,” Mans says. “Enabling the future of airline retailing requires innovation within an ecosystem where connectivity between partners is easily achieved. FLYR is here to make that a reality.”

**The power of AI and data**

Artificial intelligence (AI) is vital to power the future of travel, but to unlock its true value good data capability is essential.

“Airlines need to start leveraging the data they own,” states Mans. “There are incredible opportunities within that data, especially as airlines narrow in on the individual needs and behaviors of their customers. AI, specifically deep learning, helps airlines use that data to make better commercial decisions and personalized offers, giving them an incredible competitive advantage.”

**The future of modern retailing. Today**

The industry’s first technology solutions were designed for a different era. These solutions no longer meet the needs of today’s connected traveler, and as new technology emerges, this gap continues to grow. It’s time for the industry to adopt a mindset change.

“And there’s no need to wait. We have already transitioned airlines away from reliance on a PSS for their direct and NDC channels, with support for GDS and codeshares coming in early 2024.”

Take the steps to build a more personalized customer experience, improve profitability, efficiency, and scalability across your organization, and adopt advanced technology solutions that are modular, open, and ready to support you today, in the future, and beyond.

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THE EVOLUTION OF IATA MEMBERSHIP

In numbers

IATA member shares of total revenue tonne per kilometer (RTK) by region.
In 2022 IATA represented globally 80.6% of total scheduled RTK

North America 75.9%
Latin America Caribbean 82.5%
Europe 74%
Sub-Saharan Africa 91.4%
Middle East Northern Africa 96%
North Asia 89.1%
Asia Pacific 83.7%

4,600,000
IATA members’ total revenue passenger kilometers 2022 (scheduled) – 4.6 trillion

Membership status end 2016 vs. 2022/2023
Net increase of 50 airlines. LCCs increased from 25 to 41 members

<table>
<thead>
<tr>
<th>Category</th>
<th>2016</th>
<th>2022</th>
<th>2023</th>
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<tr>
<td>Full Service Carriers</td>
<td>202</td>
<td>217</td>
<td>222</td>
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<tr>
<td>Low Cost Carriers</td>
<td>23</td>
<td>41</td>
<td>42</td>
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<tr>
<td>All Cargo Carriers</td>
<td>25</td>
<td>30</td>
<td>31</td>
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<tr>
<td>Leisure Carriers</td>
<td>15</td>
<td>18</td>
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IATA members RTK shares by business model in 2022

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<tr>
<th>Business Model</th>
<th>IATA Members</th>
<th>Non-Members</th>
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<tbody>
<tr>
<td>Full Service Carrier</td>
<td>93% vs 7% non-members</td>
<td></td>
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<tr>
<td>Low Cost Carrier</td>
<td>36% IATA members: 64% non-members</td>
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<tr>
<td>All Cargo Carrier</td>
<td>74% IATA members: 26% non-members</td>
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<tr>
<td>Leisure Carrier</td>
<td>55% IATA members: 45% non-members</td>
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Source for data and charts: IATA Economics, Airline Statistics

Low Cost Carriers with IATA membership now represent 36% of total LCC market

Source:
- IATA Economics, Airline Statistics
- IATA members
- IATA members: 64% non-members
- IATA members: 74% non-members
- IATA members: 55% non-members

IATA members: 93% vs 7% non-members

www.iata.org
IATA membership per region to date
124 countries

Business model by region: 2016
267 Airline members end of 2016 Europe has the greatest overall membership out of the five regions

Business model by region: 2022
301 Airline members end of 2022 The regions of Asia & Pacific and China & North Asia have increased the most since 2016
The fairy tale of aviation taxes

Marjan Rintel, CEO of KLM says that governments must use aviation’s green taxes to help the industry achieve its sustainability goals.

WORDS: GRAHAM NEWTON

As well as negotiating the noise reduction proposals in the form of flight reduction and the proposed tax on transfer passengers in the Netherlands, KLM is also upping its sustainability efforts in the air and on the ground.

How will you address the capacity cuts at Schiphol and how has this affected your strategy?
The planned capacity cut at Amsterdam Schiphol is a complicated and difficult situation.

The stated goal is not flight reduction—it is noise reduction. At KLM, we have focused on ways to reach that goal and have presented a plan to be cleaner, quieter, and more efficient. With this plan we can achieve the same results without cutting vital connectivity.

The globally agreed Balanced Approach to noise tells us that flight reduction should be the last resort and that is not the way this problem has been addressed.

KLM is a global brand that has been in existence for 104 years, which is exceptional for such a small country. For our model to work we need to provide international connections for people from throughout Europe, especially from the smaller cities. If you look at Paris CDG and London Heathrow, they have only 30%–40% transfer traffic. Ours is a different model entirely.

Our success depends on attracting people and companies to fly through Amsterdam, giving them the right connections and frequencies. We connect the world and if we can’t do that then it is not just a problem for KLM, but for the Netherlands and Europe.

What are your views on the proposed tax on transfer passengers?
It is a ridiculous idea and we totally object to it. We are in the middle of elections in the Netherlands and every party is proposing something without actually understanding the implications that this tax will have.

The proposed tax will solve nothing because passengers will go to Brussels, Paris or wherever is convenient for them. This is not about sustainability or noise; it is about closing a gap in the budget. But that won’t work either because traffic moving elsewhere will reduce the money coming into the country and the money KLM pays to the government.

We are one player in an international sector, so making decisions at a local level is not a good way forward. It rarely works.
Our employees come from over 70 different countries. You need people around you with different ideas who take a different angle on possible solutions.
What more can the industry do to persuade governments that aviation is not an environmental problem but a significant generator of jobs and GDP?
At the moment, it seems that the preferred way to solve problems is to just use less and less. If you want to emit less carbon, you do less flying. Politicians aren’t moving beyond this.

But there are other solutions. Isn’t it strange that governments have not solved the Single European Sky (SES), for example? It would save 10% CO2 and yet it seems they feel no pressure to get SES sorted.

Aviation is a hard-to-abate sector, and we all understand that. We can also accept the need to accelerate our sustainability work. But what we do have is a clear target and a commitment to reduce noise and emissions and get to net zero by 2050. The only way we can achieve that is by working together, including governments, and focusing on ways forward that encourage innovation without compromising connectivity.

Looking at the European region, what are the main challenges and opportunities ahead?
The production of sustainable aviation fuels (SAF) is both a challenge and opportunity. Look at the United States, and California especially, and you can see that incentives are working. But in Europe, we have regulation, mandates, and taxes.

You can get a ticket for Budapest for about €180 ($190). Today, it is about 60% taxes, and it will soon become 75% taxes.

And yet in Europe, we still see politicians telling this fairytale of no taxes in aviation. What is more, the revenues they get from aviation are never spent to accelerate sustainability efforts. Airlines, meanwhile, are not only paying the taxes but spending billions on new fleet and other initiatives too.

Can you tell us about your sustainability efforts?
KLM has taken sustainability seriously for a long time and across the board we are highly committed to it. We are investing in new fleet, in SAF, and in projects to evaluate and test electric aircraft. They are all important.

In 2011, we carried out the world’s first commercial flight partly powered by SAF, and we aim to use 10% SAF by 2030. We’re heavily involved in buying up SAF supply too.

But it is vital to be efficient on the ground too. About 70% of our ground vehicles are electric and we have just launched a new electric water vehicle. But this is also about how we deal with waste and making sure we have the right amount of food and beverage on board to reduce waste and weight.

At KLM, we have up to 60 sustainability initiatives and sustainability is part of every decision we make.

Do you believe the industry can be net zero by 2050?
It is good to have ambition and an aspirational target, but it is crucial that we turn it into reality. The industry can’t do it alone, however.
producers, academia, governments, OEMs, and many others must work with us to make the breakthroughs we need. For example, corporates need to demand and buy up SAF, so suppliers feel confident about the market. I am confident. Step by step, we will get there.

Is aviation doing enough to improve diversity and do you feel pressure to be a role model?
I feel pressure as a CEO because we are in a turbulent world, and this is a volatile industry. There are many challenges, including supply chain disruption, potential economic recession, and staff shortages. We are not yet back to full capacity following the pandemic and we have an election coming up in the Netherlands with many local issues.

All that has nothing to do with me being female. What you need is diversity in your teams. Our employees come from over 70 different countries. You need people around you with different ideas who take a different angle on possible solutions. If you have the right debates within your teams, you will be making better decisions.

We can always do better with diversity. I talk to younger women all the time, but I talk to them as a CEO as well as a woman. I prefer to look at diversity in a broader sense and ensure we have the right teams and culture. It is important to build the right foundations for the future and that means ensuring diversity in its broadest sense.

Is digitalization the right way forward or is there a danger of technology for technology’s sake?
If you want to be efficient, reduce cost, and provide a better customer service then you need to use new technologies. Customers want personalization and they want fast, accurate responses to their needs. You need technology to do that, and you need the right data.

It is the data that is key but making sense of that and translating into better customer service requires technology. In particular, the industry needs to accelerate the use of artificial intelligence and learn from experts in other fields.

If you could change one thing about aviation with a click of your fingers, what would it be and why?
We absolutely need sustainable aviation. If we could truly fly sustainably tomorrow, without emitting carbon, it would change so many things in the industry, from the taxes we pay to the way this industry is perceived.

If we could get a meaningful breakthrough, or accelerate SAF production, it would mean so much. That is why we must work harder at sustainably and why all our partners must step up. It is not just about being cleaner, quieter, and more efficient, it is about the complete transformation of the industry and the way it does business.
The global aviation industry, traditionally seen as a major consumer of energy, is at a crossroads. Nations face increasing pressure to achieve energy independence, balancing energy security with the demands of economic growth. As a result, the focus is on large-scale aviation facilities where the opportunities for significant energy savings and efficiency improvements are most tangible. These facilities, such as the new Centralny Port Komunikacyjny (CPK) airport, are focal points for innovative energy strategies that harmonize operational efficiency and environmental governance, responding to the urgent need to rethink energy production and consumption in the face of a changing global reality.

The CPK project—operational in 2028—seeks to combat climate change and includes renewable energy sources, such as solar energy, geothermal heating and cooling, and highly efficient energy systems, to ensure the airport’s net-zero vision. Moreover, water resources are also planned to be managed sustainably through rainwater harvesting and on-site treatment plants that reuse non-potable water for irrigation, as well as for flushing and process systems, including heating, cooling, and ventilation.

Electrical systems
The electrical installations of the CPK airport will be designed to provide the futureproof and flexible state-of-the-art solutions required for the project, while considering cost effectiveness, efficiency, reliability, simplified installation, operation, and maintenance. Safety measures for people, equipment, and assets were also integral to the electrical design.

The circulatory system of the CPK infrastructure is based on a precisely designed, high-voltage power installation. This installation will be fully hybrid, allowing simplified operation and low maintenance costs with an emphasis on safety. CPK’s commitment to sustainability is demonstrated in the well-considered strategies related to optimizing its energy consumption.

Looking into the technical details, the estimated power load for this gigantic project will be in the 150-250MW range during the peak phase. To prevent unforeseen power outages, a centralized emergency system will be installed to ensure that safety and other core systems remain operational in the event of a power failure. The power system will be supplied by two independent 400/110/15kV and 110/110/15kV sources. This will guarantee uninterruptible power supply and ensure 100% safety for all flight operations.

CPK’s commitment to combating climate change is further demonstrated by its plan to install photovoltaic (PV) systems. These
The brilliance of the Ambient Loop system is captured in its foundational principles; it understands that the energy that is often expelled during heating or cooling can be reclaimed and repurposed. Moreover, the energy produced by one facility at a certain time can be efficiently redirected and utilized by another at a different time. Furthermore, this versatile system welcomes a diverse range of energy sources, both traditional and renewable, such as chiller-based centers, geothermal reserves, and sewage recovery mechanisms, all working together to stabilize the net energy requirement.

Embracing the Ambient Loop district energy system not only curtails the environmental impact and carbon footprint characteristic of traditional HVAC systems but also significantly diminishes the dependency on fossil fuels, revolutionizing energy production and consumption.

Cooling and Heating
In modern construction, HVAC (heating, ventilation, and air conditioning) systems, despite their inconspicuous presence, significantly affect the energy balance of buildings. In addition to simple operational needs, these systems play a key role in ensuring human comfort in enclosed spaces. This is why it is so important that HVAC systems are consistently analyzed and optimized to play an important role among energy-saving initiatives.

Many large facilities, including the future CPK Airport City, face extensive HVAC requirements. The challenge is to establish efficient energy production while accommodating the various HVAC requirements of different assets. District Energy Systems (DES) are a progressive approach that is gaining popularity worldwide. DES seamlessly address the heating and cooling needs of facilities, harmonizing energy demand profiles and reducing the overall peak demand.

At CPK airport, the mechanisms for heating and cooling the buildings have been entrusted to the Ambient Loop 5th generation energy system. This innovative approach departs significantly from traditional heating networks, favoring a complete transition to renewable and zero-carbon energy sources. At the heart of this innovative system is a central water loop that is connected to each building, facilitating the transfer of energy between the building and central energy production hubs. The Ambient Loop is characterized by its scalability, with the possibility of expansion through integrating additional loops. The system performs well using any available low-grade heat source or heat sink—hot or cold—to maintain the temperature within the designated range.

The brilliance of the Ambient Loop system is captured in its foundational principles; it understands that the energy that is often expelled during heating or cooling can be reclaimed and repurposed. Moreover, the energy produced by one facility at a certain time can be efficiently redirected and utilized by another at a different time. Furthermore, this versatile system welcomes a diverse range of energy sources, both traditional and renewable, such as chiller-based centers, geothermal reserves, and sewage recovery mechanisms, all working together to stabilize the net energy requirement.

Embracing the Ambient Loop district energy system not only curtails the environmental impact and carbon footprint characteristic of traditional HVAC systems but also significantly diminishes the dependency on fossil fuels, revolutionizing energy production and consumption.

For more on the new transport hub, visit www.cpk.pl/en/
Carbon capture will be a key tool in reaching aviation’s goal of net zero carbon emissions by 2050.

**Gold standard**
Carbon capture is an established technology, originating in the 1970s, but has never been scaled up or fully developed. Essentially, carbon dioxide (CO2) emissions are captured at source—such as at a big industrial plant—compressed, and then transported to a deep underground (usually about one mile or so) storage location.

DAC, meanwhile, works by capturing CO2 directly out of the air. Giant fans direct ambient air through a filter, where a chemical process produces a high-purity CO2 stream. This can again be transported and stored or, ideally, used in other processes, such as the production of power-to-liquid sustainable aviation fuels (SAF).

Michael Schneider, IATA’s Assistant Director, Environmental Programs, says DAC is the gold standard of carbon capture. “DAC takes CO2 out of the air, which is exactly what we want,” he says. “It is unequivocal emissions removal. And if we use it to produce SAF, it becomes an in-sector solution.”

Carbon capture capacity is low but, as the 1PointFive plant demonstrates, increasing quickly. According to the Global CCS Institute’s 2022 report, the carbon capture capacity for all facilities under development has risen to 244 million tonnes per annum, a 44% increase year over year. There are 30 projects in operation, such as the Citronelle Project in Alabama, United States, 11 under construction, and 153 in development.

As with many sustainable initiatives, there is a chicken and egg situation to overcome. Demand must be there for supply to increase but only a ready supply can stimulate demand. “The point is that you have to start somewhere,” says Schneider. “And airlines do need to start because other sectors are also looking at carbon capture and beginning to buy up capacity. Airlines need to be aware of the opportunities on offer and act quickly.”

**Why carbon capture?**
Carbon capture is similar to an offset credit. An airline makes an investment and gets credit...
to save CO2 on your behalf, which is why offsets have come under such intense scrutiny.

Carbon capture, though, has permanence. It removes CO2 and therefore has tangible additionality—meaning the emissions reductions is real and wouldn’t otherwise occur. Moreover, the Intergovernmental Panel on Climate Change (IPCC) report mentions carbon capture as a critical enabler in limiting the effects of climate change.

Airlines also benefit by gaining greater understanding of the technology, securing capacity, and developing a critical, futureproof relationship. And of course, the communication gains are unquantifiable though it is safe to say there would be good traction among corporates buyers and the traveling public.

“Aviation will use all the technologies available to reach its net zero 2050 target, but carbon capture will be a key tool for the foreseeable future,” says Schneider. “It is not a golden bullet but there will be residual emissions even after SAF, new technologies, and operational improvements. Carbon capture, especially DAC, is probably the best way to deal with those emissions. The technology is scalable, offers minimal disruption, and will generate skilled jobs. Most importantly, it will provide permanent carbon removal.”

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Aviation takes diversity and inclusion seriously. IATA’s 25by2025 initiative, for example, aims to increase the number of women in senior positions and under-represented areas by 25%, or up to a minimum of 25% by 2025.

But, says Christine Ourmieres-Widener, former FlyBe and TAP Portugal CEO and now in charge of Groupe Dubreuil Aero (GDA), recognizing there has been progress is not the same as being happy with the current situation. “I’ve seen safety harnesses that don’t fit women; pilot uniforms that didn’t have a female version,” she says. “We’ve managed to change things but there is still a lot of work to be done on diversity and inclusion. Everybody knows that with more diversity, a team is much more efficient.”

Female and minority percentages in key areas are still low even if the trend is upward and Ourmieres-Widener believes this is hurting the industry. “We not only need an expanded talent pool to cope with demand but also it is proven that companies with better diversity and inclusion numbers show better results.”

Ourmieres-Widener is in favor of positive discrimination, for recruitment and promotion but with the caveat that it must first be a question of ability and competencies. “For the industry to move forward in this area you do have to show a preference for women or other minorities, but they must have the right skills and experience,” she says. “But this shouldn’t be taken too far. Women generally have to prove themselves more than a male equivalent and this has to stop.”

Attracting talent
Prioritizing women that apply is only possible if the industry gets qualified female applicants and the same is true of other minorities. Ourmieres-Widener points to two key elements: promoting aviation to young students, and improving communication on the subject both internally and externally.

“Diversity and inclusion are cross-industry societal issues so we need to learn from other industries that have been more successful so far and quicker to implement change”

Christine Ourmieres-Widener, CEO of Groupe Dubreuil Aero
“We must start early—in primary and secondary schools—so we have a pipeline of talent coming through,” she says. “The industry must sell itself and encourage young women to get involved in aviation, not just as pilots but across the board in the hangar as a technician or an engineer, also talking about revenue management or maintenance. There is a broad spectrum of opportunities that could benefit from diversity, but we have to start the process early. We have to create this interest and curiosity in students as soon as possible in their life. It’s difficult to become a pilot or aviation engineer later in life.”

Communication efforts, meanwhile, must be stepped up. Podcasts, promotions, interviews, and social media must all be utilized to further diversity and inclusion programs. Influencers are a prime example. The younger generations do take notice of such accounts—hence the name—and airlines need to engage in this sphere if they are serious about attracting new talent. Ourmieres-Widener also points to the need to collaborate with other industries. “Diversity and inclusion are cross-industry societal issues so we need to learn from other industries that have been more successful so far and quicker to implement change, about some best practices. I’m a member of the Power Women Network in the United Kingdom,” she says. “It’s a cross-industry body and we all learn from each other.”

**Role model**

Role models are also essential to bringing through younger talent. “Women can’t be what they can’t see,” says Ourmieres-Widener. The GDA boss mentors within and outside her organization. She even used her prize money after winning the IATA Inspirational Role Model Award in 2019 to sponsor a female student at Cranfield University in the United Kingdom, who is now doing very well in an airline position.

Ourmieres adds: “I think that if you are serious about your diversity engagement, you need to dedicate part of your time to either being a mentor or being part of an association for women in aviation or more generally. It is really important.”

But she insists that women in senior management must remain balanced in their interactions and accept that it is a team effort to nurture young talent. The fact is that most senior management in aviation are men.

“But many are parents, they have daughters, and they are role models for them every day,” Ourmieres-Widener notes. “They are also business people and they will know that diversity produces better financial results.

“We need to accelerate diversity and inclusion efforts,” she concludes. “But we have agents of change in place, and they will help to increase the pace and make this more diverse and inclusive world.”

—Ourmieres-Widener
Digitalization is key

Graham Newton talks to Dang Ngoc Hoa, Chairman of Vietnam Airlines, about the airline’s ambitions in an extremely competitive region.

How is the airline performing in 2023 and what is your strategy for the future? The last few years have been difficult for airlines worldwide, posing utterly unique and unprecedented questions for the whole industry, and Vietnam Airlines is no exception. Despite some ongoing challenges, we have seen improved prospects in 2023 and I am optimistic about Vietnam Airlines’ future. Our international network is now at 90% of pre-COVID levels and we have several new routes, including Ho Chi Minh City-San Francisco, Ho Chi Minh City-Perth, Hanoi-Melbourne, and Hanoi/Ho Chi Minh City-Delhi and Mumbai. Domestically, we have even managed to surpass our pre-pandemic operations. Overall, we have now recovered to 94% of our 2019 network. Looking forward, we are focused on opening new destinations and restoring the entire route network and frequency of international flights, especially on transcontinental routes.

How important is the airline to both inbound and outbound tourism and how closely do you work with tourism authorities? The two industries—under the umbrella of travel—are closely intertwined and cannot thrive alone. That is why we work very closely with the tourism authorities because tourism is a key driver for the Vietnamese economy. Vietnam Airlines plays its part by offering direct flights with the right frequencies at affordable prices. The introduction of new destinations opens new markets for both inbound and outbound tourism and will enable tourism recovery to gain momentum as confidence returns.

Other factors are vital too, though, such as hotel infrastructure and visas. For example, in August this year, Vietnam extended free tourist visas from 15 to 45 days. Applications can be...
“Looking forward, we are focused on opening new destinations”
done online too, so it is a simple, quick procedure.

Tourism is not just about bringing tourists’ money into the country, it is also about attracting foreign investment, an important element in our government’s strategy.

**How has the slots issue affected your network and performance?**

For us, slots have become a real challenge and we need to overcome this issue to grow as we would like.

At Ho Chi Minh City, for example, there are more and more airlines and that makes it more difficult to secure slots, particularly for domestic flights. Obviously, we want to optimize our network for connections during peak periods but that is proving to be increasingly difficult.

And, of course, getting and sustaining slots at key hubs around the world can be complicated. The summer season at London Heathrow is an obvious example. Very limited demand during the pandemic made empty long-haul flights too costly to maintain in early 2022, but the reduced frequencies were not enough to retain our historic slots for summer 2022. We ended up having to use ad hoc slots, which is far from ideal, making it almost impossible to plan your fleet and crew and to provide the service that customers expect. We want to provide a reliable schedule and frequencies for our passengers, but when you don’t have historic slots that is not easy.

All we can do is continue to work with the relevant authorities to overcome these challenges and achieve our aims in the future.

**Are you happy with the facilities at your airport hubs? Are their growth plans aligned with yours?**

Ho Chi Minh City and Hanoi are very important hubs for the airline and for the country. Economic growth in Vietnam is among the highest in the world and the government is trying to boost this growth even further by attracting international investors and tourists.

So, it is important that all elements are aligned, including the growth of the airline, as we will obviously be crucial to international connectivity. As mentioned, there are challenges with slots, but the government is focused on improving infrastructure.

Despite the current infrastructure limitations, the Government of Vietnam has implemented a plan to build, upgrade and expand key airports in Vietnam, the most prominent of which is the new Long Thanh airport, currently under construction and expected to complete phase 1 in 2026.

Long Thanh is about 40km east of Ho Chi Minh City and will be a vital second airport for the region. This new airport was begun only recently but the first flights are scheduled for 2026, which is a very aggressive timeframe—just three years from breaking ground to operations!

Work has also begun on Terminal 3 of Tan Son Nhat Airport, which will serve some 20 million passengers per annum and provide much needed additional capacity.

So, we are definitely seeing progress. The government is being supportive and with these developments we feel sure that we can achieve our ambition to be the best airline in Asia-Pacific.

**In which operational areas can we improve safety?**

Safety is at the core of every airline. It is always safety first. At Vietnam Airlines, the focus is on safety management systems and risk management because we want the highest levels of safety control. We follow the most advanced guidelines from ICAO and IATA and dedicate a lot of resources to this area.

But you have to remain vigilant because things can change quickly. We are facing geopolitical tensions, pandemics, and many other problems. You always need to be active in ensuring safety for every flight and you must always look to improve.
feedstocks here, including plenty of sunshine. There are some great opportunities ahead, but we are not quite there yet.

**Is the industry’s digital transformation happening quickly enough?**

For me, digital transformation is the key to everything we have been talking about. For most airlines, a successful, sustainable, profitable future depends on the adoption of new technologies, such as artificial intelligence, cloud-based infrastructure, and data platforms.

Vietnam Airlines aspires to become a digital airline by 2026. We have already embarked on our digital journey to providing a seamless customer experience by applying advanced solutions that will propel our business into the future, for example in relation to customer-facing processes, check-in, and other airport touchpoints.

But every airline department will have to join forces to make the change. If you want to be competitive going forward, you need to be digital. The sooner you can do it, the better.

**Can we achieve net zero carbon emissions? And what should be done to increase sustainable aviation fuels (SAF) production?**

The Vietnamese Government is a signatory to the United Nations’ Conference of the Parties (COP) and we are the national carrier, so the determination to achieve net zero carbon emissions is clear.

Collaboration is essential because no airline can achieve net zero on its own. True sustainability requires countries, stakeholders, and airlines all over the world to work together. We need the right policies, and we also need every stakeholder—from oil companies through to the passenger—to play their part. If we get that alignment, then I am sure we can achieve net zero by 2050.

As for SAF, we are investigating the possibilities. The challenge of SAF is the high cost and scarcity of supply. Currently, SAF only represents around 0.1% of global aviation fuel.

Obviously, we want to use as much SAF as possible because it will be a big part of our sustainability efforts. That is true for every airline. We are working with aircraft manufacturers and our government on increasing supply. Vietnam could become a big producer because we have many of the right
Once, ancillary revenues were seen as supplemental income, a nice-to-have that was separate from the business of selling an airline ticket. But in recent years, and especially following the pandemic, ancillary revenues have become a cornerstone of airline financial health. High-margin ancillary products have become integral to airline profitability as costs—including fuel, labor, and interest rates—continue to rise.

“No airline can ignore ancillaries,” says Ken Harris, Founder and CEO of Plusgrade, which is behind some of the most successful ancillary products in the industry. “For 2024, we are hearing more and more airlines ask how much further they can drive ancillary revenue.”

With that mindset is coming increasing sophistication. And that sophistication in turn is focusing airline attention more on the passenger experience and less on the pure pursuit of dollars.

“The truth is that people will spend more if they are getting a better experience,” says Harris. “Airlines that are looking first at customer requirements are the ones leading the way. The ancillaries that airlines offer should always add value beyond their dollar price.”

Focus on the journey

For Harris, a critical element in creating a better experience is generating excitement around the journey. Traditionally, the emphasis has been on the destination, but the journey must also be viewed in a positive light. This might include a speed pass to get the passenger through the airport or a blocked seat next to the passenger, so they have more room, even in the back of the aircraft. Suddenly, the journey takes on a new dimension and is something to which the passenger can look forward.

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“All touchpoints are becoming frictionless and flexible, from booking through to the airport and onboard,” says Harris. “With that, comes a great journey.”

Third parties are key to helping airlines explore the potential of the ancillary world. Plusgrade sits behind many airline upgrade programs, for example. Its Seat Blocker offering is proving especially popular, and its SpeedPass product—offering travelers a frictionless airport experience—is generating tremendous interest.

This aligns with the recent results of IATA’s 2023 Global Passenger Survey (GPS), which identified speed and convenience as passengers’ top travel priorities. The GPS found that passengers expect to move through the airport faster than ever with 74% stating that when traveling with only a carry-on bag, they anticipate going from the curb to the
If loyalty program currencies are more useful for members, giving them innovative ways to get and spend their points or miles, then a virtuous circle emerges.

“When that happens, customers become even more engaged with the airline,” he says. “That drives revenue because the customers are deriving added value. They continue to spend because they had such a great experience. That’s what we want to achieve at Plusgrade. We are finally bringing together the products that spark joy in the traveler journey.”

For more information on how Plusgrade can help you, visit www.plusgrade.com
According to the World Health Organization, there is an estimated 1.3 billion people worldwide who experience “significant” disability. This represents 16% of the world’s population, or 1 in 6 people.

Despite the numbers, ensuring accessibility to aviation is a difficult challenge.

“To begin with, it’s established that income inequality is associated with disability and so this is not a sector that follows normal travel purchasing trends,” says Michael Swiatek, Chief Strategy Officer, ABRA group, which has ownership interest in Avianca and GOL. “Furthermore, a request for a wheelchair push can cost an airline up to $60 and yet at Avianca, for example, the average fare is $100. Ensuring accessibility is a costly business for an airline.”

Nevertheless, Swiatek—who is responsible for accessibility at Avianca and has low vision himself—stresses that airlines have always done the right thing and will continue to do so. Moreover, there are encouraging signs that the business model may turn in the airlines’ favor.

Most obviously, a person with a disability on average travels with 1.9 other people, making the financial equation far stronger from an airline point of view. Working from home and the gig economy are also on the increase, allowing more people with disabilities to enter the workforce and reduce income inequality.

Swiatek also suggests that costs could be shared, noting that accessibility is “a travel issue and not an airline issue.”

He continues: “We should view accessibility like safety. Everybody should benefit from the latest innovation; they should collaborate to share best practice because we are talking about ensuring accessibility to aviation.”

Situationa disability
Although the economic viability of accessibility is growing, the cost-benefit analysis is near
A person with a disability on average travels with 1.9 other people, making the financial equation far stronger from an airline point of view. Impossible to unravel as every disability is unique to the individual and their needs can vary from journey to journey. Training costs would have to be extrapolated from general customer service, for example, and solutions might alter depending on the journey.

“You get situational disability,” says Swiatek. “On a good day with the right lighting I may be able to see seat numbers but, on another day, or if the seat numbers are displayed in a small font, I won’t be able to see where I should sit.”

There are hidden disabilities too. Someone who suffers from epilepsy may not wish to advertise the condition through a lanyard but may nevertheless want someone onboard an aircraft to be aware and have the relevant skills. Or a person who is deaf in their right ear may not want to be allocated an A seat as this places their good ear furthest away from the cabin crew.

Swiatek uses the example of curb cuts to illustrate the choices airlines must make in accessibility. A curb cut is a sloping curb, ideal for wheelchairs and even baby strollers or wheeled suitcases. But for a blind person using a stick it is more difficult to negotiate.

“That doesn’t mean you shouldn’t have curb cuts, but you have to understand that there are rarely straightforward answers in this sector,” he says.

Solutions first, regulations second
Although Swiatek agrees that the pace of accessibility improvements must accelerate, he is adamant that regulations can’t get ahead of solutions. “If governments said wheelchairs must be allowed onboard, it would be impossible,” he says. “Regulations should only be a backstop. Governments must let companies try to solve accessibility issues. The industry has the right attitude, has demonstrated a clear commitment to resolve any issues, and as long as that remains the case then we don’t need regulation.

“Besides which, how do you regulate?” he asks. “You cannot regulate empathy, kindness, common sense or comfort. What is the right level of kindness or comfort? This is a very subjective area.”

Looking ahead, Swiatek suggests that getting wheelchairs in the cabin will be the big-ticket item, but most accessibility issues will be solved by multiple smaller solutions. Perfection will only ever be an aspiration, but the industry will continue to make significant progress.

“I believe we’re entering a golden age of accessibility,” he sums up. “Awareness is growing all the time. Yes, it could be better, and this is a complex sector, but every day we are improving.”
Value creation in the payment sector

In an evolving payment landscape, airlines might have to rethink their payment strategy to ensure the customer has trust in the payment transaction.

WORDS: GRAHAM NEWTON

Payment is not solely a financial function, says Thierry Stucker, IATA’s Director Industry Payment Programs, “it plays a key commercial role too. It is part of the transaction and an airline’s engagement with the customer.”

Stucker says this must be the main driver for airlines as they embrace an evolving payment landscape. But he admits that it is a complex undertaking and although there is the prospect of serious financial gains, they will be hard won.

Card networks

Previous discussions on payment have centered on credit cards, predominantly American Express, Mastercard, and Visa—the largest card networks.

The airline relationship with card networks is extremely nuanced, but there is no doubt it is an expensive way of doing business. Fees for such transactions amount to more than $20 billion annually according to a report by Edgar Dunn & Company, or 2.2% of total ticket sales.

Part of the problem is that card networks have a pricing model that doesn’t respond to volume. Usually, it is a straightforward percentage per transaction, so the more card payments, the greater the fees paid by the merchants. There might be small discounts for extremely high volumes, but this rarely applies, and no airline has qualified as far as is known.

There are advantages to card payments though. Acquirers, the middleman between the airline merchant and the card networks, are well established, payment is fast and secure, and there are usage-based incentives, making them popular with customers. For some airlines, card payment represents over 90% of sales.

“Card networks are not going away, and nor should they,” says Stucker. “The United States is very card-centric, for example.”

But, Stucker continues, there are plenty of new payment players in the market, some with national or regional dominance, and airlines must be aware of those options. “If airlines want to maximize sales and collect payments in ways that make customers happy, then they have to explore and invest in the new payment instruments that make sense according to their markets,” he advises.

In the Ivory Coast, for example, just 1% of the population has a credit card. In such a case, it is not about fighting credit cards, it is about being practical. Parts of Asia and Latin America still rely heavily on cash while in China, accepting the payment wallets that have
fast emerged as a cash replacement, such as Alipay and WeChat Pay, has become essential.

Accepting new payment instruments is not easy for airlines, however. Adding just one new payment instrument can take from nine to 12 months. Aside from the technical aspects, airline staff must familiarize themselves with the payment process, contracts need to be signed with new acquirers who do not come from the card network world, and the new payment option must be integrated into the booking process.

Where a particular domestic payment instrument dominates, such as in India, China, or Kenya, customers want to know they can use the form of payment they prefer. This is becoming increasingly important following the rise of Modern Airline Retailing (MAR).

If ancillary services are sold at the time of the ticket purchase, then the local travel agent can accept the domestic payment instruments and then pay the airline. But many ancillary services are sold during travel. Purchases may occur at check-in, such as an upgrade, or inflight. Realizing the full potential of retailing and ancillary sales therefore means that the airline must accept the new payment instrument that is preferred by the customer at the point of sale.

“If airlines want to maximize sales and collect payments in ways that make customers happy, then they have to explore and invest in the new payment instruments that make sense according to their markets.”
Financial implications, but it does at least take away some of the complexity for airlines. And card networks have global airline acquirers which operate in many countries.

Where that support isn’t available, however, airlines will find it difficult finding acquirers who can cover a large number of individual payment instruments. “But this is a challenge for acquirers also,” says Kato. “They need to work to incorporate support for new payments instruments, and this should benefit airlines in the longer term. Airlines will be able to rely on a reduced number of payment providers, just as they do with global card acquirers.”

Improving the success rate

Whatever the form of payment, airlines and acquirers also have work to do on improving the transaction success rate. Basically, about 10%–15% of attempted air travel purchases fail for a variety of reasons, which is considered high. A significant portion of failures can be recovered, however.

One of the key sessions at the upcoming World Financial Symposium and World Passenger Symposium this month will explore how this can be done.

The joint symposium will also host sessions revealing what customers want when it comes to payment. There will also be the launch of an Airline Payment Index that aims to help airlines understand their strengths and weaknesses.

“This is all about value creation,” concludes Stucker. “Airlines want to be closer to their customers, and payment is part of this customer reach.”

Payment support

There is some support for airline efforts in this area. IATA Pay, for example, is a solution that allows consumers to pay for airline tickets directly from a bank account, which means it can support a variety of payment instruments in much of the world.

IATA Pay improves the speed and security of payments, while reducing payment costs. Since its launch in 2022, IATA Pay has helped participating airlines save up to 99% in payment processing fees while providing customers with a highly secure alternative payment solution.

It also helps that Mastercard and Visa are active with new payment instruments, buying up some of the companies involved in this emerging field. This may have cost

15%
10%–15% of attempted air travel purchases fail for a variety of reasons, which is considered high.

99%
IATA Pay has helped participating airlines save up to 99% in payment processing fees while providing customers with a highly secure alternative payment solution.

90%
For some airlines, card payment represents over 90% of sales.

12mths
Accepting new payment instruments is not easy for airlines, however. Adding just one new payment instrument can take from nine to 12 months.
Faster check-in, a better range of services, bespoke parking, and new direct connections: after the pandemic crisis, Prague Airport can finally present its development plans for the coming years. As a result, passengers can look forward to greater comfort when traveling, starting at their journey through the airport. The new plans are backed by over 90% of Czech citizens. The airport 2030 development plans will bring 200 direct connections, 37 long-haul routes, connection by train to the centre of Prague and 10,000 parking places. Last but not least, the airport will be carbon neutral.

Commenting on the future plans, Jiří Pos, Chairman of the Prague Airport Board of Directors, stated that the airport development will be based on the principles of sustainability, innovation, and complexity. “We are glad that the Ministry of Finance has approved the update to our long-term concept and development strategy, with the plan to increase airport capacities as one of its main pillars. We estimate the first phase implementation costs at $1.39 billion.” The development and expansion of the terminals will increase the capacity to 21.2 million passengers and double the peak hourly capacity. Martin Kučera, Executive Director of Airport Operations, also mentioned the Central Security Checkpoint at Terminal 1. “This will improve passenger comfort, enable more efficient use of capacity, and the transfer of part of the Schengen traffic to Terminal 1. Expanding the capacity of Terminal 2 will then ensure multifunctional operation and flexibility in both Schengen and non-Schengen regimes. In addition, individual carriers will always have only one specific terminal assigned for check-ins, which will also improve passenger orientation around the airport.”

By 2030, airport development is to secure:
- 200 direct connections (now 160)
- 37 long-haul routes (now 21)
- 10,000 parking places (now 6,500)
- 16,000 m² of shops and restaurants (now 11,000)
- 600 hotel rooms (now 380)
- 10,500 m² of lounges (now 2,100 m²)

For more information, visit Prague Airport website at www.prg.aero

Prague Airport: Sponsored Feature

PRAGUE AIRPORT READY FOR THE FUTURE
CAPACITY, NEW ROUTES, SHOPS, BESPOKE PARKING
Although most other parcel and pallet products are tested to rigorous standards, the same precision has not been applied to thermal covers. As a leader in this space, CCT (Cold Chain Technologies) decided to bring the same level of discipline and objectivity to the testing of its thermal covers as it does to all other cold chain packaging solutions.

CCT tested 18 different thermal covers using two methodologies. The first was a classic chamber test conducted in CCT’s state-of-the-art ISTA-certified testing laboratory that was set at 40°C. The second was a realistic “solar test” conducted under the sun in a parking lot with temperatures exceeding 35°C. To minimize variability due to weather conditions, CCT’s team conducted the tests on the pallets simultaneously and repeated them over two consecutive days to ensure that the results were consistent.

With chamber testing, repeatability, comparison over multiple days, and testing protocols are all possible. However, chamber testing only applies thermal stress by heat transfer from the surrounding air and is unable to address the performance variable of solar energy. Through CCT’s “solar test,” the samples were exposed to both the surrounding air as well as the energy from the sun. Even though it is difficult to compare tests made on different days as external conditions may vary widely, solar energy is found to be 10 times more stressful to a product’s temperature than ambient temperature exposure alone.

Through this study, CCT was able to determine a thermal cover’s ability to reflect solar energy is an extremely important factor to consider when there is high probability for sun exposure in real world scenarios.

For more information and findings from this study, please contact CCT here: www.coldchaintech.com/

### Chamber vs. Solar test – Overview of the two methodologies

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<tr>
<th>Chamber Testing</th>
<th>Solar Testing</th>
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<tr>
<td>Chamber testing only applies thermal stress by heat transfer from the surrounding air</td>
<td>Testing outside exposes the sample to both the surrounding air and the energy from the sun</td>
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<tr>
<td>Solar energy is not tested in chamber tests</td>
<td>Solar energy can be 10 times more stressful to product temperature than ambient temperature exposure</td>
</tr>
<tr>
<td>Repeatability, comparison over multiple days, and testing protocols are made possible through this methodology</td>
<td>Difficult to compare tests made on different days as external conditions vary widely</td>
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ATA announced the results of its 2023 Global Passenger Survey (GPS), showing that travelers continue to prioritize speed and convenience and are increasingly embracing biometrics and off-airport processes to deliver it.

"Passengers have made it clear: they want to spend less time booking and move through the airport faster. And they are increasingly willing to use biometric data to complete more pre-departure tasks off airport to achieve this," said Nick Careen, IATA’s Senior Vice President for Operations, Safety and Security.

Passengers want convenience when they plan their travel and when choosing from where to depart. Their preference is to fly from an airport close to home, have all booking options and services available in one single place and pay with their preferred payment method.

Proximity to the airport was passengers’ main priority when choosing their departure point (71%). This was more important than ticket price (31%). A small majority of passengers prefer to book directly with the airline (52%). Regardless of booking channel used, however, they would like to have complete visibility into the fare offer, including easy access to optional products and services.

“Today's travelers expect the same online experience as they get from major online
Passenger experience

Visa requirements
36% of travelers said they have been discouraged from traveling to a particular destination because of the immigration requirements. Process complexity was highlighted as the main deterrent by 49% of travelers, 19% cited costs, and 8% privacy concerns.

Where visas are required, 66% of travelers want to obtain a visa online prior to travel, 20% prefer to go to the consulate or embassy, and 14% wish to complete formalities at the airport.

87% of travelers indicated they would share their immigration information to speed up the airport arrival process, representing an increase from the 83% reported in 2022.

Payment
Convenience was the main reason passengers chose a particular payment method (62%). Among seven different payment methods, the most popular was credit/debit card (73%), followed by digital wallet (18%), and bank transfer (18%). At the same time, there are very wide regional variations in credit card usage. Credit/debit cards are most popular in Latin America (85%), Europe (81%), and North America (74%) with the lowest preference being in Africa (57%). Digital wallet usage is most popular in the Asia-Pacific region, where 41% of respondents cited this as the preferred option. The next highest market was Europe (15%), followed by the Middle East (14%). Among the regions, direct bank transfer was the preferred payment method in Africa (36%), followed by the Middle East (21%). IATA has developed IATA Pay, an alternative method for travelers to pay for air tickets purchased online by directly debiting their bank account.

Payment issues cited by respondents included the inability to use their preferred option or to pay in instalments; others cited a tedious payment process and concerns over payment security. Furthermore, 25% of potential product sales during the customer journey could not be eventually completed because of payment issues.

“Payment needs to be seen as part of the commercial offer and not just as a financial transaction at the end of the sale. Customers want to be able to use their preferred payment method with convenience and security. Each market is different and there is no one-size-fits-all answer. If a preferred payment method is not available or too complicated, the potential sale may be lost. Ensuring the customer can use their preferred payment method more often is a key part of the Modern Airline Retailing program,” said Albakri.

Travel Facilitation
Complex visa requirements deter travelers who want a convenient, digital online visa process. Moreover, many are willing to share their immigration information for faster airport immigration procedures.

“Time-consuming and complex visa requirements deter travelers and deprive destination economies of valuable tourist revenues. Time and again, we have seen that when countries remove visa requirements, economies prosper from rising visitor numbers. Beyond simplified visa procedures, travelers are prepared to share their immigration information if it results in faster and smoother airport processes. Taking advantage of traveler willingness to use online processes and share information in advance is always a win-win solution,” said Careen.

Airport Processes
At the airport, speed is of the essence. Passengers expect streamlined processes and minimal wait times. They’re keen on using biometrics to expedite procedures, prefer to complete more processes off-site, and arrive at the airport ready to fly.

“Passengers want to spend less time booking and move through the airport faster. And they are increasingly willing to use biometric data to complete more pre-departure tasks off airport to achieve this”
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Passengers expect to move through the airport faster than ever. For example, 74% stated that when traveling with only a carry-on bag, they anticipate going from the curb to the boarding gate in 30 minutes or less, an increase from 54% in 2022.

Passengers want to complete more processing elements off-airport. 45% of travelers identified immigration as their top pick for off-airport processing. This was up from 32% in 2022. Check-in was the second most popular (33%), followed by baggage check-in (19%). And 91% of passengers are interested in a special program for trusted travelers (background checks) to expedite security screening.

Passengers want more flexibility and more control in the baggage process; 67% would be interested in home pick-up and delivery, 77% said they would be likely to check in a bag if they could tag it and check it in before they get to the airport, and 87% would be willing to check in a bag if they could track it. Also, interest in self-tracking is growing: 57% of travelers have used or want to use electronic bag tags, up from 50% in 2022.

Confidence in biometric identification is on the rise. In the last 12 months, 46% of passengers used biometrics at the airport, up from 34% in 2022. Furthermore, 75% of passengers prefer using biometric data over traditional passports and boarding passes. Of those who’ve used biometric identification during their travels, 46% reported an 85% satisfaction rate. Although data protection remains a concern for half of the travelers, 40% would be more open to biometric solutions if they were confident that their personal information is secure – an increase from 33% in 2022.

“We passengers want technology to work harder, so they spend less time being processed, standing in queues. And they are willing to use biometric data if it delivers this result. But we need cooperation across the value chain and with governments to make it happen with secure technology that is available today,” explained Careen.

IATA’s One ID initiative is revolutionizing airport processes using biometrics, so passengers don’t need to stand in queues on departure or on arrival. IATA’s newly developed Digitalization of Admissibility standards are the latest advancement with a mechanism to enable passengers to digitally obtain all necessary pre-travel authorizations directly from governments before their trip. With their ‘OK to Fly’ status shared with the airline, travelers can bypass all on-airport document verifications and enjoy an expedited travel process.

“We have the standards and technology to radically improve the international travel experience. But we can only move at the pace that governments allow within their regulations. That’s why a top priority in realizing seamless One ID-enabled travel is working with governments to demonstrate that border control can be more secure even while making passenger travel more convenient,” said Careen.
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