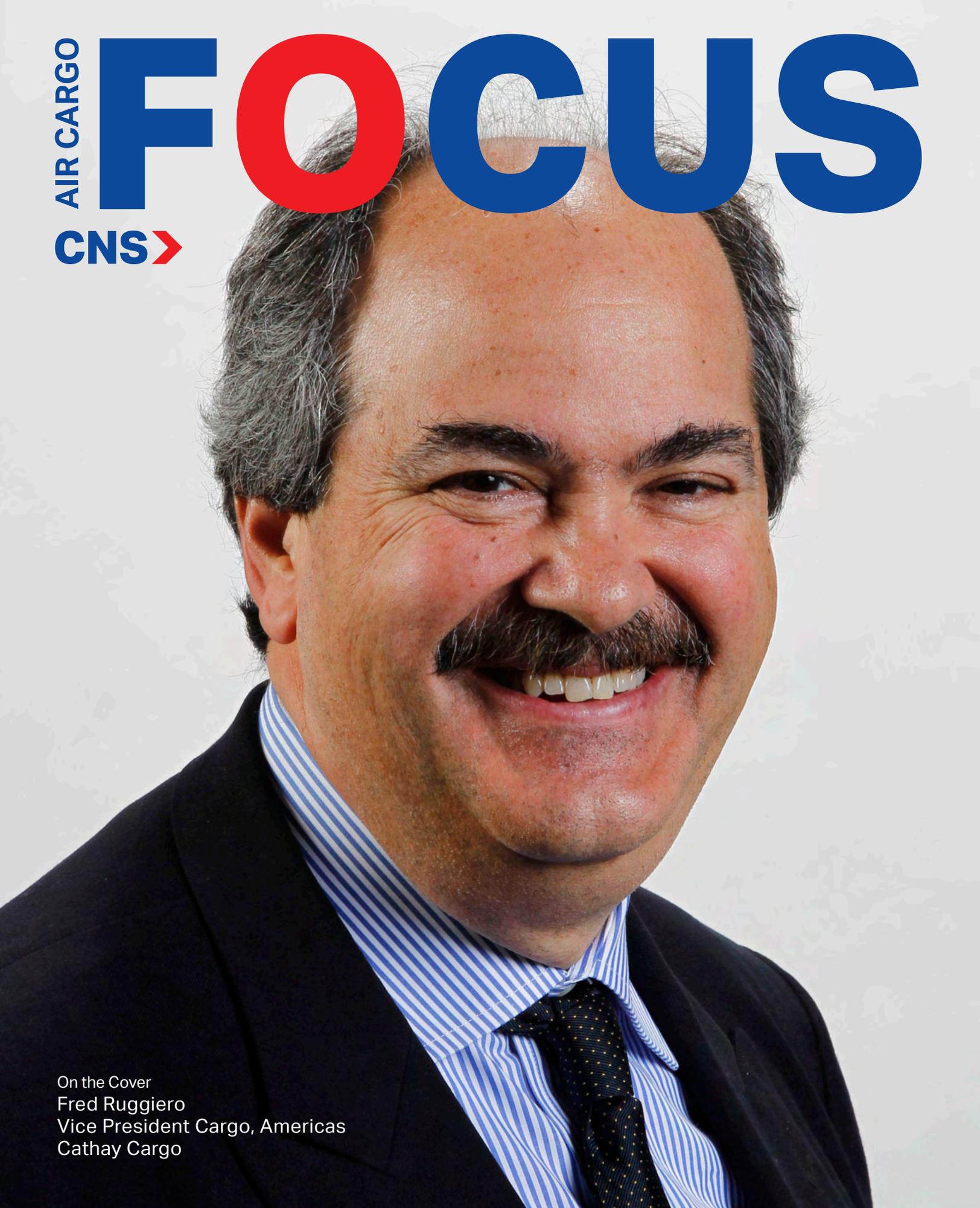


AIR CARGO

CNS >

# FOCUS



On the Cover  
Fred Ruggiero  
Vice President Cargo, Americas  
Cathay Cargo

**SPRING 2023**

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# The Long Road

## Notes from the Editor's desk



Alexis Dames

"Mr. Watson – Come here – I want to see you." These famous words uttered by Alexander Graham Bell on March 10th, 1876, not only astonished Watson -Bell's friend and assistant- but heralded a new age in communications that changed the course of history.

Although rudimentary, the potential for Bell's prototype was evident from the start for the inventor and some investors. However, it was

quickly discarded by many others. A renowned financial services company once famously passed on a \$100,000 early offer to purchase the patent, considering it a toy device. Two years later, once Bell had further developed the technology, they returned with a \$25M offer - which Bell downright refused.

We know how the story of the telephone ultimately played out. What is more important to consider, is the unwavering belief in growth and innovation that is required to launch any product. Ultimately, it comes down to the human element; the inventor who toils incessantly and whose unwavering beliefs persuade investors to introduce a product into the market.

In the modern workplace, we tend to learn rather quickly that "everyone is replaceable." A hubris-filled statement that weighs over every shoulder and seems to be incompatible with many roles, especially that of passionate innovators.

### Untimely Departure

Robert Christensen, the long-time editor for CNS Air Cargo FOCUS magazine is one of those people who I truly consider irreplaceable. From his keen eye for syntactical surgery, his ability to uncover real stories through meaningful conversations and a sense of humor that would make even the most querulous cigar-chomper belt out laughing; Robert embodied the role of Editor-in-Chief like no one else.

Sadly, Robert passed away recently. He is survived by his

wife of almost 30 years, Kathy, a skilled musician who formerly crisscrossed the skies as a flight attendant for Eastern Air lines. Robert's swift passing leaves a big void in the history of this industry. His knowledge of events and individuals that shaped our local industry, like his personal favorite, George Batchelor, was truly unsurpassed. I will work diligently to honor his legacy.

### State of the Industry

Our industry is facing many challenges, including but not limited to: congestion, capacity constraints, regulatory pressures, fuel price volatility and more. Along with these external forces, industry stakeholders, many still reeling from the impact of the global health crisis, have adopted a leading role in sustainable transport.

Ambitious goals have been set to achieve Net Zero Emissions by 2050, requiring new investments in groundbreaking technologies. These include sustainable aviation fuels, carbon offset programs and improving overall practices, a long road we must transit together.

At CNS, we know you have numerous options to receive industry information. We greatly appreciate your support throughout the years, especially at our annual partnership conference. This year, our conference in Miami promises to provide more valuable opportunities to exchange information, experience world-class golf and share unforgettable memories with industry peers. I look forward to seeing you there.

Until next time, I graciously exit with Edward R. Murrow's famous sign-off, "**Good night, and good luck.**"

Alexis Dames Vandenbrande  
Editor



NOTE: To contact the author, please email [alex@avtimespg.com](mailto:alex@avtimespg.com)

We welcome your comments, opinions and suggestions regarding the present and future issues of CNS Air Cargo Focus Magazine. The Spring 2023 edition of this publication is available online at [www.cnsc.net](http://www.cnsc.net)

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too much time on  
dangerous goods  
acceptance checks?

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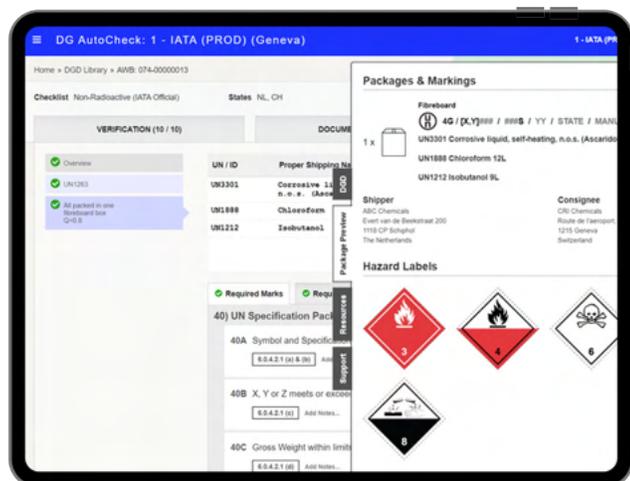
visibility of  
dangerous goods  
operations

95%

elimination of dangerous  
goods acceptance  
checks errors

50%

reduction in processing  
time of dangerous goods  
acceptance checks



### What is DG AutoCheck?

DG AutoCheck is IATA's dangerous goods acceptance check validation tool that takes all the regulations, rules, best practices and guidance contained in the IATA Dangerous Goods Regulations (DGR), and converts them into an automated compliance solution.

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DG AutoCheck

# From the Top: Fred Ruggiero

## Vice President Cargo, Americas Cathay Cargo

by Alexis Dames



Fred Ruggiero

### About Fred Ruggiero

Fred Ruggiero is Vice President Cargo, Americas at Cathay Cargo, based in Los Angeles, CA. Ruggiero oversees all cargo sales, marketing and operations for Cathay Pacific in the Americas, that encompasses 18 ports. Since his 2012 appointment, seven new ports have been added to the Cathay Pacific Americas network. These include Boston, Newark, Calgary, Columbus, Guadalajara, Mexico City and Portland, the last five being Freighter ports.

Prior to his role as Vice President Cargo, Fred Ruggiero was Director of Sales Eastern USA & Latin America for Cathay Pacific Airways for 16 years, where he oversaw the passenger

sales efforts for the Eastern USA and Latin America region.

Fred Ruggiero started with Cathay Pacific Airways in 1984 as an Account Manager in Northeastern USA and has seen the airline grow from simple beginnings to become one of the most admired international carriers.

Fred Ruggiero is currently an advisory board member of CNS (Cargo Network Services) and has served as the Chairman of the Airlines Sales Managers Association of New York. Fred was a board member of the Hong Kong Association of New York and also served as President of the Hong Kong Association of Southern California.

**Focus:** Sustainability is listed as one of your company's focus areas. How did Cathay Pacific develop its sustainability policies to scale towards achieving net-zero and beyond?

**Ruggiero:** Cathay Pacific has a five-pronged approach to achieve net-zero carbon emissions.

We operate one of the youngest fleets in the industry, with a robust aircraft replacement plan. We have an ongoing effort which has already achieved over 20% fuel improvements through operational efficiency since 1998. In 2014, we were the first airline investor in Fulcrum Bioenergy, using household waste to manufacture and refine sustainable aviation fuel (SAF). Cathay Pacific launched Asia's first Corporate SAF Program in 2022, and we are committed to using SAF for 10% of our total fuel consumption by 2030. We established "Fly Greener", our 2007 carbon offset program. We were the first Asian airline to launch a carbon-offset program. This program has already offset over 300,000 tonnes of carbon emissions. In 2022, we further extended this program to our customers. Cathay Pacific is the founding aviation member of ACT Aviation Climate Taskforce, a non-profit organization founded to tackle the challenge of helping the aviation industry achieve net-zero emissions.

**Focus:** What suppliers has Cathay Pacific partnered with to help reduce the carrier's environmental impact?

**Ruggiero:** In addition to Fulcrum, we also collaborated with Shell, PetroChina and Aemetis. In August of 2022, we launched



A Cathay Cargo 747-8F being loaded. Photo courtesy Cathay Pacific.

our Sustainable Aviation Fuel initiative, the first major program of its type in Asia. We kick-started the program with eight corporate launch customers including AIA, Airport Authority Hong Kong, DHL Global Forwarding, HSBC, KWE, PwC China, Standard Chartered, and Swire Pacific. The program provides these corporate customers with the opportunity to reduce their carbon footprint from business travel to airfreight shipments.

**Focus:** Does Cathay Pacific integrate Sustainable Aviation Fuel into its current operations?

**Ruggiero:** Cathay Pacific has committed to using SAF for 10% of its total fuel consumption by 2030. The first phase of SAF purchasing involved the injection of SAF into the bunkers at HKIA, ensuring that it is used on a wide range of flights. The ownership of the SAF remains with Cathay Pacific and our corporate partners. This is the future of SAF, blending into standard bunkers and eventually becoming the dominant portion.

**Focus:** What role does SAF play in Cathay Pacific’s future sustainability plans?

**Ruggiero:** Cathay Pacific commits to using SAF for 10% of its total fuel consumption by 2030, and reaching net zero carbon emissions by 2050. This is in addition to our fleet modernization plan, operational efficiency improvements, aviation and carbon capture technology innovations, and carbon offsets. Additionally, Cathay Pacific has already pledged to cut

Opposite page: Cargo Loading Operations. Photo: Cathay Pacific.

its absolute ground emissions by 32% from the 2018 baseline by 2030, through enhancing energy saving measures and exploring renewable energy options in its premises and ground operations.

**Focus:** How will Cathay Pacific ensure a steady supply of SAF as demand grows?

**Ruggiero:** We have agreements in place with SAF producers and continue to make purchases and investments that will secure our future supply. In addition to Fulcrum, which has committed to sourcing over a million tonnes of biofuel, we have also signed an agreement with US renewable fuels company Aemetis for the supply of 38 million US gallons of blended SAF to be delivered over seven years beginning in 2025 from San Francisco International Airport. We are lucky to operate in jurisdictions where governments see sustainability as a priority and support the production of SAF, making it easier for us to secure reserves.

**Focus:** Has Cathay Pacific allocated investments to refurbish Unit Loading Devices?

**Ruggiero:** We recently renewed our full-service ULD management agreement until 2027. The refreshed partnership goes beyond traditional ULD leasing and management, with increased commitment from Unilode of digital resources to facilitate Cathay Cargo’s agenda to further drive



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productivity, efficiency, and safe operations and initiatives.

**Focus:** How does Cathay Pacific address the issue of single use plastics throughout its global operations?

**Ruggiero:** Cathay Pacific's sustainable journey with single-use plastics (SUP) began 20 years ago when we started using rotatable plastic cutlery that was washed, sterilized, and reused many times.

Our First and Business class pillowcases and duvet covers are delivered in reusable bags. We have removed 32 million plastic straws, stirrers, and other plastic products since 2019. Aside from plastics, we transitioned to paperless flight operations to reduce paper waste. Everything is now done on a tablet.

We have successfully achieved our first SUP reduction target by eliminating 56% of SUP from our 2018 baseline by the end of 2022. We are now in the process of developing a new reduction target for the next phase.

**Focus:** Please discuss Cathay Pacific's carbon offset program and how it specifically applies to passenger and cargo operations.

**Ruggiero:** Fly Greener is our carbon offset program. This program allows customers to purchase offsetting, carbon emissions from their flights with funds raised going directly to third-party-validated projects that help to reduce or prevent CO2 emissions. Over 300,000 tCO2 offset, purchased since 2007, supports high quality carbon projects with community focus.

On the passenger side, customers can elect to purchase offsets when purchasing a ticket. On the cargo side, we have a bespoke carbon calculator embedded on our website. This allows customers to purchase the relevant offsets for their emissions.

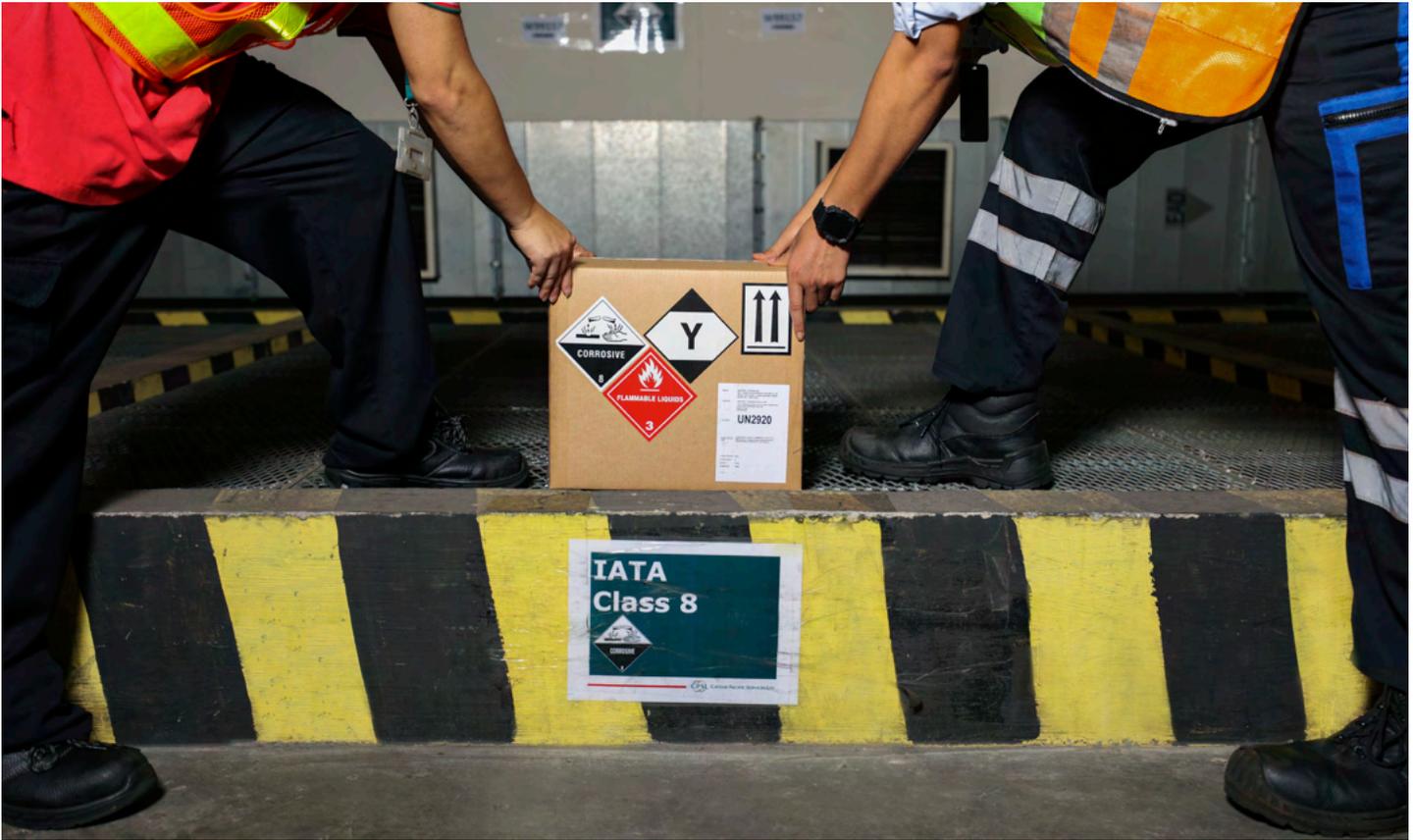
**Focus:** What IATA CEIV certifications has Cathay Pacific received?

**Ruggiero:** We have FRESH, LIVE ANIMAL and PHARMA IATA CEIV certifications and are currently applying for IATA's CEIV Lithium Battery accreditation.

**Focus:** How do Cathay Pacific's customers benefit from lessons learned during each of these certifications?



The Queen of the Skies. Boeing 747. Photo: Cathay Pacific.



Dangerous Goods package with labels. The airline is currently applying for CEIV Lithium Battery Certification. Photo: Cathay Pacific.

**Ruggiero:** The acquisition of each of the IATA CEIV certifications shows our commitment to continuous improvement in service quality and gives our customers peace of mind in our handling of these products throughout the shipment's journey.

**Focus:** Did the transport of critical Pharmaceuticals during the recent health crisis prompt an update of Cathay Cargo's cold chain operations?

**Ruggiero:** Yes. In May 2021, Cathay Cargo rolled out Ultra Track to 25 ports worldwide. Ultra Track provides real-time multi-dimensional tracking, such as temperature and location, and we are able to provide other data to customers on request. It works in conjunction with the Operations Control Centre (OCC), staffed with a dedicated 24/7 team, which constantly monitors shipments. They will take proactive steps to intervene and rectify the situation of shipments starting to experience temperature excursions, delays, equipment malfunction, or damage.

**Focus:** Could you please provide a quick overview of current cargo operations? What does the transport of eCommerce, perishables, PHARMA and other categories represent for the carrier post pandemic?

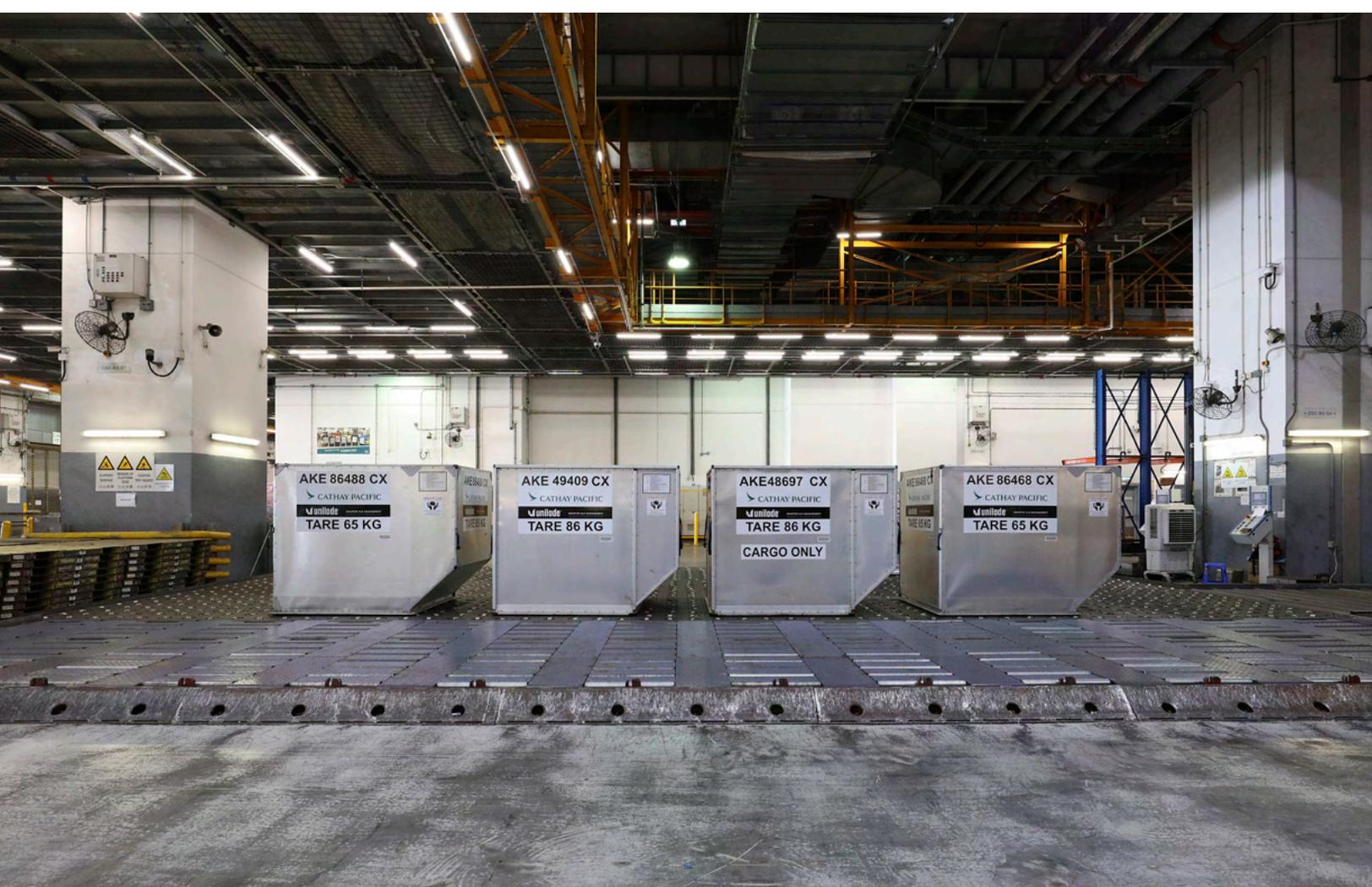
**Ruggiero:** Cathay Pacific recently announced the launch of

Cathay Cargo, a rebrand of its cargo business, and a name change from Cathay Pacific Cargo. The change aligns with the airline's overarching brand redesign, and reinforces the existing strong brand association and perceptions held by its customers. Cathay Cargo aligns with the same purpose, vision and values of our master brand Cathay and all of its subsidiary brands, including Cathay Pacific, the passenger airline, and Cathay, the everyday lifestyle offering.

Cathay Cargo is united behind Cathay's vision to become one of the world's greatest service brands, and plays an integral role in helping to fulfill that aspiration through its world-class air cargo network. It transports products that facilitate trade across the entire Cathay network and beyond. With direct Shipping to more than 70 destinations worldwide, Cathay Cargo is committed to advancing the development of all destination countries served by Cathay's more than 200 aircraft.

Cathay Cargo has invested in technology in recent years. This includes Ultra Track, a multi-dimensional track-and-trace service, giving customers near-real-time information on the airport-to-airport leg of the shipment journey using low-energy Bluetooth data-loggers and Click & Ship, an intuitive online booking service available 24/7 with instant processing and confirmation.

As part of its rebranding campaign, Cathay Cargo's website has been revamped to reflect the brand ethos and enable



users to easily access popular features such as booking, track and trace, and flight availability, while also providing a clear showcase of recent campaign offers and featured solutions. The rebrand will connect Cathay Cargo to the master Cathay brand, a premium travel lifestyle brand offering a range of products and services that create more value for customers and partners. Cathay Cargo will have more exciting initiatives in the coming months as the company works toward a complete rebrand.

**Focus:** Sustainability strategies often include people as an essential component. How does Cathay Pacific factor equality and diversity into its sustainability plan?

**Ruggiero:** As a global business, we value the diversity of our people. We know the importance of a diverse workforce in helping to create great experiences for our customer base. However, diversity without inclusion is not enough. We know that our people and our customers choose us, not because of our products and offerings alone, but because of our contribution to society and treatment of people. Our Diversity and Inclusion strategy was developed in line with the Swire Diversity and Inclusion Strategic Framework and guides our vision to be one of the world's greatest service brands. Its implementation is driven by the Diversity and Inclusion Office together with the Employee Resource Groups, where dedicated individuals

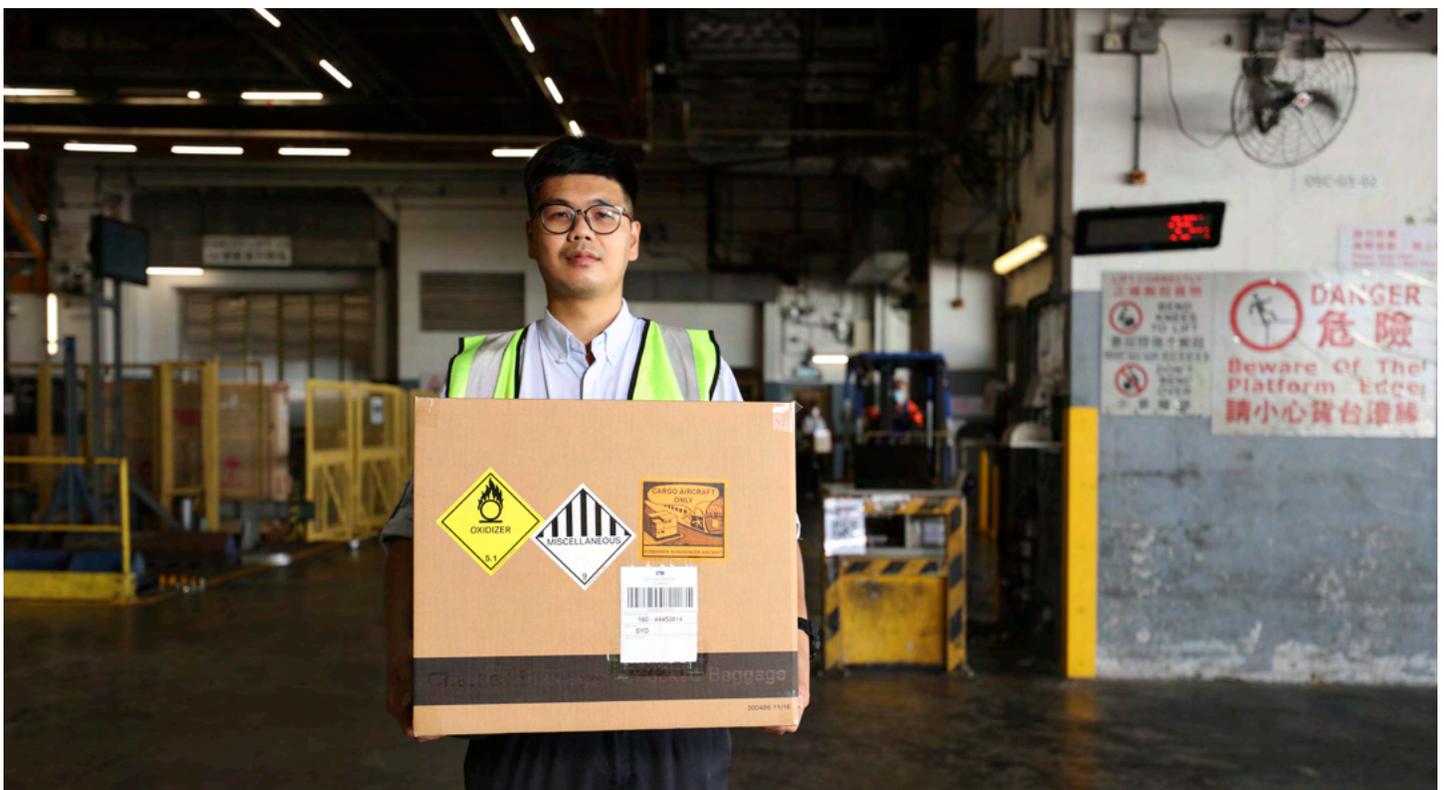
are responsible for strengthening inclusivity as a characteristic of the Cathay Pacific culture.

**Focus:** Lithium batteries have been at the forefront of the dangerous goods conversation for some time. How has Cathay Pacific worked to ensure the safety of its crews and aircraft in the event of a thermal runaway reaction by one of these batteries?

**Ruggiero:** In 2019, we launched fire containment bags for lithium-ion batteries enabling the carriage of shipments UN3480 PI965 Section 1A and 1B on freighter aircraft. These bags have also been approved by the US's FAA. In the event of a battery combusting, these bags limit the fire's supply of oxygen, letting smoke escape to trigger the aircraft's smoke detectors. Currently, we have four different fire containment equipment available for lithium battery shipments – two sizes of Fire Containment Bags (FCB), a much larger Skid-size Fire Containment Bag (SFCB), and most recently, the Fire Resistant Container (FRC).

**Focus:** What sets Cathay Pacific apart from its competitors? What activity does the carrier do exceptionally well?

**Ruggiero:** There are many things that set us apart. We are part of a business with more than 250 years of history, and pride



Dangerous Goods handling and labeling. Photo: Cathay Pacific.



Nose loading, a benefit of the 747-8F. Photo courtesy Cathay Pacific.

ourselves on our humility and our integrity, seeking to drive positive change in the geographies in which we operate.

**Our vision** is to move people beyond in life. A flight is not just a flight; it's a connection between families, couples and friends. It's a connection between phases of life, and our drive is to facilitate that connection, not simply the flight in the air.

On the cargo side, we take immense pride in the work we do, connecting cargoes to economies worldwide, helping to facilitate economic growth, development, and the improvement of living standards, connecting political entities in economic ways. We believe this vision, along with our purpose "To deliver cargo that matters to the world" lets us stand distinctly from our competition.

"In more tangible terms, we offer an extensive network, with the ability in the cargo space, to reach every continent in the world (except Antarctica). Through our exceptional assets, fleets of freighters and passenger aircraft to our experienced

and skilled people, in the air and on the ground, we can ensure cargo is moved efficiently, safely, and reliably.

Our home in Hong Kong remains the greatest cargo terminal airport in the world. Our strong presence there, with our own dedicated cargo terminal, ensures that we process cargo more efficiently, with more certainty and with greater visibility than anyone else in the world."

**Focus:** If you could address the upcoming generation of air cargo professionals, what advice would you give them?

**Ruggiero:** If there's another pandemic, work in the cargo and logistics industry! On a serious note, I would suggest that they push the envelope when it comes to innovation and change in every phase of this industry... sustainability, digitization, equality & diversity. The work that Cathay Cargo and other leaders in this industry have completed, is only scratching the surface. If this industry continues to thrive and grow, everyone must constantly question the status quo, and keep asking why.

*“To the next generation  
...push the envelope when  
it comes to innovation and  
change in every phase of  
this industry... sustainability,  
digitization, equality &  
diversity.”*

Fred Ruggiero

#### About Cathay Pacific

Cathay Pacific is the home airline of Hong Kong, offering scheduled passenger and cargo services to destinations throughout Asia, North America, Australia, Europe and Africa.

The company is a member of the Swire group and is a public company listed on the Hong Kong Stock Exchange. Cathay Pacific has made substantial investments to develop Hong Kong as one of the world's leading global transportation hubs.

Cathay Pacific is a founding member of the oneworld global alliance and earned a coveted spot in both the Condé Nast Traveler 2022 Reader's Choice Awards and Travel+Leisure 2022 "World's Best Awards" for best international airlines.



Note: For information please visit: <https://www.cathaycargo.com/>

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# Sustainability Focus - Neste

## Sustainable Aviation Fuel Facts

by Alexis Dames



Neste HQ. Photo courtesy Neste.

In the world of Sustainable Aviation Fuels (SAF), few companies have reached SAF production milestones like **Neste**. A Finnish company initially founded as an oil and gas producer more than 70 years ago, that is now America's leading supplier of renewable diesel and SAF.

Remarkably, the visionary leadership of the company embarked on a journey towards sustainability in the 1990s, at a time when few businesses had established any form of sustainability policies or frameworks.

Today, Neste in North America alone claims to have reduced 3 million tons of GHG emissions through the use of its Diesel and SAF products. The company offers a viable alternative for customers looking to reduce their carbon footprint and mitigate climate change. Notably, Neste was selected by the award-winning British rock band Coldplay, as the official SAF and Diesel provider for their latest world tour. With this sustainability partnership, the band hopes to cut GHG emissions by 50% compared with previous tours. Certainly, something to sing about.

Recently, the staff at FOCUS had the opportunity to exchange with Neste to broaden perspectives on SAF manufacturing and the company's outlook on the biofuel's future role.

**Focus:** What is Neste's approach to producing sustainable aviation fuel and how does it differ from traditional fuels?

**Neste:** Neste is the world's leading producer of sustainable aviation fuel (SAF), a next generation aviation fuel providing a more sustainable alternative to conventional, fossil-based jet fuel. Neste MY Sustainable Aviation Fuel™ is produced from

sustainably sourced, 100% renewable waste and residue raw materials, such as used cooking oil and animal fat waste. Using Neste MY Sustainable Aviation Fuel reduces greenhouse gas emissions by up to 80%\* over the fuel's life cycle compared to using fossil jet fuel.

**Focus:** Please discuss technical specifications and benefits of sustainable aviation fuel products compared to traditional fossil fuels.

**Neste:** SAF is chemically similar to traditional fossil jet fuel and is ASTM D7566 approved. It is a drop-in fuel and works seamlessly with existing fueling infrastructure and aircraft engines. It delivers at least the same performance as conventional jet fuel. SAF can currently be used blended up to 50% with conventional jet fuel and after blending is ASTM D1655 approved.

**Focus:** What steps does Neste take to ensure sustainability and environmentally responsible sourcing of raw materials used in production?

**Neste:** Sustainability is deeply embedded in Neste's everyday business. Neste only accepts sustainably-produced renewable raw materials from carefully selected partners. Sustainability of the raw materials used in the production of renewable fuels is a minimum requirement for us.

We expect all of our business partners and suppliers to uphold Neste's policies and principles, including our Supplier Code of Conduct, a key element in Neste's supplier management system. Additionally, our renewable raw material suppliers are expected to meet the requirements of our Responsible Sourcing Principle, as well as industry and market-specific legal requirements.

**Focus:** Please explain the different types of raw materials that may be used in the production of sustainable aviation fuels and their relative benefits and challenges.

**Neste:** Neste produces SAF using proprietary NEXBTL technology which is based on HEFA technology. This technology converts waste oils and fats into a renewable fuel. Neste produces its SAF from 100% renewable raw materials such as used cooking oil and animal fat waste.



Sustainable Aviation Fuel. Photo courtesy Neste.

**Focus:** What partnerships or collaborations has Neste established with airlines, airports, and other industry stakeholders?

**Neste:** Neste is already supplying SAF to more than 50 airlines and logistics companies across the globe. Examples include Lufthansa, Air France-KLM, American Airlines, United Airlines, Singapore Airlines, Malaysia Airlines and Air New Zealand.

Neste SAF is available at an increasing number of international airports including San Francisco and Los Angeles in the US, Amsterdam (NL), Frankfurt (DE), Narita and Haneda in Japan. In the US, it is also available at a growing number of business aviation airports through partners like Signature Aviation and Avfuel. We are also selling SAF to businesses looking to reduce the emissions of their aviation activities, such as business travel or goods shipments.

**Focus:** Please address Neste's approach to the scalability of sustainable aviation fuel production and plans for expanding its capacity in the future.

**Neste:** Neste has a current annual SAF production capacity of 100,000 tons. With the expansion of our Singapore refinery and modification of our Rotterdam (NL) refinery, our production

capacity will increase 15-fold to 1.5 million tons (515 million gallons) of SAF per annum. Last year Neste also announced the expansion of our Rotterdam refinery which will increase our annual SAF production capacity to 2.2 million tons by 2026.

**Focus:** What are the financial and economic benefits of using sustainable aviation fuels and the cost-competitiveness of your products?

**Neste:** In general, SAF is 3 – 5 times more expensive than conventional jet fuel but the cost of carbon and climate impact is not included in the fossil fuel price. So the question should not be "How much does SAF cost?" but rather "What will the cost be if we don't use SAF?" However, it is expected to remain more expensive than conventional fossil jet fuel, creating the need for long-term policy frameworks to establish a growing market for SAF.

**Focus:** What investments is Neste making in research and development to advance its sustainable aviation fuel production?

**Neste:** Around 25% of Neste employees are involved in innovation, R&D and engineering. Neste is innovating to bring new



SAF production pathways to life and are currently focusing on the following promising new feedstocks: lignocellulosic raw materials, MSW (Municipal Solid Waste), algae, and PTL (power to liquid fuels).

**Focus:** Neste must stay current with industry regulations and sustainability standards. How does Neste ensure its compliance in meeting these standards?

**Neste:** Neste's renewable fuels, including SAF, always meet the applicable regulations. The sustainability of the entire renewable fuel production chain is ensured via certifications including the EU-compliant ISCC EU and in the United States, the sustainability of Neste's renewable fuels is monitored through the Environmental Protection Agency's (EPA) sustainability requirements.

**Focus:** Can an airline integrate (drop-in) sustainable aviation fuels with its existing infrastructure and aircraft fueling systems?

**Neste:** One of SAF's biggest advantages from an operational point of view is that it's a drop-in fuel that can be used in existing fueling infrastructure and aircraft engines. Also, since SAF is ASTM and DEF STAN approved, it can be used.

**Focus:** To ensure a lower carbon footprint than traditional fossil fuels, how is Neste measuring and reporting the life cycle emissions of its sustainable aviation fuels?

**Neste:** Neste calculates the greenhouse gas emission reduction using established life cycle assessment (LCA) methodologies, such as CORSIA methodology. This includes the emissions over the complete life cycle of the fuel including emissions generated during logistics and production. The end result is a GHG emission reduction of up to 80% over the fuel's life cycle compared to using fossil jet fuel.

**Focus:** Please address the challenges of scaling sustainable aviation fuel production in a manner that is economically sustainable in the long term.

**Neste:** SAF is widely acknowledged as a key element to helping aviation achieve its emissions reduction targets. IATA estimates that SAF needs to deliver around 65% of the necessary emissions reductions to achieve net zero aviation by 2050.

But SAF currently represents only around 0.1% of total global jet fuel consumption. This means we have a long way to go and need to ramp-up SAF production capacity.

Governmental supporting policies, like incentives or mandates, are crucial to create the demand certainty to attract investments into new production capacity, as this is highly capital intensive. They will also help airlines to mitigate the extra cost of using SAF.

Also businesses and individual travelers can help scale SAF production by voluntarily purchasing SAF to reduce the emissions of their air travel, above and beyond any mandates or incentives.

**Focus:** What is the potential for incorporating advanced catalytic and thermal conversion technologies into the production of sustainable aviation fuels? Ex. From waste derived volatile fatty acids (VFAs)

**Neste:** Currently there are seven approved pathways to produce SAF. Neste uses the HEFA-SPK pathway which is currently the only commercially viable technology.

But while leveraging the HEFA pathway we should work on other production technologies to ensure we increase the availability of SAF.

Neste is also innovating new SAF production pathways to life and are currently focusing on the following promising new feedstocks: lignocellulosic raw materials, MSW (Municipal Solid Waste), algae, and PTL (power to liquid fuels).

*\* Calculated with established life cycle assessment (LCA) methodologies, such as CORSIA methodology.*

## About Neste

Neste creates solutions for combating climate change and accelerating a shift to a circular economy. We are the world's leading producer of sustainable aviation fuel and renewable diesel, and renewable feedstock solutions for various polymers and chemicals industry uses. Neste aims to help customers reduce their greenhouse gas emissions with our renewable and circular solutions by at least 20 million tons annually by 2030. We have consistently been included in the Dow Jones Sustainability Indices and the Global 100 list of the world's most sustainable companies. In 2022, Neste's revenue stood at EUR 25.7 billion. Read more: [neste.com](https://neste.com)



NOTE: For additional information, please visit: [www.neste.com](https://www.neste.com)

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# Industry Snapshot - Avianca Cargo Marks 50 Years of Flower Transports

Industry Partners Gather to Celebrate Half a Century of Operational Excellence by the Airline

by Alexis Dames



Avianca Cargo CEO, Gabriel Oliva (Orange Vest) pauses for pictures with federal agents, airport liaisons & industry partners. Photo: Alexis Dames.

At the Miami International Airport (MIA) Cargo Hub, Avianca Cargo convened industry partners and members of the press to showcase the impressive logistics required to transport flowers from South America to Miami -the nation's main flower import hub.

This busy flower season also marked a significant milestone in the airline's history, which reached 50 years of operations, expertly transporting flowers and other types of cargo.

## On the Flight Line

The highly synchronized operation that placed an Airbus A330-200F on the apron at KMIA began several hours earlier. In the middle of the night in fact, when Avianca Cargo's staff at El Dorado International Airport (BOG) in Bogota, Colombia, expertly loaded the A330 freighter with pallets of fresh roses and other flowers bound for our morning ramp encounter. Along with that flight, several other A330's of Avianca Cargo's freighter fleet crisscrossed the Caribbean with much of the USA's supply of *belles fleurs*.

Avianca Cargo's CEO, Gabriel Oliva, expanded on the challenging nature of transporting time and temperature-sensitive cargo. "The nature of the flower industry is seasonal. To meet

demand for Valentine's Day and Mother's Day, the two largest events of the year for flower transport, we must plan carefully. During peak seasons, the industry multiplies itself by two or three fold and we must be prepared."

Oliva continued, "We are very happy to surpass our own records. We have geared our brains toward high utilization of our aircraft. On occasion, we utilized third party capacity to increase operations. This year was no different. We prepared our modern aircraft fleet and added third party capacity to provide the best possible service to the industry. Capacity continues to increase in other areas such as warehousing and ramp capabilities to ensure end-to-end process visibility."

## Making History

In 1973, under the name Transportes Aéreos Mercantiles Pan-americanos – Tampa Cargo S.A. the airline began transporting flowers to the United States with a Douglas DC-6. The propellers quickly gave way to jet engines as the airline adopted the Boeing 707 in the late '70s and the Douglas DC-8 in the late '80s. Later, the airline relied on the B767 until they integrated A330 freighters and continued expansion plans based on this model.



Unloading the A330 Freighter. Photo: Alexis Dames.



Gabriel Oliva, CEO Avianca Cargo

### Modernization and Sustainability

Along with the growth of fleet and capacity, Avianca Cargo evolved several facets of its business operation. Under the leadership of Gabriel Oliva, the airline has made significant commitments to improve sustainability and reduce waste. Avianca Cargo recently became the first carrier in the region to receive IATA CEIV certification.

Oliva commented on the airline's sustainability efforts. "We are always striving to achieve the highest industry standards. Sustainability plays a big role in our current strategy and receiving the first CEIV certification in the America's allowed us to align our efforts with these very high quality standards. These standards tie into our sustainability practices. We constantly evaluate how we transport perishables and flowers to ensure that we employ efficient and reusable materials whenever possible to reduce waste. There are additional areas that are being explored to improve sustainability."

As the flowers that arrived from Bogota on the Airbus freighter entered Avianca Cargo's massive cold storage warehouse, the grand scale of the operation became evident by the hive-like activity. With skill and precision, forklifts organized heavy loads and delivered them gracefully into security areas (CBP) and into awaiting containers.

For Avianca Cargo, it's business as usual, considering the flower

business represents 40% of the total volume transported by the airline every year. From Colombia and Ecuador, approximately 18,000 tons of flowers were transported by Avianca Cargo this season, requiring approximately 300 flights, Oliva concluded.

### The Blooming Partnership Between Cargo Carriers and MIA

As the facility tour progressed, it reached a large CBP screening room, where United States Customs and Border Protection agents regularly inspect thousands of boxes of flower bouquets looking for agricultural threats and banned substances. In this setting, Aviation Marketing Section Chief at MIA, Dimitrios "Jimmy" Nares, provided valuable insights about the airport's plans to increase cargo handling capacity.

Nares pointed out that MIA had a record year for cargo in 2020, surpassed that record by 18% in 2021, reaching its all-time high of 2.75 million US tons, and ended 2022 with 2.73 million tons, just a fraction of 1% below 2021 figures. Collectively, these three years have been the strongest in the airport's history. He added, "our current capacity is about 3 million tons of cargo and in recent years we've reached 2.75 to 2.8 million tons. The challenge we face is keeping pace with the forecasted growth of air cargo. To accomplish this, we must build more facilities."

"Because of the way our airport is positioned with regard to the city and the highways, we are basically surrounded and don't have exceeding amounts of extra land where we can easily expand. An innovative solution was proposed for a public / private partnership to fund and construct what we now call



At MIA, a CBP officer inspects flowers that have arrived at the Avianca Cargo warehouse. Photo: Alexis Dames.

the Vertical Integrated Cargo Community (VICC). The VICC project seeks to develop an on-airport, five-story state-of-the-art building that is fully integrated and features the latest technology. When the facility is completed, we could more than double our current cargo capacity and help the airport meet demand for ten to fifteen years to come. It's also important to note that the VICC will not only be for perishables but for dry cargo as well. With the rise of eCommerce, the fully integrated and automated facility will provide a big advantage over other facilities. We expect construction to begin by the end of this year or the beginning of 2024."



Dimitrios "Jimmy" Nares  
Miami International Airport

According to recent statistics released by MIA, every Valentine's Day season from January 1 to February 15, an astonishing 89% of flowers imported into the USA come through MIA, making it the nation's gateway for flower imports. Nares commented, "MIA has close to 100 airline carriers. 58 are passenger airlines that also carry belly cargo and 42 carry cargo only."

Nares continued, "our geographic position has helped us become a gateway for exports, mainly perishables, to and from Latin America and the Caribbean. We have established a very strong network for flowers with 13 freight airlines servicing Colombia and Ecuador, the region's main producers. Our airport has federal agencies inspecting on site, to expedite throughput and processing of flowers. Last but not least, our large temperature-controlled facilities have become a critical

ingredient in our success with flower transport."

Asocolflores, Colombia's largest association of flower exporters attended the event. The association has worked closely with Avianca Cargo since its creation and serendipitously celebrates 50 years of operations this year. The organization is responsible for more than 80% of the flower exports from Colombia. The association's representative, Javier Mesa, noted that "Asocolflores helps the industry to develop markets. We have around 40,000 workers affiliated with Sello Verde seal, developed in Colombia and Ecuador. This ensures ongoing sustainability in the business.

Colombia has 9000 hectares of flowers and 4,200 are under sustainability seals. Additionally, we employ more than 200,000 workers, 110,00 directly and 90,000 indirectly. All workers receive benefits required by the Colombian government." Mesa added, "80% of flowers grown in Colombia are flown to the USA with 20% going to different countries. Asocolflores is a main player in the agricultural sector in Colombia, representing almost 11% of the GDP in the agricultural sector, and 0.7% of the country's total GDP."

As Avianca Cargo gears up for Mother's Day, its next operational peak, we are certain that the airline is well positioned to become the leading player in the segment. With capable leadership, a growing fleet and strong relationships with its industry partners and stakeholders, Avianca Cargo is poised to soar even higher in the next 50 years.



NOTE: For additional information, please visit: [www.aviancacargo.com](http://www.aviancacargo.com)  
[www.miami-airport.com](http://www.miami-airport.com)



# From the Top: Myron Keehn

## President and CEO Edmonton Airports

by Alexis Dames



Myron Keehn

### About Myron Keehn

Myron Keehn is President and CEO of Edmonton Airports, including Edmonton International Airport (YEG) and Villeneuve Airport (ZVL). Myron's 30 years of experience working in the private and public sectors in North and South America, Asia, and Europe helped him to see and implement new and effective approaches to airport business development.

Myron has spent 15 years working for Edmonton Airports. In his previous role as Vice President, Air Service & Business Development, he led many innovative developments, including creating the Airport City Sustainability Campus vision. YEG's Airport City is an integrated ecosystem of companies driving innovation in e-commerce, cargo/logistics, advanced manufacturing and pharma. The campus is designed to foster innovation, attract investments and create jobs. Myron's vision and tenacity have helped attract over \$1.5 billion of private investment to YEG. Myron's mission as CEO is to recast the role of airports, evolving beyond utilities into economic engines for

cities, regions and countries.

Prior to joining Edmonton Airports, Myron built a career focusing on driving the economic potential of private and government-owned assets to maximize returns for countries by driving national investment and commercial plans.

Myron is an active Director on governing boards across various sectors, including aviation, real estate, healthcare, private industry, and philanthropy.

**Focus:** Last November, Edmonton International Airport (YEG) received the 2022 Corporate Sustainability Award from The International Air Cargo Association (TIACA). What does this award represent for the airport?

**Keehn:** We are honored to receive recognition of our inspirational leadership in environmental initiatives at YEG's Airport City Sustainability Campus and our impacts in transforming air cargo and ground handling operations. Receiving this highly esteemed award recognizes the bold risks we are taking in YEG's Airport City Sustainability Campus and it is an honor to be recognized for our work by the judging panel of highly respected peers in our industry.

We are using our space to create a living lab for accelerating the development, testing, implementation and commercialization of clean technologies. Receiving this award shows our tremendous efforts being recognized internationally for dreaming big and taking risks to support innovation for a greener future. It showcases our leadership in creating a pathway for the cargo industry to follow.

Our Sustainability Campus is truly a leader in transforming the perception of air freight and ground handling operations as we move into the future of reducing our industry's carbon footprint collaboratively.

**Focus:** When did the push for sustainability start at YEG and what does your sustainability roadmap look like?

**Keehn:** YEG's sustainability journey began in the early 2000s, marked by initial efforts to establish an internal understanding of sustainability. We learned about the value of sustainability and what it could mean to the future of airport development and operations.

In this process, YEG reviewed what worked, matching environmental and social commitments and actions against those who look to the organization to provide value. It became clear that we needed to establish an initial set of priorities across the business to see how best to drive value through the triple-bottom-line (financial, environmental and social aspects) of sustainability thinking.

Since then, our sustainability roadmap has led us on a journey of tremendous accomplishments. Sustainable thinking is an important component of everything we do. We make decisions that are conscious of our community's interests, respond to airline priorities and consider our employees' and passengers' needs.

Our progress can be divided into five phases.

**Phase One (2007-2008) – Initiation:** Initial efforts to understand the value of sustainability and the benefit to the business.

**Phase Two (2009-2010) – Establishment:** Here we increased our efforts on the social aspects of sustainability where we improved our efforts for the passengers, and increased employee support, and transparency on sustainability in our Annual Report.

**Phase Three (2010-2013) – Development:** We expanded our commitment by building our new tower and terminal to LEED Gold standards (the first airport in Canada).

**Phase Four (2014-2017) – Integration:** With the groundwork in place, we took a significant step forward to integrate sustainability into everything we do.

**Phase Five (2018-2023) – Expansion:** In this phase, we progressively include sustainability principles, such as stakeholder integration and waste reduction, into our corporate policies and our 2048 Master Plan.

Three of the main ways we integrate sustainability in our 25-year planning are:

- Considering the impact of forecast climate change on our assets
- Including different energy sources in our long-term planning
- Stakeholder collaboration for aligned plans

#### **Focus: What is the YEG Airport City Sustainability Campus?**

**Keehn:** YEG's Airport City Sustainability Campus is a living lab for accelerating the development, testing, implementation, and commercialization of technology. It propels new jobs, tourism,

and economic diversification – and is a destination around the airport featuring entertainment, e-commerce, retail, hospitality, cargo/logistics, biopharma, light manufacturing and many other industries.

The campus is an integrated ecosystem that spurs collaboration and innovation while fostering the commercialization of emerging clean technologies. It has attracted \$1.5B in investments over the past nine years and is a hub of leading and emerging technologies from all sectors, focused on decarbonization.

YEG has dedicated over 170,000 sq. ft. of office space for the home of five incubators. There are over 30 companies in YEG's campus, creating over 300 jobs and stimulating millions in economic development for the region.

#### **Focus: Does YEG currently offer Sustainable Aviation Fuels (SAF)? How will the airport's planned capacity of SAF scale in the coming years?**

**Keehn:** YEG is committed to supporting airlines as they are swiftly progressing exploration of SAFs to reduce the carbon footprint of the aviation industry.

In 2018, YEG and Air Canada partnered on a flight from Edmonton to San Francisco that used SAFs, reducing the net emissions from this flight by 20 per cent with 39 per cent SAF on board. More recently, in 2022, YEG supported and hosted KLM Flight 675, which flew non-stop from Amsterdam to Edmonton as part of the Sustainable Flight Challenge presented by SkyTeam. The flight set a record for the longest flight powered by the largest percentage of sustainable aviation fuel.

#### **Focus: What are some of the ESG metrics the airport is currently measuring?**

**Keehn:** Every year, we report back to our community about the progress on our sustainability initiatives, including:

Managing waste, engaging with stakeholders, diversity and inclusion initiatives as well as managing energy.

YEG is a member of the international Airport Carbon Accreditation program and has twice received level 1 certification. This means YEG has mapped and studied its carbon emissions to help determine future priorities for action.

We are one of the first airports to join the TIACA BlueSky program. The BlueSky program is a tool that the entire air cargo industry can use to track their sustainability progress, benchmark against peers and accelerate the industry's transformation. The program assesses the progress of YEG against a number of critical sustainability criteria including:



Cargo Operations at YEG - Edmonton International Airport. Photo YEG.

decarbonization, waste elimination, biodiversity protection, supporting the economy and community, society improvement, digitization and more.

We recently partnered with IATA to become the world's first airport to join their Environmental Assessment Program. Through the program, IATA will partner with YEG to determine sustainability standards for airports, guidance material, as well as work toward our goal of being net-zero by 2040 and become an even more sustainable organization in everything that we do. We look forward to this partnership and the positive changes it will bring to our airport, our region and the global aviation industry.

**Focus: What benefits do YEG customers receive from the airport's unique geographical location?**

**Keehn:** YEG is Canada's most northern international airport and the most northernmost major city in North America. Our proximity and connectivity to Europe provides a natural advantage and facilitates opportunities for more travel, trade and strategic partnerships.

By circumpolar routes, Edmonton International Airport (YEG) is Canada's closest major airport to many parts of Asia. When utilizing the earth's curvature to improve supply chain efficiencies, YEG is a strategic location to access Europe, the Middle East and Africa. It has become a significant entry point into all

of North America or Latin America.

**Focus: What variables currently impact capacity and how is the airport working to mitigate them?**

**Keehn:** The recovery from the pandemic has been remarkable, with demand for travel continually increasing. The recent Airport Service Quality (ASQ) Global Traveller Survey revealed that 86 per cent of respondents plan to travel by air in 2023. This is the highest intention to travel score since the beginning of the pandemic.

We are working hard to meet demand, and underpinning the remarkable recovery are YEG's airline partners, who are signaling their confidence in our airport and region with a steady stream of new destination announcements and increases in flight frequencies and seat capacity.

YEG is strategically adding back roles in our workforce in the highest impacted areas. We also host job fairs to help our tenant partners attract new employees to our industry.

**Focus: Has YEG embraced digital transformation?**

**Keehn:** In 2020, YEG unveiled our five-year "Innovation Expansion" strategy focusing on a holistic, large-scale redesign and modernization of our business model. We are introducing technology to operate a more digital company by applying

data insights into decision-making. Digital innovation will support our cargo business and partners.

**Focus:** What role has technology played in YEG's sustainability efforts?

**Keehn:** YEG's Airport City Sustainability Campus and the Alberta Aerospace and Technology Centre provide opportunities to support growth in cargo and passengers by incubating businesses that push the boundaries in fields like AI, drones, reforestation and energy sources such as solar and hydrogen.

**Focus:** Has YEG established any technology partnerships?

**Keehn:** We have many technology partnerships in place. One example is the Alberta Aerospace and Technology Centre (AATC) launched in 2015 by a consortium of partners including Edmonton International Airport, Edmonton Economic Development Corporation (EEDC), Canadian North and Canadian Helicopters. It is a long-term project that supports local jobs, generate millions of dollars in economic impact and promote aviation safety. AATC is an open technology environment where collaboration and innovation lead to remarkable solutions and advancements.

**Focus:** What new technologies is YEG exploring to improve passenger and cargo capabilities?

**Keehn:** In December 2021, YEG became Canada's first airport to integrate **drone logistics** into its daily operation, and in May 2022, we began regularly scheduled drone delivery operations in controlled airspace.

There is a tremendous opportunity to introduce greater visibility and transparency of cargo transport, and we are working with some firms that have some interesting technologies to track movement in real time while generating data insights to support the business.

Digital options are transforming YEG's mission to ensure an accessible journey for everyone.

We became part of the **Aira Airport Network** for passengers who are blind or have low vision. Aira is a visual interpreting service accessed through an app. Using the camera on their smartphone, passengers can call a trained agent who will visually interpret their entire airport journey.

We have also implemented a **visual paging system** for individuals who are deaf or hard of hearing. The system displays text on our Flight Information Display System monitors throughout the terminal to provide messages such as flight status, boarding information and gate location.

Statistics show that passengers are willing to use technology to improve the convenience of their airport experience. Our technology and innovation teams are embracing these trends, supporting efforts to streamline certain elements off-airport, such as checking-in, immigration procedures and baggage. Historically, we have been a first-mover in these spaces and welcome interested partners to learn about how they can accelerate new technologies at YEG.

**Focus:** What percentage of the airport's activity is currently devoted to air cargo?

**Keehn:** Approximately 30 per cent of YEG's site is dedicated to cargo and logistics infrastructure, with an additional 2,000 of our 7,000 acres being developed for future cargo and logistics activity.

**Focus:** Specifically for cargo, what numbers did YEG see in 2022?

**Keehn:** 2022 was another record year for YEG with cargo volumes growing by 7.2 per cent over 2021.

**Focus:** What markets do the cargo airlines operating at YEG serve and what products are most commonly transported?

**Keehn:** Cargo processed through YEG serves a variety of locations:

Our local region sources Alberta beef and other proteins, or manufacturing equipment for energy and mining.

Western Canada, sources seasonal fruits and vegetables.

Internationally, equipment for the energy and mining industry, pharmaceuticals, vaccines and medical supplies.

Cargo that arrives at YEG is forwarded to locations including the Edmonton Metro Region, North America (Canada, United States and Mexico), Asia, Europe, the Middle East, South America and Latin America.

**Focus:** What is one statistic about YEG that would surprise industry stakeholders?

**Keehn:** We are strategically located in North America – all flights from Asia to east coast, and flights from Europe to west coast fly over Edmonton. We are home to the largest controlled air space in the world.

**Focus:** Where do you see YEG in the next three years?

**Keehn:** Our vision is simple: More Flights to More Places!



Apron at YEG with the control tower in the distance. Photo YEG.

Over the next three years, we look forward to serving our region by adding more non-stop routes, as well as providing efficient and affordable travel to assist in the recovery of the aviation and travel industries. We will continue to focus on attracting affordable airlines as they open up a new audience and demographic for YEG and provide increased service to new and existing destinations.

We also see a more personalized passenger journey, and acceleration of novel technologies through innovative digital solutions.

We see massive strides in using our airport infrastructure to advance hydrogen technologies to reduce carbon emissions across all facets of aviation – from air service and ground handling to ground transportation and building operations.

We'll make significant advancements in the development of the new International Cargo Hub, the largest cargo expansion in the airport's history. The components of this development include runway connections and taxiways to integrate new cargo handling aprons with direct airside handling operations, and expansive facilities for handling, warehousing, automated e-commerce logistics and distribution. This cargo development will also be one of the greenest logistics parks in North America. We will utilize the new and innovative green technologies from construction to operations, such as hydrogen, solar, biofuels, electrification of fleet and more.

### About Edmonton International Airport - YEG

Edmonton International Airport, Canada's fifth-busiest airport, is operated by the Edmonton Regional Airports Authority (or Edmonton Airports), a community-based, not-for-profit corporation established in 1990.

Pre-pandemic, YEG served 8.2 million passengers per year, generating an economic output of over \$3.2 billion and supporting over 26,000 jobs. Today, YEG offers non-stop services to over 50 destinations around the world.



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# Artificial Intelligence

## Evolving Technology Benefits Air Cargo

by Alexis Dames



Alexis Dames

Since the advent of powered flight, few technologies have simultaneously captured the interest and imagination of the public, the private sector, and even the Department of Defense. In development since the 1950s, artificial intelligence (AI) has recently become a household name due to its widespread application, leaving in its wake numerous devotees and detractors.

What exactly is AI? A 2007 paper published by renowned computer scientist and founder of the artificial intelligence discipline, John McCarthy, defines AI as “the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable.” Although AI had been rationalized years before McCarthy’s time, it was he who coined the term during a now famous speech at Dartmouth College.

AI began with simple rule-based systems and later evolved to reach an advanced stage known as fourth generation (2010 onward), where models are being trained with unbelievable amounts of data.

### Intelligent Terms

As AI becomes more ubiquitous in our daily lives, there are several terms that are used interchangeably to define the technology and play an important, yet specific, role in the creation of intelligent computer programs:

According to software giant Oracle, Machine learning (ML) is a subset of AI that focuses on building systems that learn or improve performance based on the data they consume. ML systems can be Supervised, (guided to provide an expected outcome), or Unsupervised (the computer identifies complex patterns and processes without human guidance).

Deep learning (DL), on the other hand, is an AI function and subset of ML. DL uses large amounts of data so artificial neural

networks (ANNs), or algorithms modeled to work like (mimic) the human brain, can learn.

ANNs essentially make up the foundation for DL algorithms which must have at least three of these neural networks to qualify as DL under the established industry definition. The word “Deep” is effectively used to denote the multiple layers of nodes or neural networks. According to IBM, in its most basic form “a neural network is comprised of four main components: inputs, weights, a bias or threshold, and an output.”

### Weak vs. Strong

If you’ve ever asked your phone’s assistant for a search term or to play music, you’ve been interacting with Narrow or Weak AI. This type of AI is trained to perform very specific tasks, even driving a car.

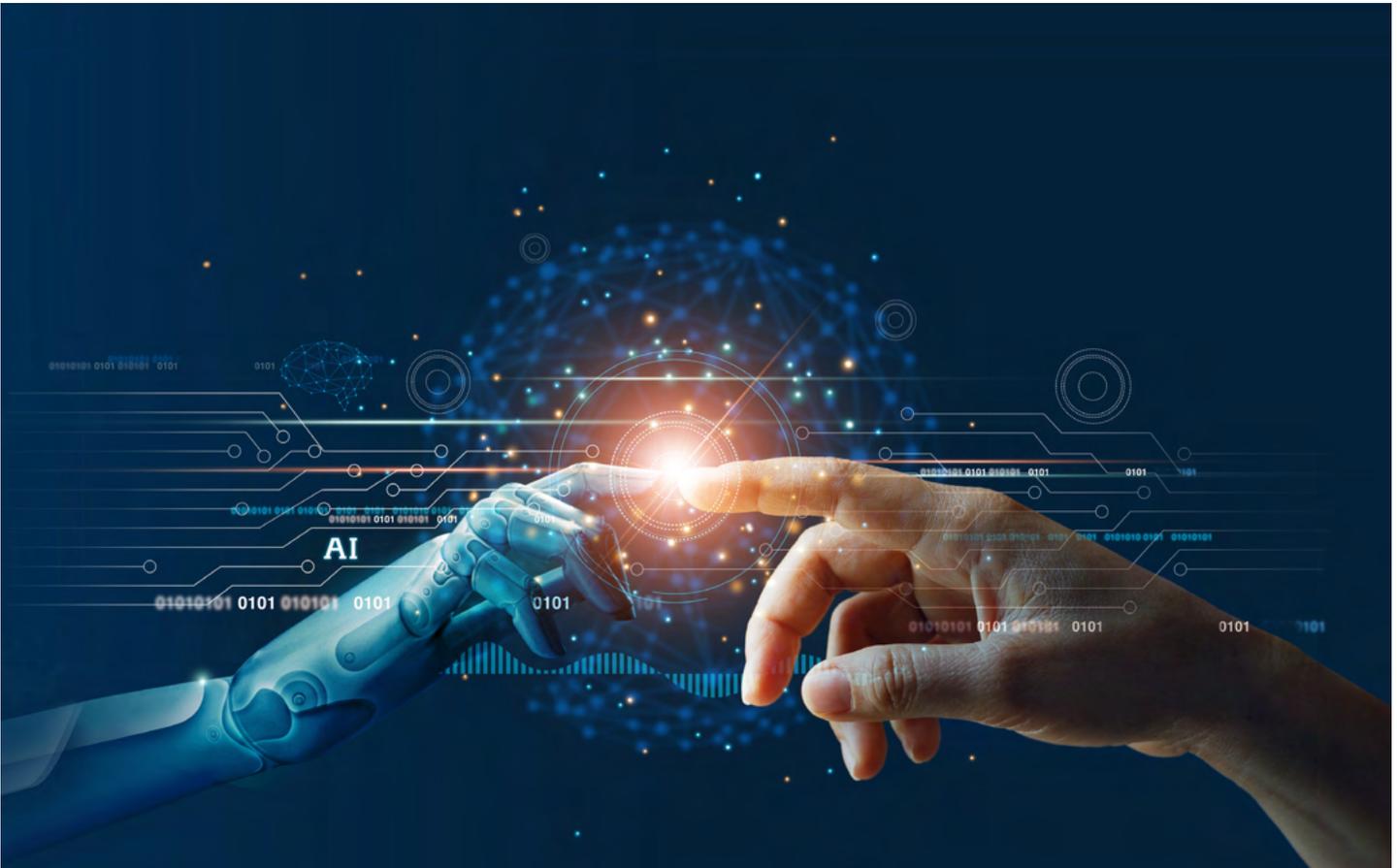
Strong AI, on the other hand, is the AI we have seen conceptualized and portrayed in numerous science fiction books and films, such as the rogue computer “HAL 9000” in Stanley Kubrick’s masterpiece, 2001: A Space Odyssey.

Strong AI is theoretically the AI that could equal human intelligence, learning autonomously how to solve problems, understand emotions and become aware of its own existence and purpose. This type of AI spurs ethical debates and concerns members in every sector of society, from academics to corporate leadership. While research is being conducted in this field, there are no openly identifiable or practical uses for this technology at present.

### AI For the Masses

AI’s recent burst in popularity is due to the launch of publicly accessible web platforms (AI interfaces) such as the AI language model ChatGPT, that can generate natural (human-like) language responses to text prompts or questions.

The quest to unlock value from AI technology appears to have departed without a return ticket. Public beta launches have risen dramatically, prompting investors to contribute large amounts of money into AI startups, reaching a record annual investment of \$111.4 billion U.S. dollars in 2021 according to Forbes.



"AI is the science and engineering of making intelligent machines, especially intelligent computer programs." - John McCarthy. Photo: Adobe Stock - ipopba.

## Regulations

In view of the rapidly changing AI landscape and the anticipated delayed response by regulators, some organizations have decided to stay one step ahead by establishing dedicated resources. Among many others, Microsoft has an Office of Responsible AI Use, and Salesforce an Office of Ethical and Humane Use of Technology. However, it appears that organizations worldwide may need to quickly embrace AI self-regulation as lawmakers catch up.

## AI for Air Cargo

AI could greatly benefit the business of air cargo with improved efficiency and overall cost reductions. The following list presents some of the benefits for our industry:

**Improving efficiency:** AI can automate tasks such as sorting, loading, scheduling and tracking of cargo, effectively improving efficiency and reducing costs.

**Mitigating and reducing errors:** AI can be used to identify and prevent costly errors, such as the application of incorrect shipping labels or damages to cargo.

**Improved customer service:** AI can be used as a chatbot to answer questions 24/7 about anything, from shipping times to

package tracking, keeping customers happy.

**Predicting demand:** AI can be used to predict demand and help airlines plan their operations more effectively.

**Pricing:** AI can rapidly set dynamic prices to help airlines maximize profit.

**Predictive Maintenance:** AI can predict when certain components may need replacing and alert maintenance.

## AI Literacy

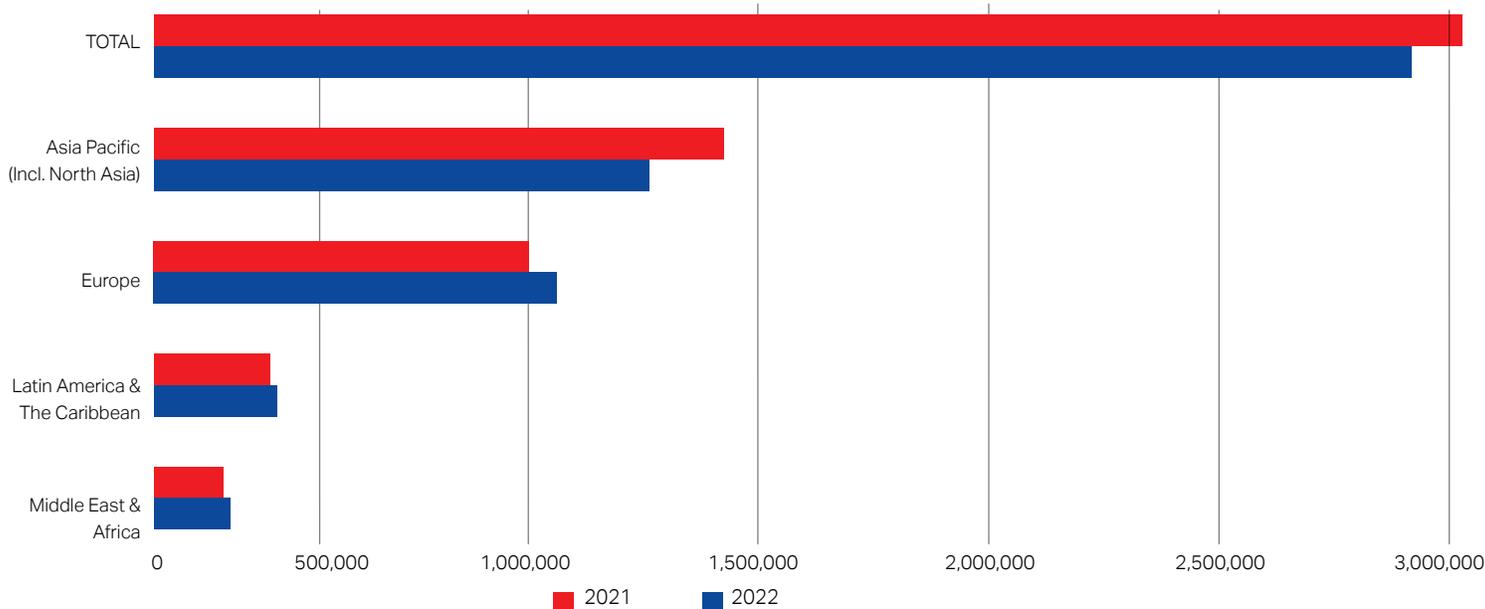
To showcase the value of AI, the previous list of AI benefits was initially compiled with help from ChatGPT and Bard (Google). Tools like these are quickly changing the way preliminary research is conducted, enhancing the ability to create valuable and informative content.

Due to the speed at which AI is being adopted, it's of paramount importance that the workforce become AI literate. Today, only data scientists and select professionals have a grasp on the concepts and applications of AI. However, a 2019 study by the Business Value Institute estimates that 120M workers will have to be retrained or reskilled as a result of AI.



CASS-USA Market Monitor appears in every issue of CNS Air Cargo Focus Magazine. The Market Monitor is designed to highlight market trends for the most recent quarter. It provides both the year-to-date activity and monthly air cargo traffic trends originating from the United States to other regions based on CNS CASS-USA data. Additional detailed reports are available to CASS-USA Participating Carriers and CNS Endorsed Agents.

**WEIGHT IN TONS**



2022 Weight in Tons		2021 Weight in Tons		2022/2021	
Region	2022	Region	2021	Region	% Change
Asia Pacific (incl. N. Asia)	1,222,108	Asia Pacific (incl. N. Asia)	1,415,090	Asia Pacific (incl. N. Asia)	-13.6%
Europe	1,054,236	Europe	1,008,530	Europe	4.5%
LatAm & The Caribbean	361,191	LatAm & The Caribbean	352,056	LatAm & The Caribbean	2.6%
Middle East & Africa	266,474	Middle East & Africa	248,377	Middle East & Africa	7.3%
Total	2,904,009	Total	3,024,053	Total	-4.0%

2022 Shipment Count		2021 Shipment Count		2022/2021	
Region	2022	Region	2021	Region	% Change
Asia Pacific (incl. N. Asia)	941,708	Asia Pacific (incl. N. Asia)	1,001,767	Asia Pacific (incl. N. Asia)	-6.0%
Europe	836,207	Europe	809,763	Europe	3.3%
LatAm & The Caribbean	322,540	LatAm & The Caribbean	295,034	LatAm & The Caribbean	9.3%
Middle East & Africa	343,967	Middle East & Africa	332,028	Middle East & Africa	3.6%
Total	2,444,422	Total	2,438,592	Total	0.2%

## DECEMBER 2022

In December, US export revenue decreased by 26% y/y, compared to decreases of 17% in November and 12% in October. Yields were reported to decrease by 4% y/y in December, compared to a decrease of 2% in November and an increase of 2% in October. US Tonnage to Asia Pacific and North Asia in December decreased by 32% y/y compared to decreases

of 24% in November and 25% in October. Export tonnage to Europe in December decreased by 16% y/y compared to decreases of 9% in November and 7% in October. Overall y/y results for 2022 (January to December) statistics reflected a 17% increase in revenue, a 4% decrease in tonnage and an increase in yield of 22%. »»



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