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**THERE WAS SPRINTING.  
UNTIL THE DAY THERE WAS USAIN BOLT.**

A black and white photograph of a sprint race. Usain Bolt is in the foreground, leading the race, wearing a Jamaica singlet and shorts with the number 9. He is smiling and pointing his right index finger. Behind him are other sprinters, including one with the number 2 and another with the number 7. The background is blurred, showing the stadium seating.

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## DECARBONISATION THROUGH COLLABORATION



**V**irgin Atlantic Cargo is focused on moving itself and the industry towards a more sustainable future with its innovative Sustainable Aviation Fuel Certificate (SAFc) programme.

This initiative is not only aligning with the airline's ambitious environmental commitments but also serving as a model for fostering collaborative efforts within the aviation sector and beyond.

"We already have one of the youngest and most fuel-efficient fleets in the sky, and Virgin Atlantic is committed to finding more sustainable ways to fly on our mission to Net Zero 2050," Phil Wardlaw, Managing Director of Virgin Atlantic Cargo, said.

### Cutting carbon emissions with customers

Virgin Atlantic's SAFc programme isn't just a ground-breaking concept; it's an actionable plan to incentivise freight forwarders and shippers to take an active role in reducing their carbon footprint.

By participating in the scheme, customers play a pivotal role in the airline's procurement of Sustainable Aviation Fuel (SAF) and receive a SAF certificate that reflects the corresponding reductions in scope 3 emissions.

Wardlaw elaborated, "Customers participating in the scheme contribute to our purchase of SAF and receive a SAF certificate... They also benefit from detailed insight into their Scope 3 airfreight emissions via our airfreight carbon calculator."

Virgin Atlantic Cargo's commitment to transparency and empowerment

shines through its proprietary airfreight carbon calculator. Developed in-house and independently certified, this calculator utilises industry-recognised methodology and real flight emissions data to offer participating customers profound insights into their carbon footprint. This tool doesn't just quantify emissions; it drives actionable change.

"The airfreight carbon calculator allows them to take action on their carbon footprint," Wardlaw noted. This data-driven approach transforms sustainability goals into tangible strategies, empowering participants to make informed decisions.

### Collaboration as a catalyst

Virgin Atlantic Cargo recognises that decarbonising the aviation industry requires unified efforts. The airline's commitment to collaboration extends beyond its operations and customer relationships.

"We are committed sustainability leaders, and the SAFc programme is driven by Virgin Atlantic's pledge to 10% SAF by 2030 on our pathway to Net Zero 2050," Wardlaw shared.

He emphasised the need for cross-industry and government collaboration to catalyse the commercialisation of SAF at scale. The programme serves as an illustrative model, showcasing the power of collective action.

"Producers, investors, and the aviation industry are clear that the UK mandate on its own is not enough. Without the introduction of government-backed supply side incentives like a price support mechanism, the UK simply won't keep pace in the race to attract investment and will miss the opportunity to create thousands of green jobs and advance regional development," Wardlaw said.

"Our new SAFc programme allows us to collaborate with customers and support them in making lower carbon choices to meet sustainability targets, easily understand their emissions and support future SAF contributions – a key step towards our Net Zero commitments," he continued.

### Gearing up for a greener future

While the aviation industry has made strides in sustainability, Sustainable Aviation Fuel represents a pivotal solution for the short to medium term. However, challenges persist in scaling the SAF industry.

Wardlaw explained, "Currently, there's not enough supply of SAF and without it and the radical collaboration required to produce it, we can't meet our 2030 targets."

The path forward involves creating incentives and support mechanisms, particularly from governments, to attract investment and drive the creation of green jobs.

Virgin Atlantic Cargo's SAFc programme is more than a strategy; it's a blueprint for a sustainable aviation future. By empowering customers, leveraging data, and advocating for collaboration, the airline is forging a path toward Net Zero 2050.

As Wardlaw aptly put it, "It's through collaboration and partnership that we will be able to find more sustainable ways to fly."

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# MAASTRICHT ELEVATES SUSTAINABLE MISSION

MAASTRICHT Aachen Airport (MST) is making significant strides in pursuing its sustainability mission through strategic partnerships and investments.

The recent appointment of industry expert Jonas van Stekelenburg as interim CEO underscores MST's commitment to advancing sustainability, digitalisation,

and cargo and passenger development.

Earlier this year, the Royal Schiphol Group, driven by the joint goal of future-proofing MST, acquired a 40% stake in the airport, becoming the second shareholder alongside the province of Limburg.

This €4.2 million investment secures Maastricht Aachen Airport's future through a strategic partnership dedicated to sustainable hub development.

"This collaboration highlights the importance of cargo, valuable freighter slots, and global connectivity with a focus on innovation, efficiency, and sustainable cargo transport," Roel Ubaghs, Sustainability and Innovation Manager at Maastricht Aachen Airport, said.

"We have also embraced the Dutch electric aviation initiative 'Power Up' and signed an MoU to develop electric Regional Air Mobility (eRAM), positioning ourselves for a more sustainable future, especially in the transportation of time-critical, high-end cargo such as medical equipment and machinery parts," he added.

In October, Maastricht Aachen Airport celebrated the partnership between the Netherlands Aerospace Centre (NLR) and the German Aerospace Centre (DLR) with a ceremonial electric flight to Germany.

Pilots from both agencies flew a Pipistrel Velis Electro (PH-NLX), the NLR's aircraft used for electric aviation research, from MST to Merzbruck Airport. This is just one recent example of the airport's activities highlighting, promoting, and developing electric and sustainable aviation.

multifaceted approach.

One significant aspect of its sustainability efforts is conscious waste processing. The airport considers waste a valuable raw material and promotes recycling by carefully sorting waste streams.

"Our ultimate goal is to establish a circular economy within the airport. Additionally, MST is actively working to stimulate biodiversity in and around its premises while also mitigating the negative impact on nearby Natura 2000 areas, a network of protected natural areas in the European Union," Ubaghs stated.

"Maastricht Aachen Airport is resolute in our mission to become a zero-emission airport, focusing on reducing emissions from ground operations," he continued. "We also champion sustainable flying by encouraging responsible choices regarding network destinations, new connections, aircraft types, and associated fees. Furthermore, we address air pollution by closely monitoring and controlling the release of pollutants, including CO<sub>2</sub>, nitrogen, particulate matter, and hazardous substances (ZZS)."

Noise disturbance from aircraft and ground operations is another concern that Maastricht Airport is actively addressing, considering the well-being of nearby residents.

Their commitment extends to health and safety, providing a secure and healthy workplace for employees, with a strong focus on employee satisfaction to ensure their contentment with both their employer and the work they perform.

"Maastricht Aachen Airport's holistic approach underscores our dedication to environmental stewardship and the well-being of our employees and the local community," he highlighted.

AZura International, Robert Denholm House, Bletchingley Road, Nutfield, Surrey RH1 4HW, United Kingdom

Tel: +44 (0)1737 906107

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**Managing Director:** Steven Polmans

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# DHL Express goes green



EARLIER this year, DHL Express became the first global express carrier to give customers the opportunity to reduce their Scope 3 emissions through the use of SAF through GoGreen Plus.

Selecting the carrier's GoGreen Plus service enables customers to inset the emissions associated with their shipments with SAF, offering up to 80% carbon savings compared to the conventional jet fuel it replaces.

Designed to be fully flexible, GoGreen Plus can be selected for individual shipments and empowers customers to achieve carbon emission reductions in line with their own sustainability targets.

"As an industry leader we have a responsibility to support our customers on their decarbonisation journeys and GoGreen Plus is an innovative and effective solution for driving down air cargo emissions," Duncan Heron, Vice President of DHL Express UK, said.

"With international pick-up by both B2B and B2C customers, there has been a really positive reception to the launch of our GoGreen Plus service," he continued. "Our customers have shared the feedback that they value our proactivity in offering a way to reduce their Scope 3 aviation emissions."

## Quick and easy

Having made their interactive GoGreen Dashboard available to large cross-divisional customers, DHL Express is in the process of rolling out this service to all customers.

Uniting data across DHL divisions, the GoGreen Dashboard will offer customers full visibility of their carbon footprint across business units in a simple and accessible format.

Compliant with industry ISO and Global Logistics Emissions Council standards, the GoGreen Dashboard will be free to access and customisable, making it the perfect tool to support customers' sustainability agendas.

"Removing the need to access multiple systems and reports, the GoGreen Dashboard will streamline emissions reporting for a more efficient process that aids businesses in making informed decisions," Heron outlined.

"Our GoGreen Dashboard perfectly exemplifies the intersection between our digitalisation and sustainability roadmaps," he continued. "To drive forward our green agenda, we are committed to exploring new technologies and harnessing data and digital solutions. For example, data analytics platforms are critical in guiding sustainability programmes such as our fuel optimisation programme."

## Accelerating decarbonisation

SAF is currently the primary route to reducing carbon emissions in aviation, offering an effective way to improve the sustainability credentials of businesses' supply chains as the industry works towards net zero goals.

Supply of SAF is still low compared to fossil fuels because the cost of SAF is so much higher, hence the demand is lower.

This means that collectively the industry needs to generate the demand needed to boost SAF supplies, and collaborating with like-minded companies and organisations is key to this.

For example, DHL Express is part of the Clean Skies for Tomorrow Coalition, led by the World Economic Forum, which aligns stakeholders across and beyond the industry on the

transition to SAF and achieving carbon-neutral flying.

"In October this year, we announced our acceleration of the decarbonisation of aviation logistics through one of the industry's longest and largest sustainable aviation fuel certificate agreements," Heron said.

DHL Express has formed a new partnership with World Energy that will see approximately 668 million litres of SAF replace conventional jet fuel over the next seven years. This is projected to reduce approximately 1.7 million tonnes of carbon dioxide emissions over the aviation fuel lifecycle.

In the meantime, their strategic collaborations with BP and Neste will provide more than 800million litres of SAF within the next five years, putting DHL Express well on track to reach its target of 10% SAF blending for all air transport by 2026.

"We estimate that this will save an additional two million tonnes of carbon emissions over the aviation fuel lifecycle – equivalent to the annual greenhouse gas emissions of approximately 400,000 passenger cars," Heron explained.

## Achieving environmental targets

The GoGreen Plus service and SAF strategy play an important

role in DHL Group's goal of achieving net-zero emissions by 2050.

GoGreen Plus supports the carrier's mission of offering a green alternative for all products and services, while also contributing to their interim target of using 30% SAF for all air transport by 2030.

As well as reducing the carbon footprint of their airfreight by introducing SAF, DHL Express is continuing to transition its road fleet to electric vehicles to reduce emissions. By 2030, DHL Express aims to establish a last-mile fleet that is at least 60% comprised of electric vehicles.

"As the airfreight industry as a whole strives towards a greener future, it is critical that we work together to foster and implement innovative, sustainable solutions," Heron Highlighted.

"To help propel our business and sector towards the ultimate goal of achieving net-zero emissions, we invested in up to 12 "Alice" electric planes from Eviation," he added. "With a range of around 460km, these zero-emission aircraft represent a promising first step in embracing electric technologies in our air fleet. As electric plane technology continues to develop with improved range and capacity, this could offer a valuable, long-term solution to aviation-related emissions."

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# Neste's race to decarbonise aviation



CURRENTLY, the aviation industry accounts for approximately 2-3% of global CO<sub>2</sub> emissions, with that number set to rise to over 20% by 2050 if no action is taken. The figures show clearly that the aviation sector has a key role to play in the fight to make the planet cleaner and greener.

This is being fuelled by a greater awareness among corporations and travellers of the need to cut their carbon footprint, whether for airfreight, business trips or pleasure, adopting sustainable options where possible.

"The aviation industry adopted the ambition to achieve net zero carbon emissions by 2050 not that long ago, but also realising that this will require an enormous effort and this will not be done overnight," Michael Sargeant, Vice President Americas from the Renewable Aviation business unit at Neste, explained. "We are seeing growing momentum and positive developments but we need to move faster and ensure the impact and credibility of the solutions available today or those in development."

Sustainable aviation fuel (SAF) is a more sustainable alternative to conventional jet fuel as it is made from renewable raw materials such as used cooking oil, instead of crude oil.

Its biggest benefit is that using SAF reduces greenhouse gas emissions by up to 80% over the fuel's life cycle, compared to using fossil jet fuel.

SAF is a 'drop-in' fuel which means it can be used to directly replace fossil jet fuel up to 50% without modifications to aircraft or fuel infrastructure.

Neste highlights how SAF is a key lever to decarbonise the industry, citing an IATA report that shows the world is poised to hit eight billion gallons of SAF annual production by 2030.

At that scale, SAF will equal roughly 10 percent of total jet fuel demand, up from only 0.1 percent today. While this will still not be enough to meet the industry's goal of reaching net zero by 2050, it will be a step in the right direction.

"A McKinsey report suggests that the availability of waste and residues suited for HEFA SAF is expected to grow to 40 metric tonnes per year globally by 2030, so we believe one of the key action items now is to continue to grow the production of HEFA SAF while researching other future production pathways and technologies," Sargeant added.

## Race for results

Neste is committed to support the aviation industry reaching its target and is leading the charge as they ramp-up global SAF production capability to 515 million gallons in early 2024 and further to 750 million gallons in 2026.

"The reality is that there is no time to waste in the fight against climate change but setting the goal for net zero carbon emissions is positive and it will require an enormous effort to achieve," Sargeant said. "We should leverage the solutions we have available today and at the same time work on the solutions of tomorrow and accelerate the drive towards net zero wherever and whenever we can."

## Supplying SAF

The biggest challenge is ramping-up SAF production. Governments will play a crucial role in creating the demand certainty needed to attract new investments into SAF production. Mandates will ensure demand and thus provide investment certainty, while incentives facilitate investments and affordability.

"Both are needed as long as they provide long-term, stable market certainty," Sargeant said, pointing to the Sustainable Aviation Fuel Blenders Tax Credit in the US and the ReFuelEU Aviation Regulation in the EU as key examples.

On the other side, voluntary demand from airlines and corporations will create complementary demand. Neste supplies SAF to almost all of the major airlines in North America who have included using SAF in their sustainability commitment, reflecting the industry's move to reduce greenhouse gas emissions.

"Neste's SAF Solution enables organisations who have an air travel or transport need, to voluntarily purchase SAF to reduce their Scope 3 emissions and credibly report on these emission reductions, aligned with the Aviation Guidance of the Science Based Targets initiative (SBTi), the gold standard in climate reporting," Sargeant outlined. "Examples of those who are already using this solution are cargo players such as DHL Group, and organisations such as Boston Consulting Group, ING bank and Sunweb, a leading European travel organisation."

## New options

As it stands, HEFA is the only commercially viable technology for SAF production and the one that Neste uses. HEFA SAF enables aviation to ramp-up SAF use in the next few years but reports show that HEFA technology can only replace 20% of jet fuel. So, the industry needs more SAF from other pathways to ramp up availability.

In mid 2020's, gasification+synthesis and alcohol to jet (ATJ) technologies will mature and power-to-liquid fuels (e-fuels) will become available towards 2030. Also, a new generation of feedstocks are showing great promise. For example, Neste is innovating using renewable feedstocks such as algae, municipal solid waste, and lignocellulosics to produce SAF. Together with HEFA, these alternatives have the potential of substituting all fossil jet fuel.

## Partnerships power change


Neste has been producing SAF since 2011 when HEFA SAF was first approved for use as jet fuel.

The company started supplying SAF to Lufthansa for more than 1,000 flights in Germany and now serves more than 70 direct customers across the aviation supply chain in 21 countries. Neste is also working together with partners to supply SAF at airports across the globe as well as to business aviation.

"Collaboration throughout the aviation industry will remain crucial in developing SAF availability. It also helps us increase the awareness of SAF, so more companies and travellers can trust, use and endorse SAF," Sargeant said.



Voluntary demand from corporates can complement regulatory demand but being able to credibly and transparently claim emission reductions from using SAF towards their climate targets is key for many corporates but also for SAF to be a credible solution. However, there currently are no generally accepted systems to ensure credibility although a lot of work is ongoing within the sector and Neste is engaged in several of those initiatives.

"Airlines can help accelerate the demand for SAF by offering it to their customers as an option to buy or reduce emissions from air travel or transport," he added. "Customers, including corporations who use SAF for corporate travels and industry experts should make the benefits of SAF easy to understand, increase SAF's awareness and let the general public embrace this solution."



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# Transforming aviation's image



BELIEVING that sustainability goes beyond the global climate and environment, ULD company VRR sees having a green vision as a core driver for doing business in the future.

Not only related to the planet but also to employees, products and partners, VRR sees sustainability as the topic that will distinguish one company from another. That's why the company recently unveiled its corporate strategy and climate goals for 2024, 2026 and 2028.

"For the outside world, the aviation industry has a rather negative image with regards to emissions and sustainability. Luckily, we see that the industry is at a level that it is getting more aware of the issue at hand and has accepted we need to make a drastic change to shift this image," Ben Lakerveld, VRR's Sales Manager, said.

"However, in our opinion that action is still not yet to be seen across the board. We see various initiatives being taken which are going into the right direction, but we believe that this can become standard practice as well as rolled out more extensively. More collaboration and innovation can be brought into our industry," Lakerveld continued.

"One of the arguments you hear a lot is that customers are not willing to pay for such innovative solutions. Perhaps a valid argument for now, but let's not forget we are all responsible for the way we leave the world behind for future generations. And we are convinced that the companies who incorporate sustainability in their strategy, will stay relevant to their market," Lakerveld added.

To ensure a proper execution and implementation, VRR have dedicated people to making sure this becomes part of their DNA with the main goal to become the sustainable ULD leader in the industry and with that to inspire the industry as a whole.

## Implementing initiatives

In recent years, VRR has taken serious steps towards sustainability on several aspects. On a planet level the company has integrated solar panels, insulated the building, separated waste flows and introduced electric company vehicles.

Recently, VRR has been looking into its travel behaviour and related emissions. Based on this, they introduced a new travel policy designed to decrease emissions by being more conscious of itineraries and travel modes as well as collaborating with partners.

However, as mentioned before VRR believes sustainability goes beyond emissions. They want to implement a strategy which will look beyond that and considers the planet, people, products and partners.

On a product level they are shifting their focus towards more lightweight solutions that can be fully recycled, but also meet the highest safety standards. But in addition to that also develop solutions that increase the utilisation, so that less equipment is required. More recent developments that contribute to this are their collapsible AAX containers, and for the coming year they are working on a redesign of their horse stables.

From a people perspective, they have focussed the past year on the vitality of their personnel, facilitating a healthy working environment. Some practical examples of this are for instance healthy lunches once a week, several sports activities, a bike leasing plan, and a free health check for everybody in the company, which offers the insights for them how to improve their lifestyle.

Parallel to this, they have increased safety awareness significantly. To check what the effect of these initiatives are, they regularly perform employee satisfaction surveys. And the results of last year are promising already, with 87% indicating that they would recommend VRR as an employer to friends or acquaintances.

## Industry-wide option

VRR is currently working on an industry-wide sustainability label, driven by their own research after their engineers couldn't categorise the different solutions available in the market with respect to sustainability.

Weight plays an important role, but what about elements like recycling and energy required to manufacture the product? VRR

simply couldn't compare apples with apples in a pragmatic way. When further looking into this, they got inspired by existing solutions in the (European) household industry, where similar labels are already used to provide insight in energy consumption.

"We believe that we can use this principal within our air cargo industry. The benefit is that, once we collectively agree as to what a sustainable ULD is, the industry can become more conscious and aware during acquiring future ULDs," Lakerveld said. "But also, about their current level of sustainability of their existing fleets. With this label, we believe that gradually the ULD industry will become 'greener'. Another advantage is, which we also see with household products, that bar can also be raised overtime, which ensure a proper progress."

VRR accepts that the proposed label can only work when it is endorsed by the whole industry, meaning original equipment manufacturers, airlines, lessors. Such standardised guidelines could push the development in the industry in the right direction or at least provide the insight necessary to make well informed decisions. With that, VRR are convinced that, in a collective way, the sector can achieve more than independently operating companies re-inventing the wheel again.

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# DRIVING SUSTAINABLE S

**“Shippers and consignees should encourage their chosen forwarder to support airports that show the massive improvements in reduction of CO2 and Nox”**

Chicago Rockford Airport (RFD) is looking to set the standard for sustainable, efficient operations in the airfreight industry.

Operating at a bustling hub airport often means dealing with congested taxiways, ground holding, and long transit times, coupled with approaches that involve vectoring, with aircraft often being kept in a holding pattern. On the ground, aircraft are sometimes left idling with engines running before reaching the cargo ramp. This can result in a significant amount of time spent on the ground.

In contrast, RFD offers a streamlined experience. It boasts direct approaches, rapid turnaround times, and minimal taxiing. Aircraft at RFD typically go from wheels down to engines off in less than five minutes, with short taxi times and no ground holding. This sharp contrast results in substantial time savings.

An independent study found that the average time spent on the landing and take off cycle at busy hubs is just under 67 minutes, while at RFD, it's less than 17 minutes. This translates into greater efficiency and cost savings.

“The irony in all this is that airlines are paying around five times more to land at a busy hub airport, because in general they are just not aware of how much more expensive it is compared to operating at airports like RFD,” Zach Oakley Deputy Director of Operations and Planning said. “So regardless of any flight time-savings, it's just way more expensive to operate into a congested airport.”

#### Cheaper and greener

On a weekly basis, for a 747-440F operator flying four rotations they can save upwards of \$50,000 and at the same time emit more than 60 tonnes less CO2 and emit 140 tonnes less NOX by landing at a less congested hub.

There are the obvious costs in terms of the extra burn of JetA-1, but CO2 emissions also have to be paid for. It is also the hidden costs that can be overlooked by network planners such as MRO and wear and tear on the aircraft and the fact that the regulatory environment is

swiftly creeping up as a cost factor.

Remember back in 2022, the EU signed an agreement to raise the price airlines pay for emissions, meaning the free allowances airlines receive will be reduced by 25% in 2024 and 50% in 2025, before being completely removed by 2026. Air carriers must also report nitrogen oxides and soot particles from 2025.

“So when we looked at the reality of what 50 minutes of flight-time savings actually meant financially for a typical Boeing 747-400F freighter operator, the figures were startling,” Oakley stated.

“When we bundled all our savings together, including landing fees, we estimated on average a Boeing 747-400F operator would save just over \$11,000 per rotation by flying into RFD, plus the ownership costs associated with the 50 minutes of flight time savings can be added which could easily mean another \$3,000 to \$5,000 or more in savings depending on how old the aircraft is, whether its owned outright, leased or has debt attached to it. So it's not unreasonable to assume the savings are in the region of \$15,000 per rotation.”

“Now we come onto the environment. That extra 50 minutes of flight time means the airline is emitting 16.5 tonnes more CO2 than it otherwise could do, should it choose to make a switch to RFD. So by making the switch the airline, freight forwarder and shipper can book these CO2 savings immediately.”

“Operating at RFD is going to help any operator that wants to reduce cost, but also, the savings we offer, also help improve the commercial prospects of the operator especially if they are seriously looking at implementing a cost reduction programme,” Oakley continued.

#### Sending a message

The message is simple, while the industry awaits the implementation and availability of Sustainable Aviation Fuel, (SAF), new technological advances in aviation such as E-Vtol or Hydrogen, RFD is clear that there are many things airfreight partners can and must do today.

Some examples are full digitisation door-to-door solutions where the actual shipper or consignee can reduce complexity and allow e-freight to actually be implemented and the efficiencies that would





# SOLUTIONS IN CHICAGO

bring.

“Shippers and consignees should encourage their chosen forwarder to support airports that show the massive improvements in reduction of CO<sub>2</sub> and Nox, and insist that their cargo is not sent to a busy airport just because the forwarder has facilities there, and ground handling companies (GHA) should be mandated to show a plan on the efficiencies they can implement such as electric Ground Handling Equipment (GSE), recyclable plastics etc,” Ken Ryan RFD’s Director of Cargo explained.

Through the implementation of the Air Cargo Community System (ACCS) in RFD there has been a reduction in dwell time of cargo in the warehouses, reduced truck dwell time either delivering or picking up air cargo, and also efficiencies in GHA operations that lead to less staff related issues such as overtime and staff retention as the quality of work improves for all add up to cost reductions.

Developing distribution centres in close proximity to RFD can also add further costs reductions for e-commerce companies, manufacturers and overseas companies seeking such services.

Land close to airports like RFD is often is much more readily available and far cheaper and so it makes for the development of state-of-the-art logistics facilities much more appealing for both investors, developers and tenants. Land close to major hubs is either not available or vastly expensive both for the developer and potential tenant.

## Joining up the supply chain

The movement of air cargo involves a number of decision makers across a long value chain which is not strictly confined to that of the airline, where freight forwarders and shippers all have an influence upon the decision making process of air cargo transportation and thus airport selection.

“The 50 minutes of flight time savings however impacts all the touch points within the value chain, both financially and environmentally. So the decision making process on who wants to “own” these benefits is the big challenge we face,” Ryan highlighted.

“Our experience so far suggests that as an airport, we have to

reach beyond just the network planners at air cargo airlines and extend our message to a broader group of decision makers in the value chain to include environmental and sustainability officers that have responsibility to cut CO<sub>2</sub> emissions, finance officers that are looking for ways to lower costs and improve yield and margins, and to commercial managers that want to win market share, improve customer service and open up new more profitable markets for their air cargo business,” he continued.

“But things are happening in this area. For example, the British International Freight Association BIFA recently started a partnership with Pledge an emissions management company specialising in the analysis of emissions across the freight forwarding sector to help the trade association’s members better understand and address the environmental issues that affect how they manage international supply chains.”

## Introducing the Smart Cargo Airport

In the past, when air cargo was not so vital in airline profitability, especially in international services, all airports looked at air cargo warehouses as a real estate opportunity.

Today, smart airport management know that the facilities and more important the operators of those building are your business card with the industries that use your airport for logistics.

Smart airports in cargo address that issue, and are now demanding that both developers and also their tenants provide services that assist the airport in its marketing and strategic positioning.

Airports that do not address the value proposition that airlines want to have in their products and portfolio, which are the verticals such as e-commerce, express and cool chain activities such as pharma for example, will lose out.

“In RFD we are very clear to our Ground Handling Agents (GHA) and it is to understand the benchmarks the airport is setting for quality, transparency, speed and compliance and they must comply. As we progress any GHA operating in RFD must meet those standards to continue to have a license,” Oakley said.

**“As an airport,  
we have to reach  
beyond just the  
network planners  
at air cargo airlines  
and extend our  
message to a  
broader group of  
decision makers in  
the value chain”**



# SUSTAINABLE GROWTH AT SCOTLAND'S CARGO HUB



**“For our carrier partners, we provide an optimal environment to minimise their carbon footprint”**

**G**lasgow Prestwick Airport has built a reputation in the aviation sector for its strong emphasis on cargo operations. While it does serve passengers, its primary focus lies in airfreight.

With the longest runway north of Manchester, the airport possesses the capacity to accommodate a wide range of aircraft, including regular visits from the Antonov 225 during its operational years.

Its extensive apron space adjacent to the warehouse complex distinguishes it from other hubs, allowing it to provide some of the swiftest and most efficient aircraft turnaround times in the industry. Furthermore, its spacious aprons enable nose loading for Boeing 747s.

Glasgow Prestwick Airport's warehouses boast an open-plan layout with exceptionally high doors, designed to accommodate even the tallest UK vehicles. Our dedicated team of experts ensures that we adhere to all regulatory guidelines while handling all types of cargo.

## **Specialised focus**

While Glasgow Prestwick Airport operates regular scheduled services with dedicated freighters for standard cargo, its strategic focus extends to specialised niche markets within the industry. The strategy to focus on these markets is driven by its unique capabilities in some of these markets: Dangerous goods, entertainment events, equine traffic, perishables and project freight.

With the highest NEQ (Net Explosive Quantity) in the UK, Glasgow Prestwick Airport stands out as the preferred airport for both Class 1 imports and exports. Its licence allows it to handle up to 5,700kg of Class 1.1 and 13,000kg of Class 1.2 materials. The airport's highly experienced staff are well-versed in the handling of these hazardous materials. Furthermore, its cargo team is fully qualified to accept and manage radioactive materials.

Recognising the time-sensitive nature of the events logistics sector, Glasgow Prestwick Airport offers expedited aircraft handling and ample warehouse space. This facilitates the intricate process of build planning and sequencing for equipment both inbound and outbound. Additionally, it can provide FREDDS (Free Running Explosives Detection Dogs) screening through a third-party service.

As one of only three Border Inspection Posts (BIP) licensed to

handle equine traffic in the UK, its tranquil location makes it the preferred choice for many breeders and racehorse owners. Its proximity to the aircraft stand adjacent to the BIP facility allows for seamless transfers of animals with minimal disruption. Furthermore, they are equipped to handle substantial quantities of export porcine within their standard cargo warehouses.

Recently, Glasgow Prestwick Airport installed a state-of-the-art cold storage facility with a temperature range spanning from -35°C to +20°C. Its staff are currently undergoing training in pharmaceutical handling, and are actively pursuing CEIV certification.

Thanks to its location, it is frequently called upon to handle equipment related to the oil and gas industry. From Xmas trees to single pieces weighing up to 40 tonnes, the airport's team has successfully managed a wide array of project freight. Additionally, its airport boasts a robust aeronautical sector, enabling it to handle large aircraft engines on a weekly basis.

“The Glasgow Prestwick Airport business development team maintains a vigilant watch on evolving market dynamics and possesses the adaptability to promptly enact necessary change,” Nico Le Roux, Glasgow Prestwick Airport's Business Development Director, said.

## **Comprehensive and connected**

Glasgow Prestwick Airport aims to deliver a comprehensive, all-encompassing solution for carriers and forwarders, with all services, including air traffic control and handling, managed in-house. This streamlined approach offers a singular point of contact, simplifying the handling process and providing a dedicated contact for the convenience of customers.

Situated with rapid access to major motorway networks, as well as a readily accessible rail siding, the hub is further enhanced by the proximity of nearby ferries, making it an optimal site for efficient freight transport to and from Ireland.

“While our airport may be an eight-hour drive from London hubs, our expedited handling procedures ensure that we can deliver freight to southern destinations just as swiftly as it would arrive in London itself,” Le Roux explained.

“Notably, our location on the Great Circle Route, positioned between the Middle East and the USA, makes Prestwick an ideal waypoint for cargo drop-offs and pickups, further enhancing our strategic significance in global logistics.”





### Modernising methods

Glasgow Prestwick Airport is currently undergoing a comprehensive modernisation effort, which includes the adoption of a cutting-edge cargo management system. This strategic upgrade is aimed at providing clients with state-of-the-art technology, encompassing advanced messaging, seamless integration, and robust mobile device capabilities.

In addition to these advancements, the airport is actively investigating the feasibility of introducing a Cargo Community System solution, further enhancing the overall experience and convenience for its valued customers.

"As we prepare to introduce state-of-the-art X-ray scanners, we are poised to offer enhanced capabilities, including the ability to X-ray out-of-gauge and high-density cargo," Le Roux highlighted. "Additionally, our warehouses are equipped with Internet of Things (IoT) technology to precisely track the location of Unit Load Devices (ULDs) and freight, ensuring efficient management."

"Furthermore, our commitment to security is unwavering, with all our warehouses featuring cutting-edge CCTV systems for continuous monitoring and recording. Access points are meticulously controlled through electronic means, reinforcing our dedication to safeguarding your cargo," he added.

Glasgow Prestwick Airport is making substantial progress toward surpassing its 2030 carbon reduction target by an impressive 9%. The hub is actively engaged in multifaceted initiatives aimed at curbing emissions, including a substantial transition to carbon-neutral energy sources and a major solar energy deployment project, which will ultimately lead us towards energy self-sufficiency.

"For our carrier partners, we provide an optimal environment to minimise their carbon footprint. Our straightforward approach, free from holding or vectoring, enables carriers to significantly reduce both their CO2 and NOX emissions," Le Roux stated.

"Additionally, we offer the distinct advantages of reducing the time from wheels down to engines off to just 4.4 minutes, and the pushback to take-off time to a mere 8.4 minutes, further contributing to environmental sustainability."

### Gradual global growth

With two of the largest freighter operators making regular stops at Prestwick, the airport enjoys robust global connectivity. The dedicated business development team is actively engaged in a range of strategic projects aimed at expanding its network and enhancing its offerings.

These initiatives encompass the introduction of direct flights to bolster the thriving aerospace sector within the airport's purview. Moreover, they are actively exploring services that cater to the needs of the salmon and whisky industries, due to their significance in the region's economy.

"We are in the process of forging cooperation agreements with other airports to explore synergistic opportunities, fostering mutual growth," Le Roux said. "While our charter traffic is experiencing rapid expansion, our overarching objective is to establish additional scheduled services, further solidifying our position as a premier aviation hub."

As a cargo-focused airport, Glasgow Prestwick Airport experienced a significant surge in demand during the pandemic, primarily driven by the transportation of vaccines and personal protective equipment (PPE). However, like many others in the industry, it has witnessed a decline in demand following this exceptional event, largely due to unfavourable macro-economic conditions.

"Prestwick's demand is susceptible to the same adverse factors affecting the industry, including the conflict in Ukraine, global inflation, and elevated inventory levels," Le Roux added. "While our cargo volumes have decreased by 11% compared to the previous year, we are encouraged by early signs of recovery in scheduled freight volumes, indicating a positive trajectory for the future."

With a positive outlook, Glasgow Prestwick Airport anticipates the stabilisation and eventual recovery of the industry. "We recognise that if two of the three previously mentioned macro-economic factors can be mitigated, it will likely lead to an uptick in demand. It's important to note that this anticipated growth is expected to be gradual rather than sudden," Le Roux continued. "Throughout this journey, the airport remains committed to its focus on the niche industries identified as drivers for increased volumes and profitability. This deliberate strategy aims to sustain and stimulate our long-term growth."

**"The airport remains committed to its focus on the niche industries identified as drivers for increased volumes and profitability"**





# ELECTRON'S MISSION TO REMOVE EMISSIONS FROM AVIATION

**“By using smaller, nearby airports, we greatly reduce the need for ground transport, which in turn lowers overall CO2 emissions”**

**E**LECTRON aerospace is developing a battery electric, conventional take-off and landing aircraft (eCTOL) with multiple use cases, including passenger transportation, cargo, pilot training, and medical evacuation.

Having fixed wings means the Electron 5 requires a runway. Yet, thanks to the lift generated by its wings, it can transport 500 kg cargo over a distance of 500 km, using today's available battery cells.

Powering the Electron 5 with renewable energy means it emits zero direct CO2 emissions. ELECTRON aerospace's pragmatic approach means that the Electron 5 is expected to enter service as early as 2027, contributing to the reduction of CO2 emissions within this decade.

With its full-size cargo door, the Electron 5 is equipped to handle a variety of cargo, including irregularly-sized items on EU pallets and loose shipments such as parcels and e-commerce packages.

“This versatility makes it an ideal choice for time-sensitive deliveries of high-value items, e-commerce shipments, and perishable goods,” Marc-Henry de Jong, Co-Founder of ELECTRON Aerospace, said.

#### Opportunity in underutilised hubs

While many logistic hubs are operating at or near capacity, it's essential to note that there are more than 2,700 underutilised airports in Europe alone. The Electron 5, requiring only 600m runways, is able to access 75% of the world's airports.

“This accessibility facilitates the transportation of goods from locations closer to both the point of origin and their ultimate destination, significantly reducing the need for extended ground transportation and enhancing overall efficiency,” de Jong stated.

#### Reducing road transportation

Today, logistics companies often use scheduled flights between hubs, requiring goods to travel long distances by road. The Electron 5's flights produce zero direct CO2 emissions.

“By using smaller, nearby airports, we greatly reduce the need for ground transport, which in turn lowers overall CO2 emissions. This two-pronged approach underscores our commitment to a greener environment in both the air and on the road,” de Jong explained.

#### Enhancing efficiency

Airfreight is the quickest way to move time-sensitive goods across long distances, but it's also the most carbon-intensive.

Companies face growing pressure from both regulations and consumers to reduce their carbon footprint, including in their supply chain.

“DANX Carousel, responding to customer demand, sought to make their operations more eco-friendly. In addition to various sustainability initiatives, including the introduction of Sustainable Aviation Fuel (SAF), hybrid solutions, and drones, they found that the Electron 5 offered a strong benefit in terms of cost per kilogram, transit time, and CO2 emission reduction,” de Jong explained. “It is one of those rare instances where choosing the eco-friendly option doesn't come at a higher cost; it even enhances the customer experience by reducing transit times.”

#### Regional operations

The landscape of overnight logistics is on the brink of a transformative shift, moving away from logistics hubs to customised point-to-point logistics solutions.

Electrification, much like we have seen with electric vehicles (EVs), reduces operating costs and makes operating smaller aircraft, like the Electron 5, commercially viable.

With upgradable battery packs, the Electron 5's performance will improve over time - both in terms of range and payload.

“With the potential for the Electron 5 to evolve into a drone-like operation in the future, we anticipate even more significant reductions in operating costs” de Jong highlighted. “Early adopters of this technology, exemplified by partners like DANX Carousel, are poised to be the pioneers who are well-prepared for the future of regional airfreight operations.”

The Electron 5 aircraft gives logistics companies a strong competitive edge. It can access smaller, local airports that larger aircraft can't, which is a significant advantage in terms of time and emissions.

“As emissions costs rise, using the Electron 5 becomes a cost-effective solution. We can deploy multiple Electron 5 planes for larger loads without a problem, and these underused local airports are a key part of the equation,” de Jong added. “In a nutshell, the Electron 5 helps logistics companies compete with larger freighters by providing flexibility, efficiency, and cost savings.”



# THE SUPPLY CHAIN'S SUSTAINABLE REVOLUTION



**D**ANX Carousel sees building a carbon neutral service as a key focus of its sustainability strategy, working to do this across its pan-European operations.

The logistics operator hopes to achieve this through a combination of implementing both fuel substitution and product replacement, prioritising carbon insetting rather than offsetting.

In addition to the use of sustainable aviation fuel, DANX Carousel are also investing in the development of electric cargo planes, testing out electric vehicles, and trialling electric trains.

"We're determined to reach our target of slashing our carbon emissions by 40% before 2035, so our measures must be aggressive," Val Karren, Sustainability Director of DANX Carousel, said.

"Recently, we partnered with Varamis Rail, the UK's first electric-only high-speed rail freight operator, to trial an electric cargo route between Birmingham and Glasgow. This trial has been a huge success, and this route is now part of our network," Karren highlighted.

The electric train reaches speeds of 100 mph, and allows DANX Carousel to deliver to Mossend rail hub terminal at around 4am. Through this partnership, the logistics provider has been able to improve time-critical By:NIGHT services while also reducing its carbon footprint.

"Another win-win for us has been our work with ELECTRON Aerospace. We've been helping the Dutch aircraft manufacturer, as the "Founding Logistics Partner," make battery electric cargo planes that suit the needs of the industry," Karren explained.

The Electron 5 aircraft has been designed to transport 500 kilogrammes (kg) of cargo over a 500 kilometres (km) distance on a single battery charge, and DANX Carousel's team has assisted with the design of the body to optimise it for carrying freight.

"Electron 5 models are due to hit the market in 2027, and we're hoping to add them to our fleet within the next five years," Karren added.

## Reshaping the industry

"In the wake of the pandemic, the industry has ushered in a new era: one heralded as 'Logistics 5.0,'" Ulrik Find, DANX Carousel's Chief Operations Officer, said.

It is a fusion of digital innovation, resilience, and sustainability, reshaping the supply chain industry like never before.

"If Logistics 4.0 marked a determined shift toward digital transformation, Logistics 5.0 goes a step further by embracing technology while placing equal importance on the world beyond data and how people use it," he continued.

DANX Carousel's recently published White Paper, 'Logistics 5.0: Strategy Beyond Data – Turning Uncertainty into Opportunity,' surveyed a cross section of supply chain leaders to identify the biggest challenges facing us today in order to present a roadmap to successful digital transformation.

"While there are many positives to be taken from our research, we found that only 8 percent of organisations have sustainability (reducing carbon emissions) as the top priority on their transformation agenda, which is concerning in today's climate," he outlined. "Achieving emissions targets, like those outlined in the Paris Agreement, means organisations need to reduce outputs by 45% by 2030 and reach net zero by 2050."

"Sustainability needs to be on every organisation's transformation agenda and a lack of focus in our research findings is worrying. Organisations need to have an active sustainability programme in place, that addresses each leg of their supply chain and be working with a service provider which can prioritise sustainability too," Find continued.

While there isn't a best practice way of reducing carbon emissions in any industry just yet, DANX Carousel believes that building a successful and effective sustainability strategy starts with measurement and a close analysis of operations.

"Consumers and stakeholders are increasingly prioritising sustainability, so dismissing it now is likely to cause a significant loss of market share in the long run. Furthermore, overlooking sustainability may also lead to missed opportunities," Find said.

**"Sustainability needs to be on every organisation's transformation agenda"**



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