

#02

CHARLIE VICTOR

The LCK issue

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WELCOME

Welcome to the latest edition of *Charlie Victor*, our very own magazine designed to keep our clients and staff informed and up-to-date.

The dynamism of a successful high season has swept us into the new year and we now look forward to new opportunities. With Valentine's Day and International Women's Day on our doorstep, this is the time when we traditionally operate additional flower flights to Europe. Bringing flowers directly to Amsterdam is a clear advantage for our clients – who said romance was dead?

Africa, incidentally, remains a focus for Cargolux as we shall be attending the Air Cargo Africa event in February. Designed to explore and strengthen African networking corridors, the event attracts global representatives of the airfreight community and is an effective networking platform.

We are also proud to note that we successfully passed our GDP renewal audit, validating our GDP certification and attesting that we fulfill the requirements of the EU directive "Guidelines on Good Distribution Practice of Medicinal Products for Human Use" as well as the WHO guidelines. This is largely thanks to our qualified team of experts who work closely with our customers to develop the highly specialized solutions they require.

While we are really looking forward to business in 2017, it is with great fondness that we recall one of last year's highlights – the safe transport of Solar Impulse 2 from Abu Dhabi to its home in Switzerland. We are proud that the Solar Impulse team once again entrusted Cargolux with this delicate and difficult operation after having used our services previously, in 2013 and 2015. Read more about last year's operation on page 8 of this issue.

I do hope you enjoy the stories and insights we have collected and look forward to receiving any suggestions or comments you might have for future issues.

MOA SIGURDARDOTTIR

HEAD OF CORPORATE COMMUNICATIONS, CARGOLUX

MEET RICHARD FORSON, CEO

Richard Forson up-close

THE CEO OF CARGOLUX REFLECTS UPON
THE EVOLUTION OF THE FREIGHT INDUSTRY AND
SHARES HIS THOUGHTS ON PRESENT DAY CHALLENGES
AND THE TRANSFORMATION NECESSARY
TO REMAIN SUSTAINABLE.

Maison Moderne



You've been our CEO since 1st August. What prompted you to accept the role? (Much laughter.) I must be honest, my wife and I gave it much thought and ultimately she said, "if that's what makes you happy, then take it." It does require a lot of dedication and it's not unusual to find me in the Cargolux office on a Saturday and/or a Sunday catching up on the week's work. It's not about the title but the challenges you are confronted with; the responsibility for the airline now falls upon my shoulders and should anything go wrong, my philosophy is that the finger never points downwards - but at yourself.

As CEO, what are your primary objectives? To position Cargolux for the 21st century. Given the significant changes in the industry since the financial crisis, I believe we need to review the existing business model and, if required, change it to ensure Cargolux remains an important and relevant player in the industry. We're all working incredibly hard and have already begun overhauling our business processes. We're investing in the simplification of processes and digitalization of information – to offer our customers the very latest technology and make it simpler for them to interact with us.

Were these priorities the main focus of your recent strategy review? These formed part of the outcome of the review which was to ascertain to what extent our current business model remains relevant in a rapidly changing global environment and, more importantly, what we need to do to ensure that Cargolux remains a relevant player in the market we serve. We will, as an example, focus on a complete review of all business processes in our organization to identify those areas where we can simplify and automate. If you look at everything around you today, information and the means of transacting is becoming increasingly digitalized. That's how people are communicating and conducting business. The digitalization of information represents the future and makes it easier to service the needs of our clients. In a digital world, very few things are impossible to achieve.

The 2016 Cargolux peak season not only exceeded 2015, but was the most successful on record in terms of tonnage in block hours. Can you give us some figures? In November, we achieved all-time records in block hours flown, with over 12,000 block hours produced and more than 96,000 chargeable tons – a significant achievement. At this point, it looks as though we managed yet another good performance in December. This is a result of the hard work and dedication of our team, worldwide.

Cargolux is the first airline to receive a Lean & Green award. How are you planning to reduce your carbon footprint? By introducing "new and newer" technologies in a wide variety of areas such as the optimization of flight paths and the reduction of fuel consumption. Have a look at our "Lean, green & proud" article on pages 12 and 13 for information on some exciting initiatives.

What other key challenges are you facing?

Continued sustainability in the current environment, and I don't think this is unique to Cargolux. Also dealing with the rapid increase in belly capacity. Therefore the need to act now and not later!

You currently fly to an extensive list of destinations and have recently added a weekly flight to Oslo. What other destinations might be of future interest?

We are investigating a number of other destinations which interest us. We also maintain a continuous interaction with the ministries of transport, and the civil aviation authorities in numerous countries to assist in the expansion of our air bilaterals (operating rights). That said, the affluent industry of the past has been replaced by one that is extremely volatile in terms of supply and demand.

In your opinion, what's been Cargolux's greatest achievement? I believe that it's continually being one of the major players in the global air-freight market with a very strong brand – a real accomplishment when you consider the size of Luxembourg. We are within the top ten ranking of scheduled cargo carriers and are commonly referred to as the biggest cargo operator in Europe, which would not have been possible without our dedicated staff, business partners and customers.

What has surprised you most since joining

Cargolux? It's the dedication, passion and loyalty of our staff. Cargolux started small and now operates 26 747s and has 2,000 employees in its global family, each willing to go the extra mile for our customers who are, after all, our number one priority.

"We're investing in the simplification of processes and digitalization of information – to offer our customers the very latest technology and make it simpler for them to interact with us." **SOLAR IMPULSE 2**



Solar Impulse taken home

SOLAR IMPULSE 2 MAY HAVE INDEPENDENTLY CIRCLED THE GLOBE WITHOUT A SINGLE DROP OF FUEL, BUT IT RELIED ON THE PROVEN SERVICES OF CARGOLUX WHEN IT CAME TO THAT ALL-IMPORTANT TRIP BACK HOME.



ack in 2013, Cargolux flew the first Solar Impulse from a small airfield in Payerne, Switzerland to the United States and back, after a record-breaking solar-powered US cross-country flight. It was the first landing of a Boeing 747 on the short Payerne runway, located on an airfield built for military aircraft and not normally associated with commercial flights.

In 2015, Cargolux was again called upon to carry the bigger and improved Solar Impulse 2 from Switzerland to Abu Dhabi, from where pilots Bertrand Piccard and André Borschberg succeeded in their daredevil dream of achieving the first ever round-theworld solar flight. Once back in Abu Dhabi, it fell to our experts to bring the innovative aircraft back to Switzerland. Our charter department was heavily involved in the planning and execution of the project and worked closely with the Solar Impulse team to great effect.

The single-pilot, lightweight aircraft weighs not much more than a car but has a bigger wingspan than a Boeing 747. One of the key challenges was how to accommodate this within a 747F and a 3D CAD model of the interior was created to analyze various loading scenarios and patterns. The final, ingenious solution was to split the 71-meter-wide wing into three

24-meter segments which were stacked inside the 747F with the help of a removable crane system installed in the aircraft. The height and length of Solar Impulse were at maximum loading limit and a ballast cargo in the forward lower deck ensured that the center of gravity remained within operational limits. Thanks to the Cargolux Load Control Department, the craft was loaded and offloaded not only without a scratch but also with the setting of a new offloading time record in the process.

From the perspective of our Cargolux pilots, weather is always a critical element and, while they were blessed with fantastic visibility on the day, this was not taken for granted. Weather can be a challenge in November and the military ground control team was contacted in advance to verify how low the 747F could be guided to enable a cloud-breaking procedure if required. A 3D plot was obtained from the flight safety department to check how the approach was flown two and a half years earlier and a B747



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simulator was then used to practice. Navigation and performance data was loaded, charts printed, overflight rights and landing permits completed and much more – all within a short time frame. So impeccable was the ground-handling preparation that Cargolux also set the world record for the longest push-back of a 747 (approximately 2,200 meters). All the necessary corporate safety checks and approvals were obtained from the DAC who issued a special permission based upon a set of risk assessments performed by CV Corporate Security. As an ad hoc charter flight, additional approvals were needed from Luxembourg and Switzerland (as the destination country) and the EU Validator certified our compliance with EU standards. In completing this project to such a high standard, our staff demonstrated not only an exemplary team spirit, but immense professionalism, expertise and creativity. It seems nothing is impossible with

the collaboration and support of our magnificent Cargolux team.

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Cargolux products



CHRISTIAN THEIS

MANAGER, GLOBAL PRODUCT MANAGEMENT

Which aspects of animal transportation are handled by CV Alive? We are responsible for collecting the animal from the online station at the airport of departure until arrival at the final online destination. We ensure the animal's welfare throughout the entire journey, until it's safely back in the hands of the client who takes delivery directly from the aircraft or at the animal station.

The service has become a Cargolux speciality. Why is the Cargolux team considered a "specialist" in this uniquely challenging area? We have 45 years of experience in animal transportation and our handlers are trained to the very highest standards. We have an EU-certified veterinary station in Luxembourg and all our procedures are based upon IATA's Live Animals Regulations and the Convention on International Trade in Endangered Species.

As manager of CV Alive, why do you think a client should choose Cargolux over a competitor when transporting live animals? Cargolux goes the extra mile to ensure the well-being of all creatures placed in its care. We adapt our network to avoid any transportation stress and give personal attention to each and every animal – from breeding bulls and expensive race horses to dogs and alpacas.







LEAN & GREEN AWARD

Lean, green & proud

ALWAYS THE INNOVATOR, CARGOLUX IS THE FIRST AND ONLY AIRLINE TO RECEIVE THE LEAN & GREEN AWARD, RECOGNIZING ITS COMMITMENT TO REDUCE CARBON EFFICIENCY.

here is no doubt that, since the 2008 financial crisis, the freight market has been under extreme pressure – not only competitively, but also in terms of the extreme volatility regulating supply and demand. It is all the more remarkable then, that, at a time when many airlines are fighting for their survival, the management and board of directors of Cargolux have undertaken to invest significantly in reducing the company's carbon footprint – an initiative that is close to the very heart of the organization. "It demonstrates our commitment to the communities that neighbor our airport and to the environment in general. It also impacts greatly upon our clients who care about environmental performance and take this into account when selecting their airline of choice," says Moa Sigurdardottir, Head of Corporate Communications.

The project has been up and running at Cargolux for around six months and is led by Géraldine Guebel, Head of Environmental Management, who prepared the action plans. "Initially when we began discussions with Lean & Green, the target was to reduce emissions by the same percentage as ground operation, but this was later adjusted to 10% when all involved realized just how challenging this was for an airline to achieve."

As a result of these discussions, a specially modified Lean & Green was introduced for aviation and Cargolux is wellpositioned to succeed, given its new fleet, long flights and heavy weight loads. "Every staff member impacting fuel-burn has a part to play in our initiatives – from flight operations and maintenance to global logistics," Guebel explains. In fact, Flight Operations runs a "fuel club" which aims to conceive ways to reduce fuel consumption – taxiing on three engines instead of four, for example. The club is represented by various employees throughout the company; many are pilots and engineers who work with the maintenance teams and have a great perspective in this area. When an idea is conceived, the group gets together to discuss feasibility and possible outcomes and has already identified a number of ways in which to save fuel. At this rate, it's not "if" Cargolux achieves the 10% reduction, but "when"! 0



THE LEAN & GREEN AWARD GIVES CARGOLUX A COMPETITIVE ADVANTAGE AND REINFORCES ITS COMMITMENT TO DELIVERING THE VERY HIGHEST LEVELS OF SERVICE.



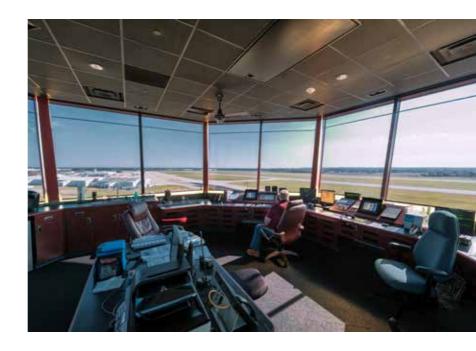




"Every staff member impacting fuel-burn has a part to play in our initiatives – from flight operations and maintenance to global logistics."

Géraldine Guebel

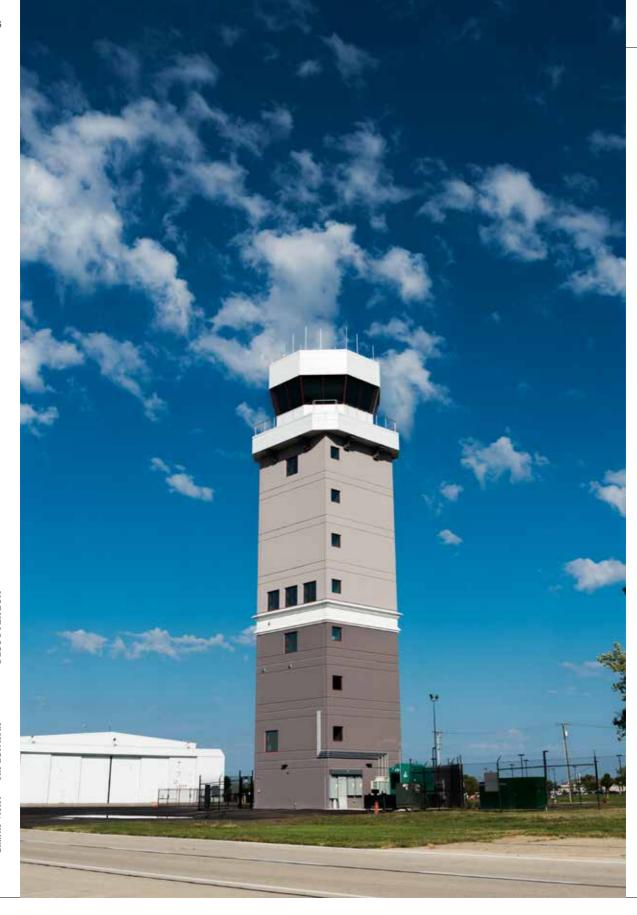
DISCOVER LCK



We're backing Rickenbacker

AS A MORE RECENT ADDITION TO OUR GLOBAL NETWORK, THE RICKENBACKER CIVIL-MILITARY PUBLIC AIRPORT IS WELL POSITIONED TO ADD VALUE AND WE'RE DELIGHTED TO BOAST ITS PRESENCE THERE. WE'D LIKE TO SHARE SOME IMAGES CAPTURED BY CARGOLUX PILOT AND TALENTED PHOTOGRAPHER CHRISTIAAN VAN HEIJST.

Christiaan van Heijst





THE COLUMBUS REGION IS A 10-HOUR DRIVE FROM 47% OF THE U.S. POPULATION.
RICKENBACKER INTERNATIONAL AIRPORT IS IDEALLY POSITIONED ON THE SOUTHEAST SIDE OF COLUMBUS.

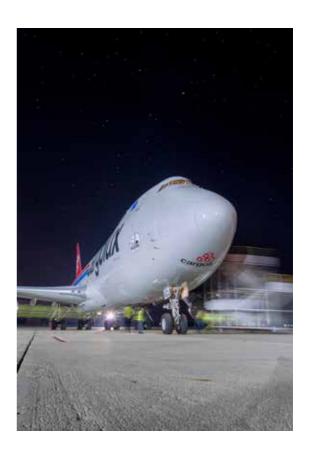




THE AIRPORT AND OFF-AIRPORT BUSINESSES PROVIDE OVER 20,000 JOBS AND HAVE AN ANNUAL ECONOMIC IMPACT OF MORE THAN USD 2 BILLION. THESE NUMBERS ARE GROWING YEAR AFTER YEAR.



WE SERVE RICKENBACKER THREE TIMES A WEEK OUT OF HONG KONG, DEPENDING ON THE SEASON. THE AIRPORT HAS TWO PARALLEL RUNWAYS AND TAXIWAYS WITH HIGH-INTENSITY RUNWAY EDGE LIGHTS.

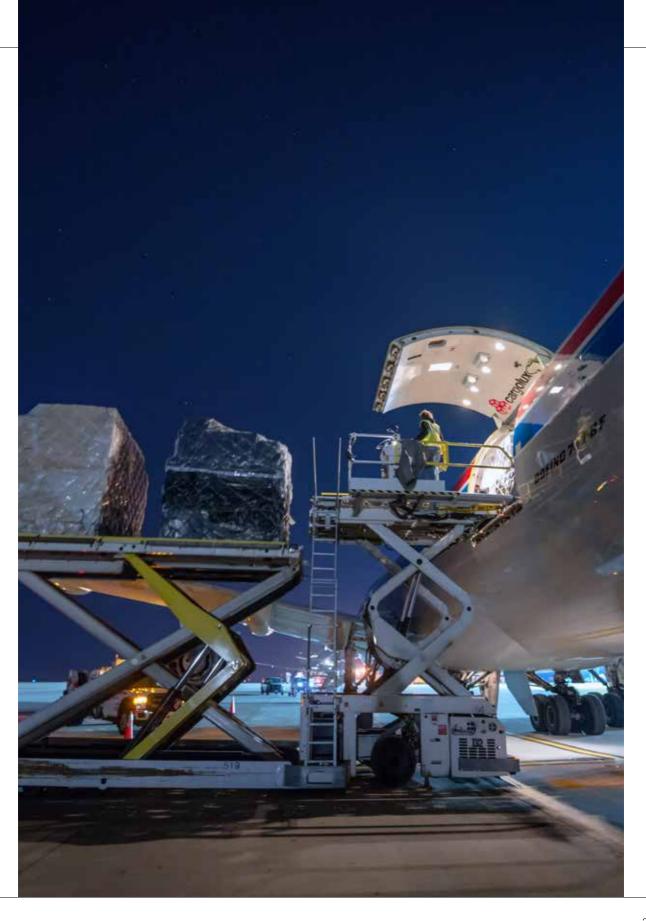






MORE THAN 170 FOOD AND BEVERAGE MANUFACTURING BUSINESSES ARE LOCATED IN THE COLUMBUS REGION, GENERATING AN ANNUAL ECONOMIC OUTPUT OF OVER USD 17 BILLION.









RICKENBACKER RANKED AS ONE OF THE WORLD'S **TOP 20 FASTEST GROWING AIRPORTS** IN JULY 2006 AND HANDLED OVER 87.5 MILLION KILOS OF OUR CARGO IN 2015.









MEET ALEX WECKER, VICE PRESIDENT OF FLEET PLANNING





Alex Wecker uncovered

WITH 42 YEARS OF SERVICE UNDER HIS BELT, OUR VICE PRESIDENT OF FLEET PLANNING BOASTS A UNIQUE PERSPECTIVE ON THE EVOLUTION OF CARGOLUX. HAVING **JOINED IN '74**, THIS TRUE GENTLEMAN IS NOT ONLY IMMENSELY EXPERIENCED BUT ALSO INTENSELY PASSIONATE ABOUT THE FREIGHT BUSINESS AND ITS ROLE. WANT TO KNOW WHAT HE IS MOST PROUD OF? READ ON!

Maison Moderne

Why did you decide to join Cargolux? It was a different world when I got my degree in mechanical and aeronautical engineering in 1974. The Luxembourg labor market didn't have much to offer in the way of aeronautical jobs but Cargolux was looking for an assistant to the material control and purchasing manager. They had taken on responsibility for Loftleidir's maintenance – known today as Icelandair. That was 42 years ago and I can truthfully say there's never been a dull moment since! What's been keeping you busy? We've worked on a number of very interesting projects this year. We took delivery of two leased 747-400Fs, one new 747-8F and we also returned two 747-400BCFs to their owners. We are reviewing various fleet plans, evaluating our 747-400 fleet and keeping in touch with airplane manufacturers. They like to hear about our experiences and requirements for future airplanes.

What aspect of your job do you enjoy most?

Negotiating deals with counterparties; purchasing and leasing airplanes and negotiating the contract terms and conditions. It can be quite challenging and you have to stay calm; some people say I am quite calm and sometimes show a "poker face". As an engineer, I also enjoy the technical aspects of the job; inspecting planes and determining under which conditions to take delivery and accept return of leased airplanes.

How did your relationship with Boeing begin? It began when we acquired a 747 in the mid-70s but really developed in 1978 when it production started and I became the company representative at Boeing. The plane was delivered in 79 and I lived in Seattle for almost a year during this period.

How has it evolved? It's evolved greatly over time. It started with the two airplanes we purchased in the 70s and peaked when we became the launch client for the 747-8F in 2005. Initially called the Advanced, the 8F was so named because I believe 8 is a lucky number in China.

A healthy marriage requires compromise on both sides. How has the Boeing/Cargolux bond withstood the test of time? When issues arise, we try to find reasonable solutions in an orderly way. There's always a bit of give and take to reach a win-win situation for both parties. Our relationship with Boeing is longstanding – people may change but the relationship remains strong.

How important is this relationship to Cargolux? Very important because they're the only manufacturer building high payload,

volume, long-range aircraft that best fits our business model.

How has Cargolux changed in the time you have been there? It's like day and night! I started in the pioneering days with the turbo prop Canadair CL-44 we'd inherited from Loftleidir. Now we have a fleet of 26 747s, of which 14 are new 747-8Fs – the best freighters money can buy in this category. We've grown from a charter airline to a scheduled cargo airline with a global network that many have tried to copy without success.

What are you most proud of? I'm very proud of the 747-8F launch and our new hangar which was a dream come true for our mechanics. Prior to this. they were working outside in the dark. wet and cold, so this was a paradigm change in maintenance. I'm also proud that we've had no accidents since my arrival in '74.

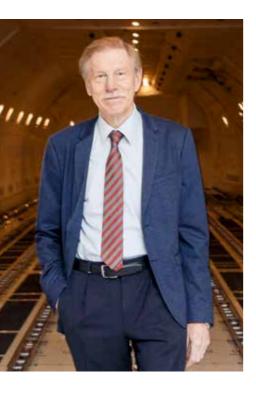
What's been the biggest challenge you've had to face? Pulling through the "lean years" of the early 80s. I took responsibility for Maintenance & Engineering in 1984 and it was a challenge to structure the department, both personnel and airplane fleet. This proved successful with a smooth introduction of the 747-400F fleet in 1993.

As you approach retirement, what is the greatest challenge your successor might have to face? A difficult

cargo market environment creates special challenges for fleet planning. Early this year, a bright young engineer joined our Fleet Planning department and I'm pretty sure he's going to do a better job than me!

If you had one wish for the future. what would it be? I'd certainly like to see great success for Cargolux in the future and hope that the work we've put in will have played a role. We have the right equipment, great quality of people and a global network that is almost unique, so we're really geared for success. All we need is a healthy air cargo market and a bit of luck! 0





"I AM VERY PROUD (...) OF OUR NEW HANGAR WHICH WAS A DREAM COME TRUE FOR OUR MECHANICS. PRIOR TO THIS THEY WERE WORKING OUTSIDE IN THE DARK, WET AND COLD, SO THIS WAS A PARADIGM CHANGE IN MAINTENANCE."



"We've grown from a charter airline to a scheduled cargo airline with a global network that many have tried to copy without success." TRIBUTE

The 747-8F

BOEING CELEBRATED ITS 100TH
ANNIVERSARY IN JULY 2016 AND WE
CAN'T HELP FEELING THE NEED TO
CELEBRATE WITH THEM. AS THE 747-8F
LAUNCH CUSTOMER, AND 1ST AIRLINE
TO FLY THE AIRCRAFT, CARGOLUX IS
A PROUD OPERATOR OF THE JUMBO.

ur relationship with Boeing is not only longstanding but special in many ways. We were the first airline to fly the 747-400 freighter when we took delivery of our initial account in 1993. In the early 2000s, we invested much time and energy in the development of the 747-8F. Modified to accommodate our eight key criteria, Boeing only agreed to build this model once we had submitted an initial order for ten machines; the rest you might say is history. Having recently received the last of the present order, we now boast a fleet of fourteen -8Fs and twelve -400Fs and are well-placed to carve out an even greater niche in the freighter market. Joe Sutter was the chief designer of the 747 and is widely known as the father of the 747. We got to know him when we bought the second batch of 747-400Fs and he visited Luxembourg regularly to play golf during our Cargolux golfing tournaments. News of his sudden death in August was received with great sadness. "He was a very intelligent guy and you could ask him anything about airplanes and he knew it all," recalls Alex Wecker, fleet planning VP. "He always had a special relationship with us and was a true friend of the company." It seemed only fitting then that we named our 30th 747 freighter "Joe Sutter – Father of the 747", in honor of this extraordinary character and true giant of the aviation industry. 0





100 YEARS OF BOEING



1916-2016 Boeing spreads its wings

FOCUS NO.1: **KEY AIRCRAFT**IN BOEING'S HISTORY

1916

MODEL C WAS THE COMPANY'S VERY FIRST AIRCRAFT, DESIGNED FOR TRAINING PILOTS. IT WAS USED TO PROVIDE THE WORLD'S FIRST AIRBORNE POSTAL SERVICE IN 1919, DELIVERING 60 LETTERS FROM VANCOUVER IN CANADA TO SEATTLE IN THE US.



1938

THE **BOEING 314** OR "CLIPPER" WAS A FLYING BOAT CAPABLE OF CARRYING 74 PASSENGERS AND FACILITATED THE WORLD'S FIRST TRANSATLANTIC POSTAL SERVICE BETWEEN PORT WASHINGTON AND MARSEILLE. DEVELOPMENT HALTED ON THE OUTBREAK OF THE SECOND WORLD WAR.

1958

THE BOEING 707 - THE STAR
OF AIR PASSENGER TRANSPORT
IN THE 60S AND 70S - USHERED
IN THE JET ERA WITH A CRUISING
SPEED OF 70OKM/H.
THE AIRCRAFT COULD TRANSPORT
UP TO 189 PASSENGERS ON
NON-STOP FLIGHTS OF
BETWEEN 4,630 AND 10,650KM.



1970

THE **BOEING 747** QUICKLY GAINED THE NICKNAME "JUMBO JET" OR "QUEEN OF THE SKIES" AND WAS EASILY RECOGNIZABLE WITH ITS CHARACTERISTIC HUMP ON THE FRONT END OF THE FUSELAGE. CARRYING UP TO 660 (SINGLE-CLASS) PASSENGERS, IT HAS HELD THE PASSENGER TRANSPORT RECORD FOR 37 YEARS.



2004

THE EXTENDED-RANGE **BOEING 777-300ER** IS THE BEST-SELLER IN THE SERIES. POWERED BY A GE90-115B TURBOFAN, IT'S THE MOST POWERFUL JET ENGINE EVER BUILT. THIS AIRPLANE CAN FLY 34% FURTHER THAN THE CLASSIC VERSION, USING 1.4% LESS FUEL.



2009

THE **BOEING 787** OR "DREAMLINER" IS THE LATEST ADDITION TO THE FAMILY, CONSUMING 20% LESS FUEL THANKS TO THE COMPOSITE MATERIALS (GRAPHITE, FIBREGLASS) USED IN ITS CONSTRUCTION. CONFIGURED APPROPRIATELY, IT CAN CARRY UP TO 330 PASSENGERS.

The history of Cargolux and Boeing 747 goes back a long way.

- > IN 1978, WE PURCHASED OUR FIRST BOEING: A CARGO VERSION OF THE **747-200**. SPECIAL FEATURE: THE AIRCRAFT COULD EITHER BE LOADED FROM THE FRONT, BY RAISING THE NOSE, OR VIA THE SIDE CARGO DOOR.
- > IN THE 1980s, WE OPERATED THE **SPECIAL FREIGHTER** VERSION OF THE 747-200. THE **747-100** AND **747-200** PASSENGER VERSIONS WERE ALSO PUT TO WORK ON CERTAIN OCCASIONS.
- > IN 2005, WE BECAME THE FIRST AIRLINE TO FLY THE CARGO VERSION OF THE NEW BOEING 747-8, NEGOTIATING THE PURCHASE OF 13 AIRCRAFT FROM BOEING, WITH AN OPTION ON A FURTHER 10.

Coming soon...

FEATURING A BRAND NEW ENGINE AND DESIGN, **THE 777X** WILL BE THE WORLD'S BIGGEST TWIN-ENGINE JETLINER. ITS PASSENGERS WILL BE GUARANTEED A SUPERB FLYING EXPERIENCE, THANKS TO ITS SILENT CABIN WHICH WILL BE 40 CM LARGER AND WILL HOUSE WINDOWS THAT ARE SOME 15% BIGGER.



CHARLIE VICTOR

THE CARGOLUX MAGAZINE

PUBLISHER

Cargolux

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Maison Moderne

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