



my journey starts here



LUX

Annual Report
2019

Welcome

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Want some impressions from lux-Airport?
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Message from the Chairman

Taking the Lead Together

We have a successful year 2019 behind us. Given current events and their impact on the aviation industry, it can be difficult to look back to a time when nobody could foresee the hardships that arose in a matter of months. Nonetheless, it is very much worthwhile because our sustained achievements and strategic decisions predicate our resilience and the future success at LUX.

There are significant positive developments to report for 2019. We saw a healthy growth in passenger numbers compared to 2018, reaching a total of 4.4 million. For air cargo volume, 2019 was the third-best year since 2009, despite a year-on-year decline of 6.7% and 2019 being the worst year for global air cargo demand since the great recession of 2009, according to the IATA (International Air Transport Association).

We are in a good position to play an active role in the current digital transformation of the cargo industry: to that end, we also decided in 2019 to embrace the accelerating digital transformation of the cargo industry by taking the lead to enhance collaborations and to actively promote the digitization of the Luxembourgish air cargo platform.

"Our past projects and strategic decisions set the stage for future resilience."



Perhaps the most visible achievement of 2019 was the completion of the Cargolux headquarters, featuring a spectacular architectural concept. Furthermore, we laid the groundwork for upcoming major projects such as the technical planning of the runway renewal and the preliminary works for the Skypark Business Center.

Our proactive accomplishments in 2019 demonstrate a solid strategic position to master the unprecedented current challenges

the aviation industry is facing. During the Corona crisis, lux-Airport never closed and enabled vital air traffic in support of health-care-related logistics for our nation in a difficult environment. This is what I mean by resilience and I am sure that this spirit, too, indicates we remain on the right track.

Tom Weisgerber

CHAIRMAN OF THE BOARD



"If there is anything positive about the Corona crisis, it is that it showed the exceptional team spirit at LUX."

Message from the CEO **Collaboration is Our Strength**

Last year was the year of preparation. We completed the technical planning for the runway project to enable the public tender initiated this year. The Skypark Business Center site has been prepared so that construction can begin. In a collaborative effort involving different departments and external partners, we successfully carried out an emergency exercise simulating a toxic chemical spill incident. We realized several infrastructure projects such as the redesign of the Aelia duty-free shop or a new concept for apron P5. Last but not least, 2019 saw the addition of nine new destinations, including the reopening of the Stockholm route by SAS.

The collaboration and strong team spirit across departments essential to these realizations has now been brought to bear to tackle the challenges brought on by the ongoing crisis situation.

Our team has kept lux-Airport going and enabled the smooth operation of special medical flights, repatriation efforts and crucial air cargo traffic. This team spirit did not arise out of thin air, as the behind-the-scenes stories in this report clearly illustrate.

In the 2018 report, I wrote that it takes a team to build the future at lux-Airport. This has never been more true than now. And 2019, as well as the ongoing crisis management at the height of the Corona situation, give reasons for optimism. Thank you to all involved for this great achievement.

René Steinhaus

CHIEF EXECUTIVE OFFICER

Facts & Figures

Our Year 2019 in Numbers

DIRECT FLIGHT DESTINATIONS

85

EMPLOYEES

326

TONS CARGO

893,090

CARGO DEVELOPMENT

-6.7 %

SCHEDULED PASSENGER AIRLINES

16

PASSENGERS

4,416,038

PASSENGER NUMBER INCREASE

8.9 %

PASSENGERS ON THE BUSIEST DAY

16,811

PASSENGERS IN THE BUSIEST MONTH

423,980

A Few Highlights of 2019

Besides our big projects, there were many highlights in 2019 affecting life at the airport.

12/06/2019

New Aelia duty-free walkthrough design

Only ten weeks after works began, the redesigned Aelia duty-free walkthrough shop at Luxembourg Airport opened its doors. The new concept brings traditional regional products and delights catching the customers' attention instead of focusing on international brands only.

See also our story [later in the report.](#)



30/04/2019

Emergency exercise

In an exercise simulating a chemical goods incident, emergency response procedures were tested in practice.

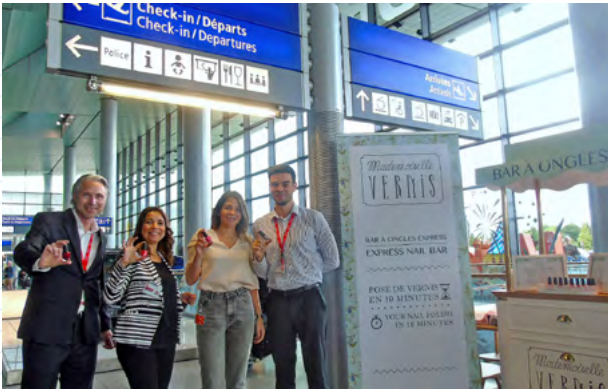
See also our story [later in this report.](#)



20/06/2019

Mademoiselle Vernis nail bar express

The concept of nail bar express has arrived at Luxembourg Airport. Visitors and passengers are able to entrust their hands to the experts while waiting for their flight, before check-in or at arrival, and make a choice among multiple cares: manicure, pedicure, nail polish...



19/08/2019

ING Kids' corner

Together with ING Luxembourg, lux-Airport opened a temporary kids' lounge at Luxembourg airport. The concept is a huge success.

See also our story [later in the report.](#)



26/09/2019

LOT 90th anniversary

We celebrated the 90th anniversary of LOT Polish Airlines, a Star Alliance Member, which started at Luxembourg Airport in 2016 and now operates twice a day from Mondays to Fridays, and Sundays to Warsaw Chopin (WAW) airport. Passengers were pampered with Luxembourgish Macaroons and Crémant followed by a water salute when departing from Luxembourg to Warsaw.

04/11/2019

SAS opening

SAS Airlines connects Luxembourg to Stockholm via direct flight three times a week. We celebrated this new connection with the traditional water salute and a buffet with Swedish delights for departing passengers.



03/09/2019

First flight to Toulouse with Ryanair

Ryanair celebrated the launch of its new route from Luxembourg to Toulouse, which operates with a three-weekly service as part of Ryanair's winter 2019 schedule. Toulouse is the ninth non-stop connection from Luxembourg to France.



07/10/2019

100 years KLM

A milestone to celebrate the oldest airline that is still operating under its original name. KLM has been linked with Luxembourg for over 30 years now and provides up to four flights every day to Amsterdam Schiphol.

LUX STORIES

Chapter 02



Like a Movie Plot

Although their scenarios can sound like movie scripts, emergency exercises are serious business.

A

cargo aircraft lands at lux-Airport, approaching apron P10. Once it comes to a halt, the ground handlers try to contact the pilot: no response. What is going on here?

The ground handling staff get a bit worried. They then discover that there are chemical substances on board – and fear this might be the cause of the problem. It is high time to call for help. Now the job for the specialists is to evacuate the pilot and find the source of the toxic fumes.

All of this very much sounds like a movie plot – and just like in a movie, it is not real. It is a drill. But unlike in most movies, there is no super-hero saving the day. The super-hero, in this case, is perhaps a little less dramatic, but all the more important: it is the extensive planning and team effort that goes into an emergency exercise like this.

“The more exercises you do, the less stress you have in the real situation.”

“The more exercises you do, the less stress you have in the real situation,” Asko Schröder, Emergency Response Manager at lux-Airport, sums up the idea. This is why the airport needs to carry out a full emergency exercise every two years. “It is important to change the scenario and the alert level every two years, because the setup for the response can be very different,” he explains. “If you just focus on one type of scenario, it can quickly turn into a mess if you encounter something different in real life.”



Our press release:
[www.lux-airport.lu/
emergency-exercise-
successfully-completed-
at-luxembourg-airport](http://www.lux-airport.lu/emergency-exercise-successfully-completed-at-luxembourg-airport)



HOW TO COME UP WITH A SCENARIO

In 2019, the exercise involved a dangerous goods incident, as described above, on cargo apron P10. Because it was a brand-new apron that has never seen an exercise, Asko Schröder thought it would be a good idea to test the procedures there. The advantage of this scenario was that the exercise could take place on a real apron – as opposed to a secluded area specifically assigned for the exercise and without disturbing other operations.

“Cargolux gallantly provided us with the aircraft,” a thankful remark. “But there was a whole lot more to organise.” Indeed, there was. On the side of lux-Airport, safety & compliance, operations, security and public relations had to work closely together. Among the external partners were the firefighters, rescuing service (CGDIS), customs and police, ANA, LuxairCargo ... The list of parties involved in the exercise is extensive. With emergency exercises, planning is everything.



FACTS AND FIGURES

- The emergency simulation was organised on Tuesday, 30th of April 2019, in the Cargo area of Luxembourg Airport.
- The exercise was organised by lux-Airport, the Aero-drome Operator, together with its partners: Adminis-tration de la Navigation Aérienne (ANA), Direction de l'Aviation Civile (DAC), Cargolux Airlines, the Corps Grand-ducal d'Incendie et de Secours (CGDIS), LuxairGroup, the Police Lëtzebuerg and Customs (Administration des Douanes et Accises).
- An emergency scenario was rehearsed with priority given to human rescue, the operation of care areas and limitation of possible damage. There was no impact on operations.

THE HUMAN FACTOR & SOCIAL MEDIA

Emmanuelle Mangin is Safety & Compliance officer at lux-Airport and helps making sure all requirements are met in the planning and execution of the exercise. She emphasises the human factor in dangerous situations: “In real life, human behaviour and people’s reactions are quite unknown. We therefore need these types of exercise to see how people behave, and whether all the procedures work. We cannot predict how humans will react – but with exercises and training, we can minimise the effects of each reaction.”

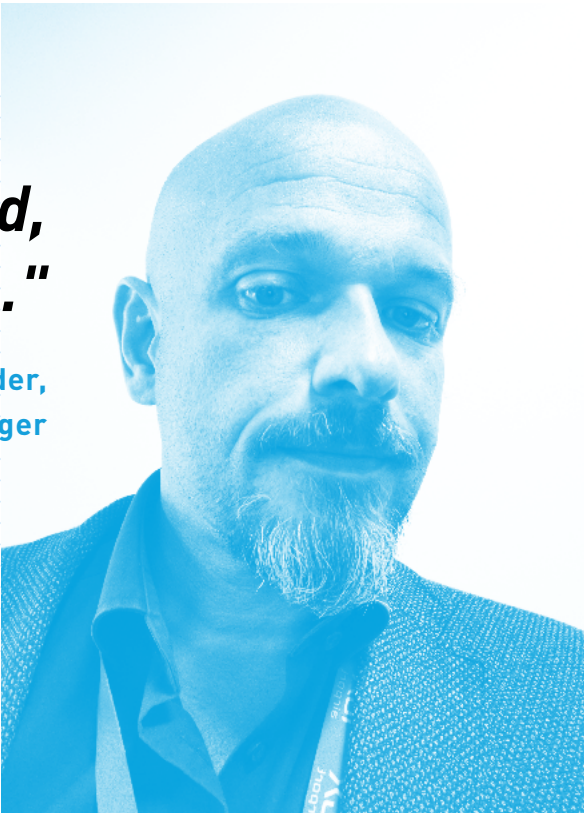
But there is a different kind of human factor that not everybody outside the aviation industry is aware of: the public interest in exercises like this. “For some people, getting a glimpse of an exercise is a nice show,” Asko Schröder explains. After all, exercises are carried out in plain sight. A good communication concept is therefore essential. The press was informed beforehand, but journalists weren’t invited to the exercise itself. “You can do that, but we opted not to. After all, the full focus needs to be on the exercise.”

The communications department even kept an eye on what was happening on social media – to know in advance how people react, whether they will gather to watch the exercise, and to actively communicate should any issues or misunderstandings arise. When the exercise was over, the team was also swift to announce it online.

“It is important to take the lead in communication and not just react,” Emmanuelle Mangin explains.

“Once the exercise started, I was completely calm.”

— Asko Schröder,
Emergency Response Manager



TEAM SPIRIT

Getting back to the human factor, team-work is of the essence in a project like this. Getting everyone together and on the same page about the specifics is everything.

“You need to have something very clear, very precise,” says Emmanuelle Mangin. Asko Schröder adds: “There are so many parties involved, everyone has to agree on the scenario.”

The planning phase is where the real stress happens. “Once the exercise started, I was completely calm,” Asko Schröder remembers, “because I knew everyone was aware of their part in the exercise, and everything was well thought out.”

What more can you ask? And while no lives were saved on that day, and no (real) toxic cargo neutralised, the exercise might very well prevent a scenario like this from doing harm in the future.

“We cannot predict how humans will react.”

— Emmanuelle Mangin,
Safety & Compliance Officer



Emergency scenarios:
theory is not enough



Cargolux Headquarters: a Suspension Story

The new Cargolux headquarters has been completed. More than a building, it is the heart of the Cargolux campus – and it has attracted the attention of architects and structural engineers due to its extraordinary structural concept.

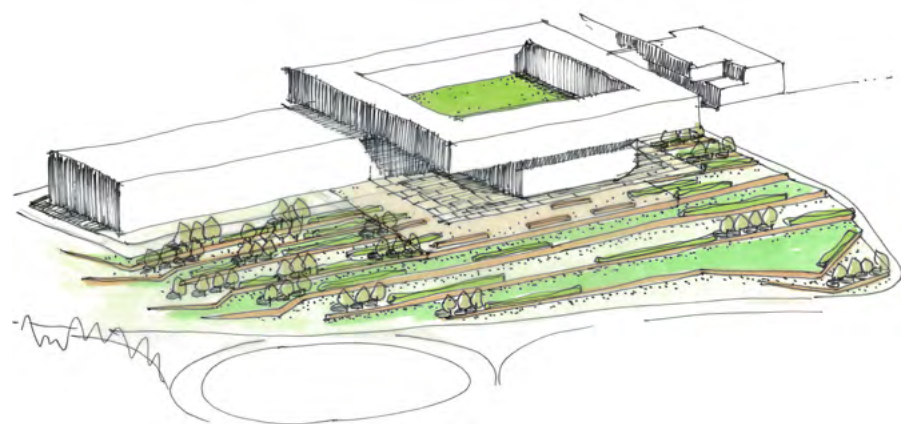
There is magic in every beginning, they say – but sometimes it is difficult to keep that spirit up. Especially if you are in for a rough start, which was the case when construction of the new Cargolux headquarters began.

“One of the first things we had to deal with at the beginning of the construction work was that the building pit was flooded,” recalls Alexander Flassak, responsible for the project as CFO and Head of Real Estate Development at lux-Airport. “There was more rain during that time than there had been for years, and once that was over, we had a massive cold spell!”

This bad luck with the weather meant that work had to be suspended. All the more remarkable, then, that the building could be completed at the end of 2019 after just 23 months of construction work. In February 2020, the building was formally handed over to Cargolux.

 Our press release when the project was launched: www.lux-airport.lu/new-cargolux-headquarter-at-luxembourg-airport

“People from professional engineering magazines came to the site when the big steel ring was installed.”



“People from professional engineering magazines came to the site to see how the installation of the big steel ring was progressing,” Alexander Flassak says. The corners of the building had to be built higher than the rest of the building to allow the structure to come down precisely 18 cm once the steel ring was completed. According to him, “the experts wanted to find out how this plan worked out in practice.”



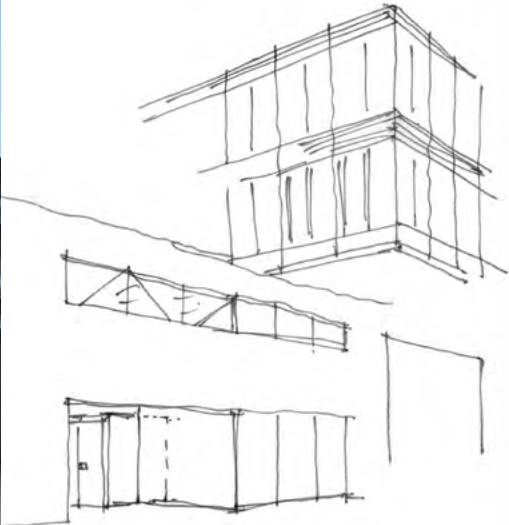
AN IDEA TAKES SHAPE

The project started with Cargolux’ wish to bring everyone under one roof, literally. A building on the airport perimeter would be ideal, minimizing friction losses and making logistics easier. A variety of architects were invited to a competition to present their ideas, which AS+P, in cooperation with Schemel Wirtz, won – not only because of the economic efficiency of their approach but also because of their daring yet functional concept.





The top structure is just supported by the structure beneath – a daring feature.



But the most important feature of the concept is that it suits Cargolux perfectly. For example, the supporting structure of the building is fascinating: two office floors are built on four cores, which gives the building the desired industrial character.

And the cafeterias, the many conference rooms and the open, connected concept make for a very agreeable working environment.



Offices: modern industrial charm

“The architects managed to create a real Cargolux campus on the airport where the main building is connected to the maintenance hangar via a bridge,” Alexander Flassak explains excitedly, “and they managed to integrate the complex into the airport environment in such a way that airport operations are taken into account and the traffic area is not unnecessarily reduced.”



The cafeteria

“Yes, looking into the building, people can see the flight simulators in action.”

Another highlight is the glass cube, which houses the airline’s sophisticated flight simulators. These are suspended in the air – or at least that is what the cockpit looks like from the outside. Yes, looking into the building, people can see the flight simulators in action. This makes the installation not only a training site for pilots, but an attraction in and of itself. By contrast, in the current building, the simulators are located in the basement, invisible from the outside.

An attraction itself: the flight simulators.



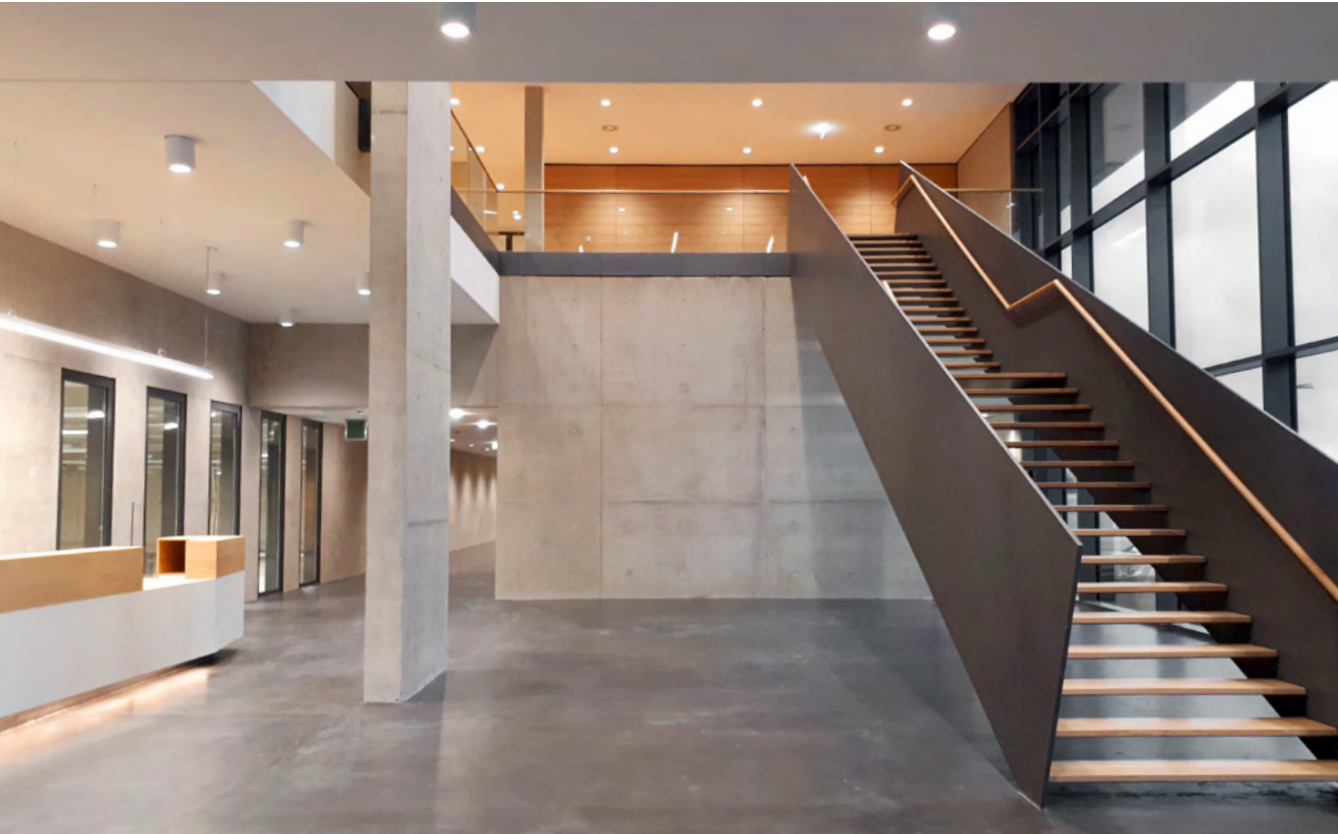
THE CARGOLUX HEADQUARTERS
IS JUST THE BEGINNING

The large-scale construction project was the first of its kind in recent years. But it won’t be the last. The successful completion of the Cargolux headquarters marks the beginning of a series of other important projects.

New hotels and new office spaces will further transform Luxembourg Airport into a sophisticated business hub, with the Skypark Business Center being the first to be completed.

“We will see many more construction sites in the coming years.”

There are several projects in the pipeline. “We will see many more construction sites in the coming years,” explains Alexander Flassak, “including a new fire station, a new maintenance hangar, the renovation of the runway, taxiways and aprons, and a new fuel farm.”



“The architects managed to create a real Cargolux campus on the airport.”

— Alexander Flassak,
CFO and Head of Real Estate Development



But a big construction project like this also brings little joys that take us back to watching construction sites when we were kids. “What really impressed us were the big trucks that brought the massive steel elements to the site,” Alexander Flassak remembers with a smile. Steel that had been produced locally in Luxembourg. In the end, it all came together. ■



Making Everyone Happy: a Playful Duty-Free Experience


Regional products at the refurbished Aelia duty-free shop, Luxembourg's first Fnac, and a great idea for kids: in our interview, Commercial Coordinator at lux-Airport Benoit Henrotte tells us how all of this came about.

Mister Henrotte, why the decision to refurbish the Aelia duty-free shop?

We had two separate airside shops before: the House of Delights offering regional products, and the Aelia walkthrough duty-free shop. The problem was that the wooden walls at the House of Delights hid most of the offerings so that shoppers often didn't know they could buy regional products. That is why the idea came up to integrate the House of Delights products into the duty-free shop and change the layout of the shop accordingly.

Do you think this will strengthen the local and regional brands?

Yes! Many shoppers prefer buying something special from the region as opposed to international brands they can get everywhere. Even if it's something like a chocolate bar. But if they don't know that there are local alternatives, they can't buy them!

 Our press release:
www.lux-airport.lu/a-remake-of-the-aelia-duty-free-walkthrough-shop-at-luxembourg-airport



“Many shoppers prefer buying something special from the region as opposed to international brands they can get everywhere.”

What else has changed at the shop?

The cash desks have been placed in the middle of the shop, which helps with the passenger flow and makes the whole shopping experience much more comfortable. An important addition is the new Fnac corner at the shop where people can buy electronic devices and accessories.

This is of course particularly important these days. In fact, this was the first Fnac to open its doors in Luxembourg! We are proud of that.

“Collaboration is so important at an airport.”

There must have been a lot of coordination involved, right?

Indeed, as the contact person for all the commercial operators my role was to coordinate between our technical department and the shop operator Lagardère. Of course, they wanted to keep the shop open throughout the construction phase, plus this is a walk-through shop that you can’t just close!

And you can’t do dirty and noisy construction jobs when there are shoppers around. So we had to do the work from midnight to 4 a.m. – certainly a challenge. But we were all on the same page, our technical department and safety departments that supervised the work as well as the operators. We managed to keep the shop open by moving fences around. Collaboration is so important at an airport. And in the end, we completed the project on time.



FACTS AND FIGURES

- Only ten weeks after work began, the redesigned Aelia duty-free walk-through shop opened its doors in June 2019.
- Visitors will immediately notice the changes as they approach the entrance, where current promotions are on display, along with the dedicated Luxembourgish section brimming with traditional regional products and delights.
- The ING Kids’ Lounge is a cooperation between lux-Airport and ING Luxembourg. The place opened in August 2019.
- Kids between three and eleven years can challenge themselves at skill games, recharge their devices, or play with other kids.

Speaking of time, passengers often have a lot of it on their hands at the airport. This can be challenging, especially for parents. So you have created the ING Kids’ Lounge.

We have received many requests over the years for doing something for the kids, both on social media and at the information desk. So when the integration of the House of Delight into the duty-free shop freed the House’s former location, René Steinhaus (our CEO) came up with the idea to offer something for the kids and of course for the parents as well. This is how the Kids’ Lounge started out.

The Kids’ Lounge team – including Sam!



And then you got ING Luxembourg involved as a sponsor?

We have already worked with ING a lot, for example on the lounge at terminal B, which they sponsor. They are very active, always have good ideas and think outside the box. So we asked them directly. It was a no-brainer and resulted in a cool concept!

 Our press release:
www.lux-airport.lu/ing-kids-lounge-luxembourg-airport/

*“Whenever I pass by,
I see kids playing.”*



So how do kids and parents react?

Very positively! Whenever I pass by, I see kids playing. We get lots of great feedback on social media, and parents even come to me to thank me personally! You don’t always get such positive feedback (laughs), so it feels great.

Will the ING Kids’ Lounge be permanent?

For now, it is still there. Unfortunately though, we can’t keep it at this location forever. But we very much want to find a way to have something like this permanently.

Thank you. ■



***“We are all
on the same page.”***

— Benoit Henrotte,
Commercial Coordinator



It Takes a Team to Hit the Mark

More than adding some colour: new markings and light masts made apron P5 ready for air rescue operations and lightweight aviation. What sounds like a rather unspectacular infrastructure upgrade involves a huge planning effort across various departments and external agencies.

You can tell that Remy Verheezen and Romaric Paille are a team: they know each other, and each other's responsibilities, from countless projects. "Romaric is one of the people I talk to the most," says Verheezen, who is Head of Safety & Compliance at lux-Airport. His colleague agrees.

"Operation and Safety & Compliance couldn't exist without each other," the Airside Project Manager puts it. The apron P5 project is a good example of how such close coordination works – both internally and with external partners.



HELICOPTERS AT LUX-AIRPORT

It all started with a request from Luxembourg Air Rescue (LAR). Up until that point, the use of apron P5 had been less than optimal, especially for helicopter operations.

“At the time, P5 had no markings at all, it was just a big asphalt field,” Remy Verheezen remembers. He is responsible for making sure that accidents on the airfield are made all but impossible.



*It takes a team
to create a safe apron*



Besides, the lighting needed to be improved for night operations. Then, there was also the sports aviation community that uses apron P5. With the expanded air rescue activities, the concept for this apron needed to guarantee safe operations for the sports pilots as well, while making sure there is no interference between the user groups.

Effective safety and compliance
require great attention
to detail.

To fulfil the requirements, sufficient distances must be kept so that helicopters can take off and land simultaneously. Taxiing aircraft must follow precise routes to keep operations safe. And the specific dangers of helicopters such as propwash risks have to be mitigated and the staff protected. The team therefore turned the former indication markings into fully EASA-compliant heli-copter sites.



FACTS AND
FIGURES

- 2019 saw the development of apron P5 in terms of organisation and infrastructure
- New aeronautical markings have reorganised the area dedicated to general aviation. It is now better adapted to the requirements of Luxembourg Air Rescue as well as the activity of flying clubs, flying schools and private pilots.
- Lighting masts were installed at the end of last year. They allow Luxembourg Air Rescue to improve the safety of all their night operations.

“The work itself is not so difficult,” Claude Trap tells us. As Project Engineer at the technical department, he was involved in the execution of the P5 project. “But you have to organise everything beforehand.” Many meetings take place before the actual work can begin to bring everyone on the same page and discuss details across departments and with other stakeholders. “It is very much a team effort,” Claude Trap says, “and it all starts with a blank sheet of paper.”

Of course, paper has been largely replaced by sophisticated digital tools these days – such as software that lets you design and plan airfield layouts in great detail. The amount of thought that goes into something so deceptively simple as apron markings is staggering. Many operational scenarios must be anticipated, parameters must be entered, and even complex technical simulations of risks

***“It all starts
with a blank sheet
of paper.”***

— Claude Trap,
Project Engineer



associated with aircraft and helicopters must be carried out. “We have to do lots of simulations, light studies and lots of preparation and coordination work before the first line of paint goes on the ground,” Romaric Paille sums up the process. Obviously, this is true not only for the markings, but also for the light masts that had to be built on P5 to facilitate night-time operations.

LET THERE BE LIGHT

Putting up light masts at an airport can be a challenge. How many masts do you need at which angle? How can you make sure the structures don’t interfere with air traffic? And how do you plan the work, which involves big cranes, so that you don’t disrupt operations? “You can’t just go to the site and start working,” Claude Trap describes it.

Good planning and
close cooperation
with all stakeholders
are key.



Remy Verheezen lists just some of the potential pitfalls: “You have to make sure workers are protected from the helicopters, the pilots must know what’s going on, and construction work needs to be tightly coordinated with operations.”

Light studies had to be carried out to find the best compromise in terms of location,

number, height and floodlight type. These functional considerations must obviously be in harmony with the safety and compliance requirements, adding to the complexity of the planning stage. But no matter how good the planning, there still remains some nervousness when everything is completed and the lights are turned on.



"All stakeholders of the aerodrome need to be kept in the loop."

— Remy Verheezen,
Head of Safety & Compliance



“Will the pilots be comfortable? How will the tower staff experience the lights?”, Remy Verheezen describes the thoughts running through the team’s heads at the moment of truth. All the new floodlights are based on the latest generation LED technology.

“The interaction between LED light and helicopters was something new,” he adds. As with all new things, there can be surprises. But it turned out that all worries that may have crept up were unjustified: in the end, reality behaved exactly as predicted in the

simulations. The team crossed the finishing line smoothly – and users as well as the tower staff were happy.

TEAMWORK ACROSS BOUNDARIES

Claude Trap is sure that teamwork is what makes complex projects like this possible. He works with the operations people to plan the work, with the technical department, safety & compliance, security and maintenance, which takes over the equipment once everything is installed. Remy Verheezen and Romaric Paille don’t

just work closely with each other, across departments, but also with lots of external companies and agencies. The P5 project, after all, involved Luxembourg Air Rescue, the sports aviation community, external specialists for complex simulations, construction companies, Administration de la Navigation Aérienne (ANA), and basically the entire lux-Airport community.

“We always have others to support us.”

“We bring up everything at the monthly safety forum, where we all get together,” Remy Verheezen says, “all stakeholders of the aerodrome need to be kept in the loop and informed.” Speaking of cooperation, Romaric Paille puts it simply: “It’s great to have such partners.”

*Lightmasts:
detailed simulations
are necessary
before construction*



But aren’t these kinds of projects very stressful? Claude Trap laughs: “Yes, but it’s good stress!” By this he means that you need to keep your focus sharp and take it step by step. But he is not alone. “We have a lot of responsibility, but we always have others to support us. When there is a problem I can’t solve, I have my department, and I can always go to my management and we will find a solution. This is important to me.”

Markings and lights – these seem like appropriate metaphors to describe the complexities of projects like this: you need a clear path based on a detailed plan, and you need to illuminate every aspect by solid communication and a great team spirit. ■

“It’s great to have such partners.”

— Romaric Paille,
Airside Project Manager



IN BRIEF

Short stories

Skypark Business Center gains ground

The Skypark Business Center hasn't taken off yet – but it has surely gained ground: we have declassified the building site and secured the delivery area to the terminal building. Now everything is ready for the construction work to start.



Infrastructure work

We have built a new parking area for the staff. The new parking has replaced the old parking area where the Skypark Business Center will be built. Among other projects, a few old buildings have been demolished in order to prepare the airport for future projects.

Wildlife: Keeping the airport safe

To ensure safety on the apron, we have initiated measures such as the recruitment of a wildlife coordinator, the training of the different teams and the implementation of different tools. The transfer of these activities from ANA to lux-Airport is planned for early 2020.

Water and soil management

We have studied solutions for the carbon overload of wastewater due to de-icing. The first one involves water recovery on the stand when the plane leaves: conclusive on-site tests were carried out in 2019. We will be able to implement the solution in winter 2020–2021.

To protect underground waters, we are working to improve environmental emergency management procedures, including the installation of pipe plugs at strategic points at the airport to retain polluted water in the pipes for appropriate treatment. All underground oil tanks were inventorized, their condition checked, improved if necessary or neutralized if possible. All old single-wall oil tanks will be changed or a double wall will be added.

We always start news projects with a soil analysis and a remediation if necessary, as for the new Luxembourg Air Ambulance building and for the Skypark Business Center building.

Testing shoe analysers

Three SAMDEX (Shoe Analyzer Metal Detector & Explosives) machines have been installed at the terminal for testing purposes. This equipment allows the analysis of shoes without taking them off. Many passengers will appreciate this comfort.



IT infrastructure update

The modern airport relies heavily on its information systems. The IT team has implemented many major updates and upgrades – such as installing the latest generation of system backup procedures, migration of database systems, and various security improvements. Among other things, a secure and permanent remote access to critical elements of the computer network has been set up, the video surveillance system has been further developed and updated, and the car park management and baggage sorting systems have been migrated to a new IT infrastructure.

All in all, the team carried out approximately 110 medium-sized projects and managed twelve cross-sectional projects in close cooperation with the other departments – all part of the ongoing modernisation and evolution of the IT infrastructure.

New roller tables



One project in 2019 was the installation of new roller tables to improve the passenger flow through the security checkpoints. These help managing the movement of passengers to the screening lines.

Energy optimization of terminal A

The study about the energy optimization of terminal A was finalized at the end of 2019. Corrective actions will be implemented in 2020. The expected savings?

A reduction of heat consumption by 40 %, of cold consumption by 40 % and of electricity consumption by 15 %.

#FlyLuckyLux

In the social media competition #FlyLuckyLux, participants had to find out the destination in question by guessing based on a picture hint. The first participant with the right answer won two flight tickets. The social media game was carried out on Facebook and Instagram. The goal of the game was to emphasize that Luxembourg Airport has many direct connections and to make people search on the website www.lux-airport.lu where you can fly from Luxembourg.

More cooperation on airside safety

Our safety reporting system has been improved by creating and encouraging a “safety culture”. This means that everyone is encouraged to send in reports without fearing repercussions. It is extremely important to know about anything that could go wrong so that we all can learn from it.

These efforts have already shown good results: the number of safety reports has increased, as has the number of corrective actions.

The same spirit has also led to a much improved cooperation on audits and inspections. The closer relationship as well as improved cooperation between the various partners, ultimately helps improving airside safety even further.

Electric shuttle bus? Operational!



The new electric shuttle bus connects the Economy Parking M area with the airport. After everyone involved considered the results of the test as positive, the service of the shuttle bus was completely converted to the use of an electric bus in 2019. This means that together with its partner Emile Weber, lux-Airport saves up to 109.34 tons of carbon dioxide (CO₂) every year by switching to the electrical bus.

This CO₂ reduction is a result of the daily schedule of the shuttle service: starting from 4 am and operating until the arrival of the last flight, the bus travels to the terminal every 20 minutes, carrying up to 63 passengers per trip. As a result, the savings in CO₂ are equivalent to an area of 11 hectares of forest or the equivalent of 15 football fields. Besides, the bus is almost silent.

Number of employees

At the end of 2019, lux-Airport could rely on a team of 326 employees. We will continue with our efforts to recruit new personnel to meet the demand.

Service desk requests reduced

New solutions have been put in place to facilitate airport operations. We have achieved this by further developing our best practices in the management of incidents and response requests. Other factors include improved project management, the resilience of the IT infrastructure and a high degree of availability.

Honeybees stats!

How much do the honey bees at lux-Airport produce? Here are the results from our 2019 harvest, shared between ANA and lux-Airport:

- Spring honey: 196 honey jars – 23 kg
- Summer honey: 525 honey jars – 65 kg



Our analysis revealed the high quality of the honey: not only does it fully comply with legal provisions, but showed no measurable trace of heavy metals.

Maintenance projects

Preventive maintenance measures are crucial to keep lux-Airport in good shape and to avoid unnecessary spending down the line. It is therefore a priority for the maintenance department. But we also acquired new vehicles for the airside work, and installed a new tank for de-icing liquid. The liquid will be used to treat aprons in winter. Another important project was preventive maintenance of the baggage system in preparation for the x-ray replacement project in 2020. And in collaboration with the IT and security departments, we replaced the existing alarm and door supervision system in terminal A.



Big achievements for a small carbon footprint

The year 2019 was marked by the concrete implementation of lux-Airport’s environmental policy. Our strategy is the following:

1. Reduction of carbon emissions by 20 % in 2020 (already reached in 2019)
2. Offsetting our total carbon emission in 2020 by funding projects helping to combat climate change as well as caring for local communities
3. Reduction of carbon emissions by 50 % in 2030
4. Net zero carbon emissions by 2050

To prove the achievement of our objectives, we are engaged in the Airport Carbon Accreditation Programme – where we are currently at level 2.

At that level, we have already achieved a 20 % reduction in 2019, as compared to the reference year 2016. The most significant factors in this development were adapting the instructions to requirements by striking the right balance between comfort and instructions, optimizing the energy management of the terminal by adjusting the parameters to the constraints and implementing the possibilities for improvement and investment in electrical vehicles.

OUTLOOK 2020

New Milestones

Forecast

As we all have seen during the Corona crisis, it isn't easy to make predictions. After two successful months from January to February 2020 with +10 % in passenger traffic, the numbers decreased to -17 % for the first quarter of the year due to Corona. From the end of March to the end of May, scheduled passenger traffic came to a complete halt. The airport remained open for cargo traffic and humanitarian flights. Since 29th May, passenger flights have resumed with Luxair restarting scheduled traffic. The current forecast (June 2020) assumes a 50 % reduction of total annual passengers in 2020 compared to 2019. We expect the return of passenger volumes to a level of 2019 in 2022 to 2023. In case of a second wave of the virus, these numbers would have to be corrected downwards. The cargo figures in 2020 are currently on the level of 2019.

We believe that aviation will remain an essential aspect of life in Luxembourg: we are a metropolitan business centre with many companies and public authorities. Luxembourgers like to travel. The crisis has confirmed that lux-Airport is part of the critical infrastructure.

Yes, the crisis hit the aviation industry hard, and we have challenging years ahead of us. But we are also in a good strategic position – with many direct routes and an emphasis on continental traffic. The long-haul segment won't be a growth market this year. But in the European market, we have a competitive advantage with air services picking up, already reaching 60 direct destinations offered in July 2020 compared to the 85 in 2019.

Important projects

Among the projects carried out this year are the rebuilding of the baggage system, including the replacement of our level-3-security screening equipment, the opening of the employee parking lot and the beginning of the construction work for the Skypark Business Center project.

While the Cargolux Headquarters was completed in 2019, the handover to Cargolux took place in 2020 and their employees will move in. Another project is the implementation of a pre-booking system for car parking.

We also have [implemented many measures](#) to combat COVID19, such as using 100 % fresh air for the air conditioning system with a complete air exchange every 30 minutes, social distancing guidelines and a dedicated information platform on our website.

Another important project in 2020 is the [implementation of a cargo community system](#) (CCS), furthering digitization and our competitiveness in the cargo sector.

Furthermore, the tender for the runway project will be completed in 2020 so that construction can begin in 2021.

We'll live and keep the spirit of #united4lux despite the crisis. It will remain our most valuable asset.



FACTS & FIGURES

Chapter 03

Passenger Numbers

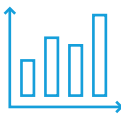
The traffic year 2019 saw a total number of 4.4 million passengers, with 423,980 passengers during the busiest month.



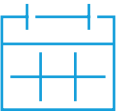
4.4
MILLION PASSENGERS



16,811
PASSENGERS ON THE
BUSIEST DAY

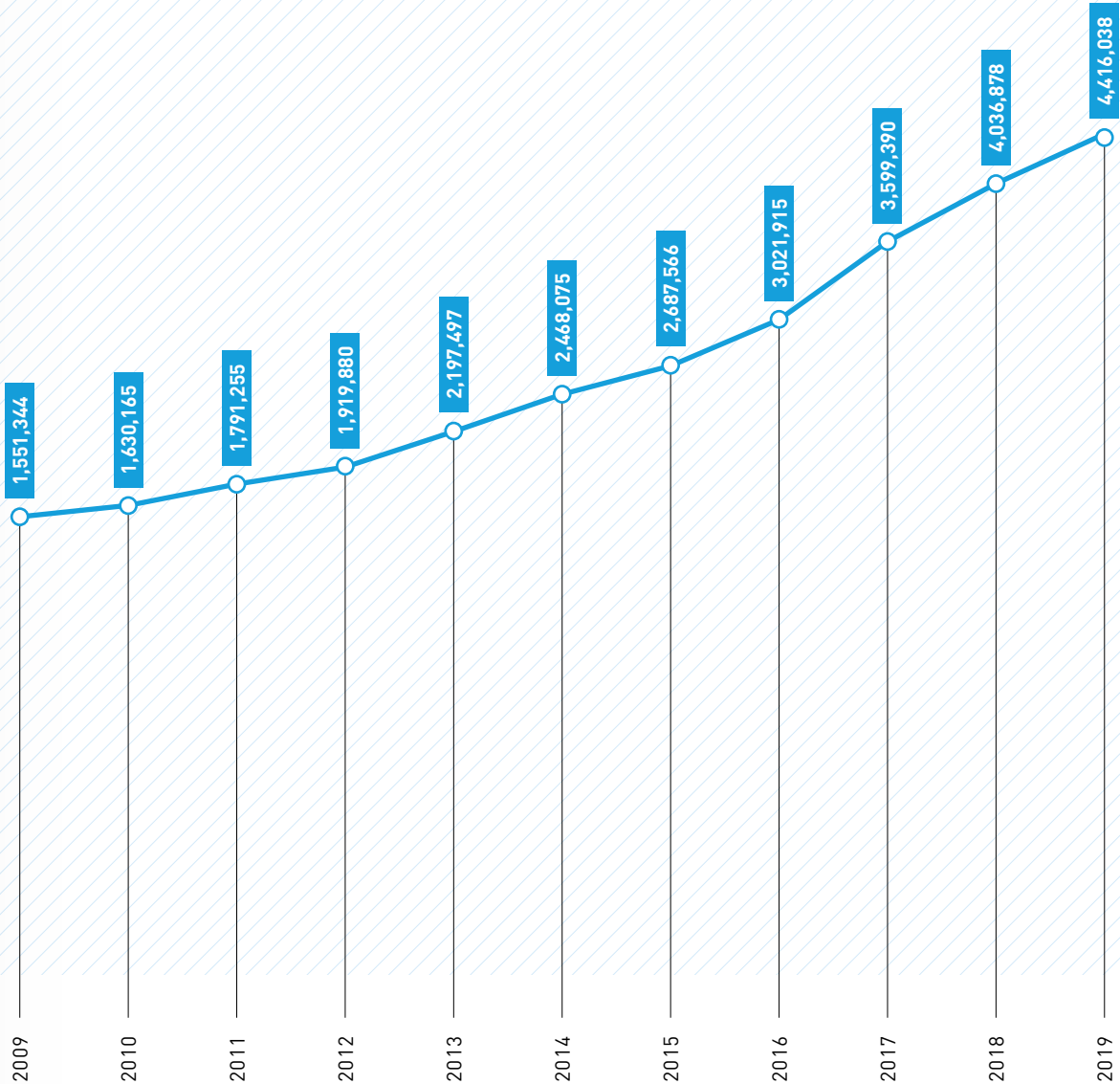


8.9 %
PASSENGER INCREASE



423,980
PASSENGERS IN THE
BUSIEST MONTH

ANNUAL DEVELOPMENT
OF PASSENGER NUMBERS



Cargo Development

According to the International Air Transport Association (IATA), 2019 was the worst year for global air cargo demand since 2009. IATA reported that in 2019 the global demand for air cargo fell by 3.3 % compared to 2018. This was due to a slow growth in global trade and slowing GDP growth in manufacturing-intensive economies. Lower business and consumer confidence, along with falling export orders also contributed to this negative growth development.

Luxembourg Airport is a logistics platform that is integrated in the global air cargo supply chains, which means that the global air cargo developments also had an impact on the cargo volumes that were handled at Luxembourg in 2019. After a record-breaking year in 2018, the number of cargo flights remained stable, while the cargo volumes levelled off at 893,000 tons. This is a decline in tonnages of 6.7 % compared to 2018, yet still the third highest volume since 2009.

Besides being subject to global economic developments, the air cargo industry is undergoing a fundamental transformation by introducing new ways of collaboration and innovative digital tools. To make LUX future-proof in that area, lux-Airport decided in 2019 to take the lead in enhancing the collaboration and digitization of the air cargo platform. The first decisions in that direction involved the establishment of a dedicated cargo community and the implementation of an innovative cargo community system for the different commercial actors, as well as for the involved authorities in Luxembourg.

Collaboration and digitization are identified as relevant factors for the development of the cargo sector.

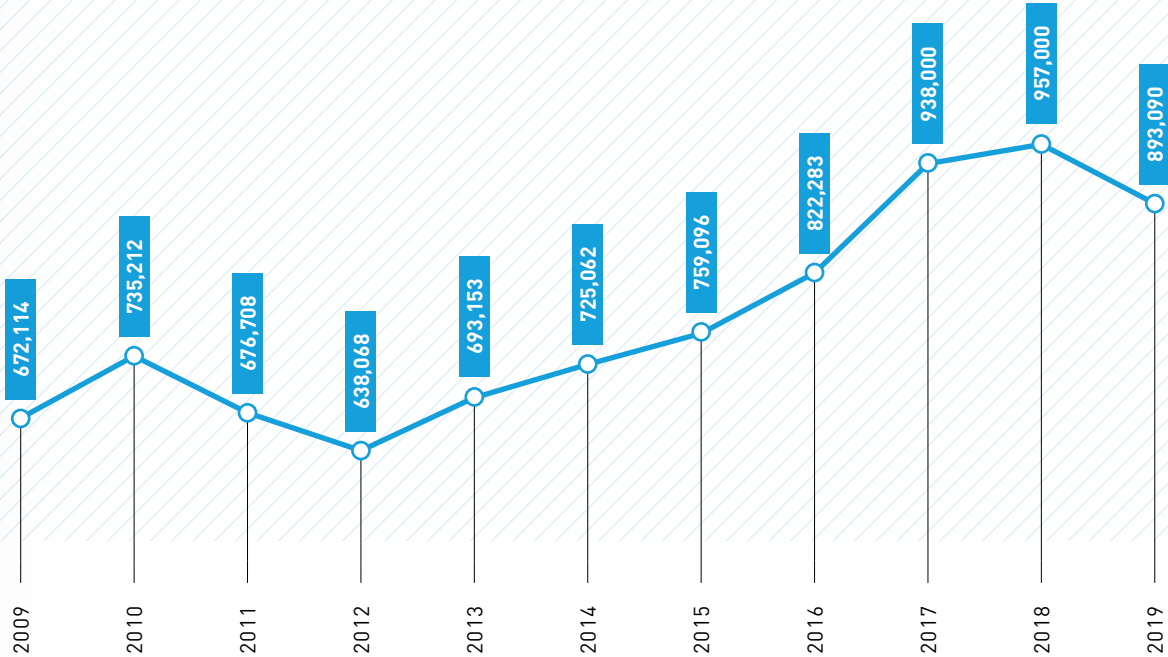


893,090
TONS CARGO



-6.7 %
CARGO DEVELOPMENT

ANNUAL DEVELOPMENT
OF AIR CARGO VOLUME
IN TONS



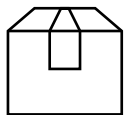
Top 5 Airlines

*Operating at Luxembourg Airport
in 2019*



IN TERMS OF
PASSENGER
NUMBERS

- 1 Luxair
- 2 Ryanair
- 3 easyJet
- 4 Lufthansa
- 5 KLM



















IN TERMS OF
TONS OF
FREIGHT HANDLED

- 1 Cargolux
- 2 Qatar Airways
- 3 Atlas Air
- 4 Silk Way West Airlines
- 5 China Airlines



Scheduled Passenger Airlines in 2019

 <p>Aegean</p> <p>www.aegeanair.com</p>	 <p>Alitalia</p> <p>www.alitalia.com</p>	 <p>British Airways</p> <p>www.britishairways.com</p>	 <p>easyJet</p> <p>www.easyjet.com</p>	 <p>flybe</p> <p>Flight operation stopped</p>	 <p>Hahn Air</p> <p>www.hahnair.com</p>
 <p>KLM</p> <p>www.klm.com</p>	 <p>LOT</p> <p>www.lot.com</p>	 <p>Lufthansa</p> <p>www.lufthansa.com</p>	 <p>Luxair</p> <p>www.luxair.lu/en</p>	 <p>Ryanair</p> <p>www.ryanair.com</p>	 <p>SAS</p> <p>www.flysas.com</p>
 <p>Swiss</p> <p>www.swiss.com</p>	 <p>TAP</p> <p>www.flytap.com</p>	 <p>Turkish Airlines</p> <p>www.turkishairlines.com</p>	 <p>Volotea</p> <p>www.volotea.com</p>		



NEW DESTINATIONS

- ★ Budapest
- ★ Edinburgh
- ★ Marsa Alam
- ★ Marseille
- ★ Menorca
- ★ Split
- ★ Stockholm
- ★ Toulouse

TOP DESTINATIONS*

- 1 Porto
- 2 Lisbon
- 3 Frankfurt
- 4 Munich
- 5 Amsterdam
- 6 London Heathrow
- 7 London City
- 8 Milan Malpensa
- 9 Paris CDG
- 10 Zurich
- 11 Madrid
- 12 Vienna
- 13 Palma de Mallorca
- 14 Barcelona
- 15 Berlin-Tegel
- 16 London Stansted
- 17 Nice
- 18 Dublin
- 19 Copenhagen
- 20 Milan Bergamo

**in terms of passenger numbers*



85
DIRECT FLIGHT DESTINATIONS

Shareholdings

AIRPORT-ENERGY SA

One of the tasks entrusted to lux-Airport by the state involves the construction, financing and operation of a cogeneration plant which meets the identified requirements of the airport precinct. This power plant, which was built at the same time as the new Terminal A and the underground car park, generates and supplies heat for heating applications, cooling energy for air-conditioning applications and back-up power in case of a breakdown of the main electricity supply.

A second power plant was built and commissioned at the same time as the new maintenance hangar for Cargolux. Airport-Energy, a 50 % owned subsidiary of lux-Airport, is in charge of the development and management of these power plants.

In 2019, the financial statements of Airport-Energy disclosed positive earnings of € 603,089.80.

LUXFUEL SA

lux-Airport holds 30 % of the shares of Lux-fuel SA. The company is based at Luxembourg Airport and its object is the operation of a fuel and lubricants depot as well as receiving, storing, distributing, and loading these products onboard aircraft.

As at 31 December 2019, the three shareholders of Luxfuel SA were Luxair (40 %), Skytanking (30 %) and lux-Airport (30 %).

In 2019, the financial statements of Luxfuel disclosed positive earnings of € 1,300,311.95.

Balance Sheet

	2018	2019
Intangible fixed assets	885,408.41	785,444.41
Tangible fixed assets	179,815,433.91	198,729,570.22
Financial fixed assets	1,719,098.10	1,109,063.00
TOTAL FIXED ASSETS	182,419,940.42	200,624,077.63
Receivables	19,049,033.41	29,224,716.71
Cash in bank, post office accounts, cheques and cash	63,627,702.79	39,933,836.95
TOTAL CURRENT ASSETS	82,676,736.20	69,158,553.66
Prepayments and accrued income	637,533.87	766,285.87
TOTAL ASSETS	265,734,210.49	270,548,917.16

Amounts are indicated in euros.

Financial Performance

	2018	2019
Subscribed capital	7,577,000.00	7,577,000.00
Share premium and similar	893.30	893.30
Legal reserve	757,700.00	757,700.00
Other reserves	69,800,000.00	86,800,000.00
Surplus brought forward	226,587.01	79,141.89
Result for the year	16,852,554.88	15,698,931.47
SHAREHOLDER'S EQUITY	95,214,735.19	110,913,666.66
Provisions	15,475,506.81	13,992,738.42
Non-subordinated debt	151,798,735.48	142,455,748.69
Accruals and deferred income	3,245,233.01	3,186,763.39
TOTAL LIABILITIES	265,734,210.49	270,548,917.16

Amounts are indicated in euros.

The balance sheet shown here is an abridged version of the balance sheet included in the annual accounts at 31 December 2019, which were audited by the certified auditor PWC, which issued an unqualified audit report without any reservation on 29 May 2020.

	2018	2019
Net turnover	60,726,948.17	63,355,357.47
Other operating income	21,503,490.17	22,199,578.09
Raw materials and consumables	-3,857,021.64	-4,103,675.06
Other external expenses	-22,839,995.75	-25,567,646.24
Staff costs	-14,829,448.65	-16,855,913.86
Value adjustments	-17,043,071.94	-17,293,471.47
Other operating expenses	-2,079,513.60	-1,262,002.85
Income from participating interests	725,000.00	677,500.00
Other interest receivable and similar income	159,854.81	218,726.82
Value adjustments in respect of financial assets and of investments held as current assets	-545,239.89	-610,035.10
Interest payable and similar expenses	-42,273.51	-37,712.76
Tax on profit or loss	-5,026,173.29	-5,021,773.57
PROFIT FOR THE FINANCIAL YEAR	16,852,554.88	15,698,931.47

Amounts are indicated in euros.

The profit and loss account shown here is an abridged version of the balance sheet included in the annual accounts at 31 December 2019, which were audited by the certified auditor PWC, which issued an unqualified audit report without any reservation on 29 May 2020.

Board of Directors

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Premier Conseiller de Gouvernement
au Ministère de la Mobilité et
des Travaux publics

FÉLICIE WEYCKER

Vice Chairman of the Board
Premier Conseiller de Gouvernement
au Ministère de la Mobilité et
des Travaux publics

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Premier Conseiller de Gouvernement
au Ministère de la Sécurité Intérieure
from 1st February 2019

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Staff Representative
until 24th May 2019

ANA CATARINA DOMINGUES INÁCIO

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Staff Representative
from 24th May 2019

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Directeur de l'Administration
des Ponts & Chaussées

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Staff Representative

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Premier inspecteur des finances
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from 24th May 2019

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Premier Conseiller de Gouvernement au
Ministère de la Mobilité et des Travaux Publics
until 1st February 2019

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Chief Executive Officer

ALEXANDER FLASSAK

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& Real Estate Development

TOM GORIS

Director of Operations

DAVID KONSBRUCK

Director Administration
& Human Resources

CLAUDINE LEINENVEBER

Director of IT

DAMIEN SEIL

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Générale des Finances
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et du Développement durable

VÉRONIQUE WIOT

Board Member
Attaché de Gouvernement
au Ministère de la Mobilité et
des Travaux publics

LUX SPIRIT

The Corona crisis has affected everything – including this report. All the more reason to find solutions. For example by using selfies instead of photo shootings. And why not use the opportunity to make the report even better? More digital, for example.

#united4lux means bringing together everyone to find great solutions.



»Challenging times?
Let's do it even better!«

— Rebecca Pecnik-Welsch,
Manager Marketing & Communications



Our team on air – with our best wishes for (the rest of) 2020

 youtu.be/Sp8bPAEeoA



#united4lux

*Thanks to our teamwork
compiling this report
worked out despite Corona –
including selfies!*

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