Political Newsletter

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Zurich Airport

EDITORIAL

Dear Readers,

The dramatic consequences of the corona crisis for international air travel are particularly evident at Switzerland's largest national airport in Zurich. Before the pandemic, Zurich Airport handled about 700 flights a day. In July 2020, this number has averaged a mere 217 flights per day. It has become unusually quiet in the terminals and commercial centres of the airport. Restaurants, shops and services were largely closed for almost two months. Since the lifting of the lockdown in May, life at the airport has slowly awakened again. Continental flights are currently being selectively resumed. However, a substantial recovery of international air traffic is only possible with the reopening of borders at a global level.

Zurich Airport has remained in constant operation over the past weeks and months so that cargo, repatriation and ambulance flights could take place at any time. In this way, Flughafen Zürich AG contributed to the national management of the crisis during the lockdown, although this was associated with high costs. Particularly in a crisis, maintaining logistics connections to the world is crucial for the export industry as well as the procurement of medical supplies.

Flughafen Zürich AG is convinced that there will be a time after the crisis and that Zurich Airport will once again be a lively hub with direct connections to the whole world. Even though our company itself has not requested any government support from the aviation aid package and wants to get through this crisis on its own, we welcome the financial support provided by the federal government for Swiss, Edelweiss and aviation-related businesses in the areas of ground handling and aircraft maintenance at the national airports. This will help to avoid structural damage and maintain Switzerland's present good international connections.

A prudent forward strategy is required not only to overcome the current crisis, but also to tackle the aviation industry's greatest long-term challenge. Out of conviction and despite the crisis, Flughafen Zürich AG is committed to the development and widespread use of non-fossil fuels. Other economic players and politicians must follow suit so that the vision of making air transport as CO_2-neutral as possible can become reality. The opportunity for an important step in this direction is presented to the Swiss parliament in the context of the ongoing revision of the CO_2-Act: The National Council has already decided to partially earmark the revenue from the CO_2 air travel levy contained in the CO_2-Act for the promotion of sustainably produced aviation fuels (so-called Sustainable Aviation Fuels). In our view, however, this does not go far enough. For the widespread use of non-fossil fuels, the earmarking should be as comprehensive as possible.

In his guest article, National Councillor Martin Bäumle explains the potential of a purpose-specific use of the revenue from the air travel levy in favour of renewable fuels and shows that CO_2-neutral air traffic is certainly feasible and financially viable in the future.

I wish you an informative and stimulating reading.

Stephan Widrig
Chief Executive Officer
Flughafen Zürich AG

Corona crisis:
Interview with CEO Stephan Widrig

Due to the coronavirus pandemic and the associated worldwide border closures, international travel has come to an almost complete standstill. The crisis shows how much the Swiss economy depends on an intact international flow of goods and global connections. The continental and intercontinental connections required for this will continue to be of central economic importance during and after the recovery, especially for the export economy, tourism as well as for Switzerland as a business location.

In this interview, Stephan Widrig, CEO of Flughafen Zürich AG, comments on the aid package for the aviation industry and explains why the operator of Switzerland's only intercontinental air traffic hub does not require any bridging loans from the federal government. At the same time, Widrig emphasises the importance of the opening of borders for a gradual recovery of the industry.

Switzerland's government grants Swiss and Edelweiss guarantee credits of 1.275 billion Swiss francs. How does Flughafen Zürich AG view the federal guarantees in favour of the two airlines?
We unreservedly welcome the federal government's support package. Just like all other sectors of the economy, the Swiss aviation industry was hit completely unexpectedly by the corona crisis. The industry has been massively affected by the consequences of the pandemic due to the worldwide border closures.

A domestic airline operating an intercontinental hub is central to Switzerland's value creation. Swiss fulfils this role, and is successful precisely because it is integrated into the Lufthansa Group network. The aid package granted by the Swiss government is therefore primarily supporting Switzerland's international links.

In addition to the airlines, aviation-related companies Swissport, SR Technics and Gategroup will also benefit from loan guarantees of up to 600 million Swiss francs. What is Flughafen Zürich AG's position on supporting these airport-related companies?
We strongly approve of this aid package as well. The aim of the loan guarantees is to overcome the current liquidity crisis and thus prevent structural damage to Switzerland's aviation system. These damages cannot be prevented by supporting the airlines alone, as other companies are vital to the functioning of the sector too.

The aid package provides the affected companies with needed relieve. It allows them to see a perspective and have some planning security. The common goal must be to secure the Swiss aviation sector as a whole beyond the crisis. Not only is the aviation industry an economically crucial infrastructure for Switzerland as a business location, but it is also directly linked to around 100'000 jobs. More than 27'000 people work at Zurich Airport alone.

Why is a holistic view of the aviation industry so crucial for Switzerland?
The three national airports Basel-Mulhouse, Geneva and Zurich can only continue to make their important contribution to a strong Swiss business location in the future, if the overall system is healthy and intact.

If aviation suffers structural damage from this temporary crisis, this will also have negative consequences for the numerous industries that depend on it. After all, aviation is a key industry, especially for an export-oriented country like Switzerland. As soon as there are signs of a recovery in international air traffic, the entire aviation system must immediately be restored to functionality and efficiency. In this respect, it is also crucial to avoid a wave of layoffs, which would make it more difficult to mobilise the necessary trained personnel at a later time.

Critical voices complain that the aid package was not linked to climate demands on the two airlines. What is your position on this?
Linking the aid package to climate policy measures is counterproductive, as such measures would only apply to Swiss and Edelweiss – but not to all the other airlines departing from Switzerland. Therefore, political requirements for environmental protection must be implemented through the ordinary legislative process.

The aid package is designed to overcome a temporary crisis and to bridge liquidity bottlenecks in the short term. Climate protection, on the other hand, is the greatest long-term challenge facing the aviation industry.

An innovative forward strategy is needed to ensure that air transport will no longer be dependent on fossil fuels in the medium to long term. Promising solutions that are worthy of support already exist. However, in the current crisis a lot of capital for innovative investments is being lost. This makes it all the more important that the CO_2 air travel levy be fully earmarked for the promotion of SAF in the revised CO_2-Act.

How is Flughafen Zürich AG coping with the crisis?
As the operator of Switzerland's largest national airport, we have been massively affected. Revenue from flight operations and the commercial centres almost completely disappeared during the lockdown. As an infrastructure operator, we – in contrast to other companies – can only reduce costs to a very

limited extent. Evidently, buildings and facilities must continue to be maintained. Wherever possible, we are implementing comprehensive measures to save liquidity and reduce costs. In addition, we have introduced short-time working and constantly review our investment planning.

Thanks to the good results of recent years and a prudent business policy, we have a solid foundation as a company to deal with the situation. We aim to overcome the crisis in an entrepreneurial manner without having to seek government assistance. However, what is true for others is also true for us: The slower the recovery, the more substance we lose.

When can we expect to see signs of recovery in international air traffic? What does it take?

The first phase of a slow recovery began with the opening of the borders within Europe in mid-June. However, a significant upturn in the aviation industry can only begin with a reopening of borders and the relaxation of entry restrictions outside of Europe.

It is important that we return to normality in a controlled manner and that the industry, together with the authorities, finds ways to make global air travel possible again while minimising the risk of infection. A permanent restriction of global connectivity is neither realistic nor economically viable.

GUEST ARTICLE

CO_2-neutral flights by 2050 – feasible and affordable

Effective climate policy requires rapid and tangible action – especially with regard to air traffic. The CO_2 air travel levy will be implemented – but it is too low to affect consumer behaviour. Furthermore, the financial burden created by the levy could make it more difficult for the aviation industry to promote alternative propulsion methods. Therefore, air traffic is likely to continue to run on fossil fuel for a long time to come. However, with a gradual increase in the use of renewable jet fuel as a fuel admixture, air traffic could be CO_2-neutral by 2050. RFI-calculations for air traffic – a factor used to calculate total global warming potential – are ranging from an estimated factor of 2 to 3. Technical measures could reduce air traffic's RFI to a factor of 1.2 to 1.5 within 20 years. The remaining climate effect would have to be offset by CO_2 reductions by 2050.

Today, CO_2-neutral sustainable aviation fuels are still around four times more expensive than fossil jet fuel. The concept developed by ETH Professor Tony Patt, Peter Metzinger (FDP.The Liberals) and the author (Green Liberal Party) shows that an air travel levy of 20 to 130 Swiss francs (depending on flight distance) could finance a blend of up to 10 % renewable kerosene (see: www.martin-baeumle.ch/article/3360/medieninformation-co2-neutral-fliegen-bis-2050). Thus, a gradual increase to a share of 100% sustainable jet fuel by 2050 would be feasible and affordable. This concept requires not only a strongly committed and willing industry, but also the proceeds from the CO_2 air travel levy as an initial financial boost. The revision of the CO_2-Act presents the opportunity to take a first step in this direction. An appropriate legal basis could serve as a call to action for the airlines as well as the airports. They could conclude a target agreement with the federal government and commit themselves to the gradual addition of renewable kerosene to their kerosene mix. In return, the additional costs arising from the use of sustainable fuels could be fully or partially covered by the climate fund, which will receive the proceeds of the air travel levy. If successful, the model could be fully implemented in around 2025.

By implementing the proposed model, the aviation industry could directly reduce CO_2 emissions and Switzerland could assume a pioneering role in sustainable air transport. At the same time, the concept would have to be promoted internationally. In the best case, CORSIA[1] could be adjusted to foster CO_2-neutral air traffic worldwide by introducing a global surcharge. By doing so, air traffic can gradually switch to renewable fuels in order for it to become CO_2-neutral by 2050.

However, an industrial approach to the production of renewable fuel is needed to implement the concept. While the technical feasibility has already been proven, sufficient production in regions with high solar radiation has yet to be established. Production facilities and processes would have to be developed in such a way that production prices may gradually fall. Our calculations reveal that a price of less than 1 Swiss franc per litre of renewable kerosene by 2050 is realistic and that CO_2-neutral flying is globally feasible and affordable with the same surcharge of 20 to 130 Swiss francs per flight as intended in the air travel levy.

Martin Bäumle
Member of the National Council of Switzerland

[1] By implementing the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), the International Civil Aviation Organization (ICAO) wants to achieve CO_2-neutral growth starting from 2021.

Revision of CO_2-Act:
Air travel levy should promote CO_2-neutral air transport

Sustainable air transport requires alternatives to fossil aircraft fuel. The promotion of sustainable fuels with significantly lower CO_2 emissions (Sustainable Aviation Fuels, SAF) presents a feasible approach with direct positive climate impact. For the first time at Zurich Airport, a business jet was refueled with SAF during the WEF Annual Meeting 2020. This successful premier proves that CO_2-neutral flights from Zurich are possible in the long term. However, financial incentives are needed to improve the availability and marketability of SAF, to make widespread use a reality. Swiss politics can make an important contribution towards this goal by earmarking revenues from the planned CO_2 air travel levy specifically for the promotion of SAF.

The coronavirus has decimated air travel dramatically, delivering an unprecedented blow to the aviation industry worldwide. Although it may take several years for the industry to recover from the current decline, it is almost certain that demand for air travel will continue its growth in the long term. In order to meet the global challenge of climate protection, solutions are needed that aim for CO_2-neutral air traffic. Therefore, the introduction of a CO_2 air travel levy, as envisaged in the current draft of the revised CO_2-Act, can only meet these challenges if it focuses on promoting sustainable technologies in aviation.

SAF are a feasible alternative to conventional kerosene

In order to effectively reduce CO_2 emissions in aviation and make air transport more sustainable in the future, alternatives to kerosene must be developed. Sustainable Aviation Fuels (SAF) are non-fossil fuels with a significantly smaller carbon footprint. Furthermore, SAF are certified and equivalent to conventional kerosene in terms of their technical properties. The renewable resources used for SAF have absorbed CO_2 during their growth, which is why such aircraft fuels are considered to be almost CO_2-neutral. Moreover, blending lower carbon SAF with fossil jet fuel is already possible as aircrafts are certified accordingly. Current blend limits allow for admixtures of SAF of up to 50 % by volume. However, SAF currently cost around three times more than fossil kerosene. In addition to the high price, sufficient availability is also a problem. The facilities required for the production of large quantities of SAF have not yet been established. Furthermore, logistics are complicated by the fact that there is no SAF production facility in Switzerland to date. The production of SAF not only requires a special infrastructure, but also includes demanding certification for approval.

First SAF refueling at Zurich Airport confirms operational capability

The first ever refueling of a business aircraft with SAF at Zurich Airport during the World Economic Forum (WEF) 2020 Annual Meeting has shown that the use of sustainable aircraft fuel is feasible – despite existing hurdles. The SAF used was second-generation biofuel, consisting of used cooking oil and animal waste and, therefore, does not compete with food production. Zurich Airport's long-term goal must be to enable the regular refueling of scheduled and charter aircrafts with SAF. To achieve widespread use of SAF, Flughafen Zürich AG, which is not directly involved in the SAF supply chain as either a buyer, supplier or producer of aircraft fuel, is dependent on the support of its airport partners. Therefore, the airport

KEY TAKEAWAYS

- Sustainable air transport requires alternatives to fossil aircraft fuel. The increased use of non-fossil Sustainable Aviation Fuels (SAF) could substantially reduce the CO_2 footprint of the aviation industry.
- Flughafen Zürich AG and its partners have been working together since 2016 to establish favourable conditions for supplying Zurich Airport with SAF.
- The first ever refueling with SAF at Zurich Airport during the WEF Annual Meeting 2020 proved the feasibility of a supply chain.
- The high price and low availability of SAF currently still hamper sufficient supply.
- The National Council has already decided to partially assign the revenue from the CO_2 air travel levy to promote sustainably produced aviation fuels. However, this does not go far enough. Flughafen Zürich AG calls for the most comprehensive earmarking possible.
- The legally anchored designated use of the government funds must contribute to the effective reduction of CO_2 emissions in aviation as follows:
  - → Promotion of the availability of SAF
  - → Creation of financial incentives for the use of SAF
  - → Promotion of technological innovation in aviation

Sustainable Aviation Fuels

- Sustainable Aviation Fuels (SAF) are sustainably produced non-fossil fuels.
- SAF are already approved for blending with conventional jet kerosene for up to 50% by volume.
- SAF have a CO_2 footprint that is up to 80% lower than that of fossil kerosene (life cycle approach).
- The last decade has seen considerable progress in the development of SAF produced from bio-based resources. Currently, a distinction is made between the following five generations of SAF (depending on the source):

Generation	Sources	Advantage	Disadvantage	Sustainability
1	 Edible biomass: Corn, wheat, soy, palm oil	Available technology and infrastructure	Neither socially acceptable nor environmentally compatible	✗
2	 Biogenic waste: Used oil, grease, solid waste, wood waste	Available technology and infrastructure	Limited quantities	✓
3	 Algae biomass: Microalgae and macroalgae	Grow much faster than terrestrial plants	Expensive to produce	✓
4	 Genetically modified biomass (algae, cyanobacteria)	More efficient than natural photosynthesis	Expensive to produce	✓
5	 e-Fuels (power-to-liquid): Carbon dioxide (CO_2) and water	Unlimited resources	Extremely expensive to produce, production capacity still very limited	✓

operator and its partners have been working together to create favourable conditions for supplying Zurich Airport with SAF since 2016. The various logistical and regulatory difficulties encountered during the many months of preparation for Zurich Airport's first SAF refueling highlighted the need for the creation of political framework conditions and financial incentives that promote the availability as well as the marketability of sustainable aviation fuels.

Purpose-related use of levy revenues is essential for effective reduction of CO_2 emissions in aviation

It is the responsibility of Swiss politicians to ensure that the proposed CO_2 air travel levy is not just token politics, but actually contributes to reducing CO_2 emissions at the source. This means that the revenues of the levy must be allocated to measures reducing CO_2 emissions in the aviation sector.

For this reason, a legally prescribed earmarking of the funds from the CO_2 air travel levy is necessary and the Federal Act on the Reduction of CO_2 Emissions must be specified or supplemented accordingly as part of the ongoing revision. The National Council has already decided to earmark the revenue from the CO_2 air travel levy contained in the Act for the promotion of sustainably produced aviation fuels (SAF). However, this does not go far enough. For the widespread use of non-fossil fuels, the most comprehensive earmarking possible should be provided for the following purposes:

- Promotion of the availability of SAF
- Creation of financial incentives for the use of SAF
- Promotion of technological innovation in aviation

Partnership with Synhelion SA:
Flughafen Zürich AG promotes synthetic fuels

Despite the difficult economic situation, Flughafen Zürich AG continues to work hard towards its goal of net zero CO_2 emissions by 2050. Through its new partnership with the high-tech company Synhelion SA, the airport operator is providing long-term support for the research and development of climate-friendly technologies to be used directly at Zurich Airport. The commitment aims to contribute to the production of CO_2-neutral aviation fuels in sufficient quantities and at a market price.

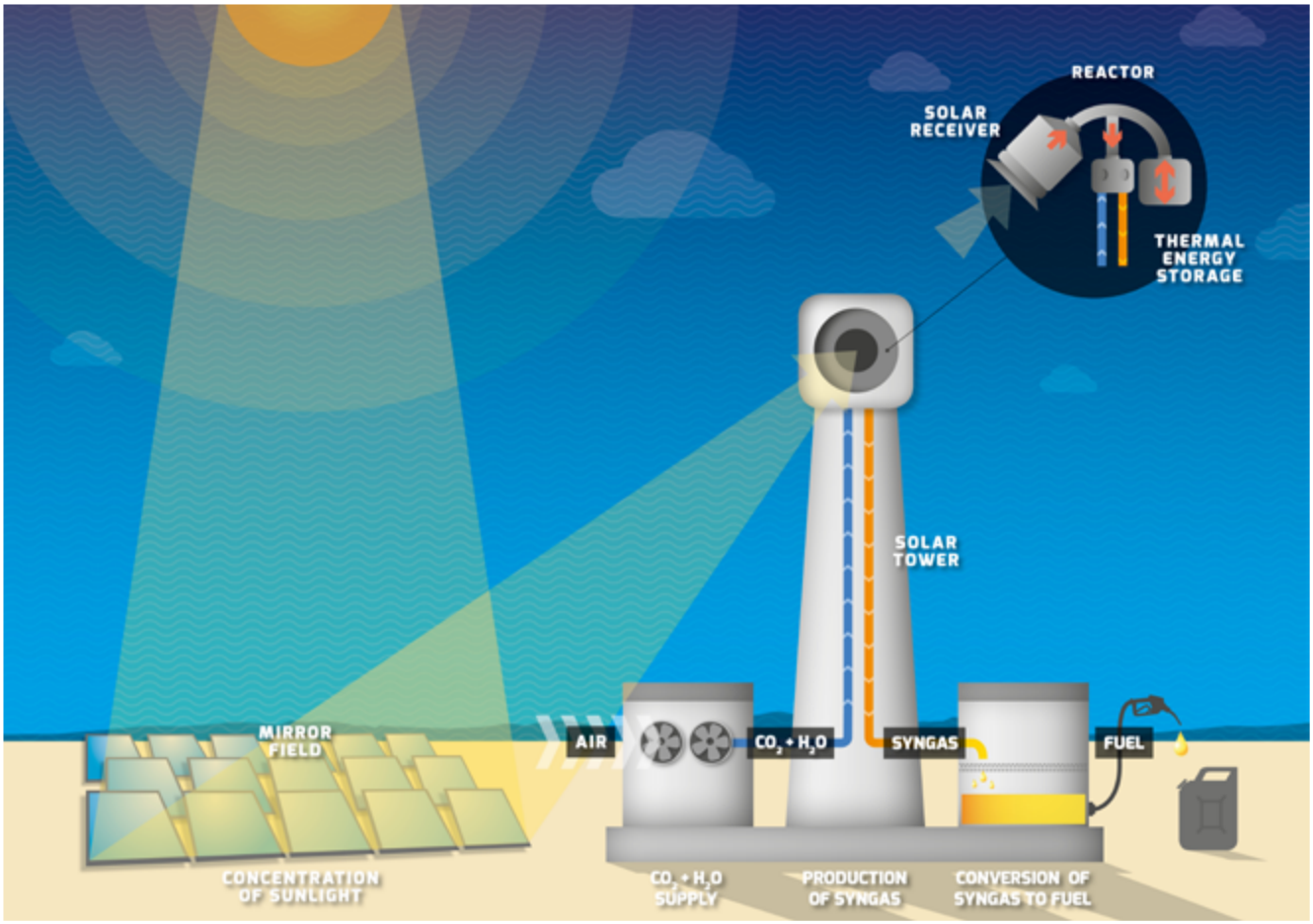
The revision of the CO_2-Act currently discussed in the Swiss Parliament is fully in line with the objectives of the Paris Agreement on Climate Change. Under the agreement, Switzerland has committed itself to halving its greenhouse gas emissions by 2030 compared to 1990 levels. Flughafen Zürich AG is already meeting this target today and has set itself higher targets: By 2050, the airport infrastructure should no longer be emitting CO_2. This promise is backed up by deeds – even in the economically difficult times of the corona pandemic. The latest measures include a partnership with Synhelion SA, which is successfully working on the development of synthetic fuels.

Swiss development with great potential

Synhelion was founded in 2016 as a spin-off from ETH Zurich. The company researches and develops a technology to produce synthetic gas from air and sunlight. The gas can be processed into fuel that can be used in conventional engines. During the production process, CO_2 is absorbed from the air. This makes synthetic fuel emission-free, unlike fossil fuels. This technology is proving to be very promising. However, the production of large quantities of synthetic fuel remains a challenge. Synhelion plans to build a new test facility in Switzerland to further explore this technology. Synthetic fuel will already be produced during test runs, which will start around 2023.

Common goal: reducing CO_2 emissions

The recently signed Memorandum of Understanding provides that Flughafen Zürich AG will purchase Synhelion's entire available annual quantity of synthetic fuel produced at the test facility at cost price, which is significantly higher than the price of fossil fuel. By using synthetic fuel in its vehicles and in the aircrafts, the airport operator contributes to achieving its climate targets. With its willingness to pay fuel prices well above the market price, Flughafen Zürich AG supports the



activities of Synhelion and helps to ensure that synthetic fuel will soon be available in larger quantities and – in the medium term – at a price that is competitive with that of fossil fuels.

Key technology for Sustainable Aviation Fuels
Flughafen Zürich AG is not only concerned with the CO_2-neutral operation of the airport infrastructure, but also with making a contribution to the decarbonization of air traffic. The technology for producing synthetic fuels will play a key role in replacing conventional kerosene with Sustainable Aviation Fuels (SAF). If SAF of the latest technological generation are available in sufficient quantities, they can replace fossil kerosene in aviation up to 100 %. This process needs to be accelerated: Promoting the technology increases supply and marketability of SAF. Flughafen Zürich AG is committed to both and is counting on other economic players and politicians to follow suit so that climate-friendly air traffic can soon become reality. The ongoing revision of the CO_2-Act offers politicians an opportunity to do so: Earmarking as much of the revenue from the CO_2 air travel levy as possible to promote SAF could effectively support the widespread use of non-fossil fuels. Therefore, the foreseen earmarking for the promotion of SAF, which has already been introduced to the CO_2-Act by the National Council, must be increased to the maximum.

KEY TAKEAWAYS

- Flughafen Zürich AG is resolutely pursuing its goal of net zero CO_2 emissions by 2050 and has recently initiated a cooperation with the ETH spin-off Synhelion SA.
- Synhelion SA is working on the development of a technology that could play a key role in the decarbonization of air traffic: Synthetic gas produced from air and sunlight that can be processed into fuel.
  For more information please visit www.synhelion.com.
- Through this cooperation, Flughafen Zürich AG is promoting the further development, availability and marketability of synthetic fuels with the aim of accelerating the replacement of conventional kerosene.
- Alongside such private initiatives, political support is needed to effectively promote the production and use of sustainable aviation fuels. Therefore, the revenue from the planned CO_2 air travel levy must be fully earmarked for the promotion of sustainable aviation fuels.

Traffic Development

All figures January to July 2020

The monthly traffic statistics can be accessed here:
www.zurich-airport.com/the-company/investor-relations-en

4'348'288
Local passengers

Change vs. 2019
–66.0%

1'633'688
Transfer passengers

Change vs. 2019
–68.9%

27.3%
Share of transfers

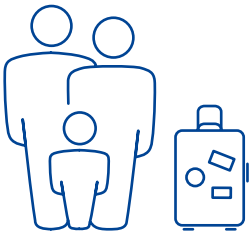
Change vs. 2019
–1.8 percentage points

70'299
Flight movements

Change vs. 2019
–56.5%

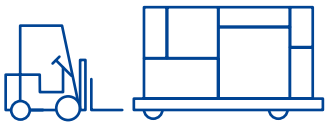
6'010'186
Total passengers

Change vs. 2019
–66.7%



173'942 t
Freight and mail

Change vs. 2019
–37.7%



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