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Update

CORONAVIRUS

The corona virus is affecting the whole world. In addition to the people affected, airlines felt the effects at an early stage and reacted quickly. At the end of January, the Lufthansa Group decided to suspend all Lufthansa, SWISS and Austrian Airlines flights to the Chinese mainland. Currently, we are also not flying to Tehran and Israel. These exceptional circumstances demand operative and political reactions.

 Capacities have been cut on the routes to Hong Kong, Seoul and destinations in Europe. Depending on the further development of demand, capacity is to be reduced by up to 50 per cent in the coming weeks. We ensure that our passengers are not negatively affected by this decision. If a flight is cancelled, they are reimbursed or can rebook free of charge. In addition, the extent to which the entire Airbus A380 fleet (14 aircraft) can be temporarily taken out of service in Frankfurt and Munich is currently being examined.

To mitigate the economic pressures, Lufthansa has put in place an extensive austerity programme: In addition to an immediate hiring freeze, Lufthansa has already offered its staff voluntary individual personnel measures in recent weeks. These include granting of unpaid leave and bringing forward of annual leave. The possibility of extending part-time models and short-time working is also being examined. In addition, material and project costs will be significantly reduced.

This year airlines will have to absorb sales losses between 63 and 113 billion dollars for passenger business, according to forecasts of the industry association IATA . The economic impact does no longer affect merely airlines. We are witnessing how tightly economic areas are connected with each other. And how that connectedness makes them vulnerable: international trade fairs are being cancelled, worldwide trade is falling and supply chains are coming increasingly under pressure. This means that it is all the more important to maintain air freight: Lufthansa Cargo is increasingly transporting goods such as protective suits and laboratory supplies, as well as urgently required spare parts.

Need for Political Action

At the moment, no one can reliably say how serious the consequences of corona virus will be in the long term. It is already clear that corona is hitting the aviation industry hard. In this exceptional situation, it is correct when politicians do their bit to limit the effects.

Many countries have already announced measures. Germany and the European Union, too, should investigate what form practical and effective support could take. Subject to interim measures for economic reasons, one initiative is key: the temporary suspension of the current slot regulations. Under the so-called “80/20 Rule”, airlines retain their slots for departures and landings in the following season only if they use at least 80 per cent of them. The spreading of the corona virus has made a major adjustment of flight schedules necessary: the slot regulations must temporarily be made more flexible. The EU Commission has to act decisively, now. Otherwise, the airlines would have to fly with empty planes just to secure their slots. This would not just be economically harmful, but ecologically irresponsible.
Single European Sky

REBOOT FOR THE CLIMATE

Kerosene is wasted in Europe’s skies and unnecessarily high amounts of CO₂ are emitted. Because air space is fragmented, and national air traffic control centres use different technologies. For many years the EU has been wanting to bring about the Single European Sky (SES). Harmonisation of the air space, for example by means of technological modernisation, would be a real measure to protect the climate: up to 10 per cent of CO₂ emissions could be saved on European flights this way.

Global air traffic will continue to grow. As well as fuel-efficient aircraft and investment in synthetic fuels, sustainable air traffic urgently needs a reform of air traffic management (ATM) in Europe. A Schengen of the skies is as overdue as it is complex. It touches on questions of national sovereignty. Solutions must be found in an interaction between all national and European players and in dialogue with the industry.

To create the conditions for an efficient and lower emission use of air space, the federal government should use its presidency of the EU Council to bring about the necessary breakthrough in SES together with the European institutions and the other member states. Airlines, airports and air traffic control want to help to bring this major climate policy project to success. There are three central tasks:

- **Making efficient use of air space:** Germany’s air traffic control works hard at getting planes to their destinations without any diversions where possible. And with great success. Between 2010 and 2018, the deviation from the ideal line fell by a third. As a result, in 2018 alone 76,000 tonnes less CO₂ were emitted in German air space. To achieve comparable results on European international routes, the air space structures will need to be harmonised.

- **Introducing interoperable air traffic control systems:** Some of the technologies used by air traffic controllers in Europe date back to the 1970s and are therefore outdated. The automated division of labour with colleagues from neighbouring countries all too often fails due to incompatible systems. There is an urgent need for improvement here and we must press ahead with the necessary modernisation.

- **Making the Ways of Deploying Air Traffic Controllers More Flexible and Increasing their Availability:** Some air traffic control systems in Europe have too few air traffic controllers, especially in the upper air spaces. Therefore, this year thousands of routes are planned in the lower air space to relieve the upper air spaces – the kerosene consumption will therefore rise by an average of 60 kilograms per internal flight in Germany. To compensate for acute staff shortages in individual control centres, work must concentrate on deploying air traffic controllers more flexibly.

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**Creating Investment Incentives**

It is not only air traffic control that has to make considerable investments in climate and environmentally friendly air traffic. The airlines also have to fit their aircraft with state-of-the-art technology and train pilots. Those that do this should be rewarded for doing so and the aircraft that have been equipped accordingly should be given preferential treatment for take-off, landing and traffic routing. The federal government should now enshrine this “best equipped – best served” approach in the Air Traffic Control Implementation Ordinance.

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**CO₂ Reduction by means of Efficient Air Traffic Control:**

1.6 tonnes per flight = 10 per cent of total emissions

Average values for flights within Europe

- 1,020 kg CO₂ during take-off and landing
- 320 kg CO₂ on the route
- 240 kg CO₂ on the ground

Source: SESAR Joint Undertaking
Domestic traffic

INCREASING INTERMODALITY

The federal government wants to encourage travellers to move away from flights within Germany and to travel by train instead. Lufthansa, too, believes in intermodality. The nearer the destination, the more attractive it is to travel by train. However, domestic German flight connections play an important role in the functioning of the German air transport system as a whole. They account for 0.3 per cent of all CO₂ emissions in Germany.

Business Travel Traffic

For people travelling for business – who account for two thirds of passengers on German domestic flights – travel time is an important criterion. Three to four hours is the threshold time limit. If travel by train takes longer, flying is often the first choice and usually the only way of returning home on the same day. To attract more business travellers to rail, the high-speed network will have to be expanded. For example, Eurowings stopped serving the Berlin-Nuremberg route after the high-speed rail line connecting the two cities opened.

Improved Rail Connections at the Hubs

For many passengers, an internal flight in Germany is only the first stage en route to an international destination. Lufthansa carries passengers who are travelling abroad into the hubs of Frankfurt and Munich. This makes ecological and economic sense because it means the planes’ capacity is optimally used and outlying regions are connected to the international transport network. Lufthansa Express Rail offers a shuttle train to Frankfurt Airport from 14 German towns and cities. A passenger’s flight ticket is valid on the rail trip, seats are reserved, miles are credited and, if there are any delays, the passengers are rebooked onto the next available connections.

Lufthansa would like to establish this intermodal offering at the Munich hub, too. Unfortunately, there is no intercity train connection there. In total, only five German airports are connected to Deutsche Bahn’s intercity network. And the frequency of trains is falling: according to current data from the federal government, around 94,000 intercity trains stopped at airports in 2009. In 2019 – with rising passenger numbers – the equivalent figure was just under 80,000. In order for more passengers to opt for the train instead of the plane in future, the rail infrastructure relevant to air traffic must be upgraded. Internal German flights can be reduced or stopped on routes with highly efficient ICE connections.

Offering Convenience for Transfer Passengers

Transfer passengers check in their baggage at the departure airport and collect it at their destination. Hardly anyone would want to go without this convenience. For the train to be a real alternative for bringing people to the airport, we need ideas and concepts about how the baggage of transfer passengers can be accepted at the departure station and reliably transported to the flight, taking account of the security requirements. After all, passengers who want to make the whole journey by plane can also fly via foreign hubs, such as Paris, Amsterdam or Istanbul.
STATE AIRLINE RESCUES

DISTORTION OF COMPETITION IN THE SKIES

On 24 January 2020, the CEO of the Polish airline LOT said: “I want to thank the Prime Minister; the Polish state is financing the transaction.” He was referring to the takeover of Condor.

In terms of regulatory policy, a state intervention of this kind is more than dubious. But it is far from being an isolated case.

The federal government and the Federal State of Hesse had already been involved in the rescue of Condor with a bridging loan of 380 million euros. Jobs could be saved for the time being and Condor passengers could start their journeys. This shows that there are substantial reasons for politicians to come to the rescue of companies in certain situations. If it’s just a one-off crisis intervention, this makes sense. However, it becomes problematic when state interventions become the rule. And this is increasingly the case in Europe: for many years, airlines, which often no longer have a sustainable business model, have been kept flying by governments. This is the case for LOT. Poland has helped its state airline back on its feet several times.

Political Market Interventions Damage Competition and the Climate

Permanent survival assistance of this kind not only distorts competition, it also harms the climate. Because it prevents the consolidation of the industry that is so necessary in Europe. Capacities are artificially maintained. The inconsistencies of political action are obvious here: on the one hand, aviation is supposed to be being made more expensive and reduced. On the other, state money is being used to fuel the price war in the skies and low-cost flights are being indirectly supported.

Permanent State Aid is Catching On

Alitalia is also a case in point. Since 2017 alone, the airline has received state financial injections totalling 1.3 billion euros. This means that Alitalia can carry on flying without the pressure of profitability to which other airlines are subject. It is considered unlikely that the airline can afford the repayments. This means that the grants contravene EU law.

In Germany, too, it is not so long ago that there was unfair competition between the airlines of the Lufthansa Group and Air Berlin, which was kept going by the state-funded Etihad Airways.

Europe’s aviation market is characterised by overcapacity. All airlines are required to operate profitably and to close routes if necessary. For example, in the summer of 2019 Eurowings reduced its flights from Germany by 3.6 per cent. But political market interventions are ruining these efforts for more sustainability.

Europe’s Aviation Market: More Consolidation Outstanding

Market Shares on all Routes in the EU and North America

- **Top 10 EU**
  - Ryanair (incl. Lauda): 14%
  - Lufthansa Group: 10%
  - Easyjet: 9%
  - IAG: 8%
  - Wizz: 6%
  - Turkish: 5%
  - Air France/KLM: 5%
  - Pegasus: 3%
  - SAS: 3%
  - Aeroflot: 2%

- **Top 10 North America**
  - American Airlines: 17%
  - Southwest Airlines: 17%
  - Delta Air Lines: 16%
  - United Airlines: 15%
  - Alaska: 15%
  - JetBlue: 5%
  - Spirit: 5%
  - Air Canada: 4%
  - Frontier: 3%
  - WestJet: 2%

- **Other 13%**
  - Other 38%

Source: O&D Market Size, December 2018 – November 2019; inaccuracies due to rounding
Security checks

THERE DON’T HAVE TO BE QUEUES

Munich is setting an example: laptops don’t have to be unpacked. And shampoo and shower gel can also stay in the hand luggage during the security check. Even the waiting time is acceptable because the control lane now checks an average of 260 travellers per hour instead of 100 – but with even more security.

This is not a vision of the future, but has been reality at Munich Airport since February 2019 at two control lanes – equipped with, among other things, computer tomography technology. The Upper Bavaria government’s Luftamt Süd-bayern (South Bavaria Aviation Office) tested the system with the support of the airport and Lufthansa. With success: Bavaria is currently tendering 60 CT machines. With just a few exceptions, all control lanes will be equipped with them in future. As a result, the Munich Hub is joining Amsterdam, which is considered a role model for state-of-the-art checks in Europe and currently has 64 CT machines. Together with the Federal Ministry of the Interior we have also successfully tested a modern control system at Cologne/Bonn.

The Federal Audit Office Recommends Reforms

In the Coalition Agreement, the Federal Government demands customer-friendly security checks. At the end of 2019, the Federal Audit Office pointed out more potential for efficiency. The main elements of this are:

- **Scanners:** State-of-the-art computer tomography technology automatically detects explosives in hand luggage. Computers and permitted liquids can thus remain in the bags. These scanners should be used across the board.

- **Conveyor Technology:** The conveyor technology is key to the efficiency of the system. For example, special cameras can check whether the hand luggage trays are empty. If they are, conveyor belts automatically transport them back to the start.

- **Teamwork:** The aviation industry wants to bring more security check expertise to the table. This could also free up the Federal Police Force. Responsibility for the highest security remains with the authorities. A culture of cooperation is and remains important.

- **Procurement:** In Bavaria, the federal state government procures the security technology for the control points. At every other major passenger airport – including Frankfurt, Hamburg, Düsseldorf and Berlin – the Federal Police is responsible for them. On the one hand, this gives the Federal Police a good negotiating position with the manufacturers. On the other hand, individual solutions from specialist providers are more difficult to realise and procurement can be protracted. Politicians, authorities and the aviation industry must therefore scrutinise this practice.

Identity Checking by Airlines:
No Value Added for Aviation Security

The Bundesrat has introduced a draft amendment to the Aviation Security Act, according to which airlines should compare a boarding card with an identification document prior to passengers boarding the plane. Such an “ID check” by airlines is highly controversial among policy-makers in view of the dubious value added and the great potential for delays. Aviation security in Germany is ensured by the careful checking of passengers and all other people in the security area. Moreover, the airline can scarcely act as an auxiliary police force. Much rather, the authorities should conduct appropriate checks at border control or by random checks to identify criminals wanted by the police.

More Checked Passengers, More Convenience

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<th>Number of checked passengers per hour and control lane</th>
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More Checked Passengers, More Convenience

Number of checked passengers per hour and control lane

100/177

260/454

New control lane

Previous control lane

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Air freight

KEY SECTOR ON AN EFFICIENCY DRIVE

It can save lives when organs or stem cell donations have to be transported very quickly. It makes it possible for urgently needed spare parts to be delivered from a long way away to broken down machines or to transport fresh foods around the world. Since the flows of goods are increasing worldwide, air freight will have to become more climate friendly.

Because transport by air is up to 20 times more expensive than transport by land, one thing is clear: the only things that should fly are those that absolutely must be flown. These include pharmaceuticals, or perishable goods such as fish, fruit and vegetables. And a plane is the most suitable means of transport for animals on longer routes. Accordingly, German air freight exports account for only 3 per cent of the tonnage of intercontinental trade, but more than 30 per cent of the value. Air freight transports high-value goods, which are vital in people’s everyday lives.

The Two-Column Principle
To operate as efficiently as possible, Lufthansa Cargo largely relies on two transport models: they either fly freight planes or make use of additional cargo capacities in passenger planes. This is especially the case on routes that have low demand for freight. This two-column principle creates efficiency and protects resources. Lufthansa Cargo serves around 300 destinations in 100 countries in this way.

However, the most important determining factor for low-emission flying is the fleet. Lufthansa Cargo relies on the Boeing 777F, which is around 20 per cent more efficient than the MD-11F being taken out of service and causes correspondingly lower CO₂ emissions. In addition, the company is making considerable investments in the Freight Centre at Frankfurt Airport. To save even more kerosene in future, Lufthansa Cargo is replacing its standard containers with lighter versions. It is also investigating whether loading aids made of wood can be replaced by lighter materials made of recycled cardboard fibre reinforced composites.

Advancing Digitisation Together
Germany’s export industry needs efficient air freight. Modern, lean processes are just as key to this as digital interfaces are – along the wealth creation chain and in interaction with the authorities. With a “Digital Test Field Air Freight”, the federal government together with companies, could dauntlessly tackle air freight logistics together and shape the future.

Lufthansa Cargo still Flying to China
Due to the coronavirus China is largely cut off from international aviation. The Lufthansa Group has also temporarily halted all passenger flights to the Chinese mainland. However, Lufthansa Cargo’s freight planes are still flying. As a precautionary measure, the planes make a stopover in Novosibirsk, Siberia, and change crews. This ensures that the pilots don’t have to leave the cockpit in China while still adhering to rest times.

Increasingly, relief supplies, such as face masks, protective suits and laboratory supplies are being carried. In addition, as always: urgent spare parts and machines and, among other things, sensitive pharmaceuticals – in other words, everything a national economy urgently requires to function properly.
Aviation

JOBS AND GDP ENGINE FOR GERMANY

Aviation is particularly important. Airlines take many hundreds of thousands of people from Germany all over the world every year. The passengers visit friends and family, get to know far-off countries, travel to study or to business meetings. This not only encourages intercultural exchanges, but also has a positive impact on the labour market, gross domestic product and tax revenue. The Lufthansa Group is especially important here. No other airline in Europe is anywhere near as diverse.

Germany’s Aviation Traffic ...

... secures 850,000 jobs*

... ensures wealth creation of 60 billion euros*

... provides 27 billion euros in tax and social security contributions*

... measured in terms of the value of goods,

transports 31 per cent of all exports

... takes 40 per cent of tourists abroad

*direct, indirect and induced; Source: BDL

One Airbus A350-900 secures 220 jobs at the Lufthansa Group alone – that is equivalent to the number of jobs in a small company

135,000 Lufthansa Group Employees according to Regions

54%

Germany

14%

North and Central America

21%

rest of Europe

7%

Asia/Pacific

2%

Middle East/Africa

2%

South America
Angle grinders screech, sparks fly. Engineers are cutting window segments out of the A340-600 D-AIHO, which has flown Lufthansa passengers to America and Asia for more than a decade. It is now standing on an enormous plane parking space on a high plain in Aragon, Spain – waiting to live again, for example in the form of coffee tables or sculptures.

Aircraft Parts for Everyone
Upcycling in aviation – that is the way to give decommissioned aircraft parts a second life: windows are not dismantled into their individual raw materials, but repurposed into wall-mounted bars, for example. Coffee tables are made of wing parts and up to 35,000 luggage tags from the plane skin. The retro look is a particular highlight. The project manager is Michael Menzel, Teardown Manager at Lufthansa Technik: “Parts with the crane or the Lufthansa logo are very popular. It’s great when you can immediately see from the shape and material that they are genuine aircraft parts.” With this attention to detail, Michael Menzel has seen the aircraft in Spain with very different eyes, together with Miles & More project managers Hilke Siebecker and Christiana von Dewitz and designers, and has picked out the best parts.

Every year, around 800 to 1,000 planes are decommissioned worldwide, and the trend is rising. Engineers have always removed expensive working components, such as flight computers. Companies such as Lufthansa Technik inspect, maintain and recertify them. The days when the gutted planes were permanently parked in desert regions have long gone, however. Today, materials such as aluminium, copper, glass or rubber are recycled. In total, around 92 per cent of the raw materials in an aeroplane can be reused.

Upcycling Picking Up Speed
In future, Lufthansa Technik together with Miles & More will rely on upcycling more; there are plenty of creative ideas. And demand is exceeding expectations. Many products from the A340-600 D-AIHO have already sold out.

All of the Upcycling Collection products in the World Shop.
Punctuality
EUROWINGS IN THE TOP TEN

In 2019, Eurowings took off for destinations in Germany and Europe around 230,000 times. 83 per cent of the flights reached their destination on time. This is an improvement of 9 percentage points over 2018. The airline scored even better at its home airports in Cologne and Düsseldorf – no competitor had such good punctuality figures. Eurowings has spent around 50 million euros on this jump in quality. The company can also stand up to comparison across Europe: Eurowings managed to be among the ten most punctual airlines in 2019.

In 2020, Eurowings is also continuing this trend, which has been ongoing for several months. In January, the on-time performance was 93 per cent – this makes Eurowings the most punctual airline in Europe, according to the independent data provider Official Airline Guide (OAG).

Reliability is a key requirement for acquiring customers in future and being able to take large market shares. Eurowings accounts for around 47 per cent of all flights in the low-cost segment in Germany. It is followed by Ryanair with 19 per cent and EasyJet with 17 per cent.

On domestic markets
100 PER CENT
ECO-ELECTRICITY

Since early 2020, the Lufthansa Group in Germany, Austria, Belgium and Switzerland has been procuring only eco-electricity by buying high-quality green electricity certificates (Ökostromlabel HKN100). This is a quantity of approx. 301 gigawatt hours – roughly equivalent to the annual consumption of 96,000 German households. This step is an important element for the 2030 goal: in ten years, all of the land transport in the DACH region should be CO₂-neutral.

Alternative fuels
WITH SAF FROM SAN FRANCISCO

Aviation urgently requires alternative fuels to achieve its climate protection goals. Lufthansa and SWISS now fill up with Sustainable Aviation Fuels (SAF) in San Francisco. The benefit for the climate: in comparison to conventional kerosene, SAFs reduce CO₂ emissions by up to 80 per cent. In total, the Lufthansa Group has ordered around 3.8 million litres of SAFs in San Francisco. This makes it one of the biggest SAF projects in the world. The fuel is based on waste oil and grease from agricultural production and is subject to stringent sustainability criteria.

We have been among the SAF pioneers for years. We want to continue along this path. However, we need more political support for this. Germany and Europe should establish a clear timetable of how airlines can fill up with sufficient quantities of SAFs or Power-to-Liquid fuels (PtL) and at economic prices.

On domestic markets
100 PER CENT
ECO-ELECTRICITY

Saving
3,800 t SAF
≈ 7,660 t CO₂