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European Civil Aviation Conference Magazine



FLIGHT PATH TO RECOVERY

*Building a resilient and sustainable future
for aviation*



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Working together towards recovery

Ingrid Cherfils

ECAC President



COVID-19 has tragically impacted our daily lives and wreaked havoc on economies, and in particular on our aviation sector. Passenger traffic has seen a downfall like never before in all regions of the world and especially in Europe. The aftermath of this crisis, and the impact on all stakeholders, will take years to overcome. Coordination at the global, regional and national levels remains crucial to survive this crisis and recover from it.

At the global level, the ICAO Council established the Aviation Recovery Task Force (CART) which quickly produced the "Take-off" response and recovery guidelines to support States in implementing different sets of mitigation measures to protect air passengers and aviation workers from COVID-19. The Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) has proven its crucial role in enhancing collaboration between the closely linked areas of aviation and health matters.

At a regional level, from mid-March European coordination meetings were held at a regular frequency with Directors General and other regional stakeholders, including the European Commission, the Director General of EUROCONTROL and the Executive Director of EASA, continuing to help coordinate and harmonise the national pandemic response and recovery measures and provide an important basis for European coordination and cooperation. Promoting the implementation of the joint EASA/ECDC health protocol has been a key factor to ensure a better harmonisation for operators and to boost passengers' confidence in the health safety of the actual travel journey.

Nationally, each Member State has put tremendous efforts into coordinating between different national authorities. Cooperation between civil aviation authorities and health authorities – which are naturally the leading authority on many questions during this global health crisis - has been in particular close.

We are honoured to offer readers an article by French Minister of Transport Jean-Baptiste Djebarri, who reflects on how the authorities must support aviation in its path towards recovery as well as the critical transformations that will be required by the sector in seeking to build a sustainable and resilient sector.

The facilitation domain has gained new significance in 2020. In many Member States, National Facilitation Committees have played a major role of coordination between the various stakeholders to find the best solutions and measures for the challenges encountered during this pandemic.

Health, safety and security, and the fundamental economic viability of our sector, must continue to be ensured. But when epidemiological conditions permit, we must also work better together to see that traffic recovery proceeds in a sustainable manner. During this unprecedented crisis, in length and gravity, the sector has been forced to adapt to survive, thus demonstrating its capacity to change, to implement measures to strengthen passengers' confidence and to define solutions to overcome the crisis.

Modernisation and digitalisation through new investments in aircraft and innovative approaches will be essential in the years to come to make operations viable, efficient and flexible. But we must also recognise the unique opportunity this crisis provides to build back aviation greener and more sustainable, in terms of its overall role in climate impact and societal expectations.

I am pleased to present to you this edition of the ECAC News that examines the topics of relevance in this year's crisis from its many angles, and I look forward to the continuous collaboration and cooperation of ECAC Member States and stakeholders in facing the challenges ahead.



The impact of COVID-19

Eamonn Brennan
 Director General, EUROCONTROL

First and foremost, this pandemic has had a devastating impact on people. We cannot and should not forget the countless human tragedies caused by this disease – for those infected, for their families and friends and also for those whose lives have been disrupted by the economic impact.

The travel sector, including aviation, has seen millions of jobs lost, suspended or at risk. The overall loss to the aviation industry is estimated to exceed over €140 billion in 2020 alone and recovery to pre-COVID levels is heavily dependent on the success of a vaccine in controlling the disease and restoring confidence. In any case, we do not expect a recovery to 2019 levels of traffic before 2024 and this could be much later.

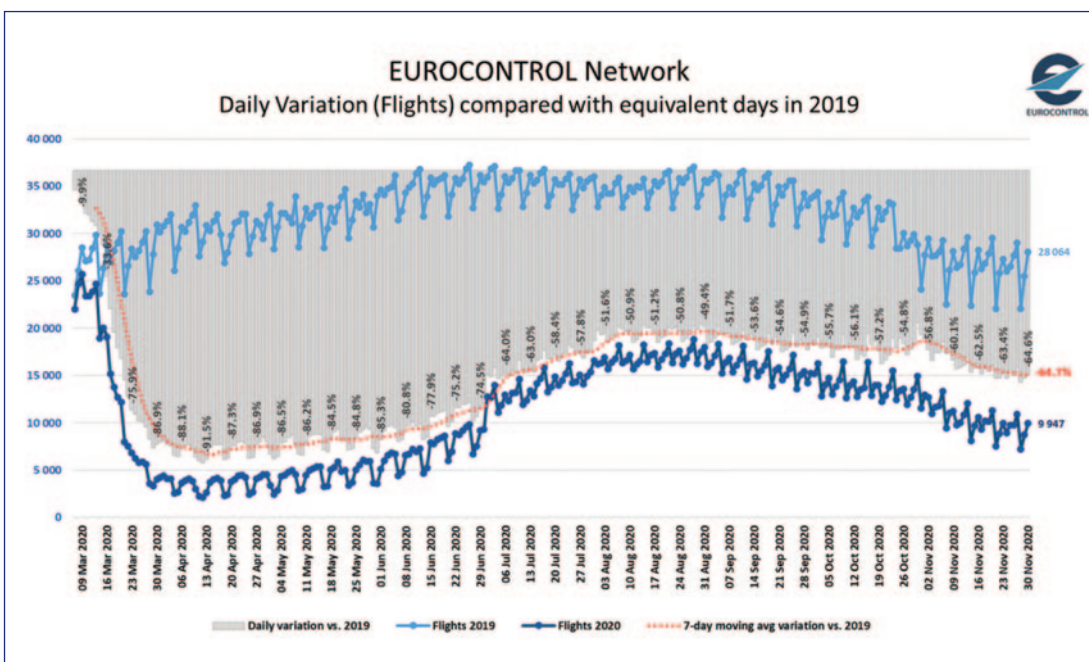
Just in Europe, up to the end of November, there were over five and a half million fewer flights than in the same period last year; in passenger terms, maybe as many

as a billion fewer individual journeys were made. For more than ten weeks, traffic never rose above 20% of 2019 levels.

At the height of the crisis, those flights that did take place were typically cargo flights or those servicing remote communities or North Sea oil rigs. Widerøe and Bristow Helicopters suddenly appeared on the lists of busiest operators. Many airports either shut down totally (such as Paris Orly) or closed terminals, as there were almost no passengers. Some airports found a new role as long-term storage facilities for aircraft as airlines were forced to mothball airframes. Older,

less efficient aircraft were disposed of and new orders put on hold.

The impact has been felt across aviation. Not just airlines, but also airports, ground handling, catering, retail – the list goes on. Air traffic management has also been hit. In Europe it is funded by charges billed to airlines. Already this year route charges/terminal charges billed by EUROCONTROL on behalf of States are around 60% lower than in 2019. We can expect that for the full year this will mean that States and their ANSPs will be short of around €5.6 billion (en route and terminal navigation charges).



EUROCONTROL has also been affected. Financially, we have been further reducing our costs. Operationally, we have had to make sure that we could continue to provide vital functions, such as the Network Manager role, even if the pandemic affected our staff directly. The creation of separated teams, careful rostering and extensive use of teleworking and social distancing have meant that we have been able to keep going and make sure that vital flights, such as those carrying medical supplies, have continued.

Perhaps the biggest impact on us though has been to change the focus from “business as usual” to asking the question “How can we help?” At this time of crisis, what can EUROCONTROL do to help aviation survive the pandemic and then recover?

▶ Helping financially

When the COVID crisis hit in March and faced with a catastrophic loss of income for the whole of the industry, EUROCONTROL reacted swiftly. In early April, the EUROCONTROL Member States took a major decision to defer up to €1.1 billion of route charges, easing the airlines’ immediate liquidity burden.

By June, EUROCONTROL reached an agreement with a major consortium of international banks to put

in place a massive loan facility of €1.3 billion to support the ANSPs whose revenues have been decimated by the traffic collapse. Securing a loan of this size, especially given challenging market conditions, was far from simple but it provided badly needed liquidity for many ANSPs and enabled them to continue to play their essential role in keeping the skies safe and operational. Ten States made use of this loan facility for their ANSPs.

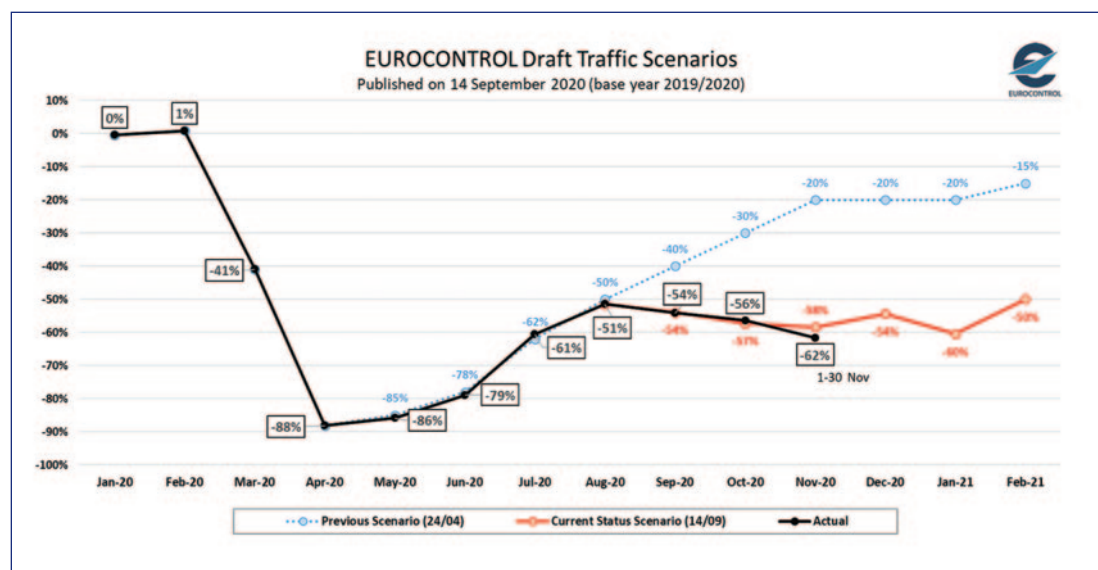
▶ Keeping everyone informed

In any crisis it is vital to have up-to-date information in order to make the best decisions, whether you are a government minister or the head of an airline, ANSP or airport.

EUROCONTROL has worked very hard in helping to provide that data, primarily through its dedicated team in the Aviation Intelligence Unit. We recognised that, as the impact of the pandemic evolved rapidly, a summary of the position for the previous month was not enough. So we have provided data that is not only up-to-date (typically right up to the previous day) but also is much more detailed, using interactive dashboards to provide the traffic position in a particular country, or for a particular airport.

Since the start of the crisis, we have released over 1500 communications reporting on different aspects of the crisis with around 20 million views of our press releases, weekly status reports, animations, dashboards, tweets and other social media posts.

ECAC has played a significant role in this – we have held very regular meetings of the ECAC Directors General of Civil Aviation (DGCA) and these meetings have been invaluable in establishing a clear joint picture of the state of aviation in Europe and the decisions to be made. Providing accurate and timely data and analysis to the ECAC DGCA has been a priority. More than that, we have tried to look forward. In April we created scenarios on how the traffic might develop, which proved remarkably accurate until the second wave hit and we had to produce a new scenario, which we did in September.



The impact of COVID-19

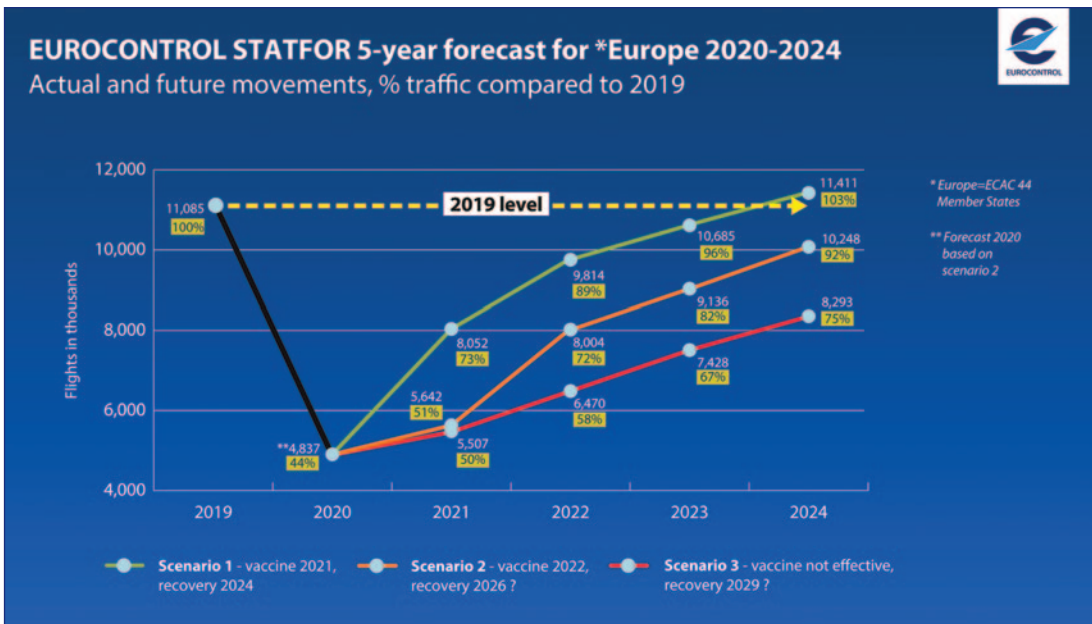
In early November, we released a new five-year forecast looking at the possible evolution of air traffic in Europe over the coming five years. The forecast shows that the evolution of the aviation sector is strongly dependent on how soon an effective vaccine is made widely available and by levels of public confidence. Of course, forecasting is never easy and on this occasion

is an even greater challenge due to the very volatile environment and the evolving COVID-19 situation.

In the most optimistic scenario, the forecast has traffic returning to 2019 levels by 2024. However, in the second scenario (based on a vaccine only being widely available and taken up in 2022), the 2024 traffic would only be at 92% of the 2019 figure. In the third scenario,

traffic in 2024 would be 75% of the 2019 figure and would not reach numbers seen in 2019 until 2029.

Overall, this is a catastrophic picture for the aviation industry and shows clearly why it is so important for States to take consistent and coherent measures to support the aviation industry and make passengers feel safe to fly again.



► Coordinating aviation’s response

The European Aviation Crisis Coordination Cell (EACCC), co-chaired by the European Commission and by EUROCONTROL as Network Manager, worked hard to improve coordination on a range of topics, such as the harmonisation of NOTAMs and the rules for cargo flights. It has strongly supported EASA’s initiatives for greater clarity and consistency on establishing the health procedures to be applied at airports and in aircraft.

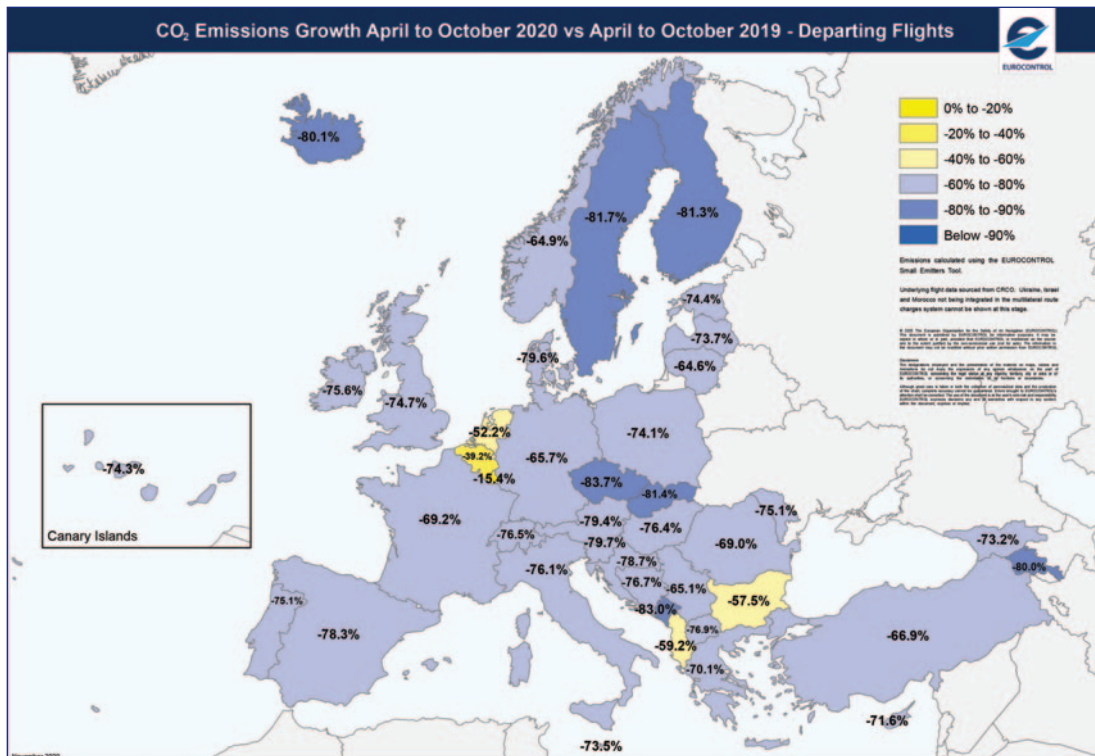
► Planning the recovery

It was clear from quite early in the pandemic that the recovery phase would require careful planning to manage the different impacts of the crisis, such as parked aircraft, closed terminals and the reduction of staff on duty at ANSPs. So getting ATM going again was not just a question of turning a switch – we needed to identify where the demand for traffic would be and what impact this would have on airports and ANSPs.

The EUROCONTROL Network Manager Recovery Plan was first produced at the end of April and a new version has been produced every week (it has now been replaced by the Rolling Seasonal Network Operations Plan). Vital for the production of the Plans has been the processing of airline schedules in order to provide an estimate of the likely demand and its impact – not just on the network as a whole, but also at local level.

Impact on sustainability

With fewer flights in the sky, emissions of CO₂ have dropped significantly – by over 80% in some countries for the months of April to October.



More than that, the flights have become more efficient, flying more direct routes and better vertical profiles and reducing the use of older, less efficient aircraft. For example, in October the average time spent in level flight during the descent fell from 159 seconds in 2019 to under 104 seconds in 2020. This results in lower fuel burn, less cost for the airlines, fewer emissions and less noise on the ground under the approaches.

As traffic builds again, we need to work together to keep these gains and to maintain the improved efficiency of flight trajectories. The recovery from the pandemic presents us with the unique opportunity to implement much needed change. We must not let this opportunity slip by returning to old practices.

At the same time, it is clear that achieving the objectives of the

European Green Deal will require major investments in aviation decarbonisation, pushing forward on the development and deployment of more efficient aircraft and rolling out Sustainable Aviation Fuel across Europe's airports. Sustainable fuels are up to 80% more efficient than kerosene and will be an essential tool to decarbonise aviation, especially for long-haul sectors which will not easily be converted to hydrogen/electric technology. At a time when the industry is struggling financially, we need to find innovative ways to ensure that this investment can happen and will take place in an equitable and managed fashion. EUROCONTROL has been working with partners across Europe to find ways to ensure we can support a return to growth of aviation while achieving the necessary reductions in emissions.

▶ Recovery hit by a resurgence in COVID-19

The aviation industry has worked very hard to be ready for the recovery but ultimately the recovery depended on passengers being willing and able to travel. This summer showed that many passengers still wanted to travel, even if they did not feel confident in booking ahead. However, even if they were allowed to do so, most would not travel if they had to go through a quarantine period either going out or on the return leg. Faced with ever-changing colour codes for destinations and changing rules on quarantines, many have opted out of travelling. Quarantines are, in effect, the kiss of death for our industry.

As the European Commission has said – and actively worked for – we need greater consistency and clarity in identifying the level of risk across Europe. We welcome this but we need to go further – to have greater coordination in the approach taken by States to testing – both before and after travel. Greater availability and use of testing would really help to make travel possible for people who have a pressing need to travel but who are prevented from doing so by the need to quarantine either in the destination country or on their return.

▶ Building back better

COVID-19 has been an unprecedented calamity for European aviation and its effects will be with us for many years to come. But at the same time, I firmly believe it represents an unprecedented opportunity for all aviation actors to work together to make our industry better, to tackle the big, longer-term issues now, even while the crisis is continuing. Sustainability is a good example of this – we cannot go back to the situation we saw in 2019 when a lack of capacity meant flights were becoming longer and less efficient.

Central to this is the leadership of the European Commission, which has worked with everyone in aviation to put on the table proposals to reform the Single European Sky. These proposals have the potential to be a game changer in terms of helping European aviation to build back better. A vital part of that are the provisions that will ensure a reduction in fuel consumption of 10%, something that will make a real contribution to sustainability; another is making the Performance Scheme much stronger with improved and more meaningful incentives to encourage States and ANSPs to do what is best for the whole industry in the long term. A green recovery from the pandemic will also have to combine other measures such as putting in place

new aircraft technologies and an increased production and uptake of sustainable aviation fuels. 2021 should see advances on the latter as we can expect legislative progress with the so-called ReFuelEU Aviation proposal – an initiative aiming to boost the supply and demand for sustainable aviation fuels in the EU with the potential to reduce aviation's environmental footprint and enable it to help achieve the EU's climate targets.

Our industry – our world – has been radically changed by the pandemic. I am encouraged by all the work, across aviation, to manage and mitigate its effects and to work towards a more **sustainable** and more **resilient** industry in the future. It will be difficult and painful but we must continue our struggle to build back better. ■

Eamonn Brennan is Director General of EUROCONTROL based in Brussels, Belgium. Prior to joining EUROCONTROL, Mr Brennan was the chief executive of the Irish Aviation Authority (IAA) with responsibility for the safety regulation of the fast-growing civil aviation sector, providing air navigation services in Irish airspace and ATC at major airports and North Atlantic Communications. He was significantly involved in the promotion of the industry, which saw considerable growth with high levels of safety, performance, cost efficiency and expansion of services, investments in technology, resources and infrastructure. He has also worked on international positions in South East Asia, based in Kuala Lumpur, in Malta and London and led the successful Airline Group bid for the first ever privatisation of a European air navigation service provider in the United Kingdom.

Mr Brennan has served as chairman of CANSO Global, chairman of the COOPANS Alliance, and has worked in the past with the boards of Borealis, Aireon, Entry Point North and the IAA.

He is a graduate of the National University of Ireland, a chartered accountant and a private pilot. He loves aviation.

COVID-19 exposes the frailty of Europe's single aviation market

Jonathan Wober

Chief Financial Analyst, CAPA – Centre for Aviation



One of the greatest achievements of the European Union was the single aviation market, phased in over a period of years and fully implemented in the 1990s. It did away with the complex bilateral system that has dominated global aviation since the end of World War II, removing limits on market access and on ownership/control for airlines within the single market.

The results of this included enormous increases in connectivity and consumer choice, with consequent benefits to regional economies, employment and human interaction across nations. No other grouping of States anywhere else in the world had implemented such a liberalised aviation market.

However, it was dismantled in a fortnight in March 2020, when COVID-19 travel restrictions were imposed unilaterally by Member States.

Although nations did not explicitly reimpose restrictions on air traffic rights in the way that traditional bilateral air service agreements do, the travel restrictions had very much the same effect in practice.

Temporary border controls between EU members were introduced on a piecemeal basis. Restrictions varied from outright bans on international travel (both incoming and outgoing), to quarantine requirements on incoming passengers, to new health checks on arrivals.

Only restrictions on non-essential travel into the EU from outside were coordinated among EU nations (although even this was not followed by every Member State).

A quarter century of harmonious cooperation on all things aviation dissolved almost instantaneously. European aviation did not merely revert to a bilateral system, but regressed further – to a unilateral one.

The relaxation of travel restrictions in the recovery phase since June 2020 has also been largely piecemeal. The initial reopening of borders was carried out by each nation on different dates and there have been different approaches to

quarantines and virus screening. So-called travel corridors, or travel bubbles, between States mimic the bilateral system of old in some ways.

Would-be air travellers have been confronted with a patchwork of discriminatory approaches. This would seem to tear up key EU principles of the single market and freedom of movement.

This emerged in spite of attempts to coordinate at EU level, including the European Commission's April 2020 roadmap towards the common lifting of restrictions. The EU Council's October 2020 adoption of the so-called "traffic light" approach to travel restrictions also attempted to increase coordination.

This is aimed at preventing EU Member States from restricting free movement to/from countries with low COVID-19 rates ("green" areas) and at establishing a common approach to quarantines and restrictions where applied, thereby avoiding fragmentation and disruption.

However, it is not legally binding (and does not include European nations outside the EU). Moreover, as the EU Council noted, the decision on whether to intro-

duce restrictions to free movement to protect public health remains the responsibility of Member States.

IATA, Airlines for Europe and ACI EUROPE branded the Council's approach a failure. The aviation bodies argued that it did not replace quarantines with testing – the industry's preferred approach – and did not create sufficient certainty for travellers. Rather, it left the "door open for Member States to refuse entry to citizens travelling from other Member States", failing to "harmonise the rules applicable for cross-border and domestic travel".

The disjointed approach by European governments to state aid in the crisis adds to the impression that the single market has fallen apart, even if each instance is given the appearance of uniformity by the need to receive EC regulatory approval.

The European Commission adopted a temporary state aid framework to allow governments to support enterprises deemed important to the economy, while limiting negative consequences to the level playing field in the single market. These two objectives often conflict.

COVID-19 exposes the frailty of Europe's single aviation market



Michael O'Leary, CEO of Europe's biggest airline group by passenger numbers, Ryanair, opposes state aid given to rival airlines. "Lufthansa is going around hoovering up state aid like the drunken uncle at a wedding, drinking from all the glasses. They can't help themselves," he told *Bloomberg* in May 2020.

The most significant beneficiaries of state aid among Europe's airlines have been Lufthansa Group and Air France-KLM, each with packages running to more than 10 billion euros. Others with significant, targeted state aid include Norwegian, Alitalia, TAP Air Portugal, airBaltic, Condor, TUI Group and SAS.

Loans and loan guarantees have formed the bulk of state aid so far, but equity has also been at least some part of the support provided to Lufthansa, Alitalia, airBaltic, SAS, Aeroflot and Finnair.

Some have argued that state aid's net should be cast more widely than the focus on national airlines that account for most of the recipients. There have been very few state aid programmes in Europe that are non-discriminatory in nationality terms. The more common experience is that governments are only concerned with support to airlines of their own country.

Ryanair's Mr O'Leary has previously suggested that, if governments are going to support airlines, it should be non-discriminatory and based on airlines' share of traffic in a particular country.

He does not want state aid for Ryanair, but he is more opposed to what he sees as its distorting impact on competition. "We don't want state aid, but we're now being asked to compete with not one hand, but two hands tied behind our back."

The EU is supposed to be a borderless single market, indifferent to the individual nationalities within it – even if the coronavirus has temporarily rebuilt borders.

All airlines serving a country provide it with connectivity and wider benefits to the economy of that country, so perhaps any aid should be shared among them (whether according to traffic share or by some other means). Arguably that would be in the wider European interest.

Others argue that the state aid net should not be cast at all. Harsh, perhaps, but some would question the use of public funds to prop up airlines in a time of vastly reduced demand when there are more pressing causes.

Far better to let the market pick the winners and allow a new aviation industry to re-emerge in the recovery, they would say. Particularly so, if the recovery takes longer than expected and further rounds of state aid are then called for (as seems increasingly likely).

In the meantime, rather than funnelling state aid to national airlines, governments concerned about connectivity could instead provide those funds for specific routes through a competitive ten-

dering process (like the existing public service obligation routes).

A further concern is that the biggest beneficiaries of state aid tend to be the least efficient operators, both in terms of unit cost and of fuel burn, and that state aid consequently conflicts with environmental goals.

Even in "normal" times, Europe's airline industry has been less profitable than North America's. This is largely a function of greater fragmentation of the European industry.

In spite of liberalised ownership and control rules within the EU, the need for European airlines to maintain traffic rights to non-EU destinations remains a hurdle to cross-border mergers and acquisitions.

In addition, residual nationalistic attitudes towards former state-owned "flag carriers" can be a hindrance even where no formal regulatory barriers exist. State aid reinforces such attitudes and, in the case of the German government's option to increase its newly taken equity stake in Lufthansa in the event of a foreign takeover bid, codifies them.

Rather than seeking to tighten restrictions on ownership and control, governments should encourage and enable the airline industry to meet a growing and sometimes urgent need for fresh equity capital by removing them entirely.

The EU's suspension of the so-called "use it or lose it" slot rule, or the "80/20 rule", has also altered

COVID-19 exposes the frailty of Europe's single aviation market

the competitive backdrop. The rule is designed to ensure efficient use of airport infrastructure at airports with constrained capacity, while also giving opportunities for new entrant competitors to operate from those airports.

It requires that airlines must use 80% of their allocated airport slots at the approximately 100 slot-constrained airports covered by EU regulations, or risk losing them in the same season of the following year.

The European Commission suspended the rule for the summer 2020 season and again for winter 2020/2021, meaning that airlines could cut capacity dramatically without fear of losing their slots for next year.

This avoids the absurd prospect that airlines might fly empty aircraft on routes with very low demand, thereby multiplying already heavy losses (and emitting carbon dioxide), in order to retain slots for the future.

However, it also serves to prop up the future market share of incumbents, even those that struggled to be profitable even before the pandemic, while denying new competitors the chance to enter. This may be artificially limiting capacity currently operated on routes where incumbents have suspended their schedule and where a more efficient operator would be willing to enter.

Moreover, the provision of state aid and the suspension of the slot rule may end up hampering the restoration of air connectivity across Europe once the threat of COVID-19 recedes.

The more efficient operators, often those with the highest levels of liquidity and lowest unit costs (for example, Ryanair and Wizz Air), would be better placed to return

capacity profitably and more quickly than bailed-out national airlines – if they were entirely free to do so.

Governments appear to be favouring near-term aviation job preservation over longer-term industry efficiency (and longer-term job creation by the more efficient operators).

It would be difficult to argue that an airline in receipt of state aid and which is shielded from competition through the suspension of the slot rule is not a distortion of competition. Moreover, it may reduce the imperative felt by that airline to make needed changes.

Whether an explicit condition of state aid, or the result of the need to repay it, recipients typically need to cut costs and capacity, meet higher environmental standards and cap wages to staff.

Long-term survival requires restructuring if repeated rounds of aid are to be avoided. An external threat, particularly one of existential proportions such as the current pandemic, should catalyse the necessary change.

Ironically, however, state aid can dilute the impact of such a catalyst if it nurtures a sense that there will be more bailout funds in the future.

Both Air France-KLM and Lufthansa Group – and other beneficiaries of state aid in Europe – are undergoing significant restructuring. Whether they are doing enough will depend on the duration of the crisis.

It will also depend on the extent to which they believe that they can, or cannot, rely on future government support.

French Finance Minister Bruno Le Maire has said France will “do what is necessary to guarantee the survival of Air France”. Meanwhile,

the Netherlands' Finance Minister Wopke Hoekstra has said Air France-KLM's survival “is not a given”, stressing that the group must reduce its cost base.

The contrasting comments from the Netherlands and France are illustrative of different attitudes by governments everywhere towards support for national airlines in a crisis.

The Dutch view, that survival is not a given and that cost reduction is essential, is more likely to lead to a sustainable outcome than the French view that government will do whatever is necessary to ensure the airlines' survival.

The day will come eventually when all travel restrictions have been fully eased and when the single aviation market is once again fully operational.

However, even then, the temptation for national governments to use their remaining sovereignty to favour state-subsidised national carriers may be hard to resist (for example in regulatory and fiscal areas, or in influencing the EU's talks with the United Kingdom over a future air service agreement).

Even if this temptation is resisted, the discriminatory practice of bailing out airlines (that were often anyway struggling to make sustainable profits) purely based on nationality has already trampled over the EU's liberalised market principles.

In extremis, Europe's single aviation market proved unexpectedly brittle. It fragmented all too quickly. ■

Jonathan Wober joined CAPA in 2013 to lead its analytical coverage of European airlines and is now also responsible for developing financial analysis products. Previously, he spent 13 years as an equity research analyst covering airlines and airports for Société Générale, HSBC and Deutsche Bank. His involvement in aviation began more than 30 years ago in the early part of his career at BAE Systems. He holds a bachelor's degree in mathematics and physics from the University of Bristol and a master's in business administration from London Business School.



Rebuilding European aviation in a changed world – a view from the ECAC/EU Dialogue

Mara Keller

Air Transport Coordinator, European Civil Aviation Conference

Since 1995, ECAC/EU Dialogues have been bringing together high-level aviation decision makers, industry leaders and aviation specialists to exchange ideas and experience, ask questions and freely discuss the current issues and challenges facing those involved in aviation today.

Organised by the European Civil Aviation Conference and the European Commission, the 11th edition of the ECAC/EU Dialogue with the air transport industry was held virtually on 4 November 2020. The event addressed the theme “Restart, reconnect, recover – Rebuilding aviation in a changed world” and featured discussions, analysis and ideas to address the challenges the European aviation sector is facing in this unprecedented crisis. Over 300 senior leaders representing regulators, airlines, airports, air navigation service providers, manufacturers and industry organisations participated in this Dialogue, which was held under the auspices of the German Presidency of the European Union.

Initially, the event was scheduled to be held in Friedrichshafen, Germany but had to be adapted to

a virtual conference. This change had no effect on the excellent contributions and lively panel debates aimed at producing recommendations in the interests of the air transport sector.

ECAC President Ingrid Cherfils opened the conference, followed by an address by the Parliamentary State Secretary of the German Federal Ministry of Transport and Digital Infrastructure, Steffen Bilger, and a keynote speech by the Director-General for Mobility and Transport of the European Commission, Henrik Hololei.

The four sessions, featuring high-level panellists from the industry and regulators, explored the economic consequences of the pandemic, the public perception of the aviation sector, sustainability and innovation, and the Single European Sky (SES) package. With

the objective of setting priorities to support the recovery of European aviation in a changed environment, the conference discussed:

- the economic and financial relief measures for the industry that have been put in place in Europe and globally. The measures adopted by different States demonstrate the importance governments give to the sector and are a recognition of its value to the economy at large. The level of this financial support is unprecedented, but the prolonged crisis will have a major impact in the sector – which has very limited revenues for a long period of time – in a severely depressed market. Additional support will be needed in the months and years to come to manage through the crisis, which will be much longer than initially anticipated, and it will need to be designed in a way that ensures a sustainable recovery of the sector.
- the need to rebuild consumer confidence. Safety and security remain a priority for all actors of the sector, at a time where the primary focus is legitimately placed on the economic aspects of the crisis. All actors are committed to maintain safe and secure operations combined with more stable and harmonised public health measures, in the interest of the travelling public.
- this crisis as a catalyst to accelerate action on innovation, leading to advances in technology and policies, where current challenges



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can be turned into opportunities. Sustainability is both one of the main challenges and opportunities that the air transport sector faces. Innovation in aircraft, engines, fuels and operations will be one part of the solution, while other initiatives, such as market-based measures, will also play a key role.

- the modernisation of air traffic management systems and the implementation of the Single European Sky package, which will be a further building block for, and play a key role in, mitigating the climate change impact of civil aviation. The fundamentals of making the European airspace and its management more efficient, while addressing the financing issues in the system, were emphasised.

The discussion at the Dialogue showed that this crisis is unprecedented in its duration, its scope and its structural impact on the sector. Unprecedented, as it will most likely also change travel behaviour resulting in new patterns for travel demand and passenger expectations. Solutions not only for the survival of the sector but also for the sustainable recovery of the sector will not rely on the sector alone. The current crisis challenges multiple domains and interests – aviation, health, borders, management, to name but a few – but also has a way of pulling together diverse partners to solve the crisis.

The common thread throughout the speeches and sessions in terms of “restart, reconnect and recover” was the emphasised need for harmonisation and a common

approach, to avoid a patchwork of solutions. This equally applied to the economic measures that need to help the entire aviation ecosystem, as well as the sustainable and digital recovery.

Participants acknowledged the usefulness of this exchange at the Dialogue and expressed their confidence that the sector as a whole will be able to turn the current challenges into opportunities, as aviation has done before. ■

Mara Keller has worked in the ECAC Secretariat since March 2019 as Air Transport Coordinator supporting ECAC’s activities and groups in the fields of economics, facilitation, legal issues, Remotely Piloted Aircraft Systems and the expert group on safety investigation. Prior to joining ECAC, Mara worked for six years in economic development at the ICAO Secretariat in Montreal. Before joining ICAO, she worked in governance and programme management at Lufthansa Technik, and previously completed a traineeship at EASA’s International Cooperation department. Mara holds a master’s degree from Cologne University and Charles University in Prague in political sciences and economics, and a certificate in air transport management from McGill University.



Strengthening passenger confidence

Gunnar Ljungberg

Civil Aviation and Maritime Director, Swedish Transport Agency

The confidence that passengers place in the aviation industry's ability to offer a safe way to travel has always been a key factor in the demand for air travel, and will remain so in the future

In addition to being an engine for global growth, aviation is also the means of transport that on longer distances and between continents, in an efficient and safe way, makes people meet and grow together. The effects of the spread of COVID-19 are unprecedented in modern times, and they affect our society and our way of life in a very dramatic way. The aviation industry is heavily impacted by the reduced travel with far-reaching economic consequences as a result. In the midst of the crisis, we can also state that we will have to live with this pandemic for a long time to come.

We have no choice but to accept the situation and learn to live with the virus. We need to find the balance where we counteract the spread of the infection, whilst helping our societies return to normal in a sustainable way. That work needs to be based on research, best practice and proportionate measures. Cooperation between industry, authorities and States is essential in order to build trust in safe travelling. Coordination between these actors is an important cornerstone in recreating a sustainable way of travelling.

Historically, the aviation industry has been successful in building confidence in safe travelling through active and long-term safety work. That experience has also been used during this crisis. Through a number of initiatives, the aviation industry has quickly established a new standard for minimising the risk of the infection spreading dur-

ing the flight itself. Various authorities and organisations (EASA, ECDC, ICAO and ECAC) have also demonstrated leadership during the crisis and developed guidelines and recommendations and coordinated initiatives on how to prevent the spread of infection. All these initiatives have enabled the aviation industry to manage and implement measures in a similar and coordinated manner, generating clarity and increased confidence among passengers. The aviation industry also recognises the importance of communicating these anti-infection measures in different ways and meeting passengers' worries in order to restore confidence in safe flying.

Nowadays, some passengers feel uncomfortable with the physical proximity between passengers, which for natural reasons cannot be avoided in an aircraft cabin. The fear of being infected by someone

is imminent. The same feeling can arise in other parts of the travelling process such as queues for security, boarding and baggage handling. A number of measures have been introduced by airlines and airports to prevent the spread of infection during travel, like the use of air-purifying HEPA filters in modern aircraft, extended cleaning, social distancing and the use of face masks. The staff continuously support and remind passengers of the routines introduced in passenger flows to avoid the spread of infection. All these are relevant measures that reduce the risk of infection and increase the safety of passengers.

With these measures in place, and given the aircraft's air purification and airflows, can we then declare that the actual risk of the infection spreading on board an aircraft is actually quite low? Recently published data by IATA⁽¹⁾ regarding flights involving 1.2 billion passengers show very few reported cases of infection on board (44 cases). Airbus, Boeing and Embraer have performed independent airflow simulations where, despite the use of slightly different methods, it has in each study been possible to demonstrate a low risk of infection spreading. A recent peer-reviewed study by Freedman and Wilder-Smith, published in the Journal of Travel Medicine, reports low rates of infection on board aircraft. Although these studies contain uncertainties, we do not have any other data that indicate the opposite – that aircraft cabins would pose a high risk of infection



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spreading. It therefore appears that the measures implemented are effective in preventing the spread of infection during the journey itself.

From a passenger perspective, however, these measures are not enough to restore confidence and launch a sustainable return to more normal air travel. Passengers need to feel confident that there is certainty at the destination. Certainty of not having to sit in quarantine. Certainty of not having restrictions imposed that limit the chances of coming home again. Certainty that one can get medical care if needed. Not to mention the risk of losing the cost of the flight ticket in the event of cancellation due to the spread of infection and new restrictions being introduced. These challenges are beyond the control of the aviation industry and therefore cooperation and dialogue between industry, authorities and States will be extremely important for us in order to find sustainable solutions that extend across national borders.

"I note when I read that there is no 'silver bullet' that solves all these challenges."

Protecting societies from the consequences of an increased uncontrollable spread of infection will always be the highest priority of every State. We must all be humble in the face of that responsibility and, of course, stand behind it by following the recommendations and rules that are issued. The question is, however, which measures to minimise the spread of infection have the intended effect, and in which phase of the spread of infection should these measures be introduced. How can we achieve an effective balance between measures to prevent the spread of infection and trying to keep our communities open? How can we



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make travellers feel confident and safe while travelling? The European Centre for Disease Prevention and Control (ECDC) has, in a technical report from 26 May 2020 ⁽²⁾, in an informative way described various threads of reasoning regarding various measures to reduce the spread of infection and the effects linked to travelling. They describe the benefits and disadvantages of everything from testing to the introduction of quarantine. I note when I read that there is no "silver bullet" that solves all these challenges. Nevertheless, we must continue to cooperate, inform each other and develop our analysis of these difficult issues to be able to reach sustainable solutions.

I can conclude that the measures implemented to reduce the likelihood of infection spreading while travelling have most likely been effective. That information is important to disseminate in order to strengthen passenger confidence when making a decision to book a flight. More studies and research in this area are of course beneficial in order to further strengthen the analysis.

We can continue to expect measures and restrictions to be introduced at regional level to prevent outbreaks of infection. As these measures are difficult to predict, it is important that information-exchanges work, and that as much predictability as possible is sought after, thus ensuring passengers that their interests are taken care of. In order to overcome these challenges, I cannot stress enough the importance of continued cooperation and information sharing between States, authorities and industry. I am convinced that working together increases our collective ability to return to a more sustainable level of travels while strengthening passenger confidence. ■

(1) Research points to low risk for COVID-19 transmission inflight
<https://www.iata.org/en/pressroom/pr/2020-09-08-012/>

(2) Considerations for travel-related measures to reduce spread of COVID-19 in the EU/EEA
<https://www.ecdc.europa.eu/sites/default/files/documents/Considerations-related-to-measures-for-travellers-reduce-spread-COVID-19-in-EUEEA.pdf>

Gunnar Ljungberg has been Civil Aviation and Maritime Director at the Swedish Transport Agency since 2017. Working at the authority since 2002, he has extensive experience in several areas of aviation, and throughout his career at the authority has been responsible for different domains. Starting as a certification engineer for engine and power plants, he moved on to management positions in the airworthiness, infrastructure and flight operations field. Since 2014, he has also been engaged in maritime matters. Gunnar began his career as an aircraft technician, and before he joined the authority he worked in an airline airworthiness department as quality manager and as continuing airworthiness manager.

Facilitation committees facing the COVID-19 crisis



Urs Haldimann

Head of the Legal and International Affairs Section, Federal Office of Civil Aviation, Switzerland



Laurent Noël

Legal Advisor, Legal and International Affairs Section, Federal Office of Civil Aviation, Switzerland

COVID-19 is a worldwide challenge and it will have a tremendous impact on the future development of the whole civil aviation sector. For the first time, a pandemic crisis has hit the whole world and has shown in a dramatic way the high interdependence of the worldwide economic system and its vulnerabilities.

Through these events, aspects of facilitation became important and the focus is all of a sudden on ICAO's Annex 9 to the Chicago Convention or ECAC's Doc 30 Part I. While the lessons learned from the crisis we are going through will be integrated at a later stage into those documents, the main interest lies in intermediate action and harmonised approaches to coordinating COVID-19 measures and immigration.

At national level, facilitation committees play an important role for such coordination. Switzerland established its National Air Transport Facilitation Committee (FAL Committee) in 1995, as required by

Standard 8.19 of Annex 9, which is directly applicable according to Swiss law. Its objective is to coordinate facilitation policy issues between the different authorities involved and the representatives of the industry. Chaired by the Federal Office of Civil Aviation (FOCA), it is composed of national and cantonal governmental officers such as airport police, immigration, customs and health authorities, as well as industry representatives from airline operators, airports and handling agents. The work of the FAL Committee is to a certain extent based on the National Facilitation Programme according to Standard 8.17 of Annex 9.

Under normal circumstances, the FAL Committee meets on a yearly basis. Its main objectives are to:

- elaborate a coordinated national position on amendments of international or national regulations on facilitation;
- encourage the development of best practices in all areas of facilitation;
- ensure efficient coordination between the involved authorities and the industry;
- inform all the parties concerned of significant facilitation-related developments in the field of civil aviation;
- exchange information on recent developments in the area of facilitation.



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► Establishment of a working group within the FAL Committee in response to the crisis

In March 2020, the dimension of the COVID-19 crisis became apparent, although there was still hope for a recovery in the summer. With the intention of curbing the spread of COVID-19, States adapted their immigration rules in a non-coordinated way on a near daily basis and introduced or permanently modified health requirements on national as well as regional levels. In other words, the crisis produced a chaos. This process disrupted nearly all international - and the majority of national - flights.

As soon as the pandemic crisis began, FOCA decided to put its resources and competencies at the disposal of the aviation industry in order to help it to deal with this major crisis. It was essential to develop a coordinated Swiss position in the near future with all partners in the aviation sector, representing both industry and the administration.

When it came to the question of who could best contribute to such work, it became obvious that the FAL Committee, by virtue of its composition and due to the fact that health issues belong to facilitation, was the ideal forum to find the competent persons among its members. FOCA therefore established a COVID-19 working group, with the objective of sharing information and discussing measures to be taken to ensure aviation recovery in the context of the pandemic. It invited all members of the FAL Committee interested in the subject to participate in this working group. The working group was established in April 2020. Chaired by FOCA, with the support of the Federal Office of Public Health, it was attended by representatives of the industry from the following organisations:

- airports of Zurich, Geneva, Basel and Altenrhein
- Swiss International Air Lines, Edelweiss and easyJet Switzerland



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- Dnata and Checkport (handling agents).

The working group held four virtual sessions between April and June 2020 during which the following general principles emerged:

- Social distancing is considered as one of the most effective measures to avoid the spread of COVID-19.
- Avoiding congestions **in airports is effective** in order to avoid the spread of COVID-19 and improve the swift processing of passengers.
- Providing opportunities to clean hands at airports is considered as a useful precaution.
- Too-prescriptive **regulations should be avoided**, in order to keep some operational flexibility.
- Cost-benefit analyses for any measure need to be taken into account.
- All measures should be limited in time to oblige authorities to review them on a regular basis in light of the latest developments.
- A phased approach (short-/mid-/long-term measures) is the best way forward.
- Whole recovery process to be considered as work in progress in order to adapt it to needs according to changed situation.
- All stakeholders and authorities shall closely cooperate.
- Europe-/worldwide harmonised measures should be sought in order to rebuild the confidence of the travelling public.
- Information given to the public shall be harmonised.

At the same time, local task forces were established at the airports. They were tasked with im-

plementing the COVID-19-related measures in the airports, taking into account the local particularities.

► Possible measures and their evaluation

This chapter gives an insight into the view of the decision-making process in April/May regarding different measures to be applied at airports and on board aircraft, including their operational and medical evaluation. In this context, we would like to stress that this chapter reflects the status of our deliberations by mid-May and that in the meantime the conclusions and evaluations have been reviewed several times for their effectiveness and appropriateness.

» A] AT THE AIRPORTS

1. PLEXIGLASS WINDOW INSTALLATION at all necessary places with contact: check-in, boarding gate, customs, security check, etc.:

- **Operational evaluation:** low impact, relatively easy to implement.
- **Medical evaluation:** effective measure.

2. SOCIAL DISTANCING inside and outside the airport, at a level comparable to other public transport systems:

- **Operational evaluation:** important impact, reduces capacity of airports to 40%, relatively easy to implement but will require more space inside and outside the airport. The distance of separation (at this time 2m in Switzerland) shall



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be the same at all airports. Measures of mitigation are necessary, e.g. opening additional counters.

- **Medical evaluation:** effective, measure should be maintained. Currently the distance required varies at international level (1m/1.5m/2m).

3. WEARING OF MASKS in particular in situations when social distancing cannot be fully implemented:

- **Operational evaluation:** low impact, but costly.

- **Medical evaluation:** the mandatory wearing of masks could be foreseen when social distancing cannot be respected, due to congestion.

4. PUBLIC HEALTH PASSENGER LOCATOR FORM according to Appendix 13 to Annex 9:

- **Operational evaluation:** low impact on operations, effective if all States use the same standard form, ideally in electronic format.

- **Medical evaluation:** effective as far as it is based on a common standard to fill out online.

5. TEMPERATURE CHECKS at exit and/or entry:

- **Operational evaluation:** equipment relatively cheap, impact depends on operational procedure chosen.

- **Medical evaluation:** not effective (more a political issue), since the measure requires a process to deal with passengers who have increased temperature and require a secondary screening followed eventually by further measures (e.g. quarantine, self-isolation, testing...). Impact depends also on definition of critical temperature (37.4 or 38 degrees). Furthermore, the value is doubtful from a medical point of view due to the incubation period and the fact that not all persons show symptoms. Nevertheless, if this measure should be taken, it should definitely apply at the departure. However, evaluating passengers before they board planes (exit screening) or before they enter the territory (entry screening) may help to identify certain passengers who have a health problem.

6. RAPID TESTING at exit and/or entry:

- **Operational evaluation:** not a solution in the short term and for broad application, due to the fact that such testing would have enormous repercussions (available persons and laboratories, costs, and certainly the corresponding authorisations...). Could be a solution for some specific cases, whereas the testing, that is to say the laboratory

diagnostic, has to be performed in the corresponding health facility.

- **Medical evaluation:** effective in respect of the detection of the virus. Nevertheless, if this measure should be taken it should definitely apply at the departure.

7. IMMUNITY PASSPORT based on a medical check, to hold when travelling and to present at the airport:

- **Operational evaluation:** low impact.

- **Medical evaluation:** effective measure, but it is not yet clear whether persons who were infected with COVID-19 remain immune.

8. SELF-HANDLING regarding check-in, baggage tags printed at home, etc.:

- **Operational evaluation:** good impact, could speed up the circulation of persons, avoiding the creation of overcrowded areas.

- **Medical evaluation:** effective because it will improve the fluidity of the passengers at the airport, but suitable prerequisite information is needed.

9. CLEANING OPPORTUNITIES such as disinfection lotion, water with soap:

- **Operational evaluation:** good impact.

- **Medical evaluation:** effective measure.

>> B] INSIDE THE AIRPLANE

1. SOCIAL DISTANCING between crew and passengers or between passengers:

- **Operational evaluation:** huge impact, will reduce load factor; if such measures should be decided, aircraft operators would prefer "abstract requirements" (e.g. distance to be kept) instead of prescriptive measures (e.g. central seat must be left empty).

- **Medical evaluation:** effective measure, could be compensated by effective aeration and anti-virus filters.

2. WEARING OF MASKS AND GLOVES for crew and passengers:

- **Operational evaluation:** low impact.

- **Medical evaluation:** effective measure.



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▶ Contribution to the work at the international level

The working group also discussed and evaluated the various initiatives launched at the European and international level by ICAO, ECAC and EASA with a view to the return to normal operations and to managing air passengers and general aviation in relation to the COVID-19 pandemic.

In particular, it analysed the draft “EASA-ECDC COVID-19 Operational Guidelines for Management of Passengers” and commented those drafts based on the fruitful exchange between authorities and industry representatives. This allowed the Swiss delegation to base their intervention on a solid analysis taking into account operational as well as medical aspects.

▶ Final remarks

The management of this crisis has highlighted the important role of a well-established national FAL Committee in times of a serious pandemic crisis. Due to its composition and representativeness, it is the best platform to deal with an urgent and important facilitation issue. It also brings together all competent actors directly concerned by a topic in a quick and efficient manner.

Although the views on certain measures diverged, in particular between health authorities and industry representatives, the working group succeeded in finding a common denominator. This was possible because the members of the FAL Committee knew and trusted each other and were therefore prepared for constructive and result-oriented discussions suitable for all

– authorities, operators and passengers – with the final goal and hope of a safe resumption of air transport.

After the first wave, aviation has made a timid recovery and air travel has become a complex experience: wearing masks, medical certificates and several hours of checks are becoming widespread before boarding with crews under high protection. Although we are currently going through the difficult phase of a second wave, we will only succeed by working closely together and finding common ways and means to overcome this crisis in fair and robust cooperation with all partners involved. The FAL Committee has proved to be an ideal instrument to tighten this indispensable cooperation. ■

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Laurent Noël started working with the Swiss Federal Office of Civil Aviation (FOCA) in 1992. In his present position as legal advisor in the Legal and International Affairs Section, Mr Noël is responsible for facilitation matters. In this capacity, he represents Switzerland in the ICAO Facilitation Panel as alternate member. He is also a member of the ECAC Facilitation Working Group.



Running a marathon

Jón Gunnar Jónsson

Director General of the Icelandic Transport Authority (ICETRA)

Iceland is, like other States, experiencing the magnitude and complexity of the COVID-19 pandemic. The response to the crisis demands cooperation and resilience. From the onset, health expert opinion has led the way to actions taken with active support from political leaders. For the nation, aviation is not only a key economic factor but also the main mode of transport across borders. The effects of the pandemic are widespread and, amongst others, connectivity to the island is severely restricted.

In a world that relies on air transport as a key factor in economic growth and prosperity, the public health crisis caused by the COVID-19 pandemic has exposed the fragilities in our everyday lives. The pandemic has had a massive impact on societies, severe at multiple levels: for the global economy, local businesses and individuals.

Authorities worldwide have addressed this by issuing contingency plans, and relief and mitigation measures, which in many cases have included some form of restrictions on entry at their borders. Rules, which differ from State to State, have been changing constantly in line with the development of the coronavirus. Scientists are working hard on vaccine development to address the threat, and the scientific collaboration seems to be yielding results at historic speed. Although our understanding of the virus's behaviour and spread has increased rapidly in recent months, in all societies opposing opinion groups have emerged, with varying opinions and theories on the correct ways to act and respond to the situation.



What we know for sure is that the coronavirus spreads easily, many people are affected and fatalities are being confirmed⁽¹⁾. Most people do their best to avoid infection using the methods prescribed by their health authorities. Many are concerned for their health, and for some even the smallest personal interaction has become a risk. Without mentioning public transport such as air travel, even though

the risk of being infected on an airplane is considered to be low⁽²⁾ given the measures authorities and industry have implemented⁽³⁾. Until the pathways of infection and the correct way of prevention become fully known, and until a safe vaccine becomes available to the public, uncertainty will prevail. This uncertainty creates fear, slow-moving societies and financial crisis.

(1) See here <https://www.who.int/data/maternal-newborn-child-adolescent-ageing/covid-19-data>

(2) See here <https://www.ecdc.europa.eu/en/covid-19/facts/questions-answers-travel>

(3) See here https://www.easa.europa.eu/sites/default/files/dfu/EASA-ECDC_COVID-19_Operational%20guidelines%20for%20management%20of%20passengers_v2.pdf

▶ The importance of cooperation

In 2020, the aviation authorities worldwide have been working hand-in-hand with governments and health authorities, international aviation organisations and the aviation industry on development, sharing of knowledge and best practice and to understand future prospects. The result of this cooperation includes the fact that despite enormous ever-changing challenges, most flight routes have remained open between countries and continents. Transport of air cargo has been successful despite demanding circumstances. Air transportation of goods is not only essential for general local and global economies, it is a prerequisite if necessities such as medicines and medical devices from manufacturers are to be received around the world. Air freight volumes are considered as a lead indicator for overall economic performance but since spring 2020 they have decreased considerably⁽⁴⁾. And even though air travel has experienced a massive temporary downturn, people will in the future still have the need and interest to travel by air between regions and countries. We have a long way to go, however; the challenges are great and a considerable effort will go into getting back on track.

Governments and the aviation industry need to act jointly to meet these current challenges. International organisations such as ICAO, EASA, ECAC, ACI and IATA to name but a few have laid the foundations for international cooperation and the past success of civil aviation. The situation now is very demanding but cooperation between different parties, within and between regions, is needed more than ever. When it comes to cross-border coordination of mitigation measures, we still have lessons to learn. The experience of the coronavirus might lead to even greater emphasis on collaboration, facilitation and knowledge-sharing to deal with future challenges.

▶ The Icelandic experience

As an island, Iceland relies heavily on aviation as a main mode of transport across borders. The country's portals to the world are few and despite the fact that it has four international airports, by far the most traffic has been via Keflavik Airport. The consequences of the economic collapse in 2008 were immense for Iceland, but the country rapidly recovered. This recovery can largely be attributed to the greatly increased demand for tourism and aviation. The number of passengers at Keflavik Airport skyrocketed. In a decade, the number increased by 435%, or from around 2 million in 2009 to almost 10 million in 2018⁽⁵⁾. Although the passenger numbers decreased somewhat in 2019, the aviation industry, tourism and related activities had become a mainstay of the Icelandic economy. With the advent of the pandemic, connectivity with Iceland has decreased tremendously. Apart from the health costs that have resulted from the current situation, direct and derivative losses in aviation and related industries are severe.

Many people still remember the eruption of Eyjafjallajökull in Iceland in 2010, which for a period caused great disruption to air travel in Europe and elsewhere. The lessons learned from that crisis have confirmed the usefulness of placing scientific insights, thorough preparation, defined responsibility and considered measures at the forefront. Upon reflection, one can see the value of e.g. increased emphasis on analysis and effective contingency planning and not least on the importance of risk-based measures. Although of a different nature, the COVID-19 pandemic has again revealed the strengths and weaknesses of our comprehension and infrastructure.

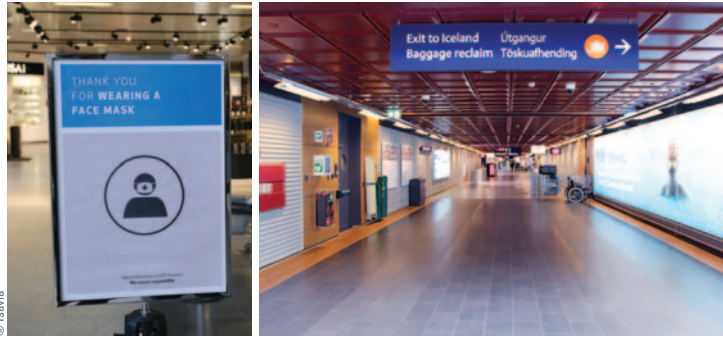
Since the first wave of the coronavirus, Iceland, like many other countries, has endured subsequent waves and with that has experienced the magnitude and complexity of the situation. From the onset of the pandemic, expert opinion has led the way in Iceland and has guided action in this ongoing crisis. Health authorities have led the fight with active support from political leaders with the aim of protecting the health system and its capacity to respond to a large number of patients.

As far as the general public is concerned, a myriad of rules were adopted that have proven useful in other parts of the world. Rules on quarantine for people travelling to Iceland from abroad came into force and a tracing app for infection control was introduced for general use. Social distancing and meeting restrictions were established, as well as great encouragement to the public to take care of their own personal hygiene measures, such as washing or sanitising hands and retaining a safe distance. Rules regarding air travel were aligned with the EASA-ECDC operational guidelines. The difference from many other States was that in Iceland, neither curfew nor lockdown were imposed. In mid-June, the authorities began organised screening for the coronavirus at the Icelandic border for those passengers that chose to undergo PCR testing. Others had the option of a 14-day quarantine. Passengers were tested on arrival and again five or six days later. Quarantine was required until negative results from a subsequent screening were available. Due to the relative size of tourism and related industries in Iceland, a sharp decline in the number of tourists immediately had a huge impact so many companies had to reduce their activity or even cease operations.

(4) See here <https://www.itf-oecd.org/unprecedented-impact-covid-19-freight-volumes-second-quarter>

(5) See here: <https://www.isavia.is/media/1/facts-and-figures-2019-1920x1080.pdf>

Running a marathon



► “We are all civil defence”

In the first wave of the pandemic, the curve was flattened quickly and successfully. Information and guidelines have, almost from the beginning, constantly been provided through the media, e.g. with almost daily information meetings of the Directorate of Health and on the website www.covid.is ⁽⁶⁾. Icelanders are excitable people and it might even be said that disease control has quickly become a semi-national sport. The slogan of the masses was “we are all civil defence”. In this way, people and companies competed to be exemplary and encouraged each other to be outstanding. As the spring moved forward, the number of daily infections decreased significantly and during the summer, the general public began to “relax”, so to say. The feeling was as if the nation had prepared for, and participated in, a sprint and successfully finished the run with a new record.

That was not the case, as the second wave of the epidemic began in Iceland in late summer and the finishing line therefore moved further away. The training was not adequate for the long-distance run ahead and the nation

experienced a certain pandemic fatigue. This time, more people than before became infected and the situation was not as manageable. Various factors can be considered as reasons for these different scenarios. Among other things, the coronavirus seems to be of such a nature that the emergency brake needs to be applied very quickly, and delays of even a few days can have a major impact on the development.

Participation in a long-distance run requires endurance and resilience with focus on keeping the pace, even during times of fatigue and low mood. The challenge still ahead requires constant focus and strength. Similarly, responding to a crisis in general demands contingency planning, cooperation and resilience. Leaving the track when running a marathon or responding to a crisis is not an option. The lesson learned – in Iceland as internationally – through this public health crisis is the vital role of coordination between the health care infrastructure, equipment and capacity. Being a small nation, Iceland was fortunate to possess ample capacity in screening for the coro-

navirus and contact tracing. By combining the resources of the national health infrastructure, a private biotechnology research firm and the Department of Civil Protection and Emergency Management, it was possible to provide mass screening and contact tracing at an early stage, which helped facilitate a fast recovery after the first wave of the pandemic. In the subsequent wave, the pressure on health authorities, companies and the general public has been ongoing throughout the year. Of course, this is the case for most States in the world, but in Iceland we were successful in controlling the first wave of the epidemic so we had probably become too relaxed and even hoped that the end goal had already been achieved.

Running a marathon is difficult, especially when the results are not only up to one person, but to all nations cooperatively. Health protection is a concern of every government, organisation, industry, family and individual. The unique cooperation of scientists around the world in the development of vaccines will hopefully soon free us from the spell of the coronavirus, although we still have to endure it for some time. Societies on the whole must follow the good examples of the scientific world and work hard on developing guidelines and to follow best practices. As for aviation, the global economic recovery and social health is dependent on a recovery, and alignment is the key to regaining people’s confidence in safe public transport. Cooperation and harmonised actions are a prerequisite to the restructure of air transport. ■

(6) See here <https://www.covid.is/english>

Jon Gunnar Jonsson is Director General of the Icelandic Transport Authority (ICETRA) appointed in August 2019. ICETRA is responsible for the administration and supervision of aviation, maritime and road traffic safety and the safety and supervision of transport infrastructure and navigation systems. Mr Gunnar holds an M.Sc. in Industrial Engineering from the Technical University of Denmark and a B.Sc. in Mechanical Engineering from the University of Iceland. Mr Gunnar worked as managing director within the private sector for many years and operated companies in different businesses. The last was a pharmaceutical company in Iceland operating as a launch site for new products and a scale up from development to commercial manufacturing.

Mr Gunnar has been a lecturer at the University of Iceland (Mechanical Engineering Division) and a guest lecturer at several conferences, seminars and university courses through the years.

CAPSCA and the review of ICAO Annex 9 in the light of the COVID-19 outbreak

Johan Skjäl

Chief Adviser, Finnish Transport and Communications Agency (Traficom)



CAPSCA stands for the Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation. It is a programme managed by the International Civil Aviation Organization (ICAO) and supported by the World Health Organization (WHO). States and aviation stakeholders contribute to the work of CAPSCA. In the ICAO EUR/NAT region, 42 out of 56 States have joined CAPSCA and designated focal points.

► CAPSCA'S current work

International organisations and States have been cooperating through the CAPSCA network since the Severe Acute Respiratory Syndrome (SARS) outbreak, in order to be better prepared for public health events like the current COVID-19 pandemic. Many improvements have been made throughout the years. Information on how to prepare is easily available and information is actively disseminated to CAPSCA focal points. A CAPSCA expert group is preparing guidance material and recommendations on how to best handle the current pandemic.

Communicable diseases, and especially those which develop into pandemics, tend to raise a lot of fear. Authorities should actively inform the public and correct disinformation. COVID-19 is not only about the public healthcare system or the aviation system – a lot of cultural and political questions influence how governments are handling the situation.

It is understandable that authorities also test new ways of trying to stop the spread of the disease – it is better to do something than nothing at all. Everything will not work as planned. Measures that cannot be proven effective after testing should be changed to avoid

unnecessarily limiting mobility or burdening the aviation sector. Travel restrictions work to some extent; by using them, States can mainly buy time and slow down the number of imported cases. Measures like travel restrictions and quarantines are detrimental to the travel and tourism industry.

A lot of new ground has been broken this year. States are developing technology-based systems for health declaration and contact tracing. Using digital solutions is a necessity when handling large amounts of data and big numbers of passengers. Performing a health clearance digitally before the start of travel can make it possible for the health authorities to assess the risk and focus their risk management measures. Different initiatives exist,

where itinerary and contact information, health questionnaire information and details about COVID-19 test results and vaccinations may be integrated in the same tool. When it comes to testing, different methods are possible to test passengers. ICAO has recommended a performance-based approach. Some testing methods are more exact than others. Depending on the purpose and circumstances, a State may choose the most suitable testing method. Testing equipment also goes through technological enhancement.

CAPSCA experts have supported the work of the ICAO Council Aviation Recovery Task Force (CART) in producing the Take-off guidance. One of the most important deliverables is the development of the Public Health Corridors (PHC) guidelines.



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The PHC has gradually been expanded from covering the protection of crews on cargo flights to covering the protection of crews and passengers on passenger flights. With the guidance material, CAPSCA tries to help the aviation sector reduce the risk of spreading the SARS-CoV-2 virus through air travel by implementing a multi-layered strategy of public health measures. We cannot choose between public health and mobility – we need to balance the risks against each other and enable both. ICAO has published a manual on testing and cross-border risk management measures prepared by CAPSCA. The manual will hopefully help harmonise testing strategies around the world.

Recommended risk mitigation measures are maintaining physical distancing, adding hand hygiene facilities, use of contactless technologies, use of face coverings or masks, intensified cleaning and disinfection of aircraft, airport terminals and equipment, providing public health authorities information for contact tracing, using health declaration, etc. These measures are described in the CART Take-off guidance, the Public Health Corridors guidelines and also in the European Union Aviation Safety Agency (EASA) and European Centre for Disease Prevention and Control (ECDC) Aviation Health Safety Protocol. Today there is hardly any airline that would not require passengers to wear a mask during the flight. It is also important that

“We cannot choose between public health and mobility – we need to balance the risks against each other and enable both.”

passengers wear masks at the departure and arrival airports and during the whole travel chain, if necessary. Maintaining physical distances can be challenging at different stages at the airport: at security checks, boarding the aircraft and at the luggage belt. In the summer when the traffic was increasing, congestion increased. This can create bottlenecks in the coming months when the traffic picks up again.

How effective the international community will be in slowing down COVID-19 depends above all on an effective vaccine. When there is a vaccine, it will need to be produced in massive quantities, distributed worldwide under safe conditions, and people will have to be vaccinated in order to achieve mass immunity in populations. The situation looks promising, with good progress being made in developing different vaccines.

► Review of ICAO Annex 9 health provisions

Communicable disease is nothing new to aviation. Already in the Chicago Convention, aviation health safety was thought of in Article 14, “Each contracting State agrees to take effective measures to prevent the spread by means of air navigation of cholera, typhus (epidemic), smallpox, yellow fever, plague, and such other communicable diseases...” The issue has since then been regulated in ICAO Annex 9 and other correlating annexes and documents.

ICAO has established the Health Issues Outbreaks in Aviation Task Force to review Annex 9 - Facilitation health provisions and corresponding guidance. The task force started its work in September. The work is carried out in working groups that evaluate current health-related Standards and Recommended Practices found in several chapters of Annex 9. The task force is looking for outdated provisions and missing elements. More than fifty states and eight international organisations have nominated experts to the task force.

When looking at long-term international regulations on communicable diseases, it is necessary to analyse what measures can work

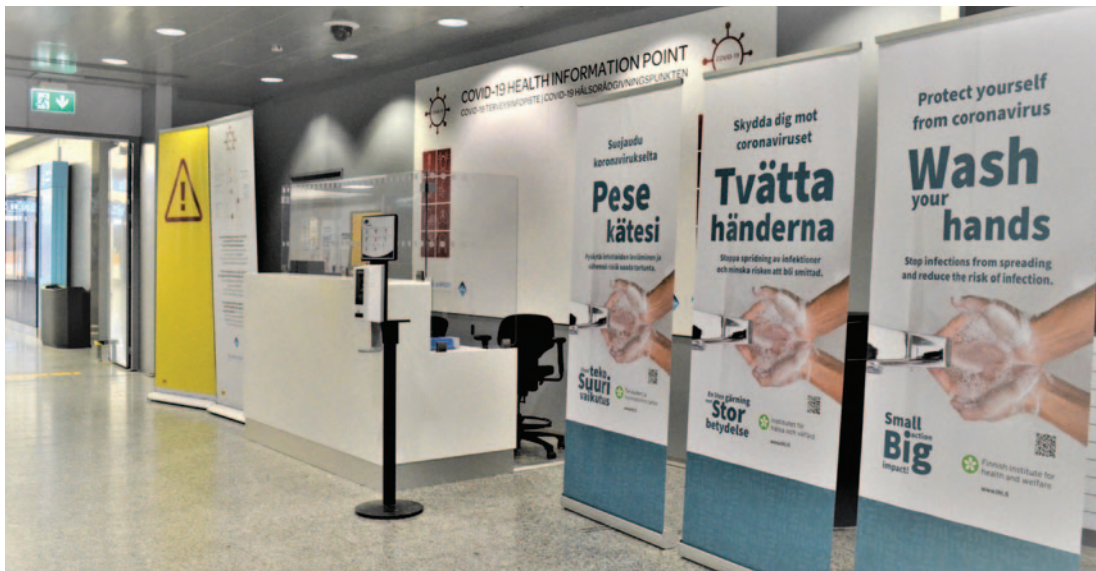
on a general level and to leave room for adaptation. What works with one disease does not necessarily work with another. Reference can be made to guidance material, and more detailed information can be described in the facilitation manual or CAPSCA material. The task force can benefit from the work done by the CART as well as by the CAPSCA expert group. The review also covers Standards and Recommended Practices that are not directly linked to COVID-19, like disinsection, consumable products and waste management.

The task force reports to the ICAO Air Transport Committee and will coordinate the review and proposals for new or amended Standards and Recommended Practices with the Facilitation Panel. The road to amend an ICAO Annex is long. Proposals will go through ICAO's approval process in 2021, meaning they would become applicable in 2022. The CART and CAPSCA also focus on actions to address the pandemic in the short term.

There is also another international framework with rules covering communicable diseases: WHO's International Health Regulations (IHR, 2005). Annex 9 includes several references to the IHR concerning measures affecting aviation and recognition of international vaccination certificates. Amending Annex 9 is easier than amending the IHR. These two frameworks need to stay aligned.

It is quite clear we need to raise the profile of the health provisions, raise awareness and ensure better implementation. Health provisions need to be part of the contingency planning in aviation. Standards and Recommended Practices must be already implemented before the actual situation occurs in order to function. Contingency planning work tends to get a boost in times of crises. By building better capacity for handling communicable disease outbreaks worldwide, we will be prepared when the next crisis hits us. Solidarity and international cooperation are needed more than ever if we want to keep our world well connected. ■

“Contingency planning work tends to get a boost in times of crises. By building better capacity for handling communicable disease outbreaks worldwide, we will be prepared when the next crisis hits us.”



Johan Skjäl has been working with the Finnish civil aviation authority, Traficom, since 2004. As chief adviser, he is involved in facilitation coordination, safety management and air transport policy at the national level. Since 2019, he has been chair of CAPSCA Europe. Recently he was appointed rapporteur for the ICAO Task Force on Health Issues Outbreaks in Aviation, with the task of leading the review on Annex 9 health provisions and corresponding guidance material. He is also the focal point for health matters in the ECAC Facilitation Working Group. Mr Skjäl has a Master of Science in Political Science from Åbo Akademi University.



What kind of recovery is possible for air transport?

Jean-Baptiste Djebbari
French Minister of Transport

Air transport is in a crisis. A crisis of unknown magnitude that will certainly last longer than we had initially thought. Furthermore, it comes on top of a public opinion movement known as “Flygskam” (“flight shame”) which, particularly in north-west Europe, had begun to question the functioning and sometimes even the relevance of this mode of transport.

After stunning us, this situation could potentially leave us totally desperate. However, as a pilot, I believe in the future of air transport and I want to draw inspiration from Winston Churchill, to whom the expression “Never let a good crisis go to waste” is credited.

How do we recover, therefore, in particular in our ECAC countries where aviation is so important – both as a transportation mode connecting our decision-making centres and plants, allowing people to travel for holiday and thus favouring a better mutual understanding and respect across cultures that has never proven so important, and as a manufacturing industry? For me, it is pretty clear: as public authorities, we must commit to supporting aviation, including financially, but at the same time aviation must transform itself to be more respectful of the environment, in particular by reducing its CO₂ emissions. Our exceptional financial support towards the rescue of airlines must encourage and help the sector to move in this direction. It is this philosophy of action that we have adopted in France and that I have been implementing since last spring.

Preparing for the future already means supporting air transport players to get through this unprecedented crisis.

Faced with the unprecedented scale of this crisis, the French government has conceived a global response with the primary objective of enabling air transport players to deal with it. A stimulus package for a green and competitive industry has been built in close cooperation

with the industry. Indeed, the COVID-19 crisis must not jeopardise the know-how of this industry of excellence nor hamper its ability to bounce back and innovate, be it large original equipment manufacturers (OEMs) or small- and medium-sized enterprises (SMEs) of the aerospace sector, especially since continuous technological progress is at the heart of its success. This plan is based in particular on:

- A boost in public support to the industry over the next three years to support research and innovation in the sector over the long term, within the framework of CORAC (French Civil Aeronautics Research Council). Its objective is to push ahead green aircraft technologies by preparing the next technological breakthroughs (transition to more sustainable fuels, drastic reduction in fuel consumption and zero emission aircraft). We obviously wish this domestic support to be amplified on a European scale, with an ambitious “Clean Aviation” programme. It is nowadays the “licence to exist” for aviation, and also a matter of sovereignty for Europe.
- Support for airlines: they are facing exceptional financial difficulties and an unprecedented loss of turnover that could exceed 280 billion euros in 2020, putting their

very survival at stake. This crisis also poses a risk to orders for new aircraft, replacement parts and maintenance. Air France has benefited from a state support package through a direct shareholder loan as well as state-guaranteed bank loans to meet its short-term financing needs. This support should enable it to complete the planned order of new-generation aircraft, and is accompanied by counterpart measures: it is conditional on the preparation of a deep transformation, rebound and ecological transition plan by the group to ensure its full competitiveness in the new post-crisis environment of the European and global aviation sector, while reducing its ecological footprint.

I would also like to emphasise and pay tribute to the efforts ECAC has made to gather information and coordinate the actions of its Member States, and those the European Union has made to help overcome this crisis: slot waiver, adoption of the new state aid Temporary Framework, clarification on the application of public service obligations, postponement of some obligations in order to avoid any unnecessary administrative burdens, etc.

However, I have one regret: the EU regulation on passenger rights has shown its limits. Indeed, con-



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fronted with such a crisis, so sudden and violent, the obligation to refund tickets within seven days is a considerable burden for most airlines. We have made suggestions to review these provisions in the European framework in order to achieve a better balance between the rights of passengers to be reimbursed and the airlines' obligation to do so swiftly. We will have to find a solution on this issue.

It is not only a question of the sector getting through the crisis and returning to the previous situation, but also of seizing this opportunity to lay the foundations for a new aviation, by accelerating its environmental transition.

The ecological transition and the COVID-19 crisis invite us to re-found ourselves. The technological progress of the last few decades has already made it possible to significantly reduce the environmental impact of aircraft. For example, the A320neo, the re-engined version of the A320, consumes 15% less fuel than the initial version. This is a movement that needs to be continued and amplified; with the market shares of Airbus and Safran, the French and European aeronautics industry has a central role to play in decarbonising the airline industry.

I would like to stress that the actions of the energy sector will be of particular importance for the global aeronautics industry:

- In the short and medium term, the use of sustainable aeronautical biofuels is the most technically mature lever to initiate this decarbonation. The challenge lies in increasing production capacities by creating a sustainable fuel production sector for aeronautics. In France, a government roadmap for the deployment of sustainable aeronautical biofuels was published earlier this year. This roadmap sets out a deployment trajectory based on a biofuel incorporation rate of 2% in 2025 and 5% in 2030 with a long-term objective of 50% biofuels by 2050. I now look forward to the proposals to be made by the European Commission in its "Refuel" proposal expected in early 2021. If the discussions have not been completed by then, this will undoubtedly be one of the priorities of the next French Presidency of the European Union (first half of 2022).
- In a second phase, we hope that the development of synthetic hydrogen will make it possible to power "zero CO₂ emission" aircraft. The Directorate General for Civil Aviation of the French Ministry for Transport and the French aerospace industry are therefore

launching several exploratory projects this year concerning the use of hydrogen as the main source of energy for aircraft. Hydrogen is the cleanest burning fuel if it is produced from low-carbon sources. If these technical investigations that we are launching are successful, which I hope, the challenge will then be to be able to have sufficient clean hydrogen available.

These actions show us that although aviation does not have as many levers as other modes of transport to reduce its environmental footprint, it does have resources and the capacity to innovate, which invite us to commit ourselves to defining long-term objectives.

Personally, I am fully convinced there are important technological paths to reduce emissions from air transport, which will be explored in greater depth. When the time comes, they will require the political support of the States.

But beyond this confidence that we can share as air transport actors, whether we are political leaders or industrial stakeholders, we must win the battle of public opinion. We have to convince our citizens that we are really going to transform aviation. Therefore, we

What kind of recovery is possible for air transport?



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should define and communicate on very clear targets. The increasingly strong and pressing expectations of our citizens should not be perceived as a problem but as a stimulus. This is a major contextual element that justifies the environmental ambition of our long-term strategy.

That is why it is absolutely necessary to succeed in the effective implementation of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), which has long been supported by ECAC Member States. At the EU scale, I call on the European Commission to quickly elaborate and present us its proposals in order to

articulate CORSIA and the Emission Trading System. I fully support European efforts to make ICAO adopt an ambitious long-term objective of reducing air transport emissions, as agreed at the last ICAO Assembly. We, the ECAC Member States and players in the sector, are already committed to this path. At the French level, we are intensifying our efforts, and I call for a global impetus to meet this challenge.

Aviation is an unparalleled means of increasing exchanges between peoples and cultures, and for economic development. If we succeed, together, in technically reinventing it, it still has a very bright future ahead. ■

Jean-Baptiste Djebbari has been French Minister of Transport since 2019.

He graduated from the *École Nationale de l'Aviation Civile* (ENAC) in 2007 and became an airline pilot with Netjets in 2008. From 2014 to 2015, he was a civil servant at the Directorate General for Civil Aviation (DGAC). In 2016, he became director of operations for Jetfly. He was elected as a member of parliament in 2017.

Pursuing a green recovery for air transport

Michael Gill

Executive Director of the Air Transport Action Group (ATAG)



It is clear that our sector is facing the most significant challenge in the 106-year history of commercial air transport. The impacts of the COVID-19 pandemic on aviation are well known and explored by other commentators in this report, but it is worth taking note of some analysis ATAG and Oxford Economics carried out to determine the devastating implications of the shutdown and constriction of our business.

By the end of the year, up to 4.8 million colleagues in the air transport system could potentially lose their jobs. Even more concerning is the knock-on effect on the wider economy – up to 46 million jobs in total could be lost simply due to the severe reduction in connectivity by air. It is a stark reminder of the value that aviation brings and a call to action to the world's governments that they must resolve the often-changing travel restrictions bringing so much harm to the world economy. Uncertainty is the biggest threat to the survival of the travel and tourism sector.

So, we can see COVID-19 as a step backwards in human progress. It has certainly been a massive step backwards for aviation. But sometimes taking that step backwards can be a useful way to see the big-

ger picture, to realise where you may be off-course and make a correction before you chart your way forward. And maybe COVID-19 gives us that opportunity now – the opportunity to build a green recovery.

At the Global Sustainable Aviation Forum ATAG hosted in late September, we released a new piece of analysis: Waypoint 2050.

This is work based on the guidance of 70 industry experts over the last 18 months, which looks at the pathways available to get us to our industry long-term climate change goal in 2050. It is not a 'roadmap' as such: it does not suggest there is only one path to get to 2050.

What Waypoint 2050 does is set out the different options available

to our sector to help drive our thinking and make some strategic choices. It is unnerving to see that the shutdown in global traffic this year will still have an impact in 2050. The central forecast we have used for the study shows traffic in 2050 down some 16% compared with the same forecast before COVID hit.

By 2050, we expect to see around 10 billion passengers flying some 20 trillion revenue tonne kilometres. Without any intervention at all – keeping today's fleet and fuel efficiency – aviation would be responsible for 1.8 billion tonnes of CO₂ in 2050. But in aviation, we never stop innovating on efficiency and will need to redouble these efforts in the years ahead.

Overall, the findings of the study show that meeting our current industry goal of halving aviation CO₂ emissions by 2050 – down to 325 million tonnes – is achievable. It is a significant challenge but, crucially, it can be done.

And the title of the publication is deliberate. Waypoints are not the destination, but a marker on the way to a destination and in our case that end point is zero carbon connectivity by air.

Given the lack of "off-the-shelf" technologies for air transport decarbonisation and the fact that a complete energy transition is required, we are often seen as a "hard to abate" sector.



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Pursuing a green recovery for air transport



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However, given the right advances in technology and a significant level of support from governments, aviation should be in a position to meet net-zero emissions at a global level by 2060 or 2065. Some regions and indeed some individual companies will of course be able to reach that level earlier.

There are now 20 airlines which have set themselves net-zero goals and over 200 airports in Europe have set their own similar target. While there can be rapid progress in some regions of the world, such as Europe, we recognise that for many parts of the global sector, decarbonisation will be a huge stretch and they will need a little more time to make it a reality.

Inevitably, analysis like Waypoint 2050 will throw up as many questions as it solves. We don't have all the answers today – nobody does – but it does provide us with greater clarity of the scale of the solutions required and the challenges needed to get there.

The Waypoint 2050 analysis takes three potential scenarios to get to our 2050 goal. Of course, these can be broken down in multiple ways, adding other scenarios in a whole range of combinations, until you end up with a hundred different ways to get to the destination. But the end conclusion is the same: again, to reach our goal and, indeed, net-zero CO₂ emissions, is a significant challenge... but achievable.

And we know there are several key developments required:

- We need to **considerably ramp up the production, supply and purchase of sustainable aviation fuels**. Even with the advent of

hydrogen or battery technology for short-haul operations, we will still need significant quantities of sustainable aviation fuels (SAF) for our long-haul services, providing 100% of our remaining liquid fuel supply by 2050 or shortly afterwards. The analysis shows it can be done. There is enough feedstock with the right sustainability credentials. Waypoint 2050 outlines how much we will need. Analysis also shows that the price will be able to come down as well. A sea-change in SAF supply is something we can implement from today, and we have to make it happen.

- We need to continue to **evolve the next generation of jet turbine engines and airframes**, as well as to **deliver a radical shift in propulsion, including research into electric, hybrid and hydrogen as potential energy sources**.
- And, we need to **accelerate the emissions-saving operational efficiencies** that are available to us today.

The Waypoint 2050 analysis is based on the achievement of our reductions in CO₂ without resorting to a market-based measure as a *central* pillar of action – although it recognises that some type of offsetting will be needed to deal with remaining emissions, probably in the form of carbon removal opportunities.

We are going to turn to governments for significant support in this green recovery. By 2050 we could be supporting 180 million jobs and \$8.8 trillion in global economic activity – if we are able to take the opportunity 2020's step backwards has created by delivering a green recovery for us and all the activity we support.

The next decade is going to be crucial because decisions made in the next ten years will dictate how our future will pan out. So where are we asking for government support?

- To work with us and the energy sector to deliver a significant scale-up of sustainable aviation fuel, including research into new development pathways such as power-to-liquid.
- To partner with industry and academic institutions to support research and development of cutting-edge new ways of flying.
- To finish what has been started and deliver improved air traffic management programmes around the world.
- To complete the framework for the global market mechanism, CORSIA, that we will need as a bridge between now and when SAF and technology developments come into their own: this includes encouraging more countries to volunteer for CORSIA, pushing ahead with its successful implementation, and also ensuring the co-existence of CORSIA and the United Nations Framework Convention on Climate Change (UNFCCC) regimes.

If we make a significant push in the next decade, it is going to set us up for the next 30+ years of our journey to decarbonisation.

Vitaly, the green recovery of air transport cannot just be left to one part of the industry. It needs a whole-sector response and through ATAG we can build that collaborate strategic approach. I am pleased to share with you the thoughts of the leadership of global industry associations:

Director General of Airports Council International, Luis Felipe de Oliveira:

“The recovery of the aviation industry will be a key driver of the global economic recovery. To ensure that aviation can continue to provide the economic and social benefits, it is crucial that we pursue a green recovery and lay the foundation for a prosperous and sustainable industry for the long term. Airports are central to the interconnected and interdependent aviation ecosystem. Airports and their partners in the aviation industry need the support of appropriate regulation and government policies to facilitate a green recovery and push for real change.”

Civil Air Navigation Services Organisation Director General, Simon Hocquard:

“Meeting our ambitious sustainability goals continues to be of paramount importance and will only happen if everyone in the aviation system plays their part. From implementing new operational procedures to adopting the latest technologies, the ATM industry has an important role to play in improving the efficiency of aviation in the near term, before new electric aircraft technologies or zero carbon fuels come on stream.”

Director General and CEO of the International Air Transport Association, Alexandre de Juniac:

“COVID-19 has devastated the aviation industry. But we are working hard to re-connect the world safely

and sustainably. We’re committed to pushing ourselves, our partners, and governments to achieve our carbon targets in a green recovery. But this is not the time for more environmental taxes that punish people for reconnecting with family or who contribute to economic recovery with business travel. For aviation, the keys to combatting climate change remain investments in carbon offsetting, sustainable fuels, and radical green technologies.”

Chair of the International Coordinating Council of Aerospace Industries Associations, Eric Fanning:

“Manufacturers invest billions of dollars a year to make the next generation of airplanes even more fuel efficient, but disruption from COVID-19 will make it difficult to maintain this level of investment in research and development. Moving forward, government and industry leaders must find new ways to collaborate on funding and developing innovative technologies that will address climate change.”

Our commitment to rebuild in a more sustainable way is clear, the pathways available to us are now clear as well. It is up to all of us in the industry, working alongside colleagues in government and the research community, to make it a reality so we can pick ourselves up from the crisis and emerge stronger and more sustainable than ever. The challenge is considerable, but necessary and inspiring. We are committed to making it a reality. ■

Key facts outlined in Aviation: Benefits Beyond Borders, include that in a normal year:

- › Air transport supports 87.7 million jobs and \$3.5 trillion in global economic activity.
- › Over 11 million people work directly for the industry itself. Aviation jobs are, on average, 4.3 times more productive than other jobs in the economy.
- › Air travel carries 35% of world trade by value (\$6.5 trillion worth in 2019), but less than 1% by volume (61 million tonnes in 2019).
- › Airfares today are around 90% lower than the same journey would have cost in 1950 – this has enabled access to air travel by greater sections of the population.
- › Scope of the industry: 1478 airlines flew 33 299 aircraft on 48 000 routes between 3780 airports in airspace managed by 162 air navigation service providers.
- › 58% of world tourists travel to their destinations by air.

Further details of this analysis can be found in two reports released by ATAG. *Aviation: Benefits Beyond Borders* and *Waypoint 2050* can be downloaded from www.aviationbenefits.org

Michael Gill is Executive Director of the Air Transport Action Group (ATAG), the only global association that represents all sectors of the air transport industry. Its mission is to promote aviation’s sustainable growth for the benefit of global society.

He was appointed as director, aviation environment of the International Air Transport Association (IATA) in November 2013, with responsibility for developing and implementing IATA’s work in the environment field, particularly in the areas of climate change, noise, biofuel commercialisation and the IATA environmental assessment programme. Prior to that, he spent six years as senior legal counsel in IATA, supporting IATA’s external affairs portfolio. In that role, he led IATA’s delegation to three ICAO diplomatic conferences on airline regulatory and security issues. Before joining IATA in May 2007, Michael was an aviation lawyer in private practice at the Paris Bar, acting for airlines and their insurers.

He holds law degrees from both King’s College, London and the Sorbonne University in Paris, as well as a master’s degree from the University of Edinburgh. He is admitted as a solicitor of the Supreme Court of England and Wales and an avocat in France.



Innovation and creative thinking

Marion Geoffroy
Chief Corporate Officer, Wizz Air

The aviation industry has faced a new challenge, an evolving pandemic that might last for months with a significant impact on the aviation sector. Based on recent analysis, the recovery of the aviation sector might take years. The spread of COVID-19 has forced airlines to cancel flights and park planes as passenger demand collapsed, driven by government restrictions in the interest of preserving public health, leading to a devastating economic impact.

During this period, we have been witnessing airlines going out of business, European airlines receiving over 33 billion euros in bailouts, enormous decrease in capacity and massive lay-offs. Airlines' revenues are estimated to drop by 354 billion euros this year, half of the 2019 revenue. During these tough times, all airlines struggle. We have seen operations ramp up during the summer period; however, as the so-called twindemic has advanced, we have seen increased travel restrictions, a drop in demand, and a second shock to the aviation industry.

► Innovation and agility

The new reality forces us to be agile and come up with innovative ideas on how to overcome the pandemic and come out of it stronger than before. While many airlines shut down, Wizz Air was the only airline that started acting very quickly, adapting to what we call the new reality. As of 1 May, we managed to ramp up operations to 70% of the capacity that we offered last summer. We have not put into question our fleet plan and we continue to receive between one and three planes per month. We continue to open bases in Europe and the Middle East. We opened bases in Italy, Germany, Albania, Cyprus, Norway, Russia, Romania, the

United Kingdom and Ukraine. We have just received the Wizz Air Abu Dhabi Air Operator Certificate, completing the last step in the regulatory processes for starting the airline. We expanded our network from 25 to 37 bases in 21 countries and launched over 250 new routes. Currently, we have over 900 routes on sale in 46 countries. We followed the customers' needs and acquired new markets, offering affordable travel during this unprecedented time, keeping families and friends together.

We have entered the crisis financially strong. Led by our core principles, we keep growing and creating milestones. During one of the most challenging times in aviation history, WIZZ has been awarded the "ATW airline of 2020"

award for its innovation, financial discipline, and long-term thinking.

► Enhanced health and safety measures

The crisis did not change our vision, as one of the top ten safest airlines in the world. Back in August, we became the first airline to obtain an EASA certificate, which makes EASA our competent authority responsible for safety oversight and certification. As safety has always been our priority, we were one of the first airlines to introduce enhanced health and safety measures on board. To help passengers and crew travel safely and worry-free, we have introduced several additional security mea-



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asures to support physical distancing during boarding, and enhanced cleanliness on board. As part of the measures to protect the health of customers and crew, customers could check in and make any purchases online, such as paying for additional bags, to reduce non-essential interaction at the airport.

▶ Market distortion

We want to develop; however, there are market distortions such as the unharmonised travel restrictions. As much as the moratorium was justified when the States closed their borders, it is no longer justified today, whether we are talking about the Schengen area or the rest of Europe. Airlines are no longer prevented from operating. In fact, flight cancellations are no longer linked to an exceptional situation caused by COVID-19, but to economic considerations. We can see that people are willing to fly, but planning trips is becoming impossible, which limits the freedom of movement of EU citizens, heavily impacting the aviation sector and putting many jobs at risk.

Thinking of ways to help people move freely, we have launched the Interactive Travel Planning Map. The Interactive Travel Planning Map will ease travellers' concerns about travelling during these uncertain times as it keeps them up to date with the latest travel information so that they can continue to discover new and exciting destinations in the WIZZ network.

An additional distortion factor is the slot waiver, which is anti-competitive and hinders rather than helps the recovery of the EU aviation industry and, therefore, the European economies. Airlines

like Wizz Air are willing and able to expand and so bring back much-needed international connectivity and jobs to the aviation industry. However, it is prevented from doing so by those airlines who object to the creation of new capacity.

▶ Looking ahead

Looking to the future of air travel, we believe sustainability will be one of the driving forces in the recovery of the airline industry with active measures to prioritise a healthy world over profit margins. Wizz Air strives to be the greenest choice for air travel, continuously operating at the lowest CO₂ emissions. Wizz Air is the most environmentally friendly airline in Europe with 57.2g CO₂ per passenger/km. WIZZ has the world's biggest order of the most efficient narrow-body aircraft (the A321neo offers the lowest fuel burn, emissions and noise footprint in its class, the PW1100G-JM engines deliver a 15% fuel burn advantage).

As part of our long-term sustainability strategies, we have also launched two talent programmes. The first is our unique "Cabin Crew to Captain" programme, supporting our aspiring cabin crew to fulfill their career goal and become pilots. At the same time, we are promoting gender equality in the flight deck to further diversify our workforce.

The second talent programme is "Cabin Crew to Office", an opportunity for our cabin crew to further enhance their skills and upgrade their existing knowledge by joining our office team. We would like to develop talents within the organisation and give them the possibility for professional growth and career advancement.

It is of utmost importance to re-think how we do business. COVID-19 has sped up digital development, innovative thinking and ways to deal with customers' demands. Despite all the challenges and market distortions, we remain the most resilient and financially strong airline. While it is extremely difficult to predict how long the recovery will take, one thing is certain: the recovery will be slow regardless of the government bailouts saving legacy carriers, as it will highly depend on the development of the virus and how countries respond to it, as well as how quickly travellers' trust will be regained and how quickly they will resume travelling. ■

Impact of COVID-19:

- ▶ Aviation-supported jobs potentially fall by 46 million to 41.7 million (-52.5%).
- ▶ Direct aviation jobs (at airlines, airports, manufacturers and air traffic management) fall by 4.8 million (a 43% reduction compared with the pre-COVID situation).
- ▶ Nearly 39200 special repatriation flights took nearly 5.4 million citizens home after borders closed in March 2020.
- ▶ Nearly 46400 special cargo flights transported 1.5 million tonnes of cargo, mostly medical equipment, to areas in need during the height of the pandemic response.

Marion Geoffroy joined Wizz Air as head of legal and general counsel in March 2015. Between 2000 and 2011, she held senior leadership roles in the legal department of Air France-KLM. In 2011, she joined Verlingue insurance brokers where she served as general counsel for four years. She was appointed Chief Corporate Officer of Wizz Air in September 2018 overseeing the legal, data protection and health and safety departments, and also assumes the responsibility of corporate secretary. Ms Geoffroy holds a Master of Laws (LL.M.) from Paris XI University (France), a lawyer-linguist master's from ISIT (Paris, France), a law degree from Philipps University (Marburg, Germany) and a Master of Laws (LL.M.) from McGill University Institute of Air and Space Law (Montreal, Canada).



Flying with confidence: how can aviation win back air travellers?

Young Tae Kim

Secretary-General, International Transport Forum

COVID-19 has hit the aviation industry like a category 5 hurricane. The global pandemic has devastated a flourishing industry and put the resilience of airlines and airports to an unprecedented test. For the aviation sector, COVID-19 certainly is “a momentous tragic event ranging from extreme misfortune to utter overthrow or ruin”, the definition of a catastrophe offered by Merriam-Webster.

Things had looked bright for aviation throughout the second decade of the 21st century. Passenger numbers rose and rose, driven by a globalised economy and the desire of the growing middle class in emerging economies to fly and see the world. By 2018, airlines were transporting more than 4.3 billion passengers each year, up 2.5 times from the 1.7 billion passengers that had boarded a plane in the year 2000. In the 2013-18 period alone, passenger numbers grew nearly 7% per annum on average.

The industry responded effectively to growing – and changing – demand. Passenger satisfaction levels were high: three out of four among the more than 10 000 re-

spondents to IATA’s 2019 Global Passenger Survey expressed overall satisfaction with their flying experience. In North Asia, more than four out of five passengers were happy with the service they received. The major concerns travellers expressed regarded waiting times for luggage drop-off and receiving travel updates on their personal electronic devices throughout their journey.

► The air stood still

Then the coronavirus changed everything. Governments around the world saw no other choice than lockdowns and travel restrictions to contain the propagation of the deadly disease. Air transport nose-

dived and came to a virtual standstill in April 2020. Condensation trails in the sky became rare like falling stars, and airports that had struggled with congestion acquired the eerie air of aircraft boneyards. Many countries saw the number of flights drop by 90%. Only China, hit first by COVID-19 and already emerging from the first wave, and Korea saw drops of less than 50% in May.

The few aircraft still in the air were mostly cargo flights transporting critical supplies, including medical equipment and goods. Only rudimentary, absolutely essential passenger travel also happened, including bringing citizens back home from distant places. The aircrews and support staff that maintained these lifelines count among the heroes of the COVID-19 pandemic.

Following the loosening of travel restrictions, since August 2020 the number of monthly scheduled take-offs has hovered at around 50% of the number in the same month in 2019. In the first week of November 389 000 flights with 55.7 million seats were scheduled, compared to 718 000 flights with 107 million seats a year before. The number of operating routes has also been cut drastically by 30%, from 24 400 to 17 160.



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OAG

Global Scheduled Flights Change year-over-year

Week compared with equivalent week in previous year i.e. Monday 6th January 2020 vs Monday 7 January 2019.

Countries	January	February	March	April	May	June	July	August	September	October	02-nov	09-nov	16-nov
ALL	1,5%	-7,8%	-14,5%	-65,9%	-68,9%	-64,1%	-53,8%	-48,3%	-47,5%	-46,4%	-45,8%	-46,5%	-46,3%
Spain	-3,7%	-1,7%	-23,2%	-94,1%	-93,5%	-90,2%	-65,7%	-47,1%	-54,0%	-64,7%	-64,2%	-69,1%	-71,7%
Hong Kong	-10,1%	-46,9%	-77,4%	-93,4%	-90,2%	-89,9%	-91,0%	-91,3%	-89,6%	-88,5%	-87,8%	-86,9%	-86,4%
Germany	-8,5%	-6,8%	-30,6%	-92,9%	-91,5%	-87,2%	-72,6%	-64,1%	-64,7%	-67,8%	-72,2%	-78,7%	-81,5%
Singapore	0,1%	-15,8%	-42,9%	-93,5%	-96,5%	-95,2%	-93,7%	-92,4%	-93,8%	-92,6%	-91,8%	-92,0%	-91,9%
Italy	-3,2%	-4,1%	-48,0%	-85,6%	-83,3%	-88,0%	-66,7%	-52,1%	-55,3%	-60,5%	-60,9%	-70,5%	-77,1%
France	-0,8%	0,3%	-15,5%	-90,9%	-91,9%	-87,5%	-66,0%	-50,2%	-51,2%	-58,1%	-61,1%	-75,9%	-78,2%
UK	-3,7%	-3,2%	-22,7%	-92,6%	-93,6%	-90,2%	-80,2%	-66,8%	-64,9%	-68,0%	-72,1%	-81,6%	-86,7%
Australia	-2,0%	-2,5%	-5,9%	-84,8%	-86,2%	-83,2%	-77,4%	-75,6%	-74,2%	-71,2%	-68,6%	-67,8%	-66,4%
Sweden	-9,0%	-5,4%	-22,9%	-87,9%	-89,7%	-85,0%	-75,7%	-72,2%	-72,1%	-70,0%	-67,9%	-69,4%	-73,1%
UAE	-2,0%	-3,1%	-23,1%	-80,6%	-78,6%	-79,9%	-69,6%	-65,0%	-62,6%	-64,6%	-64,1%	-62,3%	-62,0%
South Korea	2,2%	-11,3%	-49,2%	-56,4%	-49,1%	-49,2%	-48,3%	-41,3%	-46,2%	-39,8%	-38,7%	-45,3%	-40,9%
USA	2,7%	2,1%	-0,4%	-57,8%	-72,6%	-66,7%	-51,1%	-47,7%	-47,4%	-47,4%	-46,2%	-44,3%	-42,3%
India	3,2%	7,0%	8,5%	-82,3%	-59,5%	-65,6%	-52,7%	-60,0%	-55,7%	-46,7%	-46,5%	-43,7%	-44,0%
China	5,1%	-54,2%	-38,7%	-42,3%	-27,9%	-19,6%	-17,2%	-10,1%	-5,1%	-0,4%	-3,0%	-3,2%	-1,9%
Japan	2,6%	-2,9%	-15,7%	-39,4%	-46,4%	-44,2%	-37,1%	-29,5%	-37,3%	-37,6%	-36,2%	-36,9%	-35,7%

Source: Schedules Analyser

▶ A brutal pivot

Will passenger confidence rebound? When? What will it take? Airlines have had to perform a brutal, instantaneous pivot with respect to customer expectations. In the age of the coronavirus, the length of check-in procedures, the effectiveness of baggage tracing or availability of in-flight Wi-Fi no longer shape passenger choices. Rather, flyers want to be sure they will not go to the airport and board an aircraft in good health only to disembark with the virus.

Airlines, airports and governments have reacted quickly and forcefully with an array of measures to address this overriding concern of travellers. These include the mandatory use of face masks at airports and aboard aircraft, new and enhanced protocols for cleaning and disinfecting aircraft and airport facilities, body temperature checks and pre-flight virus tests, either prior to arriving at the airport or quick tests at the airport itself. Adapting company refund and rebooking policies has also helped to maintain the loyalty and confidence of customers often faced with hugely uncertain travel decisions, though not all airlines have followed this path. [International organisations](#) have also played their part, by sharing information with the public to attenuate fears of transmission in aircraft cabins.

Surveys indicate that the measures taken at airports and on board aircraft reassure passengers. A solid 86% of respondents said in the most recent IATA COVID-19 survey that these had made them feel safe on board. This positive feedback reflects the views of those who did in fact choose to fly, however, not those who did not use airplanes and may have decided against air travel because they continue to fear it may expose them to the risk of catching COVID-19. And even among recent air travellers, 83% said they were “very concerned” or “somewhat concerned” about contracting the virus. So exploring additional ways to rebuild passenger confidence is a worthwhile endeavour.

▶ Bouncing back

However, factors are also stopping people from flying that airlines can do little about. Travel restrictions imposed by authorities are hobbling travel, and the frequent changes in these restrictions add significantly to the uncertainty around travel. Few people want to – or can – afford being quarantined upon arrival for a significant period, both financially and in terms of their time budget. Even less enticing is the increased risk of flight cancellations or the uncertainty regarding the return when rapidly changing travel restrictions may in fact make a return at least temporarily impossible.

Surveys by both Airport Council International and IATA suggest that around half of respondents want to fly again soon. Some serious analyses project that air traffic will be back to 2019 levels within five years. Whether that means the glass is half full or half empty is for anyone to conclude – the plain truth is we don’t know.

For decision makers in the aviation industry it would be unwise, though, to assume that the impact of COVID-19 is only a short-term blip, though of a magnitude never experienced before. Very likely, the pandemic will have longer-term, structural impacts. In addition, other, non-COVID-related challenges to the sector have not gone away, and the pandemic may even reinforce them.

▶ A world of teleworkers?

First, the powerful brake the pandemic has put on the world economy is palpable everywhere, and will be felt for some time, in aviation as in other sectors. Even if passengers again embrace the idea of flying as a safe, reliable and pleasant form of travel once the COVID crisis is over, many may no longer be able to afford it as incomes fall or stagnate.

Second, the fundamental change in the ways of working during the pandemic makes air travel less of a necessity. Overnight, millions of

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businesses were forced into a teleworking crash course to stay operational. Despite the sudden shift, many found productivity more or less maintained, or even increased. Managers pleasantly surprised by the surplus in travel budgets might be more hesitant in future to approve business trips. So at least some travel could be replaced by video conferencing and telework. Perhaps, though, operators may take some solace from the fact that email has not replaced face-to-face meetings and business trips, as some had predicted, but rather tends to generate as much travel as it has substituted.

Third, nearshoring has received a boost from the pandemic. The experience of impeded access to critical goods as a result of strained supply chains has prompted governments and firms alike to think about bringing more production closer to home. Tourism is seeing its own version of nearshoring, as local holidays replaced vacations abroad during the pandemic. Will this trend last or will pent-up demand for exotic destinations soon provide a boost to air travel again?

► All that noise

Fourth, the pandemic has thrown some quality-of-life issues into sharper relief. Aviation brings many societal benefits, but, like most things, also imposes costs. Noise pollution is a contentious issue for many communities surrounding

airports, for instance. The sudden quiet during COVID-19 highlighted what life is like without jet engine noise. It may well increase local advocacy for more effective noise mitigation measures when traffic returns, including for example restricted hours of operation that would impact airlines' ability to service these airports.

Fifth, the hiatus in air transport and the associated collapse in aviation CO₂ emissions has made plain how much remains to be done to make flying climate-neutral. "Flight shaming" predates the COVID-19 crisis, but the pandemic has shone a bright spotlight on aviation's contribution to global warming. It could reinforce a tendency for people not to fly, where previously they would have. Many people who would normally not have switched to other modes of transport resorted to travel by train or car during the pandemic, and often found the alternatives acceptable.

If and when passenger numbers bounce back to normal levels, so will aviation's carbon emissions. With global warming increasingly understood as an existential emergency, the aviation sector will be under even more pressure to decarbonise, and more quickly. Improved efficiency, better service, and more reliable connections will help to build back business, but it will also need to build back better in terms of achieving real progress in becoming fully sustainable.

► A flight plan to carbon-free aviation

Government should gear support to help the aviation industry recover from the COVID-19 crisis towards achieving this objective. With sufficient support that sets the correct incentives, the crisis can be an opportunity to accelerate the shift to lower-carbon technology and meet the targets of the Paris Agreement. Cross-sectoral policies to tax carbon and clear standards for low-carbon aviation fuels will help to get there, and in a cost-effective way. Decarbonisation is a long-haul destination, but aviation needs to file its flight plan for it now.

More for the short haul but equally urgent is the harmonisation of travel restrictions and rules, as this is critical to get cross-border flights off the ground again. The ICAO Council's Aviation Recovery Task Force (CART) report provides guidance on supporting the recovery of air travel. It underlines the need for coordinated action between countries with regard to international travel restrictions and rules. Regional organisations such as the European Union could lead the way by implementing a harmonised travel safety protocol across Member States. ■

Young Tae Kim took up office as Secretary-General of the International Transport Forum (ITF) in August 2017. Prior to his election as ITF Secretary-General, Dr Kim served from 2015 as director-general in the Ministry of Land, Infrastructure and Transport (MOLIT) of his native Korea where he was responsible for coordinating various transport policies including on autonomous vehicle, greenhouse gas reduction, urban transportation, Intelligent Transport Systems and road safety, among others. After joining the MOLIT in 1994 as deputy director for urban transport, Dr Kim also held several deputy director and director positions with responsibility for housing welfare, integrated city development and overseas infrastructure construction. He was seconded to the prime minister's Commission on Administrative Reform in 1996 and the Presidential Committee on Social Inclusion in 2005-2007. From 2010 to 2014, Dr Kim worked in Washington, DC as counsellor for Construction, Transport and Maritime Affairs at the Korean Embassy. Dr Kim earned his master's degrees in public policy from Seoul National University, Korea, and in urban studies from Paris Université de Vincennes-Saint-Denis, France. He also received his doctorate degree in political sociology and public policy from the *Institut d'Études Politiques* (Sciences-Po), Paris, France

Passenger rights and the COVID-19 pandemic

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The outbreak of the COVID-19 pandemic since early 2020 has disrupted many aspects of our daily lives and has had an impact on many sectors of the economy. The travel industry has been affected as well – like many other sectors. The pandemic is a matter of European and international concern. The European Commission is thus coordinating a common European response to the coronavirus outbreak. It is taking resolute action to mitigate the socio-economic impact and to achieve a speedy recovery in the European Union ⁽¹⁾.

Respect for passenger rights is at the core of re-establishing consumer trust, which is key for the recovery – not only in aviation – following the economic and social challenges put up by the unprecedented COVID-19 outbreak.

The COVID-19 pandemic and ensuing closure of borders within the EU between March and mid-June 2020, followed by other restrictive measures since then, had raised questions in connection with the application, exercise and enforcement of EU passenger rights. Under passenger rights regulations, the passenger's right to full reimbursement in the event of cancelled travel remains valid. The Commission has consistently made this clear, through *inter alia* adopting Interpretative Guidelines ⁽²⁾, as well as a recommendation on

vouchers ⁽³⁾. The Commission is in dialogue with the Member States on the follow-up.

The Commission decided in October 2020 to **keep the proposed revision of Regulation (EC) No 261/2004** on air passenger rights and Regulation (EC) No 2027/97 on air carrier liability in respect of the carriage of passengers and their baggage by air ⁽⁴⁾ as a **priority pending file** in its work programme for 2021 ⁽⁵⁾. The Commission advocates to **continue the negotiations** on this file within the Council, after they came to a halt in the context of COVID-19 in March 2020.

To recall: All stakeholders agreed that a review of the existing regulation was necessary. In 2013, the Commission proposed a revision of Regulation (EC) No 261/2004 and Regulation (EC) No 2027/97 on

air carrier liability in respect of the carriage of passengers and their baggage by air ⁽⁶⁾ in various areas to allow the effective and consistent enforcement of air passenger rights, the better consideration of the financial capacities of the air carriers and the better enforcement with regard to mishandled baggage. The European Parliament completed its first reading in February 2014. The proposal had been on hold in the Council since May 2015 due to a disagreement between Spain and the United Kingdom related to Gibraltar airport, but under the Finnish and Croatian presidencies the proposal was put back on the table for 2019/2020.

In this context, the Commission published a **fact-finding study on air passenger rights** ⁽⁷⁾ in January

(1) See the website of the Commission on the coronavirus response https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response_en#areasofthecommissionsresponse and the specific website on transport: https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/transportation-during-pandemic_en and on travel: https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/travel-during-coronavirus-pandemic_en

(2) Commission Notice Interpretative Guidelines on EU passenger rights regulations in the context of the developing situation with COVID-19 2020/C 89 I/01; C/2020/1830; OJ C 89I, 18.3.2020, p. 1–8.

(3) Commission Recommendation (EU) 2020/648 of 13 May 2020 on vouchers offered to passengers and travellers as an alternative to reimbursement for cancelled package travel and transport services in the context of the COVID-19 pandemic, C/2020/3125; OJ L 151, 14.5.2020, p. 10–16.

(4) Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EC) No 261/2004 establishing common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights and Regulation (EC) No 2027/97 on air carrier liability in respect of the carriage of passengers and their baggage by air (COM(2013) 130 final of 13.3.2013) <https://eur-lex.europa.eu/legal-content/HR/TXT/?uri=CELEX:52013PC0130>

(5) COM(2020) 690 final, Commission Work Programme for 2021, 19.10.2020, Annex III number 5. The Commission plans also to evaluate Regulation (EC) 1107/2006 on air passengers with disabilities and reduced mobility, see Annex II No 29.

(6) Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EC) No 261/2004 establishing common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights and Regulation (EC) No 2027/97 on air carrier liability in respect of the carriage of passengers and their baggage by air (COM(2013) 130 final of 13.3.2013)

(7) <https://op.europa.eu/en/publication-detail/-/publication/f03df002-335c-11ea-ba6e-01aa75ed71a1>

Passenger rights and the COVID-19 pandemic

2020, along the Eurobarometer survey on EU passenger rights⁽⁸⁾. The study focused on the disruptions faced by passengers, especially from the perspective of the passengers, airlines and airports. The study also analysed monitoring and enforcement, general consumer protection, international developments as well as cases of airline insolvencies. It showed that the need for reform has become even more urgent since 2013: the level of flights disrupted, in terms of cancellations and delays over two hours, has increased significantly, and for passengers it is still rather difficult to enforce their rights due to the complexity of the regulatory setting and the lack of information. For airlines, the burden has increased, driven by increased levels of disruptions and rising claim rates. In terms of priorities, passengers ranked care and assistance to be provided in the event of travel disruption as the most important. Re-routing, making sure passengers arrive at their destination as soon as possible, was ranked second, and the reimbursement and/or compensation to be paid (where relevant) third.

The context of COVID-19 shows that **a reform of the current rules for air passenger rights is even more needed**: airlines were faced with an unprecedented situation and passengers experienced difficulties enforcing their rights if airlines cancelled flights. The trust of passengers in aviation as a reliable, smart and sustainable transport mode is crucial for a speedy recovery.



The **experience of the past months** has shown that there were several main issues due to the crisis, while at the beginning of the pandemic in March 2020, the questions focused on the right to compensation – i.e. was the context of COVID-19 to be considered as an extraordinary circumstance, which exonerates carriers from a compensation to be paid? It appeared quickly that the main problem turned out to be the free choice of passengers between reimbursement in money and vouchers – and the correct information of the passengers thereon. Another current topic was what rights are attached to a decision of the passenger not to travel due to the pandemic (based on COVID-19-related measures or recommendations of the Member State of departure or arrival), as this aspect is not covered by the current rules on air passenger rights (only cancellations by carriers).

Not surprisingly, the opinions on how to solve these issues differ widely. For example: how to protect the passengers and the carriers regarding reimbursements? The proposed solutions range from a European Traveller Guarantee Fund to the proposal to leave the protection of reimbursement rights and vouchers to the market. Could a temporary suspension of some passenger rights be a solution? Or rather the opposite, enhanced passenger rights? How about rules on intermediaries (ticket vendors, tour operators)?

The Commission plans to adopt and publish a **comprehensive strategy on sustainable and smart mobility** before the end of this year. An open public consultation gave all stakeholders the possibility to make their views known on how this strategy should address the current issues⁽⁹⁾. Therefore, at this moment in time it is still too early to go into further details on this strategy, so there is no reply yet to the question of whether the epidemic will change passenger rights. What is sure is that passenger rights are an important factor in the – hopefully soon – recovery of the airline industry. They are relevant to establish **trust and confidence and that will be the basis for a speedy and successful take-off of the airline industry**. Your views on the reform of air passenger rights in the context of pandemics or similar crises are therefore certainly most welcome! ■

(8) Eurobarometer 2019/485 (fieldwork: February 2019 - March 2019, published: January 2020) on passenger rights

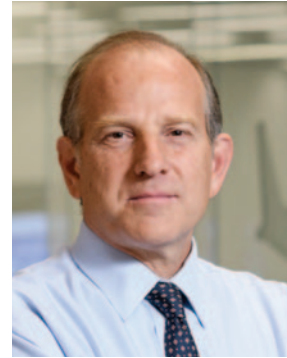
(9) <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12438-Sustainable-and-Smart-Mobility-Strategy->

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Passenger rights – EU-261 and its urgently needed revision

Rafael Schwartzman

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The growth in demand for passenger air travel has been an unprecedented global economic and social success story, bringing people and nations together, fostering trade and prosperity and providing countless opportunities for travellers to work, study, explore or visit family and friends in every part of the world.

This growth, however, has created pressure on the air traffic system. As a result, severe weather, unaccompanied luggage, air traffic control strikes, congestion and security threats, among other issues, can cause delays, missed connections or cancellations. These frustrate passengers and airlines alike. In the case of Europe, this situation led to the development of an extensive system of regulated passenger rights under the famous Regulation 261/2004, establishing rules that protect passengers when their flight gets cancelled, delayed or overbooked.

Under Regulation 261/2004 (also referred to as EU-261) passenger rights have been guaranteed in forms that include compensation, care and assistance, reimbursement, and re-routing:

- Compensation is paid to passengers on airline-attributable cancelled flights, airline-attributable flights delayed on arrival by three hours or more, and to passengers denied boarding.
- Care and assistance are given to passengers on cancelled flights, flights delayed on departure by two hours or more, and to passengers denied boarding.
- Reimbursement is offered to passengers on cancelled flights and to passengers denied boarding involuntarily, on flights delayed on departure by over five hours, among other situations.
- Re-routing is provided to passengers on cancelled flights and to passengers denied boarding.

► EU-261 – complex legal and financial ramifications

Throughout the years, Regulation 261/2004 and its provisions were subject to immense legal uncertainty and interpretation, and therefore heavy criticism. In 2013, the European Commission proposed a regulation aimed at promoting the interest of air passengers by ensuring that air carriers complied with a high level of air passenger protection during travel disruptions, while considering the financial implications for the air transport sector. In fact, according to an EC-commissioned study published last January, even before the pandemic, Regulation 261/2004 represented a EUR 5.3 billion cost for

the airline sector in 2018 (up from EUR 1.5 billion in 2011).

But now, the air transport industry is experiencing the worst crisis in its history, with consequences outweighing both 9/11 and the global financial crisis. And COVID-19 has shed light on the fact that societies, economies and governments were completely unprepared to deal with a crisis of this magnitude. As were regulations like EU-261. The pandemic has transformed everything, from work to family relationships, and consumption patterns including travel. Border closures are now common, resulting in grounded aircraft, cancelled flights, and millions of unsatisfied passengers. The impact on airlines and the aviation ecosystem was felt immediately, particularly on the finances of an industry characterised by high fixed costs and



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Passenger rights – EU-261 and its urgently needed revision

little cash reserves. The current crisis, despite its exceptional character, is proving more than ever the necessity for a revised and fairer legislation to be adopted.

► COVID-19, a wake-up call for a much-needed revision of EU-261

The International Air Transport Association (IATA) raised its concerns with policymakers from the very beginning of the pandemic, notably on the consequences of lockdowns for air passengers and airlines, and how EU-261 could not provide an adequate response to the ongoing crisis for passengers and airlines alike. Struggling for their existence, cash-stricken airlines could not respond to the historic levels of refunds required by Regulation 261/2004 in such a devastating crisis.

Airlines argued COVID-19 required a speedy and firm reaction from the EU in the shape of a waiver or amendment to EU-261. The industry proposed the option of either a delayed refund or a voucher for future travel to passengers, the latter ensuring the contract between airline and consumer would continue to be valid, and passengers would keep their entitlement to fly. This temporary amendment to the regulation proposed by the airline community with the

support of key members of the European Parliament and a vast majority of Member States could and should have been adopted at the beginning of the pandemic.

The amendment would have clearly stated that during times of severe crises, carriers could give customers the choice between vouchers or cash refunds within a period exceeding the current window of just seven days. Such a mechanism would have given some protection to airlines against the severe liquidity outflow resulting from the value of refunded claims that continues to threaten the economic viability of carriers.

Indeed, the dire situation led some airlines across the region to offer, on a completely voluntary basis, vouchers with a 10 to 30 per cent higher value than the original ticket, making them more attractive to consumers, all the while protecting airlines' financial sustainability, or at least not damaging it even further.

The solution proposed by airlines also allowed (for the duration of the pandemic only) the voucher to still be refunded at the end of its validity if by then the passenger decided not to travel. If accepted, the immediate effect of the use of vouchers as a means of reimbursement would have been to provide an equal level of support to each airline, proportional to its needs.

Unfortunately, the voucher initiative was not accepted by the European Commission. This has created an uneven playing field for airlines, as some (for example those that have received substantial state aid) are in a better position than others to refund by the legal seven-day deadline. This market distortion has eroded passenger confidence, and jeopardised the industry's financial capacity to survive, before it even begins to focus on its recovery.

The industry is grateful for the lifeline in the shape of state aids granted by various governments across Europe at the dawn of the crisis. Nevertheless, part of the financial injection granted by the Member States ended up being transferred back to passengers for their cancelled tickets rather than supporting airlines to maintain their network and employment levels, support that was sorely needed to keep airlines in the correct shape to respond to the needs of the global recovery.

Due to the pandemic, questions and problems in connection with the application, exercise and enforcement of air passengers' rights are not properly addressed by Regulation 261/2004. Appropriate solutions should be found to protect both passengers and airlines, and to prevent similar issues in the future.



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► And now, what?

A continued lack of harmonisation amongst European countries, including border closures, quarantines and other measures, is putting further strain on the entire industry. To add to an already long list of bad news, airlines witnessed a weak summer season – a huge blow to the industry, which usually obtains the largest part of its yearly revenues during this period. According to IATA's industry forecast, the current conditions and lack of coordinated approaches will result in global passenger traffic (revenue passenger kilometres, referred to as RPKs) not returning to pre-COVID-19 levels until 2024.

The temporary amendment to Regulation 261/2004 is urgently needed to clarify that carriers may give customers the choice between vouchers or cash refunds within a longer period than just seven days. Such an instrument could counteract the liquidity outflow due to mass filing of refund claims. Another feature of the amendment should clearly define a pandemic of this magnitude as an extraordinary circumstance under which even commercial cancellations are exempt from financial compensation. Interestingly, a pandemic has been recognised as an extraordinary circumstance in the recently agreed revision of the rail passenger rights regulation (recital 21), and such a clarification would be urgently needed by airlines.

The current low load factors make many flights commercially unviable, and susceptible to cancellation. But these load factors are themselves due to the uncoordinated travel restrictions by authorities that have created a total lack of confidence in air travel and uncertainty related to the conditions required both at departure and arrival. By frequently resorting to border closures and quarantines, governments are impeding de facto any proper planning for travellers and airlines alike.

The best way to introduce “crisis measures” in the regulation would be to resume discussions on the proposed revision. The latter already contains a list of extraordinary circumstances, a feature that has been recognised by airlines as much needed and welcomed in 2013. ■

Both airlines and passengers need a binding and non-exhaustive list of extraordinary circumstances (including a pandemic) and a simplified compensation calculation in case of a delay, bringing clarity and certainty when it comes to rights and obligations, and putting aside interpretations that continue to damage passengers' confidence as well as airlines' financial stability and cash reserves.

As aviation requires another round of state aid to survive the winter season, revising Regulation 261/2004 is clearly a priority. The German Presidency of the EU Council did not address this pressing need, and IATA and its member airlines urge Portugal, which will take over the EU presidency on 1 January 2021, to take the lead in this process. The rulemaking process of Regulation 261/2004 must be resumed, providing the critical changes the industry desperately needs.

Rafael Schwartzman is IATA's Regional Vice President for Europe, overseeing 55 countries across Europe and Central Asia.

He leads IATA's activities in the region, building and strengthening strategic relationships with aviation stakeholders, advocating for the industry on behalf of IATA's members, implementing new products and services, and presiding over the settlement systems for carriers in the region.

Rafael's career with IATA began in 2005 in Buenos Aires, as country manager for Argentina, Uruguay and Paraguay. His aviation expertise also includes a 10-year tenure at DHL in the Americas and experience working for a range of air transport companies in South America.

Rafael holds a master's in positive leadership and strategy from IE Business School and a Bachelor of Science in Economics from the University of the Pacific.

He has lived in numerous countries including Argentina, Ecuador, Spain, the United Kingdom and the United States. He speaks Spanish and English.



What will business look like? Financing aviation during and after the crisis

Pierre-Hugues Schmit

Chief Commercial and Operational Officer, VINCI Airports

Since the liberalisation of air transport 40 years ago, there have been a number of business success stories, vibrant airlines serving their customers with passion and competitiveness. Many of these businesses were launched by entrepreneurs backed by private investors who believed in air mobility and market freedom.

This is also true for less visible parts of the value chain. Ireland is home to many successful plane-leasing companies. British, German and French private airport companies have expanded discreetly but surely in the past 15 years. Ground handling has also been widely liberalised, and quite a few handling companies have been carved out of public airports to be transferred to private ownership. All of this was fuelled with normal private finance and decreasing interest rates. Air traffic control is probably the only segment still running as a fully public service (United Kingdom exception aside). The bottom line is that the entire service of air mobility is paid for by its ultimate users (passengers) with public authorities overseeing safety, security, environment and consumer protection.

Until recently, this was working very well: steady growth every year with some market adjustments here and there (airlines or ground handlers most often). Ultimately, consumers benefitted from a more and more democratic way to travel across continents or oceans in the safest way. There remained a few questions related to the distribution of value across the chain. For example, passengers demanded better consumer protection; airlines were arguing for more capacitive and yet cheaper air traffic control or airports; pilots and air traffic controllers claimed more wages for fewer hours; airports and

airlines keep trying to keep their ancillary revenues out of the regulators' reach; and lessors cherry picked the airlines with better credit risk. These were petty debates in a market where all good players were making a good living.

Enters the once-in-a-century crisis.

The health crisis caused a sudden and brutal drop in demand. Most governments in Europe (but also worldwide) reacted to this crisis with state-led intervention: first, obviously, to tackle the coronavirus crisis itself but then also to provide economic relief to the most impacted sectors. Aviation has been among the most impacted sectors and then among the most supported. But, this major state-led intervention (which included closing borders, furlough support and lending public money to operators) has also been a major step backwards for aviation's liberalisation. In mere weeks, this crisis has erased entire decades of progress towards a more democratic air mobility. Since March 2020, many governments have played with borders (including within Schengen) and with public money, just like in the "good old days" of the 1970s. The health situation and necessity to keep airlines alive have justified the means. But the consequences are massive and of many forms. This article will explore some market balance consequences, and express some concerns on access to private finance.

With this unprecedented crisis, passengers' trust in the aviation system has been significantly undermined. We have seen passengers stranded by last-minute travel restrictions. We have seen hundreds of thousands of customers deprived of their reimbursement rights. We have seen credit card companies withhold funds. We have seen conspiracy theories mushrooming about in-flight contamination risks. We have seen weakened authorities (inexistent ICAO, powerless EASA with no jurisdiction over health safety, not to mention the Federal Aviation Administration still undermined by the Max crisis). And perhaps most devastatingly, we have seen utter chaos in terms of travel protocol (7- or 14-day quarantines, red zones, testing requirements, corridors, QR-codes, special visas). This situation seems fixable over time with a vaccine. But we cannot forget that the primary source of funding for aviation is passenger money. And right now, it requires great courage, if not faith, to book an airline ticket. The good news is that only a few airlines have gone out of business, so in theory few passengers have actually lost money.

So what can we do to restore passenger trust and make sure that bookings pick up again? First of all, provide clarity in terms of travel protocol. This is widely covered by the industry worldwide: no restrictions for passengers from green areas; pre-testing for passengers

departing from an area where the virus is circulating actively, with mutual recognition of these tests by neighbouring countries. Governments must try to trust each other in good neighbours and set the example so that passengers can also trust the system.

Secondly, passenger money must be secured. The resistance of airlines, the IATA Clearing House and credit card companies to return funds of cancelled flights to passengers in total breach of consumer protection regulations is a cause of great shame. Airlines, IATA clearing house and credit card companies have all the data to track cancelled flights and impacted consumers. Unlike flight delays, the flight cancellations suffer no interpretation and must be reimbursed within minutes. Should there be more protection for the consumer, through escrow accounts, or insurance or public oversight of the IATA Clearing House? Hard to say, but this topic must be addressed if we want passengers to feel comfortable paying large sums months in advance of their scheduled trips.

Thirdly, reassuring health conditions must be met. The industry has spontaneously taken its role seriously in this regard, and this can be considered as covered. Cost may be an issue at some point, but health counts as our customers' safety and is therefore not negotiable.

Last but not least, the environmental challenge. More and more, aviation is pointed out as unnecessary given its carbon footprint. Aviation contributes to greenhouse gases, and this must be addressed as soon as possible. Many more lines could be written on this topic but this is not the purpose of this paper. What is the topic here is passenger trust. If we want passengers to fly again, it will be necessary to convince them that aviation is clean and remains affordable. No one should feel ashamed to travel by air, no matter the purpose of the journey. Also, any further efforts to reduce the carbon impact of aviation must be through incentive and not punitive taxes. Some States have started to explore flat passenger



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“In mere weeks, this crisis has erased entire decades of progress towards a more democratic air mobility.”

taxes irrespective of plane efficiency; this would increase the overall price of the journey without any incentive for the cleanest solutions. On the contrary, a reduction of fiscal pressure for the industry players engaged on a sustainable path would convince passengers that they can fly green *and* affordably.

In summary, passengers – and their money – can come back. Authorities have to clarify travel rules, consumer and environment protection, as well as health and safety conditions. The good news is that this is well understood and starts to be addressed. The bad news is private funding.

The message that governments have been sending loudly and clearly to private investors is that they will not hesitate to impose erratic travel restrictions, nationalise some businesses and strong-arm others. Given the exorbitant level of state loans – with more to come –, what was just a few months

ago a blooming and autonomous sector may very well turn into a completely state-run sector. It may demonstrate the government's ability to save businesses, but it also sends mixed messages to private investors.

First is the level playing field competition. How will the remaining privately owned airlines be competing against the state-owned ones? With possibly government loans turned into equity, governments will run quite a few airlines in Europe. Are the state-owned airlines running on similar conditions to the privately owned? Moreover, how will governments rule for fair competition and not to protect their own interests? We already see that on the heated debate over the waiver on the use-it-or-lose-it rule on airport slots; many governments are supportive of the waiver to protect their legacy carriers and care much less for privately owned new entrants. Fair public-private competition is also a matter for airports. Public airports have received direct support to face the crisis, which allows them to maintain a premium level of service and an aggressive policy on charges. On the other hand, private airports have no choice but to drastically reduce their cost base and to protect what's left of their revenue streams. Ultimately, this clearly says that competition may not be fair in a post-COVID aviation.

The second is the question of the shared effort. All parties in aviation (airlines, lessors, airports, ATC, ground handlers, maintenance and

What will business look like? Financing aviation during and after the crisis

repair organisations, fueler, etc.) live thanks to passenger money and overall competitiveness. With the crisis, passengers' money is scarce and all have to make efforts and share the burden. If someone doesn't follow, the whole chain becomes more expensive and there will be fewer passengers. This is an issue for airports and air navigation service providers under a cost-based regulation and therefore with little incentive to gain efficiency. It is an obvious benefit of liberalisation that airlines can decide freely on the price of their tickets, on their luggage policy or on their onboard service. But strict regulation remains the rule for infrastructure: airport or ATC charges often do not follow demand but cost. Strangely enough, now that these costs are surging, the once-praised cost-based regulation becomes the new scapegoat. Because it distorts the value share. It will raise questions for many private investors: why invest in airlines or ground handlers if their efforts of competitiveness would be offset by expensive ATC or airports under outdated regulations?

The last piece is on the aircraft leasing part. Many lessors have had a rough year, delaying payments and extending contracts in an effort to keep airlines alive. Interestingly, this rebalance of the value has been reached without any regulator. But airlines are fragile and lessors are now carrying much more risk. This could lead to short-term bankruptcies of leasing companies. Assuming it won't, it would still reduce the appetite of financial institutions for leased aircraft. One should keep in mind that this is an essential piece of affordable aviation.

How to mitigate these risks and what kind of measures could attract more private funding? On the airline side, the 50-per cent European ownership threshold could be lowered. There are examples outside of Europe where airlines can be owned by foreign capital like any other business. This has given oxygen to the regional market, and is worth analysing.

On the airport side, deregulation would be helpful. There is a belief that airports are monopolies and should be regulated based on their costs. This seems quite logical to prevent airports capturing undue value in a growing market. But airlines put airports in competition in their network planning strategies and therefore there is a normal market pressure to keep airport charges competitive. If traffic increases, chances are that this is because demand is there and therefore that airlines are also making a decent living. In a normal market practice this would be shared with their suppliers. And in places where demand is low, the whole value chain should be invited to make efforts. For the private funding to jump in, there needs to be a reasonable assumption that if one is commercially successful, one will make a growing profit. The United Kingdom's example of light regulation provides an interesting framework of very-close-to-normal market conditions, attractive to private investors, and yet capacitive. In Europe, with hundreds of airlines serving thousands of airports, it should be recognised that airports compete against each other as much as airlines do. The private sector can handle both activities with good benefit to the consumers.

On the ATC side, there could be some privatisation; the regulation model should allow the private investor to optimise the cost structure and potentially mutualise across borders.

Ground handling is also little tempting for private funding these days. Options to attract more investors will be on the capacity to invest on the longer term without the threat of losing a licence too often. The threshold for self-handling also needs careful attention as it may reduce the scale of operations of private handlers at smaller airports. Regulators must also understand that airlines analyse their network in light of total airport costs (airport charges and ground handling), which brings some sort of normal market pressure on ground handling as well.

To conclude, one can only hope that the utter chaos surrounding travel rules will clear in the coming months and passengers will have restored trust in air travel and resume their previous flying routines. In the meantime, many are calling for more public intervention to save businesses. However, private intervention could be an even more sustainable path. No need to remind ourselves that it is private entrepreneurship and deregulation that underpinned aviation growth in the past four decades. But it can only happen in a healthy, competitive environment. A level playing field and relaxation of regulation could allow the aviation ecosystem to find normal resources to reinvent itself. ■

Pierre-Hugues Schmit is VINCI Airports' Chief Commercial Officer. He joined VINCI Airports in June 2017 where he supervises the airport business expertise on air service development, extra aeronautical activities and airport operations.

Mr Schmit graduated from the *École Polytechnique* (Paris) in 2001 and from the French National University of Civil Aviation (ENAC in Toulouse) in 2003. He also spent one year at the University of California, Berkeley as a graduate student in transportation engineering. He worked at the French civil aviation authority for seven years, three of which as head of the French airlines department (2006-2009). From 2010 to 2012, Mr Schmit worked as an advisor to the French transport minister.

He then joined Aéroports de Paris as deputy director of the Le Bourget division. In 2014, along with three partners, he founded La Compagnie, a scheduled airline based in Paris delivering business-class service to New York.

Government support for aviation, with a focus on environmental conditions

Elisabeth Landrichter

Deputy Director General for Transport and Director General for Civil Aviation, Austrian Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology



The worldwide travel restrictions due to the COVID-19 crisis have hit the airline industry particularly hard. The almost complete standstill this spring has led to a massive slump in the sector and many airlines were dependent on state support. Austrian airports, too, experienced a disastrous passenger decline of close to 100% in April and 99% in May.

This caused a situation of financial distress also for the Austrian hub carrier Austrian Airlines, and required financial assistance to save the airline. Austrian Airlines, as a member of the German Lufthansa Group, is a major player in the Austrian economy. In 2019, the company employed 7000 employees, generated a turnover of 2.1 billion euros and 77% of all stationed airplanes in Austria belong to Austrian Airlines. Notwithstanding the direct impact of Austrian Airlines on the national economy, sectors such as holiday and congress tourism, business travel and the connectivity for Austria as a centre of trade, commerce and industry in general, are also dependent on the survival of a major airline such as Austrian Airlines. The status of the home carrier is of significant importance to the gross domestic prod-

uct as Austrian Airlines, valued at 2.7 billion euros, represents 0.7% of the GDP⁽¹⁾.

Those key figures highlight the importance of Austrian Airlines and its direct and indirect contribution to the Austrian economy and the national aviation industry. Therefore, it was a high priority to create an efficient rescue package. In June 2020, the Austrian federal government and Austrian Airlines/Lufthansa agreed on a financial aid package with a volume of 600 million euros. Austrian Airlines was granted 150 million euros in equity capital by the parent company Lufthansa and a 150-million euro grant by the Austrian State to cover coronavirus-related losses. Additionally, Austrian Airlines received 300 million euros in loans from an Austrian bank consortium, made available with a 90% government guarantee.

The main economic objective of the Austrian government was to secure jobs and to maintain connectivity since the number and frequency of aviation connections are strongly correlated with economic growth. Equally important was to maintain the status of Vienna's flight hub to Central-Eastern Europe (CEE), where Austrian Airlines has a 60% market share. In return for the financial aid, Austrian Airlines/Lufthansa contractually agreed to several long-term commitments. For the next few years, Austrian Airlines' Vienna hub has to grow at least as much as the other Lufthansa Group hubs in Frankfurt, Munich and Zürich. To sustain the connection from Vienna to the rest of the world, the long-haul network has to be maintained. In addition, the parent company Lufthansa committed itself to foster the CEE network of Austrian Airlines under consideration of the multi-hub-strategy. The trademark of Austrian Airlines will remain as well. In order to secure jobs, the company's headquarters will remain in Vienna, as well as the technical support and maintenance unit of the airline enterprise.

However, considerations were not only given to economic interests during these negotiations; the rescue package has also been



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(1) Wirtschaftskammer Wien, Bericht des Standortanwalts: Covid-19 und die Luftfahrt: Absturz oder Landung des Home Carriers Austrian Airlines?, 2020

Government support for aviation, with a focus on environmental conditions

linked to strict environmental and climate protection requirements. The Austrian federal government wants to promote a green recovery of the aviation sector and to set a good example that the combination of economic and ecological interests is useful and expedient especially in view of national and EU-wide CO₂ reduction goals. As Austria follows the highly ambitious objective to reach CO₂ neutrality in 2040, Austrian Airlines was tasked with contributing to these climate goals as well.

The airline will therefore invest 150 million euros in new technologies and in the modification of its fleet to reduce fuel consumption and pollutant as well as noise emissions by 2030. Within Austria, the CO₂ emissions will be cut in half by 2030. In the same year, the fleet has to emit at least 30% less CO₂ compared to 2005. Additionally, the airline must reduce the average CO₂ emissions per 100 passenger kilometres of the entire fleet from 9.55 kg to 8.50 kg by 2030. Another requirement refers to fuel consumption. Austrian Airlines pledges to increase fuel efficiency by 1.5 % per year. Renewable alternative fuels play another essential role as Austrian Airlines aims to achieve a 2% blending quote on short- and medium-haul flights in the coming

years, on the condition that the infrastructure required and the sustainable aviation fuels (SAF) are available at Vienna's airport.

To support these goals, Austrian Airlines, the Austrian oil and gas company OMV, and the Austrian steelmaker Voestalpine are contributing as industrial partners, together with academics, on a joint project called SUJECO (Sustainable Jetfuel from CO₂). SUJECO is part of the Austrian TAKE OFF programme, the initiative for a sustainable development of the Austrian aviation industry as well as Austria's contribution to a worldwide green aviation. The conversion of CO₂ from industrial sources and renewable hydrogen into sustainable jetfuel is the objective of the project. It should enable the supply of renewable fuels which are not based on biofuels produced from food and feed crops, thus eliminating the risk of pastures, fields, forests including rainforests and environmentally protected areas being diverted to biofuel production.

To make alternative transport systems more attractive, the Austrian Federal Railway (ÖBB) plans to invest in a three-digit million euro range in night trains. The acquisition of 13 new Nightjet-units is one of the initial investment steps. Train

passengers should be able to enjoy a highly modern design and upgraded comfort beginning in 2022. The strategy of the ÖBB to boost night journeys does also include the expansion of their night-train network. In December 2020, the ÖBB connects Austria with a new station, namely Amsterdam. Then the ÖBB will operate a night-train network with 20 destinations and is therefore the biggest night train provider in Europe.

Austrian Airlines also committed to shifting passenger traffic to rail transport on certain short-haul flights, whose destinations can also be reached by train within significantly less than three hours. A few years ago, Austrian Airlines already successfully introduced an intermodal offer, named AIRail. This product combines the use of rail and air transport, including a connection guarantee to reach the desired destination. It was first introduced on the route between Linz and Vienna. At the same time, flights on this route were terminated. Since 2020 AIRail is also available between Salzburg and Vienna. Austrian Airlines cancelled this ultra short-haul flight in June 2020. However, the company still aims to keep the affected regional airports connected to a Lufthansa hub such as Frankfurt or Zürich.



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To monitor compliance with all the conditions provided in the agreement, the State holding company Austrian Holdings AG (ÖBAG) is able to appoint two representatives to serve on the managing board of the Österreichische Luftverkehrs-Privatstiftung (ÖLP) a private foundation which holds a majority share in Austrian Airlines (via the Österreichische Luftverkehrs-Holding, a holding company). Furthermore, one of these two will also be active on the supervisory board of Austrian Airlines AG.

Complementing the environmental measures linked to the rescue package, the Austrian government programme 2020 includes crucial elements to foster a sustainable aviation. Direct CO₂ reduction measures, a promotion of renewable sustainable fuels, monetary adjustments concerning charges, intermodal traffic systems and an adaptation of the air transport levy are some of them. In autumn 2020,

the review of the air transport levy was brought forward and a standardised ticket levy for all previous flight categories is now already implemented. Prior to this adjustment, the levy for short-haul flights was €3.50, for medium-haul flights €7.50 and for long-haul flights €17.50. Through the standardisation, the charge for all of the mentioned distances amounts to €12. Furthermore, a new category of ultra short-haul flights was introduced. All flights with a distance of less than 350 km are levied with charges of €30 instead of €3.50. This action should help to achieve a steering effect towards alternative transport systems especially for ultra short-haul flights.

Austria believes that a re-orientation of policy priorities that shaped the evolution of the air transport sector in the past is crucial to meet the new objectives related to climate change and the environment. The role of government and public

authorities at all levels – especially the type and duration of measures affecting transport operations – will be important for the future development of the aviation industry. Sustainability criteria, used as one condition for government support to airlines, are compatible with a recovery strategy for the aviation sector and will deliver longer-term benefits. In addition to national measures, Austria also welcomes the EU-wide and international efforts and initiatives intended to achieve the climate goals. A sector such as aviation, so complex and cross-linked internationally, requires cooperation at all levels. This is the only way to tackle upcoming challenges and to provide sustainable aviation to the next generations. ■

Elisabeth Landrichter has been Deputy Director General for Transport at the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology in Austria since 2017 and Director General for Civil Aviation at the same ministry since 2013. Prior to this, she was the managing director of City Airport Train in Vienna, and held functions in the department for strategy, and in controlling, contracting and sales in the ground handling department at Vienna International Airport (1997-2013). Ms Landrichter has a master's in social and economic sciences from the University of Economics and Business Administration in Vienna.



ECAC Aircraft Noise Modelling Task Group (AIRMOD)

Interview with Darren Rhodes

Head, Environmental Research and Consultancy, United Kingdom Civil Aviation Authority, and Chair of AIRMOD

The ECAC Aircraft Noise Modelling Task Group (AIRMOD) is the technical subgroup of the European Aviation and Environment Working Group (EAEG) tasked with maintaining and developing ECAC Doc 29 “Report on Standard Method of Computing Noise Contours Around Civil Airports”. Below, Darren Rhodes, chair of AIRMOD, answers a few questions on the group’s recent achievements, current activities and foreseeable challenges.

What are the ECAC AIRMOD group’s aims ?

For the past 20 years, AIRMOD has driven the development of an international consensus on the calculation of aircraft noise and led to the development of harmonised guidance which ICAO published as ICAO Doc 9911, alongside Doc 29, 3rd edition published in 2005. Existing guidance in Doc 29 covers fixed-wing aeroplanes.

The Doc 29 guidance is supported by an ICAO-endorsed Aircraft Noise and Performance (ANP) database, with AIRMOD making an active contribution to the development, verification and validation of the ANP database. AIRMOD is also working to develop consensus guidance for helicopter noise calculation, where there is currently no internationally agreed guidance.

How does the AIRMOD group relate overall to the other group(s) or entities working on this topic (European Commission, ICAO/CAEP)?

AIRMOD works closely with technical groups within ICAO’s Committee for Aviation Environmental Protection (CAEP) to develop common methods and reach consensus at a global level beyond ECAC. It also supports the European Commission’s work to develop harmonised methods in support of the Environmental Noise Directive. Examples of this coordination and collaboration include past joint ECAC/ICAO working group meetings to facilitate consensus agreement.

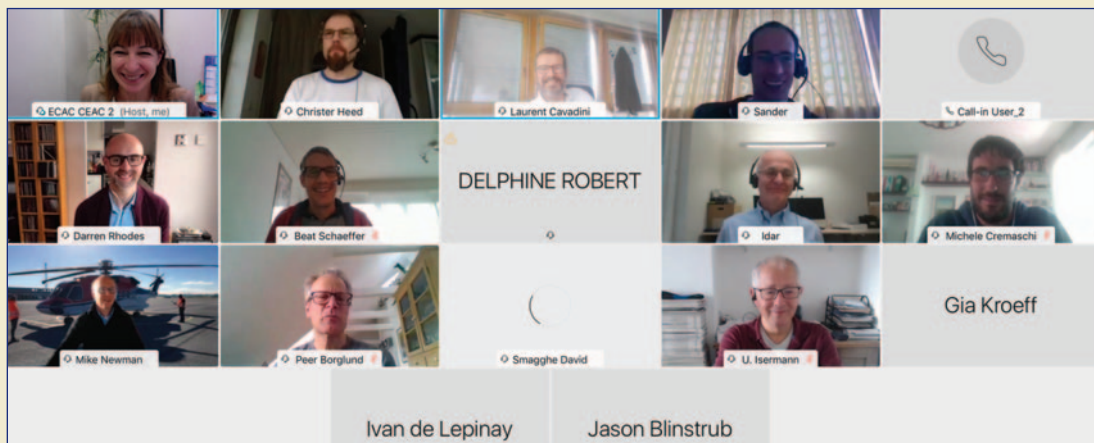
What are the group’s main achievements in 2019/2020?

AIRMOD’s key achievement has been the development of up-to-date consensus guidance on aircraft noise calculation to update Annex II of Directive 2015/996/EC “CNOSSOS-EU”, that will bring the Commission’s own guidance into alignment with Doc 29, 4th edition (2016) and ICAO Doc 9911, 2nd edition (2018). AIRMOD also continues to work on the development of helicopter noise calculation guidance, where there is currently no international consensus.

Is there any particular initiative you are proud of having achieved in AIRMOD?

There are two things in particular that stand out. First, the publication of the 4th edition in 2016. This included the first part of a new third volume that included a series of detailed test case acoustic calculations for the first time, which supports the development of software harmonised with the guidance, and also provides test cases for users to replicate. The work was a multi-year effort. It involved benchmarking four different models that had implemented Doc 29, working through differences to reach consensus on the final calculation results to be published, and then revising the guidance to reflect the consensus calculations. This actually turned out to be a really good way of eliminating ambiguity in the guidance by seeing first-hand how different organisations implemented it, sometimes in different ways leading to different results. It required a lot of iteration to identify and resolve all the differences.

Second was the workshop held in 2018 to highlight the 4th edition of Doc 29 and explain the differences from the 3rd edition to a broader range of stakeholders, introduce Volume 3 Part 1 and set out the roadmap for further development of Doc 29. The workshop was so popular it was also streamed online.



33rd meeting of the Aircraft Noise Modelling Task Group, videoconference, 27-28 October 2020

What topics is the group currently focusing on?

As already mentioned, the group is currently working on the development of helicopter noise calculation guidance, where there is currently no international guidance, and on updating the aircraft performance calculation method for fixed-wing aeroplanes in Doc 29 Vol. 2 in order to check consensus results over a wide range of meteorological conditions and to develop more flexible ways of defining flight procedures that are key to acoustic calculations. Work also continues on the development of a noise measurement database to support validation of the calculation method and supporting data.

What challenges do you see arising in the future?

I can see drones presenting a number of challenges. First, there are many more types and configurations of drones, which may make it difficult to categorise the different types and requires a much larger and more detailed database of noise characteristics. Secondly, human reaction to drones may be quite different to that of fixed-wing aircraft due to the way they sound and where they are likely to operate, e.g. close to urban areas. For example, it may be much more important to take into account the effects of noise shielding and reflection from buildings, which are currently ignored for fixed-wing aircraft calculations.

Would you say there is increasing or decreasing trust from the public in environmental noise modelling over measurements, and to what extent does AIRMOD work at increasing confidence in noise modelling?

In my role, I get to see first-hand the decreasing trust from the public in environmental noise calculations. I am sure this is not just a United Kingdom phenomenon but probably widespread. It is therefore an important aspect of AIRMOD's efforts to develop a noise measurement database and to use this to develop guidance on comparing measurements with calculations. This may sound straightforward (sorry for the pun!), but most airport noise measurements rely on systems that collect unattended measurements, often without an audio recording of the event. This may result in contamination, with non-aircraft noise events or – because of methods applied to screen out non-aircraft noise events – quieter aircraft events being excluded, both of which could significantly affect comparisons with calculations.

Some final words

After 20 years of being part of AIRMOD, I am especially appreciative of the team effort and collaboration, both within AIRMOD and beyond to its links with ICAO and SAE International technical groups, which has facilitated the development of genuinely global harmonised guidance. I hope this continues. ■

Darren Rhodes graduated from Loughborough University in 1993 with an honours degree in aeronautical engineering. Following this, he conducted research work in aircraft design, noise modelling and noise abatement operating procedures and obtained a PhD for aircraft noise research in 1998.

In 1997, he joined the United Kingdom Civil Aviation Authority's environmental research team and subsequently became project manager of aircraft noise model development and international studies. Mr Rhodes acts as a technical advisor on aircraft noise matters for the UK Department for Transport and plays an active role in several international committees including ICAO's Committee for Aviation Environmental Protection. He currently chairs ECAC's EAEG-AIRMOD task group, responsible for the development of aircraft noise models and guidance on their application within ECAC's Member States.

Darren is co-author of the book "Civil Jet Aircraft Design", which is used as a standard aeronautical engineering text at several UK and overseas universities.

News from the JAA Training Organisation (JAA TO)

► Editorial

Paula V. de Almeida, JAA TO Director

Dear readers of ECAC News,

It is with delight that we contribute to this year's edition of ECAC News in these special times. Coincidentally, I would like to repeat my statement prepared for the editorial intended for the spring edition in which I stated that JAA TO was optimistically looking ahead and committed to remaining as the world's best aviation learning and knowledge centre, capacitating aviation professionals to contribute effectively to a safer, more secure and sustainable aviation industry based on its received merits from 2019.

The message has been valid ever since – but the aviation world has slowed down. The air transport sector now operates in unprecedented volumes due to COVID-19. In 2020, the COVID-19 pandemic has hit the aviation community with dramatic ramifications for economies, public health systems and the perception of air travel in general. While summer travel bubbles have encouraged some travel within the continents, instability and restrictions remain. Anticipating the new normal of air travel will shape aviation's path to recovery.



As life and businesses must adapt, new opportunities arise and flexibility becomes the new motivation. During COVID-19, virtual training became a core business strategy for JAA TO. Switching to virtual training has been one of the fastest programmes to market, and our virtual portfolio depth remains unique in the field of regulatory aviation training.

In an effort to help rebuild the aviation world, JAA TO is further expanding its COVID-19 recovery solutions and additional learning and knowledge services. The necessary restart succeeds through sound cooperation and sustainable build-back-better programmes.

Referring to the aforementioned vision, circumstances could not be more challenging. The world drove JAA TO to act quickly – with success. By offering the JAA TO learning experience, we are not only bringing people back together by providing important social aspects during times of isolation, but also – on a global perspective – we continue to capacitate professionals effectively to tackle an aviation world in crisis and to start their journey to recovery.



"With one of the fastest programmes to market in virtual aviation training, JAA TO has provided trainees with innovative opportunities in real-time distance learning."

► Virtual training shapes the new normal in education – reconnecting with aviation professionals

In 2020, basic perceptions of aviation as well as of education are changing. At the intersection of the two domains, COVID-19 has made it particularly challenging for all stakeholders to meet the requirements needed to achieve training harmonisation at the highest international level. Fortunately, technological advances and global interconnectivity have made the barriers to entry manageable.

With one of the fastest programmes to market in virtual aviation training, JAA TO has provided trainees with innovative opportunities in real-time distance learning. Through virtual training, JAA TO offers a flexible alternative to its standard classroom training delivery in times when travel restrictions are in place. Minimising travel safety risks and operational disruption due to quarantine measures, virtual training reconnects professionals (trainees and instructors) in the most efficient manner to foster work routines and much-needed social exchange under the new umbrella of the new normal of business.

JAA TO virtual training courses create educational and competency-based outputs equal to the classroom training courses. The methodology is adapted to distance learning, generating an innovative and unique delivery mode developed by the Course Development Unit (CDU). JAA TO's specialised CDU, with learning and development professionals, assists the online sessions and supports the instructors by securing quality and facilitation throughout the duration of the virtual courses.

Further thinking with stakeholders, knowledge and education make for vital skills enabling aviation professionals to do their jobs diligently, and in doing so to largely contribute to the global health situation and the versatile aviation system that is transforming rapidly amongst the emerging challenges. By eliminating risks and focusing on core business via virtual training, JAA TO initiates its own steps towards the premise to **build back better** the European aviation sector in post-COVID-19 times.

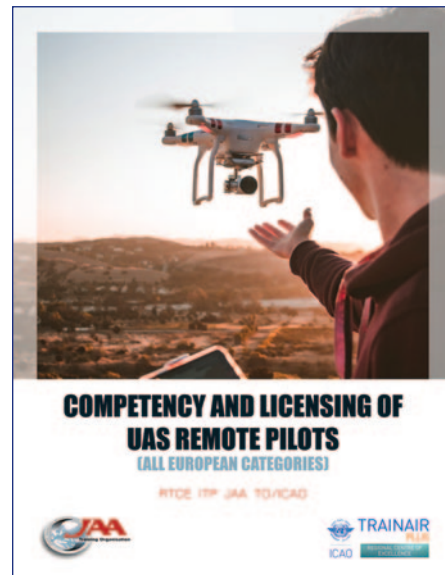
► New training consultancy portfolio – JAA TO offers a variety of COVID-19 recovery solutions in a crisis year

As the air transport sector continues to grapple with COVID-19, JAA TO's success in virtual training sends positive signals and serves as encouragement to the industry's new normal. In turn, JAA TO is constantly developing its technological approach in cooperation with its qualified instructors to meet market needs.

In 2020, JAA TO has specifically expanded its digital training consultancy portfolio to support aviation careers. Customers can choose from a range of instructor-led, virtual aviation English services to customisable learning and knowledge solutions and COVID-19 recovery modules.

Furthermore, in its capacity as the associated body in support of the ECAC community, JAA TO hosted, on 7 October 2020, its second High-Level Brainstorm Training Session for ECAC Directors General in the form of a collaborative and successful virtual conference on the topic of *Management of Information Risks* with regard to the upcoming EU Regulation on Information Security.

In the realms of course development and virtual training, JAA TO has completed the ICAO Training Package (ITP) on *Competency and Licensing of UAS Remote Pilots (European Categories) (UAS-RPC)*, which will be the world's first virtually delivered ITP from a Regional Centre of Excellence (RTCE). Like digital forms of communication, training and learning will remain ubiqui-



tous for the future and constitute the latest JAA TO approach to sustainably rebuild and expand its training portfolio under the notion of aviation's path to recovery.

More information:

<https://jaato.com/training-consultancy>

Events to come

DECEMBER 2020

- 2/ 6th meeting of the European coordination group on aviation security (ECG-AS/6)
- 2-3/ 31st meeting of the Explosive Detection Dogs Study Group (EDD/31)
- 7/ 38th meeting of the Study Group on Cyber Security in Civil Aviation (CYBER/38)
- 9/ 13th ECAC Forum of Directors General (FORUM/13)
- 9/ 5th meeting of the Environmental Programme Management Group (EPMG/5)
- 10/ 155th meeting of Directors General of Civil Aviation (DGCA/155)
- 10/ 38th ECAC Special Plenary Session (ECAC/38)
- 14/ 8th meeting of the EAEG-APER Task Group (EAEG-APER TG/8)
- 15/ 2nd meeting of the ad hoc group on screening passengers using explosive detection dogs (EDD-PAX/2)

JANUARY 2021

- ... 36th meeting of the European Aviation and Environment Working Group (EAEG/36)
- 12-13/ 51st meeting of the Guidance Material Task Force (GMTF/51)
- 14/ 31st meeting of the Security Forum (SF/31)
- 14/ 3rd meeting of the ad hoc group on screening passengers using explosive detection dogs (EDD-PAX/3)
- 19-21/ 4th ECAC Environment Forum (ENVFORUM/4)
- 27-28/ 48th meeting of the Common Evaluation Process Management Group (CEP-MG/48)

FEBRUARY 2021

- ... 40th meeting of the Legal Task Force (LEGTf/40)
- ... 51st meeting of the Facilitation Sub-group on Immigration (FAL-IMMIGRAT-SG/51)
- ... 67th meeting of the Facilitation Sub-group on Persons with Reduced Mobility (FAL-PRM-SG/67)
- ... 37th meeting of the European Aviation and Environment Working Group (EAEG/37)
- 9-10/ 78th meeting of the Technical Task Force (TTF/78)
- 12/ 62nd meeting of the ECAC Medium-Term Objectives Task Force (EMTO/62), Paris

MARCH 2021

- ... 11th meeting of the Economic Working Group (ECO/11)
- ... 6th meeting of the Network of Chief Economists (NCE/6)
- ... 61st meeting of the Facilitation Working Group (FAL/61)
- ... 38th meeting of the European Aviation and Environment Working Group (EAEG/38)
- ... 34th meeting of the EAEG Aircraft Noise Modelling Task Group (EAEG-AIRMOD/34)
- 11-12/ 46th meeting of the Training Task Force (TrTF/46), Paris
- 17/ 53rd meeting of the Air Accident and Incident Investigation Group of Experts (ACC/53)
- 25/ 190th meeting of the Coordinating Committee (CC/190), Paris



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