FLORENCE SCHOOL OF REGULATION

ROBERT SCHUMAN CENTRE

# POLICY BRIEF

## EUROPEAN TRANSPORT REGULATION OBSERVER

# Assessing the airport ecosystem: which way forward?

Aviation is crucial for Europe's mobility, connectivity and competitiveness. With over 900 million air passengers travelling to, from and within the European Union each year, Europe makes up a third of the global aviation market.

Liberalisation of the internal aviation market has been a major EU success enabling significant growth in the sector and delivering benefits to consumers. It has supported EU competitiveness globally. At the same time, there have also been unintended environmental impacts in terms of CO2 emissions, pollution and noise.

The Commission's Smart and Sustainable Mobility Strategy has the aim of developing a resilient, competitive and sustainable transport sector that can deliver affordable connectivity to all EU regions. This is against the background of an aviation market that has been substantially changing in recent years with more pressing and new challenges, such as increasing capacity constraints, evolving market power, consolidation of the air services sector and the strategic aims of enhancing sustainability, digitalisation and resilience.

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Efficient airport capacity management is a key component of a well-functioning aviation market. Being able to access competitively priced, sustainable and quality capacity is a necessary ingredient of a well-functioning aviation market that can deliver affordable connectivity to consumers. The access, pricing and quality of airport capacity have been traditionally governed by EU legislation on the allocation of slots at airports, on ground handling services and on airport charges airlines pay.

Given the Union's strategic aims of decarbonisation, digitalisation, competition and affordable connectivity, it is only logical to take a step back and assess the current regulations affecting airports from a holistic and systemic perspective. Are they functioning well? Can anything be done to make airport capacity management more efficient? Are the rules sufficient to enable investment and effective deployment of green and digital solutions at airports? Is there any scope for a more holistic and systemic approach to airport capacity management? Can greater reliance on communication, digital solutions or AI make airport capacity management more efficient?

The 20th Florence Air Forum, co-organised by the Transport Area of the Florence School of Regulation together with the European Commission's DG MOVE, discussed and holistically evaluated current airport regulations and their interplay with other legislation as far as it affects the efficient functioning of the airport ecosystem.

## A comment by Matthias Finger and Juan Montero, Florence School of Regulation – Transport Area

The aviation regulatory framework has successfully created competition along the value chain, benefitting passengers and connectivity. For this success to continue, it is necessary to continually evaluate the regulatory framework so it remains fit for purpose and delivers affordable and sustainable connectivity in line with societal and political priorities. While competition has improved choice and lowered prices, efficiency challenges remain due to barriers to entry and system complexity. Indeed, liberalisation of aviation in the European Union has resulted in a highly complex and interdependent ecosystem. The number of airlines increased with market opening and new players entered the ground handling market. Slot coordinators, economic regulators, safety regulators, national supervisory authorities, accident investigating bodies and others were created in the member states. Furthermore, new types of actors were introduced at the EU level, namely EASA, the Network Manager and the Performance Review Body.

Airports have also evolved, with private entities increasingly operating them in various institutional arrangements. Even state-owned airports are gradually becoming receptive to private investors. However, some airports may still retain market power, particularly when demand exceeds capacity. On the other hand, airline consolidation may lead to increasing buyer market power at certain airports, which may be difficult to rebalance with traditional merger remedies focused primarily on routes affected by concentration.

The existing regulatory framework, which addresses three issues (slots, charges and ground handling) separately, was designed to introduce competition and has (mostly) successfully done so. However, given the increasingly dynamic airport ecosystem composed of many more actors and many more interfaces, this framework has to be adapted. Furthermore, new challenges beyond competition also have to be taken into account, namely the need to decarbonise airport operations, the social and political acceptability of airports in increasingly built up and congested environments, and the challenge of making the best use of digitalisation.

This need for coordination within airports is evidenced by the bottom-up emergence of Airport Operations Control Centres (APOCs), in which actors physically and increasingly supported by digitalisation work together to improve coordination. This trend aims to counteract fragmentation of operational management and increase the efficiency and overall performance of airport ecosystems to make airports and, hopefully, the entire aviation value chain more competitive. This is a trend that can be observed in all network industries, with infrastructure managers (in this case, airports) becoming more active managers of all the actors using their infrastructure. This trend is visible in road management, railways and electricity systems, with infrastructure managers increasingly acting as system integrators, a role accelerated by technology. With more information, infrastructure managers can manage traffic flows more efficiently, predict traffic patterns, provide incentives to flatten peaks and react in real time to disruptions.[1]

The concept of *airports as platforms for coordination* is indeed compelling, at least in the case of big hub airports. However, it is certainly also applicable in smaller and destination airports. It is therefore only logical to consider a coordinating function of an airport ecosystem's main actors such as ground handling service providers, security providers, customs, etc. Data and digitalisation, more generally, will become particularly important in this regard.

The Commission is now committed to look at the entire airport ecosystem and to improve its performance. In our view, this calls for a new way to conceptualise airports. We think that the concept of the *airport as a platform* could indeed be useful, with the word 'platform' having both a physical and a digital dimension. Physically, the airport is indeed a platform – typical infrastructure – allowing service providers such as airlines, ground handlers, shop owners, customs, parking operators and many others to operate. Digitally, the airport can also be a

1 Montero, J. and M. Finger (2021). Digitalizing Infrastructure: Active Management for Smarter Networks. In Montero, J. and M. Finger (Eds.). *A Modern Guide to the Digitalization of Infrastructure*. Cheltenham: Edward Elgar, pp. 1-42; available at http://dx.doi.org/10.2139/ssrn.4324488.

coordinator, i.e. a digitally enhanced manager of the airport ecosystem, a so-called ‘digital platform operator.’ However, this requires the platform operator to have access to the relevant data, not only from its own infrastructure, which should be relatively easy thanks to digital devices installed in it, but also from the various operators that use its physical platforms, including flight data from airlines and the network manager (Eurocontrol), something that may be trickier.

In its fitness check of airport regulation and possible ensuing future proposals to revise airport regulation from a more systemic point of view, the Commission may therefore want to think about a more active role in managing airport ecosystems, something that would require, in our view, at least two new regulatory dimensions. On the one hand, there will be a need to regulate access to relevant data. On the other hand, the power of airport ecosystem managers will have to be countered by strengthening the national regulatory authorities. Indeed, experience shows that digital platforms create value thanks to more efficient coordination of fragmented ecosystems, but they tend to monopolise and appropriate this value for themselves. Regulation of airport ecosystems will therefore have to play a crucial role when it comes to fairly distributing this value to all the relevant stakeholders, not the least the consumers: the flying public.

## Main takeaways from the discussion

By Elodie Petrozziello, Florence School of Regulation – Transport Area

Airport ecosystems are regulated by three key legislative measures: Regulation 95/93 on common rules for the allocation of slots (Slot Regulation), Directive 96/67 on access to the ground handling market (Ground handling Directive) and Directive 2009/12 on Airport Charges (ACD). The Slot regulation is designed to ensure the efficient and equitable use of landing and take-off slots in airports with limited capacity. It aims to distribute these slots fairly, without discrimination and in a transparent manner. Over the years, it has been amended several times to adapt to the negative effects of global economic and financial shocks. It establishes the specific criteria used to designate an airport as either a coordinated airport or a schedules-facilitated airport if its capacity is inadequate. The Ground handling Directive introduced competition in ground handling services, which were previously dominated by monopolies at EU airports. Before it was implemented, EU airports and airlines raised concerns about high prices and substandard services. Last, the Airport Charges Directive aims to establish a uniform system for regulating airport charges in EU airports. It regulates charges related to landing, taking off, lighting and parking aircraft, and processing passengers and freight.

In the context of this regulatory framework, the 20th Florence Air Forum took place in anticipation of a fitness check to evaluate the relevance, efficiency, effectiveness, coherence and EU-added value of the framework. These regulations dating back to the 1990s are somewhat outdated in the light of significant changes in the aviation sector. The Slot regulation dates back to 1993 and the ground handling directive was adopted in 1996. The most recent legislation concerning airport ecosystems is the Airport Charges Directive, which was enacted in 2009. The European aviation system has evolved and faces new challenges, from capacity constraints to increased congestion. Despite the high economic value of the EU aviation sector, European airports are struggling to handle the current traffic, raising questions about future connectivity and investment in infrastructure. Coupled with these, new challenges are stressing the aviation system such as the aftermath of the COVID-19 pandemic and financial and environmental crises. The fear is that if the legislative framework is not updated there will be no incentive for innovation, competition or efficient use of resources. Airport ecosystems involve many different stakeholders. Therefore, a holistic approach is fundamental to understand the functioning of the airport system and address the needs of stakeholders. The overall aim is to determine if the current regulations are fit for purpose and how to best address these challenges to ensure a healthy and competitive European aviation sector.

### The impact of consolidation on the airline sector

Airline consolidation entails mergers of airlines with the aim of more prominent and efficient entities. It has several advantages, from increased market share to cost efficiency. However, consolidation involves many issues for the different stakeholders in the airport ecosystem. Starting with airlines, they prioritise efficiency and cost-cutting measures. This means ensuring quick turnarounds for planes to maximise asset use while minimising the time passengers spend at the airport. Prioritising efficiency also means having simple baggage systems to avoid lost luggage and decrease costs. Consolidation has several positive cross-sectoral aspects including improved communication and scheduling coordination between airlines and airports. Airlines and airports co-create value by attracting passengers and enhancing the predictability of passenger needs for better service. At the same time, consolidation has negative implications, such as operational challenges like rearranging capacity and logistics when airlines move terminals. Connectivity can be significantly reduced as airlines within a group may prioritise their landing rights and slots, thus limiting consumer competition. There is also a concern that multi-airline groups may exploit ‘new entrant’ benefits in slot regulations and the increased market power of a few large airline groups. As a result, airports may become over-dependent on maximising passengers and flights to cover fixed costs. There is therefore a fear that airline consolidation would strengthen this trend by concentrating traffic in fewer even bigger hubs. While formal consolidation processes are closely scrutinised by regulators to

ensure fair competition, the organic growth of certain airlines can still potentially result in them gaining undue market power at specific airports.

Although concerns about new entrants exploiting slot regulations exist, practical limitations such as airline flight codes make such practices unlikely. Proposed solutions include setting more realistic limits on how long new entrants can hold unused slots and allowing airlines to operate longer flight series throughout the season to reduce gaps in schedules and unused capacity. While slot divestments are the preferred remedy, they should be flexible and allow airlines to utilise them on various routes rather than being restricted to specific ones on a route-by-route basis. The current practice of assigning routes for divested slots has created long-term inefficiencies. Flexible remedies focusing on overall market health are vital to ensure a robust and competitive European aviation industry that benefits passengers. The ultimate aim is to ensure the efficient use of airport capacity and create a level playing field for competition benefiting both airports and airlines.

Airports are complex systems with several co-dependent stakeholders. Ground handlers are essential to maintain the safety and efficiency of airport operations. Their main priority is to ensure operational quality and safety standards in various airports. However, they face obstacles due to outdated airport infrastructure and the potential impact of airline consolidation, which could resemble a US-style model. As in this model, there is a risk of job quality being compromised due to cost pressures, potentially affecting the quality of ground handling jobs. On the positive side, they anticipate improved infrastructure utilisation, technological advances and enhanced collaboration with fewer airlines.

Despite being recognised as critical infrastructure, many airports do not receive adequate financial support for vital initiatives such as CO2 reduction and digitalisation. Consumers ultimately pay these costs through higher ticket prices. Consolidation might limit access to capital for smaller airlines and hinder their ability to compete. However, exploring ways to increase access to capital for smaller airlines and regional players could help them more effectively compete with larger legacy carriers, improve efficiency and offer better connectivity for European citizens. It is necessary to shift the focus from addressing individual aspects of the market to considering how to facilitate a competitive landscape that benefits both airlines and consumers.

One must not forget that international airport competition encourages European airlines to consolidate for enhanced global competitiveness. European airports are encountering fierce competition from major airports outside the EU which are closely tied to airlines and often supported by state ownership. While new airport construction is unlikely within the EU, it is happening outside it. To maintain competitiveness on a global scale, the top priority should be to enhance quality and attract customers. Both major hubs and regional European airports must avoid complacency in the face of this intense global competition. While consolidation can facilitate investment in future technologies, such as hydrogen infrastructure for more environmentally friendly aviation, it is crucial to be mindful that dominant airlines could potentially impede infrastructure investment and negatively impact the passenger experience. Europe should also establish itself as a unified market competing globally. Therefore, a coherent European aviation strategy is crucial in the face of global competition. Excessive regulations in Europe could undermine its competitiveness against less regulated regions.

The slot regulation system in the European aviation market should be updated to accommodate industry consolidation. European airlines operate under different business models, including network and local models. When considering consolidation, it is essential to address the needs of both models to attract traffic to Europe. In the US, consolidation has not always led to price increases and has even increased competition on certain routes. Evidence from Europe suggests increased connectivity and growth in airport traffic due to airline mergers. Slot regulations should allow airlines more flexibility in airport capacity while promoting efficient resource utilisation. Strategic connectivity is of great significance in Europe's autonomy. Airports often collaborate with airlines to create new routes and destinations, which benefits passengers. However, the current system could make it challenging for new entrants to retain access to the routes they develop after an initial period. This could disrupt new con-

nections and impede strategic connectivity aims. Introducing a tiered system based on airline size and route type could enhance efficiency and competition. Revising the 80/20 rule could address situations in which a few airlines hold a dominant share of slots. While legacy carriers contend with global competition, it is important to preserve internal European connectivity. Tailored regulations for different operators could involve more stringent usage requirements for larger airlines and more flexible rules for new entrants operating regional routes. The primary objective is to strike a balance between optimising airport capacity, preserving connectivity and fostering competition in the European market.

Some have advanced the idea of airlines paying only for the services they use. This is not feasible from the perspective of airports as it would entail too much burden. European airports are currently grappling with challenges that threaten their operational efficiency. The absence of plans for new runways or terminals is compelling airports to maximise their existing capacity. The market share of low-cost carriers has experienced a substantial decline, resulting in significant passenger losses compared to pre-COVID levels. These trends ultimately harm consumers by reducing flight options, increasing prices and diminishing overall service quality. Therefore, a revised regulation should promote a more balanced market and safeguard consumer interests. The overarching message is that there is a need for balanced regulations considering airport requirements and fair competition among airlines. This balanced approach is essential to ensure optimal air transport use and ultimately benefit passengers in the long run. The efficiency of ground handling services in European aviation relies on the synergy between personnel, technology and communication among airlines and airports. While technological advances are important, workforce expertise remains pivotal. Standardising processes and regulations across airports would greatly enhance efficiency and lower expenses. Uniform training and procedures would elevate industry standards and guarantee proficient top-notch ground handling services throughout Europe.

A broad agreement emerged in the discussion that a competitive market benefits consumers with lower prices and increased choices. Some argued that the market should determine the best use of airport capacity with minimal regulation. Others believed regulation is necessary to address market power issues and ensure fair competition. The current European model was generally seen as successful in this regard compared to the US market. However, consolidation can lead to increased costs (i.e. decarbonisation and digitalisation), potentially harming consumers with higher ticket prices. Limited access to capital for smaller airlines due to consolidation could further reduce competition. Therefore, legislation should be able to strike a balance between costs and benefits for consumers. On the slot allocation side, slots do not always reflect airport investments, thus discouraging efficient use of capacity by airlines or meeting the needs of new entrants.

The European aviation industry is characterised by a wide array of participants, ranging from small regional airports and specialised airlines to major global hubs and carriers. The challenge lies in developing a unified regulatory framework that accommodates the diverse needs of all these entities. There was a consensus on the significance of operational efficiency for all stakeholders, including airports and airlines, with a focus on streamlining processes and reducing costs. It was widely acknowledged that airport capacity is constrained, which emphasises the importance of maximising the efficient use of existing resources. A more unified approach is necessary to achieve various objectives in European aviation, including competitiveness, affordability, connectivity, climate aims and social equity. The aviation ecosystem is under pressure from governments and the public to meet these objectives. The current system fails to address these issues holistically. Regulatory measures should not overly favour the global competitiveness of large carriers at the expense of internal competition in the EU market. This may lead governments to impose stricter regulations limiting airport operations and potentially harming connectivity. Airports, airlines, ground handlers and regulators must collaborate in pursuit of a common set of aims. A fragmented approach, with each sector prioritising its own objectives, is unsustainable and could result in stricter government regulations that ultimately harm the entire aviation industry. While promoting competition in Europe, individual passenger rights to travel freely should

also be considered. Smaller airlines and airports may be early adopters of new green technologies for shorter routes, but they require connectivity to hub airports. Airlines and airports require flexibility to negotiate and switch between alliances to optimise operations. A successful European aviation ecosystem requires collaboration and commercial agreements that benefit all stakeholders, not just a few dominant players. The key message is that Europe needs to balance internal competition and present a united front against global competitors. This involves fostering innovation, facilitating connections between smaller airports and hubs, and ensuring flexibility for airlines and airports to operate efficiently.

## Ensuring efficient competition among airports

Airports need greater flexibility to adapt to strategic challenges. The current regulations have not kept pace with the industry's evolving needs as they lack the flexibility required to address future challenges such as noise, emissions and airport capacity. During the COVID-19 crisis, airports had to adjust schedules to meet passenger demand swiftly, which stressed the need for improved capacity management solutions. To enhance their competitiveness and attractivity, airports depend on long-haul destinations, slot availability, traffic rights and cargo capacity. These are determining factors that airlines, businesses and passengers consider when making their choice. For instance, as some airports lack great cargo capacity, they do not have the opportunity to serve businesses that export goods. Some airports face challenges in certain countries due to high operating costs, which have increased greatly from 2019 to 2024. Although efforts have been made to stabilise charges post-COVID, other airline costs, such as air traffic tax, air traffic control fees and security fees, have risen significantly. These high costs are negatively impacting airlines and connectivity. Some airlines, particularly point-to-point carriers, have reduced flights due to these costs, resulting in a loss of connections for consumers. Ongoing discussions with airlines are taking place, but until cost coverage is achieved further charge increases may drive airlines away. Adjusting charges to align with costs could prompt airlines to relocate flights, while high taxes impede recovery from recent setbacks. Thus, high costs are diminishing airport competitiveness and are adversely affecting both airlines and consumers.

Nevertheless, the current system, which includes regulations and incentives for airports, has proven to be efficient. Competition among airports is evident in tenders, and the Directive mandates transparency, non-discrimination and efficiency with a consultation process. However, reforms are needed, particularly in terms of transparency and cost allocation. The key factor is the balance of power between individual airlines and airports. Airport charges could be regulated based on individual airports' competitive power, only subjecting to regulation those airports with proven market power as excessive airport charges can potentially hurt consumers, growth and connectivity. Competitive airports tend not to use separate charges for different services because they bundle everything into the passenger charge. However, during the discussion, some highlighted the unbalanced market power of those airports with a shortage of airlines and planes, leaving many airports underserved. Large airlines can shift planes and choose airports based on the best market conditions, giving them leverage over airports. Low-cost carriers frequently enter and exit markets, making them unreliable airport partners. For example, some German airports have not been able to raise charges sufficiently to cover costs, suggesting that airlines have market power negotiating prices. Most national supervisory authorities lack a clear mandate and sufficient power to regulate airport charges effectively. At the same time, implementation of the ACD in member states is not harmonised, highlighting the need for transparent consultation processes with clear financial information. This could be addressed by putting in place consultations with the industry based on transparent financial information, sound business cases and potential oversight by independent regulators. In certain countries, the implementation of ACD involves consultations between airports and airlines, with limited intervention by the authorities. For example, Sweden has established a forum to enhance communication and establish consultation parameters, leading to reduced conflicts. A revised ACD is needed to effectively regulate airports with market power, encourage competition among airports and ensure fair treatment of airlines during

consultations. The revised legislative framework must acknowledge the strong interests of the member states while defining common solutions that consider the needs of all stakeholders (airports, airlines, ground handlers and consumers).

European airports are shifting their investments to airports outside Europe, potentially because European airports offer lower returns. To avoid this, the ACD should acknowledge the different business models and needs of airports. It is essential to consider that the final price airlines and airports pay is of utmost importance, particularly in competitive markets. Airlines tend to focus on short-term profits, while airports make long-term investments. Airports may struggle to recover all costs through charges, impacting their investment capabilities. From an investor's perspective, the focus is on the stability of earnings rather than just profitability. The ACD should consider the importance of airports attracting investors to finance long-term projects, allowing greater flexibility in cost recovery and investment decisions while upholding transparency. Regarding funding for improvements, airports require revenue from various sources, such as retailing, to invest in enhancing passenger experiences, implementing green technologies and carrying out social responsibility measures. These investments cannot be solely funded by passenger charges.

Airport charges are just one factor in competition, and external factors such as ticket taxes can have a greater impact on certain routes. The existing competition rules do not benefit all airlines, especially new ones that require access to major hubs rather than smaller airports competing for traffic. During the discussion, some airports advanced the idea of being granted pricing freedom like that granted to airlines by the Air Service Regulation 1008/2008. The current system may lead to tensions among parties. While exceptions to competition, such as public service obligations (PSOs), can benefit connectivity within the EU, applying them outside specific routes requires consideration. Inconsistent application of the ACD by member states (allowing some airports to recoup COVID losses through charges) needs to be addressed, possibly with better enforcement. Regulations need to be transparent and consider all the parties involved. Currently, user committees tend to lack transparency by often excluding ground handler companies, which are vital to the airport ecosystem. Investments must be clearly allocated to ensure that airlines do not have to pay for airport infrastructure investment from which they will not benefit under their short-term contracts. What is needed is competition with common rules involving standardised regulations with some flexibility, such as reserving space for smaller aircraft at major hubs. National regulators need to be pragmatic and adapt their approach based on specific circumstances (i.e. airport ownership models and capacity constraints present challenges), learn from best practices to strike a balance between clear rules and flexibility, and consider the realities of national contexts and the needs of investors.

As mentioned above, the required regulation level depends on the degree of competition present. In highly competitive environments, minimal regulation may be the most effective. It is important to note that the ACD is mainly concerned with establishing consultation requirements rather than dictating pricing rules or negotiation processes (such as veto rights). National regulations have a larger impact in these areas, while the airport landscape varies widely across Europe. Small airports often rely on public funding and are not the main focus of the ACD. Medium-sized airports compete for airlines. Large congested airports present a more complex situation in which hub airlines may face constraints due to existing networks. Passengers can choose other hubs, so airports and airlines have a mutual interest in retaining them. In regulating competitive markets in situations of scarcity, free pricing can naturally allocate limited resources, potentially resulting in higher costs for some airports. The role of public intervention in allocating scarce resources for economic or social reasons is key, for example, reserving slots for cargo or specific routes. A nuanced approach to regulating airport charges was recommended several times, considering the level of competition and the potential need for public intervention in managing scarce resources.

Moreover, competition can drive innovation, but stakeholders have conflicting interests in the airport ecosystem. Airports have limited freedom to set charges due to consultations with airlines. The slot allocation system bolsters the position of major airlines at hubs. Excessive competition in ground

handling driven by deregulation can lead to problems. Moreover, consumers prioritise low fares, and airlines prioritise profit, leading to a market that is efficient in cost but lacks sustainability. This creates a dilemma over where the blame lies: consumers or the market. Given how challenging it is to involve consumers in discussions about cost-sharing for green initiatives, the EU might consider a joint fund for green airport investments. The next European Commission should embrace this challenge despite the political complexities and balance airport needs, sustainability and fair competition.

The future legislative framework must be adaptable to new challenges such as congestion, digitalisation and environmental concerns while upholding its core strength in promoting competition. Discussions should prioritise scenarios with limited competition or scarcity, in which the necessity for regulation is more pronounced. They should consider the bargaining power of airlines (countervailing buyer power) in negotiations with airports as there is a clash between the short-term focus of airlines and the long-term investment needs of airports. A nuanced approach to cost-sharing is imperative. It should take into account consumer understanding and fairness in cost distribution, for instance in green initiatives. Deregulation could be considered, but only with complete transparency regarding all airport costs and investments. The current ACD limitations on cost recovery and recouping COVID-19 losses impede the investment ability of airports. Greater flexibility would accommodate different airport business models and financial situations. It should recognise the need for airports to make long-term investments in infrastructure, digitalisation and green solutions even when immediate cost recovery is not feasible. At the same time, the role of investors (public or private) in financing these long-term airport projects should be acknowledged.

## Revolutionising the management of airport ecosystems

The airport ecosystem is fragmented and characterised by limited coordination among stakeholders. This lack of communication has led to inefficiencies such as late departures, noise pollution and difficulties in climate adaptation. Reformed airport ecosystem management built on collaboration and shared responsibility is essential. Some advanced the idea of setting up a top-down management system with a central coordinating body to ensure engagement among all the parties. Another approach would entail using technology-driven solutions that rely on data sharing and automation. These solutions can be fundamental in standardising procedures, enhancing efficiency and identifying delays and safety hazards. Airlines, airports and potentially other stakeholders would have to collaborate and share data with each other. The use of such technologies allows more dynamic infrastructure management but requires a level of automation and orchestration beyond market mechanisms. However, these two proposed solutions can be either interchangeable or complementary. Indeed, there is no ‘one size fits all’ approach as it varies depending on the size of the airport and its dominant carriers. However, these changes necessitate coordinated investment cycles and consensus among all stakeholders. The future demands dynamic management that can adapt to real-time conditions. The key challenge is finding the right balance between central planning and user flexibility.

Airports can be divided in four layers: physical infrastructure, the service layer, the digital layer and platform coordination. During this session, the idea of replacing the existing regulation with legislation dedicated to each layer emerged. This would result in considering all aspects and simplifying system operations while incentivising collaboration and innovation. However, regulations alone are insufficient to drive collaboration as stakeholders must themselves be motivated to collaborate. The successful collaboration during the COVID-19 pandemic serves as a testament to what is achievable. Therefore, a layered system might not be fundamental. At this stage, many agreed that developing the current regulatory framework could suffice as long as it enhances collaboration and efficiency. This involves modifying existing regulations considering the risks inherent in major reforms and the potential consequences. The initial idea of establishing a central authority by law might not be necessary. However, having the airport behave as the platform manager could be advantageous. It could utilise data from various stakeholders to boost efficiency and collaboration among them. The primary objective is to prevent situations arising in which

passengers are left waiting on planes due to unidentified issues. However, there are challenges to address, including resistance to change in a mature market by both airlines and passengers. Incentives are necessary to promote environmentally friendly practices and workforce development, but there are concerns about the associated costs and potential financial burdens for airlines.

Although the Ground handling directive effectively introduced competition in the industry, reduced competition among ground handlers has been linked to service quality. Currently, ground handling companies face a high staff turnover and must invest in new equipment. Pricing wars between ground handling companies can be unsustainable and damaging to the entire industry. For this reason, reformed legislation should aim to increase the involvement of other stakeholders in ground handling operations to enhance efficiency. It is crucial to emphasise the need for collaboration between airlines, airports and ground handlers to avoid repeating past mistakes. For instance, using airport operational centres can foster collaboration. Airports could also influence ground handling quality by exerting pressure on authorities to enforce stricter standards and potentially penalising underperforming airlines or ground handlers. Involving external stakeholders like residents, businesses and public transport in airport planning is crucial to create a truly optimised system. Therefore, the future of airport management involves a more coordinated approach, which can either emerge organically or may require legislation.

In discussions about the future of airport management, it is important to consider practical solutions alongside the advance of technologies. The efficiency of airport services is ensured by highly skilled employees. Industry-wide collaboration is essential as a shortage of skilled workers is a common issue among airlines, ground handling services and airports. Future legislation should implement regulations and incentives that encourage investment in workforce development to attract and retain skilled personnel. Growth plans should be based on a regional analysis of actual capacity needs, especially in mature markets. Given the limitations in the capacity of European airports, future approaches should focus on prioritising efficiency and quality. The main competitors of EU airports are located outside the EU. Therefore, the EU airport ecosystem should counter these highly efficient and customer-focused rivals by proposing longer-term contracts and higher investments. However, uncoordinated investment due to a lack of regulation can lead to situations in which some companies cannot compete with others which have not invested. It is crucial to prioritise collaboration and balanced regulation, and to focus on long-term sustainability.

The high average slot usage shows the success of the Slot Regulation. However, some of the proposed amendments, particularly those related to secondary trading, lack thorough analysis and could potentially hinder connectivity and competition. Therefore, introducing incentives for earlier slot returns, clarifying regulations on airline insolvency, and broadening the current definition of ‘new entrants’ can enhance the efficiency and competition of the system. At the same time, when assessing market power regulators should analyse when players merely compete and when they wield undue influence. The ambition is to incrementally improve the existing framework without overturning it. This can be facilitated by also simplifying and harmonising legislation such as the Slot regulation, the ACD and ATM regulation. Better integration is deemed essential, as ATM strategic planning and network management capabilities are believed to enhance overall efficiency. Last, it is crucial to consider the political interface with entities like parliaments, which establish noise limitations and environmental requirements. Improved communication with these entities can lead to more stable long-term planning.

The current slot allocation system may not work as intended, with incumbent airlines potentially not utilising slots efficiently. Airport competition is complex and is influenced by airline competition and factors such as slot availability. Regulated airports have limited pricing flexibility due to their dependence on major carriers, while unregulated airports rely on point-to-point carriers, which may come and go. Finding ways to foster airport competition while ensuring EU airlines maintain strong positions is challenging. The current airport charges and power dynamics system is not a well-functioning market. Airports do not fully recover costs and often rely on retailing. However, the fact that the ACD remained

unchanged during COVID-19 and many airports refrained from raising charges demonstrates its adaptability.

A balanced approach to airport management involves flexibility in slot allocation and market-driven pricing to meet customer demand. Long-term collaboration and standardised procedures benefit all stakeholders, as it is crucial to implement new solutions. Competition should be maintained and fostered, but it should not hinder progress in key areas such as quality, affordable connectivity, climate change mitigation and social equity for workers. These elements are essential to maintain social acceptance of the aviation industry in the face of growing political pressure. The issues faced by each stakeholder must be acknowledged and addressed. There are cross-sectoral future challenges like noise, social equity, the climate transition and shared responsibility in implementing solutions and adopting regulations. The solution lies in a new holistic approach in which airlines, airports, ground handlers and governments work together on their shared aims.

Airport capacity is challenged by increased congestion due to the increasing number of people travelling. At the same time, there are limited opportunities for physical expansion, so airports must focus on optimising existing infrastructure. The rise of data and digital technology presents opportunities for improved efficiency and collaboration. The future of airport management lies in a systemic approach that considers all stakeholders in the airport ecosystem, including airlines, ground handlers, passengers and local communities. The concept of an airport as a platform with physical, service, digital and coordination layers offers a framework for understanding the benefits of data sharing for enhancing collaboration. Regulators should focus on addressing clear market failures. Regulations and incentives can be used to encourage desired behaviour and collaboration among stakeholders.

## Conclusion

The discussion at the forum revealed agreement that market power lies on both sides of the negotiation table and involves both airports and airlines. This raises pertinent questions on whether these market dynamics lead to constructive negotiations and efficient outcomes or if they exacerbate inefficiencies in the aviation ecosystem. Regulatory measures can help mitigate negative market power effects. Rather than fixating on power dynamics, discussion should centre on the overall outcome for the aviation ecosystem. Policymakers and relevant stakeholders should transcend power struggles and prioritise finding solutions that benefit the entire European aviation industry. Ultimately, stakeholders must balance economic efficiency with social and environmental concerns through stakeholder trust and collaboration. This may entail adjusting regulations and fostering a more collaborative approach between airports and airlines.

The fitness check offers an opportunity to enhance the current system rather than dismantle it. It is essential to recognise the past success of airport liberalisation in Europe, which has led to a modern, competitive and affordable aviation sector. However, regulations must be adapted to keep pace with a changing world. This may involve reducing regulations in some areas, implementing different types of regulations in others and focusing on optimisation within existing constraints. There are challenges in balancing environmental concerns, capacity limitations and noise restrictions with continued growth and affordability. Targeted interventions should address specific situations with imbalances in market power to ensure fairness. Using incentives and promoting collaboration, such as in consultation forums, can help address collective action problems in the aviation ecosystem. This approach was considered more effective than imposing overly strict regulations. There is a need for a future-oriented approach to airport regulation that balances competition with collaboration, optimises existing infrastructure and leverages data and technology to create a more efficient and sustainable aviation ecosystem.

## Revolutionising Airport Ecosystem Management to Stop Being Victims of the Past and Become Actors of the Future

### A comment by André Schneider, CEO, Geneva Airport

We are convinced that there is a need for a new and systemic way to manage the airport ecosystem, as we had to do this during the COVID crisis. This crisis showed that the whole ecosystem has to thrive, and in the case of crisis has to survive. This implies that everything has to be seen holistically as a system and every action has to address the needs of all actors and the wellbeing of the overall system.

Beyond this, the ecosystem not only has to provide consumers with quality and affordable connectivity but must do it by respecting the need to support the climate transition and also ensure social equitability, as much to consumers as to the employees of the actors in the airport ecosystem, and as to the people directly and indirectly impacted by the operations of the airport.

This has to be reflected in an integrated approach to regulations, like airport charges, slots and ground handling. Only a systemic and transversal approach will allow all the strategic objectives enumerated above to be satisfied. Furthermore, regulation has to offer this ecosystem enough degrees of freedom to accommodate the specific needs and local contexts of each airport and allow this to be formalised in agreements with all stakeholders.

Such a new ecosystem has to be built on open communications, a common approach and action by all stakeholders and at every step has to integrate the above-mentioned boundary conditions, which are quality, affordable connectivity, support, advance of the climate transition and assurance of social equitability.

Such a change will also be the single most important move to ensure acceptance by populations and governments, and to stop or at least slow down the increasing restrictions that will make it more and more impossible to be economically sustainable actors in the airport ecosystem and continue to offer quality and affordable connectivity.

In the context of Genève Aéroport, we have started to develop some first steps towards such a new airport ecosystem:

1. With the airlines on our platform we have developed a system to limit late departures. This system will give each airline exposed to this problem a predetermined number of late departures before an important charge is applied to late departures beyond the quota. After having been developed with the airlines this system has been approved by the regulator and the charges applied in cases of late departures beyond the quotas have been adopted in the latest airport charges negotiation. This system has been tested since 2022 and will be introduced with the charges in 2025. During the tests, the airlines already adapted and improved their schedules to reduce the number of late departures ahead of the introduction of this quota system.

2. With input from the airlines and discussions with them we have also introduced a financial incentive system that rewards the use of last generation airplanes (like Airbus 220 and Airbus 320 Neo), thus reducing noise by 40% and fuel consumption by 15%. This incentive system has allowed us to increase to 32.5% the movements of such airplanes at our airport in 2023.

3. We believe that incentives for developments that help address strategic objectives like climate change, and also improvements in social equitability, should be integrated in airport charges. Negotiation on airport charges needs to allow a better balance between the interests of all actors in the airport ecosystem. This should also give space for the actors participating in these negotiations to have the capacity to discuss, develop and adopt new initiatives to respond to boundary conditions and local constraints.

4. We also believe that slot regulation should be better adapted to the climate transition, allowing for more qualitative developments taking into account the climate change challenges (for example in terms of the use of airplanes and the destinations serviced). Slot regulation should also better take into account local needs, like noise restrictions, but with mechanisms that allow these issues to be managed beyond a sim-

ple reduction of movements or introducing or extending night ban hours.

5. Ground handling rules need to ensure competition yet without introducing a race to the bottom that will ultimately destroy social equitability and generate social unrest. These rules also need to protect collaboration to address challenges and not further unload problems to the next actor in the airport ecosystem.

In conclusion, competition is important but competition cannot be the reason to slow down or even stop the need to advance quality and affordable connectivity, to support the advance of the climate transition and to ensure the social equitability of the ecosystem.

## Reconsidering the role and significance of ground handling to better address the challenges of a fast evolving air transport environment

A comment by Fabio Gamba, Managing Director of the Airport Services Association (ASA)

The EU legislation governing the airport ecosystem, namely the Directive on Airport Charges (Dir. 2009/12/EC), the Regulation on Slots (Reg. 95/93) and the Directive on ground handling (Dir. 96/67/EC) – the trilogy forming the so-called 'EU airport regulatory acquis' – is coming of age and the industry has undergone very significant changes since they were published. Air traffic surged from 1.4 billion passengers globally in 1996 to 1.2 billion in Europe alone last year. These changes have significantly impacted the efficiency of a system which showed worrying cracks in the immediate aftermath of the global pandemic, when major disruptions were felt at various airports in Europe during the summer of 2022, which underlined a need for readjustment of the working relationships among airlines, airports and ground handlers.

I will not dwell on the immediate causes of these disruptions here, as it is clear that they were the results of a unique combination of factors and so should not occur again any time soon, at least with the same intensity. That said, they should not be overlooked either as they were, like any crisis, symptoms not only of the pandemic but also of structural weaknesses which have crept in over time, so they are not addressed by the antiquated regulatory acquis. We will try to identify the most important of them and offer solutions from the perspective of ground handling providers.

### An ecosystems approach: efficient use and pricing of airport capacity

The efficient use and pricing of airport capacity and ground handling services must align with operational realities to enhance connectivity, foster innovation and optimise resource allocation. There are notable discrepancies in the current system, such as airports with over 50 million passengers served by only two ground handlers and smaller airports with unlimited market access. This inconsistency creates an uneven playing field and may lead to suboptimal outcomes like cost-cutting and reduced service quality.

Markets dominated by a single carrier (with over 40% traffic share) limit the potential for other ground handlers, leading to cost-cutting measures and compromised service standards. Airports dominated by low-cost carriers (LCCs) exhibit different dynamics and require greater economies of scale for ground handlers due to price-sensitive passengers and frequent self-handling by LCCs. A thorough market analysis should precede competition enforcement, especially for markets around the 2 million passenger mark, while restrictions on ground handlers in larger markets should be minimised and justified transparently.

### The specific needs for ground handling

To ensure adequate competition and a level playing field, Directive 96/67/EC must be revisited. Although the Directive aims to promote fair competition, its implementation often falls short of market realities. Articles 6 and 7 allow limiting the number of suppliers for certain services, which could be extended to passenger handling under specific conditions to enhance service quality and sustainability by allowing economies of scope that are otherwise difficult to realise.

Licensing durations should be adjusted based on market competitiveness, ranging from five years in less competitive markets to ten years in highly competitive ones, to balance investment recoupment and market dynamics. Transparent oversight mechanisms are essential for fair and efficient ground handling contract awards. Independent audits and yearly publishing of accounts should be mandatory for airports providing handling services to ensure accountability and prevent conflicts of interest.

### Investment in infrastructure and workforce development

Investment in infrastructure, technology and workforce development is vital to meet current and future demands while maintaining high service standards. Pressure to reduce costs has adversely affected salaries and employment attractiveness in ground

handling, leading to unsustainably high turnover rates (up to 80% in some parts of Europe and North America) and associated operational challenges.

Quality standards should be harmonised at the European level, focusing on safety, financial stability and environmental impact to avoid conflicting requirements between airports and ensure the provision of services that airlines require.

## Conclusion

The legal and operational landscape in Europe has considerably changed since the 1990s. Independent ground handling activities are now dominant in most of the EU (they represented less than 35% of total turnarounds back in 1996). While competition is generally genuine in Europe at airports with more than 2 million passengers annually, it does not apply uniformly and has in some cases led to a race to the bottom. This may be due to a lack of minimum operating standards, which will be partly addressed by the new EASA Regulation in 2025 (its expected application is only by 2028).

The classic triangular relationship between airports – the 'landlords' – airlines as customers and ground handlers as providers has proven to be quite resilient in the past and, with local tweaks and arrangements here and there, continues to be the dominant model today. However, new models of cooperation should be envisaged, especially when it comes to decision-making. If each party in the triangle considers its own sphere of competence – typically airlines and their flight schedules, airports and their infrastructure development, and ground handlers and their staff and equipment – outside any form of scrutiny by the other two, then we will not be able to resolve the limits of the current system and it is to be feared that other disruptions will soon occur again as air traffic grows inexorably. A new regulatory framework, if properly crafted, can provide a welcome basis on which to build new working relationships among stakeholders.

## FSR Transport

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