



Policy Brief

Airport networks and
the sustainability of small airports

2017|02



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Policy Brief

Airport networks and
the sustainability of small airports

% of States that
have some kind of
airport network
arrangement

69%

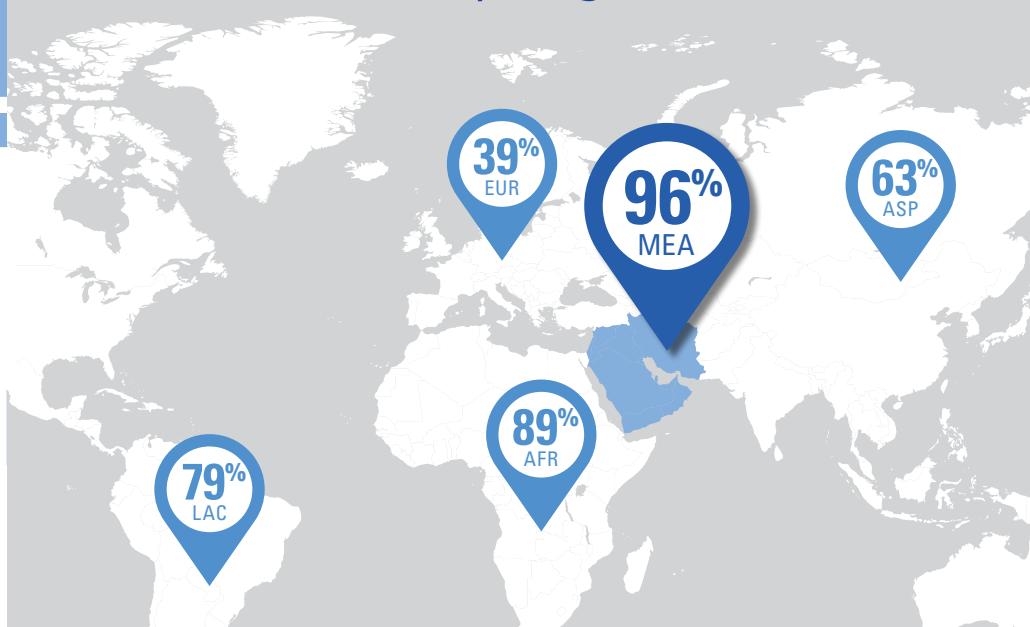


% OF GLOBAL
PAX TRAFFIC
GOING THROUGH
NETWORKS
38%
2.9 BILLION PASSENGERS

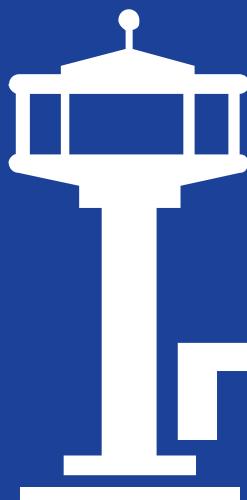
VERSUS GOING
THROUGH
NON-NETWORKS
62%



% of airports belonging
to networks by region



Almost half of all small airports in the
world are operated by airport networks



% OF SMALL AIRPORTS
OPERATED BY
AIRPORT NETWORKS
49%

ABOUT 1,000 SMALL AIRPORTS
ARE IN NETWORKS AND TOGETHER
THEY SERVICE 278 MILLION PASSENGERS
PER ANNUM.



KEY FINDINGS:

- ↗ The 2017 ACI Inventory of Airport Networks reveals that 132 out of 191 countries (69%) have some kind of airport network arrangement, either directly operated by a State through a civil aviation authority or a ministerial department, or by a corporatized national or sub-national airport network company.
- ↗ An estimated 1,900 or nearly half (49%) of the world's airports belong to airport networks of some kind and they handle an overall annual traffic volume of 2.9 billion passengers, 38% of global passenger traffic.
- ↗ Airport networks operate under a variety of ownership models. The absolute majority of networks (84%) are publicly owned with a significant number of networks operated directly by governments or by corporatized but government-owned airport companies. Private and public-private partnerships account for 16% of networks in total.
- ↗ Airport networks are responsible for managing and operating a significant number of small airports: almost half (49%) of small airports in the world are operated by airport networks.
- ↗ The airport network approach is frequently used to sustain small, economically non-viable airports. The latest estimates suggest that as many as 66% of the airports in the world operate at a net loss and that over 92% of the loss-making airports handle fewer than one million passengers per annum. In the Africa, Latin America-Caribbean and Asia-Pacific regions, an overwhelming majority of small airports belong to airport networks (92%, 92% and 76% respectively). Overall, about 1,000 small airports are in networks and together they service 278 million passengers per annum.
- ↗ Similarly to cross-subsidization within airport networks, air navigation services providers and airlines cross-subsidize services and routes within their networks.
- ↗ Airports belonging to airport networks benefit from economies of scope and scale that generate efficiencies in terms of costs and charges.
 - Airport networks have relatively low operating expenses, as well as low capital costs on a per-passenger basis. From the total cost perspective, the per-passenger cost at network airports is less than half (46%) of that at single-airport operated airports: US\$ 7.71 and US\$ 16.79 respectively.
 - Cross-subsidies from larger to smaller airports within a network do not increase the overall costs of providing airport facilities and services. The efficiency gains in operating costs and capital costs more than offset cross-subsidies and generate value for airlines and passengers using airport networks.
 - Airport networks operating under the principle of cross-subsidization from larger to smaller airports do not generate higher user charges for airlines. Cost efficiencies derived from airport network membership enable airport operators to levy competitive charges that ultimately benefit airlines, passengers and countries' wider economies.
 - A network approach facilitates sharing of best practices in customer experience among the network-member airports. ACI's Airport Service Quality (ASQ) demonstrates that customers rate network-member airports as having high service quality levels.

ACI POLICY RECOMMENDATIONS:

AIRPORT OWNERS SHOULD BE FREE TO DETERMINE THE MANAGEMENT MODEL THAT IS BEST SUITED TO MEET PUBLIC POLICY OBJECTIVES AND COMMERCIAL STRATEGIC OBJECTIVES.

A wide body of evidence demonstrates that the airport management model is just one factor in determining airport performance. For this reason, airports should be permitted to operate under a wide range of management models such as single-airport, airport systems and airport networks to serve their specific missions, business needs and local circumstances.

AIRPORT NETWORKS SHOULD BE ABLE TO CROSS-SUBSIDIZE SMALLER AIRPORTS TO BENEFIT AIRLINES, PASSENGERS, AND THE COMMUNITIES THEY SERVE.

Most airport network operators manage a handful of larger airports and an array of smaller airports. In such situations, in many parts of the world, cross-subsidies from larger to smaller airports are used to keep the smaller airports operational, especially when they cannot count on public funding. Accordingly, airport network operators should be given the flexibility to determine the most appropriate charging system for recovering their costs, generating returns for shareholders and ensuring sustainable operation of the smaller airports in the networks.

WHEN APPLYING CROSS-SUBSIDIES, AIRPORT NETWORKS SHOULD COMPLY WITH ICAO'S POLICIES ON CHARGES, RECOVERING FROM USERS THE FULL COST OF PROVIDING A NETWORK OF AIRPORTS.

It is a common and well-accepted practice for airport networks to compute their costs at the overall network level and then recover the costs through a charging scheme common to all airports in the network: the cost of using the network is then charged to its users. This practice is fully aligned with ICAO's policies, which provide that charges should be related to the cost of providing airport facilities and services. Airport operators should be free to determine whether charges are site-specific or if, instead, there should be a common charging scheme at the network level to recover the costs incurred by providing a network of facilities and services.

Overall compliance with the ICAO framework at network level should be ensured through the following safeguards:

- non-discrimination between airlines irrespective of their nationality;
- overall cost-relatedness of charges at the network level, whereby each network's users are charged for the cost of using the network;
- transparency and effective consultation with airlines proportionate to the market power exerted by the airport operator; and,
- reassurance that cross-subsidies are earmarked only for airport operation and development and are not diverted to non-airport facilities and services (e.g., seaports).

REGULATORY OVERSIGHT SHOULD BE PROPORTIONATE TO EACH AIRPORT OPERATOR'S MARKET POWER.

In an increasingly dynamic and competitive market, a regulatory framework should be proportionate to the degree of airport market power, only intervening to correct market failures. The framework should serve primarily to facilitate and incentivize commercial agreements between airports and airlines in a flexible manner, rather than burdening stakeholders with unnecessarily strict rules and procedures.

1.

INTRODUCTION:

TRENDS IN AIRPORT NETWORKS

This evidence-based ACI Policy Brief gives visibility to a specific organizational and management model for airports: the airport network model. It emphasizes that airport networks build on synergies, economies of scale and scope and the pooling of revenues, costs and profits among all airports to ensure that the smaller airports—which are vital for both communities and an integrated air transport system—remain in operation and continue generating sustainable benefits for all stakeholders.

While this ACI Policy Brief focuses specifically on airport networks and highlights patterns of this model of management and its related policy recommendations, ACI does not prescribe any particular management model. Airports should be permitted to operate under the management model best suited to their specific missions, business needs and local circumstances.

1.1 The different types of airport management model

Multiple models of airport management prevail in the industry and are adopted by airport operators depending on their specific circumstances.

- The first is the **single-airport model**, whereby an airport operator only manages and operates a single airport. The entire business is based solely on one physical location on which the airside and landside facilities are built. For instance, the Greater Toronto Airport Authority in Canada is the operator of Toronto-Pearson International Airport and its mission is to become the entry point to the North American continent.
- **Airport systems** are the second model, with the airport operator managing and operating several airports located in the same conurbation or metropolitan area. This allows integrated airport development at the scale of the city, providing integrated and orderly management of air traffic and passenger flow. For instance, Groupe ADP-Paris Aéroport has developed its facilities under an integrated model at the metropolitan scale: Paris-Charles de Gaulle serves as a hub for Air France and is the prime airport for interconti-

ntental traffic, while Paris-Orly focuses on strong point-to-point traffic between the city of Paris and European and North African cities. While it encompasses different airports, the airport operator remains a single business entity and often opts to pool costs and revenues at the system level.

- The focus of this Policy Brief is on the third airport operation and management model: **airport networks**. Historically, several countries have opted for a network approach to developing and operating airport facilities and services—that is, the operation of all or some airports within a country as a group, under a single ownership and control structure. Under the airport network approach, several organizational models are found, but in most cases they share a common feature: costs and revenues are pooled at the network level and the network is considered a single business entity.

1.2 The network approach: a common characteristic of the civil aviation system

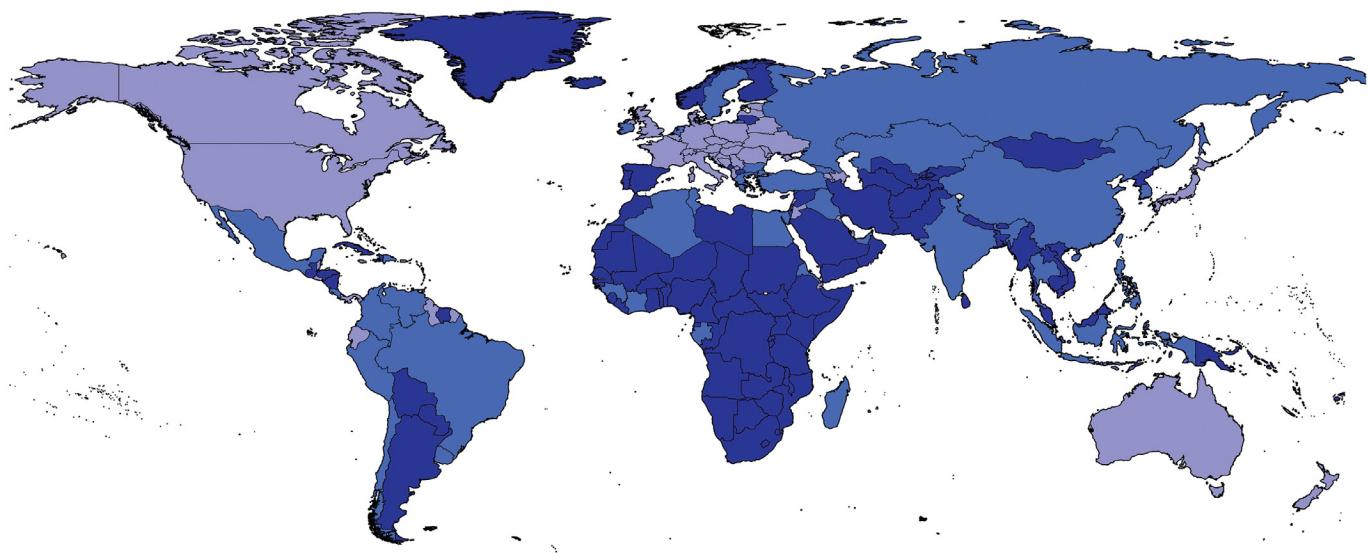
Networks are common to many businesses and industries, including air transport. Several airlines and air navigation services providers (ANSPs) have opted to pool their overall costs at the company level and thus ensure an even recovery of the costs at the company level.

Airlines organize their routes and destinations in networks aimed at ensuring connectivity and profitability—the expression “network airlines” reflects the spirit of this model. Some airlines nonetheless struggle to achieve profitability on short-haul and medium-haul routes. They then have to rely on their long-haul flights to generate revenues and profits and those flights are used to subsidize short-haul operations. In other words, long-haul passengers are paying airfares higher than their fair share of the cost of traveling provided by the airlines; and surpluses cross-subsidize passengers on short-haul routes who are transported at a loss.

Similarly, the vast majority of ANSPs in the world provide airspace users with terminal navigation services, which are air traffic control facilities and services usually provided in a control tower for aircraft



MAP 1: AIRPORT MANAGEMENT STRUCTURE (2017)



Countries

- National network
- Sub-national networks
- Other forms of airport management (single airports, airport systems, etc.)
- No data

descending to and landing at a specific airport. The cost of providing terminal navigation services varies greatly from one location to another within the same country. For instance, the busiest control towers at the busiest airports benefit from significant economies of scale and more efficient use of the infrastructure than remote or less busy control towers that handle only a few flights per day. Consequently, the cost of handling a single flight at a busy control tower is significantly lower than the cost of handling a single flight at less busy control towers. However, ANSPs have historically maintained a network approach through which the costs of providing terminal

navigation services are pooled together at the ANSP level and are recovered evenly from airspace users through a common scheme of charges. Cross-subsidies from larger to smaller control towers ensure a sustainable and seamless provision of air navigation services throughout territories and have remained unchallenged by airspace users and regulators.

Pooling costs and revenues at the airline network level rather than at the route level facilitates the continuous operation of a network of short-haul routes which are essential to preserve the connectivity, and hence the sustainability, of airline operations.

1.3 The scale of airport networks across the globe

Two models of network approaches are common:

National airport networks:

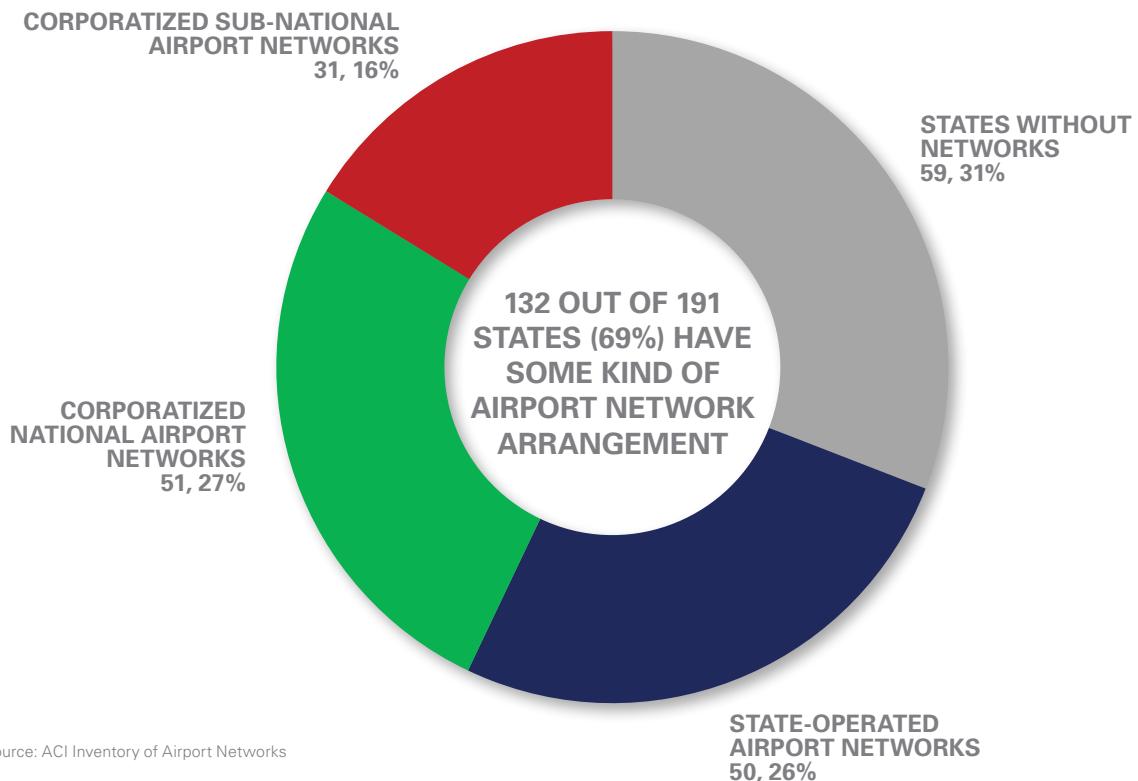
- **State-operated airport networks**, where States have retained direct control and management of airports through a civil aviation authority or a ministerial department. This organizational format is quite common in sub-Saharan Africa and in the Pacific Islands nations.
- **Corporatized national airport networks**, whether the network operator is publicly or privately owned, which manage the vast majority of airports within a country or the airports handling most of the traffic. Cases in point are Aena SME

S.A., which manages all general interest airports and heliports in Spain; and the Israel Airports Authority (IAA), which manages all of Israel's major civilian airports.

Sub-national networks:

- **Corporatized sub-national airport networks**, which can be publicly or privately owned, manage several airports at the regional level within a single country. Examples are PT Angkasa Pura I, which operates airports in Central and Eastern Indonesia; and PT Angkasa Pura II, which operates airports in Western Indonesia. Other illustrations are Ravinala Airports, which manages Madagascar's largest airports, Antananarivo and Nosy Be; ADEMA, which handles all other airports in Madagascar;

CHART 1: NUMBER OF STATES WITH VARIOUS AIRPORT NETWORK ARRANGEMENTS (2016)



Source: ACI Inventory of Airport Networks

and, Mexico, where Mexico City Airport is managed by a separate airport operator and four sub-national airport network operators manage other Mexican airports on a regional basis.

1.3.1 Overview of airport networks across the globe

As of 2016, 132 out of 191 countries (69%) have some kind of airport network arrangement, either directly operated by a government through a civil aviation authority or a ministerial department, or through a corporatized national or sub-national airport network company (see Chart 1).

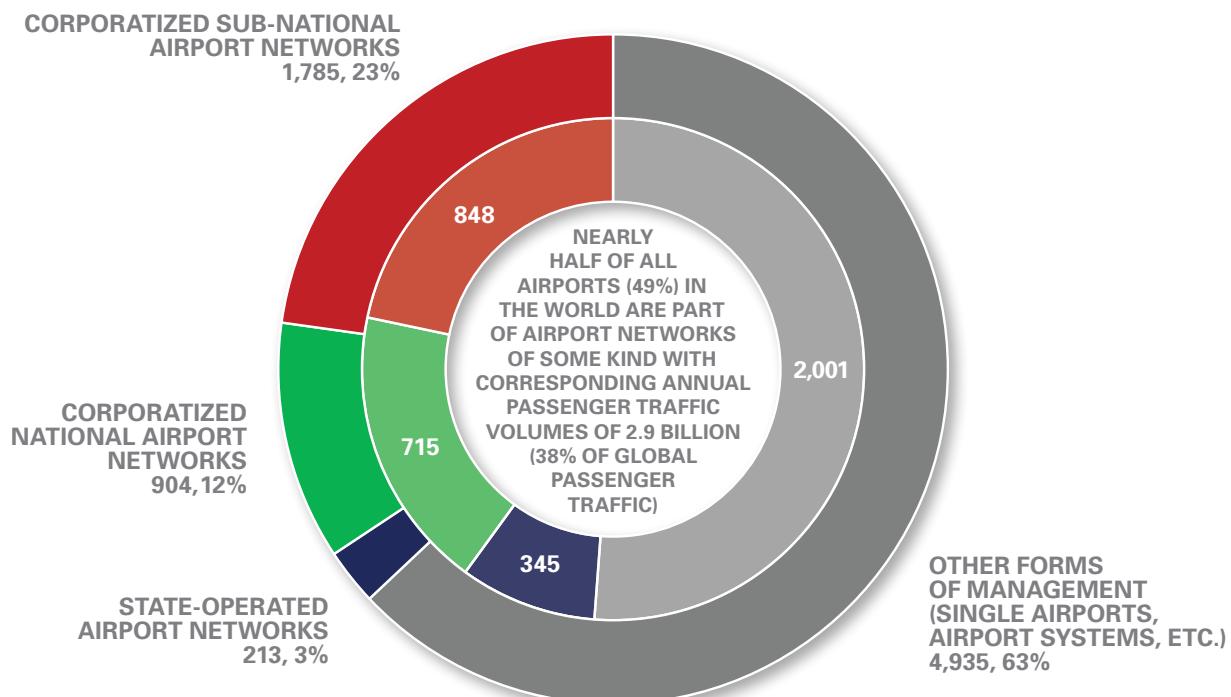
Africa stands out as the region with the largest number of State airport network arrangements (51).

It is followed by the Asia-Pacific (34) and Latin America-Caribbean (22) regions. In all, 17 European States have airport networks. The Middle East is home to eight States with airport networks.

For airports with scheduled commercial passenger traffic, more than 1,900 of all airports, or nearly half (49%), belong to airport networks of some kind. These airports have a combined annual passenger traffic volume of 2.9 billion, or 38% of global passenger traffic (see Chart 2).

Significant proportions of airports in the Middle East and Africa belong to airport networks—96% and 89% respectively, providing respective 83% and 78% regional shares of traffic. These two regions are followed by Latin America-Caribbean and

CHART 2: NUMBER OF AIRPORTS IN STATES WITH VARIOUS AIRPORT NETWORK ARRANGEMENTS (INNER) AND CORRESPONDING PASSENGER TRAFFIC VOLUMES IN MILLIONS (OUTER) (2016)



Source: ACI Inventory of Airport Networks; ACI World Annual Traffic Database; Official Airline Guide (OAG)

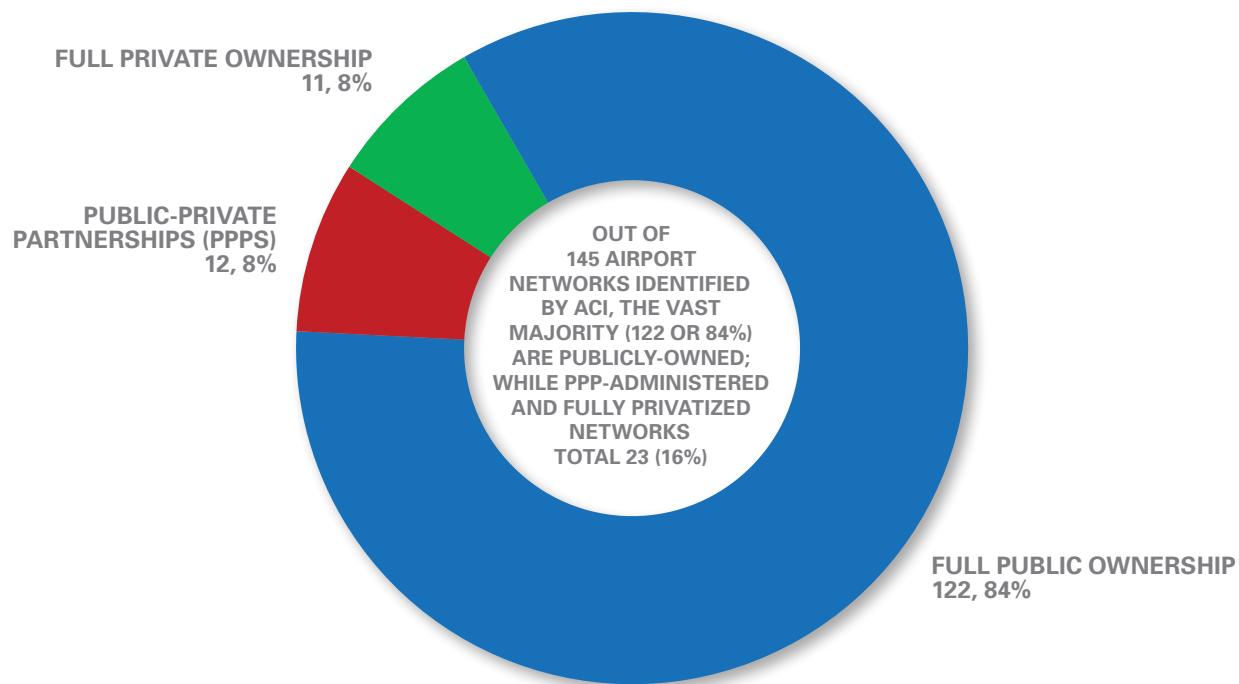
Asia-Pacific, where 79% and 63% of airports respectively belong to airport networks, providing respective 46% and 52% shares of passenger traffic. Only 39% of airports in Europe (with a corresponding 38% share of passenger traffic volume) belong to airport networks, although the region is home to the largest airport network in the world in terms of passenger traffic volume—AENA in Spain.

In North America, several airports are operated by designated branches of State-level departments of transportation under network-type organizations. Nonetheless, this form of organization is quite uncommon in the region. Conversely, the region has a large number of airport systems whereby a group of airports in the same conurbation are operated and managed by a single entity. In such sit-

uations, cross-subsidies from larger airports in the system to smaller ones are frequent. ACI counts 60 multi-airport systems in North America, managing more than 200 airports and handling more than one billion passengers annually as of 2016.

Finally, airport networks operate under a variety of ownership models. The absolute majority of networks (84%) are publicly owned, because a significant number are operated directly by governments or are corporatized but government-owned airport companies. Private and public-private partnership networks account for 8% each, 16% in total, indicating that airport networks can successfully attract private investments. See Chart 3.

CHART 3: NUMBER OF AIRPORT NETWORKS BY OWNERSHIP TYPE (2017)



Source: ACI Inventory of Airport Networks



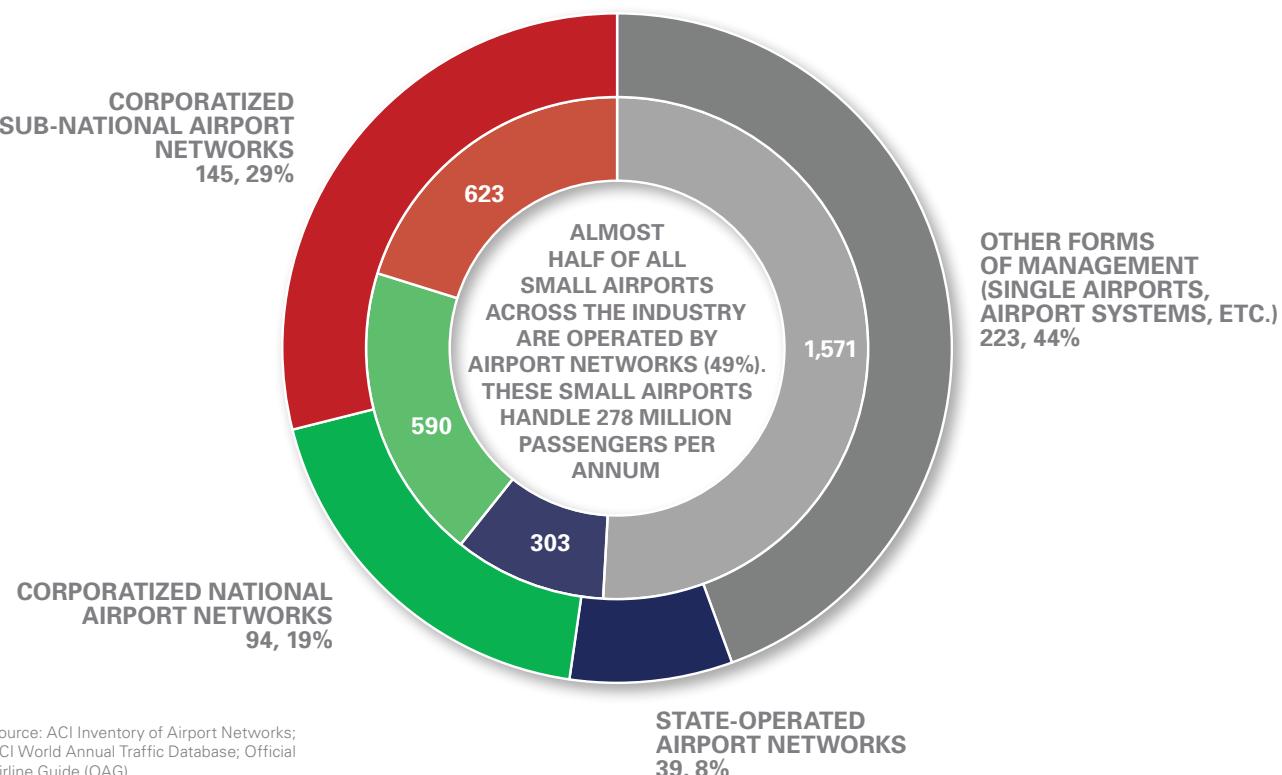
1.3.2 Small airports within networks

The airport industry faces a conundrum. While the industry as a whole is profitable, their financial statements show that a significant number of airports are actually in the red. The latest estimates suggest that as many as 66% of the world's airports operate at a net loss. Most of these airports are small, in that each handles less than one million passengers per annum. The industry's overall earning propensity and profitability is concentrated among airports with higher passenger throughput. In essence, the net profits of a minority of high-traffic airports significantly exceed the net losses of the majority of smaller airports.

In this context, providing sustainable funding for operating and developing smaller airports remains challenging, for two primary reasons. First, because of constrained public budgets, governments are no longer able or willing to subsidize small, loss-making airports. Second, private investment flows to airports with high throughput or potential for high throughput, to guarantee expected returns for investor outlay.

The network approach, which allows economies of scale and scope at the network level and the cross-subsidization of smaller airports, provides one of the most important ways to operate small airports sustainably. ACI estimates that almost half of all small airports are operated by airport networks (49%). See Chart 4.

CHART 4: NUMBER OF SMALL AIRPORTS WITH VARIOUS AIRPORT NETWORK ARRANGEMENTS (INNER) AND CORRESPONDING PASSENGER TRAFFIC VOLUMES IN MILLIONS (OUTER) (2016)



Source: ACI Inventory of Airport Networks;
ACI World Annual Traffic Database; Official
Airline Guide (OAG)

In the Africa, Latin America-Caribbean and Asia-Pacific regions, an overwhelming majority of all small airports belong to airport networks (92%, 92% and 76% respectively), illustrating the effectiveness of the network approach in overcoming the challenge of maintaining operations at essential airports.

1.4 Benefits of airport networks

Depending on local circumstances, business needs and public policy interests, a network approach to airport management and operation ensures sustainable funding of smaller airports, with the profits of higher-throughput airports compensating for the net losses of smaller airports. Therefore, opting for a network approach often enables significant benefits and, depending on local circumstances, is instrumental for safety, for local, socioeconomic development and for generating positive business conditions and opportunities for airlines.

- **Positive benefits to airlines:** Important economic synergies are generated between smaller airports and larger airports within a network. Indeed, small airports and airlines act as catalysts in feeding traffic into hub airports for onward journeys to other major national and international destinations. Smaller airports within a network generate traffic that ensures the sustainability of larger airports, resulting in improved load factors and optimal aircraft utilization by airlines.

- **Safety:** States and oversight authorities often give airport network operators responsibility for providing airport facilities and services which offer integrated coverage of a given territory. For safety and security reasons at national and regional levels, such coverage can provide alternate airports for emergencies—e.g., for Extended-range Twin-engine Operational Performance Standards (ETOPS) operations. Opting for a network approach is often the preferred solution for countries with large territories and uneven distributions of transport infrastructure.

- Contributions to **social and economic development** of the surrounding communities: Airport networks offer an option for enhancing connectivity for all regions and ensuring that all areas remain interconnected without any community being neglected. Airport networks allow for economic and social development, for instance by generating tourism flows and by enabling business opportunities.



2. AIRPORT NETWORKS ARE EFFICIENT AND COMPETITIVE AND DELIVER HIGH QUALITY OF SERVICE

Single airports, airport systems and airport networks provide significant value creation for airlines, passengers and the communities they serve. Economies of scope and scale enable airport networks to generate significant efficiencies in terms of costs and charges to airlines, while providing customers with a high quality of service.

2.1 Cost efficiency

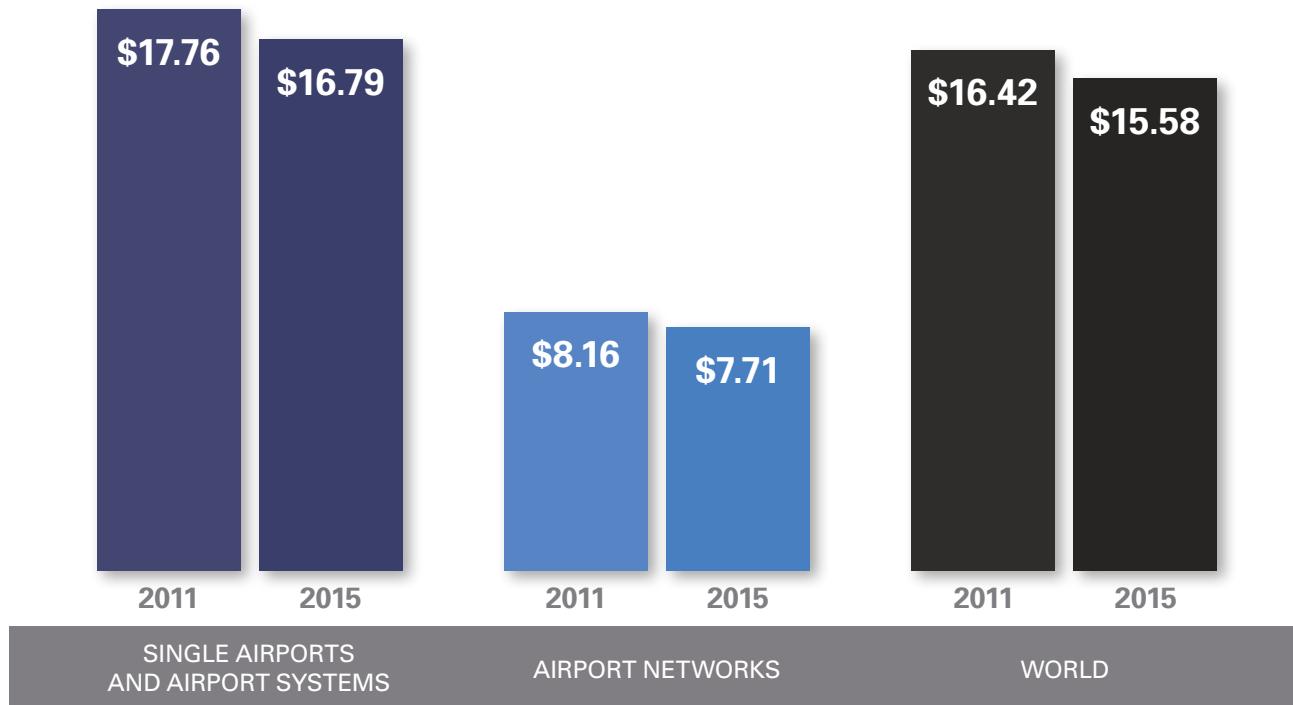
It is not more costly to operate a network of airports than to operate single airports or airport systems. Conversely, ACI's analyses show that, in terms of total costs, accommodating a single passenger at network airports costs less than half (46%) of the amount it costs single airport operators, as shown in Chart 5 below.

Among other reasons, this finding is related to the fact that among the 132 States with networks, only 13 States are advanced economies, while the remaining 119 are emerging markets and developing economies. These States' general price levels and the values of their national currencies are generally lower than those in the advanced economies.

Moreover, the vast majority of the busiest and most congested airports with scarce infrastructure are single airports or they belong to airport systems. They are located in global cities, whilst airport networks operate large numbers of small, under-used airports.

More importantly, however, operating a network inherently generates efficiencies in operating and capital costs.

CHART 5: AIRPORT TOTAL COSTS PER PASSENGER
(US\$, INFLATION-ADJUSTED, 2011–2015)



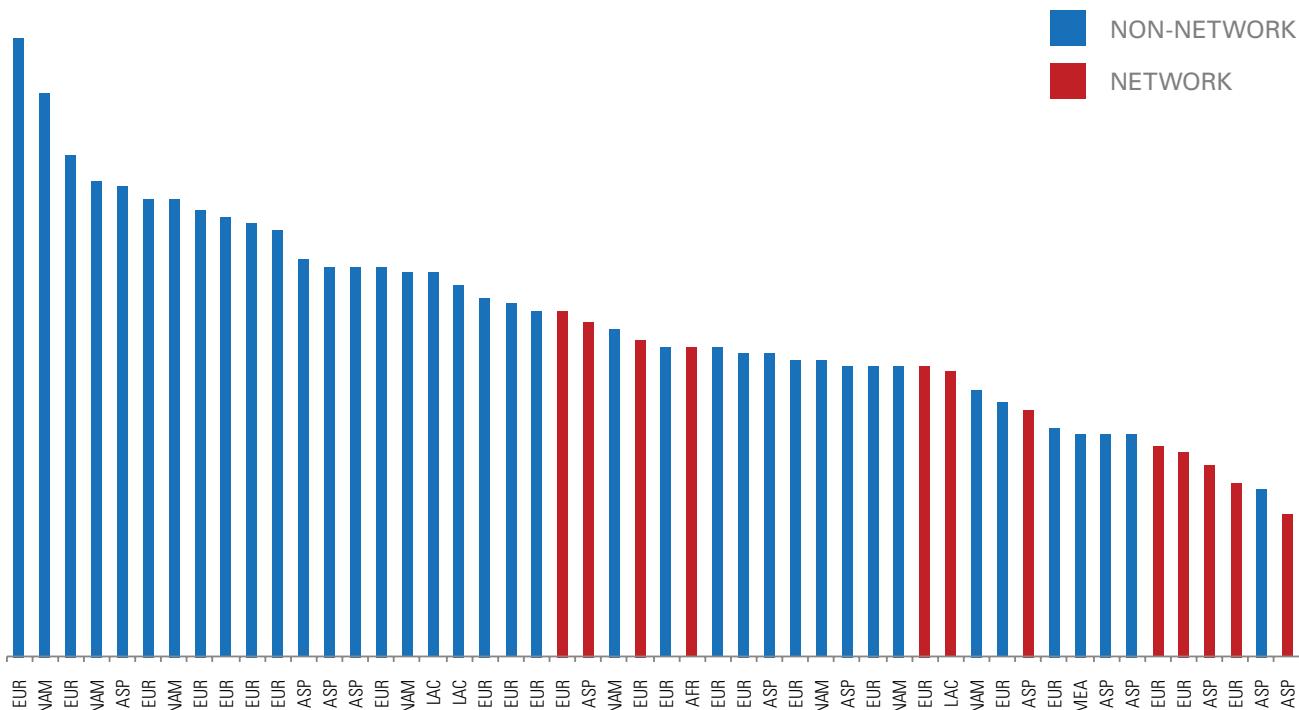
Source: ACI Airport Economics Report 2017

- Management of several airports by a single entity avoids costly duplication of functions at each airport (e.g., marketing, procurement, finance, administration and overall management). Operating expenses per passenger for airport-network operators are US\$5.54 whereas they are US\$10.64 for single-airport operators. That is to say, operating costs on a per-passenger basis for airport networks are a little over half what they are for single-airport operators.
 - Airport networks benefit from easier access to capital markets, because financing costs are usually lower for larger organizations that mutualize risks. Comparing airport networks and single airports, the percentage difference in capital costs per passenger is even more

pronounced than it is for operating costs—US\$2.17 versus US\$6.15, respectively.

Hence, cross-subsidies from larger to smaller airports within a network do not in any way increase the overall costs of providing airport facilities and services. Efficiencies in operating costs and in capital costs largely offset cross-subsidies and generate significant value both for airlines and passengers using airport networks.

CHART 6: LEVEL OF AIRPORT CHARGES AT SELECTED MAJOR INTERNATIONAL AIRPORTS (SDR PER PASSENGER, INDEXED, 2016)



Source: Adapted from LeighFisher Review of Airport Charges 2016

2.2 Airport networks have cost-effective and competitive charges

It is misleading to suggest that airport networks operating under the principle of cross-subsidization from larger to smaller airports generate higher user charges for airlines. Rather, the evidence shows that, because airport networks benefit from economies of scope and of scale, they do not have higher charges than airport systems and single airports which do not engage in cross-subsidization. Efficiencies in operating costs and in capital costs are passed on to passengers and airlines through competitive charges which ultimately benefit passengers, airlines and States' wider economies.

The independent study contained in the *LeighFisher 2016 Review of Airport Charges* details aeronautical charges (landing, parking, infrastructure, passenger service and security and terminal navigation charges) that would be imposed on a sample of eight different aircraft types making one landing and one departure at each of the 50 major international airports. Collectively, these 50 airports handled over 2 billion passengers in 2016 and represented 26.3% of global passenger traffic.

In the review's sample, 12 out of 50 airports belong to airport networks. In the charges benchmarked in Chart 6, ACI anonymized the airports and colored stand-alone airports in blue and airports which belong to a network in red. The benchmark clearly indicates that for the sample there is no correlation between a high level of charges and an airport that is a large hub as well as a member of an airport network.

2.3 Airport networks provide high levels of customer experience

Whether airports are large or small, whether they are single airports or belong to airport systems or networks, they are committed to giving passengers an excellent customer experience. Not only do continuous service improvement and distinctive customer experience create value for the travelling public, but they also give airports a distinct competitive advantage. Managing a network of airports can facilitate the sharing of best practices in customer experience among airports within the network.

ACI's Airport Service Quality (ASQ) administers surveys to passengers at airports on their day of travel and measures passengers' satisfaction. When looking at airports that received the highest ratings from customers in 2016, airports which are members of networks are recognized as providing excellent passenger experience. For instance, for airports handling more than 2 million passengers in 2016:

1. In Africa, two of the three best airports belong to networks: Durban and Cape Town, which are in ACSA's network.
2. In Asia-Pacific: the third-best airport is Beijing Capital Airport, part of Capital Airport Holding's network.
3. In Europe, the highest-ranking airport is Sochi Airport, which belongs to Basel Aero's network. Porto Airport, part of ANA Aeroportos de Portugal's network, is the third-best airport.
4. In the Middle East, the top-ranking airport is Abu Dhabi, a member of the Abu Dhabi Airports Company's network.

Looking at smaller airports (handling under 2 million passengers in 2016), three of the four airports rated highest by customers belong to networks: Puerto Plata Airport in the Dominican Republic (Aeropuertos Dominicanos Siglo XXI S.A's network); Bloemfontein Airport in Zambia (Zambia Airports Corporation's network); and, Murcia Airport in Spain (AENA's network).



3. REGULATORY FRAMEWORKS FOR AIRPORT NETWORKS

3.1 Recovery of aeronautical costs through charges

Like any other businesses, airports need to cover their costs and achieve a reasonable rate of return to allow reinvestment in airport operations and infrastructure development, as well as to remunerate their shareholders, whether those are public or private.

Aeronautical costs incurred by airport operators are recovered both from airlines and from passengers, through charges. The most logical common recovery method for airport networks is to pool the costs of providing aeronautical services at the network level, and then to recover these costs from the airlines and passengers using the network.

For operators managing airport networks, an airport site-specific recovery of aeronautical costs through charges at the airport level is impracticable to implement:

- Airport operators typically measure their direct operating costs—such as personnel expenses, contractual services, procurement, utilities and maintenance—very precisely at the aggregated network level because the costs are incurred at the network level. Most expenses are either mutualized (e.g., providing one marketing team for all airports) or benefit from economies of scale and scope: streamlined procurement for all airports in a network is less expensive and more efficient than individual procurement at the same airports.
- Often, a significant proportion of the cost of airport operations is lumped under general and administrative overheads and cannot be allocated to any airport in particular. These overheads often include services such as legal fees, payroll administration and provision of information and communication technology, among other costs. While it is difficult to allocate overhead costs to each of the airports within a network, often it is also challenging to allocate other operating costs precisely.

- Access to capital markets is usually easier for airport networks, which then benefit from lower costs of capital. Lenders and investors in airports often estimate the cost of raising debt or equity funds, assess the subsequent returns, and mutualize the risk at the airport-network level. This makes it impracticable to assess the cost of capital at each individual airport within a network.
- In most cases, recovering costs on an airport site-specific basis would not make sense economically. Since most airports that belong to networks are small, 81% of them handle less than one million passengers a year, strict recovery of aeronautical costs from airlines and passengers at these airports would make user costs prohibitive and would deter sustainable air traffic operation and traffic development.

Consequently, pooling aeronautical costs at the network level and recovering the costs of the network from its users through a common charging scheme by pooling aeronautical revenues is the most logical and coherent method for recovering operations and development costs. Depending on local circumstances, common charging schemes can then take several forms including:

- a uniform level and structure of charges at all airports in a network; and,
- a tiered level and structure of charges at sub-groups of airports within a network, based on geography, traffic size, or other factors.

In using common charging schemes, profitable larger airports that typically have much higher throughput levels tend to cross-subsidize or compensate the net losses of the smaller airports within their networks, thereby ensuring the overall sustainability of the network. Consequently, airport-network operators should have the flexibility to determine the most appropriate charging system allowing them to recover their costs, generate a return for their shareholders and through cross-subsidies ensure the sustainable operation of smaller airports in the network.



3.2 Common charging schemes: a practice in line with the ICAO framework

Complying with ICAO's key charging principles of non-discrimination, cost-relatedness, transparency and consultation with users provides passengers and airlines with safeguards. It guarantees alignment of the practice of cross-subsidization with ICAO's policies on charges and ensures the sustainable operation of smaller airports. ICAO's charging principles require:

1. Non-discrimination between airlines engaged in similar air services and irrespective of their nationality.

2. Cost-relatedness of airport charges with the overall provision of airport facilities and services at the network level:

- *ICAO's policies on charges* (Doc 9082) state that: a) the cost to be recovered through charges is the full cost of providing airport and essential ancillary services; and b) airlines and passengers should not be charged for facilities and services they do not use. In no instances do ICAO's policies on charges disapprove cross-subsidies within airport networks from profitable to non-profitable airports. Rather, common charging schemes at the network level and the inducing of some level of cross-subsidization from larger to smaller airports is fully consistent with the ICAO framework, because users of the network are charged for the cost of using the network.
- Recovering the overall costs of providing airport network facilities and services through a common charging scheme is aligned with ICAO's key charging principle of cost-relatedness. Costs and revenues are related at the network level, in line with ICAO's policies, which emphasize that revenues must be related to costs without requiring this cost-relatedness to be airport site-specific.

- Single-airport operators provide a unique facility for airlines and passengers and recover the costs incurred for this facility through charges to airlines and passengers. In contrast, airport-network operators are not providing airport services on a stand-alone basis. Instead, they provide airlines and passengers with an integrated network that makes ample use of economy of scope and of scale and intertwined activities. *De facto*, an airline flying to an airport is using the network in its full essence. In light of this, airport network operators are entitled, in line with ICAO's policies, to recover the cost of the integrated network from charges common to users of the network.

3. Transparency and consultation with airlines to reach a consensus with users on airport charges whenever possible. ACI's *Recommended Practice on transparency and consultation with airlines* advocates that airlines be charged in accordance with the overall cost base and a breakdown of aeronautical revenues at the network level, and that this provision also applies to the main airports belonging to the network, as long as required by relevant legislative frameworks and local circumstances. When consultations are held on common charging systems and an integrated cost base for charges at the network level, reciprocity becomes a key enabler for success. Airport operators and airline users alike should be committed to providing relevant information.

An additional safeguard is essential for airport network operators, airlines and passengers alike: **cross-subsidies should be earmarked only for airport operation and development**. Subsidies should be restricted to airport networks and should not be directed to other types of facilities and services (for instance, from airports to seaports, or from airports to ANSPs).

3.3 The most effective oversight framework is proportionate and intervenes only when necessary

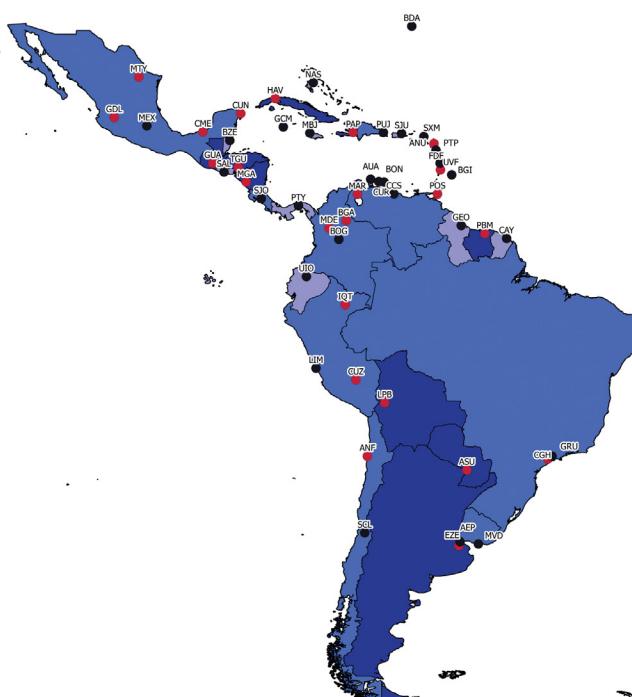
Like single-airport operators and airport systems, airport-network operators are subject to increasing competitive pressure. Airports used to be considered as being akin to natural monopolies, but this is no longer the case. Airports now must compete with each other for passengers and airlines and these customers have significantly more choice and market power than in the past. Airports have also had to become more commercially focused, deriving a large share of their revenue from commercial and retail business that is reliant on passenger volume.

The accumulation of competitive constraints affects airport networks, single airports and airport systems alike: local departure choice; airline route switching; transfer choice; buyer power of the largest carrier; and, high volatility of passengers. Airports are competing with other airports to gain new routes and based aircraft, and this competition for the marginal route sets the level of charges that an airport can seek. The result is a more competitive and dynamic airport market, which leads to efficient determination of the prices airport operators can charge their customers.

Competitive constraints should always be taken into account and oversight processes should be proportionate to the above-mentioned factors. Therefore, a proportionate regulatory framework, if needed, should facilitate and incentivize commercial agreements between airports and airlines in a flexible manner, rather than burdening stakeholders with unnecessarily strict rules and procedures. Similarly, the degree of transparency regarding airport costs and charges should be proportionate to the market power and the market situation of the airport. The role of the regulator is to facilitate this commercial engagement and intervene in the case of market failure.

APPENDIX

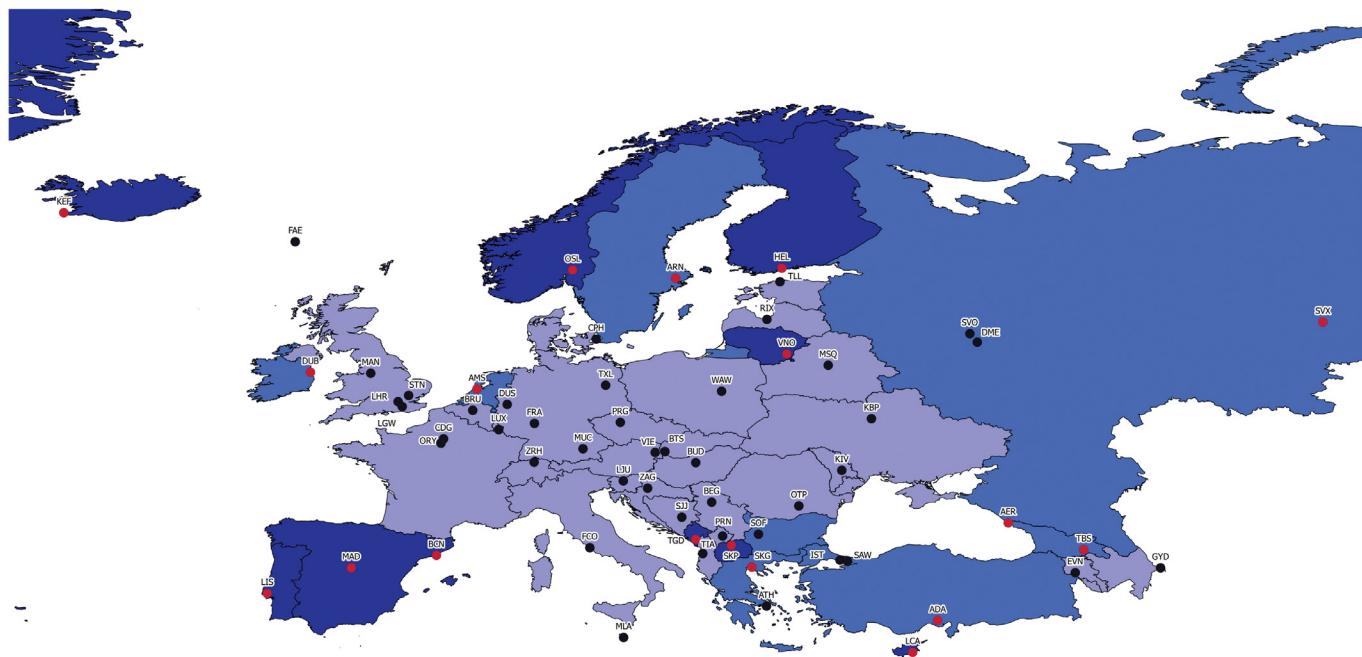
MAP 2: AIRPORT MANAGEMENT STRUCTURE (2017) – LATIN AMERICA-CARIBBEAN



Major airports

- Not part of network
 - Part of network
- | | |
|-----------|--|
| Countries | <ul style="list-style-type: none"> ■ National network ■ Sub-national networks ■ Other forms of airport management (single airports, airport systems, etc.) □ No data |
|-----------|--|

MAP 3: AIRPORT MANAGEMENT STRUCTURE (2017) – EUROPE



Major airports

● Not part of network

● Part of network

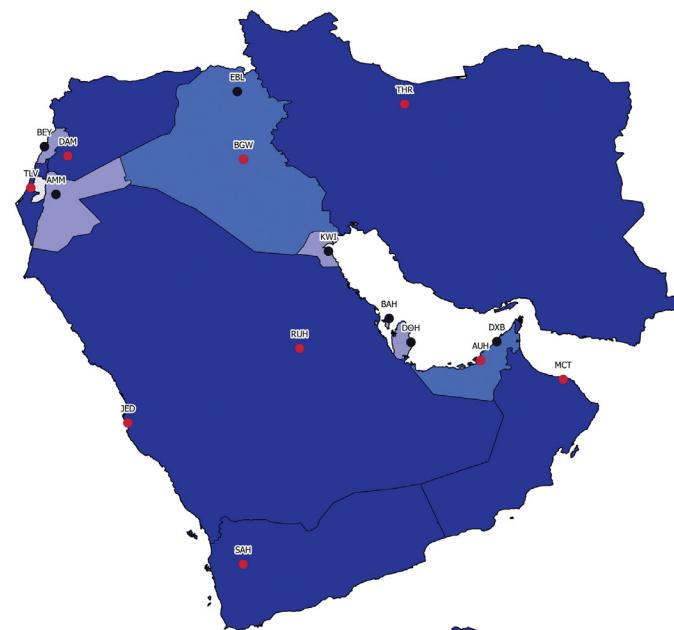
Country

■ National network

■ Sub-national networks

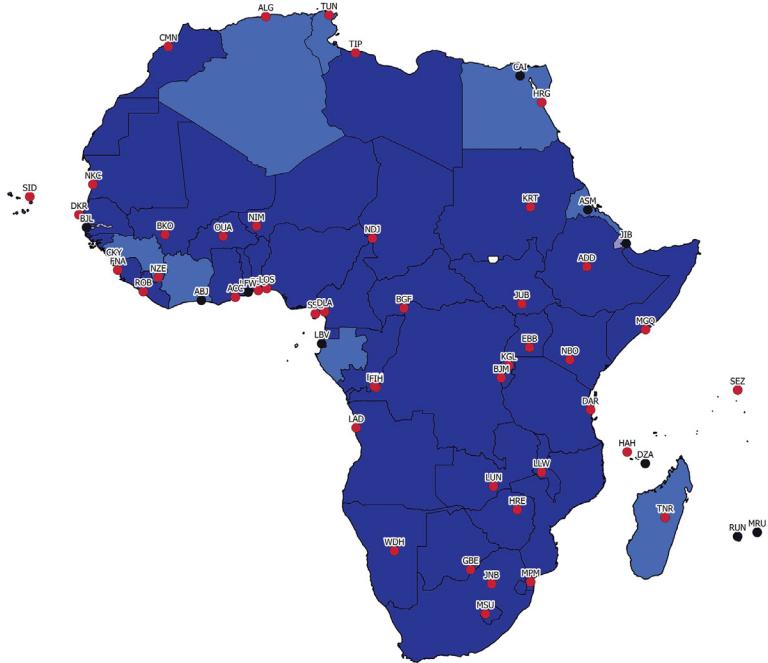
■ Other forms of airport management (single airports, airport systems, etc.)

■ No data

MAP 4: AIRPORT MANAGEMENT STRUCTURE (2017) –MIDDLE EAST**Major airports**

- Not part of network
 - Part of network
- | | |
|--|--|
| Countries | |
| ■ National network | |
| ■ Sub-national networks | |
| ■ Other forms of airport management (single airports, airport systems, etc.) | |
| ■ No data | |

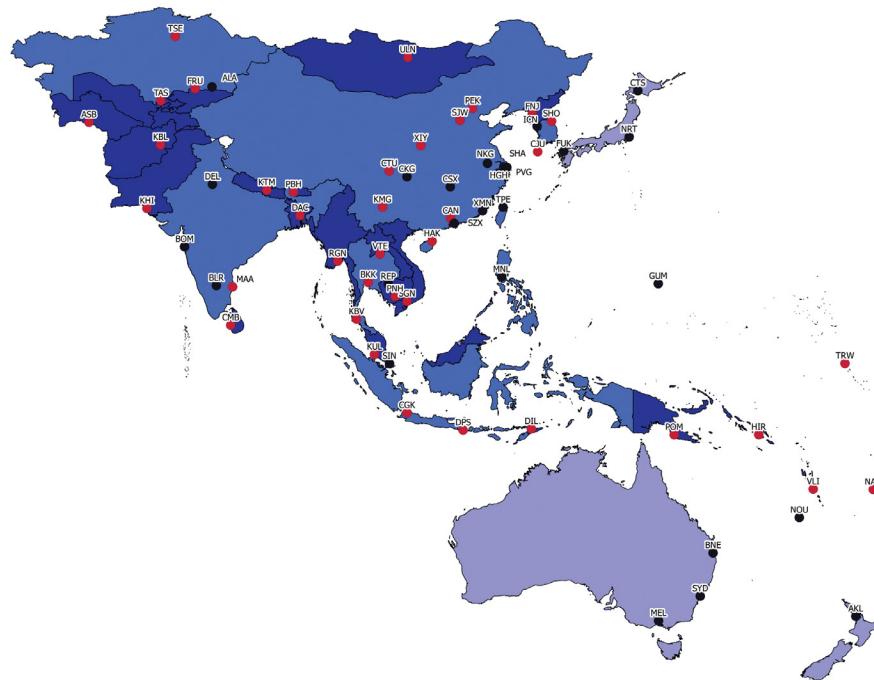
MAP 5: AIRPORT MANAGEMENT STRUCTURE (2017) – AFRICA



Major airports

- Not part of network
 - Part of network
- | | |
|-----------------------|---|
| ● Not part of network | Countries |
| ● Part of network | <ul style="list-style-type: none">■ National network■ Sub-national networks■ Other forms of airport management (single airports, airport systems, etc.)□ No data |

MAP 6: AIRPORT MANAGEMENT STRUCTURE (2017) – ASIA-PACIFIC



Major airports

Country

- Not part of network
 - Part of network
- | | |
|---|---|
| <ul style="list-style-type: none"> ■ National network ■ Sub-national networks ■ Other forms of airport management (single airports, airport systems, etc.) | <ul style="list-style-type: none"> ■ National network ■ Sub-national networks ■ Other forms of airport management (single airports, airport systems, etc.) |
| | <ul style="list-style-type: none"> ■ No data |

NOTES

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