GOBIERNO DE ESPAÑA
MINISTERIO DE FOMENTO

AIRPORT REGULATION DOCUMENT

DORA
2017-2021

Courtesy translation elaborated by Aena, S.A. for informational purposes. In this sense, it should be noted that the conditions established in the DORA and the corresponding binding effects, are the ones collected in the Spanish version that has been published both on the Public Works Ministry website and in the official State Bulletin (BOE No. 49, Monday, February 27, 2017, p.13654: http://www.boe.es/boe/dias/2017/02/27/pdfs/BOE-A-2017-2052.pdf).

GOBIERNO DE ESPAÑA
MINISTERIO DE FOMENTO

SECRETARÍA DE ESTADO DE INFRAESTRUCTURAS, TRANSPORTE Y VIVIENDA
SECRETARÍA GENERAL DE TRANSPORTE
DIRECCIÓN GENERAL DE AVIACIÓN CIVIL

Secretaría de Estado de Infraestructuras, Transporte y Vivienda

Secretaría General de Transporte

Dirección General de Aviación Civil

AIRPORT REGULATION DOCUMENT 2017 - 2021

January 2017

Table of Contents

APPENDICES

List of tables

List of figures

Foreword

Air transport is a strategic sector for Spain, due to its fundamental role in ensuring our country's cohesion and connectivity and its close relationship with one of the main driving forces of our economy, tourism, which accounts for around 11% of national GDP. This means of transport is particularly important for Spain's island regions, for which it plays an irreplaceable role in ensuring citizens' mobility and connectivity. Air transport is therefore a key factor in generating wealth and prosperity for society.

It is therefore essential to continue to enhance the competitiveness of Spanish aviation sector, since this will undoubtedly help to improve Spain's connectivity with the rest of the world, stimulate our economy, bring our territory together, and maintain its standing as a world-class tourist destination.

A key factor in achieving this goal is to ensure that our airport system remains able to act as a crucial part of the value chain of air transport and as a cornerstone in ensuring the public interest. To further enhance the development of this means of transport, it is essential to have structures that can cope with the demand under optimum conditions of capacity, quality and efficiency, while maintaining the highest safety standards.

Spain currently has one of the world's best airport networks, with sufficient capacity to reliably deal with the growth anticipated in the coming years, with outstanding conditions of quality, efficiency and accessibility. It is a networked airport system, which is a non-negotiable principle for the Ministry of Public Works as a guarantee of territorial cohesion and consistency, and its reinforcement and sustainability has guided the preparation of this Airport Regulation Document (DORA in Spanish).

This first DORA is the cornerstone of the new model for airport regulation implemented with *Act 18/2014 of 15 October, approving urgent measures for growth, competitiveness and efficiency*, and is the instrument that over the next five years will ensure the correct development of airport infrastructure and the adequate provision of basic airport services in the airports network of Aena, S.A., which will be ultimately responsible for airport management under the terms laid down in Act 18/2014 and in this DORA.

With this DORA 2017-2021, the Government establishes the requirements that must be met in the service provided by Aena, S.A. airports to society, so that the public interest is served all times, and the adequacy and suitability of the airport network is guaranteed, as well as the mobility of our citizens, and modern, effective, quality and safe infrastructure is ensured. This is all part of a system for the efficient delivery of services to ensure the sustainability of the airport system beyond the regulated period.

With this in mind, this document sets out the conditions that will be binding on Aena, S.A. in terms of its infrastructure capacity, investment, quality, and conditions in the provision of basic airport services. Furthermore, as an instrument for economic regulation, it establishes the direction for change in maximum annual revenue units (i.e. per passenger) that the operator is permitted, in order to ensure economic sufficiency in the service, while maintaining a continued improvement in the competitiveness of airport tariffs, increasing the attractiveness of Spanish airports and stimulating growth and thereby strengthening air transport in Spain in general.

This document has been prepared by the Directorate General of Civil Aviation of the Ministry of Public Works, based on the consultation processes and agreements with the industry, under the terms laid down by Act 18/2014 of 15 October, in order to establish a framework of stability and predictability for the next five years, which will be able to meet the demands of the industry and the needs of our citizens and visitors within the guidelines set out in the Act.

The contributions by the National Commission on Markets and Competition (CNMC in Spanish), the National Aviation Safety Agency (AESA in Spanish) and the Directorate General for Economic Policy of the Ministry of the Economy, Industry and Competitiveness have been particularly important in the preparation of this document, and their cooperation during the preparation and processing of the document has been greatly appreciated.

1. Introduction

The Airport Regulation Document 2017-2021 (hereinafter DORA 2017-2021), approved by the Council of Ministers of the Government of Spain on the proposal of the Ministry of Public Works, is the first five-year regulatory document arising from the new regulatory framework of the Spanish airport sector, laid down in *Act 18/2014 of 15 October, approving urgent measures for growth, competitiveness and efficiency* (hereinafter Act 18/2014).

The DORA 2017-2021 defines a series of conditions for the operation of the airport network of Aena, S.A. (hereinafter Aena) that will be binding on the operator during the period between 2017 and 2021.

As a result, the DORA 2017-2021 defines the minimum conditions of service for airports in the Aena network over the next five years and gives managers a predictable regulatory framework for the medium term that will enable them to improve levels of efficiency and competitiveness in the operation of Spanish airports.

The new regulatory framework to ensure good service to the public and the new ownership model for Aena

In 2014, the sector's legal and regulatory framework was modified by Act 18/2014. This new framework established the entire Aena airport network as a service of general economic interest, made legal provisions for powers of regulation, oversight and operation in the public sector in the airport sphere, and made the DORA as the five-yearly regulatory instrument. By applying the DORA, the Government guarantees the viability and competitiveness of the entire Aena airport network as well as its high standards of public service.

February 2015 saw the entry of private capital in the Aena structure, with the Spanish government retaining the remaining 51% of the share capital through the public company Enaire. This facilitated improvement, as a result of the private sector's participation in the management of the airport network, while maintaining public control.

Principles of the regulatory framework

The DORA 2017-2021 has been adapted to the conditions and general principles stipulated in Act 18/2014, which are summarised below:

- The regulation is valid for five years and covers basic airport services, or in other words, services for aircraft and passengers for which the costs are recovered by public charges.

- The system is based on the recovery of expected costs (associated with basic airport services), including operating expenses and an adequate remuneration for the assets associated with the provision of those services (through the cost of capital). The expected costs are those considered efficient at the regulator's discretion.

- It establishes a dual till mechanism, in which the costs of services subject to public charges will be met solely by the revenue that those services generate.

- The anticipated costs, combined with the estimated demand, will define the direction for the tariffs that the manager must apply for each of the five years in the five-year period. The model established by Act 18/2014 is therefore prospective.

- The direction of tariffs may be changed by the manager's performance in terms of quality and fulfilment of strategic investments.

- Investments must be necessary and feasible and are limited to a total annual average investment of €450 M. The investments that are made conditional are "regulated" investments which are related to the provision of basic airport services. Investments associated with private prices (e.g. commercial investments, parking, etc.), i.e. "unregulated" investments are not covered by this DORA.

- Notwithstanding the provisions of Act 18/2014, the risks associated with variations in costs and demand that actually occur will generally be borne by the operator.

The regulatory period

The conditions of the DORA 2017-2021 will apply for the period between the date of application of the DORA 2017-2021 determined by the Agreement of Council of Ministers approving it and 31 December 2021. Except during the first year of application, all the conditions mentioned in the DORA 2017-2021 shall apply from 1 January to 31 December for each calendar year.

Airports subject to the DORA

At the time of approval of the DORA 2017-2021, Aena manages an extensive infrastructure network, consisting of 46 airports and 2 heliports, located all over Spain, as can be seen in Figure 1.1.

The regulatory control of the maximum revenue per passenger and the main airport operating variables defined in this DORA affect the entire network of airports of general interest operated by Aena as of the document's date of approval, notwithstanding the provisions of Article 22 of Act 18/2014.

Figure 1.1. The Aena airports and heliports network. Year 2016

Source: DORA 2017-2021

Basic airport services

Regulatory control of the maximum revenue per passenger and the main airport operating variables through the DORA affects the basic airport services which pursuant to Act 18/2014, are those stipulated in Article 68.2 of Act 21/2003, the revenues of which are obtained in the form of public charges:

- For the use of runways at civil airports and airports for joint use, and at air bases open to civil aviation for aircraft and the provision of services specific to this use other than handling on the ground of aircraft, passengers and freight.

- For airport air traffic services provided by the airport manager, regardless of whether such services are rendered through duly certified air traffic service providers that may have been contracted by the airport manager and designated as such by the Ministry of Public Works.

- For meteorological services provided by the airport operator, notwithstanding those services being provided by duly certified meteorology service providers, designated for that purpose by the Ministry of Environment and Rural and Marine Affairs (now the Ministry of Agriculture and Fisheries, Food and Environment).[1]

- For the inspection and screening services of passengers and luggage in airport premises as well as the means, facilities and equipment necessary for the provision of services for control and monitoring in the areas of aircraft movement, open access areas, controlled access areas and restricted security areas around the airport grounds linked to public charges.

- For airport facilities made available to passengers, not accessible to visitors in terminals, aprons and runways necessary to enforce its air transport contract.

- For services that allow the general mobility of passengers and the necessary assistance to persons with reduced mobility (PRM) to allow them to travel between the point of arrival at the airport to the aircraft, or from the aircraft to the exit, including boarding and exiting the aircraft.

- For the use of aircraft stand areas prepared for this purpose at airports.

- For the use of the airport installations to facilitate the boarding and exiting of passengers for airlines through telescopic boarding gates or the mere use of an apron that impedes the use by other users of the relevant boarding gate.

---

1. These services are currently provided by the Spanish State Meteorological Agency (AEMET in Spanish)).

- For the use of the airport facilities for the transportation and supply of fuel and lubricants, regardless of the mode of transportation or supply.

- For the use of the airport facilities to render ground assistance services that are not subject to any specific compensation.

The process of preparing the DORA 2017-2021: consultations with associations representing users and advisory reports from supervisory bodies

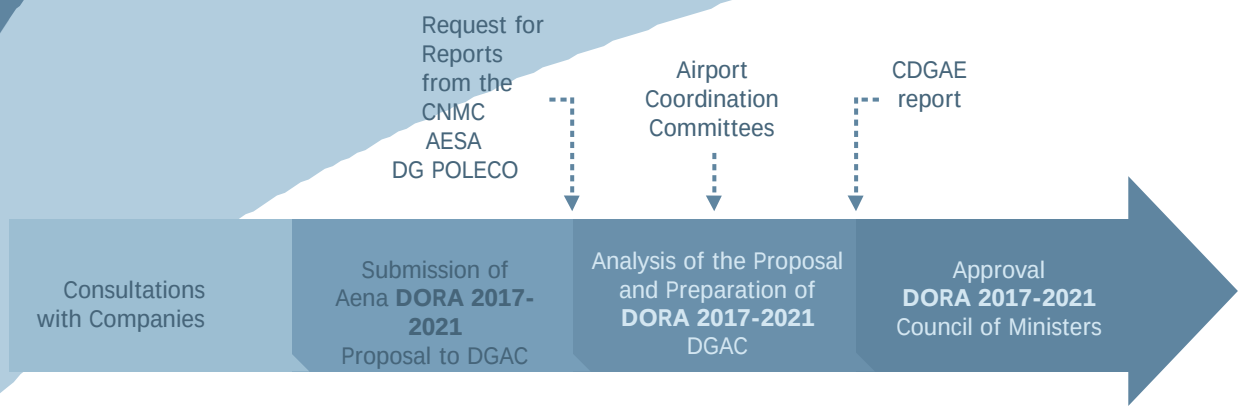
The preparation of the DORA began with the consultation process which the operator maintained with representative associations of users between November 2015 and March 2016, pursuant to Act 18/2014. During this process Aena submitted an initial proposal for the DORA 2017-2021 consultation, which was drafted by the operator and was subsequently sent to the Directorate General of Civil Aviation, together with the results of those consultations. During the preparation of the DORA 2017-2021, it was considered important to respect the main points of agreement reached between the parties involved, provided that this is not detrimental to the public interest.

Moreover, as stipulated in article 25.3 of Act 18/2014, advisory reports from the National Commission on Markets and Competition (hereinafter the CNMC) and the State Aviation Safety Agency (hereinafter the AESA) have been requested, as well as those by the supervisory bodies applicable to the DORA in their respective areas of competence. A report was also received from the Directorate General for Economic Policy of the Ministry of Economy, Industry and Competitiveness (hereinafter DG POLECO) regarding the tariff values. In order to achieve an institutional consensus ensuring a framework of regulatory stability and predictability in the medium term for the Spanish airport sector, the DORA 2017-2021 includes the recommendations from those reports that have been considered duly justified.

Furthermore, under the terms of article 24.3 of Act 18/2014, a copy of the proposal for the Aena DORA has been sent to the Airport Coordination Committees in the respective Autonomous Regions and Cities with a Statute of Autonomy, and all the Coordination Committees have been convened in order to obtain the opinion of the autonomous regional governments, municipal councils and local corporations, and autonomous regional business institutions and economic and social organisations.

Finally, as stipulated in article 26.1 of Act 18/2014, prior to its approval by an Agreement of the Council of Ministers, a report by the Government Executive Committee for Economic Affairs (CDGAE in Spanish) has been included.

Figure 1.2. The DORA 2017-2021 production process



Source: DORA 2017-2021

Contents of the DORA 2017-2021

Paragraphs a) to j) of article 29.1 of Act 18/2014 require the DORA 2017-2021 to define a number of items which directly or indirectly impose conditions on the operation of the Aena airport network during the five-year period. These issues will be addressed in this document according to the following structure.

Section 2 contains a description of the development and current situation of the airports in the Aena network and the strategic lines of Aena for the five-year period, as referred to in paragraph a) of article 29.1 of Act 18/2014.

Section 3 identifies the conditions applicable to the five-year period 2017-2021, in accordance with the provisions of Act 18/2014:

1. Traffic forecasts.

2. Capacity standards.

3. Service quality standards.

4. The minimum conditions of service justified on grounds of public interest.

5. Planned investments.

6. The annual operating costs and costs of capital to be taken as the basis for calculating the maximum annual revenue per passenger, IMAP.

7. The estimate of component X, the parameter that will define tariffs over the five-year period, and its effect on the level of maximum revenue per passenger during the regulatory period, and the criteria for the establishment of maximum annual adjusted revenue (IMAAJ) by means of parameters B, RI, K and D.

8. The costs for each basic airport service and the contribution of the costs recovered with each tariff to determining the maximum annual revenue per passenger (IMAP).

9. Discounts on the grounds of public interest and systems for commercial incentives.

Section 4 establishes the requirements for reporting and oversight monitoring applicable during the regulatory period.

Finally, the document contains a number of Appendices detailing the technical aspects considered in the previous sections:

Appendix 1. TRAFFIC

Appendix 2. CAPACITY.

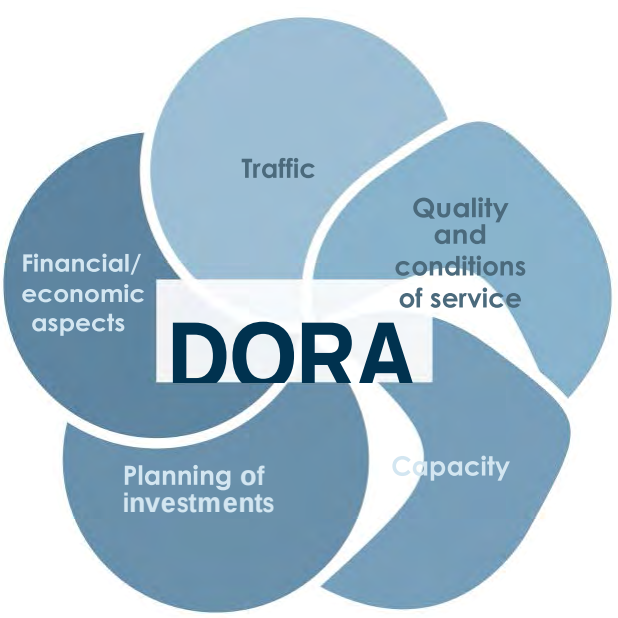
Appendix 3. QUALITY

Appendix 4. MINIMUM CONDITIONS OF SERVICE

Appendix 5. PLANNED INVESTMENTS.

Appendix 6. DEFINITION OF COMPONENTS OF THE IMAAJ

Figure 1.3. Technical aspects included in the DORA 2017-2021



Source: DORA 2017-2021

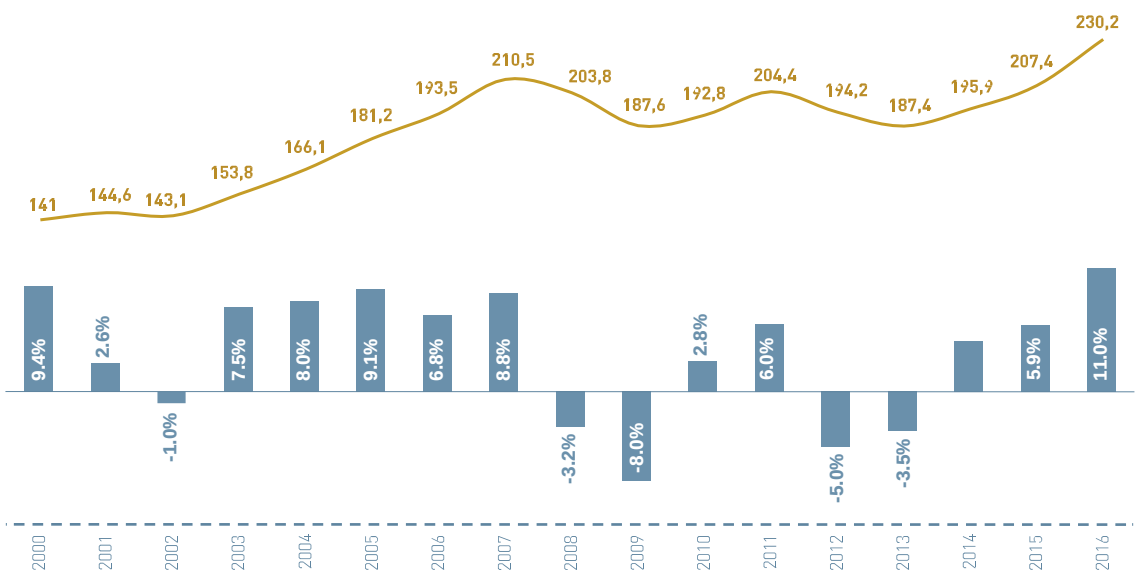

Portes
Gates
Flugsteige
Puertas
C42
to
a
C69

2. Current situation and Aena's strategic lines for the five-year period 2017-2021

2.1 Evolution and current situation of Aena airports

In 2016, Aena managed 230.2 million passenger movements[2] (hereinafter, simply passengers[3]), 2.0 million aircraft operations and 795,600 tonnes of freight in the 46 airports and 2 heliports in its Spanish network.
Air traffic at the airports in the Aena network increased by 63.0% between 2000 and 2016, which is an average annual growth rate (AAGR) of 3.1%, from 141.0 million passengers[3] to 230,200,000. Traffic grew practically continuously during the first seven years of this period, until it reached what has been its historic peak to date in 2007, when it exceeded 210 million passengers. After 2007, as a result of the economic crisis that has had such a strong impact on the air transport sector, traffic levels were erratic, with regular fluctuations until 2014, when traffic began to recover to the levels of previous years.

Figure 2.1. Evolution of total passenger traffic in the Aena network, 2000-2016



Source: DORA 2017-2021 with Aena data

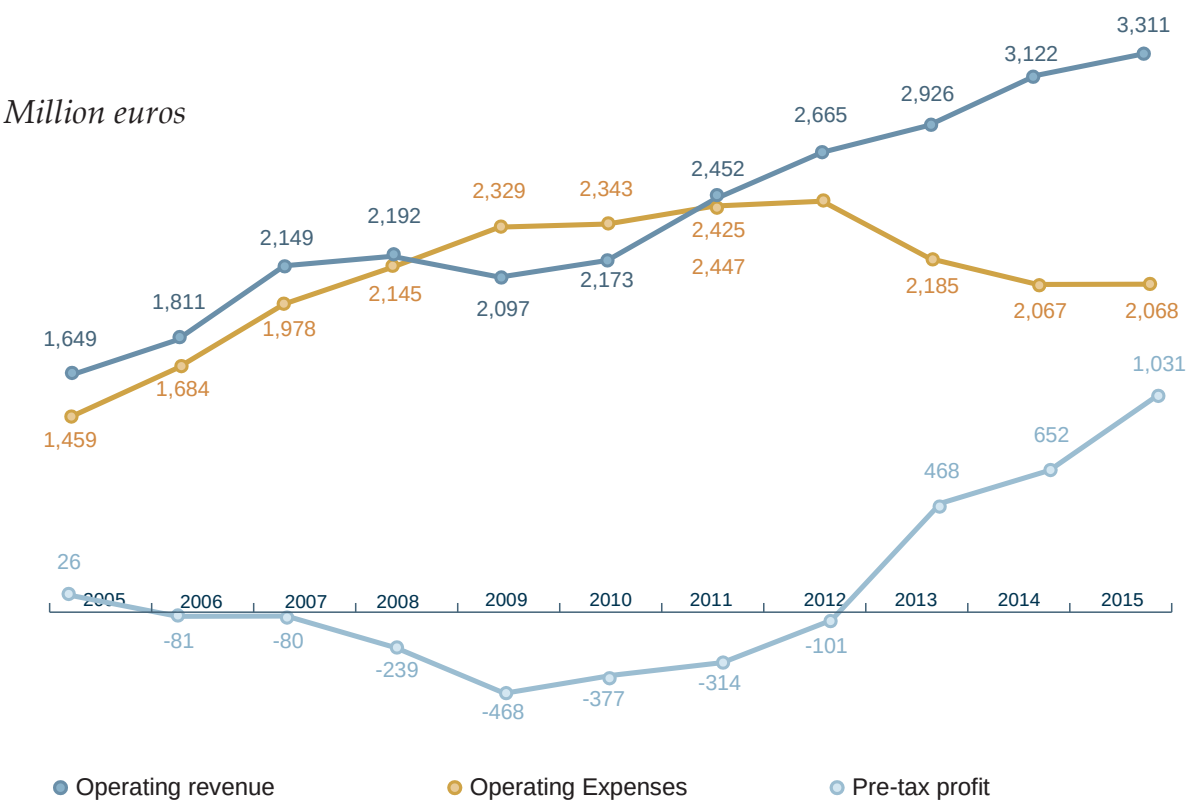
[2] Unconsolidated figures for 2016.

[3] In this document, a passenger movement or passenger is considered a departure or an arrival. In other words, on a route where the origin and destination are two airports in the Aena network, a traveller's journey is counted as two passenger movements: the departure and the arrival.

Among other areas, Aena has invested nearly 19,000 million euros on increasing infrastructure capacity since 2000, and has made a major investment effort at all airports and heliports in the network. Estimates suggest that the overall capacity of the network now exceeds 335 million passengers. This capacity is currently far greater than the traffic managed, which suggests that there will be a limited likelihood of a need to increase capacity at Aena's airports in the short and medium term.

In the economic sphere, Aena has experienced a substantial improvement in its operating cash flow in recent years. Between 2009 and 2015, when there was a 10% increase in the number of passengers in the period, the total operating expenses declined by 11%, while operating revenue increased by 57%. Pre-tax profits increased significantly from 2012 onwards, from negative values of -101 million euros in 2012 to a profit of 1,031 million euros in 2015. Since 2012 there has also been a process of consolidation of the Aena accounts, which has reduced total debt on the balance sheet from an approximate value of 12,400 million euros in 2012 to around 9,700 million euros at the end of 2015.

Figure 2.2. Main operating flows, Aena network 2005-2015



Source: DORA 2017-2021 with Aena data

2.2 Strategic lines for Aena for the five-year period 2017-2021

Act 18/2014 states that the contents of the DORA 2017-2021 must include details of the strategic lines of Aena for the five-year period. The investments Aena has made in the last fifteen years have equipped the airports in the network with infrastructures of the highest level, meaning that it can now focus its efforts on developing strategies to enhance growth and improve efficiency, and on the continuous improvement of safety, quality and conditions of service.

The DORA 2017-2021 considers a strategy for the airports network of general interest based on the following cornerstones:

- viable and efficient management of the airports network,
- the provision of basic airport services under the most appropriate conditions of quality and safety,
- promoting environmental sustainability, ensuring the mobility of citizens and
- social and territorial cohesion.

A. Viable and efficient management of the airports network

After the significant decline in traffic between 2007 and 2011, the year 2014 saw the beginning of a recovery which must be consolidated in the medium term. To that end, lines of action have been defined which among other areas are aimed at restoring domestic travel levels, enhancing high added value tourist traffic and promoting routes that are strategic for the country.

In the field of air cargo, during the five-year period Aena will increase its freight transportation activities at airports in the network where this type of traffic has the greatest potential for development, and where this is clearly feasible. The potential development of new freight routes will be taken into account for these purposes, as well as the maximisation of freight transport options on operational passenger routes, and the promotion of knowledge and existing cargo centres and logistics platforms.

In the coming years Aena will maintain discipline in cost control and will consolidate its financial position, following the trend established in recent years which has put the company's accounts on a sound footing. This will enable it to continue to offer high quality services to citizens and visitors, maintaining the current competitiveness of airport infrastructure compared to airports elsewhere in Europe.

The instruments Aena will use to achieve this objective for its basic airport services is concerned will be efficiency in investments and controlling expenditure, recovery of efficient cost by tariffs, efficiency improvements in operational management, and optimisation of its capital structure.

B. Provision of airport services under the most appropriate conditions of quality and safety

One of the most important goals of a modern airport system must be to provide the highest levels of quality for its users - both airlines and passengers. This objective will not only benefit society, but also enable Aena to improve its position relative to its European competitors. In order to improve the integration of all users of our airports, special attention must be paid to the service providing assistance for persons with reduced mobility (PRM). Additionally, innovations that contribute to enhancing competitiveness and a differentiation from other operators and to improving the user's experience will be encouraged.

As regards safety in the transport of users, *operational safety*, the aerodrome certification programme is the basis on which Aena policy for the coming years is established. Twenty-four airports have now been certified and another four airports in the network have been checked (accounting for approximately 81% of total passengers), and the necessary measures to certify the other airports will be taken in the first years of the regulatory period.

In the area of *airport security and physical safety*, Aena must continue to move forward with the continuous improvement of its processes, applying European standards and incorporating technology and the latest generation of equipment to improve and optimise inspection procedures for passengers, baggage and cargo, thereby increasing the effectiveness of security controls in airport filters, and the inspection of hold cargo and baggage.

C. Promoting environmental sustainability

Aena must continue to use an operating model that makes management of airports compatible with the protection of the environment where they are located, with regard to the local communities and the natural environment around them. To that end, and following the objectives established by the Ministry of Public Works, Aena will continue to develop and implement a range of medium-term initiatives in accordance with Spanish national and European Union regulations that are based on the greater environmental awareness demanded by modern society.

Environmental policy will be intensified in the coming years, by means of measures to reduce the impact on the territory surrounding airports, the adoption of new acoustic restrictions with the associated action plans, and the review of the existing regulations. Furthermore, environmental sustainability is included as a strategic element in the design of airport planning, by means of the environmental assessment in the process for updating Master Plans, pursuant to Act 21/2013 of 9 December on environmental assessment.

The Spanish aeronautical authorities have implemented an important policy for protection against noise pollution, by maintaining and expanding measures that had been adopted previously and were being implemented, as well as adopting new noise reduction measures as part of the *balanced approach* adopted by the International Civil Aviation Organization (ICAO).

Accordingly, the environmental strategies for the period 2017-2021 will be aimed, among other areas, at:

- Minimising environmental impacts, and especially acoustic impacts, by means of Action Plans included in Strategic Noise Maps and acoustic restrictions, in addition to the measures already stipulated in environmental impact statements, including soundproofing plans where this is necessary.
- Improved energy efficiency by means of the modification and automation and of lighting systems at airports with the highest levels of consumption, and the installation of equipment for the use of renewable energies.
- Minimising gas emissions, with a special focus on pollutant emissions from ground activities by the *handling* work of third parties in all the airports in the network.

D. Ensuring the mobility of citizens and social and territorial cohesion

In Spain, air transport plays a key role as an instrument for citizens' accessibility and mobility, enabling the movement of workers, facilitating the production and exchange of goods and services, and enhancing the economic relations and competitiveness of the country's various geographical areas, thereby contributing to its growth. Although this is important for the whole country, it is a crucial factor for the Balearic and Canary Islands and the autonomous cities of Ceuta and Melilla, because their citizens do not have alternative means of transport comparable to flying.

In this regard, Aena's strategies for the period covered by the DORA 2017-2021 must be aimed at maintaining acceptable conditions of service for all the airports in the network, with opening times appropriate to local circumstances and needs, taking into account the particular characteristics of the various parties that use airports in the broadest sense, including airlines, passengers and their companions, general aviation users, etc.

The cohesion strategy is completed with the application of discounts that are established on the grounds of public interest and commercial incentives, which among other benefits, attract new flows of traffic and investments, boost the growth of tourism, create employment and ultimately boost demand.

3. Conditions applicable to the five-year period 2017-2021

This section lists the requirements that must be met in the service that Aena airports provide to society, so that the public interest is met under all circumstances, and guaranteeing the adequacy and suitability of the airport network for ensuring our citizens' mobility and a modern, effective, high quality and safe infrastructure.

Failure to meet these requirements are subject to the penalties laid down in Act 18/2014 and specified in this DORA and where applicable, the penalties regime provided stipulated in Section 4, Chapter I, Part II, of that Act.

The requirements affecting Air Bases Open to Civil Aviation and/or joint use aerodromes must under all circumstances comply with the provisions of the current legislation and/or the agreements reached between the airport operator and the Ministry of Defence.

3.1 Traffic forecasts

Over the past three years, traffic in the Aena network has experienced a sustained recovery which is expected to continue over the coming years, albeit at a lower rate of growth than that achieved in 2016. In this context, the traffic forecasts in the DORA 2017-2021 reflect expectations for moderate growth for the five-year period, in line with the prevailing trends in the international macroeconomic environment, and also taking into consideration the historically cyclical pattern of growth, in which years of strong growth alternate with periods of sharp declines in traffic.

3.1.1 Traffic forecasts 2017 - 2021

The traffic forecast for the five-year period in the DORA 2017-2021 is shown in Table 3.1. Appendix 1 breaks down these forecasts by airport and by year, considering the type of traffic (passenger, operations and freight) and by market (domestic, European and international). Appendix 1 also includes the main calculation assumptions used for forecasting.

Table 3.1. Forecasts for total traffic at airports in the Aena network 2017-2021

Traffic	2015	2016	2017	2018	2019	2020	2021
Passengers (MPAX)	207.4	230.2	241.6	244.4	246.7	248.6	250.0
%	5.9%	11.0%	5.0%	1.1%	1.0%	0.8%	0.6%
Operations (tOPS)	1,902.97	2,045.0	2,134.6	2,154.9	2,171.1	2,184.7	2,194.7
%	3.8%	7.5%	4.4%	0.9%	0.8%	0.6%	0.5%
Freight (Mkg)	715.6	795.6	827.2	853.7	880.2	906.7	931.7
%	4.8%	11.2%	4.0%	3.2%	3.1%	3.0%	2.8%
ATU (MATU)	404.9	442.7	463.4	468.4	472.6	476.1	478.8
%	4.9%	9.3%	4.7%	1.1%	0.9%	0.7%	0.6%

Source: DORA 2017-2021

Note:

- MPAX: Million passengers
- tOPS: Thousands of operations
- Mkg: Millions of kilograms of freight
- ATU: passengers + (10 tonnes of freight) + (100 x operations)
- MATU: Million ATU

In accordance with the provisions of the seventh paragraph of Annex VIII of Act 18/2014, (...) *the variations in the number of passengers in relation to the values planned for a five-year period and established in the DORA will be at Aena's own risk, unless exceptional circumstances arise under the terms defined in the DORA*.

According to the provisions of this Appendix, this DORA 2017-2021 defines an exceptional situation as an annual increase in any of the years during the period 2017-2021 of passenger traffic across the entire network which exceeds the initially predicted values by 10 percentage points (i.e. in percentage growth) in Table 3.1 of the DORA. This situation may give rise, where appropriate, to a modification of the DORA. This modification will be understood only for the purposes of reversing the effects on the system of the revenue occurring as a result of exceptionally large increases in traffic compared to the predicted values in this DORA. These exceptionally high revenues relate to the revenues associated with the variation in traffic between the increase shown in Table 3.1 plus 10 percentage points and the actual demand.

The procedure for amending the Airport Regulation Document (DORA) may be initiated ex officio by the Directorate General of Civil Aviation, when there are substantial grounds for believing that these exceptional circumstances apply.

The proposal for modification of the Airport Regulation Document (DORA) will be made by the Directorate General of Civil Aviation, after consultation with

Aena and the User Representative Associations, as well as a prior report by the National Commission on Markets and Competition. This procedure will also include a report by the Directorate General for Economic Policy of the Ministry of Economy and Competitiveness on price values. It will be referred to the competent bodies of the Ministry of Public Works for approval by an Agreement of the Council of Ministers, subject to a report by the Government Executive Committee for Economic Affairs (CDGAE).

3.1.2 Traffic forecasts 2022 - 2031

According to the provisions of Article 29.2 of Act 18/2014, to facilitate long-term airport planning, the DORA 2017- 2021 also includes traffic forecasts for the period between 2022 and 2031, which are summarised in Table 3.2.

Table 3.2. Forecasts for total traffic at airports in the Aena network, 2022-2031

Traffic	*2022*	*2026*	*2031*	*AAGR 2022-2031*
Passengers (MPAX)	252.0	266.0	296.5	1.8%
Operations (tOPS)	2,208.4	2,314.4	2,557.2	1.6%
Freight (Mkg)	955.2	1,050.8	1,192.6	2.5%

Source: DORA 2017-2021

Note:

- MPAX: Million passengers
- tOPS: Thousands of operations
- Mkg: Millions of kilograms of freight

3.2 Capacity standards

The DORA 2017-2021 must ensure that airports provide the necessary capacity and that their infrastructures meet the appropriate levels of capacity, under good quality conditions, thereby ensuring the adequacy and suitability of the airport network throughout the regulatory period.

In terms of infrastructure, Aena has made a continuous effort towards improvement in recent years, and as a result it now has a combined capacity at the 46 airports and 2 heliports in the Aena network of more than 335 million passengers a year. In overall terms, this capacity is sufficient to meet the needs of airlines and passengers anticipated in the coming years. However, in order to further enhance capacity in the medium and long term, and to ensure adequate airport development in the future, the DORA 2017-2021 includes some initiatives designed to further expand the network's capacity in its investment programme. It is estimated that after the implementation of all the investments for expansion of capacity planned for the five years, the overall capacity of the Aena network will increase to around 338 million passengers a year.

Article 29.1 of Act 18/2014 states that the DORA must include standards of capacity for each airport for each year in the five-year period, and breaks down these indicators INTO "Airfields", "Terminals" and "Other airport infrastructure" related to basic airport services. It also states that the maximum capacity levels and levels of current use must be included for each of these infrastructures. Appendix 2 therefore contains the following capacity indicators:

- Current overall network capacity.
- Maximum current capacity for each airport and infrastructure.
- Current and anticipated level of use for each year in the five-year period for each airport and infrastructure.

The real value of these indicators during the period 2017-2021 will depend largely on factors that cannot at present be foreseen, including real developments in demand. For this reason, regardless of the validity of the indicators foreseen at the time of approval of the DORA 2017-2021, Aena shall take all measures necessary to ensure the capacity of the infrastructures under adequate quality conditions.[4] In general, and subject to the provisions of Act 18/2014, the cost associated with the measures necessary to adapt the infrastructure capacity to real demand shall be to be at the risk of the operator.

[4] In general, passenger terminal buildings will generally be those defined in the ninth edition of the IATA ADRM as service level B or the optimal equivalent according to the tenth edition of the ADRM. The latter reference (the tenth edition) may be used in cases where the design of the subsystem or a change in its design has taken place using this edition.

3.3 Quality standards

One of the main objectives of the DORA 2017-2021 is to ensure that airport services for passengers meet exacting and competitive standards of quality. In general, the quality of service provided in Spanish airports currently meets high standards, similar to those on offer in the leading comparable airports in Europe. However, given Aena's commitment to excellence in quality and the benefits that this entails for the passenger, ensuring that high quality standards are maintained throughout the regulatory period, and improvement in the areas where currently there is still room for improvement will be a priority for the DORA 2017-2021.

To that end, and pursuant to Act 18/2014, the DORA 2017-2021 has established service quality standards, implemented by means of 17 indicators, classified into 5 areas:

- SPAX: Satisfaction perceived by passengers.
- TEPP: Waiting times at passenger processing points.
- DEET: Availability of equipment/facilities in the terminal building.
- DELA: Availability of equipment/facilities airside.
- OTAC: Other key areas.

The quality indicators applicable in the DORA 2017-2021 for each of these areas are summarised in Table 3.3 (Appendix 3 contains a detailed definition of these indicators).

These indicators are a tool for monitoring the performance of the operator in terms of quality. If the performance falls below certain minimum levels, the operator will be penalised for the value of the maximum annual revenue per passenger (IMAP). However, if the operator is able to significantly improve these indicators, the IMAP will be credited. The methodology used for this adjustment is described in Appendix 6.

The proposed indicators are based on scores obtained in the ASQ (Airport Service Quality) surveys, an internationally recognised instrument for measuring passenger satisfaction, and on the performance values recorded in the operator's information systems (e.g. availability of electromechanical equipment).

Each quality indicator is assigned a target value, which defines the minimum quality standard required of airport services in the Aena network during the

five-year period. This value is shown in Table 3.4. Variations from these target values may lead to the supervisor requesting corrective actions to improve performance.

Indicators of satisfaction (SPAX) for which the average observed in 2014 and 2015 (taken as the benchmark level) is below the value *very good,*[5] must improve continuously throughout the DORA period at a rate of 1% year-on-year to reach the value of *very good*. After reaching this value, they must at least remain at this level. The other indicators of satisfaction with an average for 2014-2015 exceeding *very good* must at least remain at the average value for the period concerned.

[5] According to the scale of scores in ASQ surveys: Excellent (5) Very good (4) Good (3), Sufficient (2) and Poor (1).

Table 3.3. Service quality indicators for the airports in the Aena network, 2017-2021

Area		Indicator	Aena airports where applied
Passenger satisfaction	SPAX-01	Overall passenger satisfaction	All[6]
	SPAX-02	Passenger satisfaction with cleanliness in the airport	All[6]
	SPAX-03	Passenger satisfaction with guidance at the airport	All[6]
	SPAX-04	Passenger satisfaction with physical security at the airport	All[6]
	SPAX-05	Passenger satisfaction with comfort in the boarding areas	All[6]
	SPAX-06	Satisfaction of passengers with reduced mobility (PRM) with accessibility at the airport	All[6]
Waiting times at passenger processing points	TEPP-01	Waiting time in security control for passengers	All[6]
	TEPP-02	Waiting time until delivery of the last baggage item	Those with baggage claim carousels
Availability of equipment/ facilities in the terminal building	DEET-01	Availability of electromechanical equipment, baggage carousels and Baggage Handling Systems (STE)	Those with this equipment
	DEET-02	Availability of Automatic Baggage Handling System (SATE)	Those with SATE
	DEET-03	Availability of automated people mover system (APM) between terminals	Those with APM (currently Adolfo Suárez Madrid-Barajas)
Availability of equipment/facilities air side	DELA-01	Availability of parking places	All
	DELA-02	Availability of boarding air bridges	Those with departure bridges
	DELA-03	Availability and continuity of Communications, Navigation and Surveillance (CNS) services	Those with CNS equipment
Other key areas	OTAC-01	Response time to complaints about airport management	All
	OTAC-02	Delay due to airport infrastructure	All[6]
	OTAC-03	Additional time on runways	> 70,000 IFR movements annually

Source: DORA 2017-2021

[6] All airports in the Aena network with commercial passenger traffic, as it is not applicable in the rest for other types of traffic.

To encourage continuous improvement of quality in the 17 indicators included in the DORA, 11 are included in a system of incentives and penalties.

The degree of compliance with the target level will be determined individually for each airport in the network. The incentive or penalty applicable to the determination of the maximum annual revenue per passenger, compliance or otherwise with quality standards, will be the result of the aggregation formula defined in Appendix 6.

The incentives and penalties system uses neutral and maximum bands around the target values defined for each indicator, so that the incentive/penalty will only be applied if the value of the indicator falls outside the range established around the neutral band. Table 3.4 contains the list of indicators in the incentives and penalties system, including the target values and the bands around it. The indicators in the incentives and penalties system may give rise to both incentives and penalties at all airports where it is applicable, taking into account the ranges established in the table mentioned above.

Table 3.4. Quality of service indicators and incentives/penalties system for airports in the Aena network, 2017-2021

	Indicator name	Target	Neutral band[7] NmP	Neutral band[7] NmI	Maximum NMP	Maximum NMI
Indicators included in the incentives/penalties system	SPAX-02 Passenger satisfaction with cleanliness in the airport	100% if the average for 2014-2015 is greater than or equal to *Very good* (4) 100%+1% year-on-year[9] if the 2014-2015 average is less than *Very good* (4)	-5.0%	+5,0%	-7.5%	+7.5%
	SPAX-03 Passenger satisfaction with guidance at the airport					
	SPAX-05 Passenger satisfaction with the comfort in the boarding areas					
	SPAX-06 Satisfaction of passengers with reduced mobility (PRM) with accessibility at the airport		-5.0%	n.a.	-7.5%	n.a.
	TEEP-01 Waiting time in security control for passengers	95% of passengers wait less than 10 minutes.	-250 b.p.	500 b.p.	-500 b.p	n.a.
	TEEP-02 Waiting time until delivery of the last baggage item	Maximum delivery times and levels (level 2) for the last luggage collected in assistance service contracts on ramp cat. 3	-250 b.p.	n.a.	-500 b.p.	n.a.
	DEET-01 Availability of electromechanical equipment, baggage carousels and Baggage Handling Systems (STE)	99% of operating time.	-250 b.p.	50 b.p.	-500 b.p.	100 b.p.
	DELA-01 Availability of parking spaces	99% of operating time.	-250 b.p.	50 b.p.	-500 b.p.	100 b.p.
	DELA-02 Availability of boarding air bridges	99% of operating time.	-250 b.p.	50 b.p.	-500 b.p.	100 b.p.
	DELA-03 Availability and continuity of CNS services	100% of targets met.	-250 b.p.	n.a.	-500 b.p.	n.a.
	OTAC-01 Response time to complaints about airport management	95% of complaints are answered in less than 5 business days.	-250 b.p.	400 b.p.	-500 b.p.	500 b.p.
Indicators not included in the incentives/penalties system	SPAX-01 General passenger satisfaction	100% if the average for 2014-2015 is greater than or equal to *Very good* (4) 100%+1% year-on-year if the 2014-2015 average is less than *Very good* (4) 99% of operating time	n.a.	n.a.	n.a.	n.a.
	SPAX-04 Passenger satisfaction with physical security at the airport					
	DEET-02 Availability of Automatic Baggage Handling System (SATE)		n.a.	n.a.	n.a.	n.a.
	DEET-03 Availability of automated people mover system (APM) between terminals	99% of the time with at least 1 train operating / 97% of the time with at least 2 trains	n.a.	n.a.	n.a.	n.a.
	OTAC-02 Delay due to airport infrastructure	Worst result for annual delay during the 2014-2015 benchmark period	n.a.	n.a.	n.a.	n.a.
	OTAC-03 Additional time on runways	PRU EUROCONTROL data, average values 2014-2015	n.a.	n.a.	n.a.	n.a.

[7] NmP: Level at which the penalty is applied; NmI: Level at which the discount is applied.
[8] NMP: Level at which the maximum penalty is applied; NMI: Level at which the maximum discount is applied.
[9] 100%+1% growth year-on-year until the value of *Very good* is reached (4).

Source: DORA 2017-2021


Abfertigung
Check-in
Facturación
101 to 118
201 a 234
Toiletten
Toilets
Aseos
Abfertigung
Check-in
Facturación
401 to 406
Abfertigung
Check-in
Facturación
301 to 352
TuBillete.com
hotelia.com

3.4 Minimum conditions of service

3.4.1 Operating hours

As a general rule, during the period of application of this DORA 2017-2021, the airports in the Aena network will continue to have at least the same opening hours as at the end of the year 2016. These opening hours are listed in Appendix 4.

Notwithstanding the above, in order to allow the service schedules of airports to be adapted to the changing needs of the market, during the regulatory period 2017-2021 it will be possible to change the opening hours listed in Appendix 4, under the conditions set out below.

Aena may extend its operating hours freely from those included in this document, without this entailing or leading to the recognition of the additional costs incurred by the manager due to the extension.

A reduction of opening hours will generally require prior authorisation from the Ministry of Public Works. Changes to opening hours that may have an economic, positive or negative impact on the operator may be authorised only if they are justified for reasons that could not have been foreseen at the time of approval of this DORA.

Aena will inform the Ministry of Public Works of its proposals for reduced operating hours compared to those listed in Appendix 4, together with an accompanying report. The Ministry of Public Works will examine the justification for the proposal and may authorise the changes provided that the new schedules are in the public interest and are justified on the grounds of efficiency and sustainability, among other criteria. Any reduction of schedules during the five-year period which could entail a decrease in costs for the operator may be authorised only if this is justified by a reduction in the actual volume of traffic managed compared to the forecast for traffic in the DORA 2017-2021 for that airport, so that the reduction of schedules does not lead to a foreseeable economic gain for the operator as a result thereof.

The Ministry of Public Works may also determine modifications of the minimum conditions of service relating to the opening times of airports in the period 2017-2021 without Aena needing to make a proposal in this respect. This change must be supported by a comprehensive cost/benefit analysis that justifies the feasibility thereof, and guarantees its compatibility with the terms approved in the DORA 2017-2021, after a non-binding consultation with the users' representative associations.

Throughout the entire regulatory period and during the authorised or anticipated opening times as stipulated in this section, Aena will have the facilities, equipment and staffing levels necessary to ensure the operability and safety of operations, and to provide basic airport services in terms of accessibility, adequacy, quality and suitability, and in accordance with legislation applicable in each area. To do so, it will establish the means and procedures to ensure continuity in the provision of these services without prejudice to the other parameters established herein, regardless of the external circumstances that may occur arise during their provision, except in cases of force majeure.

3.4.2 Special conditions for non-mainland airports or those operating routes with Public Service Obligations (PSOs)

Airports in the Aena network that are the origin or destination of routes that have been declared Public Service Obligations (PSO), or which fly to regions not on the Iberian peninsula (Canary Islands, Balearic Islands, Ceuta and Melilla) must give special consideration to the specific connectivity needs of the citizens using those routes, and if applicable, to any conditions that may established by the obligations imposed on them in order to facilitate compliance. In particular, special attention must be paid to the following conditions:

- Opening times

The operating opening hours of the airport must enable compliance with the PSO.

The opening hours of airports may be extended in cases where this is justified, in order to facilitate the operation of aircraft performing services subject to PSO.

- Treatment of passengers

Aena shall as far as possible take measures to facilitate the transit of this type of passengers so that they can enforce their contract of carriage, especially at peak times, and without prejudice to the mandatory security measures that have to be fulfilled.

3.4.3 Adverse weather conditions

As regards the maintenance of services under conditions of reduced visibility during the period of application of DORA 2017-2021 and as part of the

monitoring anticipated in the document, Aena will send the Ministry of Public Works studies with real data of delays, detours or cancellations due to reduced visibility at each airport or failing that, comparative studies of the average demand in the time slots in each month in which these weather situations are most likely.

At airports where the number of operations affected by reduced visibility is more than 25 commercial operations and/or 10 cancellations every year, the operator will as far as possible install visual and/or non-visual aid systems, and will improve the existing systems to avoid this impact, or otherwise submit a justification of the reasons why this installation or improvement is not considered feasible to the Ministry of Public Works. If feasible and justified, the Ministry of Public Works may require Aena to implement the necessary technical measures to minimise the impact of reduced visibility on operations at any airport in the network.

At coordinated airports established under the terms of *Royal Decree 20/2014 of January 17, completing the legal system for time slot allocation at Spanish airports*, Aena will optimise operating procedures in order to minimise the reduction in capacity under conditions of low visibility, so that the real capacity of the airport under these circumstances is as close as possible to its capacity under optimal weather conditions. Likewise, and when necessary, Aena will ensure that these airports have surface movement guidance systems and stop bars.


Check-in
Facturación 1 to 6
Special check-in
Equipajes especiales
TrueStar
TrueStar

3.5 Investments planned in the five-year period

As a result of the significant investment that has been made in the Aena network in recent years, Spain has airport infrastructures that are among the most modern and competitive in the world, with sufficient capacity to meet the expected demand in the medium term with high standards of service quality.

The DORA 2017-2021 includes an investment programme that complies with the limits established by Act 18/2014, and prioritises activities that meet the demand for capacity, quality and safety from the perspective of economic efficiency and respect for the environment, ensuring the maintenance of the existing broad base of assets and the optimisation of the facilities available.

3.5.1 Investment conditions for the period 2017 - 2021

1. *Total recognised investment for the period 2017-2021*

The recognised total amount of investments associated with basic airport services for the 2017-2021 five-year period amounts to 2,185.4 million euros.

If Aena makes a volume of investments lower than the *total recognised investment for the period 2017-2021* (due to savings during the bidding process, among other factors) the initial *regulated asset base* (RAB) for the next five-year regulatory period will be adjusted by the amount caused by the diversion. However, a larger volume of investment compared to the total recognised investment for the period 2017-2021 will not entail an adjustment in the RAB for the next regulatory period. The RAB values anticipated for the period 2017-2021 identified in Section 3.6.2 will not be adjusted during the regulatory period under any circumstances.

2. *Scheduled annual investment for the period 2017-2021*

The total annual recognised investment for each year in the five-year period is shown in Table 3.5.

Table 3.5. Scheduled annual investment in airports in the Aena network, 2017-2021

Million euros	2017	2018	2019	2020	2021	*Total Period*	*Annual average*
Total recognised investment	365.6	373.0	429.2	514.3	503.3	2,185.4	437.1

Source: DORA 2017-2021

Aena may change the pattern of annual investment in terms of the *scheduled annual investment*. However, any variation in the annual investment amounts effectively executed from the *scheduled annual investment* creating a positive difference between the present value of the cost of capital actually incurred and the cost of capital recognised in Section 3.6.2. will lead to the appropriate adjustment in the IRR_a component in the next regulatory period. The IRR_a component will thereby offset any capital gain that could benefit Aena for variations from the *scheduled annual investment*. Capital losses arising from changes in the *planned annual investment* will not be offset.

Changes to the accumulated depreciation of assets at the end of the regulatory period compared to those anticipated when the DORA was prepared due to variations in annual investments referred to in the preceding paragraph may result in adjustments to the initial RAB in the following regulatory period, without this benefiting the operator compared to a situation involving fulfilment of the initially planned annual programme. Remuneration for increases or decreases in investment that are the result of investments approved under article 31.5 of Act 18/2014, also after the adoption of the document, may be recognised and remunerated under "Parameter D" of the IMAAJ, as described in Section 3.7.2.

3. *Strategic investments to be implemented in the period 2017-2021*

In accordance with the provisions of article 29.1 f) of Act 18/2014, Table 3.6 lists the investments which because of their strategic nature must be completed before the dates shown.

The DORA 2017-2021 identifies as *strategic investments* those that are necessary to comply with the capacity standards set forth herein, and other investments that the Ministry of Public Works considers essential to ensure the public interest. These include those on the grounds of improved functionality and accessibility in the airports and mobility of people, the development of intermodal transport networks for passengers and goods, and the improved competitiveness and connectivity of the country and the autonomous communities and autonomous cities.

For the purposes of compliance with deadlines, an investment will be considered to have met the deadline for completion when the signing of the *Final acceptance certificate of the investment* takes place before the "End date" defined in Table 3.6. This certificate shall state that the project is completely finished and in perfect condition for use, and Aena will be responsible for the veracity of the information recorded.

After the date of completion of the investments, they will be a grace period of three months after which if the acceptance certificate has not been signed, the penalty mechanism established in parameter RI of the IMAAJ will be applicable, as described in Section 3.7.2 and Appendix 6.

Table 3.6. Strategic investments in airports in the Aena network, 2017-2021

Airport	Description of investment	*End date*
Adolfo Suárez Madrid-Barajas	Remote parking apron T4S	09/2020
	Improvements to T123 according to functional design	09/2022
Almeria	Remodelling of the terminal building balcony	10/2017
Barcelona-El Prat	Remodelling of the South Dock building and T1 apron Air cargo developments. Since Border Inspection Post building	12/2020 12/2019
Bilbao	Construction of technical building and refurbishment of terminal building	07/2021
Girona	Remodelling of apron and adjustment of PCN	01/2021
Gran Canaria	Expansion of entrances to thresholds 03R and 03L	10/2021
Ibiza	Expansion of aircraft parking apron Rapid departure	12/2020
	taxiways	01/2022
Lanzarote	Adaptation of apron stage II	05/2019
	Extension of apron	01/2023
Palma de Mallorca	Adaptation to functional design of airport	12/2022
	Increase in peak capacity of the SATE and new features	04/2019
	Rapid departures on runway 06L-24R	12/2021
Reus	Adaptation of terminal building to functional design	10/2020
Seville	Improvements to terminal building according to functional design	12/2021
Tenerife Sur	Terminal connection building and expansion of boarding area	12/2020
	Adaptation of general aircraft parking apron	12/2019
Zaragoza	Expansion of commercial aircraft apron	12/2019

Source: DORA 2017-2021

4. *Regulatory investments*

Notwithstanding the provisions of article 31.5 of Act 18/2014, Aena must meet with all the investments arising directly or indirectly from the regulatory obligations, whether these are already anticipated in the DORA 2017-2021 or otherwise, as well as those arising while it is in force. These investments include those that apply due to environmental, Spanish and European regulations, and in particular those resulting from the measures included in the action plans against noise and in the strategic and environmental impact assessments that are in force or will be adopted over the five-year period.

5. *Significant investments*

In addition to investments defined as strategic, while preparing the DORA 2017-2021 the Ministry of Public Works has considered the other investments which require particular supervision because of their functional necessity or the volume of investment accounting for an airport. For this reason, the DORA defines a new type, called *significant investments*, which are not stipulated in Act 18/2014 but are compatible with it.

Specifically, this DORA stipulates that *significant investments* are those related to air navigation, quality in providing services, energy efficiency, improved security filters, regenerations of runways and aprons and drainage improvements in the airfield. The significant investments to be executed in the period 2017-2021 are listed in Appendix 5.

6. *Other investments*

The investment programme recognised by the DORA 2017-2021 includes budget allocations for replacements and maintenance, which are necessary for ordinary airport management. Aena will use these investments to ensure the proper operation of the airport, undertake projects that are difficult to foresee, and as a reserve for contingencies, ensuring the perfect maintenance of the existing asset base at all airports in the network at all times.

7. *Conditions on the volume of annual investment by airport*

Notwithstanding the above, in order to ensure a balanced implementation of the investment plan over the five-year period, this DORA stipulates that regardless of the type of investment, Aena will notify the Ministry of Public Works through the DGAC of any anticipated variation in the implementation of the annual volume of investment by an airport involving a reduction of more than 20% compared to the volume of investment planned in the DORA as defined in Appendix 5 for that year and airport. This variation will be notified to the Ministry of Public Works prior to the beginning of the annual consultation procedure on tariffs and will require the approval of the DGAC.

3.5.2 Investments programme and variations from the scheduled investment

Appendix 5 contains details of the investments scheduled for each year, airport and type of asset, according to the requirements in article 29.1.f) of Act 18/2014. This article states that the DORA must establish *the conditions under which variations from planned investments not identified as strategic may be authorised*. In this context, the DORA 2017-2021 states that Aena may modify the composition of the scheduled annual investment and its distribution by asset category and airport, provided that the total investment amount recognised for the period is maintained, and the following specific conditions for each type of investment are respected:

- Fulfilment of strategic investments will be mandatory, and no modifications in their scope or end date will be permitted.
- Regulatory investments must comply strictly with the conditions established by the legislation which justifies the need for them.
- The investments concerned will require prior authorisation from the DGCA for their total or partial cancellation, or for the modification of their scope or term.

Regardless of the type of each investment, the amount eventually executed for a particular project may differ from the initially scheduled amount due to possible efficiencies that may arise in the administrative contracting stage, or due to other circumstances.

The conditions mentioned in the paragraphs above will be permitted provided that the levels of investment actually made do not affect compliance with the requirements for quality, conditions of service and capacity, among others, stipulated in the DORA 2017-2021, or the specific obligations required in each type of investment. The airport operator is thereby given the capacity needed to implement a five-year investment plan efficiently, reducing the risk of the execution of unnecessary investment commitments during the regulatory period.


+ ICE CREAM + COFFEE +

3.6 Operating costs and cost of capital

Paragraph g) of article 29.1 of Act 18/2014 requires the DORA to establish the operating and annual costs of capital used to estimate the X component that will enable the direction of change in the maximum annual revenue per passenger (IMAP) to be estimated, i.e. the direction of change in airport tariffs. To estimate these costs, the DORA 2017-2021 has taken into account the requirement that airport charges reflect efficient operation, as well as the desirability of maintaining the financial viability of airport operations and introducing incentives for investment.

Under the principle of the dual till mechanism, these costs are exclusively those linked to basic airport services and do not include subsidies to other non-regulated activities.[10]

3.6.1 Operating costs

The operating costs recognised in the DORA 2017-2021 are shown in Table 3.7, and they include staff costs, supplies and other operating expenses. The recognised annual amount ensures that the ratio of operating costs per traffic unit (ATU)[11] for each year in the regulatory period is less than for 2014, in accordance with the limit set out in paragraph 4 of the sixth transitory provision of Act 18/2014.

The recognised operating expenses in the DORA 2017-2021 are the sum of the operating costs, depreciation, provisions for credit losses and risks, impairments and disposals and the costs arising from the implementation of security regulations that were not in force in 2014 and which were enacted after that year.

[10] With the exception of 2017, the final year in the period of gradual implementation of the dual till principle, for the regulated revenue required, IRR_{2017} include a reduction equivalent to 20% of the profit margin (revenue less operating expenses and costs of capital) expected from services subject to private prices in the terminal.

[11] Air Traffic Unit (ATU) = passengers + (10 tonnes of freight) + (100 x operations).

Table 3.7. Recognised operating costs and operating expenses, 2017-2021

Million euros	2014	2017	2018	2019	2020	2021
Operating costs		**1,221.6**	**1,232.9**	**1,242.3**	**1,250.1**	**1,256.1**
ATU (millions)		463.4	468.4	472.6	476.1	478.8
Opex / ATU ratio	2.707	2.64	2.63	2.63	2.63	2.62
Provisions for bad debts and risks		**6.7**	**6.7**	**6.7**	**6.6**	**6.6**
Impairments and disposals		**5.2**	**5.2**	**5.2**	**5.2**	**5.2**
New security regulations		**17.9**	**18.1**	**18.3**	**18.5**	**18.6**
Amortisation		**631.0**	**622.0**	**591.2**	**600.2**	**608.4**
Operating Expenses		**1,882.4**	**1,884.8**	**1,863.6**	**1,880.6**	**1,894.9**

Source: DORA 2017-2021

Note: The total amount for operating expenses does not include adjustments for separation of costs or the application of the *dual till* for 2017. These adjustments are incorporated separately in the determination of Component X.

The operating costs listed in Table 3.7 are estimated with no price effect, and as such will have to be updated using the P index referred to in Section 3.7.1. All operational costs liable to be revised in accordance with the provisions of the regulations in force, linked to multi-year contracts in force at the time of approval of the DORA 2017-2021 with nominal prices established in the contract and not updated during the period will be excluded from the update of index P.

Operating expenses are recognised prospectively, and as such any non-exceptional variation from the expenditure observed during the regulatory period in terms of prospective expenditure, both considered without an effect on price, will be considered to be at the operator's risk and responsibility. For this reason, unless exceptional grounds arise in accordance with the conditions set out in article 27 and the sixth transitory provision of Act 18/2014, variations from the operating expenses with respect to the value recognised in the DORA that occur during the regulatory period will not entail a change in the maximum revenue per passenger permitted in the period 2017-2021. The DORA thereby introduces incentives for operators to improve their efficiency, as opposed to a "recovery of costs incurred" model in which by allowing the operator to recover the costs observed *ex post*, the incentives to improve this efficiency are removed.

3.6.2 Cost of Capital

In accordance with the provisions of Annex VIII of Act 18/2014, the cost of capital is the amount resulting from applying the weighted average cost of capital before tax (hereinafter Pre-tax *WACC*), *to the mean value of the BAR, defined for each year in the five-year period.*

Regulated Asset Base, RAB

The annual value of the RAB used for calculating the cost of capital is shown in Table 3.8. Under the principle of the dual till mechanism, the RAB only refers to assets linked to basic airport services, except for 2017 which also includes 20% of the net value of the assets associated with services subject to private prices in the terminal.

Table 3.8. Recognised annual RAB, 2017-2021

Million euros	*2017*	*2018*	*2019*	*2020*	*2021*
Average Regulated Asset Base	10,996.1	10,491.6	10,305.4	10,199.3	10,122.1

Source: DORA 2017-2021

The unit cost of capital, Pre-tax WACC:

The value of the *Pre-tax WACC* used to calculate the cost of capital is 6.98%, which remains constant in each year of the regulatory period. This value has been estimated as stipulated by Act 18/2014, applying the CAPM methodology (*Capital Asset Pricing Model)*.

Cost of Capital

The recognised cost of capital for each year in the regulatory period is the product of the annual RAB and the Pre-tax WACC and is shown in Table 3.9.

Table 3.9. Recognised cost of capital, 2017-2021

Million euros	*2017*	*2018*	*2019*	*2020*	*2021*
Average RAB of airport activity	10,996.1	10,491.6	10,305.4	10,199.3	10,122.1
Pre-tax WACC	6.98%	6.98%	6.98%	6.98%	6.98%
Cost of capital, DORA 2017-2021	**767.5**	**732.3**	**719.3**	**711.9**	**706.5**

Source: DORA 2017-2021

The recognised cost of capital is prospective. For this reason, unless exceptional grounds arise in accordance with the conditions set out in article 27 and the sixth transitory provision of Act 18/2014, variations from the cost of capital incurred with respect to the value recognised in the DORA that occur during the regulatory period will not entail a change in the maximum revenue per passenger permitted in the period 2017-2021. This is all regardless of any adjustments to the values of the RAB and IRR in the next regulatory period referred to in Section 3.5.1

3.7 The limit on annual revenue per passenger

3.7.1 Estimation of component X

Component X defines a ceiling on the increase in passenger revenues obtained from basic airport services during the five-year period. The application of component X therefore defines a maximum annual revenue per passenger (IMAP) for each year t in the regulatory period and is the basic factor in defining the direction of charges for the coming years.

Component X is determined in the DORA but the IMAP will be ascertained during the regulatory period. As expressed in equation (1), the IMAP for each year t will be the result of increasing the $IMAP_{t-1}$ by component X and by a percentage of increase or decrease in prices of inputs beyond the control of the operator, P^{12}_{t-1}, which will be known in the year t-1:

$$IMAP_t = IMAP_{t-1}\left(1 + \frac{P_{t-1} + X}{100}\right) \qquad \text{EC.(01)}$$

The initial IMAP value for the period 2017-2021, the $IMAP_{2016}$, is 10.90 euros, which is the value of regulated revenue required per passenger established for 2016.[13]

In accordance with the provisions of Appendix VIII of Act 18/2014, the estimation of component X must ensure that the present value of the operator's expected revenues for the five-year regulatory period enables recovery of the present value of the operator's anticipated costs during the same period, with both measured only for basic airport services and without a price effect. The costs expected to be recovered from these revenues are called *Required Regulated Revenue*, or IRR in Spanish, and are the sum of operating costs and costs of capital. Equation (2) expresses the condition for estimating component X mathematically.

$$\sum_{1}^{5} \frac{IRR_t}{\left(1+\frac{CMPC_{AI}}{100}\right)^t} = \sum_{1}^{5} \frac{10{,}90 \cdot \left(1+\frac{X}{100}\right)^t \cdot Q_t}{\left(1+\frac{CMPC_{AI}}{100}\right)^t} \qquad \text{EC.(02)}$$

[12] This DORA 2017-2021 does not include the mechanism for calculating the P index as it had not been defined on a regulatory basis when the DORA 2017-2021 was approved. While it is not implemented, it will not be taken into account for the purposes of determining the $IMAP_t$.

[13] CNMC Resolution of 23 July 2015, approving the proposed modification of tariffs by Aena for 2016, and establishing the measures to be taken in future consultation procedures.

Where:

- t: takes the values of years 1 to 5 in the regulatory period, where 1 is 2017 and 5 is 2021.
- Q_t: is the anticipated number of passengers for the year t.
- IRR_t: is the regulated revenue required for year t.
- $CMPC_{AI}$: is the weighted average cost of capital before tax (Pre-tax WACC) for the five-year period, established in Section 3.6.2. This equation acts as the readjustment rate for revenue flows and annual costs.

According to the data, the calculated value of component X for each year in the regulatory period is **-2.22%**. Table 3.10 gives details of the calculation of this value.

Table 3.10. Estimation of component X, 2017-2021

Estimated IRR_t (million euros)	*2016*	*2017*	*2018*	*2019*	*2020*	*2021*
Operating Expenses		**1,882.4**	**1,884.8**	**1,863.6**	**1,880.6**	**1,894.9**
Adjustment for separation of costs		-31.5	-38.8	-38.5	-38.4	-38.1
Operating expenses, after adjustment		**1,850.9**	**1,846.1**	**1,825.2**	**1,842.2**	**1,856.9**
Private price costs in terminal		51.8	0.0	0.0	0.0	0.0
Revenue from private prices in terminal		-180.6	0.0	0.0	0.0	0.0
Subsidies attributed in terminal		-32.8	-32.3	-28.2	-27.1	-26.1
Cost of capital (PPP)		**767.5**	**732.3**	**719.3**	**711.9**	**706.5**
Pre-tax WACC		6.98%	6.98%	6.98%	6.98%	6.98%
RAB		10,996.1	10,491.6	10,305.4	10,199.3	10,122.1
Required Regulated Revenue (IRR_t)		**2,456.7**	**2,546.1**	**2,516.3**	**2,527.0**	**2,537.2**
Present value of IRR_t (2017-2021)	**10,316.2**					
Estimated anticipated revenues and from X	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***
Anticipated revenue		**2,575.5**	**2,547.2**	**2,514.3**	**2,477.0**	**2,436.0**
Number of passengers (millions)		241.6	244.4	246.7	248.6	250.0
$IMAP_t$	10.90	10.66	10.42	10.19	9.96	9.74
Value of "X"		**-2.22%**	**-2.22%**	**-2.22%**	**-2.22%**	**-2.22%**
Current value of anticipated revenue (2017-2021)	**10,316.2**					

Source: DORA 2017-2021

Note: The adjustment for separation of costs includes the reallocation of costs of basic airport services to services subject to private prices applied to Aena's cost accounting in the DORA 2017-2021 for regulatory purposes.

Component X is prospective, and as such unless exceptional circumstances arise in accordance with the conditions set out in the sixth transitory provision of article 27 of Act 18/2014 or the provisions of this DORA, its value cannot be modified during the period 2017-2021.

3.7.2 Criteria for the preparation of the IMAAJ

The estimated value of the IMAP for year t will be adjusted with four additional items that give the annual maximum adjusted revenue (IMAAJ in Spanish) for the year t. These items introduce incentives and penalties for Aena's performance (in the period t-2) and other adjustments that are unforeseeable when the DORA was approved. The $IMAAJ_t$ will thereby be the maximum revenue per passenger binding on Aena in each year t of the regulatory period from 2019 onwards, inclusive.

According to Appendix IX of Act 18/2014, the adjustment to establish the $IMAAJ_t$ will be estimated in year t-1 so that:

$$IMAAJ_t = IMAP_t + \frac{B_t}{100} \cdot IMAP_t - \frac{RI_t}{Q_t} - K_t + \frac{D_t}{Q_t} \qquad \text{EC.(03)}$$

- $IMAAJ_t$: is the adjusted maximum annual revenue per passenger (IMAAJ) for year t.
- $IMAP_t$: is the maximum annual revenue per passenger in year t.
- Q_t: are the anticipated passengers for year t.
- B_t: is the incentive/penalty to be applied in year t for performance at levels of service quality in t-2.
- RI_t: is the penalty for the delay in certain investment projects applied in year t. This refers to delays in the strategic investments ending in year t-2.
- K_t: is the compliance factor at 100% of maximum annual revenue per passenger adjusted in year t. This refers to the adjustment for unforeseen changes in the traffic structure in the period t-2, for which the calculation methodology is determined in paragraph 2 of Appendix IX of Act 18/2014.
- D_t: are the variations from approved investments and operating expenses in year t-2 while exercising the powers of oversight stipulated in article 31.5 of Act 18/2014. These are understood to be the annual costs associated with these variations.

The criteria for measuring parameters B_t, RI_t and D_t and the obligations on Aena in that respect are described in Appendix 6. That Appendix also contains details of the procedure for approving variations in investments and operating expenses affecting D_t. Furthermore, the calculation of parameter K_t is detailed in Appendix IX of Act 18/2014.

3.7.3 Setting airport tariffs

Airport charges are the compensation that Aena is entitled to receive for providing each basic airport service at each airport in the network. The updating of these charges for each year in the regulatory period shall be subject to the value of the IMAAJ for that year, in terms of the overall amount, but their individual value shall be determined according to the provisions of articles 32 to 41 of Act 18/2014.

According to these articles, the annual reviews of airport charges are subject to the three basic pillars of Directive 2009/12/EC of 11 March 2009, *on airport charges*: the compulsory consultation procedure between the managing body of the airport and its users, transparency in consultation procedures and recourse to the independent supervisory authority, which in the case of Aena's airport charges is the NMCC.

As set out in article 32.3 of Act 18/2014, for the purposes of these charges, the category of an airport may under no circumstances be modified during the term of the DORA.

3.8 Service costs and their contribution to the IMAP

Paragraph j) of article 29.1 of Act 18/2014 requires the DORA to establish the "costs for each basic airport service" and "the contribution of costs to determining the maximum annual revenue per passenger (IMAP) recovered with each tariff". The former are listed in Table 3.11 and the latter in Table 3.12.

Table 3.11. Costs per basic airport service, 2017-2021

Costs of Public Charges (million euros)	2017	2018	2019	2020	2021
Passengers	975.5	1,067.3	1,041.2	1,037.0	1,027.8
Security	300.8	298.2	298.0	309.8	338.8
PRM services	65.9	70.2	73.3	74.1	74.5
Landing	485.4	488.7	490.2	493.7	493.4
Meteorological services	14.1	14.0	13.9	13.9	13.9
Aerodrome transit service	255.7	251.4	247.2	245.0	241.5
Use of telescopic boarding gates	79.3	79.6	80.5	82.9	83.5
Handling	133.2	129.6	124.3	121.3	117.4
Catering	9.8	9.8	9.8	9.9	9.8
Aviation fuel	29.9	30.0	30.1	30.5	29.9
Parking	107.2	107.2	107.7	108.8	106.7
Total IRR_t	**2,456.7**	**2,546.1**	**2,516.3**	**2,527.0**	**2,537.2**

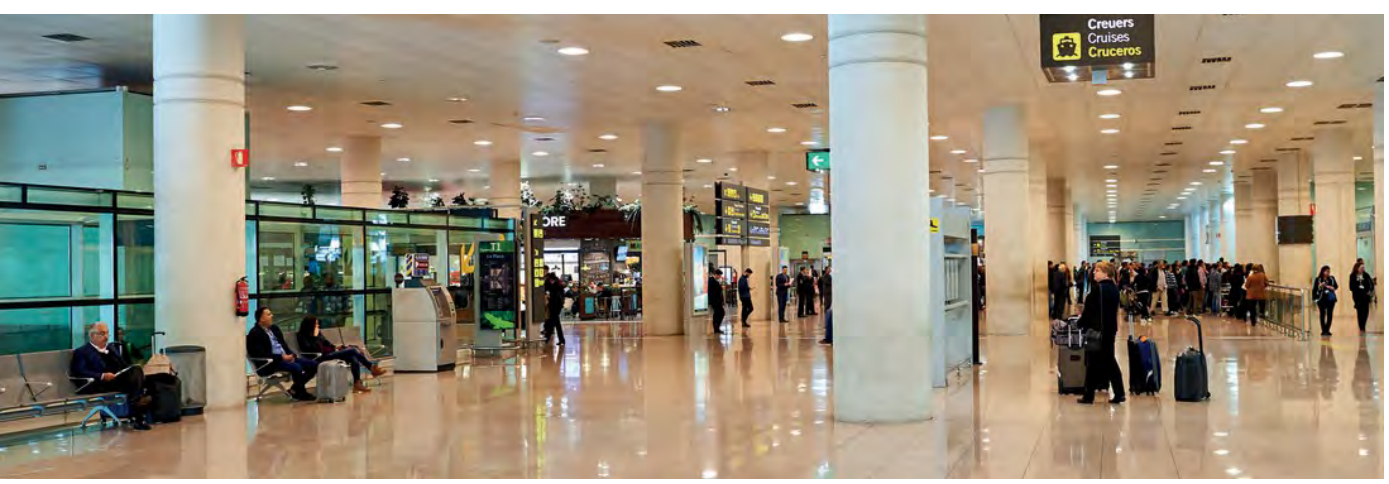
Source: DORA 2017-2021

Table 3.12. Percentage of the IMAP recovered with each tariff, 2017-2021

Public Charges	2017	2018	2019	2020	2021
Passengers	43.43%	43.52%	43.59%	43.65%	43.71%
Security	15.74%	15.73%	15.73%	15.74%	15.75%
PRM services	2.68%	2.68%	2.68%	2.68%	2.68%
Landing	18.28%	18.24%	18.20%	18.16%	18.12%
Meteorological services	0.46%	0.45%	0.45%	0.45%	0.45%
Aerodrome transit service	8.61%	8.59%	8.56%	8.53%	8.51%
Use of telescopic boarding gates	4.50%	4.52%	4.53%	4.53%	4.54%
Handling	3.48%	3.47%	3.45%	3.44%	3.44%
Catering	0.37%	0.37%	0.38%	0.38%	0.38%
Aviation fuel	1.22%	1.22%	1.22%	1.22%	1.21%
Parking	1.22%	1.22%	1.22%	1.22%	1.21%
Anticipated revenue	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**

Source: DORA 2017-2021

The DORA 2017-2021 includes the "costs for each basic airport service" and "the contribution of costs to determining the maximum annual revenue per passenger (IMAP) recovered with each tariff" for the period 2017-2021 under the anticipated terms. This value is not binding during the five-year period, because the annual procedure for setting the individual tariffs for each service operates independently of the DORA. However, the DORA does require that the revenue derived from the collection of individual tariffs set for one year enable the IMAAJ to be achieved that year ad that the IMAAJ is calculated under the terms established in Appendix 6.



3.9 Discounts on the grounds of general interest and commercial incentives

Act 18/2014 mentions the discounts system set out in article 32 and the incentive schemes referred to in article 49 as possible tools for improving and strengthening the demand for traffic. For example, the discount for seasonal airports is intended to seasonally offset the demand in periods with lower traffic, strengthening passenger flows during certain periods of the year. Meanwhile, if they are efficient the incentive schemes can also act as incentives complementing those above, to further strengthen traffic profiles.

As discussed in the sections below, the discounts to be applied over the next five years will be those stipulated by Act 21/2003 and other applicable legislation, without prejudice to the provisions of section 5 of article 32 of Act 18/2014.

This DORA considers that continuing to rely on the incentive schemes used in recent years will be beneficial, notwithstanding any improvements that may be made to them.

3.9.1 Discounts on the grounds of public interest for the period 2017-2021

This section contains a description of the discounts on grounds of public interest and commercial incentives applicable when the DORA 2017-2021 was approved, which are as follows:

i. Discounts for mainland and inter-island traffic for flights at airports in the Canary Islands, the Balearic Islands, Ceuta and Melilla. This consists of a discount on passenger departure, PRM, safety and landing charges of 70% on inter-island flights and 15% in the case of flights to the mainland.[14]

This discount is aimed at territorial structuring and cohesion and promotes connectivity in passenger transport, with particular emphasis on regions outside the Iberian Peninsula where air travel plays a vital and irreplaceable role in ensuring citizens' mobility.

ii. Off-peak day subsidy for Canary Island airports. Applies to 50% of the landing and departure charge for passengers, for operations that take place on days of the week with lower traffic levels, excluding inter-island flights.[15]

[14] Act 1/2011 of 4 March, establishing the State Programme for Operational Security for Civil Aviation and amending Act 21/2003 of 7 July, on Aviation Safety.
[15] Act 2/2012 of 29 June, on the State General Budget for 2012.

This subsidy aims to increase traffic at airports in the Canary Islands, in turn enabling better use to be made the airport facilities which optimises their management.

iii. Discount for passengers in transit.[16] This consists of a 40% reduction of the tariffs for passenger departures and safety. The aim of this discount is to promote this type of traffic, which is important for the development of national connectivity.[17]

iv. Discount for seasonal airports[18] in the Balearic Islands, the Canary Islands, Ceuta and Melilla. During seasons with low traffic the passenger fares and safety amounts will be discounted by 20%.[19]

These four discounts are established based on criteria of objectivity, non-discrimination and transparency, and are aimed at territorial structuring and cohesion and promoting connectivity and internationalisation in passenger and goods transport, with particular emphasis on regions outside the Iberian Peninsula, where air travel plays a vital and irreplaceable role in ensuring citizens' mobility.

The expected revenue foregone as a result of these discounts for reasons of general interest and commercial incentives will be recovered by Aena by increasing the percentage of review of other tariffs not subject to a discount.

3.9.2 Commercial incentives

During the period the DORA is in force, Aena may establish incentives that are compatible with Act 18/2014 and have a positive effect on demand and promote the establishment of new routes or the reinforcement of existing ones, among others. These incentives may be established by means of a multi-year incentive plan.

---

[16] For these purposes, passengers in transit are defined as those landing at an airport operated by Aena on a flight, re-embarking with the same ticket and at the same airport within a maximum of 12 hours, in order to make a further journey with a different flight number and a destination other than the origin.

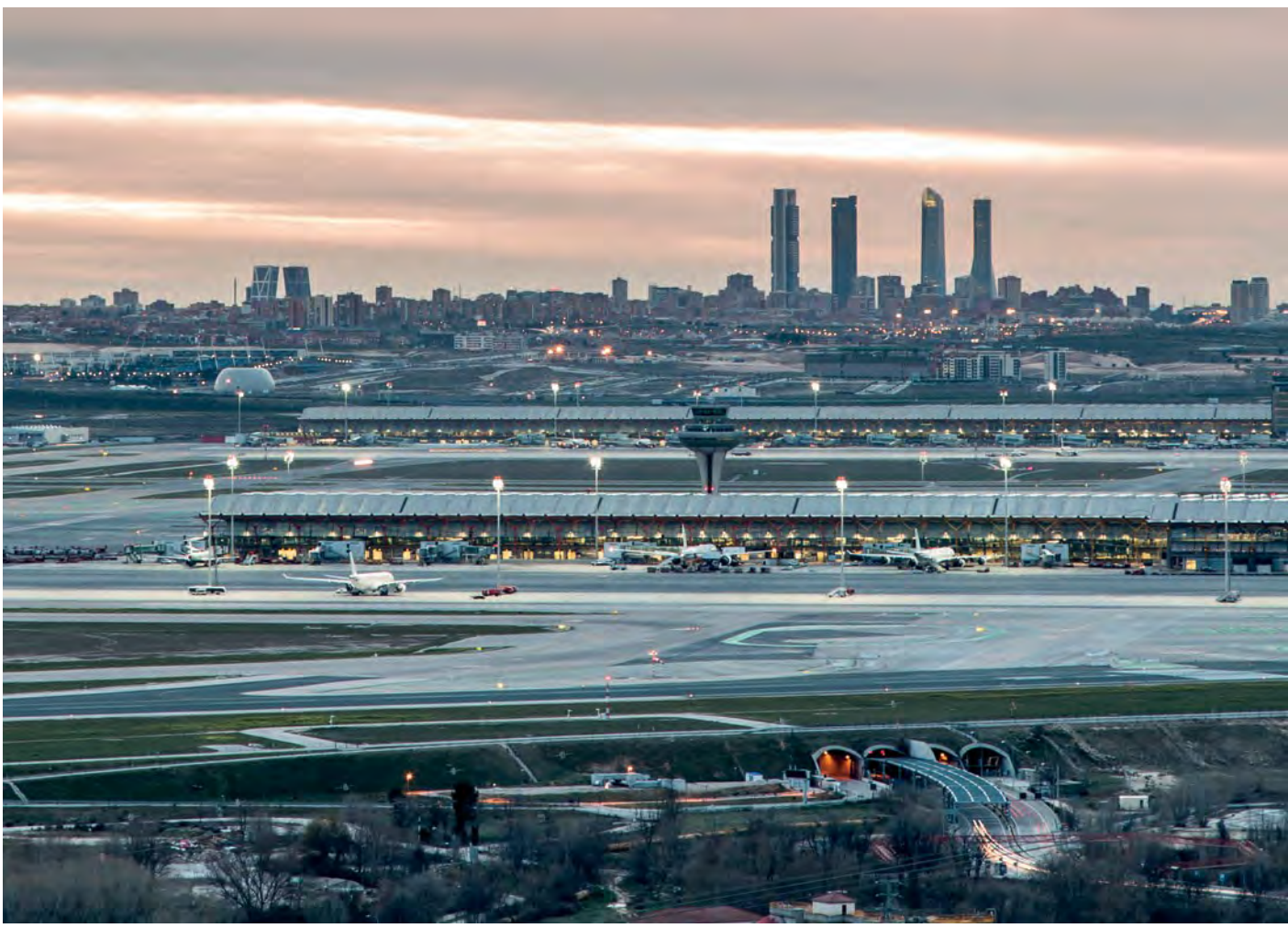
[17] Act 48/2015, of 29 October, on the General State Budget for 2016 amending Act 21/2003 of 7 July, on Aviation Safety.

[18] According to the legislation, a seasonal airport is defined as one in which during the summer and winter seasons, and immediately beforehand and afterwards, the average monthly passenger traffic levels compared to a season in which the monthly average of the other season is a proportion of 65/35 percent or higher.

[19] Act 17/2012 of 27 December, on the General State Budget for 2013 amending Act 21/2003 of 7 July, on Aviation Safety.

Prior to this establishment, Aena will obtain a report from the Directorate General of Civil Aviation which will confirm that the incentive schemes are focused on acting effectively on the demand. This report will be based on a reasoned proposal from Aena, which must include the views of the users' representative associations.

As long as Aena does not propose new schemes with different incentives to those currently used, or the proposals presented do not have clearly came to improve the demand, the schemes contained in the wording of the forty-seventh additional provision of Act 48/2015 of 29 October on the General State Budget for 2016 will remain in force, in which references to the years indicated in this Act will be updated as necessary.



4. Reporting requirements and coordination with supervisory bodies

4.1 Information to be provided by Aena during application of the DORA

In accordance with article 20.6 of Act 18/2014, Aena will provide or facilitate access for the AESA, the CNMC and the DGAC to all the data, reports and records that those bodies deem necessary to meet the obligations arising from the powers that the law confers on them in relation to the DORA.

Additionally, during the period 2017-2021, Aena will continue to perform regular surveys to obtain a profile of the passengers and their habits of use of the airport infrastructure. This information shall be submitted to the DGAC when required in order to perform the oversight stipulated in article 31 of Act 18/2014.

In the exercise of these powers and with regard to the oversight process of the investment plan, both the AESA and the DGAC may ask Aena for any information on the implementation of the investment plan for the period 2017-2021.

In particular, with regard to the oversight of the relevant investments described in Section 3.5.2, Aena will where appropriate and under all circumstances before 1 July of each year, send a reasoned request to change the relevant investments planned for the following year which Aena deems necessary to change, in terms of either the timeframe or in scope, for consideration and approval as appropriate by the DGAC.

Furthermore, the procedure provided in Appendix 6 will be used when requesting the variations in investments provided for in article 31.5 of Act 18/2014.

In general, and in order to perform the tasks conferred on the Ministry of Public Works through the DGAC, as regards oversight of airport management by Aena S.A., Aena will send a copy of all the information that is provided to the DORA supervisors to the DGAC.

4.2 Criteria for the supervision of investments and application of the infringements scheme

The AESA will monitor the investment programme, considering the conditions set out in Section 3.5, which will include monitoring of compliance with

the strategic investments in terms of their purpose and execution time, and those relevant in terms of scope and time, according to the established programme.

For the purposes of application of the infringements regime stipulated in article 43 of Act 18/2014, the supervisors and the DGAC must take into account the conditions mentioned in Section 3.5.2 when identifying what constitutes an "infringement" or a "delay" in compliance with the planned investments.

4.3 Minimum coordination requirements for AESA supervision

According to the provisions of article 20 of Act 18/2014, the Ministry of Public Works, through the DGAC, will be responsible for monitoring Aena's airport management. In order that this power of oversight may be exercised by the DGAC effectively, the AESA must notify this management centre of the planned schedule for all the monitoring activities carried out and the results thereof, throughout the duration of the DORA 2017-2021, without prejudice to the reports that may be requested during the period.

Article 31 of Act 18/2014 states that the AESA is responsible for monitoring compliance with the DORA within the scope of the powers conferred upon it by law. In paragraphs 2, 3 and 5, the same article stipulates the reports that the AESA must produce during the application of the DORA. When preparing these reports, the AESA will consider the criteria and procedures described in this section.

The general principles and criteria that the AESA must apply in the oversight of the DORA and the preparation of the reports provided for by law are defined in this section, to ensure the consistency of the oversight with the incentive mechanisms inherent in the regulatory framework, and particularly with regard to the implementation of investments, the proper monitoring and adjustment of the RAB, and the mechanism for estimating the IMAAJ.

Notwithstanding the above, the AESA may develop its own methodologies for oversight according to the authorisation in the second final provision of Act 18/2014, provided that these are consistent with the provisions set forth in this section.

On the advisory reports for the approval of variations in investments

The report will cover the investments not included in the DORA for which Aena has notified a request for approval to the DGAC under article 31.5 of Act 18/2014.

The DGAC will transfer all information received from Aena when requesting an advisory report from the AESA. The AESA may also seek additional information from Aena.

The advisory report by the AESA will explicitly identify the investments included in the request by Aena for which approval is not recommended, including the grounds for this recommendation.

On the annual airport technical supervision report

The annual airport technical supervision report will be produced in each year of the regulatory period starting in 2018. The report for each year in the regulatory period will be produced during the first four months of the year, will focus on operations in the previous year, and will affect how the IMAAJ is determined for the following year.

The report must provide information on at least:

1. The degree of compliance with the *Scheduled annual investment* for the previous year, identifying the variations between the recognised and executed values, if any.

The variation will be identified as positive or negative, as well as the proportion of it which comes from the approval of the Secretariat of State for Infrastructure, Transport and Housing or where appropriate, the Council of Ministers, pursuant to the provisions of Article 31.5 of Act 18/2014.

2. The value of parameter B of the formula of the maximum annual adjusted revenue per passenger (IMAAJ).

3. The value of parameter D in the formula for the maximum annual adjusted revenue per passenger (IMAAJ).

4. The delay in meeting the pre-established deadlines for the strategic investments ending in the previous year, and the value of the associated penalties, RI, which will be part of the IMAAJ.

5. Compliance with the implementation of the relevant investments scheduled for this year.

The annual reports for each year will also have an Appendix in electronic format, enabling oversight of the provisional variations planned in the RAB.

The five-yearly report on airport technical supervision

This report will be produced in the first 3 months of year 5 of the regulatory period, or the sixth month if the DORA is extended (hereinafter the last year of the regulatory period), and will summarise the results of the annual reports on all the investments

made in the last five years (six if the DORA is extended), including the relevant information about 2016.

In specific terms, the five-year report shall contain at least:

- a proposal to adjust the value of the RAB at 1 January of the last year of the regulatory period, due to the variations in the implementation of the DORA;

- a descriptive summary of the differences between the value of the non-financial fixed assets in Aena's accounting and their value in the RAB anticipated in the DORA, both on 1 January of the last year of the regulatory period;

- a proposal for the accumulated value on 1 January of the last year of the regulatory period for compensation to be paid using the parameter IRR_a for net earnings on the expected return for costs of capital;

- a report on the degree of compliance with quality standards, capacity standards and minimum conditions of service of the airport infrastructure during the regulatory period.

The five-yearly report will also include an Appendix in electronic format, enabling oversight of the provisional value of the RAB on 1 January of the last year in the regulatory period.

APPENDICES

List of Appendixes

APPENDIX 1 TRAFFIC

Table of Contents

List of tables

List of figures

A1.1. Macroeconomic environment

According to the requirements of paragraph 1 b) of article 29 of Act 18/2014, the macroeconomic environment anticipated for the five years from 2017 to 2021 is described below. The macroeconomic environment used is determined by the following aspects:

▶ **Spanish economy:** according to the International Monetary Fund (IMF),[20] the Spanish economy (GDP) will expand by 3.1% in 2016 and by an average of 1.9% in the period 2017-2021.

▶ **Economies of major countries issuing/receiving European passengers** (United Kingdom, Germany, Italy and France): The economic outlook in the Euro Zone is for a slow and modest recovery in 2016 and 2017. The potential for growth remains weak, as the region is still suffering from the impact of the crisis (high levels of private and public debt, low investment and a decline in workers' training due to high long-term unemployment). Within this economic area, the weakness of the external market may be offset by the positive effects of low prices for energy products, mild fiscal expansion and accommodating monetary and financial conditions. As a result, according to the IMF a growth of GDP of 1.7% in the Euro Zone is anticipated for 2016, while in the period from 2017 to 2021, the average growth is estimated at 1.5%.

- The United Kingdom will continue to grow slightly above the European average, with anticipated growth of GDP of 1.8% for 2016 and 1.7% in the period 2017-2021.

- Germany will grow slightly above the European Union average, with an estimated average GDP growth of 1.7% in 2016, and 1.3% from 2017 to 2021.

- Italy continues the recovery which began in 2015, with an estimated GDP increase of 0.8% for 2016 and an average of 0.9% for the period 2017-2021.

- Meanwhile, France is cutting its estimates for growth in 2016 to 1.3%, and will then maintain an average of 1.7% in the period 2017-2021.

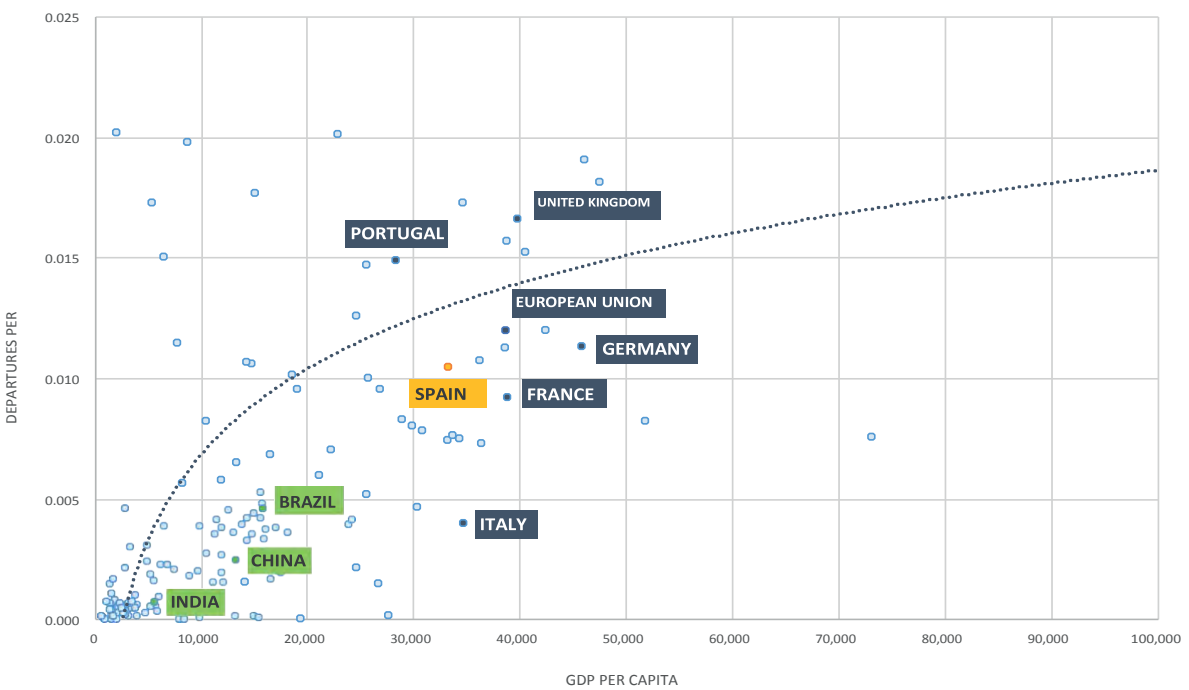
▶ **World economy.** The recovery of the world economy will continue, but at a slower pace than expected in previous years. There was a fresh period of volatility in the financial and assets markets between the end of 2015 and early 2016. Growth has lost some momentum in the developed economies, and the emerging economies will continue to face some difficulties during this period. If the slowdown in China is more marked than currently foreseen, this could affect the international

[20] Source: IMF. World Economic Outlook. October 2016.

economy through trade, the prices of raw materials and confidence, which could lead to a more generalised slowdown in the world economy. In addition, several important emerging markets such as Brazil and Russia are experiencing deep recessions. Various oil-exporting countries are also facing a difficult macroeconomic scenario, with a weakening of their terms of exchange and a worsening of external financial conditions.

The relationship between per capita GDP and journeys made per capita (measured in departures) shows that once a country reaches a certain standard of living - of roughly $20,000 per capita[21] - higher earnings do not lead to an equivalent increase in the average number of journeys made by its inhabitants (the trend line flattens to the right of the x axis). This applies to most European countries with a per capita income that is above this standard value. However, all the emerging countries (such as China, Brazil, India, etc.) are at the bottom of the curve.

Figure Appendix 1.1. Relationship between GDP per capita vs. departures per capita (2014)



Source: Compiled by the authors based on World Bank data.

[21] The World Bank classifies income into three groups: *Low-income* = less than $1,045 per capita; *Middle-income* = between $1,045 and $12,746 per capita; *High-income* = more than $12,746 per capita.

Tourism will continue to be one of the main engines for economic growth and air traffic in Spain throughout the period that the DORA is in force. Geopolitical instability in the countries of the Eastern Mediterranean has led to a transfer of tourists (and passengers) to Spanish sun and beach destinations in recent years. This situation could be reversed in the coming years, which could mean a slowdown in the rate of growth of international traffic.

From the airlines' perspective, fleet expansions and refurbishments are anticipated among the primary users of Aena's airports, which will enable them to further expand the network of destinations and frequencies (some of the new aircraft will be used to replace the current fleet, but others will be used to grow).

In this macroeconomic context, the main international organisations and manufacturers in the aviation sector anticipate average growth in traffic in the coming decades in Europe, of about 3%, which is about one point below the international average.

Table Appendix 1.1. Growth forecasts for passenger traffic by leading international institutions and manufacturers

	Organisations						
Region	IATA (2014-2034)	OACI (2011-2030) Circular 333	ACI GMO 2012-2031	BOEING 2016-2035	AIRBUS 2016-2035	JACD WMF 2016-2035	Average
Europe	2.6%	2.8%	2.9%	3.1%	3.1%	3.1%	2.9%
CIS	-	-	-	3.1%	3.4%	3.8%	3.4%
North America	3.3%	1.9%	2.0%	2.6%	2.4%	2.3%	2.4%
Latin America	4.4%	5.0%	5.2%	4.8%	4.0%	4.2%	4.6%
Middle East	5.1%	6.2%	5.1%	4.9%	4.8%	5.4%	5.2%
Asia-Pacific	4.9%	5.1%	6.0%	5.0%	4.8%	4.9%	5.1%
Africa	4.9%	3.3%	5.0%	5.1%	4.0%	4.0%	4.4%
Worldwide	**4.0%**	**3.8%**	**4.1%**	**4.0%**	**3.8%**	**3.9%**	**3.9%**

Source: DORA 2017-2021 with data from the main institutions

A1.2. Main calculation assumptions

The forecast for aggregate traffic has been obtained from an econometric model compiled by the authors, based on socioeconomic variables, and revised according to the main considerations provided by Aena for its scenarios for the development of each airport in the network.

The initial output provided by the model is compared with the historical data available (2015 and 2016) and the flight schedules planned for 2017, and considers the existence of non-economic factors (geopolitical instability in sun and beach destinations competing with the Spanish market, oversupply of destinations, etc.) which are increasing air traffic in Spain to a greater extent than would be expected from the mere evolution of socioeconomic variables.

The forecast for air traffic for 2017 has been obtained from the end of year data for 2016, and considering the GESLOT schedules for the 2016 winter season and 2017 summer season available when the DORA was being prepared. For the subsequent years in the regulated period, the forecast has been obtained using the econometric model used, modulating the forecasts for the existence of the non-economic *drivers* mentioned above that affect real traffic, so that the traffic levels estimated by the model are obtained precisely in the final of the period under consideration (2021).

A1.3. Air traffic forecast, 2017-2021

The following tables show the forecasts for passenger traffic operations and cargo until 2021, broken down by airport and by market (total, domestic, European - EEA and international - non-EEA).

Table Appendix 1.2. Passengers

Airports	2016	2021	AAGR 2016-2121	Shares 2021		
				NAC	EEA	NON-EEA
GROUP I	94,575,276	101,709,422	1.5%	27.0%	52.0%	21.0%
Adolfo Suárez Madrid-Barajas	50,420,583	54,492,558	1.6%	27.2%	45.0%	27.8%
Barcelona-El Prat	44,154,693	47,216,864	1.4%	26.8%	60.1%	13.1%
GROUP II	91,937,986	100,580,738	1.8%	20.0%	78.3%	1.7%
Palma de Mallorca	26,253,882	28,545,386	1.7%	21.3%	77.8%	0.9%
Málaga-Costa del Sol	16,672,776	18,065,277	1.6%	12.8%	84.6%	2.6%
Alicante-Elche	12,344,945	13,740,324	2.2%	10.0%	85.7%	4.3%
Gran Canaria	12,093,645	13,598,082	2.4%	34.0%	64.2%	1.8%
Tenerife Sur	10,472,404	11,627,360	2.1%	7.9%	90.5%	1.6%
Ibiza	7,416,368	7,758,414	0.9%	37.6%	62.1%	0.3%
Lanzarote	6,683,966	7,245,895	1.6%	25.5%	74.5%	0.0%
GROUP III	30,596,767	33,076,377	1.6%	49.2%	49.5%	1.3%
Valencia	5,799,104	6,237,555	1.5%	27.2%	68.9%	3.9%
Fuerteventura	5,676,817	6,258,323	2.0%	20.4%	79.6%	0.0%
Seville	4,624,038	4,994,982	1.6%	50.3%	48.4%	1.3%
Bilbao	4,588,265	5,053,904	2.0%	54.8%	43.7%	1.5%
Tenerife Norte	4,219,191	4,327,145	0.5%	97.9%	1.8%	0.3%
Menorca	3,178,612	3,624,386	2.7%	49.6%	50.4%	0.0%
Santiago	2,510,740	2,580,082	0.5%	77.5%	22.0%	0.5%
GROUP IV	11,362,495	12,628,070	2.1%	47.7%	51.5%	0.8%
Girona	1,664,763	1,658,686	-0.1%	0.6%	94.7%	4.7%
Asturias	1,281,979	1,470,231	2.8%	81.5%	18.4%	0.1%
La Palma	1,116,146	1,235,625	2.1%	64.1%	35.9%	0.0%
Murcia-San Javier	1,096,980	1,288,426	3.3%	1.2%	98.8%	0.0%
A Coruña	1,063,291	1,121,482	1.1%	83.3%	16.7%	0.0%
Vigo	954,006	1,001,786	1.0%	91.5%	8.5%	0.0%
Almería	919,808	1,281,000	6.8%	43.2%	56.7%	0.1%
Jerez de la Frontera	916,451	1,104,879	3.8%	37.2%	62.8%	0.0%
Reus	817,611	778,278	-1.0%	1.0%	96.5%	2.5%
Seve Ballesteros-Santander	778,318	840,997	1.6%	49.4%	50.6%	0.0%
FGL Granada-Jaen	753,142	846,680	2.4%	91.1%	8.9%	0.0%
GROUP V	1,756,999	2,041,253	3.0%	79.1%	20.7%	0.2%
Zaragoza	419,529	510,328	4.0%	34.5%	65.2%	0.3%
Melilla	330,116	337,079	0.4%	100.0%	0.0%	0.0%
San Sebastián	264,422	293,276	2.1%	99.1%	0.8%	0.1%
Valladolid	231,868	290,490	4.6%	80.3%	19.7%	0.0%
El Hierro	156,439	169,097	1.6%	100.0%	0.0%	0.0%
Pamplona	153,476	174,592	2.6%	96.2%	3.4%	0.4%
La Gomera	38,042	47,398	4.5%	100.0%	0.0%	0.0%
Vitoria	36,716	37,227	0.3%	75.9%	21.0%	3.1%
León	36,554	43,031	3.3%	80.2%	18.7%	1.1%
Badajoz	32,963	44,931	6.4%	98.2%	1.8%	0.0%
Logroño	17,374	20,010	2.9%	85.8%	14.2%	0.0%
Salamanca	15,526	16,712	1.5%	86.9%	12.9%	0.2%
Córdoba	7,397	8,657	3.2%	98.7%	1.3%	0.0%
Burgos	4,682	10,055	16.5%	93.9%	6.1%	0.0%
Sabadell	4,414	5,366	4.0%	89.9%	10.1%	0.0%
Son Bonet	2,278	2,865	4.7%	87.3%	12.7%	0.0%
Madrid-Cuatro Vientos	2,041	2,293	2.4%	85.9%	12.7%	1.4%
Ceuta / Heliport	1,654	17,614	60.5%	100.0%	0.0%	0.0%
Albacete	1,277	2,104	10.5%	40.5%	56.6%	2.9%
Algeciras / Heliport	136	7,923	125.5%	100.0%	0.0%	0.0%
Huesca-Pirineos	95	205	16.6%	79.5%	20.5%	0.0%

Source: DORA 2017-2021

Table Appendix 1.3. Operations

Airports	2016	2021	AAGR 2016-2121	Shares 2021		
				NAC	EEA	NON-EEA
GROUP I	686,018	727,670	1.2%	31.0%	53.4%	15.6%
Adolfo Suárez Madrid-Barajas	378,154	402,301	1.2%	33.5%	47.7%	18.8%
Barcelona-El Prat	307,864	325,369	1.1%	28.1%	60.5%	11.4%
GROUP II	713,464	766,696	1.4%	31.0%	66.1%	2.9%
Palma de Mallorca	197,639	211,954	1.4%	29.8%	68.8%	1.4%
Málaga-Costa del Sol	123,700	132,073	1.3%	19.2%	76.5%	4.3%
Alicante-Elche	87,113	95,646	1.9%	16.6%	77.4%	6.0%
Gran Canaria	111,996	121,371	1.6%	52.2%	43.3%	4.5%
Tenerife Sur	65,881	72,231	1.9%	13.1%	85.0%	1.9%
Ibiza	72,503	75,214	0.7%	46.0%	52.6%	1.4%
Lanzarote	54,632	58,207	1.3%	43.8%	55.6%	0.6%
GROUP III	307,395	327,099	1.3%	62.2%	36.1%	1.7%
Valencia	62,798	66,374	1.1%	48.1%	47.6%	4.3%
Fuerteventura	45,456	49,198	1.6%	39.3%	60.6%	0.1%
Seville	45,838	48,426	1.1%	60.1%	38.5%	1.4%
Bilbao	45,105	48,993	1.7%	56.8%	41.4%	1.8%
Tenerife Norte	55,669	56,180	0.2%	97.6%	1.5%	0.9%
Menorca	31,252	36,157	3.0%	64.8%	34.6%	0.6%
Santiago	21,277	21,771	0.5%	77.7%	19.9%	2.4%
Girona	18,815	16,493	-2.6%	26.9%	69.0%	4.1%
Asturias	11,928	13,629	2.7%	76.3%	23.5%	0.2%
La Palma	17,296	18,095	0.9%	84.9%	15.0%	0.1%
Murcia-San Javier	8,272	9,097	1.9%	11.0%	88.5%	0.5%
A Coruña	15,635	16,157	0.7%	85.0%	14.7%	0.3%
Vigo	11,557	12,300	1.3%	85.7%	11.7%	2.6%
Almería	11,737	15,848	6.2%	67.9%	31.1%	1.0%
Jerez de la Frontera	49,266	48,796	-0.2%	89.4%	10.1%	0.5%
Reus	14,472	14,290	-0.3%	65.5%	33.6%	0.9%
Seve Ballesteros-Santander	9,822	10,118	0.6%	68.4%	30.8%	0.8%
FGL Granada-Jaen	11,331	13,173	3.1%	83.6%	15.8%	0.6%
GROUP V	158,026	185,202	3.2%	91.1%	7.5%	1.4%
Zaragoza	7,269	9,531	5.6%	40.0%	34.3%	25.7%
Melilla	8,535	8,586	0.1%	99.8%	0.1%	0.1%
San Sebastián	6,950	7,525	1.6%	90.2%	9.3%	0.5%
Valladolid	4,419	5,757	5.4%	69.0%	30.9%	0.1%
El Hierro	3,665	3,900	1.3%	100.0%	0.0%	0.0%
Pamplona	5,371	6,048	2.4%	90.3%	9.2%	0.5%
La Gomera	1,840	2,258	4.2%	100.0%	0.0%	0.0%
Vitoria	6,692	7,432	2.1%	37.7%	61.8%	0.5%
León	1,814	2,075	2.7%	93.9%	6.0%	0.1%
Badajoz	1,563	2,060	5.7%	94.7%	4.8%	0.5%
Logroño	1,306	1,472	2.4%	93.4%	6.6%	0.0%
Salamanca	9,292	9,729	0.9%	98.9%	1.0%	0.1%
Córdoba	7,335	8,463	2.9%	99.4%	0.6%	0.0%
Burgos	1,750	3,721	16.3%	93.8%	6.1%	0.1%
Sabadell	36,002	41,516	2.9%	97.7%	2.3%	0.0%
Son Bonet	12,935	15,148	3.2%	96.1%	3.9%	0.0%
Madrid-Cuatro Vientos	35,640	38,087	1.3%	98.6%	1.2%	0.2%
Ceuta / Heliport	476	1,856	31.3%	100.0%	0.0%	0.0%
Albacete	408	684	10.9%	57.0%	40.8%	2.2%
Algeciras / Heliport	80	796	58.3%	100.0%	0.0%	0.0%
Huesca-Pirineos	4,684	8,558	12.8%	99.6%	0.4%	0.0%

Source: DORA 2017-2021

Table Appendix 1.4. Freight

Airports	2016	2021	AAGR 2016-2121	Shares 2021		
				NAC	EEA	NON-EEA
GROUP I	548,528,771		3.0%	7.2%	26.6%	66.2%
Adolfo Suárez Madrid-Barajas	415,773,807		2.7%	8.2%	24.1%	67.7%
Barcelona-El Prat	132,754,964		3.9%	4.4%	34.3%	61.3%
GROUP II	43,207,094	44,555,957	0.6%	76.1%	12.7%	11.2%
Palma de Mallorca	10,452,860	10,045,612	-0.8%	91.1%	8.8%	0.1%
Málaga-Costa del Sol	2,287,656	2,552,847	2.2%	19.2%	55.7%	25.1%
Alicante-Elche	5,461,457	6,676,787	4.1%	72.6%	4.9%	22.5%
Gran Canaria	18,587,918	18,816,197	0.2%	79.1%	6.6%	14.3%
Tenerife Sur	2,809,261	2,975,675	1.2%	42.9%	51.3%	5.8%
Ibiza	1,831,440	1,768,187	-0.7%	97.1%	2.9%	0.0%
Lanzarote	1,776,502	1,720,652	-0.6%	88.3%	11.7%	0.0%
GROUP III	39,502,215	39,792,815	0.1%	73.3%	22.7%	4.0%
Valencia	12,580,692	12,943,904	0.6%	43.4%	50.1%	6.5%
Fuerteventura	944,873	1,068,068	2.5%	86.1%	13.9%	0.0%
Seville	6,618,807	6,952,753	1.0%	80.1%	14.7%	5.2%
Bilbao	2,974,297	3,190,632	1.4%	52.9%	42.4%	4.7%
Tenerife Norte	12,695,826	12,131,588	-0.9%	97.8%	0.1%	2.1%
Menorca	1,391,088	1,300,180	-1.3%	99.5%	0.5%	0.0%
Santiago	2,296,632	2,205,690	-0.8%	100.0%	0.0%	0.0%
GROUP IV	1,388,568	1,437,331	0.7%	79.5%	18.1%	2.4%
Girona	51,364	51,965	0.2%	1.8%	98.2%	0.0%
Asturias	53,638	50,708	-1.1%	99.7%	0.3%	0.0%
La Palma	583,681	577,154	-0.2%	89.7%	10.3%	-
Murcia-San Javier	40	40	0.0%	0.0%	100.0%	0.0%
A Coruña	184,307	207,785	2.4%	98.6%	1.4%	0.0%
Vigo	476,063	501,429	1.0%	71.4%	28.6%	0.0%
Almería	32,118	37,658	3.2%	3.7%	3.4%	92.9%
Jerez de la Frontera	283	726	20.7%	78.5%	21.5%	0.0%
Reus	0	1,352	-	0.0%	100.0%	0.0%
Seve Ballesteros-Santander	625	637	0.4%	100.0%	0.0%	0.0%
FGL Granada-Jaen	6,449	7,877	4.1%	100.0%	0.0%	0.0%
GROUP V	162,948,564		5.1%	7.8%	26.6%	65.6%
Zaragoza	110,563,692		5.7%	0.2%	5.9%	93.9%
Melilla	141,347	149,867	1.2%	100.0%	0.0%	0.0%
San Sebastián	4,559	4,966	1.7%	100.0%	0.0%	0.0%
Valladolid	29,862	32,544	1.7%	2.7%	97.3%	0.0%
El Hierro	71,104	65,581	-1.6%	100.0%	0.0%	0.0%
Pamplona	2,006	166,183	141.9%	1.1%	98.9%	0.0%
La Gomera	1,166	1,469	4.7%	100.0%	0.0%	-
Vitoria	52,134,714	62,580,809	3.7%	25.0%	74.8%	0.2%
León	0	0	-	-	-	-
Badajoz	0	0	-	-	-	-
Logroño	0	0	-	-	-	-
Salamanca	114	114	0.0%	100.0%	0.0%	0.0%
Córdoba	0	0	-	-	-	-
Burgos	0	0	-	-	-	-
Sabadell	0	0	-	-	-	-
Son Bonet	0	0	-	-	-	-
Madrid-Cuatro Vientos	0	0	-	-	-	-
Ceuta / Heliport	0	0	-	-	-	-
Albacete	0	0	-	-	-	-
Algeciras / Heliport	0	0	-	-	-	-
Huesca-Pirineos	0	0	-	-	-	-

Note: Goods expressed in kg of freight.

Source: DORA 2017-2021

Table Appendix 1.5. ATU

Airports	2016	2021	AAGR 2016-2121
GROUP I	168,662,364	180,843,690	1.4%
Adolfo Suárez Madrid-Barajas	92,393,721	99,481,173	1.5%
Barcelona-El Prat	76,268,643	81,362,516	1.3%
GROUP II	163,716,457	177,695,898	1.7%
Palma de Mallorca	46,122,311	49,841,242	1.6%
Málaga-Costa del Sol	29,065,653	31,298,105	1.5%
Alicante-Elche	21,110,860	23,371,692	2.1%
Gran Canaria	23,479,124	25,923,344	2.0%
Tenerife Sur	17,088,597	18,880,217	2.0%
Ibiza	14,684,982	15,297,496	0.8%
Lanzarote	12,164,931	13,083,802	1.5%
GROUP III	61,731,289	66,184,205	1.4%
Valencia	12,204,711	13,004,394	1.3%
Fuerteventura	10,231,866	11,188,804	1.8%
Seville	9,274,026	9,907,110	1.3%
Bilbao	9,128,508	9,985,110	1.8%
Tenerife Norte	9,913,049	10,066,461	0.3%
Menorca	6,317,723	7,253,088	2.8%
Santiago	4,661,406	4,779,239	0.5%
GROUP IV	29,389,481	31,442,043	1.4%
Girona	3,546,777	3,308,506	-1.4%
Asturias	2,475,315	2,833,638	2.7%
La Palma	2,851,583	3,050,897	1.4%
Murcia-San Javier	1,924,180	2,198,126	2.7%
A Coruña	2,628,634	2,739,260	0.8%
Vigo	2,114,467	2,236,800	1.1%
Almeria	2,093,829	2,866,177	6.5%
Jerez de la Frontera	5,843,054	5,984,486	0.5%
Reus	2,264,811	2,207,292	-0.5%
Seve Ballesteros-Santander	1,760,524	1,852,803	1.0%
FGL Granada-Jaen	1,886,306	2,164,059	2.8%
GROUP V	19,189,085	22,653,554	3.4%
Zaragoza	2,252,066	2,925,513	5.4%
Melilla	1,185,029	1,197,178	0.2%
San Sebastián	959,468	1,045,826	1.7%
Valladolid	674,067	866,515	5.2%
El Hierro	523,650	559,753	1.3%
Pamplona	690,596	781,054	2.5%
La Gomera	222,054	273,213	4.2%
Vitoria	1,227,263	1,406,235	2.8%
León	217,954	250,531	2.8%
Badajoz	189,263	250,931	5.8%
Logroño	147,974	167,210	2.5%
Salamanca	944,727	989,613	0.9%
Córdoba	740,897	854,957	2.9%
Burgos	179,682	382,155	16.3%
Sabadell	3,604,614	4,156,966	2.9%
Son Bonet	1,295,778	1,517,665	3.2%
Madrid-Cuatro Vientos	3,566,041	3,810,993	1.3%
Ceuta / Heliport	49,254	203,214	32.8%
Albacete	42,077	70,504	10.9%
Algeciras / Heliport	8,136	87,523	60.8%
Huesca-Pirineos	468,495	856,005	12.8%

Note: ATU: passengers + (10 tonnes of freight) + (100 x operations)

Source: DORA 2017-2021

APPENDIX 2 | CAPACITY

Table of contents

List of tables


Sicherheitskontrolle
Security control
Control de seguridad
Ankunft
Arrivals
Llegadas
Flugsteige
Gates
Puertas
B
C
D
P
TAXI
Toiletten
Toilets
Aseos
Geldautomat
Automatic cashier
Cajero automático

A2.1. Capacity tables of airports in the Aena network

This Appendix includes current capacity data and the levels of use of the various subsystems (airfield, apron, passenger terminal and cargo terminal) forecast for airports in the Aena network during the regulatory period, based on traffic forecasts.
In airports where investments are planned that will change the capacity during the period, the ratios before and after the investment are given.

The following considerations will be taken into account for the purposes of the parameters included in this section:

- The *airfield capacity* is expressed in aircraft per hour (AH), and is defined as the maximum number of operations per hour that the operator is able to manage with acceptable levels of minimal delays.

- The *aircraft apron capacity* is expressed in aircraft per hour (AH), and defined as the maximum number of aircraft per hour that can be accommodated in the areas intended for that purpose at airports. This capacity refers to the commercial parking apron for aircraft, except for Son Bonet Airport, where the capacity refers to the general aviation apron.

- The *passenger terminal building capacity* is expressed in passengers per hour (PH), and is defined as the number of passengers that it can handle in a period of one hour, with a level of service and comfort appropriate to acceptable flows.

- The *cargo terminal building capacity or the cargo area capacity of an airport* is expressed in tonnes per year (t/year) and is defined as the tonnages that can be handled in the cargo facilities during the year.

- Madrid-Cuatro Vientos, Sabadell and Son Bonet airports are intended primarily for general aviation under visual flight rules (VFR).

Table Appendix 1.2. Current, annual and hourly capacity of the airports in the Aena network 2016

Airports	Current airport capacity (Pax)	Airfield (AH)	Apron (AH)	Terminal passengers (PH)	Cargo terminal (t/year)
GROUP I					
Adolfo Suárez Madrid-Barajas	70,000,000	120	111	15,550	670,000
Barcelona-El Prat	55,000,000	90	121	14,800	335,000
GROUP II					
Palma de Mallorca	34,000,000	79	117	11,150	71,200
Málaga-Costa del Sol	27,000,000	55	113	12,650	27,000
Alicante-Elche	19,000,000	37	60	6,250	25,200
Gran Canaria	20,000,000	60	58	8,350	74,200
Tenerife Sur	12,000,000	37	50	5,750	63,400
Ibiza	9,000,000	32	27	5,450	20,000
Lanzarote	8,800,000	30	27	4,150	24,600
GROUP III					
Valencia	10,500,000	34	64	3,450	45,000
Fuerteventura	8,200,000	34	49	5,200	11,700
Seville	6,500,000	30	36	2,750	47,600
Bilbao	5,600,000	34	32	2,250	28,000
Tenerife Norte	6,500,000	34	35	2,100	14,500
Menorca	4,000,000	27	31	3,500	10,000
Santiago	4,500,000	35	37	1,600	14,600
GROUP IV					
Girona	7,200,000	20	20	2,900	-
Asturias	2,000,000	20	13	1,150	1,900
La Palma	2,500,000	18	18	1,000	7,900
Murcia-San Javier	1,500,000	17	15	1,500	3,800
A Coruña	1,300,000	10	12	750	2,100
Vigo	2,000,000	17	13	850	16,500
Almería	1,600,000	13	18	810	7,700
Jerez de la Frontera	2,700,000	20	15	1,550	4,400
Reus	1,600,000	28	15	1,500	-
Seve Ballesteros-Santander	1,500,000	21	17	1,000	5,100
FGL Granada-Jaen	2,200,000	21	17	720	2,800
GROUP V					
Zaragoza	2,000,000	28	14	740	74,000
Melilla	500,000	19	9	400	3,700
San Sebastián	700,000	8	7	500	-
Valladolid	500,000	18	11	500	-
El Hierro	350,000	11	8	250	-
Pamplona	850,000	9	18	700	-
La Gomera	300,000	12	7	330	-
Vitoria	700,000	17	16	550	105,250
León	600,000	13	10	450	-
Badajoz	300,000	13	9	280	-
Logroño	300,000	6	6	240	-
Salamanca	300,000	13	7	220	-
Córdoba	-	4	8	53	-
Burgos	300,000	6	6	250	2,100
Sabadell	-	42	-	-	-
Son Bonet	-	40	53	-	-
Madrid-Cuatro Vientos	-	42	-	-	-
Ceuta / Heliport	150,000	10	19	135	-
Albacete	300,000	6	7	90	-
Algeciras / Heliport	100,000	8	8	112	-
Huesca-Pirineos	300,000	6	5	300	-

Source: DORA 2017-2021

Table Appendix 2.2. Levels of airfield use. DORA 2017-2021

Airports	Current period		DORA period				
	2015	2016	2017	2018	2019	2020	2021
GROUP I							
Adolfo Suárez Madrid-Barajas	1.35	1.29	1.26	1.24	1.21	1.19	1.18
Barcelona-El Prat	1.17	1.14	1.11	1.10	1.10	1.08	1.08
GROUP II							
Palma de Mallorca	1.07	1.04	1.03	1.03	1.03	1.01	1.01
Málaga-Costa del Sol	1.25	1.15	1.10	1.10	1.10	1.10	1.10
Alicante-Elche	1.12	1.06	1.03	1.03	1.03	1.03	1.03
Gran Canaria	1.36	1.33	1.28	1.28	1.28	1.28	1.28
Tenerife Sur	1.12	1.09	1.06	1.06	1.06	1.06	1.03
Ibiza	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanzarote	1.20	1.15	1.15	1.15	1.15	1.15	1.11
GROUP III							
Valencia	1.55	1.62	1.55	1.55	1.55	1.55	1.55
Fuerteventura	1.42	1.26	1.26	1.26	1.26	1.26	1.26
Seville	1.67	1.67	1.67	1.67	1.67	1.67	1.58
Bilbao	1.89	1.79	1.79	1.79	1.79	1.79	1.79
Tenerife Norte	1.55	1.48	1.48	1.48	1.48	1.48	1.48
Menorca	1.23	1.17	1.13	1.13	1.13	1.13	1.13
Santiago	2.50	2.92	2.92	2.92	2.92	2.92	2.92
GROUP IV							
Girona	1.54	1.67	1.67	1.67	1.67	1.67	1.67
Asturias	2.50	2.50	2.50	2.50	2.50	2.50	2.50
La Palma	1.64	1.64	1.50	1.50	1.50	1.50	1.50
Murcia-San Javier	1.70	1.70	1.55	1.55	1.55	1.55	1.55
A Coruña	1.67	1.43	1.43	1.43	1.25	1.25	1.25
Vigo	2.43	2.13	2.13	2.13	2.13	2.13	2.13
Almería	1.44	1.30	1.18	1.18	1.18	1.18	1.18
Jerez de la Frontera	2.86	2.50	2.50	2.50	2.50	2.50	2.50
Reus	2.55	2.55	2.55	2.55	2.55	2.55	2.55
Seve Ballesteros-Santander	3.00	3.00	3.00	3.00	3.00	3.00	3.00
FGL Granada-Jaen	3.50	3.00	2.63	2.63	2.63	2.63	2.63
GROUP V							
Zaragoza	3.50	3.11	3.11	3.11	3.11	3.11	3.11
Melilla	2.71	2.71	2.71	2.71	2.71	2.71	2.71
San Sebastián	2.00	1.60	1.60	1.60	1.60	1.60	1.60
Valladolid	3.00	3.60	3.60	3.00	3.00	3.00	3.00
El Hierro	2.20	2.20	2.20	2.20	2.20	2.20	2.20
Pamplona	1.80	1.50	1.50	1.50	1.50	1.50	1.50
La Gomera	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Vitoria	1.89	2.13	2.13	2.13	1.89	1.89	1.89
León	3.25	3.25	3.25	3.25	3.25	3.25	3.25
Badajoz	4.33	4.33	4.33	4.33	4.33	4.33	4.33
Logroño	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Salamanca	3.25	4.33	4.33	4.33	4.33	4.33	4.33
Córdoba	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Burgos	1.20	1.50	1.20	1.20	1.20	1.20	1.20
Sabadell	1.31	1.11	1.02	1.02	1.00	1.00	1.00
Son Bonet	2.35	2.11	2.00	2.00	2.00	2.00	1.90
Madrid-Cuatro Vientos	1.05	1.11	1.08	1.08	1.08	1.08	1.08
Ceuta / Heliport	3.33	2.50	2.50	2.50	2.50	2.50	2.50
Albacete	2.00	1.50	1.50	1.50	1.50	1.50	1.50
Algeciras / Heliport	-	2.67	2.00	2.00	2.00	2.00	2.00
Huesca-Pirineos	6.00	3.00	3.00	3.00	3.00	3.00	3.00

Source: DORA 2017-2021

Table Appendix 2.3. Levels of apron use. DORA 2017-2021

Airports	Current period		DORA period				
	2015	2016	2017	2018	2019	2020	2021
GROUP I							
Adolfo Suárez Madrid-Barajas	1.25	1.19	1.17	1.14	1.12	1.10	1.09
Ratio only for Apron T4-T4S	1.06	1.04	1.02	1.00	0.98	0.96	0.95
	Ratios after investment		1.02	1.00	1.02	1.09	1.07
Barcelona-El Prat	1.57	1.53	1.49	1.48	1.48	1.46	1.46
GROUP II							
Palma de Mallorca	1.58	1.54	1.52	1.52	1.52	1.50	1.50
Málaga-Costa del Sol	2.57	2.35	2.26	2.26	2.26	2.26	2.26
Alicante-Elche	1.82	1.71	1.67	1.67	1.67	1.67	1.67
	Ratios after investment		-	-	-	-	1.81
Gran Canaria	1.32	1.29	1.23	1.23	1.23	1.23	1.23
Tenerife Sur	1.52	1.47	1.43	1.43	1.43	1.43	1.39
Ibiza	0.84	0.84	0.84	0.84	0.84	0.84	0.84
	Ratios after investment		-	-	0.91	0.91	1.09
Lanzarote	1.08	1.04	1.04	1.04	1.04	1.04	1.00
GROUP III							
Valencia	2.91	3.05	2.91	2.91	2.91	2.91	2.91
Fuerteventura	2.04	1.81	1.81	1.81	1.81	1.81	1.81
Seville	2.00	2.00	2.00	2.00	2.00	2.00	1.89
Bilbao	1.78	1.68	1.68	1.68	1.68	1.68	1.68
Tenerife Norte	1.59	1.52	1.52	1.52	1.52	1.52	1.52
	Ratios after adjustment to regulations		-	1.30	1.30	1.30	1.30
Menorca	1.41	1.35	1.29	1.29	1.29	1.29	1.29
Santiago	2.64	3.08	3.08	3.08	3.08	3.08	3.08
GROUP IV							
Girona	1.54	1.67	1.67	1.67	1.67	1.67	1.67
Asturias	1.63	1.63	1.63	1.63	1.63	1.63	1.63
La Palma	1.64	1.64	1.50	1.50	1.50	1.50	1.50
Murcia-San Javier	1.50	1.50	1.36	1.36	1.36	1.36	1.36
A Coruña	2.00	1.71	1.71	1.71	1.50	1.50	1.50
Vigo	1.86	1.63	1.63	1.63	1.63	1.63	1.63
Almería	2.00	1.80	1.64	1.64	1.64	1.64	1.64
Jerez de la Frontera	2.14	1.88	1.88	1.88	1.88	1.88	1.88
Reus	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Seve Ballesteros-Santander	2.43	2.43	2.43	2.43	2.43	2.43	2.43
FGL Granada-Jaen	2.83	2.43	2.13	2.13	2.13	2.13	2.13
GROUP V							
Zaragoza	1.75	1.56	1.56	1.56	1.56	1.56	1.56
	Ratios after investment		-	-	-	1.78	1.78
Melilla	1.29	1.29	1.29	1.29	1.29	1.29	1.29
San Sebastián	1.75	1.40	1.40	1.40	1.40	1.40	1.40
Valladolid	1.83	2.20	2.20	1.83	1.83	1.83	1.83
El Hierro	1.60	1.60	1.60	1.60	1.60	1.60	1.60
Pamplona	3.60	3.00	3.00	3.00	3.00	3.00	3.00
La Gomera	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Vitoria	1.78	2.00	2.00	2.00	1.78	1.78	1.78
León	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Badajoz	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Logroño	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Salamanca	1.75	2.33	2.33	2.33	2.33	2.33	2.33
Córdoba	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Burgos	1.20	1.50	1.20	1.20	1.20	1.20	1.20
Sabadell	-	-	-	-	-	-	-
Son Bonet	3.12	2.79	2.65	2.65	2.65	2.65	2.52
Madrid-Cuatro Vientos	-	-	-	-	-	-	-
Ceuta / Heliport	6.33	4.75	4.75	4.75	4.75	4.75	4.75
Albacete	2.33	1.75	1.75	1.75	1.75	1.75	1.75
Algeciras / Heliport	-	2.67	2.00	2.00	2.00	2.00	2.00
Huesca-Pirineos	5.00	2.50	2.50	2.50	2.50	2.50	2.50

Source: DORA 2017-2021

Table Appendix 2.4. Levels of terminal building use. DORA 2017-2021

Airports	Current period		DORA period				
	2015	2016	2017	2018	2019	2020	2021
GROUP I							
Adolfo Suárez Madrid-Barajas	1.26	1.19	1.16	1.14	1.12	1.11	1.10
Barcelona-El Prat	1.37	1.31	1.26	1.25	1.24	1.23	1.22
GROUP II							
Palma de Mallorca	1.03	1.00	0.96	0.96	0.95	0.95	0.94
	Ratios after investment		-	-	-	-	1,09
Málaga-Costa del Sol	2.08	1.84	1.77	1.76	1.75	1.74	1.74
Alicante-Elche	1.32	1.24	1.19	1.18	1.18	1.17	1.17
Gran Canaria	1.48	1.39	1.33	1.32	1.31	1.31	1.30
Tenerife Sur	1.15	1.08	1.05	1.04	1.03	1.03	1.03
Ibiza	1.61	1.56	1.52	1.52	1.51	1.51	1.51
Lanzarote	1.30	1.24	1.19	1.19	1.18	1.18	1.18
GROUP III							
Valencia	1.87	1.62	1.56	1.55	1.54	1.54	1.54
Fuerteventura	1.56	1.39	1.30	1.30	1.30	1.30	1.30
Seville	1.51	1.41	1.39	1.38	1.37	1.36	1.35
Bilbao	1.42	1.31	1.26	1.25	1.24	1.23	1.22
Tenerife Norte	1.38	1.24	1.24	1.23	1.22	1.22	1.21
Menorca	1.28	1.20	1.15	1.14	1.14	1.14	1.13
Santiago	1.19	1.18	1.18	1.17	1.17	1.16	1.15
GROUP IV							
Girona	2.42	2.50	2.57	2.55	2.53	2.52	2.51
Asturias	1.67	1.49	1.43	1.43	1.42	1.42	1.41
La Palma	1.28	1.08	1.07	1.06	1.06	1.06	1.06
Murcia-San Javier	1.13	1.07	1.06	1.05	1.05	1.05	1.05
A Coruña	1.28	1.22	1.22	1.20	1.20	1.19	1.18
Vigo	1.75	1.33	1.32	1.31	1.31	1.30	1.30
Almeria	0.85	0.75	0.65	0.64	0.64	0.64	0.64
	Ratios after investment		-	1.03	1.03	1.03	1.03
Jerez de la Frontera	1.86	1.68	1.61	1.60	1.60	1.59	1.58
Reus	0.86	0.96	0.98	0.98	0.98	0.98	0.97
	Ratios after investment		-	-	-	-	1.30
Seve Ballesteros-Santander	1.51	1.47	1.44	1.43	1.42	1.41	1.39
FGL Granada-Jaen	1.51	1.30	1.26	1.25	1.24	1.23	1.22
GROUP V							
Zaragoza	1.13	1.13	1.11	1.10	1.10	1.10	1.10
Melilla	1.19	1.16	1.17	1.16	1.16	1.15	1.15
		1.55	1.56	1.55	1.54	1.54	1.53
San Sebastián	1.82	1.79	1.74	1.74	1.73	1.73	1.73
Valladolid	1.00	1.00	1.00	1.00	1.00	1.00	1.00
El Hierro	1.32	1.24	1.16	1.15	1.15	1.15	1.14
Pamplona	3.76	3.26	3.13	3.13	3.11	3.10	3.08
La Gomera	3.06	2.75	2.36	2.36	2.28	2.28	2.28
Vitoria	3.06	1.41	1.64	1.64	1.64	1.62	1.62
León	1.88	2.14	2.07	2.05	2.03	2.01	2.01
Badajoz	1.68	1.77	1.77	1.74	1.71	1.68	1.66
Logroño	1.35	1.39	1.37	1.36	1.36	1.36	1.35
Salamanca	1.17	1.22	1.63	1.63	1.63	1.62	1.62
Córdoba	6.63	5.30	5.30	5.30	5.30	5.30	5.30
Burgos	1.79	13.89	2.10	2.07	2.03	2.00	1.97
Sabadell	-	-	-	-	-	-	-
Son Bonet	-	-	-	-	-	-	-
Madrid-Cuatro Vientos	-	-	-	-	-	-	-
Ceuta / Heliport	13.50	5.63	4.50	4.50	4.50	4.35	4.35
Albacete	2.81	4.29	3.75	3.46	3.33	3.21	3.10
Algeciras / Heliport	-	11.20	3.73	3.73	3.73	3.73	3.73
Huesca-Pirineos	37.50	60.00	60.00	60.00	60.00	60.00	60.00

N.B: While the investment projects planned for Palma de Mallorca and Reus airports are taking place, they will come into service on a partial basis.

Source: DORA 2017-2021

Table Appendix 2.5. Cargo terminal levels of use. DORA 2017-2021

Airports	Current period		DORA period				
	2015	2016	2017	2018	2019	2020	2021
GROUP I							
Adolfo Suárez Madrid-Barajas	1.76	1.61	1.55	1.51	1.47	1.44	1.41
Barcelona-El Prat	2.86	2.52	2.46	2.35	2.26	2.16	2.08
GROUP II							
Palma de Mallorca	6.26	6.81	6.92	7.01	7.08	7.10	7.09
Málaga-Costa del Sol	10.92	11.80	11.55	11.29	11.03	10.75	10.58
Alicante-Elche	7.03	4.61	4.41	4.21	4.06	3.91	3.77
Gran Canaria	3.95	3.99	3.97	3.98	3.96	3.95	3.94
Tenerife Sur	22.14	22.57	21.97	21.81	21.65	21.47	21.31
Ibiza	9.88	10.92	11.09	11.31	11.46	11.38	11.31
Lanzarote	13.62	13.85	13.94	14.08	14.13	14.19	14.30
GROUP III							
Valencia	3.32	3.58	3.55	3.53	3.51	3.49	3.48
Fuerteventura	12.45	12.38	12.22	11.82	11.52	11.20	10.95
Seville	7.92	7.19	7.19	7.10	7.04	6.97	6.85
Bilbao	9.74	9.41	9.65	9.39	9.20	8.97	8.78
Tenerife Norte	1.13	1.14	1.16	1.17	1.18	1.19	1.20
Menorca	6.65	7.19	7.39	7.50	7.60	7.65	7.69
Santiago	6.32	6.36	6.42	6.49	6.55	6.60	6.62
GROUP V							
Zaragoza	0.88	0.85	0.83	0.81	0.79	0.77	0.76
	Ratios after investment project		1.18	1.16	1.13	1.11	1.08
Vitoria	2.27	2.02	1.92	1.85	1.78	1.72	1.68

Source: DORA 2017-2021

Note: The cargo levels of use have been calculated only for airports where the demand for freight is significant, i.e. more than 1,000 tonnes per year. These centres account for 99.8% of the total air cargo traffic at Aena airports.

APPENDIX 3 | QUALITY

Table of Contents

List of tables

A3.1. Passenger satisfaction indicators

A description of each of the passenger satisfaction indicators in the DORA 2017-2021 is listed below, as well as the methodology for application during the five-year period.

Table Appendix 3.1. SPAX-01 Indicator.- Overall passenger satisfaction

PERCEIVED SATISFACTION	
SPAX-01.- Overall passenger satisfaction	
DEFINITION	Level of satisfaction shown by passengers with regard to the overall quality of infrastructures and services provided by the airport manager.
INDICATOR AIM	To know, in a general sense, the perception and satisfaction level of passengers for the airport and the services provided therein.
SCOPE OF APPLICATION	All airports in the Aena network with commercial passenger traffic.
METRIC	**Airports with traffic rates equal or above 100,000 passengers per year** Percentage ratio regarding the rating of item 1. "Overall satisfaction with the airport" on the results of the ASQ programme during the measurement period and the measurement of ratings of that item at the airport during the reference period. This average reference is calculated with an accuracy of 1 decimal point: $$SPAX-01 = 100 \cdot \frac{OSA}{OSA_{ref}}$$ Whereby: ▪ OSA: Rating of item "Overall satisfaction with the airport" during the measurement period. ▪ OSAref: Average annual assessments for the item "Overall Satisfaction with the airport" during the reference period (2014/15). **Airports with traffic rates of less than 100,000 passengers per year** Arithmetic average of the result of indicators on cleaning, guidance, physical security and comfort of the boarding areas obtained for airports with traffic lower than 100,000 passengers a year with an accuracy of 2 decimal places: $$SPAX-01_{<100.000} = \frac{SPAX-02_{<100.000} + SPAX-03_{<100.000} + SPAX-04_{<100.000} + SPAX-05_{<100.000}}{4}$$ Whereby: ▪ $SPAX-02_{<100,000}$: Results of the indicator on passenger satisfaction regarding cleanliness at airports with a traffic of less than 100,000 passengers per year. ▪ $SPAX-03_{<100,000}$: Results of the indicator on passenger satisfaction regarding directions at airports with a traffic of less than 100,000 passengers per year. ▪ $SPAX-04_{<100,000}$: Results of the indicator on passenger satisfaction regarding physical security at airports with a traffic of less than 100,000 passengers per year. ▪ $SPAX-05_{<100,000}$: Results of the indicator on passenger satisfaction regarding the comfort of the boarding areas at airports with a traffic of less than 100,000 passengers per year.
TARGET LEVEL	**Airports with traffic rates equal or above 100,000 passengers per year** **Result of the historical average (2014/15)> Very good (4):** 100%, meaning the airport maintains the perceived quality level during the DORA period. **Result of the historical average (2014/15) <Very good (4):** 100%+1% inter-annual to reach a very good rating (4). **Airports with traffic rates of less than 100,000 passengers per year** 100%, meaning the airport maintains the perceived quality level during the DORA period.
INCENTIVES / PENALTIES	No

Source: DORA 2017-2021

Table Appendix 3.2. SPAX-2 Indicator.- Passenger satisfaction with cleanliness in the airport

PERCEIVED SATISFACTION	
SPAX-02. - Passenger satisfaction with cleanliness in the airport	
DEFINITION	Level of satisfaction expressed by passengers on cleanliness in the airport, assessing issues such as cleanliness of the terminal building and public toilets.
INDICATOR AIM	To know the perception and satisfaction level of passengers on the cleanliness of the airport in different areas (terminal building and public toilets).
SCOPE OF APPLICATION	All airports in the Aena network with commercial passenger traffic.
METRIC	**Airports with traffic rates equal or above 100,000 passengers per year** Percentage ratio between the weighting of the valuations of items 30.- "Cleanliness of washrooms / toilets" (35%) and 32.- "Cleanliness of airport terminal (65%) in the results from the ASQ programme during the measurement period and the average valuation weights of these items at the airport during the reference period. This average reference is calculated with an accuracy of 1 decimal point: $$SPAX - 02 = 100 \cdot \frac{0.35 \cdot CWT + 0.65 \cdot CAT}{0.35 \cdot CWT_{ref} + 0.65 \cdot CAT_{ref}}$$ Whereby: ▪ CWT: Rating of item "Cleanliness of washrooms/toilets" during the measurement period. ▪ CAT: Rating of item "Cleanliness of airport terminal" during the measurement period. ▪ CWT_{ref}: Average annual assessments on the item "Cleanliness of washrooms/toilets" during the reference period (2014-2015). ▪ CAT_{ref}: Average annual assessments of item "Cleanliness of airport terminal" during the reference period (2014-2015). **Airports with traffic rates of less than 100,000 passengers per year** Percentage ratio between ratings on issues related to the cleanliness checklist and the reference values, calculated with an accuracy of 2 decimal places: $$SPAX - 02_{<100.000} = 100 \cdot \frac{CT}{CT_{ref}}$$ Whereby: ▪ CT_{ref}: CT from the previous year. ▪ For the beginning of the DORA period, CT_{ref} = 3.75, corresponding to a situation where the number of claims is equal to the above, compliance levels and requirements of the service is monitored and the airport is in a good state of cleanliness. The allocation of the value of CT is performed by scoring the responses to the checklist developed by AESA for monitoring.
TARGET LEVEL	**Airports with traffic rates equal or above 100,000 passengers per year** **Result of the historical average (2014/15)> Very good (4):**100%, meaning the airport maintains the perceived quality level during the DORA period. **Result of the historical average (2014/15) <Very good (4):** 100%+1% inter-annual to reach a very good rating (4). **Airports with traffic rates of less than 100,000 passengers per year** 100%, meaning the airport maintains the perceived quality level during the DORA period.
INCENTIVES / PENALTIES	Yes

Source: DORA 2017-2021

Table Appendix 3.3. SPAX-03 Indicator.- Passenger satisfaction with guidance at the airport

PERCEIVED SATISFACTION	
SPAX-03. - Passenger satisfaction with guidance at the airport	
DEFINITION	Level of satisfaction expressed by passengers with regard to guidance at the airport, valuing aspects such as information on flights, ease of finding one's way around (effectiveness of signage) and the friendliness of airport staff.
INDICATOR AIM	To know the perception and satisfaction of passengers on the easiness of negotiating one's way around the terminal building, on the cordiality of the staff of the different groups working at the airport, and on information about flights provided by the airport operator through screens and panels or passenger information points.
SCOPE OF APPLICATION	All airports in the Aena network with commercial passenger traffic.
METRIC	**Airports with traffic rates equal or above 100,000 passengers per year** Percentage ratio between the weighting of ratings for item 17.- "Ease of finding your way through airport" (58%), 18.- "Flight information screens" (17%) and 21. "Courtesy, helpfulness of airport staff" (25%) on the results of the ASQ programme during the measurement period and the average weights of the ratings of these items at the airport during the reference period. This average reference is calculated with an accuracy of 1 decimal point: $$SPAX - 03 = 100 \cdot \frac{0.58 \cdot EFW + 0.17 \cdot FIS + 0.25 \cdot CHA}{0.58 \cdot EFW_{ref} + 0.17 \cdot FIS_{ref} + 0.25 \cdot CHA_{ref}}$$ Whereby: ▪ EFW: Rating of item "Ease of finding your way through airport" during the measurement period. ▪ FIS: Rating of item "Flight information screens" during the measurement period. ▪ CHA: Rating of item "Courtesy, helpfulness of airport staff" during the measurement period. ▪ EFW_{ref}: Average annual assessments on the item "Ease of finding your way through airport" during the reference period (2014-2015). ▪ FIS_{ref}: Average annual assessments on the item "Flight information screens" during the reference period (2014-2015). ▪ CHA_{ref}: Average annual assessments on the item "Courtesy, helpfulness of airport staff" during the reference period (2014-2015). **Airports with traffic rates of less than 100,000 passengers per year** Percentage ratio between ratings on issues related to the guidance checklist and the reference values, calculated with an accuracy of 2 decimal places: $$SPAX - 03_{<100.000} = 100 \cdot \frac{VO}{VO_{ref}}$$ Whereby: ▪ VO_{ref}: VO from the previous year. ▪ For the outset of the DORA period, VO_{ref} = 3.80, where the airport is in a situation of adequate signage and the number of complaints remains the same as the previous year. The allocation of the value of VO is performed by scoring the responses to the checklist developed by AESA for monitoring.
TARGET LEVEL	**Airports with traffic rates equal or above 100,000 passengers per year** **Result of the historical average (2014/15)> Very good (4):** 100%, meaning the airport maintains the perceived quality level during the DORA period. **Result of the historical average (2014/15) <Very good (4):** 100%+1% inter-annual to reach a very good rating (4). **Airports with traffic rates of less than 100,000 passengers per year** 100%, meaning the airport maintains the perceived quality level during the DORA period.
INCENTIVES / PENALTIES	Yes

Source: DORA 2017-2021

Table Appendix 3.4. SPAX-04 Indicator.- Passenger satisfaction with physical security at the airport

PERCEIVED SATISFACTION	
SPAX-04. - Passenger satisfaction with physical security in the airport	
DEFINITION	Level of satisfaction expressed by passengers regarding the airport security service, valuing aspects such as friendliness of security staff, thoroughness of screening people and hand baggage and the feeling of being protected.
INDICATOR AIM	To know the perception and satisfaction level of passengers on physical security at the airport.
SCOPE OF APPLICATION	All airports in the Aena network with commercial passenger traffic.
METRIC	**Airports with traffic rates equal or above 100,000 passengers per year** Percentage ratio between the weighting of ratings for item 13.- "Courtesy and helpfulness of security staff" (20%), 14.- "Thoroughness of security inspection" (10%), 15.- "Waiting time at Security inspection" (30%) and 16." Feeling of being safe and secure" (40%) on the results of the ASQ programme during the measurement period and the average valuation weights of these items at the airport during the period reference. This average reference is calculated with an accuracy of 1 decimal point: $$SPAX - 04 = 100 \cdot \frac{0.20 \cdot CHS + 0.10 \cdot TSI + 0.30 \cdot WTS + 0.40 \cdot FBS}{0.20 \cdot CHS_{ref} + 0.10 \cdot TSI_{ref} + 0.30 \cdot WTS_{ref} + 0.40 \cdot FBS_{ref}}$$ Whereby: ▪ CHS: Rating of item "Courtesy, helpfulness of security staff" during the measurement period. ▪ TSI: Rating of item "Thoroughness of security inspection" during the measurement period. ▪ FBS: Rating of item "Feeling of being safe and secure" during the measurement period. ▪ WTS: Rating of item "Waiting time at security inspection" during the measurement period. ▪ CHS_{ref}: Average annual assessments on the item "Courtesy, helpfulness of security staff" during the reference period (2014-2015). ▪ TSI_{ref}: Average annual assessments on the item "Thoroughness of security inspection" during the reference period (2014-2015). ▪ BSF_{ref}: Average annual assessments on the item "Feeling of being safe and secure" during the reference period (2014-2015). ▪ WTS_{ref}: Average annual assessments on the item "Thoroughness of security inspection" during the reference period (2014-2015). **Airports with traffic rates of less than 100,000 passengers per year** Percentage ratio between ratings on issues related to the physical security checklist and the reference values, calculated to an accuracy of 2 decimal places: $$SPAX - 04_{<100.000} = 100 \cdot \frac{SF}{SF_{ref}}$$ Whereby: ▪ SF_{ref}: SF from the previous year. ▪ For the outset of the DORA period, SF_{ref} = 3.00, where the airport is in a adequate situation and the number of complaints remains the same as the previous year. The allocation of the value of SF is performed by scoring the responses to the checklist developed by AESA for monitoring.
TARGET LEVEL	**Airports with traffic rates equal or above 100,000 passengers per year** **Result of the historical average (2014/15)> Very good (4):** 100%, meaning the airport maintains the perceived quality level during the DORA period. **Result of the historical average (2014/15) <Very good (4):** 100%+1% inter-annual to reach a very good rating (4). **Airports with traffic rates of less than 100,000 passengers per year** 100%, meaning the airport maintains the perceived quality level during the DORA period.
INCENTIVES / PENALTIES	No

Source: DORA 2017-2021

Table Appendix 3.5. SPAX-05 Indicator.- Passenger satisfaction with comfort in the boarding areas

PERCEIVED SATISFACTION	
SPAX-05.- Passenger satisfaction with comfort in the boarding areas	
DEFINITION	Satisfaction level shown by passengers regarding comfort in the boarding areas prior to boarding.
INDICATOR AIM	To know the perception and satisfaction level of passengers on the convenience and comfort of airport boarding areas.
SCOPE OF APPLICATION	All airports in the Aena network with commercial passenger traffic.
METRIC	**Airports with traffic rates equal or above 100,000 passengers per year** Percentage ratio between the rating of item 31. "Comfort of waiting / gate areas" on the results of the ASQ programme during the measurement period and the average of the valuations of that item at the airport during the reference period. This average reference is calculated with an accuracy of 1 decimal point: $$\text{SPAX} - 05 = 100 \cdot \frac{\text{CWA}}{\text{CWA}_{\text{ref}}}$$ Whereby: ▪ CWA: Rating of item "Comfort of waiting / gate areas" during the measurement period. ▪ CWA_{ref}: Average annual assessments on the item "Comfort of waiting / gate areas" during the reference period (2014-2015). **Airports with traffic rates of less than 100,000 passengers per year** Percentage ratio between ratings on issues related to the checklist on comfort in boarding areas and the reference values, calculated to an accuracy of 2 decimal places: $$\text{SPAX} - 05_{<100.000} = 100 \cdot \frac{\text{CE}}{\text{CE}_{ref}}$$ Whereby: ▪ CE_{ref}: CE from the previous year. ▪ For the outset of the DORA period, CEref = 3.75, where the airport is in a situation of adequate comfort and the number of complaints remains the same as the previous year. The allocation of the value of CE is performed by scoring the responses to the checklist developed by AESA for monitoring.
TARGET LEVEL	**Airports with traffic rates equal or above 100,000 passengers per year** **Result of the historical average (2014/15)> Very good (4):** 100%, meaning the airport maintains the perceived quality level during the DORA period. **Result of the historical average (2014/15) <Very good (4):** 100%+1% inter-annual to reach a very good rating (4). **Airports with traffic rates of less than 100,000 passengers per year** 100%, meaning the airport maintains the perceived quality level during the DORA period.
INCENTIVES / PENALTIES	Yes

Source: DORA 2017-2021

Table Appendix 3.6. SPAX-06 Indicator.- Satisfaction of passengers with reduced mobility (PRM) with accessibility at the airport

PERCEIVED SATISFACTION	
SPAX-06. - Satisfaction of passengers with reduced mobility (PRM) with accessibility at the airport	
DEFINITION	Level of satisfaction shown by passengers with reduced mobility (PRM) regarding the accessibility of the terminal building and the treatment received by the PRM service staff in terms of assistance in the airport, taking into account the direct assessment from users and the number of complaints concerning the service.
INDICATOR AIM	To know the perception and satisfaction level of passengers with reduced mobility on the ease of access and navigate the airport using the PRM assistance service.
SCOPE OF APPLICATION	All airports in the Aena network with commercial passenger traffic.
METRIC	Percentage ratio between the weighting of ratings of surveys and complaints concerning the PRM assistance service during the measurement period, along with the average weighted ratings on surveys and complaints during the reference period. This average reference is calculated with an accuracy of 1 decimal point: $$SPAX - 06 = 100 \cdot \frac{IND_j}{MEDIA\ IND}$$ Whereby: INDj: Numerical rating of the following formula. INDj value cannot be less than 1, meaning that if due to the penalty term for claims that dimension is exceeded, the result should be adjusted to a value of 1. $$INDj = 1{,}25 + 0{,}75\ \frac{\sum_{i=1}^{AR} PMR_i}{AR} - MINIMO\left(\frac{REC \cdot 1000}{2 \cdot AR}; 1\right)$$ ▪ PMRi: Rating of the PRM assistance service included in survey i, conducted during the measurement period. ▪ MW: Number of assistance actions performed during the measurement period (must be equal to the number of surveys available). REC: Number of claims related to the PRM service received by the airport during the measurement period. IND AVERAGE: IND arithmetic average of the numerical values obtained during the years of the reference period (2014-2015). There are situations which, should they occur, will involve the use of other assessments rather than the average: ▪ If in any of the years 2014 or 2015 no indicator rating was obtained, instead of the average, the rating for the year in which data is available will be considered. ▪ If the difference between the assessments of 2014 and 2015 was greater than 0.4 (10% of the possible values that the indicator can reach), the largest of the ratings will be considered, rather than the average. ▪ If after calculating the average or annual assessment, the resulting value is greater than 4.9, then 4.9 will be used as a reference.
TARGET LEVEL	**Result of the historical average (2014/15)> Very good (4):** 100%, meaning the airport maintains the perceived quality level during the DORA period. **Result of the historical average (2014/15) <Very good (4):** 100%+1% inter-annual to reach a very good rating (4).
INCENTIVES / PENALTIES	Yes

Source: DORA 2017-2021

A3.2. Waiting time indicators at processing points

Each of these waiting time indicators are described below, as well as the methodology for application during the five-year period.

Table Appendix 3.7. TEPP-01 Indicator.- Waiting time at security control for passengers in the five-year period.

WAITING TIMES IN PROCESSING POINTS	
TEPP-01.- Waiting time at security control for passengers	
DEFINITION	Relationship between the number of passengers whose waiting time for inspection at the security control is less than a predetermined time and the total number of passengers for which the time period is measured.
INDICATOR AIM	To know the efficiency of the security inspection process of passengers and hand luggage at the airport, through waiting times for passengers in the queues at controls before being inspected.
SCOPE OF APPLICATION	All airports in the Aena network with commercial passenger traffic.
METRIC	This will be calculated, for each of the terminals and security controls for passenger and hand luggage in the airport, for the percentage of passengers that take more than 10 minutes to be inspected. $$TEPP - 01 = 100 \cdot \left(1 - \frac{N^{O}\ PAx_{t>10\ min}}{N^{O}\ PAX\ MEDIDOS}\right)$$ In the case of airports with more than one terminal building and/or control points, the values obtained will be weighted according to the number of departing passengers using each terminal and/or control points to obtain a single value indicator throughout the airport.
TARGET LEVEL	95% of passengers with waiting times of less than 10 minutes.
INCENTIVES / PENALTIES	Yes

Source: DORA 2017-2021

Table Appendix 3.8. TEPP-02 Indicator.- Waiting time until delivery of the last baggage item

WAITING TIMES IN PROCESSING POINTS	
TEPP-02.- Waiting time until delivery of the last baggage item	
DEFINITION	Relationship between the number of flights whose time of delivery of the last baggage item in the corresponding baggage claim area is less than a predetermined time and the total number of arrivals using the baggage delivery service.
INDICATOR AIM	To know the efficiency of the luggage delivery process through the time between the arrival of the aircraft and the delivery of luggage to passengers.
SCOPE OF APPLICATION	All airports in the Aena network that have baggage claim concourses.
METRIC	Arrival aircraft that have used the baggage delivery service will be classified and accounted in accordance with the number of seats, the percentage of flights whose last baggage item takes more than one pre-established time to be delivered will be calculated for each of the aircraft categories, weighted in accordance with incoming aircraft for each category: $$TEPP-02 = 100 \cdot \left[1 - \frac{VEH^{>T1}_{<A1} + VEH^{>T2}_{A1-A2} + VEH^{>T3}_{A2-A3} + VEH^{>T4}_{A3-A4} + VEH^{>T5}_{>A4}}{VEH}\right]$$ Whereby: ▪ $VEH^{>Ti}_{Aj-Aj+1}$: Number of arrival flights of arrival using the baggage delivery service whose aircraft is between A_j and A_{j+1} seats that have taken more than a preset time Ti to deliver the last luggage item to the corresponding claim concourse. ▪ VEH: Total number of inbound flights using the baggage delivery service.
TARGET LEVEL	The times and maximum levels of delivery (level 2) for the last baggage item that are listed in the specifications and category 3 ramp support services contract will be set as target levels (according to the classification of activities in Annex of RD 1161/1999) at each airport, shown below in this document. For airports that have a baggage handling system, to this target level, the average processing time for luggage in this system calculated based on available data from the previous year will be added.

IATA AIRPORT CODE	TERMINAL / AREA	TIME ACCORDING TO NUMBER OF AIRCRAFT SEATS (AIBT+t) *					Compliance Level 2
		0-165		166-260	261-350	> 350	
		0-100	101-165				
MAD	T123, T4	35		45	50	55	98.00%
	T4S	35					90% (Tier 1)
BCN	ALL	20	25	30	35	40	100.00%
PMI	AREA 1	17	23	28	35	40	100.00%
	AREA 2	20	26	31	38	44	100.00%
	AREA 3	21	27	32	40	45	100.00%
	AREA 4	22	29	34	41	46	100.00%
	AREA 5	27	33	38	45	51	100.00%
AGP, LPA, ALC, VLC, FUE, IBZ, ACE, MAH, QGZ, SCQ, SVQ, REU, VDE	ALL	30		40		45	100% 98.8% MAH
TFS	ALL	30 (0-199)		40 (200-350)		45	100.00%
BIO	ALL	25		35		40	100.00%
HCT	ALL	20		35		40	100.00%
TFN	ALL	20	30	35		40	100.00%
OVD	ALL	20	25	40		45	100.00%
VIT, ZAZ	ALL	20		30		35	100.00%
LCG, LEI, BJZ, RGS, ODB, GRX, HSK, XRY, LEN, RJL, MJV, PNA, EAS, SLM, SDR, VLL, VGO	ALL	30		40		45	100.00%
MLN, ABC	ALL	20		30			100.00%
SPC	ALL	25	30	35	40	45	100.00%

* For level 2 compliance, the times listed in the table increased by 50% will be taken into account.

INCENTIVES / PENALTIES	Yes

Source: DORA 2017-2021

A3.3. Availability indicators for facilities in the terminal building

The availability indicators for each facility are listed below, as well as the methodology for application during the five-year period.

Table Appendix 3.9. DEET-01 Indicator.- Availability of electromechanical equipment, baggage carousels and Baggage Handling Systems (STE)

AVAILABILITY OF FACILITIES IN THE TERMINAL BUILDING	
DEET-01.- Availability of electromechanical equipment, baggage carousels and Baggage Handling Systems (STE)	
DEFINITION	Relationship between the time when the electromechanical equipment used by passengers (lifts, moving walkways and escalators), baggage claim carousels and Baggage Handling Systems (STE) and the time that these must be available.
INDICATOR AIM	To know the efficiency of preventive and corrective maintenance of electromechanical equipment that the airport makes available to passengers, baggage claim carousels and Baggage Handling Systems, through the time they are available for usage.
SCOPE OF APPLICATION	All airports in the Aena network that have any of this equipment.
METRIC	This will be calculated, for each of the airport terminals, as the percentage of time that the equipment installed therein is available: $$DEET-01 = 100 \cdot \left[1 - \frac{\sum_{i=1}^{EI} TND_i}{\sum_{i=1}^{ET} TT_i}\right]$$ Whereby: ▪ TND_i: Time that element i was not available ▪ EI: No. of items that suffered outages. ▪ TT_i: Total time that element i should have been operational. ▪ ET: Number of items to take into account on the indicator. In the case of airports with more than one terminal building, the values obtained according the total number of passengers using each terminal building will be weighted to obtain a single indicator value throughout the airport.
TARGET LEVEL	99% of the operating time.
INCENTIVES / PENALTIES	Yes

Source: DORA 2017-2021

Table Appendix 3.10. DEET-02 Indicator.- Availability of Automatic Baggage Handling System (SATE)

AVAILABILITY OF FACILITIES IN THE TERMINAL BUILDING	
DEET-02.- Availability of Automatic Baggage Handling System (SATE)	
DEFINITION	Relationship between the operating time of the total Automatic Baggage Handling System (SATE) in which delays occur in the processing time of the luggage due to the system being in "downtime" or "out of order" and time that the system must be operational without incident.
INDICATOR AIM	To know the efficiency of preventive and corrective maintenance for the Automatic Baggage Handling System (SATE), through its effects on baggage handling times.
SCOPE OF APPLICATION	All airports in the Aena network that have an Automatic Baggage Handling System (SATE).
METRIC	This will be calculated, for each of the Automatic Baggage Handling Systems installed at the airport, on the percentage of time that the same is available: $$DEET - 02 = 100 \cdot \left[1 - \frac{TND}{TT}\right]$$ Whereby: ▪ TND: Time in which the SATE measured was not available. ▪ TT: Total time that the SATE measured should have been operational. In the case of airports with more than one automatic baggage handling system, the values obtained by the number of baggage processed by each system will be taken, to obtain a single indicator value throughout the airport.
TARGET LEVEL	99% of the operating time.
INCENTIVES / PENALTIES	No

Source: DORA 2017-2021

Table Appendix 3.11. DEET-03 Indicator.- Availability of automated people mover system (APM) between terminals

AVAILABILITY OF FACILITIES IN THE TERMINAL BUILDING	
DEET-03. - Availability of the automatic connection system between terminals (APM)	
DEFINITION	Relationship between the time when the automated people mover system between terminals (APM) is operational and the time that it should be available. The indicator distinguishes between the operating time in which operations are normal, the time in a downgraded state and the one that interrupts the service.
INDICATOR AIM	To know the efficiency of preventive and corrective maintenance of the APM system, through the time that a minimum number of convoys capable of handling demand are available for use.
SCOPE OF APPLICATION	All airports in the Aena network that have an automated people mover system (APM) between terminals. Currently the only airport that has this system is Adolfo Suárez Madrid-Barajas Airport.
METRIC	Operation with 2 or more operating trains (normal operation): $$DEET - 03A = 100 \cdot \left[1 - \frac{TIS + TFD}{TT}\right]$$ Operation with 1 train (downgraded operation): $$DEET - 03B = 100 \cdot \left[1 - \frac{TIS}{TT}\right]$$ Whereby: ▪ TIS: Outage time (without operation). ▪ TFD: Time that the system ran in downgraded operation (operation with 1 train). ▪ TT: Total time that the entire system should have been operational.
TARGET LEVEL	97% of the "normal operation" time with at least 2 trains (DEET-03A). 99% of the "downgraded operation" time with at least 1 train (DEET-03B).
INCENTIVES / PENALTIES	No

Source: DORA 2017-2021

A3.4. Air side facility availability indicators

The availability indicators for each airside facility are listed below, as well as the methodology for application during the five-year period.

Table Appendix 3.12. DELA-01 Indicator.- Availability of parking places

AVAILABILITY OF AIR SIDE FACILITIES	
DELA-01.- Availability of parking places	
DEFINITION	Relationship between the time when the relevant aircraft parking places are operating and time that they must be available.
INDICATOR AIM	To know the efficiency of preventive and corrective maintenance of parking places where aircraft are parked for boarding / unboarding of passengers and the provision of ground assistance, through time they are available for use.
SCOPE OF APPLICATION	All airports in the Aena network.
METRIC	The percentage of time that the parking places are available is calculated: $$DELA-01 = 100 \cdot \left[1 - \frac{\sum_{i=1}^{STI} TND_i}{\sum_{i=1}^{STT} TT_i}\right]$$ Whereby: ▪ TND_i: Time that parking place I was not available. ▪ STI: Number of parking places that suffered outages. ▪ TT_i: Total time that parking place i should have been operational. ▪ STT: Number of parking places to be considered in the indicator.
TARGET LEVEL	99% of the operating time.
INCENTIVES / PENALTIES	Yes

Source: DORA 2017-2021

Table Appendix 3.13. DELA-02 Indicator.- Availability of boarding air bridges

AVAILABILITY OF AIR SIDE FACILITIES	
DELA-02.- Availability of boarding air bridges	
DEFINITION	Relationship between the time the boarding air bridges are operational and the time they must be available.
INDICATOR AIM	To know the efficiency of preventive and corrective maintenance of the boarding air bridges used for passengers' boarding / unboarding, through the time they are available for use.
SCOPE OF APPLICATION	All airports in the Aena network that have boarding air bridges.
METRIC	This will be calculated, for each one of the terminals of the airport, as the percentage of time that the air bridges installed therein are available: $$DELA - 02 = 100 \cdot \left[1 - \frac{\sum_{i=1}^{PI} TND_i}{\sum_{i=1}^{PT} TT_i}\right]$$ Whereby: ▪ TND_i: Time that air bridge i was not available. ▪ PI: Number of air bridges that suffered outages. ▪ TT_i: Total time that air bridge i should have been operational. ▪ PT: Number of air bridges to take into account in the indicator. In the case of airports with more than one terminal building, the values obtained by the total number of passengers using each terminal building will be weighted to obtain a single indicator value throughout the airport.
TARGET LEVEL	99% of the operating time.
INCENTIVES / PENALTIES	Yes

Source: DORA 2017-2021

Table Appendix 3.14. DELA-03 Indicator.- Availability and continuity of Communications, Navigation and Surveillance (CNS) services

AVAILABILITY OF AIR SIDE FACILITIES	
DELA-03.- Availability and continuity of Communications, Navigation and Surveillance (CNS) systems	
DEFINITION	Weighted compliance average of the availability and continuity indicators of the different CNS services with respect to the milestones defined in the specific appendices for the airport, under the Agreement for the Provision of Services between the airport operator and the provider of air navigation services.
INDICATOR AIM	To know the degree of compliance of target levels for the fundamental aspects of CNS systems, in particular, on availability and continuity, through the fulfilment of the established goals.
SCOPE OF APPLICATION	All airports in the Aena network that have CNS equipment.
METRIC	The compliance percentage rate, duly weighted, of availability and continuity goals will be calculated. $$DELA\text{-}03 = 100 \cdot \left[\sum_{i=1}^{CNS} w_i \cdot D_i + \sum_{i=1}^{CNS} w_i \cdot C_i\right]$$ Whereby: Availability ▪ $D_i = \begin{cases} d_i, & si\ d_i < 1 \\ 1, & si\ d_i \geq 1 \end{cases}$; whereby d_i = CNS i Service Availability / CNS i Service Availability Goal ▪ Availability of CNSi service $$\text{Availability of CNSi service} = \left[1 - \frac{TND_i}{TT_i}\right]$$ ▪ TND_i: Time that the i facility was not available. ▪ TT_i: Total time that the i facility should have been operational. Continuity ▪ $C_i = \begin{cases} c_i, & si\ c_i < 1 \\ 1, & si\ c_i \geq 1 \end{cases}$; whereby c_1 = CNS i Service Continuity / CNS i Service Continuity Goal ▪ W_i: Weighting assigned to service i for calculating the indicator. $\sum_i Wi = 0{,}5$ ▪ CNS: Number of CNS services to be considered. CNSI service availability and continuity target according to the goals set in the Service Charter 2016-2018 of the Public Sector Company Enaire (Ruling of 21 January 2016, by the Undersecretary of the Ministry of Public Works). The fulfilment of the goals of continuity and availability will be fixed at the level of each of the equipment items that make up the Air Navigation System in the airport area, yet the ultimate goal is the achievement of an overall value of the services provided, taking into account redundancies deemed necessary for achieving the levels of continuity of service demanded by the specific operational requirements set forth for each airport. Likewise, high levels of availability of different services must be guaranteed, which vary depending on the criticality thereof; in this sense it will be particularly important to have suitable radio systems as a last resort, duly sized to ensure maintaining service levels in case of contingency.
TARGET LEVEL	100% of compliance of goals.
INCENTIVES / PENALTIES	Yes

Source: DORA 2017-2021

A3.5. Indicators belonging to other key areas

The other indicators are described below, as well as the methodology for application during the five-year period.

Table Appendix 3.15. OTAC-01 Indicator.- Response time to complaints about airport management

OTHER KEY AREAS	
OTAC-01.- Response time to complaints about airport management	
DEFINITION	Relationship between the number of airport management claims that are answered by the manager before a predetermined time limit and the total number of airport management claims received by the airport.
INDICATOR AIM	To know the efficiency of the quality management system as far as complaints handling is concerned, compared to the time used by the airport operator to analyse a claim and issue a conclusive answer to the sender.
SCOPE OF APPLICATION	All airports in the Aena network.
METRIC	The percentage of claims that are answered within 5 working days will be calculated: $$OTAC-01 = 100 \cdot \left[1 - \frac{QRR_{>5}}{QRT}\right]$$ Whereby: ▪ $QRR_{>5}$: Number of complaints / grievances on airport management for which the airport has taken a position on them and answered the interested parties within a period of 5 or more working days upon their receipt. ▪ QRT: Total number of complaints / grievances related to airport management.
TARGET LEVEL	95% of claims must be answered within 5 business days upon their receipt.
INCENTIVES / PENALTIES	Yes

Source: DORA 2017-2021

Table Appendix 3.16. OTAC-02 Indicator.- Delay due to airport infrastructure

OTHER KEY AREAS	
OTAC-02.- Delays due to airport infrastructure	
DEFINITION	Average delay in minutes classified as code 87 (airport infrastructure) according to the IATA handling manual at airports (Airport Handling Manual) for each IFR output operation.
INDICATOR AIM	To know the efficiency of operation management by the airport operator through delays caused by the airport facilities in departure operations.
SCOPE OF APPLICATION	All airports in the Aena network with commercial passenger traffic.
METRIC	The number of minutes' average delay classified as code 87 for each IFR flight departure will be calculated. $$OTAC-02 = \frac{\sum_{i=1}^{VID} MIN_i^{87}}{DEP_{IFR}}$$ Whereby: ▪ VID: Number of IFR flights with delay classified as code 87. ▪ $MIN_i^{87:}$ Minutes of delay classified as code 87 in departure operation i. ▪ DEP_{IFR}: Total number of IFR departure operations.
TARGET LEVEL	For those airports in which data is available for the delay considered, obtained from the Central Office for Delay Analysis (CODA) of Eurocontrol, for the level of the target delay the worst result in annual delays obtained during the reference period (2014 and 2015) shall be taken.
INCENTIVES / PENALTIES	No

Source: DORA 2017-2021

Table Appendix 3.17. OTAC-03 Indicator.- Additional time on runways

OTHER KEY AREAS	
OTAC-03.- Additional time on runways	
DEFINITION	Average differences between the actual average time of taxiing from the parking position to the take-off and standard running time "without impediment" (unimpeded Taxi-out time).
INDICATOR AIM	To know the efficiency in managing operations at the airport, once the limit values for additional taxiing time at each airport are agreed, deviations will be analysed in order to determine whether they are attributable to the tower service.
SCOPE OF APPLICATION	For airports of > 70,000 annual IFR movements.
METRIC	The average difference between the actual running time is calculated from off-block to take-off and the standard unimpeded running time, expressed in minutes and with an accuracy of 1 decimal: OTAC-03 = Average ([Time Running G_i - Time With No Impediment G_i] Whereby: ▪ G_i:Take-off Group (ACFT. Stand. Runway). ▪ Taxiing time: real-time taxi manoeuvres from off-block to take-off in minutes ▪ Taxi time without impediment: standard running time in minutes without impediment
TARGET LEVEL	The reference level is established based on data historical available. The initial reference level shall be determined from data of the Performance Review Unit (PRU) of Eurocontrol, based on an average of the existing values for the airports.
INCENTIVES / PENALTIES	No

Source: DORA 2017-2021

A3.6. Exceptional Circumstances

This DORA 2017-2021 stipulates as exceptional circumstances for the sole purpose of calculating the availability of facilities, or in the computation of time compliance indicators, those listed below:

- Terrorism.
- Natural disasters.
- Special public national events involving very high concentrations of passengers subject to acceptance by the AESA. (I.e. the Olympic Games).
- Changes in the level of national security decreed by the Ministry of the Interior.
- Scheduled maintenance, for which the total annual figure will be deducted from the availability time of equipment and parking spaces to be used for calculating the respective indicators, except for the CNS availability and continuity of service indicator.

However, during the execution of the DORA, Aena may ask the AESA to consider other possible circumstances not included on the list above as an exception. Following this request, the AESA will study each specific case and will decide whether to include them as an exception. These exceptional cases are not in principle related, nor are they necessarily those provided for in Article 27 for the purposes of justifying a review of the DORA, which does not mean that any of them may not be considered for this purpose if they meet the conditions stipulated in the article.

APPENDIX 4

MINIMUM CONDITIONS OF SERVICE

Table of contents

List of tables

A4.1. Minimum conditions of service

According to the provisions of this DORA 2017-2021, this Appendix lists the operating times of airports in the Aena network when the DORA was approved.

Table Appendix 4.1.- Operating hours (UTC)

Airports	Summer season		Winter season		Comments
	Opens	Closes	Opens	Closes	
GROUP I					
Adolfo Suárez Madrid-Barajas	H24		H24		
Barcelona-El Prat	H24		H24		
GROUP II					
Palma de Mallorca	H24		H24		
Málaga-Costa del Sol	H24		H24		
Alicante-Elche	H24		H24		
Gran Canaria	H24		H24		
Tenerife Sur	H24		H24		
Ibiza	H24		06:30	23:00	6
Lanzarote	06:00	00:00	07:00	01:00	
GROUP III					
Valencia	H24		H24		
Fuerteventura	06:30	22:00	07:30	23:00	3
Seville	04:30	23:00	05:30	24:00	5
Bilbao	04:45	21:30	05:45	22:30	4
Tenerife Norte	06:00	22:00	07:00	23:00	3
Menorca	05:00	22:30	06:00	21:00	0
Santiago	H24		H24		
GROUP IV					
Girona	H24		H24		
Asturias	05:30	21:45	06:30	22:45	7
La Palma	07:00	20:30	08:00	21:30	5
Murcia-San Javier	05:30	20:30	06:30	21:30	18
A Coruña	04:30	22:30	05:30	23:30	3
Vigo	04:30	22:30	05:30	23:30	13
Almería	05:10	20:45	06:10	21:45	1
Jerez de la Frontera	04:45	21:00	05:45	22:00	3
Reus	06:00	22:00	07:00	21:00	3
Seve Ballesteros-Santander	05:30	21:00	06:30	22:00	5
FGL Granada-Jaen	05:00	21:15	06:00	22:15	3
GROUP V					
Zaragoza	04:45	21:00	05:45	22:00	15
Melilla	05:50	18:30	07:00	17:30	3
San Sebastián	05:30	19:30	06:30	20:30	1
Valladolid	06:30	19:15	07:30	20:15	
El Hierro	07:10	17:00	08:10	18:00	12
Pamplona	04:30	21:45	05:30	22:45	2
La Gomera	07:00	17:00	08:00	18:00	8
Vitoria	00:00-06:30	18:30-24:00	00:00-07:30	19:30-24:00	14
León	07:30	19:00	08:30	20:00	
Badajoz	06:30	18:00	07:30	19:00	
Logroño	05:00-11:00	17:00-20:00	06:00-12:00	18:00-21:00	11
Salamanca	09:00	15:30	10:00	16:30	
Córdoba	07:00	13:00	08:00	14:00	
Burgos	07:30	17:00	08:30	18:00	10
Sabadell	07:00	SS	08:00	SS	9
Son Bonet	07:15	15:00	09:15	16:00	17
Madrid-Cuatro Vientos	07:00	SS	08:00	SS	16
Ceuta / Heliport	05:30	19:45	06:30	20:45	20
Albacete	07:00	12:30	08:00	13:30	
Algeciras / Heliport	05:30	19:00	06:30	20:00	19
Huesca-Pirineos	07:00	17:00	08:00	16:00	

Source: DORA 2017-2021

Note:

Summer.- Last Sunday in March / Saturday before last Sunday in October.

Canary Islands local time = UTC + 1 HOUR

Rest of Spain, local time = UTC + 2 HOURS

Winter.- Last Sunday in October / Saturday before last Sunday in March.

Canary Islands local time = UTC

Rest of Spain, local time = UTC + 1 HOUR

Remarks

0.- Summer: Plus 25 minutes PPR.
Winter: Plus 45 minutes PPR.

1.- Plus 30 minutes PPR.

2.- Plus 45 minutes PPR.

3.- Plus 1 hour PPR.

4.- Plus 1 hour and 10 minutes PPR.

5- Plus 2 hours PPR.

6.- Winter: Plus 1 hour PPR.
H-24 to 31 October.

7.- Summer: Plus 2 hours PPR.
From the last Friday in June to the first Sunday in September: 05:00 – 23:59. Plus 1 hour PPR.
Winter: Plus 2 hours PPR.

8.- Winter: 28 December to 24 January: 08:05 - 18:00.

9.- Opening at sunrise when this is later than the time specified.

10.- Summer: Monday and Thursday: 06:00 - 18:00. Saturdays: 07:30 – 16:30.
Winter: Monday and Thursday: 07:00 - 19:00. Saturdays: 08:30 – 17:30.
Commercial flights subject to restrictions on operating hours.

11.- Plus 1 hour PPR (except Saturdays).
Summer: Saturdays from 05:00 to 09:00 and Sundays from 16:00 to 19:30.
Winter: Saturdays from 06:00 to 10:00 and Sundays from 17:00 to 20:30.

12.- Summer: 1 July to 30 September: 07:10 - 18:00. Plus 1 hour 30 minutes PPR.
Winter: Plus 1 hour 30 minutes PPR.

13.- Plus 2 hours and 30 minutes PPR for cargo flights.

14.- Summer: Saturdays closed and Sundays from 20:15 to 23:59.
Winter: Saturdays closed and Sundays from 21:15 to 23:59.

15.- Open 24 hours for cargo flights throughout the year.

16.- Closed on the first Sunday of each month except in January and August, with the following opening hours:
Summer: 11:00 to 12:00.
Winter: 12:00 to 13:00.
Except for government aircraft, hospital and emergency flights.

17.- Summer: 07:15 to 19:30 or sunset for non-commercial flights.
Winter: 09:15 to 17:30 or sunset for non-commercial flights.

18.- Summer: Saturdays and Sundays from 06:30 to 20:30. Plus 1 hour PPR.
Civil flights subject to restrictions from 6:25 to 7:20, from 8:45 to 9:40 and 12:05 to 13:00, except on Saturdays, public holidays, in July and August.
Winter: Saturdays and Sundays from 07:30 to 21:30. Plus 1 hour PPR.
Civil flights subject to restrictions from 7:25 to 8:20, from 9:45 to 10:40 and 13:05 to 14:00, except on Saturdays, public holidays and at Christmas (22 December-9 January)

19.- Summer: Saturdays from 07:30 to 09:45 and Sundays from 12:00 to 19:00.
Winter: Saturdays from 08:30 to 10:45 and Sundays from 13:00 to 20:00.

20.- Summer: Saturdays from 07:00 to 10:15 and Sundays from 12:00 to 19:45.
Winter: Saturdays from 08:00 to 11:15 and Sundays from 13:00 to 20:45.

Source: DORA 2017-2021

APPENDIX 5

PLANNED
INVESTMENTS

Table of Contents

List of tables

List of figures

A5.1. Planned Investments

According to the requirements of article 29.1.f) of Act 18/2014, the volume of the investment plan for each airport in the Aena network for the period 2017-2021 is presented below, showing the investments by airport stipulated in this DORA as strategic (S in the table) and Relevant (R in the table).

Table Appendix 5.1. Economic volume of the investment plan by airport, 2017-2021

Community/centre/project	2017	2018	2019	2020	2021	Total
Andalusia	**29.14**	**35.65**	**34.50**	**54.75**	**38.93**	**192.96**
Algeciras	0.06	0.06	0.06	0.06	0.06	0.29
Support and maintenance investments	0.06	0.06	0.06	0.06	0.06	0.29
Almeria	2.94	0.33	3.50	4.83	0.32	11.93
Development and improvement of the navigation aids system	0.70	0.00	0.00	0.00	0.00	0.70
Support and maintenance investments	2.23	0.33	0.33	0.33	0.32	3.56
(S) Remodelling of the terminal building balcony	0.11	0.00	0.00	0.00	0.0	0.11
Other support and maintenance investments	2.12	0.33	0.33	0.33	0.32	3.44
Security of people and facilities	0.00	0.00	3.17	4.50	0.00	7.67
Cordoba	0.28	0.06	0.06	0.06	0.06	0.51
Support and maintenance investments	0.28	0.06	0.06	0.06	0.06	0.51
(R) Work to change threshold 21 to runway extension position	0.21	0.00	0.00	0.00	0.00	0.21
Other support and maintenance investments	0.07	0.06	0.06	0.06	0.06	0.30
Federico García Lorca Granada-Jaen	1.32	2.12	0.75	1.13	1.86	7.17
Development and improvement of the navigation aids system	0.21	1.10	0.40	0.00	0.00	1.71
(R) ATM system in the airport TWR	0.10	0.60	0.00	0.00	0.00	0.70
Other development and improvement of the navigation aids system	0.11	0.50	0.40	0.00	0.00	1.01
Support and maintenance investments	0.61	0.32	0.35	1.12	0.32	2.72
Improvements to airfield and apron	0.50	0.70	0.00	0.01	0.05	1.26
(R) Expansion of airfield drainage	0.44	0.67	0.00	0.00	0.00	1.10
Other improvements to airfield and apron	0.06	0.03	0.00	0.01	0.05	0.16
Security of people and facilities	0.00	0.00	0.00	0.00	1.48	1.48
Jerez	1.41	1.16	0.33	0.33	3.29	6.52
(R) Development and improvement of the navigation aids	0.39	0.00	0.00	0.00	0.00	0.39
Support and maintenance investments	0.74	0.28	0.33	0.33	0.32	2.00
Investments in operational security	0.00	0.08	0.00	0.00	0.00	0.08
Airfield and apron improvements	0.28	0.80	0.00	0.00	0.00	1.08
(R) Screeding of apron A3	0.00	0.80	0.00	0.00	0.00	0.80
Other improvements to airfield and aprons	0.28	0.00	0.00	0.00	0.00	0.28
Security of people and facilities	0.00	0.00	0.00	0.00	2.97	2.97
Malaga-Costa del Sol	18.39	19.60	19.64	34.53	20.13	112.28
Electrical work	0.00	0.00	0.00	0.16	1.43	1.59
Environmental efficiency initiatives	0.67	2.02	0.68	0.11	0.00	3.49
(R) Work on air conditioning and treatment in terminals	0.29	0.68	0.68	0.11	0.00	1.77
(R) Soil decontamination.	0.23	0.00	0.00	0.00	0.00	0.23
Other environmental efficiency initiatives	0.15	1.34	0.00	0.00	0.00	1.49

Community/centre/project	2017	2018	2019	2020	2021	Total
Security of people and facilities	0.51	0.60	11.09	30.44	14.93	57.57
(R) Expansion of security filters in terminal T-3	0.51	0.60	0.00	0.00	0.00	1.11
Other security of people and facilities	0.00	0.00	11.09	30.44	14.93	56.46
Operational security	5.52	8.72	1.75	0.64	0.00	16.63
(R) Replacement of wooded area in the vicinity of runway 12/30	0.12	0.00	0.00	0.00	0.00	0.12
Other operational security	5.40	8.72	1.75	0.64	0.00	16.51
(R) Construction, roads and parking	2.89	0.69	0.00	0.00	0.00	3.58
Seville	4.75	12.31	10.16	13.82	13.22	54.26
Electrical work in the airport	2.00	4.26	3.49	0.00	0.00	9.75
(S) Work on terminal building according to functional design	0.47	0.06	4.88	6.03	3.34	14.79
Support and maintenance investments	1.08	0.83	0.93	0.89	0.82	4.54
Security of people and facilities	0.00	0.00	0.79	4.80	3.73	9.32
Operational security	1.20	7.17	0.07	2.10	5.31	15.86
Aragon	**3.44**	**2.81**	**6.45**	**1.51**	**0.38**	**14.60**
Huesca-Pirineos	0.49	0.61	0.05	0.05	0.05	1.27
Support and maintenance investments	0.49	0.61	0.05	0.05	0.05	1.27
(R) Development and improvement of the navigation aids	0.22	0.14	0.00	0.00	0.00	0.36
Support and maintenance investments	0.28	0.47	0.05	0.05	0.05	0.91
Zaragoza						
Adaptation of aircraft movement area	2.37	0.88	0.12	0.00	0.00	3.37
(R) Expansion of commercial aircraft apron	0.13	0.48	4.03	0.00	0.00	4.64
Support and maintenance investments	0.44	0.84	1.46	0.33	0.32	3.40
(R) Reorganisation of terminal building areas	0.00	0.32	0.00	0.00	0.00	0.32
(R) Geothermal energy installation in terminal building	0.00	0.20	0.00	0.00	0.00	0.20
Other support and maintenance investments	0.44	0.32	1.46	0.33	0.32	2.88
Security of people and facilities	0.00	0.00	0.79	1.13	0.00	1.92
Asturias	**4.80**	**3.09**	**0.30**	**0.50**	**3.25**	**11.94**
Asturias	4.80	3.09	0.30	0.50	3.25	11.94
Refurbishment of terminal building	0.37	0.00	0.00	0.00	0.00	0.37
(R) Development and improvement of the navigation aids	0.00	1.00	0.00	0.00	0.00	1.00
Support and maintenance investments	0.34	0.63	0.30	0.50	0.29	2.05
Security of people and facilities	0.00	0.00	0.00	0.00	2.97	2.97
Operational security	4.09	1.47	0.00	0.00	0.00	5.55
Balearic Islands	**50.97**	**57.39**	**100.98**	**86.28**	**84.71**	**380.32**
Ibiza	14.27	18.47	3.84	5.57	17.72	59.87
Work on airfield and apron	1.94	2.09	0.07	1.18	3.40	8.67
(S) Rapid departure taxiways	0.00	0.01	0.07	1.18	3.40	4.66
Other work on airfield and apron	1.94	2.08	0.00	0.00	0.00	4.01
(R) G/A communications system for TWR	0.00	0.50	0.40	0.00	0.00	0.90
Other Development and improvement of navigation aids system	0.30	0.40	0.00	0.00	0.00	0.70
(R) Relocation of security filters	0.03	2.46	0.00	0.00	0.00	2.49
Other security of people and facilities	0.00	0.00	0.00	0.00	13.35	3.35
Operational security	5.55	1.85	0.03	1.06	0.20	8.70
Menorca	0.76	1.54	6.25	9.92	3.92	22.38
Development and improvement of navigation aids	0.01	0.11	0.66	2.47	3.22	6.47
(R) New control tower	0.00	0.01	0.06	1.32	3.22	4.61
(R) Development and improvement of the navigation aids system	0.01	0.10	0.60	1.15	0.00	1.86

Community/centre/project	2017	2018	2019	2020	2021	Total
Support and maintenance investments	0.68	0.87	0.84	0.70	0.70	3.79
Security of people and facilities	0.00	0.00	4.75	6.75	0.00	11.50
Operational security	0.06	0.56	0.00	0.00	0.00	0.62
Palma de Mallorca	34.96	37.32	90.82	70.73	63.01	296.84
Various work in the terminal building	5.75	8.74	5.26	0.00	0.00	19.76
(S) Treatment system for special baggage in northern check-in	0.65	0.17	0.00	0.00	0.00	0.83
(S) Increase in peak capacity of the SATE	0.00	6.45	4.50	0.00	0.00	10.95
(R) New travelators, lifts and information points	1.27	2.03	0.74	0.00	0.00	4.03
Other projects in terminal building	3.83	0.09	0.02	0.00	0.00	3.95
Work on airfield	4.99	0.04	0.11	0.05	3.53	8.71
(R) Adjustment of gates H6, H7 and H8, H1, H2 northern	4.65	0.04	0.00	0.00	0.00	4.69
(S) Rapid departures on runway 06L-24R	0.00	0.00	0.11	0.05	3.53	3.68
Work on airfield	0.34	0.00	0.00	0.00	0.00	0.34
Environmental efficiency initiatives	0.17	3.77	3.01	0.00	0.00	6.95
(R) Thermal insulation work in terminal building and modules	0.12	1.32	0.00	0.00	0.00	1.44
Other environmental efficiency initiatives	0.06	2.45	3.01	0.00	0.00	5.51
(R) Work on aprons	6.72	11.16	4.74	0.00	0.00	22.62
(S) Adaptation to functional design of airport	0.00	4.61	59.53	46.63	30.05	140.82
Adjustment of facilities to fire regulations	0.62	1.97	2.30	2.97	0.01	7.86
(R) Development and improvement of the navigation aids	0.00	0.18	0.90	0.00	0.00	1.08
Support and maintenance investments	5.52	3.68	2.88	8.51	4.79	25.38
Improvements to firefighting service	0.32	2.10	3.55	4.11	0.04	10.11
Security of people and facilities	1.04	0.00	0.00	0.00	22.25	23.30
Operational security	9.53	0.27	3.81	1.33	0.00	14.95
Development of industrial area	0.27	0.80	4.74	7.14	2.33	15.28
Son Bonet	0.99	0.06	0.06	0.06	0.06	1.23
Support and maintenance investments	0.13	0.06	0.06	0.06	0.06	0.37
Operational security	0.86	0.00	0.00	0.00	0.00	0.86
Canary Islands	**60.95**	**53.31**	**31.22**	**78.55**	**89.06**	**313.10**
El Hierro	0.13	0.13	0.13	0.13	0.13	0.64
Support and maintenance investments	0.13	0.13	0.13	0.13	0.13	0.64
Fuerteventura	6.56	9.70	5.57	0.78	12.65	35.26
(R) Work on aprons	0.25	1.66	1.57	0.00	0.00	3.48
Construction and entrances	0.87	0.00	0.00	0.00	0.00	0.87
(R) Development and improvement of the navigation aids	0.89	0.00	0.00	0.00	0.00	0.89
Support and maintenance investments	2.46	1.43	0.80	0.78	0.78	6.24
(R) Installation and commissioning of photovoltaic solar plants for self-consumption	0.40	0.62	0.00	0.00	0.00	1.02
Other support and maintenance investments	2.05	0.81	0.80	0.78	0.78	5.22
Improved air-conditioning in the terminal building	0.00	0.74	0.95	0.00	0.00	1.69
Security of people and facilities	0.00	0.00	0.00	0.00	11.87	11.87
Operational security	2.09	5.87	2.26	0.00	0.00	10.22
Gran Canaria	13.12	10.24	5.05	31.36	33.62	93.39
Work on parking spaces	0.03	0.67	0.86	0.00	0.00	1.55
(R) Environmental efficiency initiatives	1.50	0.88	0.84	0.00	0.00	3.21
Adjustment and work in movements area	2.90	0.09	0.37	7.83	11.78	22.97
(S) Expansion of entrances to thresholds 03R and 03L	0.00	0.04	0.37	7.83	11.78	20.02
(R) Reinforcement of surfaces on runways 03L-21R and	1.68	0.00	0.00	0.00	0.00	1.68
Other adjustment and work in movements area	1.22	0.05	0.00	0.00	0.00	1.27
(R) Development and improvement of the navigation aids system	0.62	0.50	0.00	0.00	0.00	1.12
Support and maintenance investments	2.43	2.10	2.19	2.19	2.05	10.97
Improved electrical installation and adjacent construction	0.87	0.00	0.00	0.00	0.00	0.87
Security of people and facilities	2.23	1.43	0.79	21.33	19.79	45.57
Operational security	2.55	4.57	0.00	0.00	0.00	7.12

Community/centre/project	2017	2018	2019	2020	2021	Total
La Gomera	0.17	0.55	0.22	0.11	0.11	1.17
Support and maintenance investments	0.17	0.55	0.22	0.11	0.11	1.17
(R) Voice communications system in the TWR	0.05	0.44	0.11	0.00	0.00	0.60
Other support and maintenance investments	0.11	0.11	0.11	0.11	0.11	0.57
La Palma	3.50	1.34	0.25	0.25	4.66	10.01
Support and maintenance investments	0.26	0.26	0.25	0.25	0.21	1.24
Security of people and facilities	0.00	0.00	0.00	0.00	4.45	4.45
Operational security	3.24	1.08	0.00	0.00	0.00	4.32
Lanzarote	6.96	7.16	2.52	1.30	23.73	41.67
(R) Environmental initiatives	1.08	0.47	0.00	0.00	0.00	1.55
(R) Development and improvement of the navigation aids system	0.30	0.40	0.00	0.00	0.00	0.70
Support and maintenance investments	1.39	1.15	0.86	1.24	0.70	5.34
(R) Modernisation and improvement of terminal T1	0.08	0.73	0.00	0.00	0.00	0.82
(R) Improvement of passenger bridges and fingers	0.00	0.00	0.21	0.00	0.00	0.21
Other support and maintenance investments	1.31	0.42	0.65	1.24	0.70	4.31
Improvements in aircraft movement area	2.28	3.41	1.66	0.06	16.54	23.95
(S) Adaptation of apron phase II	1.72	3.41	1.30	0.00	0.00	6.43
(S) Expansion of apron	0.00	0.00	0.36	0.06	16.54	16.96
(R) Refurbishment of paving on rapid departure taxiway E2	0.56	0.00	0.00	0.00	0.00	0.56
Security of people and facilities	0.00	0.00	0.00	0.00	6.49	6.49
Operational security	1.92	1.72	0.00	0.00	0.00	3.64
Tenerife Norte	4.88	5.73	1.57	1.26	0.99	14.45
Work in the terminal building	0.95	0.00	0.00	0.00	0.00	0.95
(R) Development and improvement of the navigation aids system	0.95	0.00	0.48	0.27	0.00	1.70
Support and maintenance investments	1.19	1.62	1.09	0.99	0.99	5.88
Operational security	1.79	4.11	0.00	0.00	0.00	5.90
Tenerife Sur	25.63	18.46	15.89	43.36	13.17	116.50
(R) Environmental efficiency initiatives	0.48	0.58	0.00	0.00	0.00	1.06
Work on airfield	2.18	0.00	0.52	0.88	0.00	3.58
(R) Refurbishment of street T taxiway	2.11	0.00	0.00	0.00	0.00	2.11
Other work on the airfield	0.07	0.00	0.52	0.88	0.00	1.47
(R) Strategic quality plan actions	2.14	0.03	0.00	0.00	0.00	2.17
(S) Adaptation of general aircraft parking apron	14.53	12.20	3.94	0.00	0.00	30.68
Expansion and improvements to terminal building	0.84	2.35	0.02	0.00	0.00	3.21
(S) Adaptation of the T2 building to boarding procedures	0.63	2.35	0.02	0.00	0.00	2.99
(R) Adaptation of main queuing area for checks on passenger safety	0.21	0.00	0.00	0.00	0.00	0.21
(S) Terminal connection building	0.00	0.53	6.09	25.12	0.13	31.88
Support and maintenance investments	1.17	1.78	2.15	1.84	1.84	8.77
Safety of people and facilities	0.23	0.99	3.17	15.52	11.20	31.11
Operational safety	4.06	0.00	0.00	0.00	0.00	4.06
Cantabria	**1.64**	**1.87**	**1.39**	**0.68**	**0.37**	**5.95**
Seve Ballesteros-Santander	1.64	1.87	1.39	0.68	0.37	5.95
Adaptation of terminal area	0.27	0.00	0.00	0.00	0.00	0.27
Development and improvement of navigation aids	0.36	0.75	0.40	0.00	0.00	1.52
(R) Voice communications system	0.36	0.45	0.00	0.00	0.00	0.82
Other navigation aid development and improvement	0.00	0.30	0.40	0.00	0.00	0.70
Support and maintenance investments	0.69	0.78	0.99	0.68	0.37	3.51
(R) New security barrier in northern airport area	0.00	0.00	0.63	0.00	0.00	0.63
Other support and maintenance investments	0.69	0.78	0.36	0.68	0.37	2.89
Operational security	0.31	0.34	0.00	0.00	0.00	0.65
Castilla La Mancha	**0.04**	**0.06**	**0.06**	**0.06**	**0.06**	**0.27**
Albacete	0.04	0.06	0.06	0.06	0.06	0.27
Support and maintenance investments	0.04	0.06	0.06	0.06	0.06	0.27

Community/centre/project	2017	2018	2019	2020	2021	Total
Castile and Leon	**8.85**	**2.97**	**3.62**	**0.37**	**1.85**	**17.65**
Burgos	0.06	0.06	0.06	0.06	0.06	0.30
Support and maintenance investments	0.06	0.06	0.06	0.06	0.06	0.30
Leon	0.19	0.06	3.25	0.06	0.06	3.60
Support and maintenance investments	0.19	0.06	0.06	0.06	0.06	0.42
(R) Road and access improvements	0.00	0.00	3.19	0.00	0.00	3.19
Salamanca	3.50	2.64	0.10	0.04	0.04	6.33
(R) Development and improvement of the navigation aids	1.21	0.00	0.00	0.00	0.00	1.21
Support and maintenance investments	0.05	0.05	0.04	0.04	0.04	0.22
Operational security	2.24	2.59	0.06	0.00	0.00	4.90
Valladolid	5.10	0.21	0.21	0.21	1.69	7.42
Support and maintenance investments	0.21	0.21	0.21	0.21	0.21	1.05
Security of people and facilities	0.00	0.00	0.00	0.00	1.48	1.48
Operational security	4.89	0.00	0.00	0.00	0.00	4.89
Catalonia	**33.95**	**27.98**	**43.78**	**56.33**	**34.34**	**196.38**
Barcelona-El Prat	30.60	22.73	31.32	46.60	25.85	157.10
Work in terminals T1 and T2	1.41	0.27	0.34	0.00	0.00	2.02
(R) Adaptation of passport filter in T1 terminal and retting of T2 bathrooms	0.40	0.00	0.00	0.00	0.00	0.40
(R) Adaptation of baggage delivery carousel for large aircraft	0.00	0.16	0.18	0.00	0.00	0.34
Other work in terminals T1 and T2	1.02	0.11	0.16	0.00	0.00	1.28
(R) Refurbishment of security filters in T1 and T2	0.22	0.50	0.00	0.00	0.00	0.72
Other support and maintenance investments	5.57	4.81	8.29	8.80	8.27	35.74
(R) Expansion of security controls and passport control booths in terminal T2	0.20	0.51	0.00	0.00	0.00	0.71
(R) Adjustments to PRR points and information points	0.72	0.00	0.00	0.00	0.00	0.72
Other security of people and facilities	0.93	3.35	15.84	35.36	16.78	72.25
Operational security	10.73	0.91	0.00	0.00	0.00	11.63
Girona	1.42	3.14	7.03	4.53	3.62	19.75
Environmental efficiency initiatives	0.00	0.00	0.00	0.00	0.00	0.00
Adaptation of taxiways and aprons	0.71	2.24	4.85	2.83	0.25	10.87
(S) Remodelling of apron and adjustment of PCN aerodrome certification	0.67	1.74	1.85	2.83	0.25	7.33
(R) Screeding of taxiway	0.04	0.13	3.00	0.00	0.00	3.17
Other adaptations of aprons and taxiways	0.00	0.37	0.00	0.00	0.00	0.37
(R) Supply in operational condition of an ILS/DME Cat I	0.21	0.00	0.00	0.00	0.00	0.21
Support and maintenance investments	0.50	0.90	1.39	0.58	0.41	3.78
Security of people and facilities	0.00	0.00	0.79	1.13	2.97	4.88
Reus	1.51	1.78	5.29	5.06	4.74	18.38
(R) Development and improvement of the navigation aids	0.00	0.00	0.40	0.50	0.00	0.90
Support and maintenance investments	0.96	0.40	0.34	0.28	0.29	2.26
Apron improvements	0.33	0.00	0.00	0.00	0.00	0.33
(S) New boarding terminal and adaptation of terminal building	0.22	1.38	4.56	4.29	0.00	10.44
Security of people and facilities	0.00	0.00	0.00	0.00	4.45	4.45
Sabadell	0.42	0.33	0.14	0.14	0.13	1.15
Support and maintenance investments	0.28	0.14	0.14	0.14	0.13	0.82
Operational security	0.14	0.19	0.00	0.00	0.00	0.33
Ceuta	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.28**
Ceuta	0.06	0.06	0.06	0.06	0.06	0.28
Support and maintenance investments	0.06	0.06	0.06	0.06	0.06	0.28

Community/centre/project	2017	2018	2019	2020	2021	Total
Extremadura	**0.41**	**0.14**	**0.05**	**0.05**	**0.05**	**0.71**
Badajoz	0.41	0.14	0.05	0.05	0.05	0.71
Support and maintenance investments	0.21	0.14	0.05	0.05	0.05	0.51
Improvement to apron	0.20	0.00	0.00	0.00	0.00	0.20
Galicia	**4.24**	**7.98**	**5.49**	**6.58**	**4.98**	**29.26**
A Coruña	1.75	1.40	1.12	1.46	0.32	6.04
Adaptation of airfield and platform	0.53	0.00	0.00	0.00	0.00	0.53
Development and improvement of navigation aids	0.55	1.05	0.00	0.00	0.00	1.60
(R) Voice communications system in the TWR	0.40	0.50	0.00	0.00	0.00	0.90
Other navigation aid development and improvement	0.15	0.55	0.00	0.00	0.00	0.70
Support and maintenance investments	0.35	0.34	0.33	0.33	0.32	1.67
Refurbishment of terminal building	0.32	0.01	0.00	0.00	0.00	0.33
Security of people and facilities	0.00	0.00	0.79	1.13	0.00	1.92
(R) Develop. and improve. of the navigation aids system	0.00	0.00	0.00	1.05	1.00	2.05
Support and maintenance investments	0.75	0.69	1.62	1.51	0.47	5.02
(R) Work on the waiting sidings	0.00	0.13	1.14	0.98	0.00	2.24
(R) Quality reforms in terminal	0.13	0.00	0.00	0.00	0.00	0.13
Other support and maintenance investments	0.61	0.56	0.48	0.53	0.47	2.65
New firefighting building	0.47	1.55	0.79	0.00	0.00	2.82
Security of people and facilities	0.01	0.00	0.00	0.00	2.97	2.98
Operational security	0.04	1.41	0.00	0.00	0.00	1.46
Vigo	1.22	2.93	1.96	2.57	0.23	8.90
Development and improvement of navigation aids	0.55	2.08	0.05	0.00	0.00	2.68
Support and maintenance investments	0.65	0.34	0.32	0.32	0.23	1.86
Security of people and facilities	0.00	0.00	1.58	2.25	0.00	3.83
Operational security	0.02	0.50	0.00	0.00	0.00	0.52
La Rioja	**0.20**	**1.90**	**0.20**	**0.07**	**0.10**	**2.48**
Logroño	0.20	1.90	0.20	0.07	0.10	2.48
(R) River Ebro containment work	0.03	1.85	0.00	0.02	0.05	1.94
Support and maintenance investments	0.17	0.05	0.20	0.06	0.06	0.54
Madrid	**64.45**	**64.98**	**97.67**	**114.74**	**104.27**	**446.12**
Madrid-Cuatro Vientos	0.22	0.23	0.16	0.16	0.16	0.94
Support and maintenance investments	0.22	0.23	0.16	0.16	0.16	0.94
Adolfo Suárez Madrid-Barajas	64.23	64.75	97.51	114.58	104.11	445.18
Work in movement area - apron	1.57	0.93	1.21	0.00	0.00	3.71
(R) New heliport	0.03	0.04	1.21	0.00	0.00	1.28
(R) Adaptation of paving on aprons	1.25	0.50	0.00	0.00	0.00	1.74
Work in movement area - apron	0.30	0.40	0.00	0.00	0.00	0.69
Work on parking spaces	0.41	4.61	2.94	0.09	0.00	8.04
(R) Bus terminal in T4 and T1	0.20	4.60	2.94	0.09	0.00	7.82
Other work in parking areas	0.21	0.01	0.00	0.00	0.00	0.22
Environmental efficiency initiatives	0.54	1.30	0.98	0.00	0.00	2.81
(R) Air conditioning in bathrooms in T4/T4S	0.00	0.69	0.76	0.00	0.00	1.44
(R) Energy managmt. and savings system in outdoor lighting	0.00	0.27	0.00	0.00	0.00	0.27
(R) Supply with installation of photovoltaic power plant in P1	0.09	0.00	0.00	0.00	0.00	0.09
Other environmental efficiency initiatives	0.45	0.34	0.22	0.00	0.00	1.01
Environmental actions	1.30	0.00	0.00	0.00	0.00	1.30
Development and improvement of navigation aids	3.12	2.61	0.18	1.90	0.17	7.98
(R) GBAS Category III System	0.00	0.00	0.00	1.90	0.17	2.07

Community/centre/project	2017	2018	2019	2020	2021	Total
(R) Renewal of surface radar in the north and south control tower	1.06	0.79	0.18	0.00	0.00	2.03
(R) Adaptation of multilateration system and communications servers	0.64	0.00	0.00	0.00	0.00	0.64
Other navigation aid system development and improvement	1.42	1.82	0.00	0.00	0.00	3.24
(R) Integration and improvement of baggage systems in T123	1.35	0.00	0.00	0.00	0.00	1.35
(R) Installation of 2 integrated traffic control checkpoints in eastern TWR	0.15	0.00	0.00	0.00	0.00	0.15
Other support and maintenance investments	9.46	14.43	17.89	18.19	20.84	80.81
(S) Remodelling of hall 2 for non-Schengen connections Phase 1	0.75	0.00	0.00	0.00	0.00	0.75
(R) New configuration of stands T8, T10 and T12 aircraft for use by Type E aircraft	1.07	0.00	0.00	0.00	0.00	1.07
(R) Rest areas in T1 and T4	0.00	0.00	0.24	0.00	0.00	0.24
(R) Signage for channelling passenger flows and improvements to bathrooms in T4	0.42	0.00	0.00	0.00	0.00	0.42
Other Improvement in quality of companies compared to available resources	1.00	0.00	0.00	0.00	0.00	1.00
Improvement to infrastructures in buildings and entrances	2.12	0.03	3.34	4.58	0.00	10.07
(R) New access to area between runways 15-33	0.00	0.00	3.34	4.58	0.00	7.92
(R) Remodelling of T2 arrival roads	0.37	0.00	0.00	0.00	0.00	0.37
Other improvements to urban infrastructure and access	1.75	0.03	0.00	0.00	0.00	1.78
Improvements to electricity supply	4.02	6.72	0.74	0.20	0.02	11.70
(R) Renewal of landside power plant equipment	2.06	4.10	0.74	0.07	0.02	6.98
Other improvements to electricity supply	1.97	2.62	0.00	0.13	0.00	4.72
Improvements to firefighting service	0.00	0.00	0.01	0.16	8.50	8.67
(S) Remote parking apron T4S	0.79	7.82	15.93	15.89	0.00	40.43
Occupational hazards prevention and accessibility improvements	2.08	2.21	0.23	0.00	0.00	4.53
Refurbishment of terminals T1, T2 and T3	7.56	10.22	33.13	18.74	12.34	81.98
(S) Improvements to T123 according to functional design	0.00	0.00	27.28	17.57	10.86	55.71
(S) Expansion of international zone T1	0.00	0.00	4.91	1.17	1.47	7.56
(S) New façade for arrivals T1 and departures T1	0.73	1.06	0.00	0.00	0.00	1.80
(R) Remodeling of configuration in Docks 5 and 6 of T1	0.42	0.00	0.00	0.00	0.00	0.42
(R) Electromechanical installations for improved vertical communications in T1 and South Dock	1.97	6.79	0.00	0.00	0.00	8.77
(R) Refurbishment of landside facades T2	0.00	1.98	0.93	0.00	0.00	2.91
(R) Work to provide a new image for the connecting corridor between T1 and T2	1.94	0.25	0.00	0.00	0.00	2.19
(R) Bathrooms T1, T2 and T3	1.04	0.00	0.00	0.00	0.00	1.04
Other refurbishment of terminals T1, T2 and T3	1.45	0.13	0.00	0.00	0.00	1.58
Safety of people and facilities	8.40	0.97	0.79	53.12	62.24	125.53
(S) Expansion of T1 filter and expansion of T1 passport control in gates A and B	0.61	0.00	0.00	0.00	0.00	0.61
(R) Work to include TWR in restricted security area	1.85	0.58	0.00	0.00	0.00	2.43
(R) Remodelling and relocation of T4 filter connections	1.50	0.01	0.00	0.00	0.00	1.52
(R) Extension of security filter T4+2 VIP and T2 security control centre	0.45	0.00	0.00	0.00	0.00	0.45
Other security of people and facilities	4.00	0.37	0.79	53.12	62.24	120.52
Operational security	18.12	12.91	19.91	1.72	0.00	52.65
Melilla	**0.58**	**0.21**	**0.44**	**0.21**	**0.21**	**1.65**
Melilla	0.58	0.21	0.44	0.21	0.21	1.65
Support and maintenance investments	0.46	0.21	0.44	0.21	0.21	1.53
Operational security	0.12	0.00	0.00	0.00	0.00	0.12

Community/centre/project	2017	2018	2019	2020	2021	Total
Murcia	**0.21**	**0.21**	**0.21**	**0.21**	**3.15**	**3.98**
Murcia-San Javier	0.21	0.21	0.21	0.21	3.15	3.98
Support and maintenance investments	0.21	0.21	0.21	0.21	0.19	1.02
Safety of people and facilities	0.00	0.00	0.00	0.00	2.97	2.97
Navarra	**0.16**	**0.16**	**0.95**	**1.28**	**0.16**	**2.72**
Pamplona	0.16	0.16	0.95	1.28	0.16	2.72
Support and maintenance investments	0.16	0.16	0.16	0.16	0.16	0.80
Safety of people and facilities	0.00	0.00	0.79	1.13	0.00	1.92
The Basque Country	**7.99**	**23.19**	**2.36**	**5.00**	**9.70**	**48.25**
Bilbao	6.22	16.04	1.05	3.12	8.44	34.88
Environmental efficiency initiatives	0.58	0.00	0.00	0.00	0.00	0.58
(R) New LED lighting	0.26	0.00	0.00	0.00	0.00	0.26
Other environmental efficiency initiatives	0.33	0.00	0.00	0.00	0.00	0.33
(S) Construction of new technical block and refurbishment of the terminal building	0.00	0.01	0.11	2.18	3.05	5.35
Development of terminal roads	0.01	1.30	0.00	0.00	0.00	1.31
Development and improvement of navigation aids	1.02	0.00	0.00	0.00	0.00	1.02
(R) Voice communications system in the TWR	0.82	0.00	0.00	0.00	0.00	0.82
Other navigation aid development and improvement	0.20	0.00	0.00	0.00	0.00	0.20
Support and maintenance investments	0.76	0.90	0.89	0.94	0.94	4.44
Improvements to terminal building	1.19	0.00	0.00	0.00	0.00	1.19
Security of people and facilities	0.07	0.00	0.00	0.00	4.45	4.52
Operational security	2.60	13.83	0.05	0.00	0.00	16.47
(R) New waiting sidings on Runway 30	1.87	5.93	0.04	0.00	0.00	7.83
Other operational security	0.73	7.90	0.01	0.00	0.00	8.64
San Sebastian	1.34	1.72	0.34	0.34	0.11	3.85
Development and improvement of navigation aids	0.40	0.80	0.20	0.20	0.00	1.60
(R) Voice communications system in the TWR	0.40	0.50	0.00	0.00	0.00	0.90
Other navigation aid development and improvement	0.00	0.30	0.20	0.20	0.00	0.70
Support and maintenance investments	0.41	0.92	0.14	0.14	0.11	1.72
(R) Refurbishment of floors and entrances to the terminal	0.00	0.24	0.00	0.00	0.00	0.24
(R) Hydrocarbon separator	0.05	0.35	0.00	0.00	0.00	0.40
Other support and maintenance investments	0.36	0.33	0.14	0.14	0.11	1.08
Operational safety	0.53	0.00	0.00	0.00	0.00	0.53
Vitoria	0.42	5.44	0.97	1.54	1.15	9.52
Support and maintenance investments	0.42	5.44	0.97	1.54	1.15	9.52
(R) Adaptation of the bearing capacity of apron 2 ramp and taxiway E	0.12	5.30	0.84	0.00	0.00	6.26
(R) Adaptation of taxiways and aprons	0.00	0.00	0.00	0.91	0.61	1.52
Support and maintenance investments	0.30	0.13	0.13	0.63	0.54	1.73
Valencia Community	**10.65**	**14.57**	**9.27**	**4.12**	**32.22**	**70.84**
Alicante-Elche	7.83	11.28	5.40	2.49	21.04	48.05
Work on airfield	1.59	6.93	3.68	1.41	0.00	13.60
(R) Widening of internal road surface on apron in front of the New Terminal	0.02	6.93	3.68	1.41	0.00	12.04
Other work on airfield	1.56	0.00	0.00	0.00	0.00	1.56
Environmental efficiency initiatives	0.49	0.00	0.20	0.00	0.58	1.27
Security projects	0.57	0.00	0.00	0.00	17.80	18.37
(R) Development and improvement of the navigation aids system	1.12	0.00	0.00	0.00	0.00	1.12

Community/centre/project	2017	2018	2019	2020	2021	Total
General airport drainage	1.98	2.41	0.00	0.00	0.00	4.39
(R) Adaptation of drainage collector capacity	1.91	2.09	0.00	0.00	0.00	3.99
Other general airport drainage	0.07	0.33	0.00	0.00	0.00	0.40
Support and maintenance investments	2.09	1.94	1.52	1.09	2.66	9.29
(R) Improvements to terminal quality	0.28	0.26	0.00	0.00	0.00	0.54
Support and maintenance investments	1.81	1.69	1.52	1.09	2.66	8.76
Valencia	2.82	3.29	3.87	1.63	11.18	22.80
(R) Work on airfield	0.08	0.49	1.61	0.00	0.00	2.18
(R) Environmental efficiency initiatives	1.65	0.00	0.00	0.00	0.00	1.65
Support and maintenance investments	0.67	0.87	0.77	1.63	2.28	6.22
(R) T1 terminal building fitting	0.00	0.00	0.00	0.74	1.37	2.11
Other support and maintenance investments	0.67	0.87	0.77	0.89	0.91	4.11
Security of people and facilities	0.30	0.00	0.00	0.00	8.90	9.20
Operational security	0.12	1.94	1.49	0.00	0.00	3.55
Various airports	**82.92**	**74.49**	**90.21**	**102.91**	**95.43**	**445.96**
Central Services	23.59	21.38	21.03	17.92	6.75	90.67
Various studies and plans	0.93	0.75	0.50	0.05	0.00	2.23
Support and maintenance investments	2.85	2.94	3.86	3.75	0.63	14.03
Information and communications systems	19.81	17.69	16.67	14.11	6.11	74.40
Various airports (centralised procurement)	**59.33**	**53.11**	**69.18**	**84.99**	**88.68**	**355.29**
(R) Environmental efficiency initiatives	8.17	3.24	9.73	6.49	6.49	34.12
Environmental action	0.45	0.49	0.28	0.00	0.00	1.22
(R) Work on soil decontamination and efficient lighting	0.25	0.29	0.08	0.00	0.00	0.62
Other Environmental initiatives	0.20	0.20	0.20	0.00	0.00	0.60
Visual aids	2.05	2.69	5.41	4.17	4.69	19.01
(R) Framework agreement for the supply of visual aid products	1.00	1.00	3.60	3.00	3.00	11.60
Other Visual aids	1.05	1.69	1.81	1.17	1.69	7.41
Contribution to heritage	6.59	2.03	0.85	1.22	1.22	11.92
Development and improvement of navigation aids	2.29	4.39	3.06	0.00	0.00	9.74
(R) Automatic Terminal Information Service (ATIS)	0.76	2.54	0.43	0.00	0.00	3.73
Other navigation aid development and improvement	1.53	1.85	2.63	0.00	0.00	6.01
Planning studies	1.05	1.04	1.04	1.04	1.04	5.20
Investments in replacements and supplies	1.90	0.79	7.86	36.63	48.33	95.50
Walkways	0.00	5.00	12.00	12.00	12.00	41.00
Security of people and facilities	22.59	7.61	4.31	4.41	4.41	43.32
Operational security	7.71	10.18	10.88	9.19	5.31	43.27
Information and communications systems	6.54	15.64	13.76	9.85	5.20	50.98
Overall total	***365.65***	***373.01***	***429.20***	***514.26***	***503.29***	***2,185.41***

N.B. (S) Strategic Investment. (R) Relevant Investment

Source: DORA 2017-2021

A5.2. Investments plan by asset category

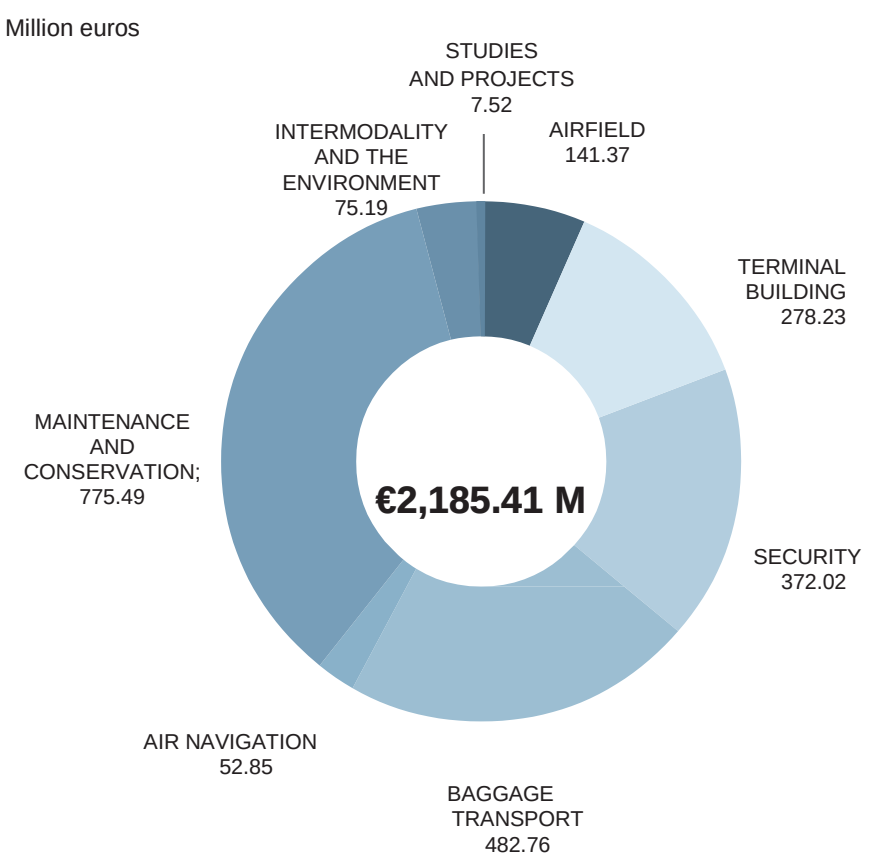
In accordance with the requirements of article 29.1.f) of Act 18/2014, Table Appendix 5.2 shows the overall volume of scheduled investments, based on the different categories set out in the article.

Table Appendix 5.2. Investment plan by category of asset for development, 2017-2021

Investment Categories Million euros	*Total for 2017-2021*	
Airfield	141.37	6.5%
Terminal Buildings	278.23	12.7%
Security	372.02	17.0%
Baggage Transport	482.76	22.1%
Air Navigation Systems	52.85	2.4%
Maintenance and Conservation	775.49	35.5%
Intermodality and the environment	75.19	3.4%
Studies and Projects	7.52	0.3%
Overall total	**2,185.41**	**100.0%**

Source: DORA 2017-2021

Figure Appendix 5.1. Investment plan by category of asset for development, 2017-2021



Source: DORA 2017-2021

A5.3. Investment plan by type of investment

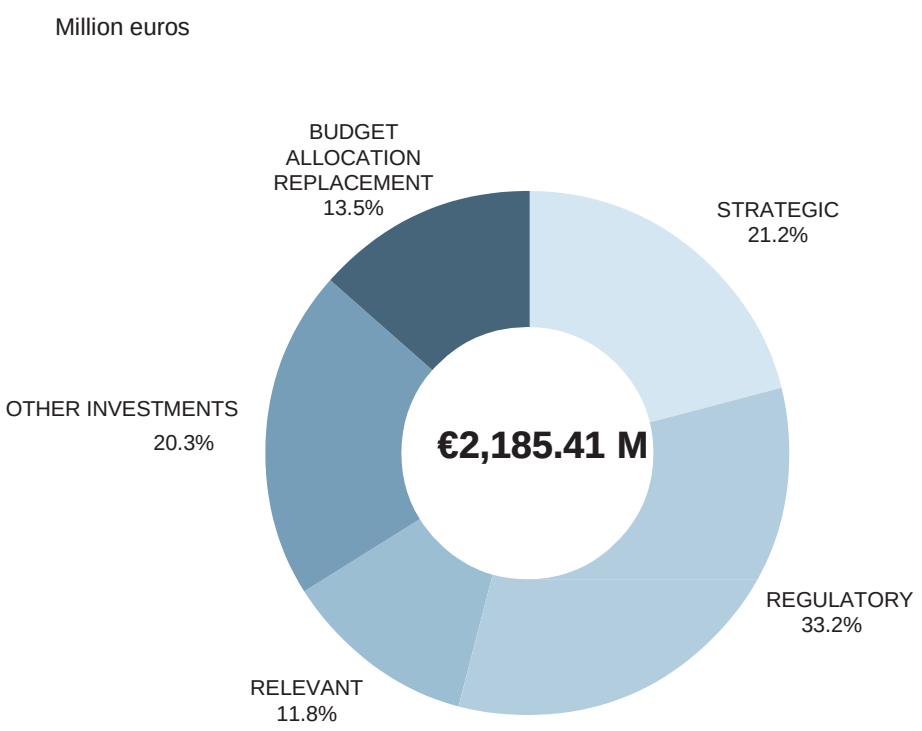
Classification of investments by regulatory category.

Table Appendix 5.3. Investment plan by type of investment, 2017-2021

Type of Investment Million euros	*Total for 2017-2021*	
Strategic	462.88	21.2%
Regulatory	726.60	33.2%
Relevant	258.18	11.8%
Other investments	442.86	20.3%
Budget allocation for replacement	294.89	13.5%
Total for DORA Period	**2,185.41**	**100%**

Source: DORA 2017-2021

Figure Appendix 5.2. Investment plan by type of investment, 2017-2021



Source: DORA 2017-2021

A5.4. Strategic investments

The list of investments classified in the DORA 2017-2021 as strategic and falling within its deadline are shown in the following table:

Table Appendix 5.4. Strategic investments in airports in the Aena network, 2017-2021

Airport	Description of investment	End Date
Adolfo Suárez Madrid-Barajas	Remote parking apron T4S	09/2020
	Improvements to T123 according to functional design	09/2022
Almería	Remodelling of the terminal building balcony	10/2017
Barcelona-El Prat	Remodelling of the South Dock building and T1 apron	12/2020
	Air cargo developments. New Border Inspection Post building	12/2019
Bilbao	Construction of technical building and refurbishment of terminal building	07/2021
Girona	Remodelling of apron and adjustment of PCN	01/2021
Gran Canaria	Expansion of entrances to thresholds 03R and 03L	10/2021
Ibiza	Expansion of aircraft parking apron	12/2020
	Rapid departure taxiways	01/2022
Lanzarote	Adaptation of apron phase II	05/2019
	Extension of apron	01/2023
Palma de Mallorca	Adaptation to functional design of airport	12/2022
	Increase in peak capacity of the SATE and new functions	04/2019
	Rapid departures on runway 06L-24R	12/2021
Reus	Adaptation of terminal building to functional design	10/2020
Seville	Improvements to terminal building according to functional design	12/2021
Tenerife Sur	Terminal connection building and expansion of boarding area	12/2020
	Adaptation of general aircraft parking apron	12/2019
Zaragoza	Expansion of commercial aircraft apron	12/2019

Source: DORA 2017-2021

APPENDIX 6

DEFINITION OF COMPONENTS OF THE IMAAJ

Table of Contents

List of tables

List of figures

A6.1. Calculation of parameter B

The following table shows the **11 indicators** which will be considered within the system of incentives/penalties:

Table Appendix 6.1. Indicators included in the incentives/penalties system

	Indicator name
SPAX-02	Passenger satisfaction with cleanliness in the airport
SPAX-03	Passenger satisfaction with guidance in the airport
SPAX-05	Passenger satisfaction with comfort in the boarding areas
SPAX-06	Satisfaction of PRM regarding accessibility to the airport
WTPP-	Waiting time in security control for passengers
WTPP-	Waiting time until delivery of the last baggage item
AEFT-	Availability of electromechanical equipment, baggage carousels and STE
AEFA-01	Availability of parking places
AEFA-02	Availability of boarding air bridges
AEFA-03	Availability and continuity of CNS services
OKA-01	Response time to complaints about airport management

Source: DORA 2017-2021

The system of incentives/penalties is defined using the following elements applicable to each of the 11 indicators: a target level representing the minimum standard value of quality required, a neutral band in which there is neither an incentive nor a penalty, and maximum levels of incentives and penalties.

According to Article 33 of Act 18/2014, the maximum range of incentives or penalties for the quality of service provided (parameter B) will be between 2% and -2% of the maximum annual revenue per passenger (IMAP). This limit on incentives or penalties for reasons of quality of service shall apply at the network level. For calculation on an individual level, i.e. for each airport in the network, the limit of 2% for discounts will be maintained and a higher limit for penalties will be established of -5%[22].

[22] The limits established both at a network level and individually shall apply only to the process of calculating the parameter B. A specific IMAP for each airport will not be calculated.

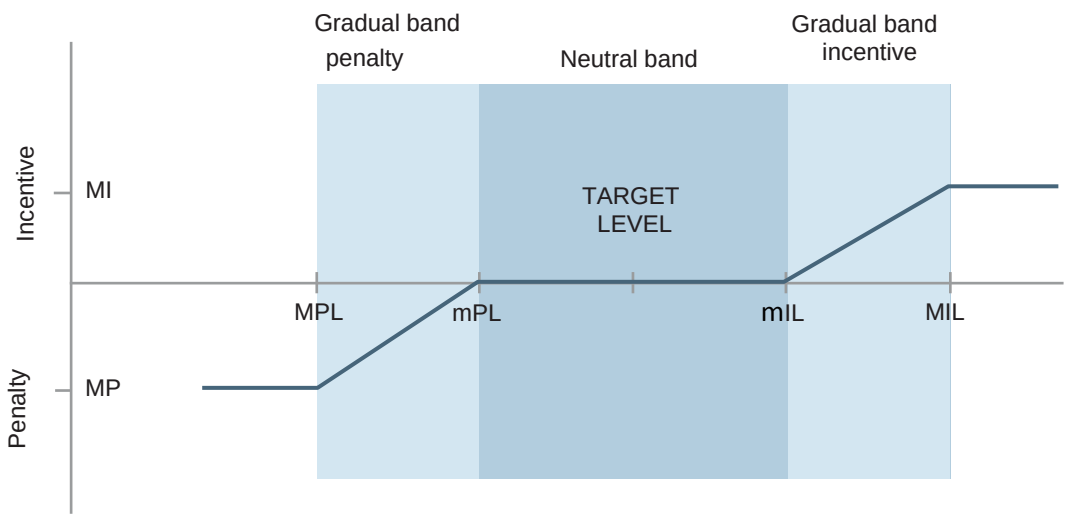
The value of the incentive/penalty for each airport will be the sum of the contributions of each indicator, given that they all have the same specific weighting, and the variation of the indicator from to the target level.

The target value established for this regulatory period for the indicators not included in the system of incentives and penalties will be monitored as part of the DORA oversight activities. In the event of a failure to comply with the established values, Aena will define the corrective actions to improve the results.

A6.1.1. Calculation of parameter B in airport k

To determine the parameter B at airport k (B_k), the general system shown below will be used.

Figure Appendix 6.1. General system of incentives/penalties



mPL: Level at which the penalty applies
mIL: Level at which the incentive applies
MPL: Level at which the maximum penalty is applied
MIL: Level at which the maximum incentive applies
MP: Maximum penalty
MI: Maximum incentive

Source: DORA 2017-2021

- If $I_i \geq MIL$

  $INC_i = MI$

  $PEN_i = 0$

- If $mIL < I_i < MIL$

  $INC_i = MI \cdot I_i - mIL / MIL - mIL$

  $PEN_i = 0$

- If $mPL < I_i < mIL$

  $INC_i = 0$

  $PEN_i = 0$

- If $MPL < I_i < mPL$

  $INC_i = 0$

  $PEN_i = MP \cdot mPL - I_i / mPL - MPL$

- If $I_i \leq MPL$

  $INC_i = 0$

  $PEN_i = MP$

Whereby:

- I_i = value of the measurement of indicator i.
- INC_i = value of the incentive for the indicator i (applicable only in those indicators eligible for generating incentive).
- PEN_i = Value of the penalty on the indicator i
- MPL = level from which the maximum penalty is applied.
- mPL = level from which penalty is applied.
- NmI = level from which incentive is applied.
- MIL = level from which the maximum incentive is applied.
- MI = Maximum Incentive (2%).
- MP = Maximum Penalty (-5%).

Each of the 11 indicators included in the system will have the same weight for the purposes of calculating the parameter B of each airport. At airports with specific infrastructure for the measurement of an indicator, the weighting is performed on the number of indicators measured.

The calculation of the total incentive/penalty (B_k) for each airport will therefore be the sum of the incentives minus the sum of the penalties in the indicators, divided by the total number of indicators included in the system of incentives and penalties.

EC.(04)

$$B_k = \frac{\sum_{i=1}^{IND}(INC_i - PEN_i)}{IND}$$

Whereby:

- B_k = Parameter B of airport k
- INC_i = Value of the incentive for the indicator i
- PEN_i = Value of the penalty for the indicator i
- IND = Number of indicators included in the incentives and penalties system that are measured in airport k.

A6.1.2. Calculation of parameter B of the airport network

Parameter B* for the entire network is obtained as the minimum value resulting from weighting the value of B_k according to the expected annual passenger traffic at the airport concerned compared to the total for the network (method 1), or assigning the same weight to all airports in the network (method 2). This parameter will be expressed as a decimal so that the minimum value obtained must be multiplied by 100. Finally, to obtain the value for B_t, the restriction imposed by article 33 of Act 18/2014 on the maximum range of incentives or penalties for quality of service rendered will be applied to the entire network ± 2 (expressed as a decimal).

$$B^* = 100 \cdot MIN\left\{\sum_{k=1}^{n}\frac{PAX_k}{PAX}\cdot B_k;\ \frac{\sum_{k=1}^{n}B_k}{n}\right\}$$

$$B_t = \begin{cases} B^* & si \quad -2 \le B^* \le 2 \\ -2 & si \quad B^* < -2 \end{cases}$$

EC.(05)

Whereby:

- B_k = Parameter B of airport k
- n = Number of airports and heliports within the Aena network (48 at the time of DORA's approval).

- PAX_k = Annual passenger traffic expected in the DORA for airport k in year t-2, whereby t is the year for which the incentive/penalty is calculated.
- PAX = Annual passenger traffic expected in the DORA for all the network of airports of Aena for the year t-2, whereby t is the year for which the incentive/penalty is estimated.
- B* = Parameter B of the airport network without applying restrictions (maximum penalty and incentive of 2%). This value will never be greater than 2% given the maximum range of incentives established by airport (2%).
- B_t = Parameter B of the airport network once the restriction is applied and expressed as a decimal. This value will be calculated by the supervisor in the airport technical supervision report each year and incorporated into the formula for determining the IMAAJ in Section 3.7.2 of DORA.

The value of parameter B_t will be calculated by the supervisor in the airport technical supervision report for each year and incorporated into the formula for determining the IMAAJ.

According to the stipulated formulation, three situations that may arise for calculation of the parameter B are shown by way of an example.

Table Appendix 6.2. Calculation of Parameter Bt. Case 1

Case 1 Values expressed as a decimal		*B**	*B* (Min Meth 1 and Meth 2)*	*Bt Restriction imposed by Act 18/2014*
Method 1	Weighting for traffic	-3.00	-3.00	-2.00
Method 2	Equal weight for all airports	-1.50		

Source: DORA 2017-2021

Table Appendix 6.3. Calculation of Parameter Bt. Case 2

Case 1 Values expressed as a decimal		*B**	*B* (Min Meth 1 and Meth 2)*	*Bt Restriction imposed by Act 18/2014*
Method 1	Weighting for traffic	-1.50	-1.50	-1.50
Method 2	Equal weight for all airports	+1.00		

Source: DORA 2017-2021

Table Appendix 6.4. Calculation of Parameter Bt. Case 3

Case 3 Values expressed as a decimal		B*	B* (Min Meth 1 and Meth 2)	Bt Restriction imposed by Act 18/2014
Method 1	Weighting for traffic	+2.50	+2.00	+2.00
Method 2	Equal weight for all airports	+2.00		

Source: DORA 2017-2021

A6.2. Calculation of Parameter RI

Act 18/2014 establishes a penalty for delay in meeting the deadline for completion for strategic investments. This penalty is established using the parameter RI which is included as an adjustment of the IMAAJ in the airport technical supervision report each year, depending on the monthly delay that occurs.

The penalty for each strategic investment will be activated when there is a delay of more than 3 months with regard to the termination date established in Table Appendix 6.5.

Table Appendix 6.5. Strategic investments for the period 2017-2021

Airport	Description of investment	End Date	Start Date Penalty	Amount monthly penalty (thousand of €)
Adolfo Suárez Madrid-Barajas	Remote parking apron T4S	09/2020	01/2021	189.5
	Improvements to T123 according to functional design	09/2022	01/2023	144.4
Almería	Remodelling of the terminal building balcony	10/2017	02/2018	1.4
Barcelona-El Prat	Remodelling of the South Dock building and T1 apron	12/2020	04/2021	78.1
	Air cargo developments. New building Frontiers Inspection Post	12/2019	04/2020	15.4
Bilbao	Construction of technical building and refurbishment of terminal building	07/2021	11/2021	50.2
Girona	Remodelling of apron and adjustment of PCN	01/2021	05/2021	23.4
Gran Canaria	Expansion of entrances to thresholds 03R	10/2021	02/2022	150.2
Ibiza	Expansion of aircraft parking apron	12/2020	04/2021	58.7
	Rapid departure taxiways	01/2022	05/2022	33.3
Lanzarote	Adaptation of apron phase II	05/2019	09/2019	37.1
	Extension of apron	01/2023	05/2023	106.0
Palma de Mallorca	Adaptation to functional design of airport	12/2022	04/2023	295.1
	Increase in peak capacity of the SATE and new features	04/2019	08/2019	68.4
	Rapid departures on runway 06L-24R	12/2021	04/2022	34.5
Reus	Adaptation of terminal building to functional design	10/2020	02/2021	48.9
Seville	Improvements to terminal building according to functional design	12/2021	04/2022	67.1
Tenerife Sur	Terminal connection building and expansion of boarding area	12/2020	04/2021	137.7
	Adaptation of general aircraft parking apron	12/2019	04/2020	127.8
Zaragoza	Expansion of commercial aircraft apron	12/2019	04/2020	43.5

Source: DORA 2017-2021

Note: The date of completion of the investment is understood to mean the date on which its final acceptance certificate is signed.

In accordance with Article 33.a.2º of Act 18/2014, a *maximum penalty for delay in the execution of strategic investments is established, with will not exceed 2% of the total annual programming of all investments in the network*, although the maximum annual limit for each individual penalty for strategic investment will be *up to 5% of its annual programming.*

The amount of the annual strategic investment programme is the value of the average annual amount for an investment with a duration longer than 12 months. For investments lasting less than one year, the amount of the annual programme shall be the total investment amount.

Once the 3-month grace period has passed, if the acceptance certificate for the investment has not been signed, the penalty amounts for the delay will begin to be calculated for a maximum period of 4 months.

The monthly penalty amount to be applied to each investment shown in Table Appendix 6.5. is a quarter of the 5% of the amount in the annual programme of the investment. Once the 4-month penalty period has been exceeded, the maximum penalty of 5% of the annual programme has been reached, and longer delays would not therefore increase the amount to be penalised.

The day of the month on which the acceptance certificate for the investment is finally signed will be taken into account when calculating the penalty, making the amount of the penalty associated with that month proportional to the number of days delay for the total of the same month.

For the purposes of determining the amount of penalties, the RI parameter is the sum of the penalties of all the strategic investments with an effective delay occurring between 1 January and 31 December of the year prior to the preparation of the annual monitoring report. If the delay exceeds 31 December, the penalty for the excess will be applied in the following year.

A6.3. Calculation of Parameter D

For the purpose of enabling the recognition by the Secretary of State of the variations provided for in article 31.5[23] of Act 18/2014 (parameter D), Aena will provide notification of the variations that are expected for a given year in the period, no later than on 1 November the previous year, so that they may be taken into account in the annual monitoring report. This variation will be recovered during the second year after application through the IMAAJ. Variations shall be deemed to exist when there is a change in the total annual amount compared to the amount scheduled in the DORA 2017-2021.

For this reason, and to include the gain or loss in the anticipated earnings, the IMAAJ formula will be adjusted using parameter D_t. The value D_t will therefore be consisting of the sum of annual costs, including depreciation and costs of capital associated with the (positive or negative) variations that have been approved within the regulatory period up to the second year prior to application of the IMAAJ.

To that end, Aena will notify the DGCA of the variations from the planned investments by the DORA as follows:

- It will group all the investments together in a single application, which will include an individualised list of all investments for which approval is requested, justifying the grounds for their modification.
- It shall justify the urgent and unforeseeable nature of each of the proposed investments, and their possible impact on capacity and/or quality of service.
- It shall provide justification for the total amount of the changes in investments being a variation of no more than 3% of the total volume of investments scheduled for the entire airport network.

After analysing the documentation referred to in the preceding paragraphs and after having received the required reports, the DGCA will explicitly and justifiably identify the list of investments or variations rejected and will refer the remaining variations to the Secretary of State for approval. The decision is subject to the following criteria:

[22] Article 31.5 of Act 18/2014 stipulates the treatment for positive or negative variations from the investments approved in the DORA, provided that those variations do not arise from the application of regulatory changes, do not affect investments defined as strategic, they cannot be postponed and are unforeseeable, and under no circumstances exceed the annual maximum variation threshold of 3% of the total volume of investment scheduled for each year of the five-year period in the Airport Regulation Document (DORA). The DORA interprets this variation as referring to the total planned annual investment amount and not to variations in specific investments.

i. Any variation/modification affecting strategic investments will be rejected.

ii. In general, all variations which are due to a regulatory change not anticipated at the time of approval of the DORA will be approved, up to a limit of 450 million Euros.

iii. The other investments will generally be approved, provided that:

a) They do not affect investments defined as strategic,

b) they are not derived from the application of regulatory changes,

c) they cannot be postponed and are unforeseeable,

d) and they do not exceed the annual maximum variation threshold of 3%.

In any event, according to the sixth transitory provision of Act 18/2014, the first DORA may not exceed the maximum level of average annual investment for the period of 450 million euros in nominal terms, and including all the variations from the plan recognised in the DORA, unless these are due to regulatory requirements described in that provision.

DORA

2017-2021