

**Report on the fourth year of the quality and environmental
protection Plan for Fiumicino and Ciampino airports**

INDICE

Report on the fourth year of Quality Plan for Fiumicino and Ciampino airports	2
INTRODUCTION	2
QUALITY PLAN: ACTIONS AND ACHIEVEMENTS	4
Context	4
City/Airport Access.....	6
Mobility	7
Parking.....	7
Comfort/Infrastructure	8
Passenger services	10
To confirm the central place of passenger for ADR it is worth highlighting the work carried out relatively to the Wi-Fi connectivity in Fiumicino and Ciampino which allowed to significantly improve service levels offered:	10
• Increased bandwidth available to passengers on both Fiumicino and Ciampino.	10
• New graphical "look & feel".	10
• Revisiting the access to the Wi-Fi connection process by reducing the number of steps required and providing automatic connection for users who have already used the service previously.	10
• Enabling access to social networks and streaming unlimited and free of charge.	10
Terminal and Toilette Cleaning.....	10
ADR has always paid particular attention to the subject of cleaning. In this sense the projects completed in the last year are particularly significant and include:.....	10
Security.....	11
ADR's Service Charter.....	11
Communication.....	12
Among interventions to enhance the information available to passengers it is worth reporting:	12
• Installed 19 65-inch monitors in place of the previous 46-inch to address to reclaim areas.	12
• Replaced 17 42-inch monitors in the luggage reclaim area of Terminal 3 (extra-Schengen) with 46-inch monitors.	12
• Revisited pages displayed on the monitor in order to make it more clear and understandable	12
• Publication on 15 led wall in luggage reclaim area of Terminal 3 of news by LaPresse.....	12
FCO QUALITY INDICATORS	13

CIA Quality Indicators.....	14
ALLEGATO 1	15
CERTIFICAZIONE DELLA SOCIETA' CHE EFFETTUA LE RILEVAZIONI - PRAGMA.....	15
Report on the fourth year of Environmental Protection Plan for Fiumicino and Ciampino airports	18
INTRODUCTION	18
ENVIRONMENTAL PROTECTION PLAN: ACTIONS AND ACHIEVEMENTS.....	18
Waste Management.....	18
Water	19
CO ₂ Emissions.....	19
Noise Pollution.....	20
Energy Consumption.....	20
FCO Environmental Indicators.....	22
CIA Environmental Indicators.....	23

Report on the fourth year of Quality Plan for Fiumicino and Ciampino airports

INTRODUCTION

This report provides the values of the indicators related to the quality of the service for the fourth year of ADR's Economic Regulation Agreement (hereinafter ERA), to both Rome Fiumicino and Ciampino (1 July 2015 - 30 June 2016).

As anticipated in the previous report, due to the fire which occurred at Terminal 3 on the night between 6 and 7 May 2015, quality surveys were halted by May 7 to September 30, 2015. Therefore, for indicators from no. 1 to no. 9 relative to Fiumicino the final accounting period runs from October 1, 2015 to June 30, 2016. For the remaining indicators of Fiumicino and Ciampino final accounting period remains unchanged, ie from July 1, 2015 to June 30 in 2016.

Despite the fire of May 7, 2015, ADR has continued on the process of change already initiated in previous years, by implementing several initiatives to improve the level of quality offered to passengers in every respect: upgrading of parking lots, curbside renewal, improvements in the clarity of the information via monitor, increase the size of the monitors. All this has been carried out without neglecting the improvement of "core" process service times, that ADR regards as a necessary condition for the enhancement of the customer experience.

To further corroborate the discussion, in the fourth annual report performance on indicators included in the ERA highlights:

- Fiumicino: performance above targets in 12 of 13 indicators;
- Ciampino: performance above targets in 8 of 13 indicators.

QUALITY PLAN: ACTIONS AND ACHIEVEMENTS

Context

In order to restore the standard of service offered to passengers prior to the fire and then improve them as a next step, ADR has launched numerous cross-cutting programs throughout the travel experience of passengers, confirming the objective of aligning Fiumicino to the best European airports of comparable size.

With regard to the processes related to the baggage reclaim times, landing the first passenger and punctuality at the start, it is worth signaling the new setting, active since May 18, 2016, relative to the handlers operating at Fiumicino, which includes limiting the number of the same (from 5 to 3). In addition, the handlers performance monitoring system has been further strengthened.

Analyzing the quality perceived trend in recent months, from October 2015 the improvement in key operational processes appears evident, following the resumption of the surveys on the progress of service quality. Looking at the overall indicator on the overall assessment of the satisfaction of passengers, in the first half of 2016 score is 89% of satisfied passengers, a significant improvement (+ 6%) compared to the figures recorded in the last quarter of 2015 (84%). Also it is worth highlighting the perceived quality in the field of cleaning, both terminal and toilet, with the percentage of satisfied passengers reaching 90% for the toilet cleaning, compared to 80% (+ 13%) in the fourth quarter of 2015, and 87 % for terminal cleaning, compared with 83% in the in the fourth quarter of last year (+ 5%).

In terms of quality provided, consistent with the above in relation to the perceived quality, a net increase in service levels in the field of cleaning toilets emerges, with a score of 3.81 (on a 1 "bad scale" 4 "good") in the first half of 2015 risen to 3.95 in the first half of 2016, a 4% improvement. Despite the strengthening of security measures in the wake of the Paris attacks of 13/11/2015, it is worth noting also an improvement of service relative to the security check, which showed 4'00 " in the first half of 2015 and 3'12 " in the first half of 2016, with an improvement of about + 20%. Also worth noting the improved performance relative to the baggage reclaim times, both nationally and internationally, with times in the first half of 2016 down to ca. 23' for the national level (25' in the first half of 2015¹) and 35' for international (39' in first half year of 2015¹).

In line with the improving trend reported by the indicators included in ERA, it is worth noting evidence from the survey conducted by Airport Council International (ACI) with the participation of more than 250 airports around the world, that confirms that the airport of Fiumicino is under a series of actions resulting in a clear break with the past.

In the first two quarters of 2016, on the first data available as a result of the fire, Fiumicino has recorded the best performance ever in relation to the indicator "overall satisfaction". In particular, as shown in the following chart, in the second quarter of 2016 Fiumicino has bridged the gap against the main European peers, ranking well above the average of the panel (+ 4%). In particular, the performance compared to the second quarter of 2015² shows an improvement of 7% (from 3.80 to 4.07, scale from 1-poor and 5-excellent).

GRAFICO: valutazioni relative al giudizio complessivo espresso dai passeggeri per lo scalo di Fiumicino – Fonte ACI (scala di valutazioni compresa tra 1-scadente e 5- eccellente).



During the first half of 2016 compared to the same period of 2015 Ciampino registered an improvement in terms of total satisfied passengers. This is evidenced by a growth in the "overall" indicator from 78% in 2015 to 83% in 2016 (+ 6%). In terms of output quality and in continuity with the above for Fiumicino, it is worth noting improved performance of toilet cleaning, from 3.85 in the first half of 2015 to 3.91 of 2016 (+ 2%), and reduced time through security checks from 5'41" of the first half of last year to 4'12" of 2016 (+ 26%).

City/Airport Access

As for the introduction of the ZTC (Zone Traffic Checked) "Kiss & Go" and ZTL (Limited Traffic Zone) "Stop & Go" in Fiumicino, already described in the previous report, the intervention has been further enhanced through the 'installation of new, more visible external signs enhanced by a variable messaging system. In addition, during the fourth year since ERA start in Fiumicino work on the complete renovation of curbside were completed, revisiting the roads within the airport to both departures and arrivals. The project has resulted in a rationalization of the road system, providing for the road resurfacing, construction of pedestrian comfortable and functional areas, the creation of new parking spaces and green areas within the parks.



With regard to the airport of Ciampino, to allow the improvement of the traffic flow on airport grounds, a ZTL system has been installed, as already implemented in Fiumicino, to ensure the continued control of the vehicle at the point of access' entry and exit from the airport. At Ciampino, moreover, the new Bus Polo with the new roads and new access to parking lots P2, P3 and P4 were completed.

DA: congestione e caos...



Partenze



Arrivi

...A: una viabilità moderna e funzionale



Mobility

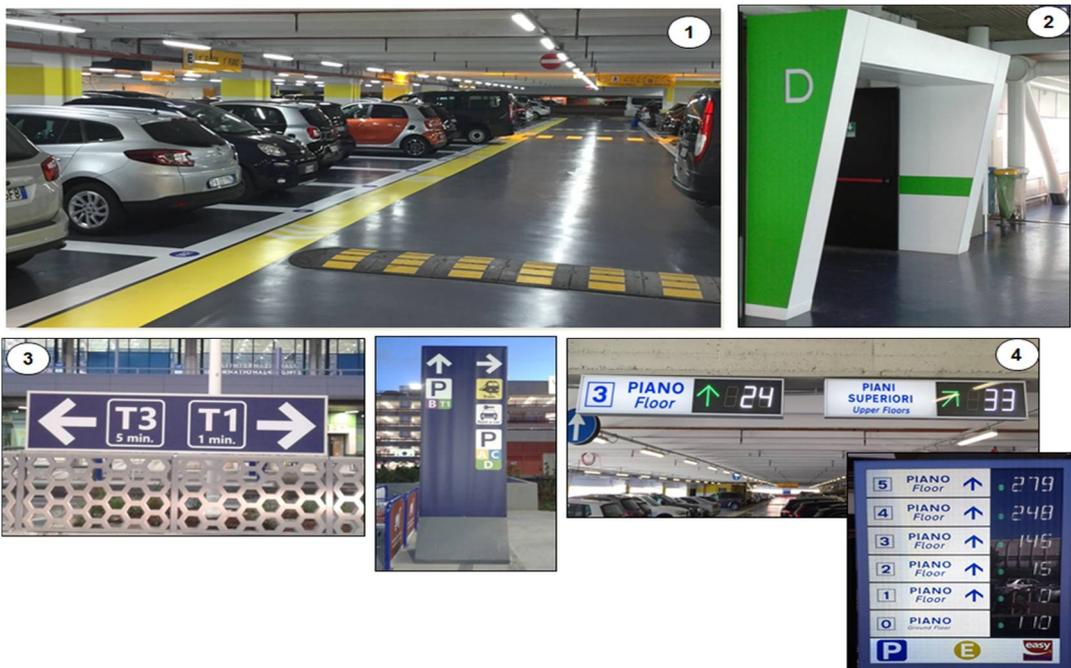
In terms of mobility within the airport, at Fiumicino airport two different pathways were activated, respectively for passengers, with a frequency equal to a shuttle bus every 8 minutes, and for airport operators, with a frequency of a shuttle bus every 15 minutes.

As regards Ciampino, from July 2015 the shuttle bus service that connects the airport's parking lots to the airport has been activated. The expected frequency is a shuttle bus every 12 minutes.

Parking

"Car Parking Revitalization" project progressed aiming to align the Fiumicino parking lots to the standards set by the EPA (European Parking Association). The initiative encompasses the full passenger travel experience, through interventions aimed at improving the quality of internal and external areas of the multi-storey car parks. In particular, among the completed interventions, it is worth highlighting:

1. Renovation of parking areas (new flooring, painting of ceilings and pillars, new lighting system, etc.).
2. Installation of booster facilities for entry to parking by pedestrian walkways.
3. Installation of new signage inside and outside of the car parks.
4. Implementation of a 'counter' system with indications of the number of parking spaces available.



With regard to how to book available in the parking lots, it is to highlight the implementation of the new automatic license plate reading system to associate the reservation made to the vehicle at the time of parking lots (as an alternative to the license plate reading scheduled for the recognition of the booking system by QR-Code technology).

Comfort/Infrastructure

ADR has paid particular attention to the infrastructure over the past few months by completing a number of sites that have helped improve customer satisfaction.

Particularly significant was the reopening of the transit gallery on April 29. Long over 240 meters, the tunnel connects Schengen area with non-Schengen of Leonardo da Vinci airport, allowing to reduce journey times for passengers in transit. In the same area 16 new workstations with e-gates were placed for the electronic verification of European passports with chips, in addition to the 26 new posts for the other passengers channels (EU passengers without electronic passport, All Passports, VISA not required and authorized categories).



Also the area dedicated to the control of passports for passengers arriving at Terminal 3 was expanded, with the increase from 16 to 26 traditional stations and 8 to 12 workstations with e-gates and the implementation of a new technological system of the passenger information achieved through the installation of monitors placed above the cabins for passport control with information relating to the type of flow, number of the cab and availability of the same.

The upgrading of the area (in completion phase) involves the installation of a wavy slatted ceiling, interrupted by a lighting system provided with strip-LEDs, the coating of the pillars of the side surfaces significantly improving the comfort of the passengers.



Among other infrastructural projects that are worth highlighting:

Fiumicino:

- opening of pedestrian subways in front of Terminal 1 and Terminal T3, which made it possible to increase passenger safety with regard to routes to and from the car parks and the train station.
- enlargement and renovation of the luggage reclaim area of Terminal 3.
- complete redesign of the reception point for PRM passengers perfectly integrated into the airside and open to all passengers (priority for passengers with reduced mobility), with high levels of comfort through diffuse illumination using LED technology and new seating.

Ciampino:

- reconstruction of the shelters in the outdoor areas, through the installation of covering mobile structures.

Passenger services

To confirm the central place of passenger for ADR it is worth highlighting the work carried out relatively to the Wi-Fi connectivity in Fiumicino and Ciampino which allowed to significantly improve service levels offered:

- Increased bandwidth available to passengers on both Fiumicino and Ciampino.
- New graphical "look & feel".
- Revisiting the access to the Wi-Fi connection process by reducing the number of steps required and providing automatic connection for users who have already used the service previously.
- **Enabling access to social networks and streaming unlimited and free of charge.**

Among other initiatives completed during the year:

Fiumicino:

- Start of the project "Otello" which provides for the review of the Tax Refund process with the early repayment of VAT for passengers Extra-Schengen and the implementation of VAT Refund in the landside area (Terminal 5 and Terminal 3) and for the airside area transit passengers (hub boarding Areas C and D)
- New passenger multi-lingual telephone interpreting service, accessible through dedicated phone line from any info-point (served about 100 different languages).

Ciampino:

- Expansion of the waiting areas in the airside area through the provision of the passengers of an area previously reserved to a store.
- Creation of a new info-points more visible in the landside area, front entrance security checks.

Terminal and Toilette Cleaning

ADR has always paid particular attention to the subject of cleaning. In this sense the projects completed in the last year are particularly significant and include:

- Installation inside toilets of 'smiley boxes' equipped with alert systems linked to the operations room of Airport Cleaning, which are activated in case of low valuations sequence within a narrow time frame
- Implementation in all toilets of a fragrance system environments
- Activation of new extra cleaning cycles of areas not easily accessible, such as the pedestrian walkways to/from train station, netting satellite ceiling, panoramic elevators
- Delivery to the Airport Cleaning staff training courses on technical aspects, behavioral on quality issues, with particular focus on new recruits.

- Enabling ad hoc behavioral procedures for the proper conduct of business supervision, including that relating to the passage of the Responsible In Round (RIT) in peak hours in terms of access in the toilet (6-14-20 hours) with activation of report on compliance of the plant and possible activation of corrective actions.

Security

It is particularly remarkable the de-stress area built in Terminal 3 post security checks that installed soothing images environmental theme, implemented soft lighting with LED spotlights and installed 26 comfortable seating throughout the area.



Among other completed interventions:

- Installation of smiley-box (as similarly performed for the toilets) also at the security gates in order to identify disturbing elements that have generated dissatisfaction in passenger.
- Installing electronic devices for automatic reading of boarding passes, called "Pax Track", which allow to improve the management of the influx of passengers in the area of security checks.
- Increase in number of comfortable seats to facilitate the passenger after completing the control.
- Preparation of dedicated areas for passengers subjected to control "Quot".

ADR's Service Charter

In order to increase the effectiveness of the monitoring instruments, ADR has changed significantly, in cooperation with the Civil Aviation Authority, the structure of the Service Charter in two directions:

- definition of higher target than performances achieved in 2015
- increase in the granularity of the indicators, providing segmentation of the data for: scope of the flight (Schengen, Extra-Schegen, Domestic) and aircraft type (narrow-body, wide-body, ultra-body).

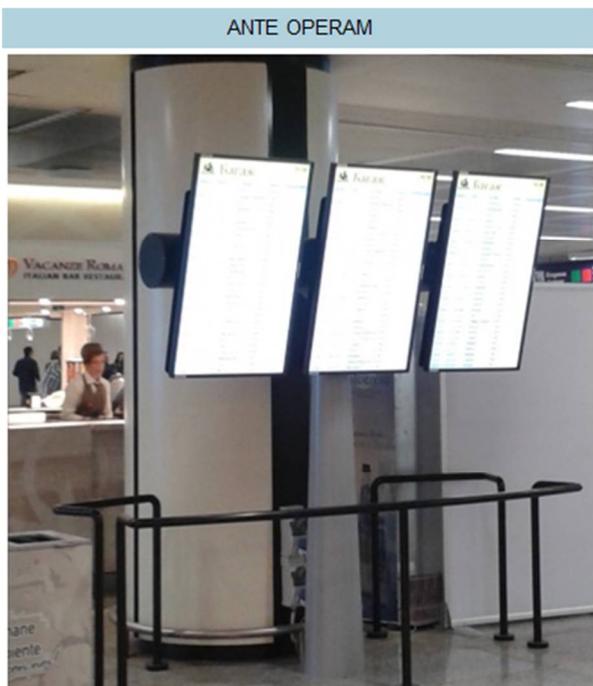
In first half of 2016 at Fiumicino levels were higher compared to 2015 in all the main indicators of quality of service (security, check-in, baggage claim).

At Ciampino airport there is a marked increase of the quality in security process, with a percentage of compliance with standards equal to 97.8% against 94.7% in 2015 (standard 90%), and punctuality with a percentage of punctual flights amounted to 86.2% compared to 78.2% in 2015 (85% standard).

Communication

Among interventions to enhance the information available to passengers it is worth reporting:

- Installed 19 65-inch monitors in place of the previous 46-inch to address to reclaim areas.
- Replaced 17 42-inch monitors in the luggage reclaim area of Terminal 3 (extra-Schengen) with 46-inch monitors.
- Revisited pages displayed on the monitor in order to make it more clear and understandable
- Publication on 15 led wall in luggage reclaim area of Terminal 3 of news by LaPresse.



FCO QUALITY INDICATORS

Indicators from 1 to 9: Oct 2015–June 2016

Indicators from 10 to 12: July 2015 – June 2016

		Fiumicino		
		Performance	Obiettivo	Status
1) Tempo di attesa al controllo bagaglio a mano *	Tempo nel 90% dei casi	00.04.13	00.08.20	OK
2a) Riconsegna ultimo bagaglio *	Tempo di attesa nel 90% dei casi	00.35.35	00.37.23	OK
2b) Riconsegna primo bagaglio *	Tempo di attesa nel 90% dei casi	00.27.06	00.31.57	OK
3) Tempo di attesa in coda al check-in *	Tempo di attesa nel 90% dei casi	00.10.25	00.19.10	OK
4) Percezione complessiva sul livello di comfort *	% pax soddisfatti	85,9%	87,0%	NO
5) Percezione sul livello di pulizia in aerostazione *	% pax soddisfatti	87,5%	80,0%	OK
6) Percezione dell'efficacia dei punti informazione operativi *	% pax soddisfatti	84,8%	83,0%	OK
7) Presenza di segnaletica interna chiara, comprensibile ed efficace *	% pax soddisfatti	87,6%	86,0%	OK
8) Percezione dell'efficienza dei sistemi di trasferimento passeggeri *	% pax soddisfatti	87,7%	87,0%	OK
9) Assistenza PRM *	% pax soddisfatti	99,5%	90,0%	OK
10) Disponibilità punti informazione operativi #	TPHP/N° punti informazione	15,6	22,30	OK
11) Efficienza dei sistemi di trasferimento pax #	% di tempo di funzionamento su 18 h	99,51%	99,2%	OK
12) Affidabilità impianti riconsegna bagagli #	% di tempo di funzionamento su 18 h	99,13%	99,0%	OK

LEGENDA

* Dato fornito da PRAGMA (si veda specifica relazione allegata)

Dato fornito da ADR

- Qualità percepita= % di pax soddisfatti: voti 6+5+4 (scala a 6 punti)/ totale voti

- Tempi medi Q.E. = "hh.mm.ss": ore/minuti/secondi

CIA Quality Indicators

July 2015 – June 2016

		Ciampino		
		Performance	Obiettivo	status
1) Tempo di attesa al controllo radiogeno dei bagagli *	Tempo nel 90% dei casi	00.05.09	00.08.00	OK
2a) Tempo riconsegna ultimo bagaglio *	Tempo nel 90% dei casi	00.26.29	00.25.00	NO
2b) Tempo riconsegna primo bagaglio *	Tempo nel 90% dei casi	00.20.53	00.19.00	NO
3) Tempo di attesa coda check-in *	Tempo nel 90% dei casi	00.19.22	00.21.00	OK
4) Percezione complessiva sul livello di comfort *	% pax soddisfatti	69,1%	90,0%	NO
5) Percezione sul livello di pulizia in aerostazione *	% pax soddisfatti	84,5%	91,0%	NO
6) Percezione dell'efficacia dei punti informazione operativi *	% pax soddisfatti	83,1%	80,0%	OK
7) Presenza di segnaletica chiara, comprensibile ed efficace *	% pax soddisfatti	88,2%	80,0%	OK
8) Percezione del livello di pulizia e funzionalità toilettes *	% pax soddisfatti	76,9%	90,0%	NO
9) Assistenza PRM #	% pax soddisfatti	99,1%	90,0%	OK
10) Up time CREWS (1) #	% tempo di funzionamento su 17H	100,0%	99,5%	OK
11) Disponibilità punti informazione operativi #	TPHP/N° punti informazione	28,18	33,60	OK
12) Affidabilità impianti riconsegna bagagli #	% tempo di funzionamento su 8H	99,7%	99,37%	OK

(1) Dal 1° gennaio 2014 il sistema CREWS è stato sostituito con il sistema CUTE, come da comunicazione del 7/4/14

LEGENDA

- * Dato fornito da PRAGMA (si veda specifica relazione allegata)
- # Dato fornito da ADR
- Qualità percepita= % di pax soddisfatti: voti 6+5+4 (scala a 6 punti)/ totale voti
- Tempi medi Q.E. = "hh.mm.ss": ore/minuti/secondi

ALLEGATO 1

**CERTIFICAZIONE DELLA SOCIETA' CHE EFFETTUA LE
RILEVAZIONI - PRAGMA**



Roma, 18 Luglio 2016

**Oggetto: CONTRATTO DI PROGRAMMA ADR-ENAC: LE PERFORMANCE DEI DUE SCALI ROMANI
(FCO e CIA: Annualità e Anno base)**

Rif. RM14-4405 - Servizi di monitoraggio qualità aeroporti di Fiumicino e Ciampino contratti MAP 0120/14 e MAP 024/15

Pragma srl, l'Istituto incaricato da Aeroporti di Roma (ADR) di monitorare la qualità percepita (attraverso interviste ai passeggeri) e la qualità erogata (attraverso rilevazione oggettiva dei processi aeroportuali) presso gli aeroporti Leonardo da Vinci a Fiumicino e G.B.Pastine di Ciampino, nel presente documento riporta con validazione i risultati emersi nei periodi

a) ANNUALITA'

- 1 ottobre 2015 – 30 giugno 2016 presso lo scalo di Fiumicino

- 1 luglio 2015 - 30 giugno 2016 presso lo scalo di Ciampino

b) ANNO BASE

- Gennaio 2015 – Dicembre 2015 (escluso il periodo impattato dall'incendio: dal 07-mag 2015 al 30-set 2015) presso lo scalo di Fiumicino

- Gennaio 2015 – Dicembre 2015 presso lo scalo di Ciampino

come previsto dal Contratto di Programma ADR-ENAC.

Si fa notare che agli indicatori di qualità percepita (che fanno riferimento alla % di passeggeri soddisfatti) sono stati applicati opportuni fattori di ponderazione in funzione del traffico passeggeri e che agli indicatori di qualità erogata (che fanno riferimento ai "tempi" di erogazione di alcuni servizi) sono stati applicati opportuni coefficienti di espansione nel rispetto metodologico.

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a) ANNUALITA'

FIUMICINO - QUALITA'					
Indicatore	Unità di Misura	Crescente (c) Vs Decrescente (d)	Performance ADR 01/10/15-30/06/16	Obiettivo al 30.06.16 (*)	STATUS
1) Tempo di attesa al controllo bagaglio a mano	Tempo nel 90% dei casi	d	04.13	08.20	OK
2a) Riconsegna ultimo bagaglio	Tempo di attesa nel 90% dei casi	d	35.35	37.23	OK
2b) Riconsegna primo bagaglio	Tempo di attesa nel 90% dei casi	d	27.06	31.57	OK
3) Tempo di attesa in coda al check-in	Tempo di attesa nel 90% dei casi	d	10.25	19.10	OK
4) Percezione complessiva sul livello di comfort	% pax soddisfatti	c	85,9%	87,0%	NO
5) Percezione sul livello di pulizia in aerostazione	% pax soddisfatti	c	87,5%	80,0%	OK
6) Percezione dell'efficacia dei punti informazione operativi	% pax soddisfatti	c	84,8%	83,0%	OK
7) Presenza di segnaletica interna chiara, comprensibile ed efficace	% pax soddisfatti	c	87,6%	86,0%	OK
8) Percezione dell'efficienza dei sistemi di trasferimento passeggeri	% pax soddisfatti	c	87,7%	87,0%	OK
9) Assistenza PRM	% pax soddisfatti	c	99,5%	90,0%	OK

LEGENDA

(*) Dato fornito da ADR

Qualità percepita = % di pax soddisfatti: voti 6+5+4 (scala a 6 punti)

Tempi medi Q.E. = "mm.ss": minuti/secondi

Report on the fourth year of Environmental Protection Plan for Fiumicino and Ciampino airports

INTRODUCTION

ADR is constantly striving to provide quality services, while respecting the environment, being aware of the need to combine the development and economic growth with the preservation of the environment. In view of continuous improvement and reduction of their impacts on the environment and the surrounding communities, the ADR Group is investing more and more economic resources to move from a logic of mere regulatory compliance to proactive management of environmental issues.

In the July 2015 - June 2016 period, environmental indicators related both to Fiumicino and Ciampino reported an improvement comparable to that reported in previous years, with the exception of Fiumicino's sixth environmental indicator, ie. "use of renewable sources of energy" which for regulatory reasons has not yet been started. All environmental indicators included in the Program Agreement therefore show performance well above the targets.

ENVIRONMENTAL PROTECTION PLAN: ACTIONS AND ACHIEVEMENTS

Waste Management

First of all, the indicator "differentiated waste treatment" related to Fiumicino, whose performances have allowed not only to achieve the target set for the fourth period, but placed the "Leonardo da Vinci" among the most virtuous in Europe, is worth a mention.

As a further demonstration of the importance that the Group attaches to the issue of waste, in the month of October 2014 ADR launched at Fiumicino the operational phase of the new waste collection service "door to door", called the "recycling flies". With the implementation of an integrated management, the initiative requires that all waste generated at the airport (resulting from activities related to commercial services, sub-dealers, institutional entities, ADR offices, etc ...) is collected by a single entity, at the point of manufacture, by means of suitable equipment positioned at the loads (containers, plastic and wooden boxes, envelopes). In order to raise awareness regarding airport users and to contain the production of waste, the collection "door to door" service is associated with a rate that varies depending on the amount / type of waste produced and the type of the service selected by the user (collection frequency: large, medium, small).

The project objectives are:

1. increase the percentage of recycling;
2. reduce the unsorted waste sent for disposal;
3. improve the quality of the waste collected.

At the end of the fourth year since ERA, the percentage of recycling in Fiumicino has reached 75%.

In order to continue along this path of raising the percentage of waste sent for recycling, in 2015 two ecological islands at Ciampino airport were completed and made operational, manned by the staff of the contractor. As a demonstration of the effectiveness of the actions carried out, the percentage of recycling in Ciampino recorded in the first half of 2016 stood at 36%.

Water

With reference to indicators on the quality of waste water (COD, BOD 5 and TSS), the recorded performance allow to beat by a margin the targets included in the ERA, thus well ensuring compliance with the legal restrictions.

ADR's commitment to mitigating airport activities in the surrounding area is also demonstrated by the presence of systems – significantly reinforced during 2015 – whose purpose is to purify water off aprons and runways from possible pollutants.

CO₂ Emissions

As a further confirmation of the proactive approach adopted by the company, which goes beyond mere compliance with the rules in force, since 2011 ADR has joined on a voluntary basis the certification system called Airport Carbon Accreditation (ACA) sponsored by ACI Europe (Airport Council International).

This certification scheme provides four rising levels of accreditation, according to the mapping and quantification of emissions and associated containment measures implemented:

- "1 MAPPING" estimate of direct CO₂ emissions;
- "2 REDUCTION": reducing direct emissions;
- "3 OPTIMISATION": evaluation and initiatives for reducing direct and indirect emissions;
- "3+ NEUTRALITY": compensation of direct and indirect emissions on which the company has control.

Already in 2014 Fiumicino has reached the maximum level of accreditation 3+ "Neutrality", offsetting direct emissions by buying "carbon credits" from renewable energy projects, reduction of greenhouse gas emissions and implementation of systems energy-saving lighting.



Ciampino has reached in 2015 the level 3 accreditation "Optimisation", which involves the quantification of all direct and indirect emissions and the demonstration of the absolute or relative improvements of performance achieved.

The reports prepared by ADR to obtain such certificates have been validated by an external auditor recognized by the international body that oversees the issuance of the same.

Noise Pollution

In accordance with the provisions in the ERA and complying with legal requirements, work continued on the airport noise monitoring activities, both in Fiumicino and in Ciampino. The indicators on the subject, "the noise monitoring terminals" and "Up-time noise monitoring network", showed equal or superior performance to the objectives included in the ERA in both airports.

In order to reduce the environmental impact in terms of noise pollution, in the first half of 2015 ADR has entrusted La Sapienza University of Rome to create a simulation model, with the aim of predicting acoustic climate and promptly make the necessary actions to prevent the occurrence of any issues in relation to noise pollution. In 2015, to further improve system performance, the number of monitoring operating units was increased to 19 in Fiumicino, and 10 in Ciampino.

Energy Consumption

In recent years Fiumicino has witnessed a downward trend in electricity consumption due to the significant energy efficiency measures put in place over the years. Consistent with previous years, continued operations of replacing the lighting fixtures with LED technology in a number of areas in Terminals and runways/aprons; The replacement works of the engines of the electromechanical equipment and the baggage handling system with higher efficiency units continued, as well as the installation of the inverters and the works of extraordinary maintenance of refrigerators and cooling towers groups.

At Ciampino airport, in the departure and in the outdoor areas, last year has seen replacement of conventional lamps with next-generation LED technology with high brightness. In the air conditioning system inverters were installed on air handling units and the so-called free cooling has been implemented,

which through the use of external air, reduces energy consumption of the air conditioning system. Also a monitoring system of air conditioning and heating of the airport was installed, in order to allow an automated management of all internal temperatures, with reduction of the times of intervention and saving on operating costs.

Thanks to the interventions described, the KWh / passenger indicator decreased in 2015 in both airports from the previous year, in Fiumicino by 4.2% to 3.76, and Ciampino by 8% to 1.83.

For raising sustainability standards, in 2014 ADR presented the pilot project 'Smart Grid', which involves the construction of energy island for the storage of electrical energy from renewable plants (photovoltaic and micro-mini wind power). The project will be launched in coming months, contributing to the reduction of energy consumption and environmental impact mitigation.

In the first half of 2016 Fiumicino energy consumption was down. In particular, a saving of 2.5% to electricity and 10% on thermal energy was achieved compared to the same period of 2015. This performance, following an already downward trend in previous years, is due to increased energy efficiency measures put in place as well as to climatic factors.

Also in Ciampino the first half of 2016 compared to the same period of 2015 showed a 4% energy saving and 11% cut in heat energy.

FCO Environmental Indicators

July 2015 – June 2016

		FIUMICINO	
		Performance Luglio 2015 / Giugno 2016	Obiettivo
1) Centraline di rilevazione del rumore #	N° centraline fisse di rilevazione del rumore/movimenti aeromobili per 100 000	6,32	6,05
2) Up-time rete di monitoraggio rumore #	% tempo di funzionamento su orario di apertura dello scalo	93,1%	93,0%
3) Trattamento differenziato dei rifiuti #	Quintali di rifiuti raccolti in modo differenziato/quintali totali di rifiuti	75,0%	36,0%
4) a. Trattamento acque reflue - COD (mg/L di O2) #	% rispetto al Limite di Legge (125 mg/L) della concentrazione annuale media di ossigeno necessaria per l'ossidazione chimica dei composti organici ed inorganici nei campioni di acqua reflua degli impianti di Depurazione	27,8%	45,0%
4) b. Trattamento acque reflue - BOD5 (mg/L di O2) #	% rispetto al Limite di Legge (25 mg/L) della concentrazione annuale media di ossigeno necessaria per l'ossidazione biochimica dei composti organici nei campioni di acqua reflua degli impianti di Depurazione	42,4%	64,0%
4) c. Trattamento acque reflue - Solidi Sospesi Totali (mg/L) #	% rispetto al Limite di Legge (35 mg/L) della concentrazione annuale media di solidi sospesi totali nei campioni di acqua reflua degli impianti di Depurazione	21,9%	22,0%
5) Efficienza energetica #	KWh di energia utilizzata nel terminal / mc di terminal	143,5	162,0
6) Utilizzazione di fonti rinnovabili di energia ** #	KWh di energia non prodotta da fonti rinnovabili/ kwh di energia utilizzata dall'aeroporto	1,000	0,990

** valore "0" all'anno base – per ovviare all' "effetto leva" si è invertita l'unità di misurazione rispetto a quanto previsto dalle linee guida.

CIA Environmental Indicators

July 2015 – June 2016

		Ciampino	
		Performance Luglio 2015 / Giugno 2016	Obiettivo
1) Centraline di rilevazione del rumore #	N° centraline fisse di rilevazione del rumore/movimenti aeromobili per 100 000	19,4	17,9
2) Up-time rete di monitoraggio rumore #	% tempo di funzionamento su orario di apertura dello scalo	93,0%	93,0%
3) Trattamento differenziato dei rifiuti # (1)	Quintali di rifiuti raccolti in modo non differenziato/quintali totali di rifiuti	64,5%	85,0%
4) Trattamento acque reflue #	% concentrazione annuale media di ossigeno necessaria per l'ossidazione chimica dei composti organici ed inorganici nei campioni di acqua reflua degli impianti di Depurazione	100,0%	100,0%
5) Efficienza energetica #	KWh di energia utilizzata nel terminal / mc di terminal	124,1	155,00
6) Utilizzazione di fonti rinnovabili di energia #	KWh di energia non prodotta da fonti rinnovabili/ kwh di energia utilizzata dall'aeroporto	1,00	1,00

¹ valore pari all'1% all'anno base – per ovviare all' "effetto leva" si è invertita l'unità di misurazione rispetto a quanto previsto dalle linee guida.