

**2017-2021 fee update**

**Users consultation: investments**

- **First regulatory period 2012/2016: overview**

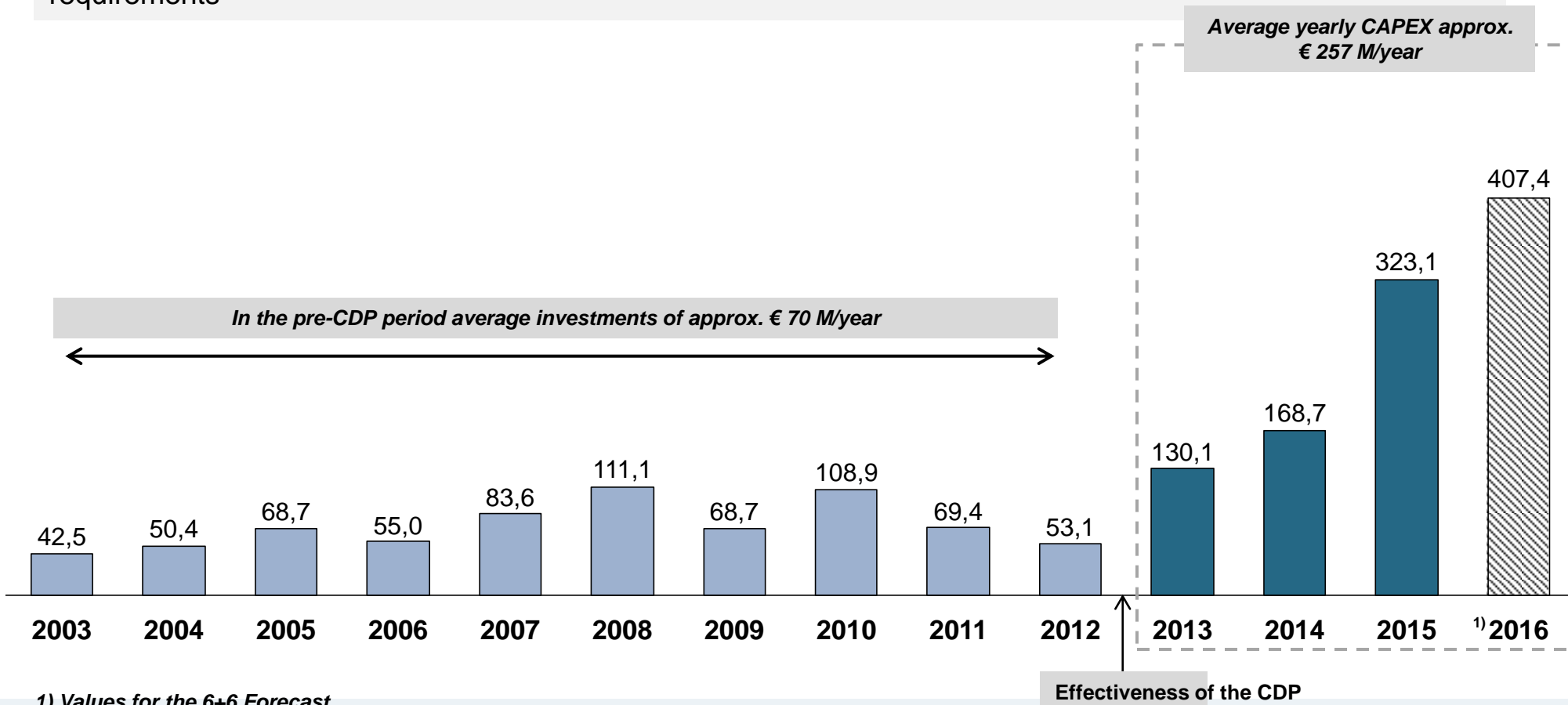
- **Works in 2016**

# Approval of the CDP has made it possible to start infrastructural development and quality improvement

Trend of investments 2003-2016, in € millions

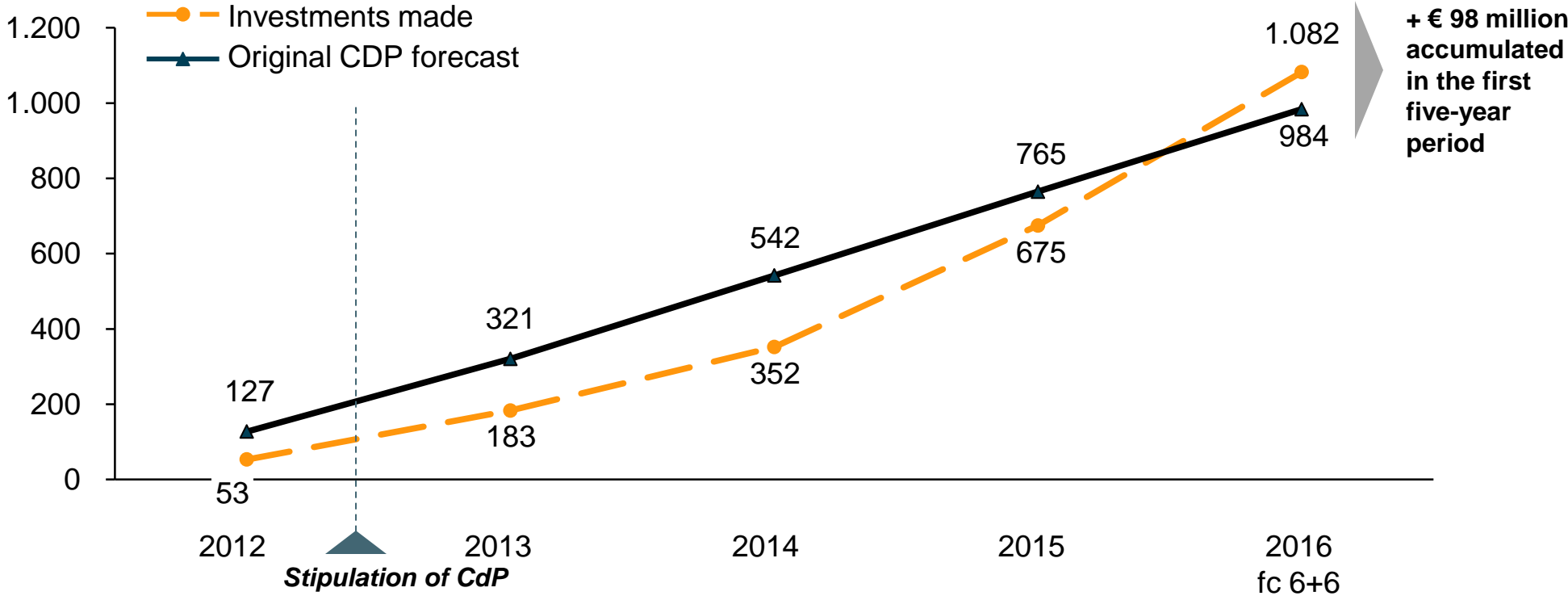
Pre-start of ADR's Economic Regulation Agreement (also ERA or Planning Agreement), since clear and certain rules were lacking, the development of the infrastructure was substantially hindered and investments were restricted to the upkeep of existing infrastructure.

Subsequently, increase of investments to recover the accumulated gap, in line with rising capacity and quality requirements



# In the 2012/2016 five-year period, full compliance with the original CDP forecast is expected, accelerating investments in line with traffic growth

2012 – 2016 Investment Plan cumulative values, in € millions

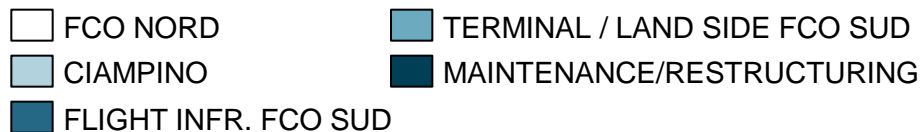
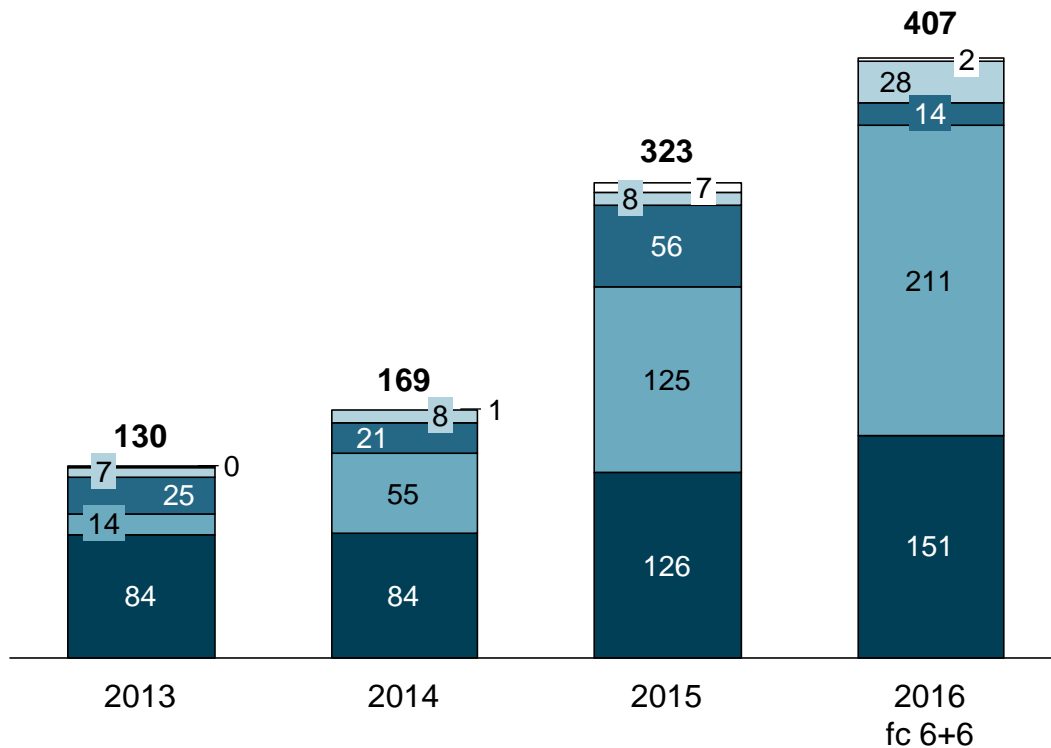


€ M/year	2012	2013	2014	2015	2016
Investments made	53.1	130.1	168.7	323.1	407.4 <i>Forecast 6+6</i>
Original CDP forecast	127.2	193.5	221.4	222.6	219.1



# Trend of investments in the 2013-2016 forecast 6+6: detail

Investments in 2013-2016 by macro-category, in € millions



- In the **2013-2016 period**, investments focused on **increasing the airport's capacity**, such as:
  - **Front Building of T3 and Departure Area F;**
  - **Baggage System of T1 and Departure Area F;**
  - Taxiways and Aprons;
  - Design of works to release in the next regulatory period
- In parallel there has been an **immediate and strong commitment in terms of upgrade and maintenance of the existing infrastructures**, in particular:
  - **Upgrade of runways 2 and 3**, aircraft aprons and taxiways;
  - **Refurbishment of terminals** (restrooms, lighting, flooring, ceilings, air conditioning, etc.);
  - **New access roads in front of the terminal;**
  - **Parking lot revitalization**

- **First regulatory period 2012/2016: overview**

- **Works in 2016**

- **FCO**

- **CIA**

# Fiumicino airport - Terminal and landside

## Main Works completed 2012 - 2015

- Terminal T1 – Enhancement of security checks on the West side
- Terminal T3 – Terminal refurbishment: landside arrivals
- Replacement of Loading Bridge
- Upgrade of restroom facilities
- New flight information LED walls
- Smart grid
- Terminal Refurbishment

## Main works completed in 2016

- Curbside Refurbishment
- Terminal T3 – New high-capacity security checks
- Terminal T3 – New layout of immigration in Terminal 3
- Terminal T3 – New ticket offices
- Arrivals T3 – Redevelopment of the baggage claim hall
- Renovation of finishings of Terminal
- Upgrade of Train Station/T1-T3 Terminals underpasses
- Terminal T3 – Reactivation of transit gallery

## and nearing completion

- T1 - Automatic baggage sorting systems HBS-BHS - 2016
- Terminal T3 – Upgrade of facade and restructuring - 2016
- Departure area F, Front Building of T3 and HBS-BHS of T3 - 2016

4 July 2016

WORKS PROGRESS FRONT BUILDING OF T3

25 September 2015



13 October 2015



31 December 2015



# Curbside Refurbishment

## DESCRIPTION OF THE WORKS:

- Upgrade of access roads and front of airport terminal at the arrivals level
- Redefinition of traffic lanes and renovation of finishings

## BENEFITS

- **Efficiency for managing passenger and vehicular flows**
- **New quality standards**
- **New technological standards**





# New pax tracks and passport e – gates

To increase capacity of security and passport control systems, ADR significantly enhanced technological contribution with the installation of automatic boarding pass readers and passport e-gates



Pax tracks, boarding cards readers located before access to departures security checkpoint, allow validation of boarding cards to access to security area. During first half of 2016, new facilities have been installed in Terminal 1 (both east and west checkpoint), Terminal 2, Terminal 3 and Ciampino. In detail:

- FCO Terminal 1: 12 readers (6 for checkpoint west and 6 for checkpoint east)
- FCO Terminal 2: 5 readers
- FCO Terminal 3: 18 readers (13 for checkpoint east and 5 for central area)
- Ciampino: 4 readers



E-gates increase capacity of passport checkpoints as automatic controls dedicated to UE citizens with service time reduced compared with traditional desks and manpower reduction.

During first half of 2016, new facilities have been installed in Fiumicino:

- 12 e-gate for immigration area (4 additional facilities within end of september 2016) compared to 8 previous facilities.
- 8 new e-gates in departures emigration area
- 8 new e-gates for transfer pax

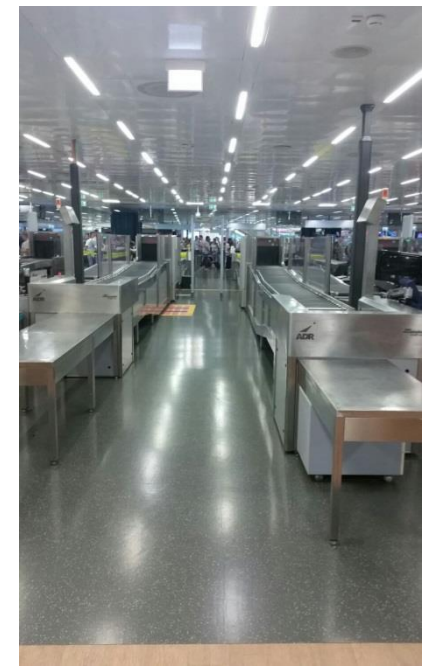
# New high-capacity security checks

## DESCRIPTION OF THE WORKS:

- New areas and new equipment for X-ray screening of passengers and carry-on baggage
- Implementation of the Pax Track system for checking boarding cards through an electronic reader
- Refurbishment of the “destress” area just beyond the security checks

## BENEFITS

- Increase of security standards
- Increase of the system's capacity limit
- Management synergies and efficiency
- Quality improvement





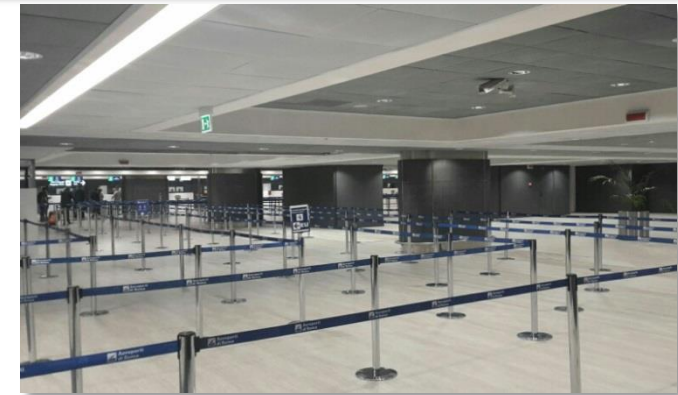
# New layout of immigration in Terminal 3

## DESCRIPTION OF THE WORKS:

- Full upgrade of the Immigration Area of Terminal 3 with new passport control stations
- renovation of finishings of flooring, false ceilings and vertical cladding
- Increase of “e-gates” (from 8 to 16)
- New signage to direct passengers

## BENEFITS

- Increase of the arrival system's capacity limit
- New quality standards
- New technological standards



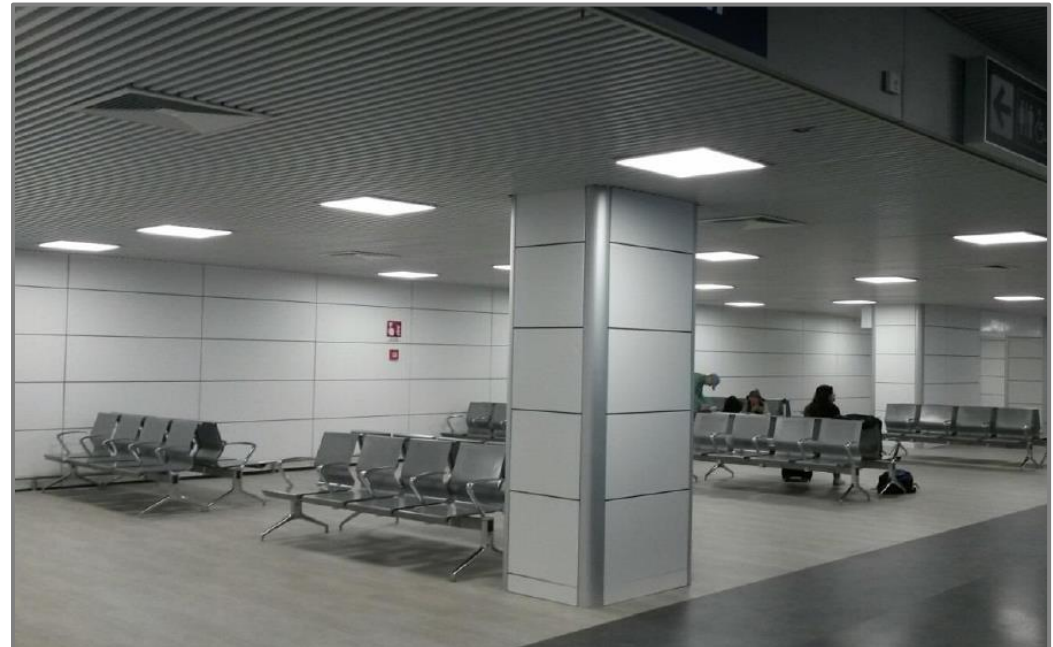
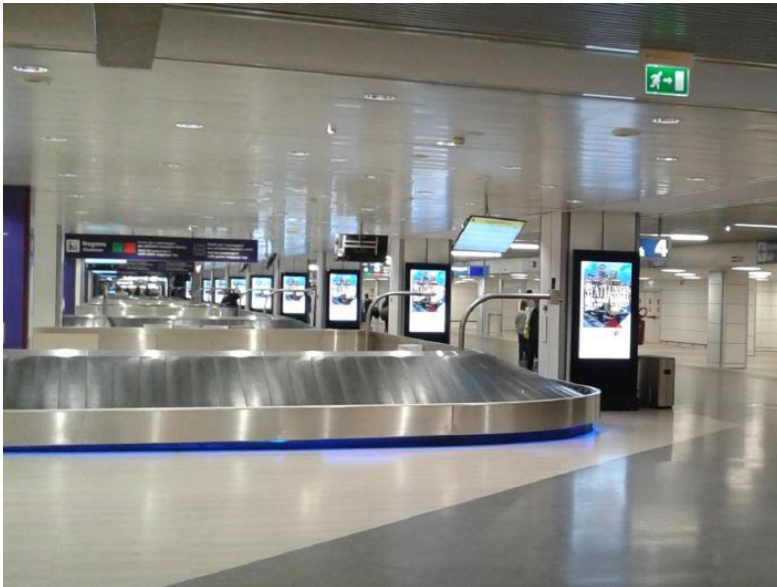
# Arrivals T3 – Baggage claim hall refurbishment

## DESCRIPTION OF THE WORKS:

- Relocation of lost and found desks
- Additional circulation area for passengers
- New finishes for flooring and ceilings and lighting system optimization
- New wayfinding and flight information displays

## BENEFITS

- Higher level of service
- Higher environmental quality and new finishes
- Comfort and new technological standards





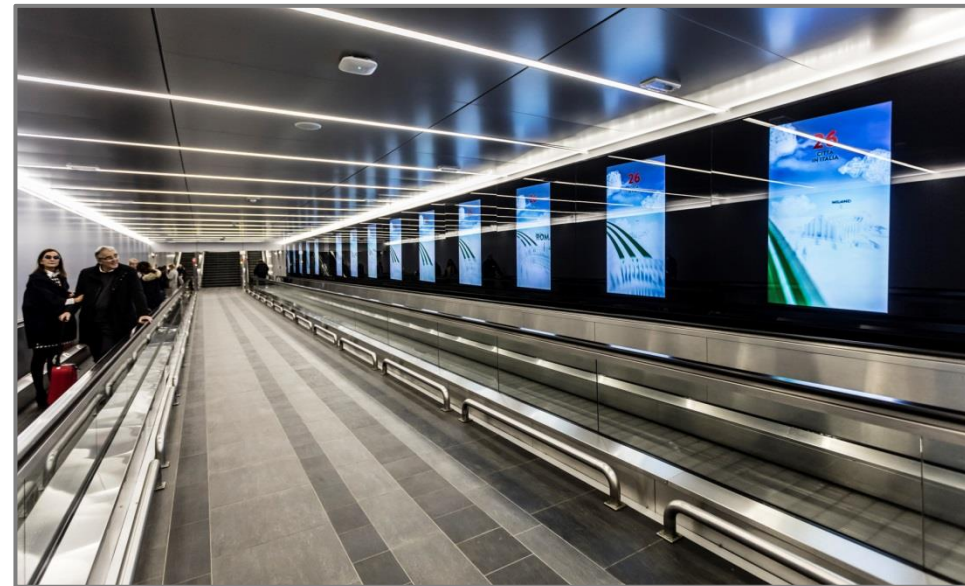
# Upgrade of Train Station/T1-T3 Terminals underpasses

## DESCRIPTION OF THE WORKS:

- Complete restructuring of the underground link between Terminal 3 and the train station
- Return to full operations of the underground link between Terminal 1 and the train station

## BENEFITS

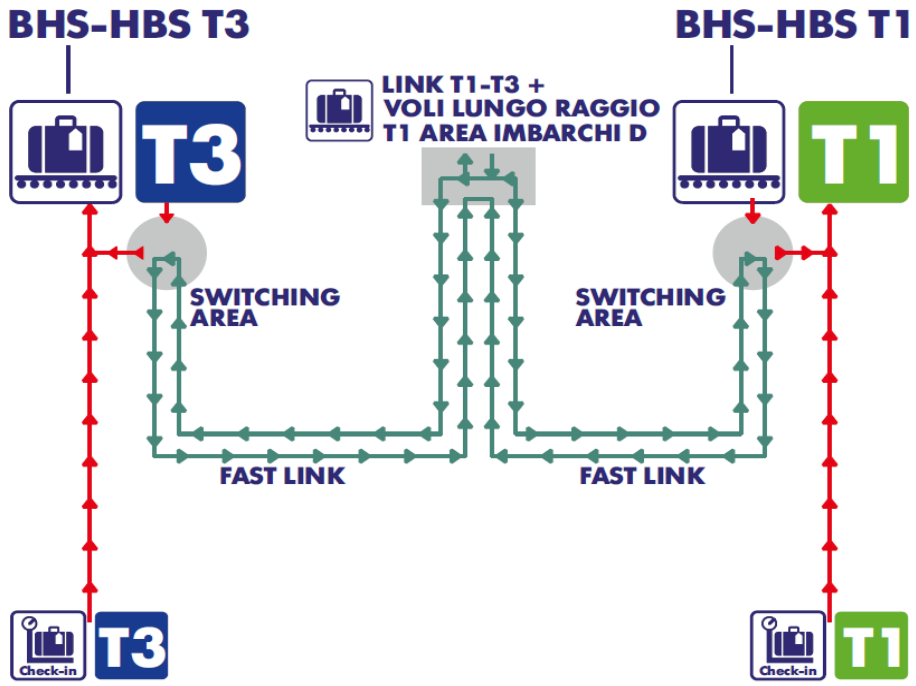
- Making pedestrian pathways easier
- Improvement of quality and finishings
- New technological and comfort standards



# New HBS/BHS at Terminal 1

The first phase of the system has already been in operation since July 2016.

The completion of the new baggage sorting system of T1, due by the end of 2016, will make it possible to move the check-in of long haul flights that use wide-body aircrafts to T1



## KEY NUMBERS

**Baggage system of Terminal 1:**  
capacity 10,800 bags/h\*

**Baggage system of Terminal 3:**  
capacity 9,800 bags/h\*

**A.I. D. link:**  
capacity east to → west 2.000 bags/h  
capacity west to → east 2.000 bags/h

\* design capacity data

# Upgrade of the facade of Terminal 3 (1/2)

In compliance with the MiBACT requirements in the **Environmental Impact Assessment (EIA) Decree**, the **objective of the works is to restore the original look of the facade of Terminal 3, built in the Sixties**. A number of phases of preparatory measures have been planned, taking into account the complexity of the works:

- removal and relocation of ticket counters and systems along the inside of the façade (completed)
- demolition of the pedestrian pathway between Terminal 3 west and the train station (completed)
- construction of a new stairway to connect arrivals and departures withing T3 landside (in progress)
- replacement of glass window by a glass enclosed area to accommodate the necessary additions for security, comfort and architectural value (in progress)

Sixties: original look of T3





# Upgrade of the facade of Terminal 3 (2/2)

The operations undertaken on the internal and external sides have already improved the visual permeability of T3

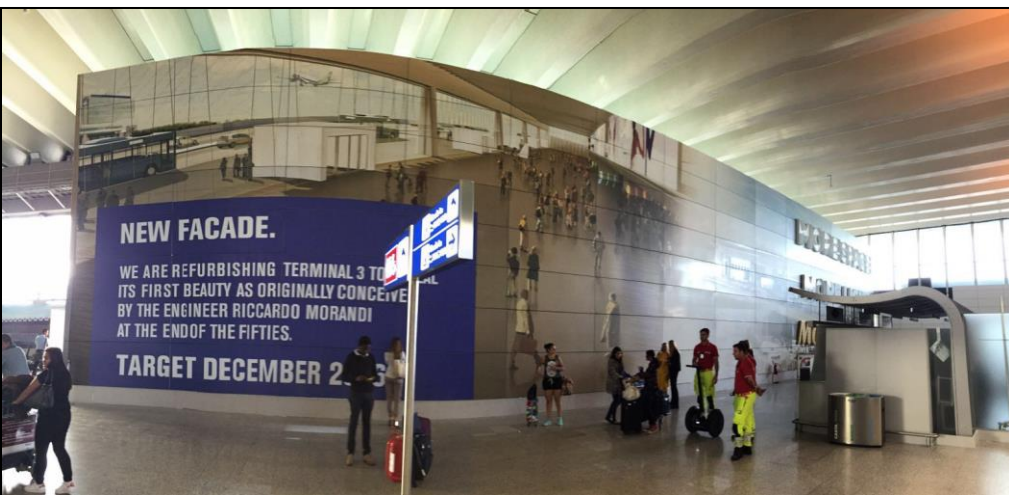
2015: outside T3 before starting facade upgrade



2015: inside T3 before starting facade upgrade



Current status: works to replace the casing of the facade in progress



Project rendering





# Departure area F and T3 Front Building (so-called Pier C) by the end of 2016

The Front Building and the new Pier will increase the passenger traffic capacity of FCO by about 6 million pax/year, with an infrastructure in line with both the sector best practices and the highest quality standards within our benchmark cluster. The terminal areas open to the public will cover approx. 90.000 m<sup>3</sup>.

*Inside Front Building*



*Front Building and Departure area F*



- Key numbers:**
- **Approx. +6 million passengers/year of capacity**
  - **+ 90,000 m<sup>2</sup> of terminal**
  - **+ 14 loading bridges**
  - **New departure lounge common of 25,000 m<sup>2</sup>**
  - **New baggage handling system (BHS/HBS) serving all the west terminal area**





# Progress of works (1/4)



31 December 2015



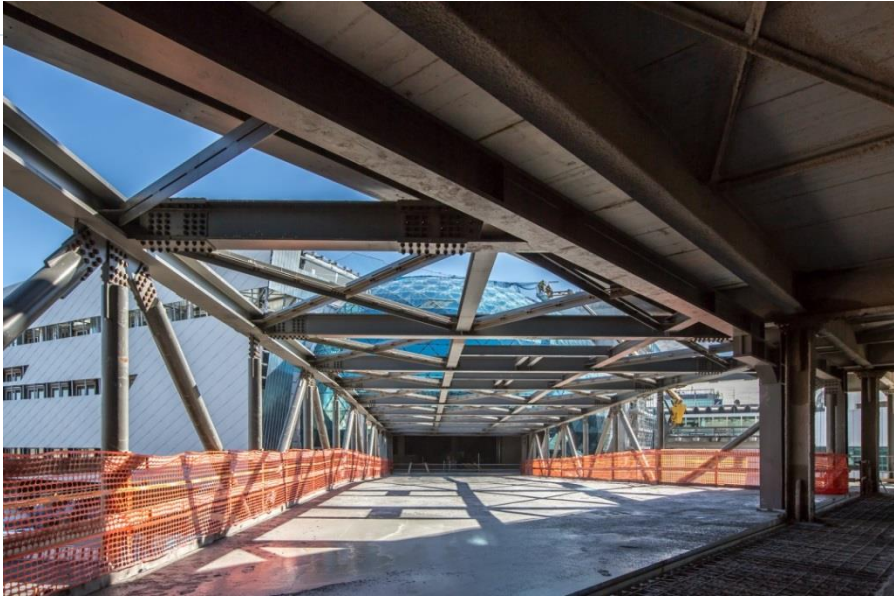
31 January 2016



29 February 2016



# Progress of works (2/4)



29 February 2016



# Progress of works (3/4)



July 2016



# Progress of works (4/4)



July/August 2016

# New wayfinding for FCO and CIA Terminals

New passenger wayfinding will be installed in Fiumicino and Ciampino airports, with new panels designed to maximize messages clarity and energy saving.

Examples of new panels have been installed in some positions in Leonardo da Vinci Terminal as field test.

Main features:

- Different graphic guidelines for primary and secondary messages
- Maximum versatility with panels of different heights depending on the interfloor and infrastructural characteristics
- Better graphics and aesthetic performance eliminating perimeter frames to increase surface dedicated to the message
- Durability and energy savings by adopting LED technology and monitoring systems
- Maintainability



Test  
T3 arrivals immigration



# Fiumicino airport - Infrastructure airside

## Main works completed up to 2015

- Upgrade of Runway 2 (RWY 07/25)
- Upgrade of Runway 3 (RWY 16L-34R), TWY D
- Upgrade of Quadrants 700-800 Aprons
- Setting up of de-icing pad RWY 34L
- Upgrade of Hotel and Golf taxiways
- Upgrade of NG and EG taxiways
- Upgrade of Alfa taxiway as well as AA and AB taxiways
- Upgrade of Charlie taxiway
- Oil separator plants



Upgrade of Runway 2

## Works completed and in progress in 2016

- Expansion of quadrant 200 aprons
- New ULD storage areas in the West Area



Quadrant 200 aprons

Upgrade of Runway 3



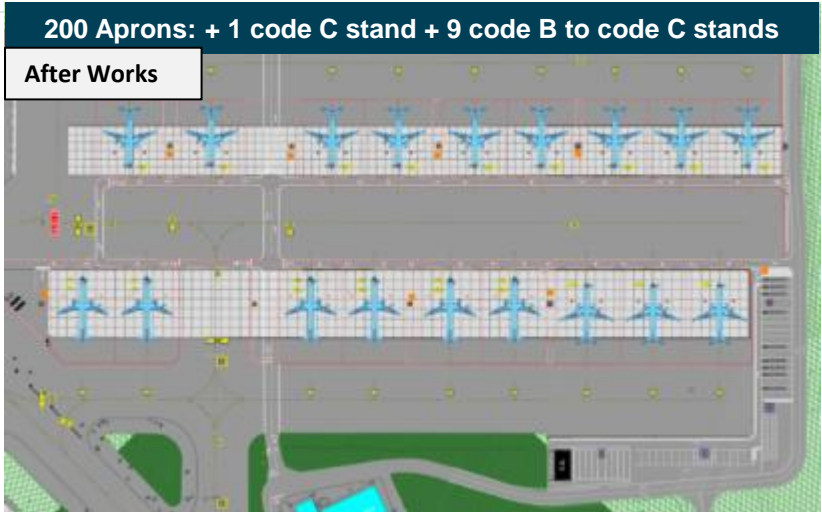
# Expansion of quadrant 200 aprons

## DESCRIPTION OF THE WORKS:

- Expansion of quadrant 200 aprons, in preparation for construction of the new departure area A in the East Area.
- Reconfiguration of stands from code B to code C and adaptation of taxiways
- Installation of pre-conditioning systems

## **BENEFITS**

- Relocation of quadrant 300 aprons during departure area A works
- Increase of number of aprons at the end of the works



Quadrant 200 aprons



Quadrant 200 aprons





# New ULD storage areas in the West Area

## DESCRIPTION OF THE WORKS:

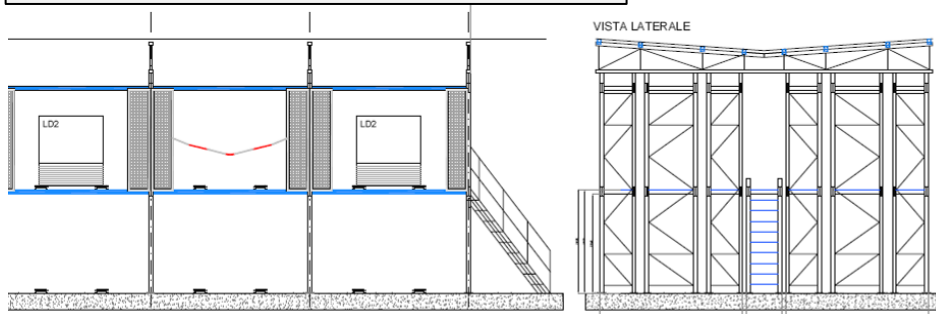
- Construction of 6,000 m<sup>2</sup> ULD storage area and installation of two level storage rack
- Construction of a services room and related water supply mains
- Jersey barrier equipped with a metal anti jet-blast structure
- Stormwater runoff collection and drainage using canals and sumps;
- Lighting system for the apron, for the maneuvering area and for the individual rack elements.



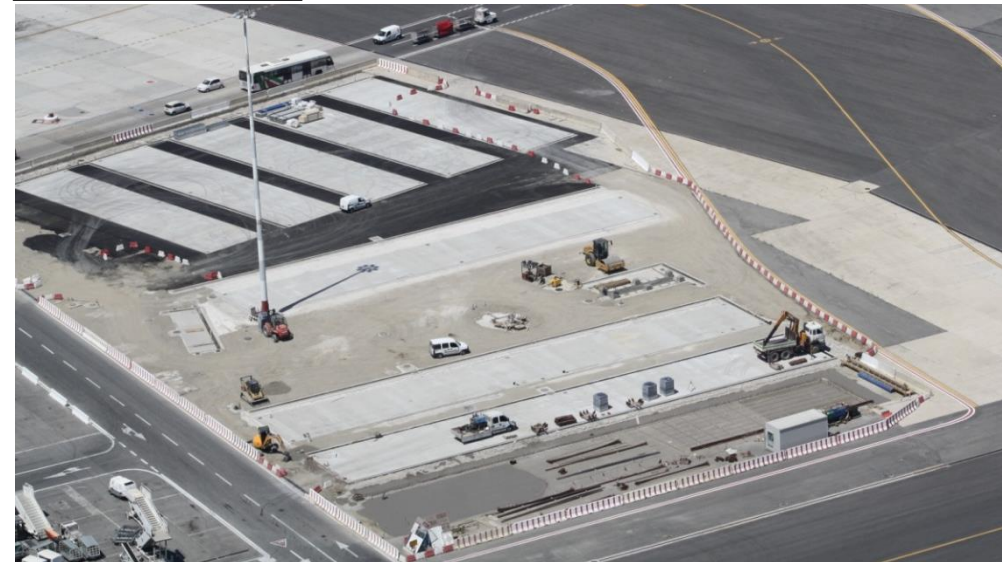
## BENEFITS

- Rationalization and optimization of the ULD storage areas
- Greater capacity by installing two level storage racks

After Works – Typical section of two level ULD rack



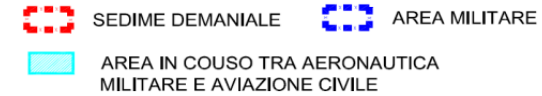
Work in progress



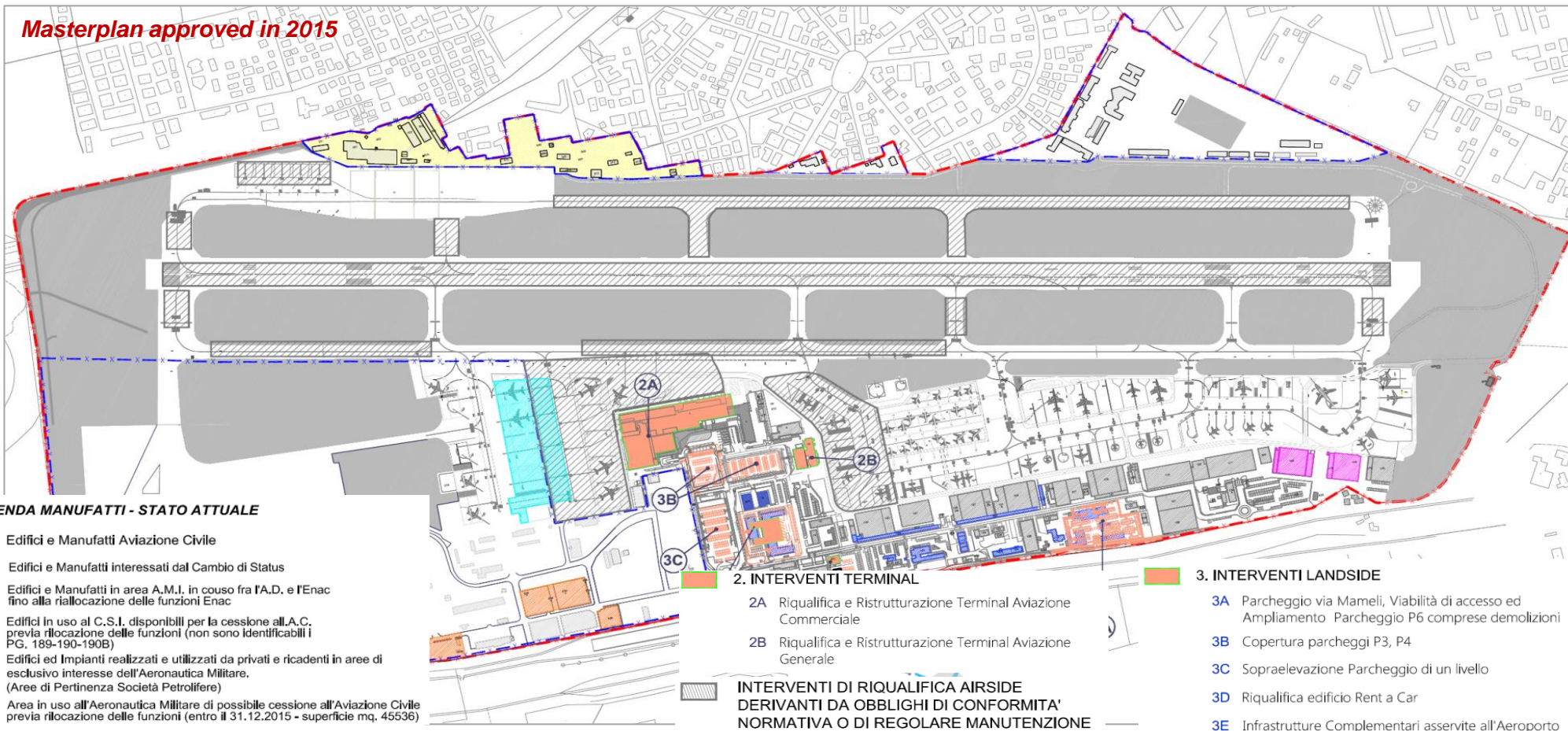
- **First regulatory period 2012/2016: overview**
  
- **Works in 2016**
  - **FCO**
  - **CIA**

## Main Works completed and in progress

- Upgrade of Runway 15/33 - 2016
- Upgrade of Alfa taxiway and AA and AF taxiways
- Upgrade of perimeter access roads and airport perimeter fence
- Restructuring of General Aviation terminal – to be completed in 2016
- Restructuring of Commercial Terminal: upgrade of arrival hall and security checks - to be completed in 2016



*Masterplan approved in 2015*



### LEGENDA MANUFATTI - STATO ATTUALE

- Edifici e Manufatti Aviazione Civile
- Edifici e Manufatti interessati dal Cambio di Status
- Edifici e Manufatti in area A.M.I. in corso fra l'A.D. e l'Enac fino alla riallocazione delle funzioni Enac
- Edifici in uso al C.S.I. disponibili per la cessione all'A.C. previa rilocazione delle funzioni (non sono identificabili PG. 189-190-190B)
- Edifici ed Impianti realizzati e utilizzati da privati e ricadenti in aree di esclusivo interesse dell'Aeronautica Militare. (Aree di Pertinenza Società Petroliere)
- Area in uso all'Aeronautica Militare di possibile cessione all'Aviazione Civile previa rilocazione delle funzioni (entro il 31.12.2015 - superficie mq. 45536)

### 2. INTERVENTI TERMINAL

- 2A Riqualfica e Ristrutturazione Terminal Aviazione Commerciale
- 2B Riqualfica e Ristrutturazione Terminal Aviazione Generale

INTERVENTI DI RIQUALIFICA AIRSIDE  
DERIVANTI DA OBBLIGHI DI CONFORMITA'  
NORMATIVA O DI REGOLARE MANUTENZIONE

### 3. INTERVENTI LANDSIDE

- 3A Parcheggio via Mameli, Viabilità di accesso ed Ampliamento Parcheggio P6 comprese demolizioni
- 3B Copertura parcheggi P3, P4
- 3C Sopraelevazione Parcheggio di un livello
- 3D Riqualfica edificio Rent a Car
- 3E Infrastrutture Complementari asservite all'Aeroporto



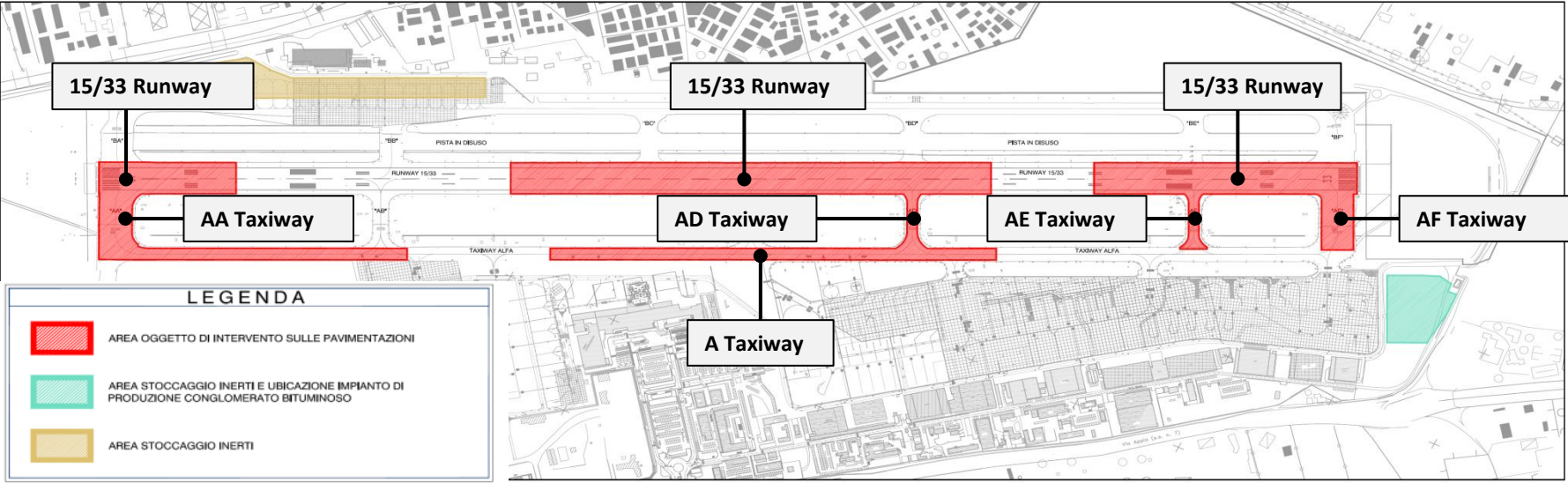
# Upgrading of Runway 15/33

## DESCRIPTION OF THE WORKS:

- Structural and functional upgrade of some portions of the pavement of 15/33 runway, of Alfa taxiway and of AA, AD, AE and AF taxiways

## BENEFITS

- Implementing structural features capable of ensuring a useful life of at least 20 years in relation to the air traffic expected for the future, in accordance with the RCEA and EASA requirements.





# Restructuring of General Aviation Terminal

## DESCRIPTION OF THE WORKS:

- Complete upgrade of the building
- Renovation of the layout and of internal finishings to align the experience of passengers with the specific traffic target of General Aviation

## BENEFITS

- Improved passenger experience
- Increase of quality for passengers and operators



# Restructuring of Commercial Terminal: upgrade of arrival hall and security checks

## DESCRIPTION OF THE WORKS:

- Total upgrade of the area as first phase of the General upgrade project of the Terminal approved by ENAC (arrival hall landside)
- Renovation of finishings and new layout for commercial areas and customs exits
- Upgrade of security checks area.

## **BENEFITS**

- **Passenger experience**
- **Quality improvement**
- **Technological improvement**



**2017-2021 fee update**

**Users consultation: investments**

**The 2017-2021 five-year period**

- **ADR's infrastructure strategy**
  - **Terminal**
  - **Runways and Aprons**
  - **Maintenance and Restructuring**
  
- **2017 – 2021 Investment Plan**



# Reference planning framework

## FCO Sud Completion Project

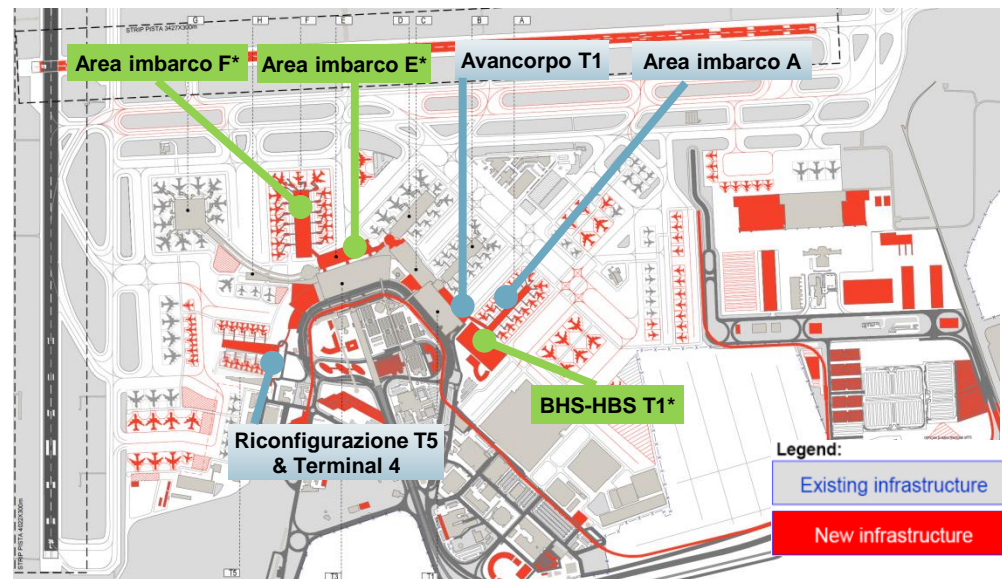
The completion project for FCO Sud outlines **the infrastructural organization** of the airport within its current premises. **ENAC** issued its **technical authorization** on **22 July 2011**

The main **objectives** of the project:

- To ensure the relaunch and completion of the Development Plan for Fiumicino Sud
- To improve the quality level of the infrastructure and of the services provided to users
- To ensure respect for the environment

## Environmental Impact Assessment (EIA) Decree FCO Sud Completion Project

**Environmental Impact Assessment (EIA) Decree 236 of 8 August 2013, published in the Official Gazette on 09 November 2013**, concerning environmental compatibility of the **Fiumicino Sud Completion Project** contains a number of requirements made by the Environmental Impact Assessment Commission of the Italian Ministry of the Environment and Protection of Land and Sea (**MATTM**) and the Italian Ministry of Cultural heritage and activities and tourism (**MiBACT**) for which ADR, also on ENAC's behalf as "applicant", is carrying out compliance audits with the Reference bodies in order to start the works.



\*BHS-HBS T1: The system is partially operating from July 2016

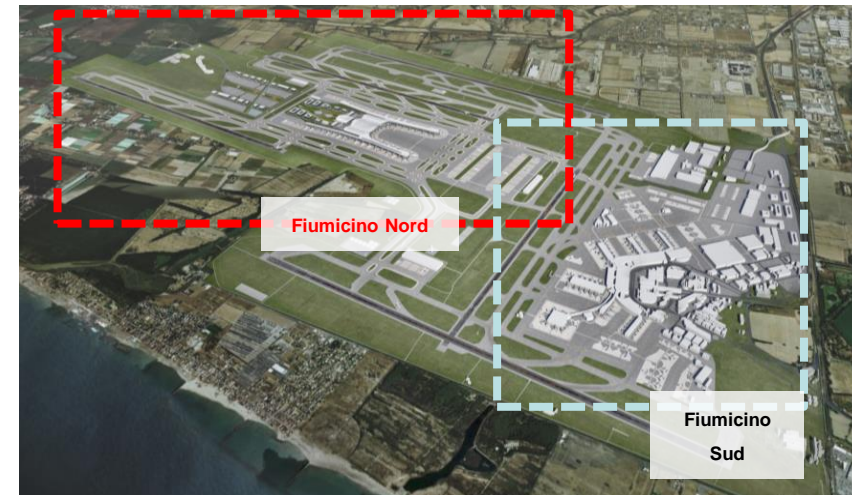
Area di imbarco E-F: To be completed in 2016

# Reference planning framework

## FCO's Masterplan until 2044

The **Masterplan** for FCO defines the **infrastructural organization** until the end of the **concession of the FCO airport**. It involves the construction of new flight infrastructure, passenger terminals, accessibility and related infrastructure.

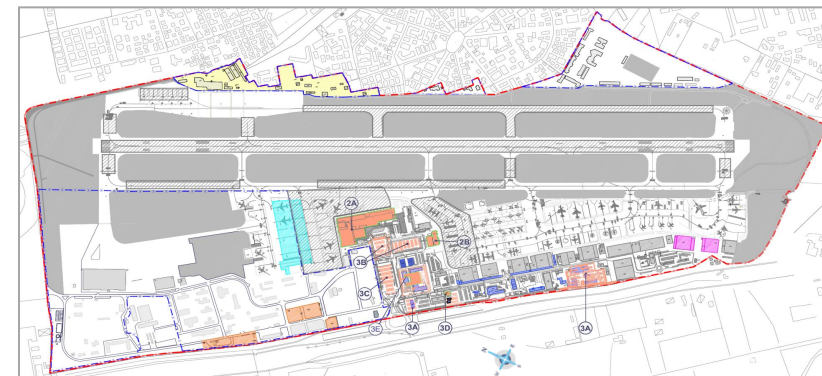
**ENAC** issued its **technical authorization** in **October 2015**.



## CIA's Masterplan

The **Masterplan** for CIA defines the **airport's infrastructural organization**. It includes the upgrade of flight infrastructure and of the commercial and general aviation terminal, under a 'secondary airport' management model, oriented to environmental sustainability.

**ENAC** issued its **technical authorization** in **October 2015**.



# The Investment Plan is focused on 3 main areas

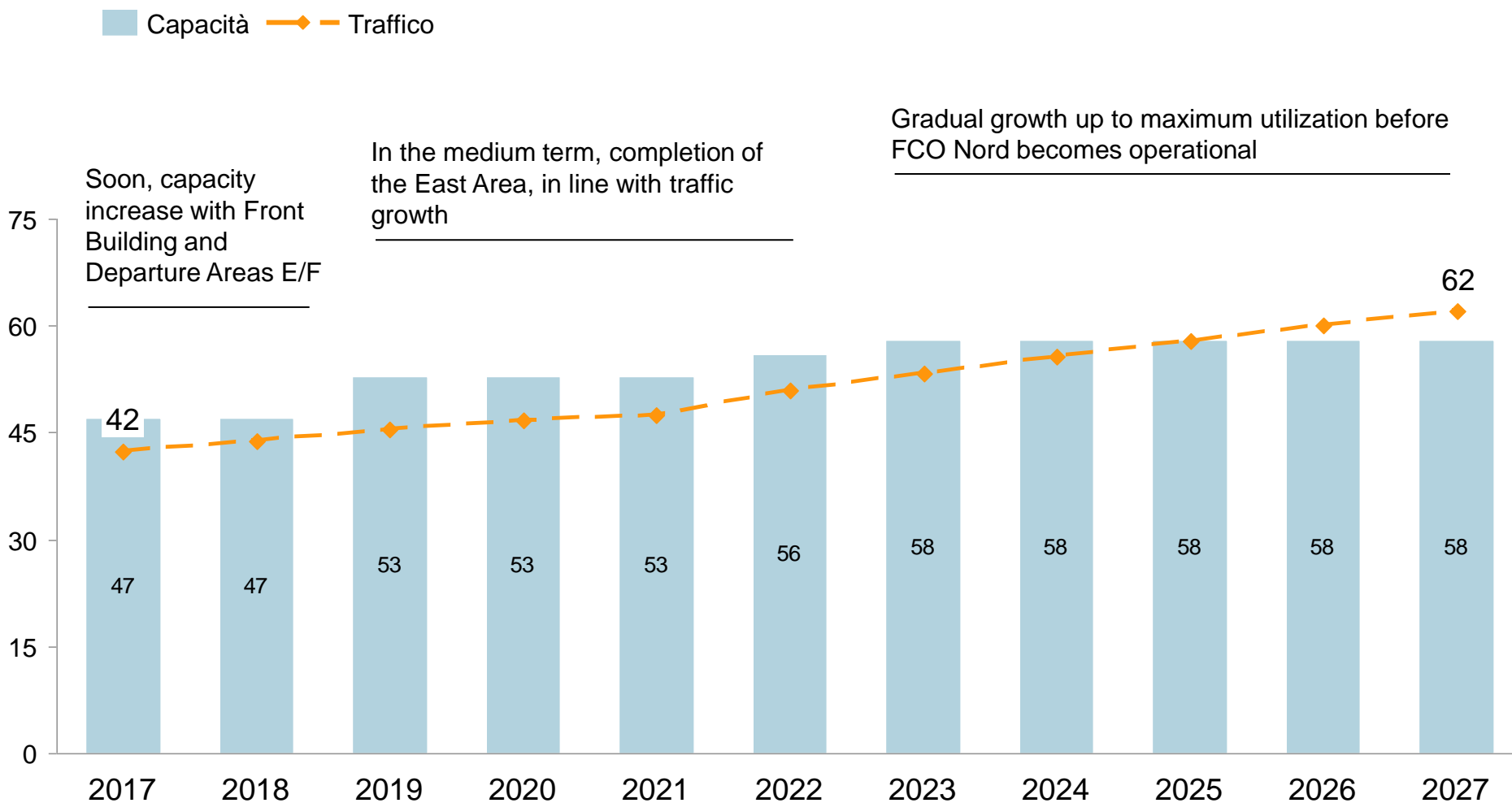
	<u>Current situation</u>	<u>Objective</u>
<p><b>1</b></p> <p><b>Capacity increase</b></p> <p><b>TERMINAL</b></p>	<ul style="list-style-type: none"> <li>▪ The capacity of the terminal is not in line with the volumes of traffic, resulting in potential impacts on service levels in busy hours</li> </ul>	<ul style="list-style-type: none"> <li>▪ Developing the capacity to ensure flows until 2021 and also consistently with long-term flows and adequate service levels</li> </ul>
<p><b>2</b></p> <p><b>Capacity increase</b></p> <p><b>RUNWAYS AND APRONS</b></p>	<ul style="list-style-type: none"> <li>▪ Fiumicino is already fully utilizing the capacity of its runways in peak hours, not taking advantage of capacity increases in peak time bands</li> <li>▪ The use of aprons also shows a high utilization rate</li> </ul>	<ul style="list-style-type: none"> <li>▪ Implementing a new runway and new aprons will readjust the system's capacity by removing constraints on peak time bands, which are essential for the development of the hub and the most in demand by users, and by ensuring greater operational flexibility</li> </ul>
<p><b>3</b></p> <p><b>RESTRUCTURING AND MAINTENANCE</b></p>	<ul style="list-style-type: none"> <li>▪ High system/infrastructure complexity, with diverse technologies and life-cycles</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ensuring that systems and infrastructure are reliable and technologically up to date and improving the comfort and level of service offered</li> </ul>

- **ADR's infrastructure strategy**
  - **Terminal**
  - **Runways and Aprons**
  - **Maintenance and Restructuring**
  
- **2017 – 2021 Investment Plan**



# The Terminal's capacity increase is in line with the traffic forecast

FCO's traffic and capacity forecast\*



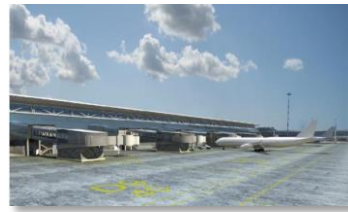
\*The terminal's capacity refers to the minimum values of the check-in, baggage claim and departure area subsystems of the terminal.

# Main landside developments expected before the 2017-2021 five-year period



# Main landside developments expected starting in the 2017-2021 five-year period

Capacity for about 58 million passengers upon completion of Fiumicino Sud



## On-going improvement of operating processes

DESCRIPTION

- |  |  |   |  |
|--|--|---|--|
| <ul style="list-style-type: none"> <li>Restructuring and efficiency improvement of Terminal 5 (and later Terminal 4 until 2024) to handle point-to-point flights.</li> </ul> | <ul style="list-style-type: none"> <li>24 new gates, of which 14 with loading bridges</li> <li>90% of Schengen flights served by fingers</li> <li>+3,000 m<sup>2</sup> of commercial area</li> </ul> | <ul style="list-style-type: none"> <li>Increased area for check-in, security, baggage claim</li> <li>+8,000 m<sup>2</sup> of commercial area</li> <li>+3 baggage conveyors</li> </ul> | <ul style="list-style-type: none"> <li>Rationalization of departure and arrival hall areas, new security checkpoints</li> <li>Expansion of baggage claim hall</li> </ul> |
|--|--|---|--|

m<sup>2</sup>

+10,000 m <sup>2</sup> of terminal	+35,000 m <sup>2</sup> of terminal	+35,000 m <sup>2</sup> of terminal	
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Incr. of capacity

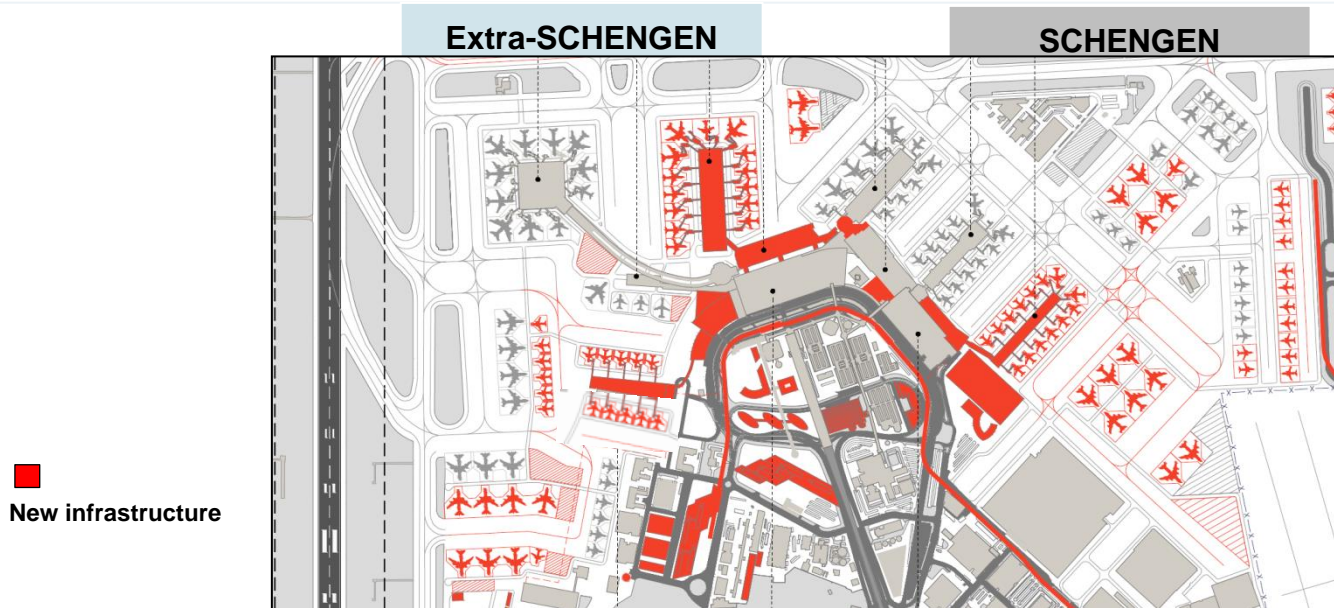
Phase 1 + 2,5 M pax	Phase 2 +2,5 M pax	+ 4 M pax	+ 3 M pax	+ 2 M pax
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Total capacity

47 M pax	49 M pax	53 M pax	56 M pax	58 M pax
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# Macro-phases of the Fiumicino Sud Development Plan



## Key numbers:

- Capacity: + 21 million passengers / year (+55%)
- Expansion of Terminal Areas: +190,000 m<sup>2</sup>
- Departure bridges: from 35 to 74
- 2 new automatic baggage handling systems

## Extra-Schengen Area with suitable service level

- **Planned capacity expansion for non-Schengen traffic with improved service levels:**
  - opening of E and F areas with a capacity in excess of 6 million passengers
  - service levels in line with the best practices of European airports

## Schengen Area with suitable service level

- **Started East Area extension to handle Schengen traffic:**
  - First stage of extension (Front Building T1 and Pier A) planned to start at the end of 2019
  - Subsequently, extension of Terminal 1

- **In the transitional period (2016-2019), operations of the Schengen area will be optimized:**
  - **rationalization of infrastructure use** (e.g: dynamic allocation of departure bridges)
  - **rebalancing of Schengen traffic also by enhancing Terminal 5**
  - **other operational measures** (e.g.: layout of departures, management of lines, etc.)

- **ADR's infrastructure strategy**
  - Terminal
  - Runways and Aprons
  - Maintenance and Restructuring
  
- **2017 – 2021 Investment Plan**

# Runways and Aprons

## RUNWAYS

### Current situation

- Fiumicino's traffic is characterized by **demand peaks** in certain hour bands, in line with its role as a hub
- In those peak hours the infrastructure **is close to saturation**
- The airport therefore **cannot take advantage of developing its traffic in peak hours**

### Expected development

- Construction of a **new runway** will make it possible to increase the **capacity** of the system in **peak hour bands** for both departures and arrivals
- Airlines will be able to **increase traffic during commercially more attractive periods**

## APRONS

- During **peak hours** the **aprons** have very high utilization levels
- 36 aprons are equipped with **loading** bridges, amounting to approximately **30%**

- In 2021 we foresee the construction of aircraft aprons up to a maximum capacity of about **187 stands**, including stands in the East area.
- In 2021 the number of aprons equipped with **loading bridges** will increase to 69 **rising by approximately 90%**

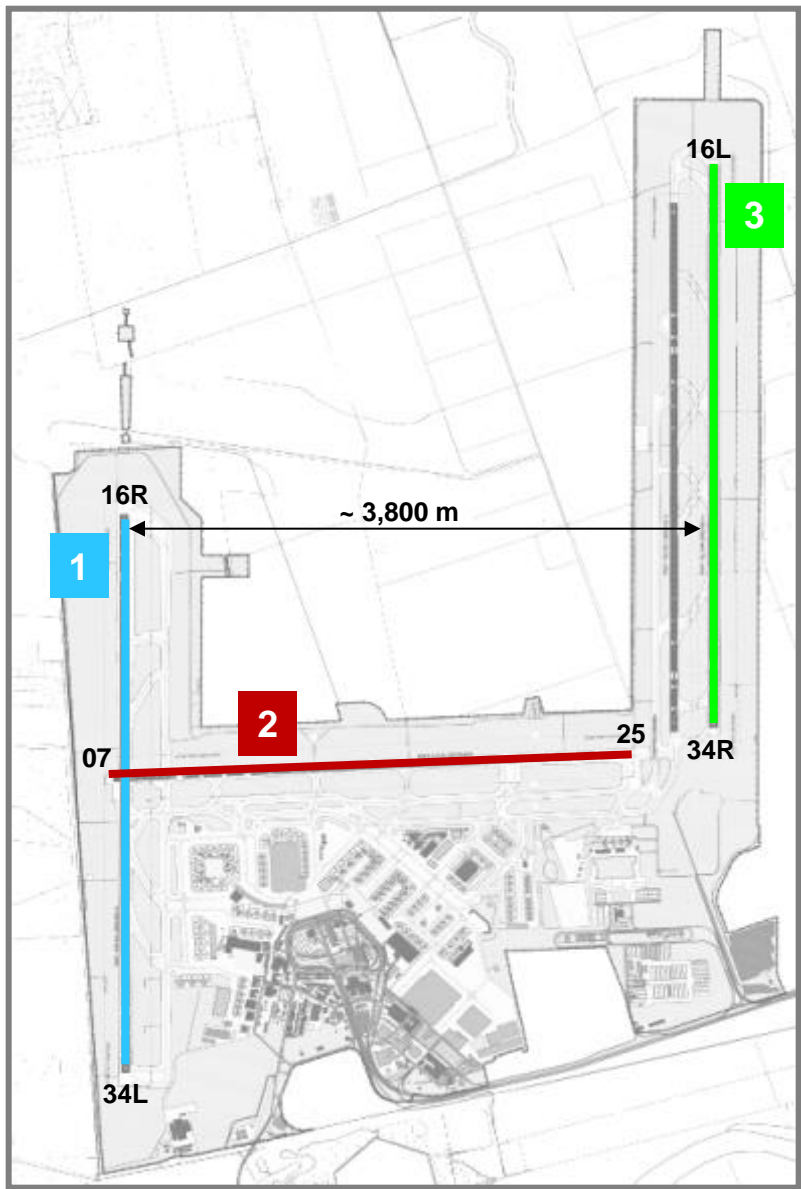
## TAXIWAYS

- In **peak hours**, along the departing routes connecting the aprons and Runway 2 and those arriving between Runway 3 and the aprons, the system is potentially subject to **congestion**, creating delays in flow management

- In 2021 we foresee the **doubling of Bravo taxiway** that will reduce the delays accumulated by departing and arriving aircraft.
- The system will be completed by taxiways in the apron area in line with the development of the aprons



# Recap of runway capacity in current configuration



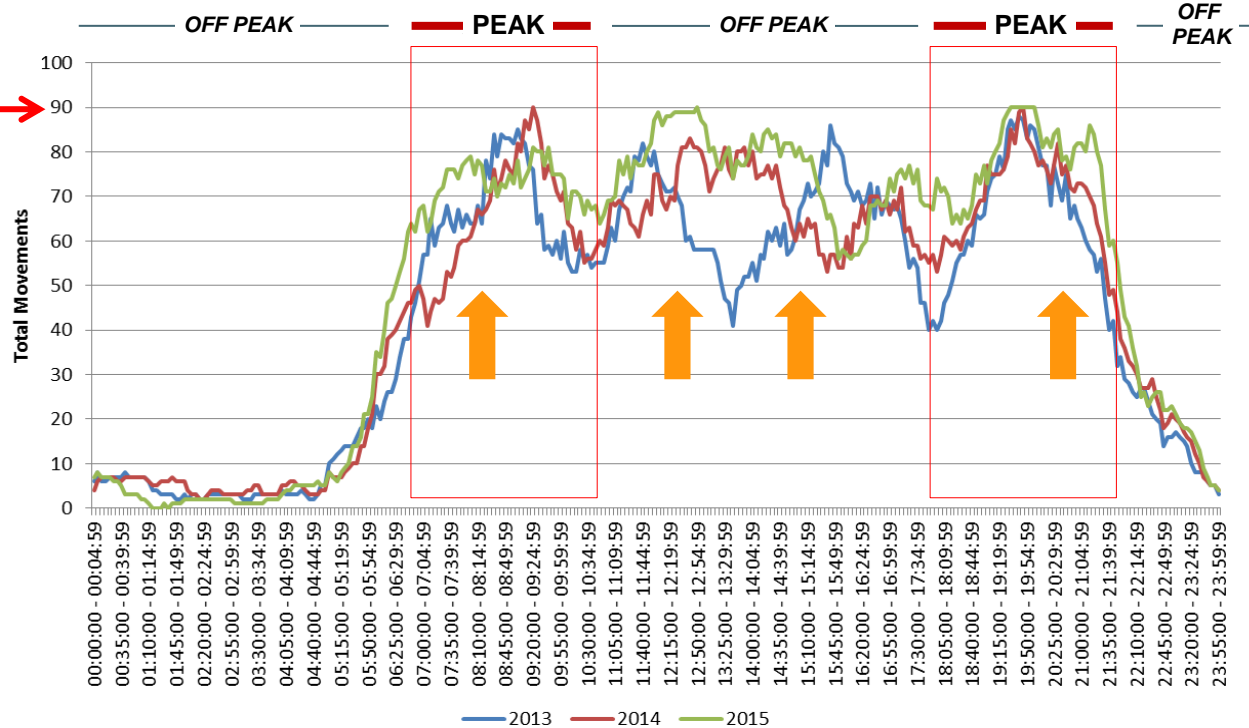
- The Fiumicino airport covers an area of approximately 1,590 hectares and has three runways, two of which are parallel, approximately 3800 m apart.
- Runway 2 intersects Runway 1 at about half its length, so the two infrastructures **cannot be used simultaneously**.

*Two runways simultaneously available for landing and takeoff operations*

# Fiumicino is already fully using the capacity of its runways in peak hours

Trend of movements per hour at Fiumicino

Theoretical maximum limit  
90 mov/h



Increase in movements  
both in peak and off-peak  
bands

- Fiumicino already runs more and more often at the highest level of its theoretical capacity
- Fiumicino is already forced to refrain from developing capacity in some of the hour bands that are most valuable and appealing to increase long-haul traffic or to protect hubbing capability
- Passengers/mov is already above the forecasts contained in the Development Plan (129 pax/mov vs. 111 in FCO Sud's Completion Project); further growth expected, though not such as to resize the runway requirements

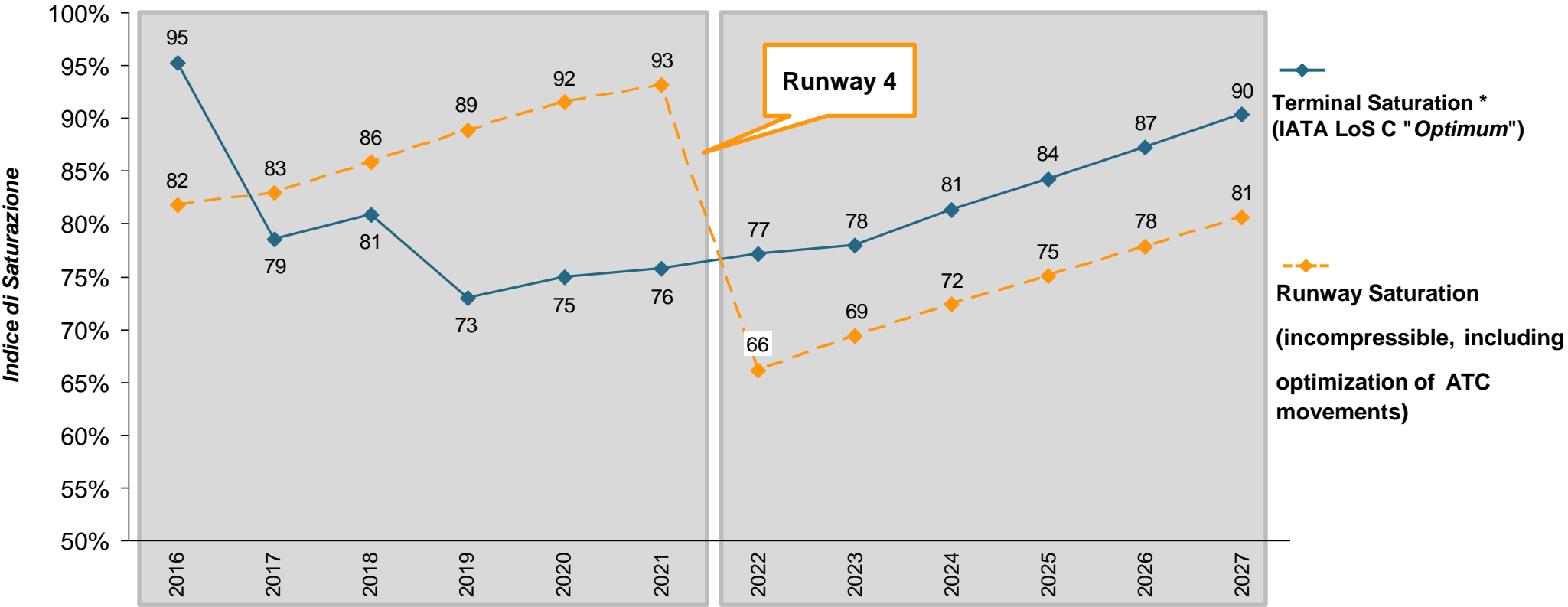
# Evolution of saturation at Fiumicino

The runway system will reach saturation no later than 2020/21, with the risk of losing traffic and saturation of the FCO Sud Terminal system

FCO already operates at the **highest peak levels of airside capacity**. It is considered **saturated** by the airlines. It is forced to **refrain from developing runway capacity** in the peak hour bands.

**Lost opportunities for growth under the current traffic pattern:** volumes can only be achieved by **filling lows**, adapting demand in the commercially less attractive hour bands.

In the five-year period (completion due 2021) development of a fourth runway is planned, which is needed to ensure maximum use of the south infrastructure and to support the launch of FCO North, planned for 2028



**Strong runway capacity saturation, Terminal in line with traffic**

**4th runway increases capacity. Terminal towards high utilization levels**

\*Terminal saturation level calculated considering the lower absorption of infrastructural capacity related to passengers in transit (calculation baseline: volumes O&D + transits/2)

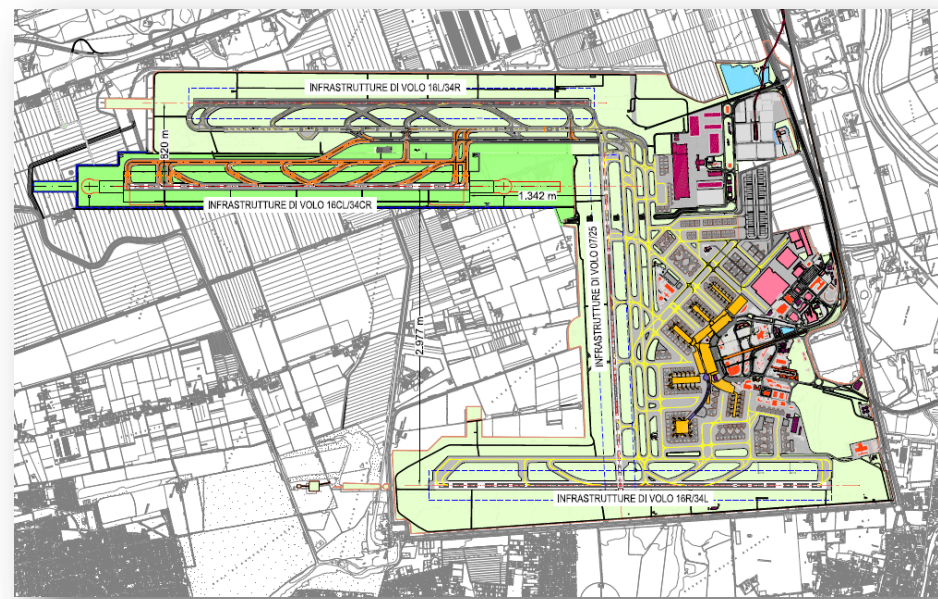


# The fourth runway will increase peak airside capacity, now saturated, in the hours that are most commercially appealing to the market

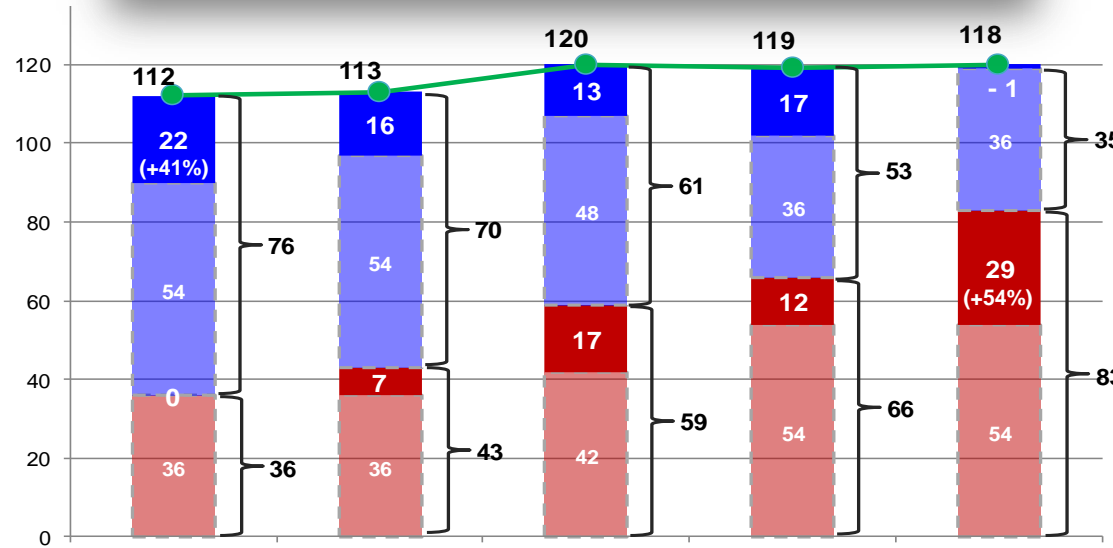
The configuration that includes the fourth runway at about 820 m from Runway 3 has been the subject of various capacity simulations by ADR and ENAV. The analyses were prepared applying existing flight procedures and the so-called Internal Permanent Instructions (IPI).

The layout included in the simulation software includes all the new flight infrastructures (aircraft aprons and taxiways) contained in the Fiumicino Sud Completion Project.

The simulation results show a capacity ranging from 112 mov/h at the departures peak up to 120 mov/h for balanced traffic, as shown in the table.



	Arrivals [mov/h]	Departures [mov/h]	Total mov. [mov/h]	% increase
Peak departures	36	76	112	+41% departures
Balanced traffic	59	61	120	
Peak arrivals	83	35	118	+54% arrivals



■ PARTENZE  
■ ARRIVI  
— TOTALE

# Comparison of runway layout: Rome FCO vs. London LHR



Rome FCO



London LHR

NUMBER OF RUNWAYS	3
DECLARED CAPACITY	90 mov/h
PASSENGERS IN 2015	40 million

NUMBER OF RUNWAYS	2
DECLARED CAPACITY	90 mov/h
PASSENGERS IN 2015	75 million

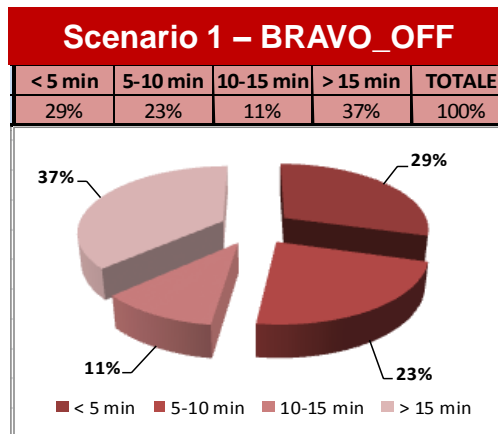
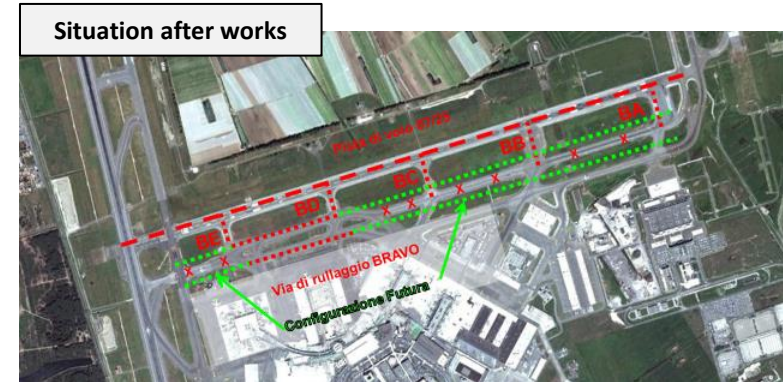
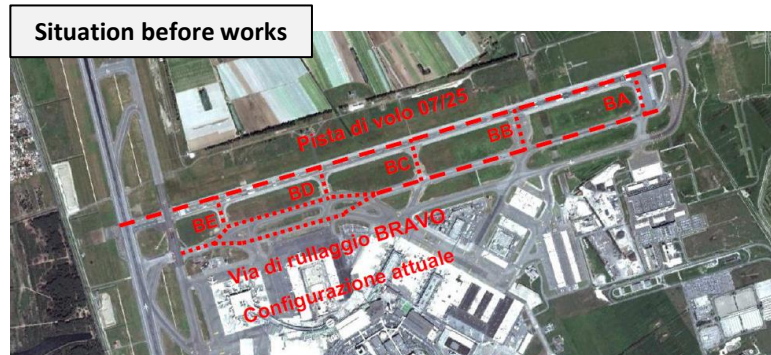
- Fiumicino, as London, operates at maximum capacity during the high season
  - London: 1,290 mov/day on average (but always at peak)
  - Rome: 1,087 mov/day in July 2015

gap mainly explained by optimized flight procedures (less distance between an aircraft and the next by approx 20%.)
- At Fiumicino, **the intersection of the two runways (Runway 1 and Runway 2) determines mutual interference** that make them practically a single runway in terms of capacity
- The theoretical capacity of the FCO system is equivalent to two independent parallel runways, such as for example London Heathrow (90 movements/hour)
- However, the **traffic characteristics (strong seasonal demand and medium-sized aircraft)** as well as the **air traffic regulation** used at Fiumicino **restrict the amount of traffic that can be handled by the airport, at an equal number of runways**



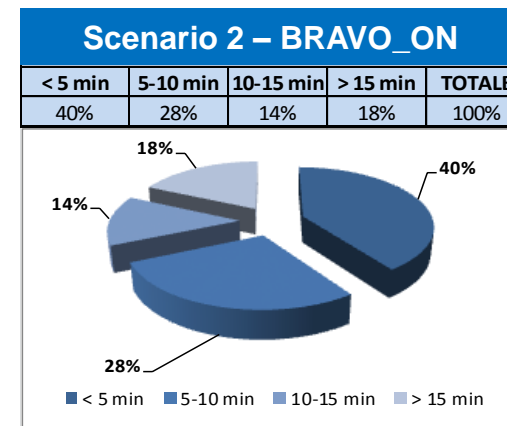
# Doubling Bravo taxiway will decongest the main lines used for ground traffic of aircraft departing from Runway 2 and arriving from Runway 3

The measure will create a system with three parallel taxiways (dual Bravo + Delta) that will be the airport's main traffic routes, capable of sustaining the expected capacity and managing the forecast traffic demand. The benefits have been assessed in a dynamic simulation using Simmod software. In particular, the analysis analyzed the distribution in percentage terms of movements expected in the short term that accumulate departure delays.



63%

The percentage of aircraft departing with a delay of less than 15 minutes, WITHOUT the doubling of Bravo taxiway (scenario 1)



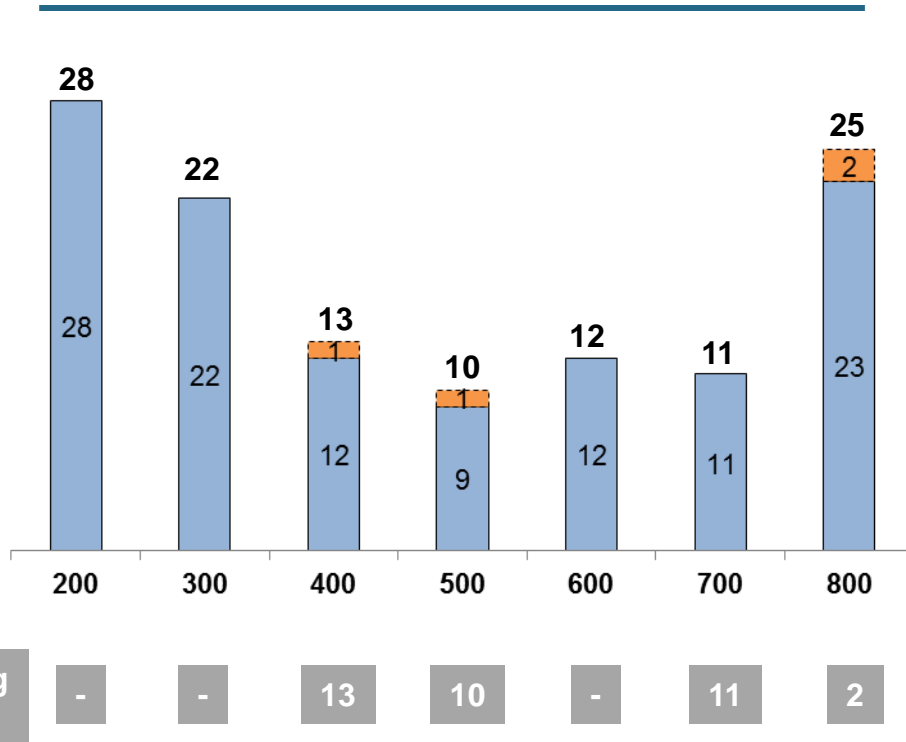
82%

The percentage of aircraft departing with a delay of less than 15 minutes, WITH the doubling of Bravo taxiway (scenario 2)

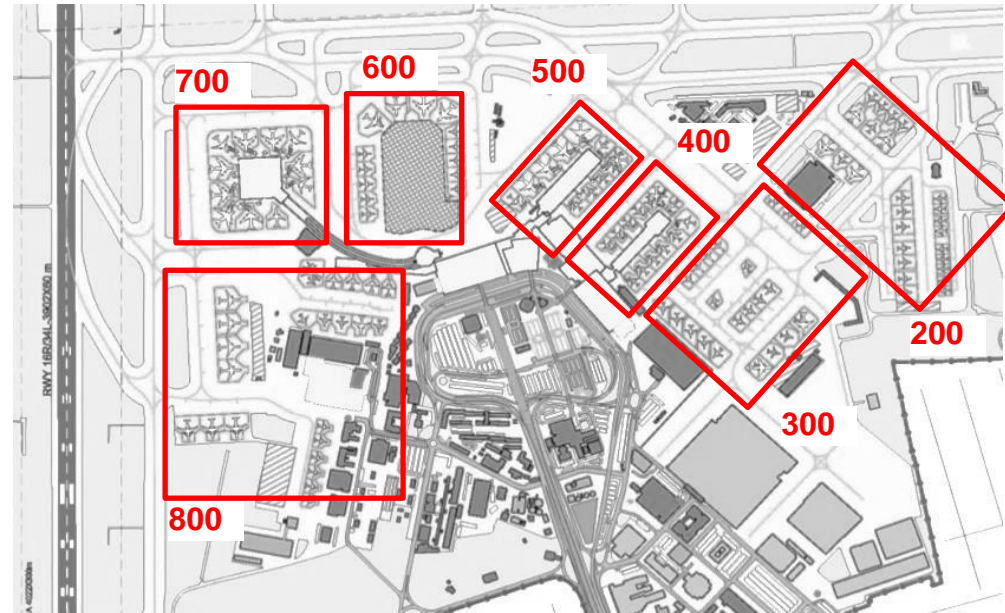


# Layout and current capacity of apron

Number of stands divided by quadrant



■ Max configuration  
■ Min. configuration



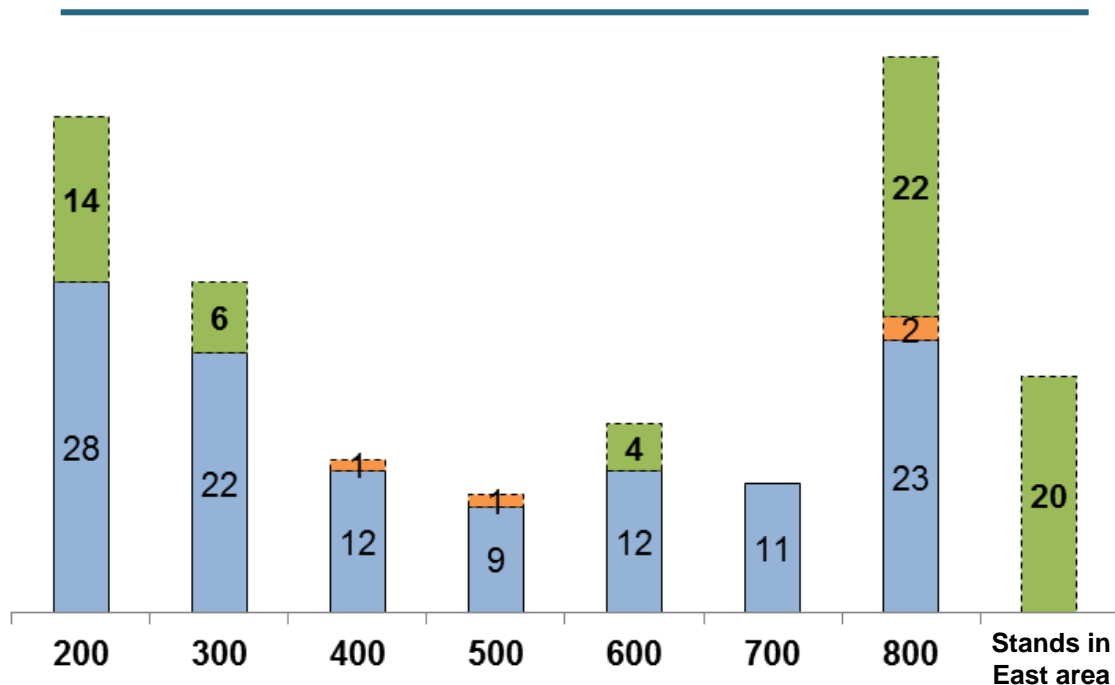
- The apron is divided in seven quadrants (excluding the cargo area) with a **number of stands** that, depending on the aircraft types, **ranges from 117 to 121 stands**.
- There are **36 stands** equipped with **loading bridges** (approx. 30% of total stands)

# Implementation of aircraft parking aprons

In 2017 – 2021 implementation of **+66 aprons**, including those in the East area (total stands reaches **187**), with a significant increase in the percentage of stands with loading bridges.

The increase of parking aprons in the five-year period is also consistent with the planned commissioning date of the fourth runway by 2021.

Number of stands divided by quadrant



Loading Bridge	200	300	400	500	600	700	800	Stands in East area
	-	14	13	10	14	11	12	-

- Current minimum configuration
- Maximum current configuration
- Enhancement of aprons

- **ADR's infrastructure strategy**
  - Terminal
  - Runways and Aprons
  - Maintenance and Restructuring
  
- **2017 – 2021 Investment Plan**



# Major restructuring measures at FCO

## Description

### New electrical network for runways

- Centralization of absolute reliability of the electrical power supply network for runway equipment.
- Use of high power rotary units, to be installed in two new cabinets specific for power continuity of power.
- Reconfiguration of medium voltage power network so as to ensure power redundancy.
- Revamping of systems in existing substations.

### Renovation of electrical substation and MV switching center

- Construction of a new high-voltage/medium voltage electrical substation to ensure greater reliability of the entire electrical grid.
- Physical breakdown at the high/medium voltage transformer level by using four smaller transformers, which are also totally redundant, which divide the network into four sectors.
- Adoption of gas rather than air insulated high voltage systems, to provide greater plant protection, better compartmentalization for fire prevention and smaller amounts of electromagnetic emissions.

### Upgrade of runway system 16R/34L

- Upgrade of surface and restoration of slopes of the entire flight infrastructure by
  - milling the existing wear layer;
  - reconstruction of the bituminous layers that have been removed, replacing them with the same thickness of those previously milled
- The works will also affect the electrical flight assistance equipment in the area of the works:
  - removal and installation of visual aids after replacing the recessed bases;
  - provision of secondary power to the affected visual aids;
  - renovation of the entire runway signage

### ULD storage area in the East zone

- Construction of ULD storage area in East zone with a total area of approximately 9,000 m<sup>2</sup>;
- The area will be paved and fitted with racks on two levels, building suitable steel structures.

# Maintenance plan aimed at ensuring the operation and the technological upgrading of infrastructure and facilities, and improving the travel experience and comfort of passengers

## Description

### Measures for energy saving

- Initiatives to restore the energy efficiency of buildings and measures affecting generating plants
- Construction/upgrade of LED lighting systems
- Use of renewable energy (solar)

### Plumbing and air conditioning systems

- Works on civil engineering and systems and modernization of the water pumps, reservoirs and collection conduits
- Restructuring/enhancement of water system backbones in the airport infrastructure
- Works on oil separators
- Upgrade and enhancement of terminal HVAC systems

### Electrical systems

- Reconfiguration of MV network and construction of new cable trenches and lines
- Replacement of LV electrical cabinets and upgrade of cabinets
- Overhaul of runway systems
- Replacement of lighthouse towers

### Electromechanical systems

- Works on bridges
- Replacement of escalators/people movers
- Periodic works on all systems, increasing as new infrastructure is added
- Works on BHS/HBS systems
- Upgrade of 400 Hz systems

### Special systems

- Extension of access control system
- New perimeter control system
- Adaptation/expansion of the airport firefighting system
- New runway lighting monitoring system

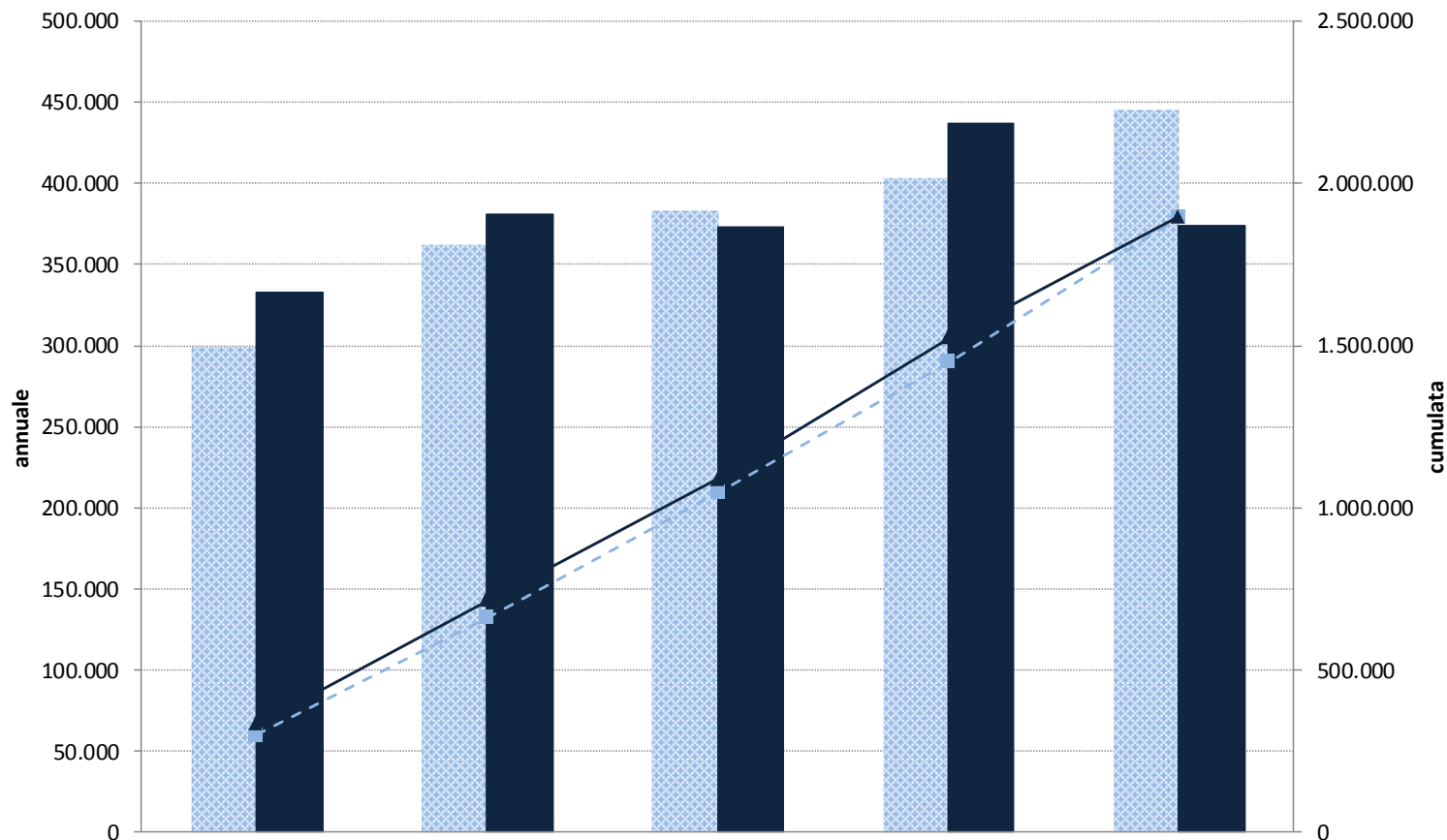
### Civil infrastructure

- Upgrade works in terminals
- Works on and monitoring of waterproofing
- Works on and reconstruction of airside/landside flooring

- **ADR's infrastructure strategy**
  - Terminal
  - Runways and Aprons
  - Maintenance and Restructuring
  
- **2017 – 2021 Investment Plan**



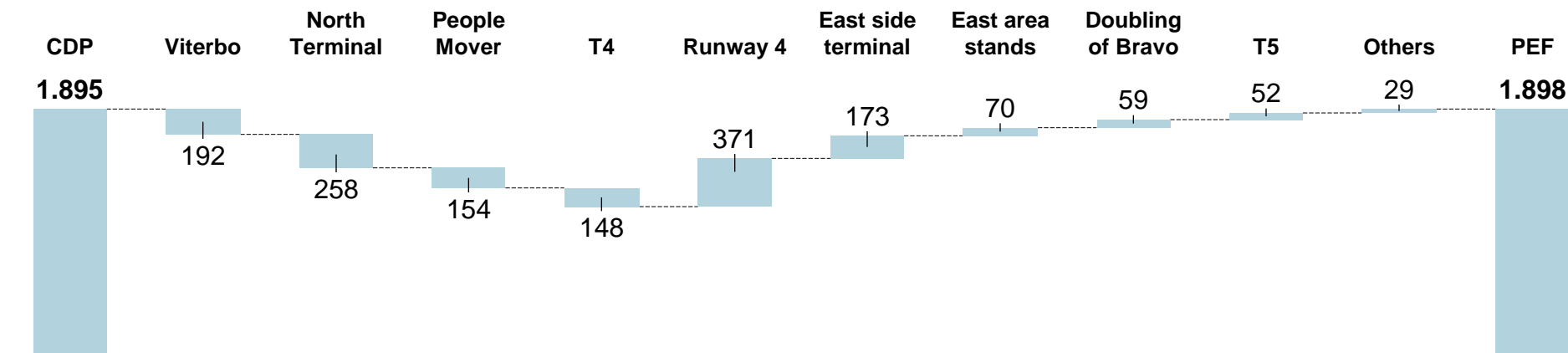
# During the 2017-2021 period, € 1,898 M of CAPEX is planned, in line with the CDP



importi in €/mgli	2017	2018	2019	2020	2021	TOT 17-21
<b>CDP</b>	<b>299.424</b>	<b>362.244</b>	<b>384.019</b>	<b>403.594</b>	<b>446.079</b>	<b>1.895.360</b>
<b>PEF</b>	<b>333.251</b>	<b>381.085</b>	<b>373.014</b>	<b>436.816</b>	<b>373.642</b>	<b>1.897.809</b>
Variazione	33.827	18.840	-11.004	33.223	-72.437	<b>2.449</b>

# The 2017-2021 investment plan, albeit being updated, includes amounts overall in line with 2012 forecasts

## Change of 2017-2021 CAPEX vs CDP (in € millions)



### North Terminal

1

- Postponement of initiative due to timing of signing ADR-ENAC Planning Agreement, of procedure approval and review of traffic scenarios

### People mover

2

- Initiative postponed to after the five-year period (during the period only design activities):
  - construction (by third parties) of the light rail link between the Rome Lido railway and the East Area is still being investigated
  - resizing the real estate plan and relocation of car parks to the East
  - benefits due to recent curbside measures

### Terminal 4 and Terminal 5

3

- Upgrade of T5 and landside areas for capacity development in line with the expected traffic scenarios
- Rescheduling of the works on Terminal 4 to improve investment and operations synergy due to earlier availability of capacity

### Runway 4

4

- Poor mechanical properties of soils
- Adaptation of existing hydrographic network
- A12 highway junction
- Adaptation of the Fire Department station to serve the construction site
- Cost of expropriations (including different classification than in the CDP)

### East side terminal

5

- Optimizations and architectural and technological choices as in the solutions used for Pier C
- Improvement of energy efficiency in line with the EIA Decree requirement
- Regulatory compliance improvements (fire and seismic class)

### East area stands

6

- Poor mechanical properties of soils
- Adaptation of existing hydrographic network
- Cost of expropriations in CDP not shown on individual works

### Doubling of Bravo

7

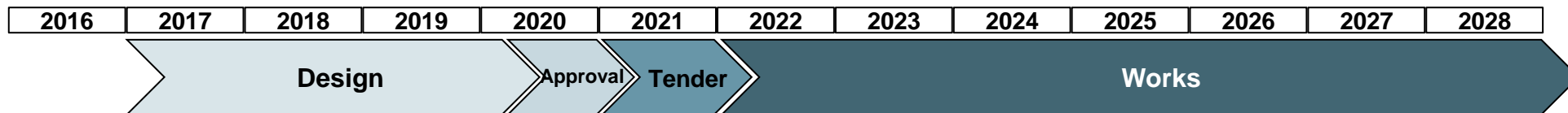
- Extension of the scope of the works;
- Adaptation of underpass and construction of stormwater collection conduit
- Adaptation of design for EASA compliance
- Requirements of the archaeological superintendency

# Fiumicino Nord: passenger terminal

See Schedule A: 3.9 - Works for FCO Nord Terminal

## DESCRIPTION OF THE WORKS:

- In 2017 – 2021 period the North Terminal will be designed
- The North Terminal will have an ultimate process capacity of 50 MPPA in 2044 and will be constructed in two phases ending in 2028 and 2034



## EXPECTED BENEFITS

- Increase of the airport's capacity
- Increase of service level
- Improvement of passenger experience

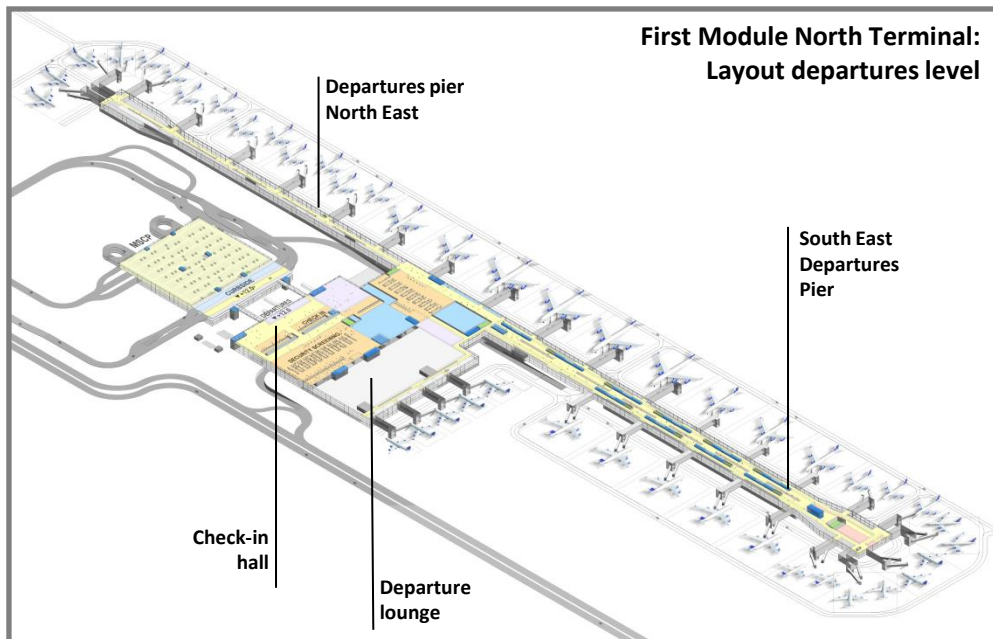
## STATUS and AMOUNTS

Design activities in the 2017-2021 five-year period

Works planned starting from 2022

Completion date: 2028

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 49.6 M	€ 307.1 M	- € 257.5 M





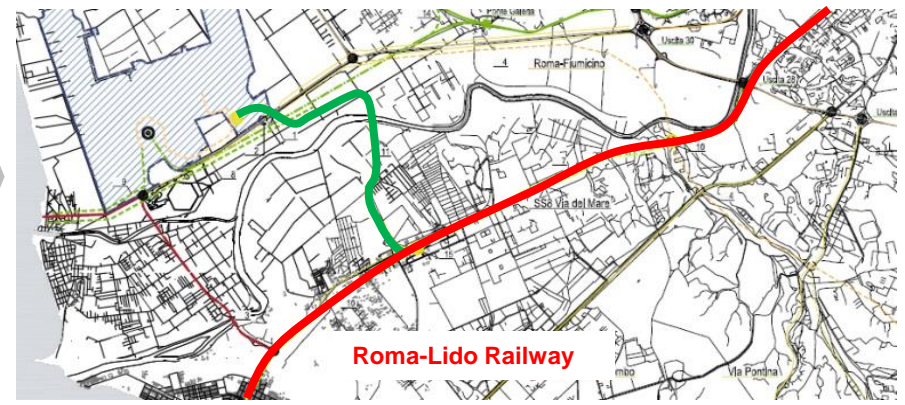
# 2 The People Mover, planned for 2021, has been postponed until after the five-year period, taking into account the necessity to examine more deeply the wider mobility scenario

## Objectives

2012 SCENARIO

- Creation of the East Area/Rome Lido Railroad interchange (light rail link to be built by third parties)
- Construction of a link to the East remote parking areas for operators as a result of a significant real estate development plan

## Construction of People Mover in March 2021



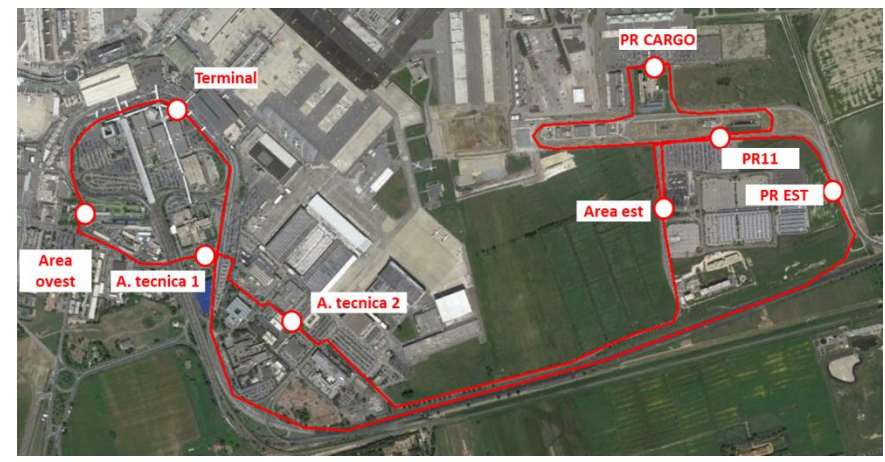
CURRENT SCENARIO

## Changes

- Only design activities aimed at defining the best options for development of access to the terminals are planned for the five-year period
- At the moment, there is no certainty on the construction of the light rail link
- Possible real estate developments based on the MiBACT requirements
- The recent curbside works (e.g. ZTC/ZTL) have improved the quality and the capacity of the system and have decongested the area in front of the terminal

## Shuttles during peak hours

Based on current transportation study, on current scenario. People Mover postponed to 2028



# Terminal 5 upgrade and optimization of Terminal 4



**Terminal 4 and Boarding Area J  
(As foreseen in CDP)**



**Terminal 5 upgrade and optimization of Terminal 4**

**OVERVIEW**

- Required by the FCO Sud Completion Project
- It is the construction of an **arrivals and departures terminal** on two operational levels with a **BHS for originating baggage**. The airlines allocated are **P2P-type that do not belong to the main alliance**
- Opening in July 2021; completion of aprons and loading bridges on the south side of boarding area J in July 2025 (ex CDP)

- Capacity enhancement in 3 phases:
  - 1st phase, T5 only departures. Completion in Summer 2017
  - 2nd phase: construction of arrivals area and gates area T5 with loading bridges, measures for accessibility and access/exit roads from the terminal; completion due in the Summer of 2019
  - 3rd phase, construction of Terminal 4 linked to the gates area previously constructed at T5. Further connection to T3 (pedestrian pathway). With T5 demolition possible availability of other 5 gates with loading bridges.

**AREAS**

- 37,000 m<sup>2</sup> (Terminal), 22,000 m<sup>2</sup> (Boarding Area J)

- Phase 1: 9,000 m<sup>2</sup>; Phase 2: up to at least 20,000 m<sup>2</sup> gross; T4: 20,000 m<sup>2</sup> in addition to the gates area

**GATES**

- 20, including 11 in contact

- Phase 1: 8; Phase 2: 5 additional with loading bridges; Phase 3: 5 additional with loading bridges

**CAPACITY**

- 7 million passengers

- Phase 1: about 2.5 M pax; Phase 2 / T4: up to + 5/6 M pax

**CAPEX**

- € 178,1 M (ex CDP)

- € 130,2 M of which:
  - Phase 1: € 13,9 M
  - Phase 2: € 41,4 M
  - Phase 3: € 74,9 M

## Main advantages of the T5 enhancement project and T4 optimization

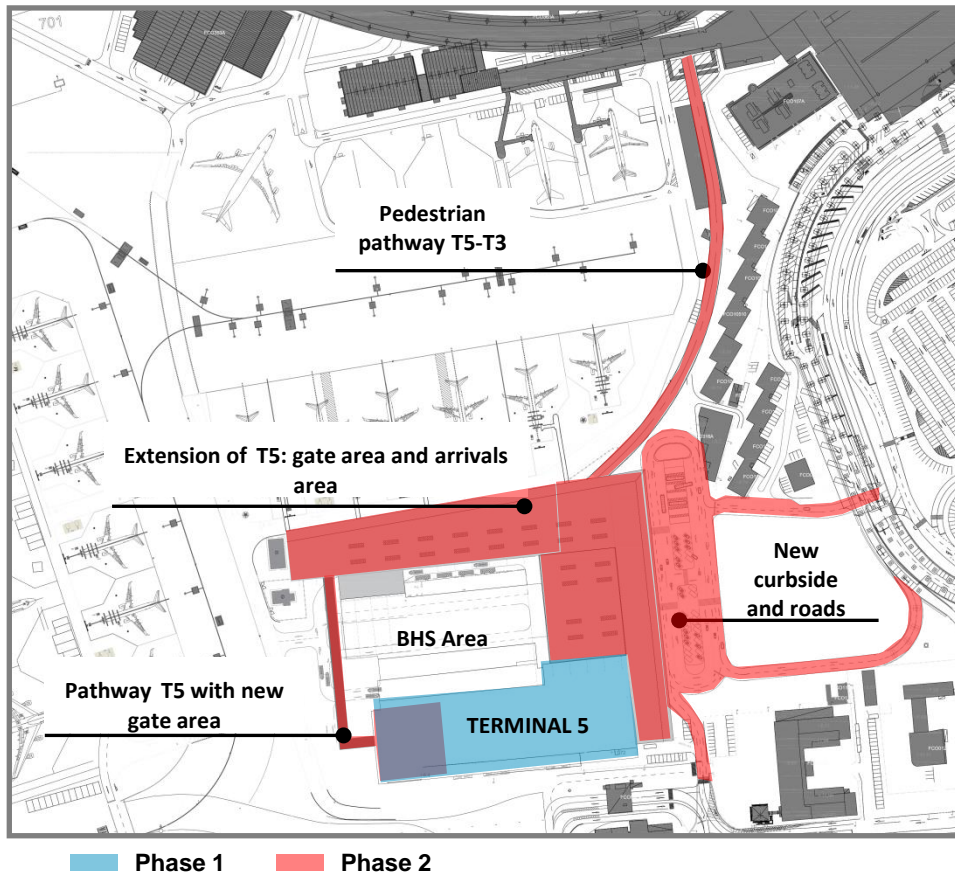
- **Effective response to short-term capacity/service needs.** New Terminal in West area offers a back-up capacity for Terminal system. It ensures higher level of service for central Terminals (Terminal 1 and Terminal 3) during work in progress on Terminals East / demolition T2 and Terminal 3 refurbishment
- **Shorter time to be operational** (phase 1 by Summer 2017, phase 2 by Summer 2019; T4 optimized in 2024)
- **Lower cost of construction, approx. € 48 million cheaper than T4 "Full" assumption** with lower charges for users
- **A link will be provided to the main body of the Terminal via a pedestrian pathway between the ex T5 departure area and the current area of T3**

# Reconfiguration of T5 arrivals and departures

See Schedule A: 3.13 - Works on FCO Sud Terminal and 5.8

## DESCRIPTION OF THE WORKS:

- First phase: upgrading of the T5 for departures only and construction of 8 gates (activity part of the Recovery Plan of T2)
- Phase 2: construction of a new gate area equipped with loading bridges and new arrivals area; upgrade of landside area after demolishing the former west catering building and adapting the ex vehicular terminal entrance/exit road.



## EXPECTED BENEFITS

- Increase in capacity and infrastructure optimization in West Area;
- Less implementation complexity and lower interference to airside operations, resulting in faster commissioning.

## STATUS and AMOUNTS

Design in progress

Completion date: 30/06/2019

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 52.2 M(*)	€ -- M	+ € 52.2 M

(\*) of which € 8.3 million for roads

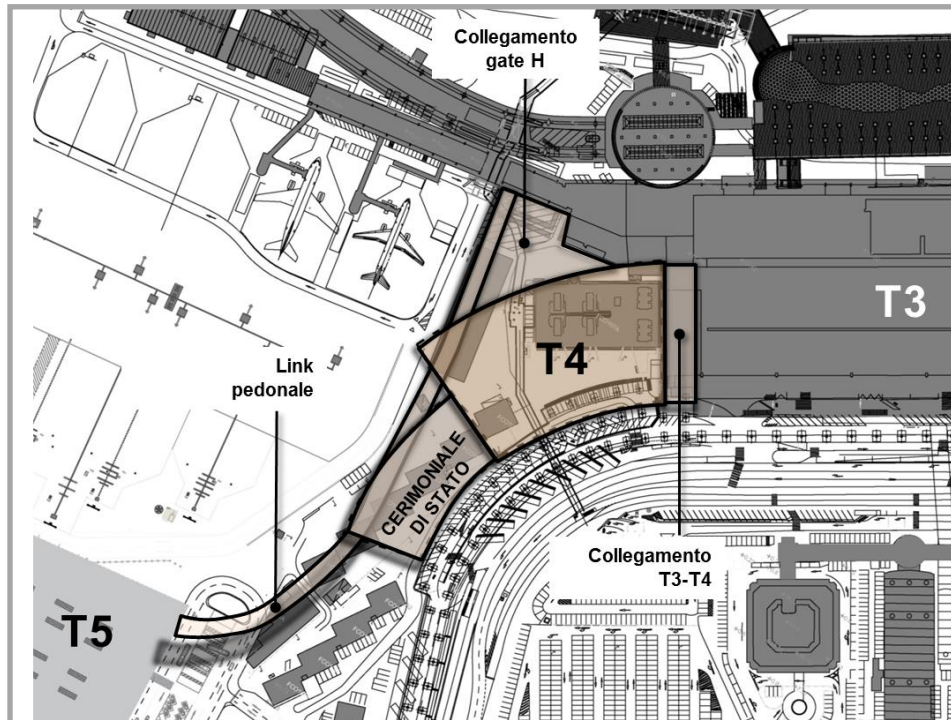


# Terminal T4 and T3 -T5 connections

See Schedule A: 3.2- Works for FCO Sud Terminal

## DESCRIPTION OF THE WORKS:

- Construction of Terminal T4 with related baggage system and a departure area
- Total area of approximately 20,000 m<sup>2</sup> arranged on two levels to accommodate check-in, security control, baggage handling system and arrivals area
- The Terminal will connect to the ex T5 boarding area and to the current area of T3 after restructuring the areas that are currently operational
- After T4 opening, the demolition of T5 will allow the construction of both 5 additional aprons with loading bridges and the related taxiway.



## EXPECTED BENEFITS

- Increase of the capacity of the terminal system

## STATUS and AMOUNTS

Design in progress

T4 completion date: 2024

Completion of 5 additional aprons with LB: 2026

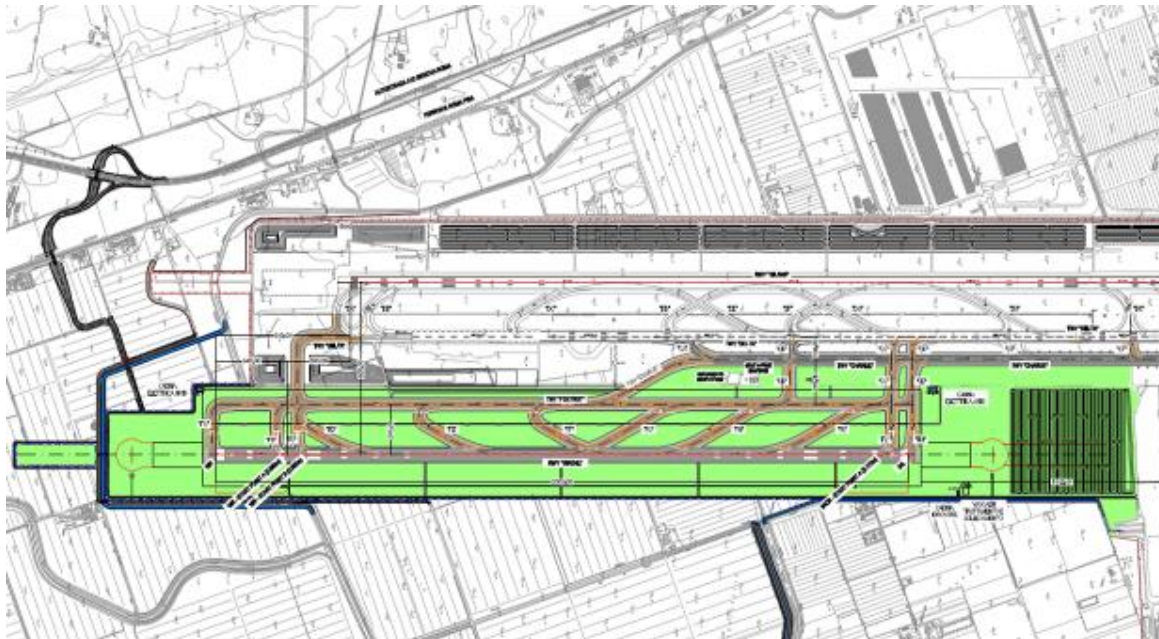
2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 2.9 M	€ 150.5 M	- € 147.6 M

# 4th runway, taxiways and primary networks

See Schedule A: 2.23- Flight Infrastructure Works for FCO Nord

## DESCRIPTION OF THE WORKS:

- Construction of runway (3,300 m x 60 m) at a distance of 820 m from RWY 16R/34L
- Construction of taxiway parallel to the runway, 5 exit/entrance connectors, 6 rapid exits (RET)
- Construction of new airport grounds fence, water works, perimeter road



## EXPECTED BENEFITS

- Increase in airport capacity, along with aprons in the East area, up to a maximum of 120 mov/h
- Better flexibility in relation to changes of traffic demand

## STATUS and AMOUNTS

Design in progress

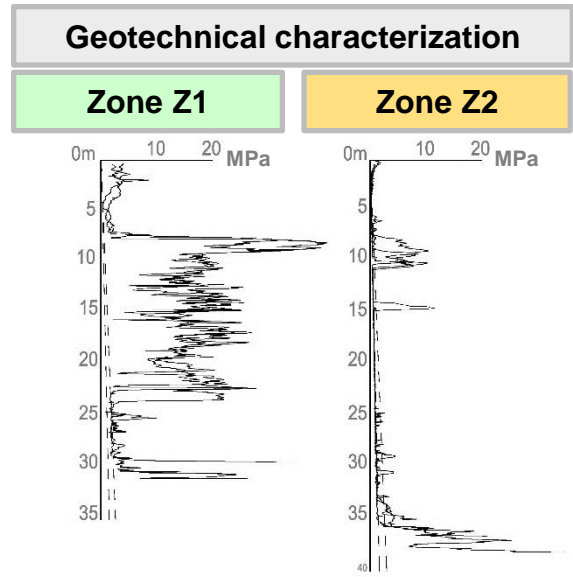
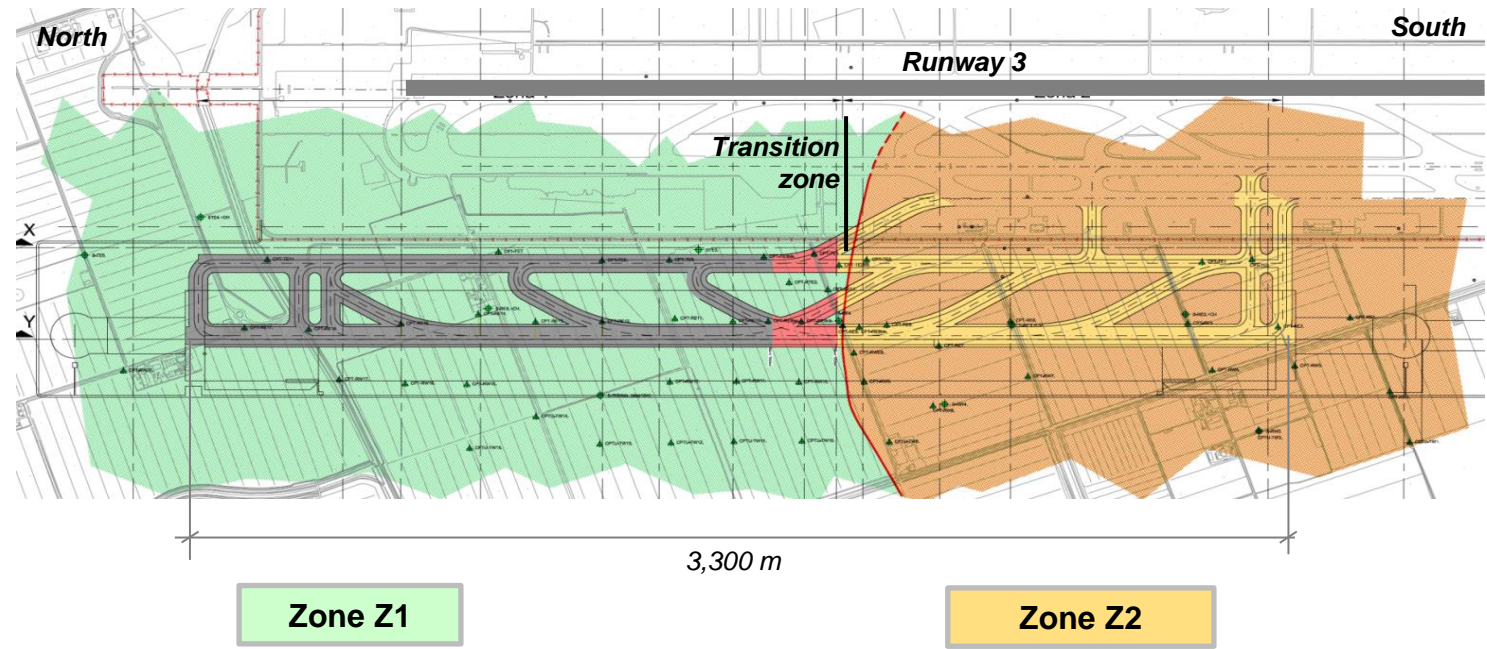
Completion date: 31/12/2021

\* without expropriations

\*\* of which € 97.6 million for expropriations

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 518.9 M	€ 148.0 M*	+ € 370.9 M**

# 4 4th runway, taxiways and primary networks Geotechnical survey and lightweight materials



Stratigraphy characterized by the presence of 12-18 meter deep layer of slightly silty sand at about 5 meters deep and "standard" clays above and below it.

Stratigraphy characterized by the presence of very soft "sensitive" clays up to 35 meters deep, with a layer of sand of about 3-6 meters at about 5 meters deep

The graphs represent the diagrams showing resistances (MPa) for the two zones Z1 and Z2, defined with penetration tests (driving a tapered pin to measure the effort needed for penetration).

The geological analysis of the zone shows that in the South (orange) zone of the intervention area, the soil is not strong enough to support the construction of an embankment built with standard materials. For this reason:

- the embankment in that zone (**Z2**) will be made with **lightweight materials that can limit its sagging over time**
- **implementing special construction techniques** will be used that require for different design arrangements in the two zones, Z1 and Z2
- **Settlement gauges** will be installed to provide support for **monitoring during the works**, to compare actual settling with that calculated and so as to calibrate the numerical model and possibly implement corrective measures



# 4 4th runway, taxiways and primary networks

## Water

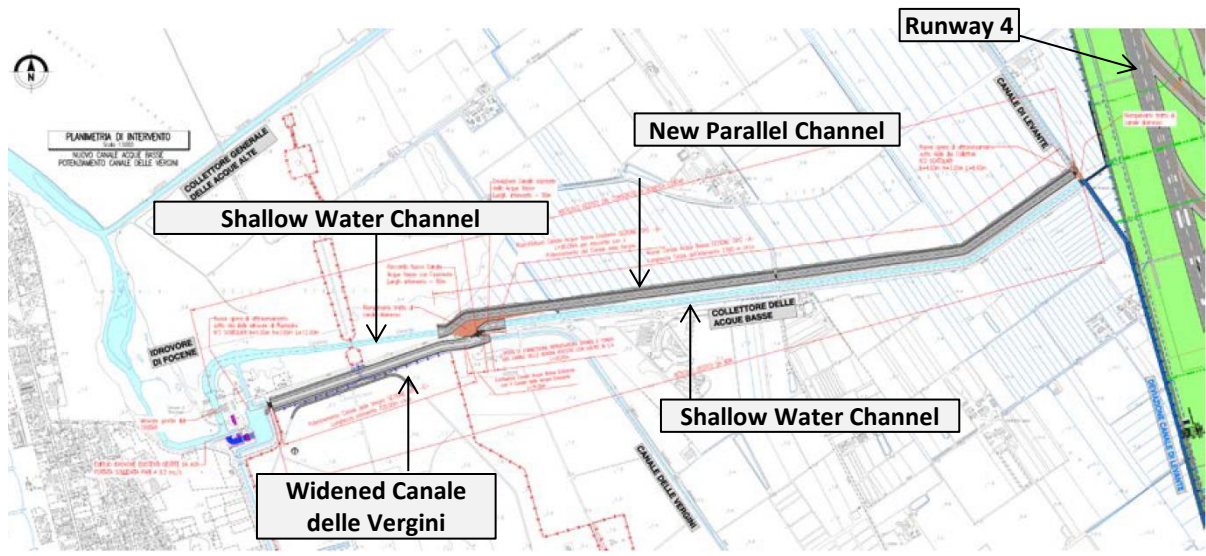
### Analyses carried out

- Geotechnical surveys
- Analysis and survey of Fiumicino's water networks
- Input data acquired by the canals and pumps consortium



### Works planned

- **Water treatment and pumping system** using technologies suitable to the poor characteristics of soil and walls.
- **Upgrade of existing hydrographic network:** it involves the construction of a **new channel alongside the existing shallow water channel**. The new channel will convey the contributions from reclamation areas located to the North and part of the green areas of Runway 4, while the existing shallow water channel will convey the rainwater of the paved areas of the new infrastructure and of the agricultural areas between Runway 2, Runway 3, the existing shallow water channel and the Canale delle Vergini.
- Before flowing into the drainage channel of the Focene water pumps, the existing channel will be diverted and connected to the **Canale delle Vergini**, which will be suitably **widened**, while the new channel serving the consortium will flow into the final stretch of the existing shallow water channel.





# 4 4th runway, taxiways and primary networks

## Worksite setup and adaptations of related infrastructure

### Analyses carried out

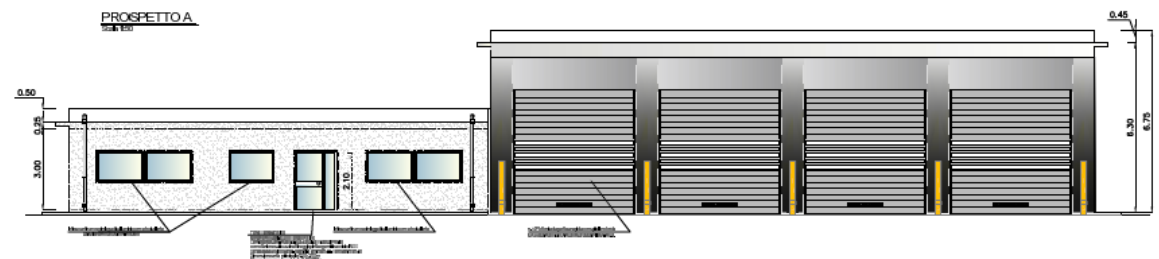
- **CONSTRUCTION SITE SETUP:** the construction site plan and procurement of materials were analyzed to limit the traffic of construction vehicles on local roads
- **Fire Department:** need to operate simultaneously on the two parallel runways (Runway 3 and Runway 4)
- **TAXIWAY:** analysis of expected traffic volume on the existing taxiway system to support the new infrastructure;

### Works planned

- **CONSTRUCTION SITE SETUP:** a trumpet-type intersection must be built on the nearby A12 motorway with exit ramps only from the A12 coming from Rome and entering the A12 towards Rome. These ramps will be two-way to also allow entrance to/exit from Civitavecchia
- **Fire Department:** upgrade of the station between parallel runways 3 and 4 so as to create a structure that can accommodate a sufficient number of personnel and equipment in case of two simultaneous incidents
- **TAXIWAY:** improvement of the functional characteristics and load bearing capacity of **Charlie and Delta taxiways**



Airside Fire Department barracks



## 4 4th runway, taxiways and primary networks Expansion of grounds

### Reference regulatory framework

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- The estimate of expropriations was previously defined on the basis of the so-called **Average Agricultural Value (VAM)**; the Constitutional Court declared the indemnity policy based on VAM **constitutionally illegitimate** since it is independent of the expropriation process, **and disregards any assessment of data pertaining to the specific requirements of the asset**. Compensation must be determined taking into account the crops grown on the land and the value of the constructions legitimately built, also in relation to business of the farm.

### Update of estimates

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- The expropriation indemnity was determined, and then updated, on the basis of **real Agricultural Value**, which was identified as the **average value between the VAM increased by 50%** (pursuant to Italian Law 865/71), the **land values of the market watch published by I.N.E.A.** – National Agricultural Economic Institute and those set by the Chamber of Commerce
- **The amount for extension of the airport grounds, previously entered in row 1.3 of Schedule A, was added to the amount for the works**

**5 East side Terminal: boarding area A, expansion of quadrant 200 aprons, T1 front building, expansion of T1**

See Schedule A: 3.4- Works for FCO Sud Terminal

**DESCRIPTION OF THE WORKS:**

- Construction of the **T1 Front Building, of boarding area A** and related aprons: +4 M pax capacity increase
- Construction of **T1 West extension** (demolition of T2) and **reconfiguration** of the hub at the **root of boarding areas C and D**. Enlargement of airside terminal passengers' areas and construction of 10 remote gates: **+3 M pax capacity increase.**



**EXPECTED BENEFITS**

- **Increase of the operational functional capacity of the infrastructure**

**STATUS and AMOUNTS**

Design/Construction in progress

Completion date:

- Expansion of 200 quadrant aprons: **2016**
  - Boarding area A, T1 Front Building: **2019**
- (T1 Expans.: 2021; AIC/AID reconfiguration: 2022)

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 297.1 M	€ 124.5 M	+ € 172.6 M

**5 East side Terminal: boarding area A, expansion of quadrant 200 aprons, T1 front building, expansion of T1**  
**Variations with respect to the assumptions considered in the CDP**

**Analyses carried out**

**Changes planned**

**FUNCTIONAL LAYOUT:**

- Need to ensure maximum consistency of the works to the latest operational/functional requirements

**FUNCTIONAL LAYOUT:**

- Increase of surfaces and volumes by about 11,000 m<sup>2</sup> of additional area and 6,000 m<sup>2</sup> of area to reconfigure in T1

**ARCHITECTURAL SOLUTIONS:**

- Architectural and technological choices as in the solutions used for Pier C and the Front Building.

**ARCHITECTURAL SOLUTIONS:**

- Changes to the finishings initially contained in the previous design phases

**SYSTEM AND ENERGY EFFICIENCY:**

- Adaptations to comply with requirement A.19 of the EIA Decree

**SYSTEM AND ENERGY EFFICIENCY:**

- Implementation of engineering and equipment solutions to optimize the energy efficiency to achieve almost "zero energy buildings"

**SEISMIC AND FIRE REGULATIONS:**

- Entry into force of the new fire safety regulations (Italian Ministerial Decree of 17 July 2014)
- Adaptation to comply with seismic class 4 instead of class 3

**SEISMIC AND FIRE REGULATIONS:**

- Adaptation of civil engineering and systems works contained in the design
- Greater resistance and strengthening of structures and work on systems

**OPERATIONAL OPTIMIZATIONS:**

- Analysis of the division into phases of the work so as to **ensure the operation of the terminal** during the construction work.

**OPERATIONAL OPTIMIZATIONS:**

- Temporary works, relocation and reclamation of underground utilities, and charges related to the stages of the worksite
- Relocation of CBC AZ and L&F AZ



# New aprons East area

## DESCRIPTION OF THE WORKS:

- Making new aprons in the area close to aprons in the 200 area and near Cargo City: 18 "up to C" + 1 "up to E" (alternate configuration: 20 "up to C"), of which 18 self-maneuvering stands
- Construction of new taxiways
- New ramp areas of (approximately 25,000 m<sup>2</sup>)

See Schedule A: 2.11- Flight Infrastructure Works for FCO Sud

## EXPECTED BENEFITS

- Increase of capacity of aircraft aprons
- Improvement of operational performance: LVP with RVR<400 m, full optional systems: fuel pit, 400 Hz, PCA, VDGS

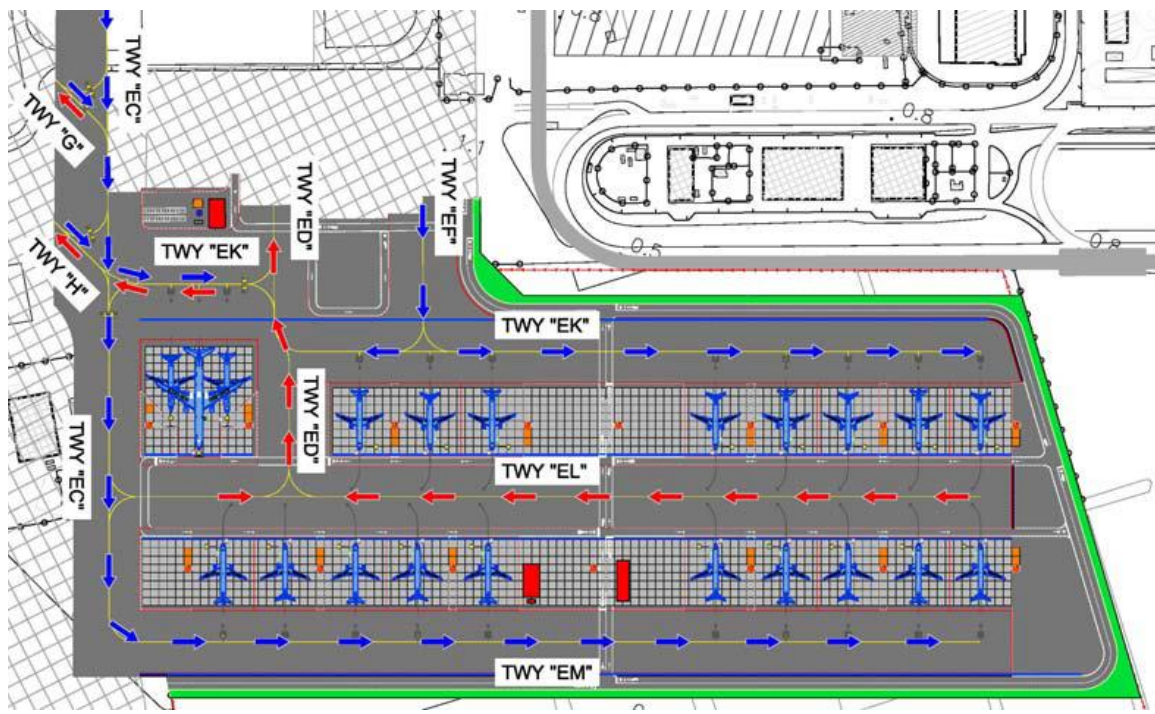
## STATUS and AMOUNTS

Design in progress

Completion date: 31/07/2021

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 98.3 M	€ 28.6 M	+ € 69.7 M*

\* of which € 20.0 million for acquisition of the areas



# New aprons in East area

## Analyses carried out

**GEOTECHNICAL SURVEYS:** the surveys carried out under the preliminary project showed the presence of **soils with poor mechanical properties**.

- along the West portion of the future aprons, for about 500 to 550 m towards East, there is slightly silty and silty sand, from ground level to 18÷20 m deep; below which sensitive clays are present;
- along the eastern edge of the future aprons, the stratigraphic profile is mainly made up of fine, silty clay deposits, present starting from the surface, with a depth exceeding 55 to 65 m; between 5 and 15 m depth the fine fractions are interrupted by the presence of fine slightly silty and silty sand.

### WATER WORKS:

- Geotechnical surveys
- Analysis and survey of Fiumicino's water networks
- Input data acquired by the channels and pumps consortium

## Works planned

### GEOTECHNICAL SURVEYS AND LIGHTWEIGHT MATERIALS:

- The high compressibility of the soils in the area determines the need for using **lightweight materials** for the layers of the superstructure and replacing part of the natural soil with lightweight material.

### WATER WORKS:

- construction of **water treatment and pumping system** using technologies suitable to the poor characteristics of soil and walls
- **upgrade of the water discharge channel** that will flow into the existing Alitalia Channel

# Completion of doubling Bravo taxiway

## DESCRIPTION OF THE WORKS:

- Demolition of the existing Bravo taxiway in the stretch between BA and BC connectors as well as between BE connector and A taxiway;
- Construction of two parallel taxiways, to complement the works carried out in 2007 and upgrade of the rainwater drainage system
- Structural adaptation and expansion of roadway underpass under runway 07/25 in order to allow the passage of aircraft.

See Schedule A: 2.5- Flight Infrastructure Works for FCO Sud

## EXPECTED BENEFITS

- **System with three parallel taxiways (doubling of Bravo + Delta) that will be the main airport's main traffic routes, capable of sustaining the expected capacity and managing the forecast traffic demand**
- **Improvement of performance of the infrastructure in terms of flexibility, punctuality and reliability**
- **Improvement of aircraft ground circulation, reducing waiting times and consequently fuel consumption and pollution due to aircraft**

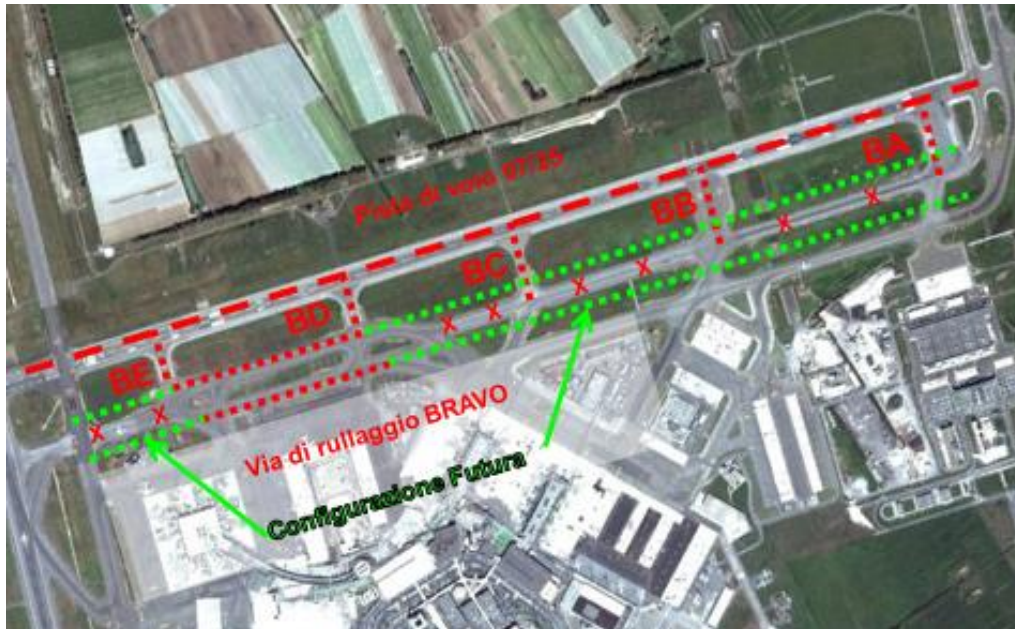
## STATUS and AMOUNTS

Design in progress

Completion date: 30/06/2021

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 80.3 M	€ 21.4 M	+ € 58.9 M*

\* of which € 21,5 million due to postponements from the first period



# Completion of doubling Bravo taxiway

## Analyses carried out

**FAST-TIME SIMULATIONS WITH SIMMOD:** tests have confirmed the need for the works and stretches where it is necessary to doubling the taxiways

### **WATER WORKS:**

- Analysis and survey of Fiumicino's water networks
- Input data acquired by the channels and pumps consortium

### **ANALYSIS OF STRUCTURES AND UNDERGROUND UTILITIES UNDERPASS**

### **EASA REGULATION – entry into force of Reg. 139/2014**

### **ARCHAEOLOGICAL SUPERINTENDENCY - Requirements**

### **EIA DECREE AND REQUIREMENTS**

## Works planned

### **FAST-TIME SIMULATIONS WITH SIMMOD:**

- As a result of the findings of the simulation, the doubling of TWY Bravo has been extended to the intersection with Alpha taxiway, making necessary the demolition of existing constructions;

### **WATER WORKS:**

- adaptation and integration of existing water collection and disposal systems

### **ANALYSIS OF STRUCTURES AND UNDERGROUND UTILITIES UNDERPASS**

- maintenance to preserve and modify/reroute existing underground utilities as a result of analyses and specific surveys carried out

### **EASA REGULATION – entry into force of Reg. 139/2014**

- regulatory design adaptations that have allowed an increase of the usage class of the taxiways of the design versus the original design (from ICAO categories "C" and "F" to categories "E" and "F")

### **ARCHAEOLOGICAL SUPERINTENDENCY - Requirements**

- removal of artifacts, to complete the findings of a Roman Villa found in the works area

### **EIA DECREE AND REQUIREMENTS:**

- due to the entry into force of the FCO Sud EIA Decree, in November 2013, the works must take into account a greater cost to build a rainwater collection collector



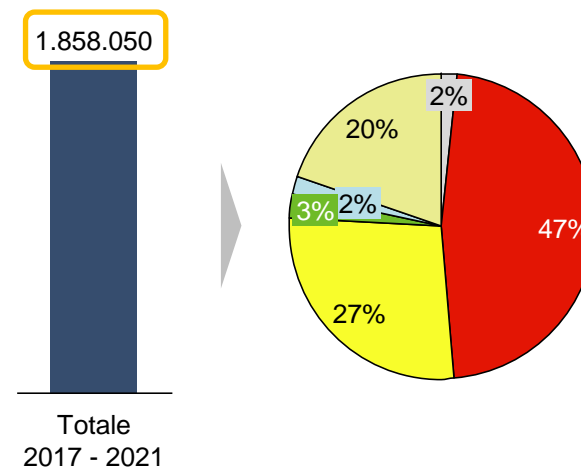
- **2017 – 2021 Investment Plan**
  - **Detail outline for FCO**
  - **Detail outline for CIA**

# 2017-2021 Investment Plan for FCO

€ mgl	Descrizione	2017	2018	2019	2020	2021	Totale 2017 - 2021	
FIUMICINO	1. Attività Urbanistiche FCO Nord	9.467	4.472	7.309	6.003	2.328	29.580	
	2. Infrastrutture di volo FCO Sud	45.434	65.983	29.238	118.791	59.891	319.337	
	2. Infrastrutture di volo FCO Nord	19.590	39.873	119.989	183.512	193.143	556.107	
	3. Interventi Terminal FCO Sud	65.824	136.929	131.487	55.292	62.995	452.527	
	3. Interventi Terminal FCO Nord	8.453	25.842	7.589	7.669	-	49.552	
	4. Interventi Landside FCO Sud	22.795	6.922	1.153	1.239	1.723	33.832	
	4. Interventi Landside FCO Nord	3.001	2.481	-	5.660	4.577	15.720	
	5. Interventi parcheggi FCO Sud	7.485	22.354	3.562	1.396	383	35.180	
	5. Interventi parcheggi FCO Nord	-	-	-	-	-	-	
	6. Altri interventi FCO Sud	131.472	69.235	65.933	53.884	45.692	366.216	
	<b>TOTALE INTERVENTI FCO</b>		<b>313.520</b>	<b>374.092</b>	<b>366.259</b>	<b>433.445</b>	<b>370.733</b>	<b>1.858.050</b>

## Total 2017 - 2021 by type of works

The largest share of the investments in the period is the work on flight infrastructure, terminals and maintenance/restructuring (in "Altri interventi FCO Sud")



- Attività Urbanistiche FCO Nord
- Infrastrutture di volo
- Interventi Terminal
- Interventi Landside
- Interventi parcheggi
- Altri interventi FCO Sud

# 2017 – 2021 Investment Plan for FCO – changes vs CDP

€ mgl	Descrizione	2017		2018		2019		2020		2021		Totale 2017 - 2021	
		PEF	CDP	PEF	CDP	PEF	CDP	PEF	CDP	PEF	CDP	PEF	CDP
FIUMICINO	1. Attività Urbanistiche FCO Nord	9.467	2.042	4.472	33.019	7.309	35.451	6.003	75.860	2.328	32.083	29.580	178.454
	2. Infrastrutture di volo FCO Sud	45.434	54.997	65.983	8.409	29.238	10.427	118.791	16.069	59.891	-	319.337	89.901
	2. Infrastrutture di volo FCO Nord	19.590	50.388	39.873	67.614	119.989	40.731	183.512	5.730	193.143	10.694	556.107	175.156
	3. Interventi Terminal FCO Sud	65.824	33.809	136.929	56.749	131.487	63.154	55.292	102.623	62.995	62.309	452.527	318.644
	3. Interventi Terminal FCO Nord	8.453	1.021	25.842	25.796	7.589	26.067	7.669	93.772	-	160.413	49.552	307.068
	4. Interventi Landside FCO Sud	22.795	24.729	6.922	72.063	1.153	51.544	1.239	17.377	1.723	44.916	33.832	210.629
	4. Interventi Landside FCO Nord	3.001	-	2.481	-	-	-	5.660	-	4.577	37.404	15.720	37.404
	5. Interventi parcheggi FCO Sud	7.485	6.259	22.354	6.792	3.562	9.454	1.396	15.913	383	7.798	35.180	46.216
	5. Interventi parcheggi FCO Nord	-	-	-	-	-	-	-	-	-	4.375	-	4.375
	6. Altri interventi FCO Sud	131.472	38.425	69.235	35.304	65.933	50.594	53.884	57.655	45.692	80.741	366.216	262.719
	<b>TOTALE INTERVENTI FCO</b>	<b>313.520</b>	<b>211.670</b>	<b>374.092</b>	<b>305.746</b>	<b>366.259</b>	<b>287.420</b>	<b>433.445</b>	<b>384.999</b>	<b>370.733</b>	<b>440.732</b>	<b>1.858.050</b>	<b>1.630.568</b>
<b>Delta Scheda A PEF vs CDP</b>		<b>101.850</b>		<b>68.346</b>		<b>78.839</b>		<b>48.446</b>		<b>-70.000</b>		<b>227.482</b>	

## FLIGHT INFRASTRUCTURE WORKS: FIUMICINO SUD

2.1 - West Area - SERAM area, new customs gate

2.2 - West Area - Expansion of aircraft parking aprons (phases 1-2)

2.4 - Expansion of Cargo area aprons

2.5 - Completion of doubling Bravo taxiway

2.6 - Expansion of aprons of former AZ technical area

2.7 - Relocation of engine test bay

2.11 - New aprons in East area

2.12 - Expansion of aircraft aprons in the former postal area - quadrant 200

2.30 - Wide-body aprons in 600 zone

2.31 - Works to mitigate the flooding risk in the West Area

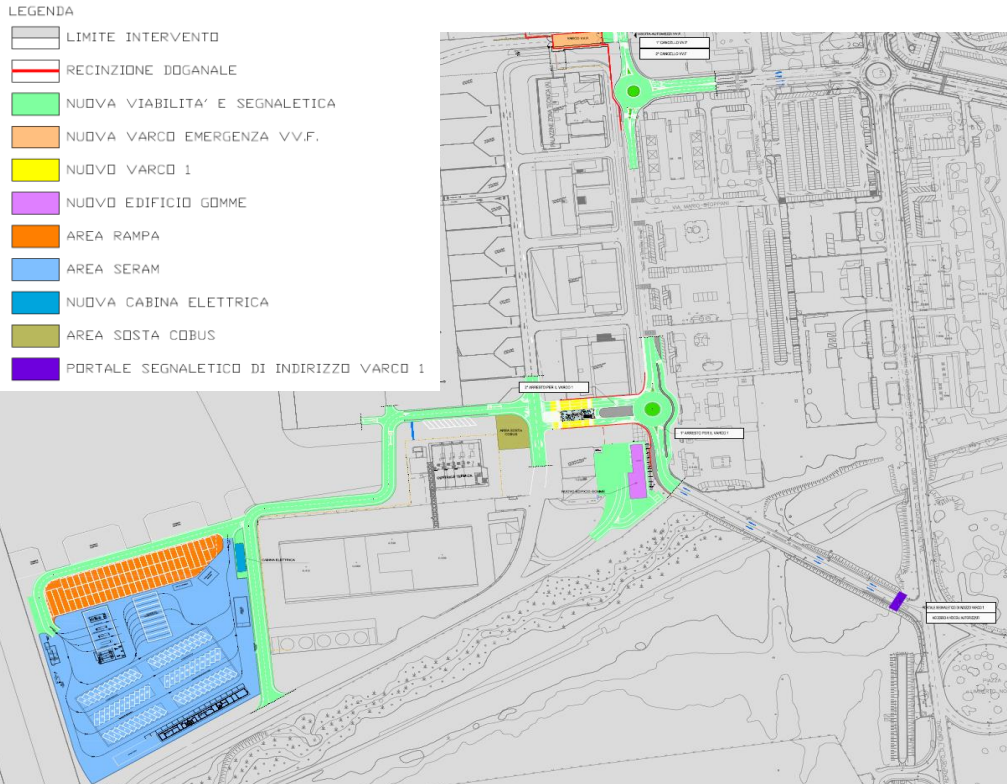


# West Area - SERAM area, and new customs gate

See Schedule A: 2.1- Flight Infrastructure Works for FCO Sud

## DESCRIPTION OF THE WORKS:

- Construction of parking areas for vehicles, logistics buildings, oil separator and systems related to the airside storage and distribution of fuel (SERAM company)
- Relocation of customs gate 1 and implementation of new access roundabout;
- Demolition and relocation of the workshop and tires warehouse, to allow the construction of the new gate 1; demolition of the existing gate, modification of the Customs fence and reclamation of the area.



## EXPECTED BENEFITS

- Optimization of the fuel distribution activity
- Improvement of accessibility to the airside area for operators

## STATUS and AMOUNTS

Detailed design in progress

Completion date: 31/03/2018

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 9.2 M	€ 0.0 M	+ € 9.2 M*

\* of which € 6,7 million due to postponements from previous years

# West Area - SERAM area, and new customs gate

## REASONS FOR CHANGES TO THE AMOUNTS IN THE CDP:

See Schedule A: 2.1- Flight Infrastructure Works for FCO Sud

### **POSTPONEMENT OF COMMISSIONING DATE:**

- The measure was postponed from June 2016 to March 2018 due to the reformulation of the plan implemented in 2013 in accordance with ENAC and after consultations with users

### **REGULATORY ADAPTATION:**

- upgrade of structural and seismic class and update of the sizing and calculation of all structural elements
- update of the customs gate equipment to new security standards based on the updated national security program

# West Area, expansion of aircraft parking aprons (phases 1, 2)

**DESCRIPTION OF THE WORKS:**

See Schedule A: 2.2- Flight Infrastructure Works for FCO Sud

- PHASE 1: demolition of freight tunnel buildings and those of former waste treatment area, reconfiguration of 808-812 aprons: 3 "up to E" + 1 "up to C" (alternate configuration: 6 "up to C"), construction of 6 new "up to C" aprons and related taxiway, new ramp vehicles area.
- PHASE 2: new aircraft aprons and related taxiway: 6 "up to E" + 3 "up to C" (alternate configuration: 4 "up to E" + 6 "up to C"), new area for ramp vehicles.



**EXPECTED BENEFITS**

- Increase of capacity of aircraft aprons
- Improvement of operational performance: LVP with RVR<400m, full optional systems: fuel pit, 400 Hz, PCA, VDGS

**STATUS and AMOUNTS**

Phase 1: construction in progress  
 Phase 2: detailed design in progress  
 Completion date: Phase 1: 31/12/2017  
 Phase 2: 30/06/2018

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 41.9 M	€ 14.9 M	+ € 27.0 M*

\* of which € 25.4 million due to postponements from previous years



# Expansion of Cargo area aprons

## DESCRIPTION OF THE WORKS:

- Reclamation of the area and archaeological surveys
- Construction of 8 new aircraft parking aprons for "up to C" aircrafts, taxiways and ramp area

See Schedule A: 2.4- Flight Infrastructure Works for FCO Sud

## EXPECTED BENEFITS

- Increase of capacity of aircraft aprons
- Improvement of operational performance: LVP with RVR<400m, full optional systems: fuel pit, 400 Hz, PCA, VDGS

## STATUS and AMOUNTS

Planning in progress  
 Completion date: 28/02/2021



2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 10.5 M	€ 6.9 M	+ € 3.6 M



# Expansion of former AZ technical area aprons

See Schedule A: 2.6- Flight Infrastructure Works for FCO Sud

## DESCRIPTION OF THE WORKS:

- Construction of new wide-body aprons: 8 "up to E" (alternate configuration: 3 "up to E" + 8 "up to C")
- Construction of new taxiways
- Construction of new ramp areas

## EXPECTED BENEFITS

- Increase of capacity of aircraft aprons
- Improvement of operational performance: LVP with RVR<400m, full optional systems: fuel pit, 400 Hz, PCA, VDGS

## STATUS and AMOUNTS

Planning in progress  
 Completion date: 31/05/2021



2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 31.1 M	€ 5.3 M	+ € 25.8 M*

\* of which € 6,5 million due to postponements from previous years

# Expansion of former AZ technical area aprons

## REASONS FOR CHANGES TO THE AMOUNTS IN THE CDP:

See Schedule A: 2.6- Flight Infrastructure Works for FCO Sud

### **POSTPONEMENT OF THE MEASURE:**

- the initiative was postponed in order to take into account the time of conclusion and approval of the ADR-ENAC “Contratto di Programma”. Moreover during 2013 in accordance with ENAC and as a result of consultations with users, the work was postponed, with economic impacts almost completely in the second regulatory period

### **EXTENSION OF THE SCOPE OF WORKS:**

- extension of the scope of works to extend the ramp vehicle parking area
- need for further demolition of existing structures: concrete slabs, sheds, battery charger, construction used for storage, electrical substation

### **TECHNICAL AND ECONOMIC UPDATE:**

- adjustment of unit costs and implementation of systems to reduce the ramp vehicle traffic

# Relocation of engine test bay

## DESCRIPTION OF THE WORKS:

- Construction of the new engine test bay near the hangars of the AZ technical area
- Installation of the barriers that reduce the noise impact and the jet blast from tests;
- Construction of logistical areas related to aircraft engine tests;



See Schedule A: 2.7- Flight Infrastructure Works for FCO Sud

## EXPECTED BENEFITS

- Protection of surrounding areas from jet blast from engine testing
- Reduction of noise pollution in surrounding areas generated by aircraft maintenance

## STATUS and AMOUNTS

Planning in progress  
 Completion date: 28/02/2018

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 2.0 M	€ 0.9 M	+ € 1.1 M



# Expansion of aircraft aprons in the former postal area

See Schedule A: 2.12- Flight Infrastructure Works for FCO Sud

## DESCRIPTION OF THE WORKS:

- Demolition of the building of the "NET 6000" system
- Construction of new aprons: 4 "up to E" (alternate configuration: 6 "up to C")
- Construction of new ramp areas



## EXPECTED BENEFITS

- Increase of capacity of aircraft aprons
- Improvement of operational performance: LVP with RVR<400m, full optional systems: fuel pit, 400 Hz, PCA, VDGS

## STATUS and AMOUNTS

Planning in progress  
 Completion date: 31/10/2021

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 13.5 M	€ 11.9 M	+ € 1.6 M



# Wide-body aprons in quadrant 600

## DESCRIPTION OF THE WORKS:

- Demolition of pavement and existing buildings
- Construction of new aprons: 2 "up to E"
- Construction of new ramp area

See Schedule A: 2.30- Flight Infrastructure Works for FCO Sud

## EXPECTED BENEFITS

- Increase of capacity of aircraft aprons
- Improvement of operational performance: LVP with RVR<400m, full optional systems: fuel pit, 400 Hz, PCA, VDGS

## STATUS and AMOUNTS

Planning in progress  
 Completion date: 31/10/2018



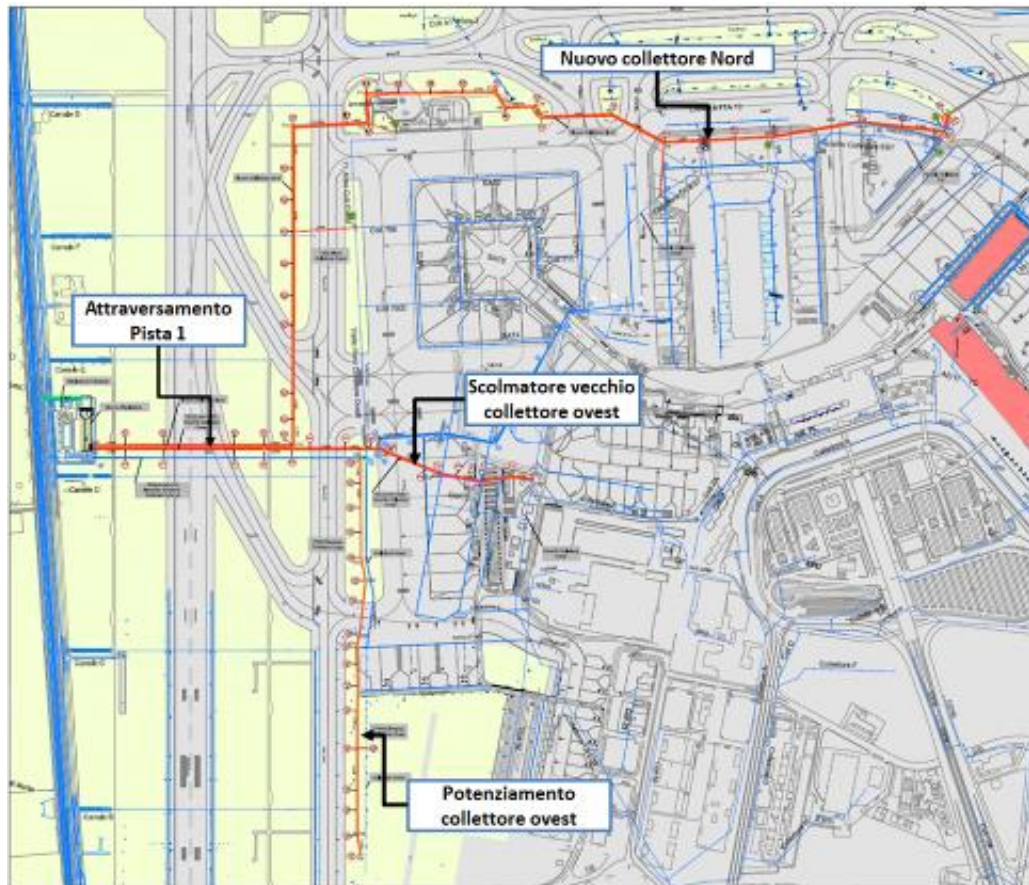
2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 8.6 M	-	+ € 8.6 M

# Works to mitigate the water risk in the West Area

See Schedule A: 2.31- Flight Infrastructure Works for FCO Sud

## DESCRIPTION OF THE WORKS:

- Construction of the new North collector and enhancement of the CA and COS collectors;
- Construction of the spillway of the Old West Collector **and** construction of a new crossing of Runway 1.
- New continuous oil separator to be built upstream of the outlet of the Coccia di Morto channel, to treat the flow coming from the collectors mentioned above.



## EXPECTED BENEFITS

- Mitigation of flooding risk by adapting the airport to a uniform level, with return period of 20 years.
- Improvement of the drainage system for the new paved surfaces (e.g. doubling of Bravo, West aprons second phase, SERAM area)
- Reduction of flow to the Traiano pumping station.

## STATUS and AMOUNTS

Detailed design in progress

Completion date: 28/02/2018

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 23.9 M	-	+ € 23.9 M

# Works to mitigate the water risk in the West Area

## REASONS FOR CHANGES TO THE AMOUNTS IN THE CDP:

See Schedule A: 2.31- Flight Infrastructure Works for FCO Sud

### WATERWORKS SURVEY:

- The survey **assessed the entire drainage system**, to **standardize** the design of all new works and to **adapt**, where possible, the **existing drainage network** considering particularly intense rainfall events as elements determining the sizing of the system, with a return period of 20 years;
- The simulations highlighted the need for a series of measures within the "Works to mitigate the flooding risk in the West Area" to provide adequate drainage, also in relation to climate change, as a result of the completion of all the measures required by the Fiumicino Sud Completion Project;
- The design of the various infrastructure contained in the Fiumicino Sud Completion Project has allowed us to quantify the actual flow rate increase for the drainage system as a result of the transformation of green areas into paved surfaces, also considering the choices included in the EIA Decree, which do not allow drainage of the water into the ground;
- The mitigation measures make it possible to adapt the airport's drainage network to events with return period of 20 years making uniform the system that had been developed, however, over a span of 50 years, and thanks to modeling it will be capable of protecting the airport from the type of precipitation events that have occurred in recent years with **broad safety margins on airport operations**;
- The works also make it possible **to reduce the load on the collectors** which send water **to the Traiano pumping station**, which inter alia **is not handled by ADR**, which presents issues related to management and maintenance, also surfaced as a result of the checks carried out with the help of the values recorded by the monitoring network installed at the airport.

### SOIL CHARACTERISTICS AND OPERATIONS:

- The amount of the work is related **to the extension of areas drained** but also to the **difficulty of construction**, due both to the **geotechnical characteristics** of the soil crossed and to **the construction method** that should lead to **minimal impact on airport operations**.

## FLIGHT INFRASTRUCTURE WORKS: FIUMICINO NORD

2.23 - 4th runway, taxiways and primary networks

2.15 - Water networks and water treatment

2.17 - Focene pumping station



# Water networks and water treatment

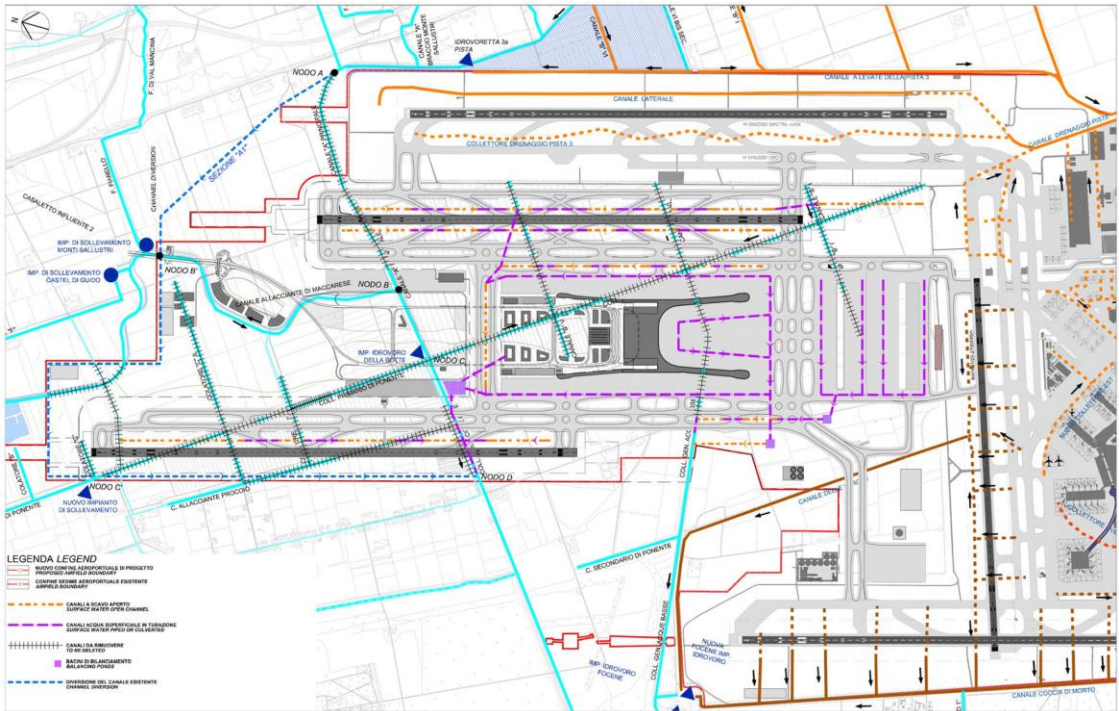
## DESCRIPTION OF THE WORKS:

- Construction of the new network of main collectors to remove water coming from future infrastructure in the North: aircraft parking aprons, terminal, runways and other paved areas.
- Construction of treatment plants for the stormwater coming from the network of collectors, for subsequent discharge into the receiving body.

See Schedule A: 2.15- Flight Infrastructure Works for FCO Nord

## EXPECTED BENEFITS

- Assessment of the water works situation and of the preservation of the soil
- Improvement of the existing canal system in relation to the new infrastructure



## STATUS and AMOUNTS

Planning in progress  
 Completion date: 31/12/2025

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 30.2 M	€ 11.2 M	+ € 19.0 M

# Water networks and water treatment

## REASONS FOR CHANGES TO THE AMOUNTS IN THE CDP:

See Schedule A: 2.15- Flight Infrastructure Works for FCO Nord

### **RESCHEDULING OF THE INVESTMENT:**

- The investment has been rescheduled taking into account the 2044 Masterplan (which obtained ENAC's technical authorization).

### **IMPLEMENTATION METHOD:**

- After in-depth discussions with the CBTAR (Consorzio di Bonifica Tevere e Agro Romano), the measure will no longer be divided in stages, so as to avoid repeated actions on the main backbones of the system, and to ensure continuity of operation;
- The amounts take into account the costs incurred for deviating even temporary channels to ensure continuity to the irrigation of neighboring fields

# Focene Pumping Station

## DESCRIPTION OF THE WORKS:

Improvement of the Focene Pumping Station as a result of the future expansion of the airport grounds, building the fourth runway and related infrastructure services in the North Area. The Focene/Maccarese pumping stations and the new pumps at Focene will be made independent of one another, both as to water flows and from the systems point of view.



See Schedule A: 2.17 - Flight Infrastructure Works for FCO Nord

## EXPECTED BENEFITS

- Improvement of the potential of the discharge infrastructure in relation to the development of new airport infrastructures.

## STATUS and AMOUNTS

Planning in progress

Completion date: 28/2/2021

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 7.0 M	€ 6.6 M	+ € 0.4 M

## WORKS ON TERMINAL: FIUMICINO SUD

3.1 – Relocation of MU buildings and demolition

3.2 – T4 and T5/T3 connections

3.3 – Terminal 3 – restructuring

3.4 – East side Terminal – Boarding area A, T1 Front Building, expansion of T1, extension of quadrant 200 aprons

3.5 – HBS connections in the East/West Hub, recovery of plant at NET

3.7 – Boarding area F (formerly Pier C) and T3 Front Building

3.13 – Reconfiguration of T5 arrivals and departures

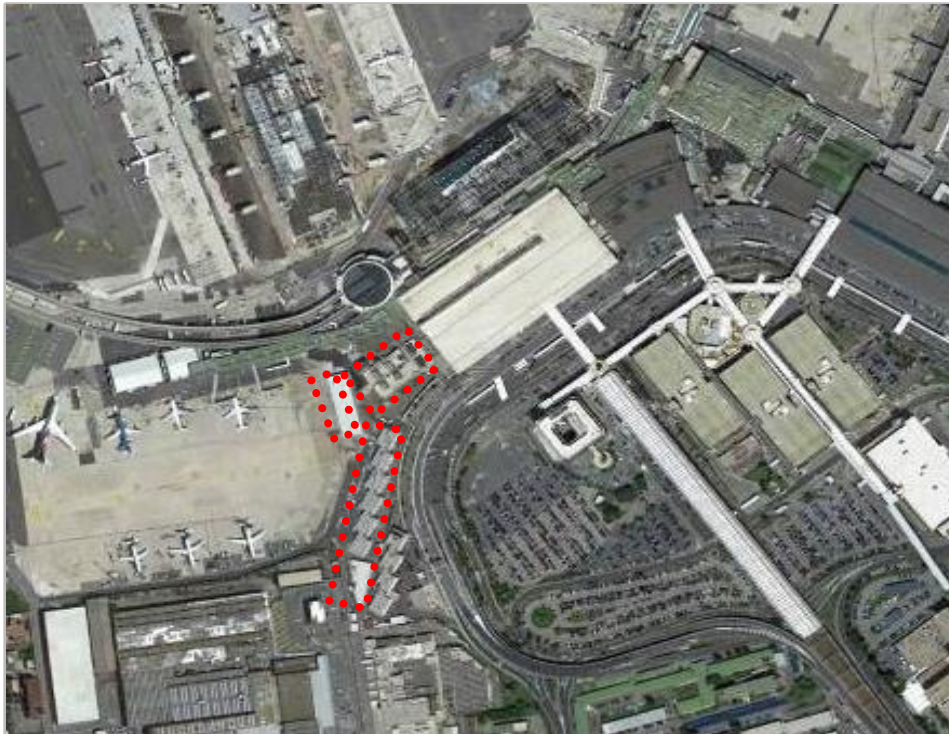


# Relocation of M.U. buildings and demolitions

See Schedule A: 3.1- Works for FCO Sud Terminal

## DESCRIPTION OF THE WORKS:

- Upgrade of the area between Terminal 3 and Terminal 5 (Phase 1: relocation of current functions; Phase 2: demolitions; Phase 3: upgrading)
- Demolition of the HVAC plant after relocating the systems located therein to gate departure area F and Terminal 3



## EXPECTED BENEFITS

- Reorganization and upgrading of the area between Terminal 3 and Terminal 5

## STATUS and AMOUNTS

Design in progress

Completion date: 31/12/2022

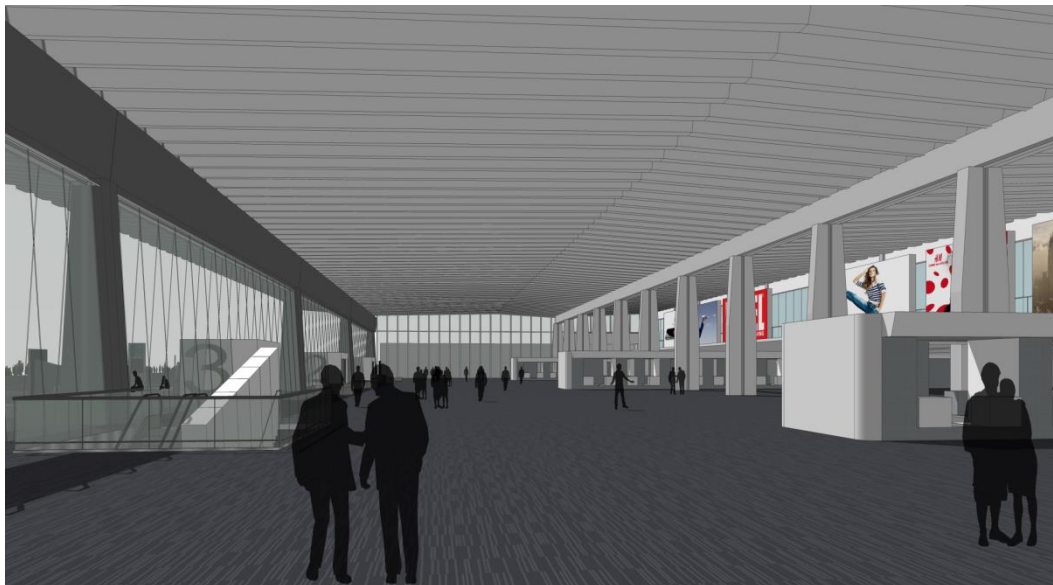
2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 14.7 M	€ 11 M	+ € 3.7 M

# Terminal T3: Restructuring

See Schedule A: 3.3- Works for FCO Sud Terminal

## DESCRIPTION OF THE WORKS:

- Improvement of the functional layout of the departures area (facade, transit gallery, security checkpoints, baggage check-in islands, take-away collectors, pathway connecting T3 to C departures area)
- Improvement of the functional layout of the arrivals area (upgrade of immigration, dismantling of HBS, expansion of baggage claim hall and centralization of customs gates)
- Upgrade of the functional layout of the mezzanine level (restructuring of offices and of VIP lounges)
- Upgrading of finishings and plant improvement (firefighting, lighting, seismic)



## EXPECTED BENEFITS

- Increase in capacity and functionality of the Terminal
- Improved service level and quality level
- Compliance with fire and seismic vulnerability regulations

## STATUS and AMOUNTS

Design/Construction in progress

Completion date: 31/12/2022

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 57.3 M	€ 12.5 M	+ € 44.8 M

# Terminal T3: Restructuring

See Schedule A: 3.3- Works for FCO Sud Terminal

## REASONS FOR CHANGES TO THE AMOUNTS IN THE CDP:

- Upgrades to ensure compliance of arrivals, departures and mezzanine areas with the standards defined within the airport concerning fire protection
- Improvement of preliminary estimates for measures on systems, those on lighting and air conditioning systems
- Improvement of internal finishings, in line with other infrastructure being designed and built
- Functional improvements to the mezzanine level that span all portions at + 10.00 m above ground level
- Completion of the final design of the upgrade of the facade of the Terminal 3, that incorporated all the necessary additions in terms of security, comfort and structural issues that surfaced during the discussions with Police and other government bodies
- Implementation of innovative facilities in line with current technological standards
- Functional changes to the airside areas of T3 on the departures level in relation to the Single Hub positioning of the airport: construction of a bridge linking between C departures area and Terminal 3 in the area after security checks in order to increase the capacity of the airside traffic corridors, in particular with regard to passengers in transit from Schengen- to non-Schengen areas and vice versa.

The forecast parametric cost per m<sup>2</sup> is fully in line with references to industry benchmarks and with the other works at the Terminal operations in progress at Fiumicino.

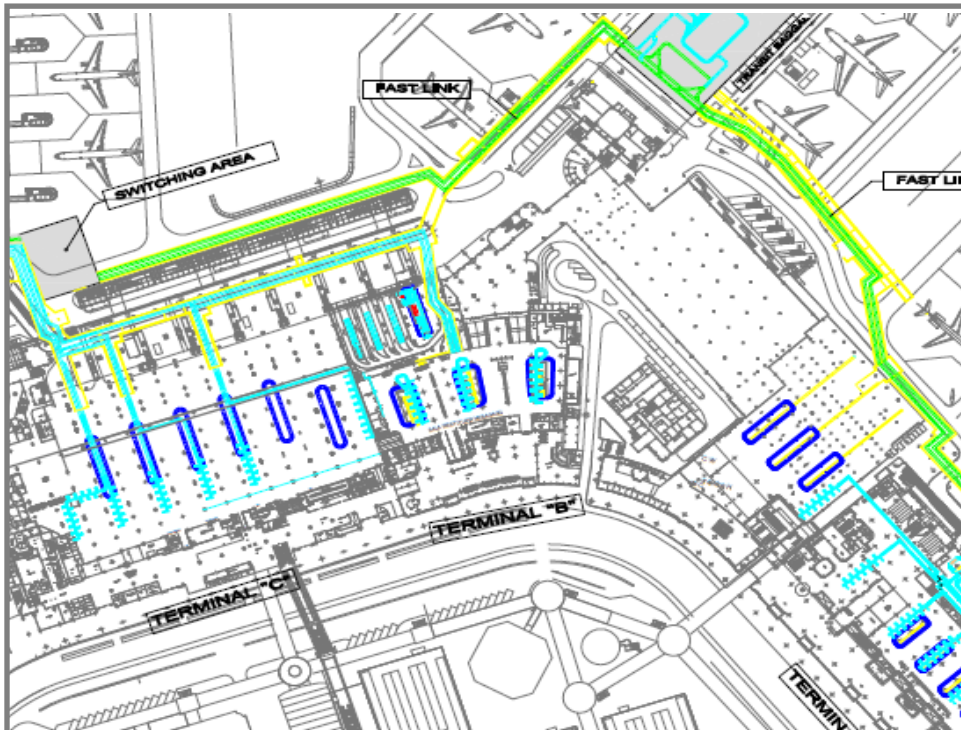
In-depth analysis related to the seismic features of the planned investments are underway.

# Connection of East/West HBS hubs and recovery of facility at NET

See Schedule A: 3.5- Works for FCO Sud Terminal

## DESCRIPTION OF THE WORKS:

- Construction of a connecting LINK between the baggage handling systems of T1 and T3 by the partial recovery of the current automated baggage sorting facility installed at the building of the "NET 6000" system
- Expansion of the existing underground utility tunnel and upgrade of the existing tunnel



## EXPECTED BENEFITS

- Decrease of the airport's minimum connecting time
- Faster baggage transfer;
- Decrease of traffic in the airside roads;

## STATUS and AMOUNTS

Design in progress

Completion date: 31/12/2022

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 2.2 M	€ 20.1 M	- € 17.9 M



# F Departures area and T3 Front Building

See Schedule A: 3.7- Works for FCO Sud Terminal

**DESCRIPTION OF THE WORKS:**

- Construction of the new infrastructure for non-Schengen flights and management of *call forward* boarding (maximizing use loading bridges)
- 132,000 m<sup>2</sup> of new terminal surfaces, of which approx. 86,000 m<sup>2</sup> for F departures area and approx. 46,000 m<sup>2</sup> for the Front Building; 14 stands served by loading bridges and 8 remote gates in the Front Building
- New baggage handling system (BHS/HBS) for Terminal 3



**EXPECTED BENEFITS**

- Increased capacity of the Terminal system
- Increase of service level

**STATUS and AMOUNTS**

Initial operation: December 2016

Date of completion of F departures area: February 2017

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 34.4 M	€ -- M	+ € 34.4 M

## WORKS ON TERMINAL: FIUMICINO NORD

### 3.9 – Fiumicino Nord, passenger terminal

## LANDSIDE WORKS: FIUMICINO SUD

- 4.1 – Optimization of technical systems and equipment
- 4.3 – Access roads, Cargo City area intersection
- 4.4 – Office building for ADR's new headquarters
- 4.6 – GRTS People Mover

# Optimization of technical systems and equipment

See Schedule A: 4.1- Landside Works for FCO  
Sud

## DESCRIPTION OF THE WORKS:

- Technological innovation of technological systems with particular reference to electrical, electromechanical and control systems
- Given the complexity of the works, 6 phases are planned.

## EXPECTED BENEFITS

- Improved reliability and performance of systems
- Improved service level offered to passengers

## STATUS and AMOUNTS

Design/Construction in progress

Completion date: 30/11/2025

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 3.4 M	€ 17.6 M	- € 14.2 M



# Roads: Cargo City area intersection

## DESCRIPTION OF THE WORKS:

- Construction of the ramps connecting the south roadway of A91 to the Cargo City area using an indirect ramp (for traffic coming from Fiumicino) and a semi-direct ramp (for vehicles from the economy parking lot to Rome).

See Schedule A: 4.3- Landside Works for FCO Sud



## EXPECTED BENEFITS

- Improved management and distribution of traffic flows in the east area of the airport,
- Decongestion of the technical area
- Connection of the Cargo City area and of the economy parking lot with Rome.

## STATUS and AMOUNTS

Design in progress

Completion date: 31/12/2018

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 20.3 M	€ -- M	+ € 20.3 M*

(\* ) Of which: € 3,1 M due to postponements from the first sub-period, € 1,1 € M for expropriations (previously entered in a different row of Schedule A).

# Roads: Cargo City area intersection

See Schedule A: 4.3- Landside Works for FCO Sud

## REASONS FOR CHANGES TO THE AMOUNTS IN THE CDP:

### **GEOTECHNICAL SURVEYS:**

- the geotechnical surveys highlighted the need to adapt the foundation work, considering the poor characteristics of the soil.

### **ANAS REQUIREMENTS:**

- as a result the opinion of ANAS on the project, a number of design requirements surfaced, especially concerning electrical systems (i.e. adding a video surveillance system connected to the ANAS operations center to prevent theft of electrical equipment, etc.), which led to a project review, and an increase of the final amount

### **SEISMIC COMPLIANCE:**

- all structural work contained in the design has been adapted to new seismic standards, considering the structure to belong to seismic class IV

### **DESIGN LAYOUT:**

- special detailed analysis on the functionality and flows of the works was carried out during the design phase: the need was found to add an extra lane on the return ramp from the East Area, also considering the requirements arising from the protocol signed by ANAS and the Fiumicino municipality
- the overpass has been optimized to minimize interference with the existing highway
- renovation of existing ramps not initially planned
- to make the design as compatible as possible with the planned airport accessibility infrastructure, the project will include preparatory work for the construction of the fourth lane of the A91 highway and the connection with the new slip roads

### **ACQUISITION OF AREAS**

- the estimate of expropriations was previously defined on the basis of the so-called **Average Agricultural Value (VAM)**; the Constitutional Court declared the indemnity policy based on VAM **constitutionally illegitimate**, since it is independent of the expropriation process, and ignores any given evaluation data pertaining to the specific requirements of the asset, i.e the real estate market.

# ADR's new headquarters building

See Schedule A: 4.4- Landside Works for FCO Sud

## DESCRIPTION OF THE WORKS:

- Improvement of the existing office building used for AZ offices (11,000 m<sup>2</sup>) to be used as ADR's new headquarters
- The upgrade of state-owned assets significantly reduces the cost and time planned for the work



## EXPECTED BENEFITS

- Centralize the offices of the main functions of the Airport Operator in a building suitable for carrying out its activities

## STATUS and AMOUNTS

Construction in progress  
 Completion date: 31/03/2017

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 7.0 M	€ 22.1 M	- € 15.1 M

## LANDSIDE WORKS: FIUMICINO NORD

4.8 – Technical plants and utilities

4.13 – Environmental compensation works

4.18 – infrastructure works and complementary buildings



# Technical plants and utilities

See Schedule A: 4.8- Landside Works for FCO Nord

## DESCRIPTION OF THE WORKS:

- Design and implementation of technical plants for the construction sites and work in preparation for construction of the new infrastructure required by the expansion area to the North (1st development phase).
- Construction of thermal and electric power plants, the underground utility tunnel, the high-voltage power grid and its primary distribution and renewable energy plants.

## EXPECTED BENEFITS

- Meeting the energy requirements of airport infrastructures related to the first phase
- Reduction of energy consumption by using renewable energy sources

## STATUS and AMOUNTS

Planning in progress

Completion date: 17/03/2032

Completion of phase 1: 01/12/2026

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 0.6 M	€ 21.2 M	- € 20.6 M



# Infrastructure works and complementary buildings

See Schedule A: 4.18- Landside Works for FCO Nord

## DESCRIPTION OF THE WORKS:

- Access roads to the first module of the North terminal (main road approx. 3 km long, approx. 20 m wide and a secondary road approx. 4 km long partly at grade and in part on a viaduct)
- Curbside in front of terminal access on multiple levels (separate access depending on type of vehicle)

## EXPECTED BENEFITS

- Provides access to the new North terminal
- Optimization of flows to limit the presence of vehicles in front of the terminal

## STATUS and AMOUNTS

Planning in progress

Completion date: 31/12/2034

Completion of phase 1: 31/12/2026

2017-2021 amount Actual	2017-2021 amount CDP 2011	Delta
€ 5.3 M	€ 5.7 M	- € 0.4 M

## FIUMICINO SUD PARKING WORKS

- 5.1 – Parking at ground level in the East Area
- 5.2 – Central area, multi-level parking garage F
- 5.3 – East Area (long term parking), multilevel parking garage G
- 5.8 – T5 roads and parking lots



# Parking lots at ground level in the East Area

## DESCRIPTION OF THE WORKS:

- The expansion involves an area of about 25,000 m<sup>2</sup> between Via Caduti dell'Aviazione Civile and the existing Economy Parking
- Construction of the access road and the deceleration ramp for direct highway access



See Schedule A: 5.1- Parking lot works for FCO

Sud



## EXPECTED BENEFITS

- Increased parking capacity in the East Area
- Reduction of parking lot access route for vehicles coming off the highway.

## STATUS and AMOUNTS

Design/Construction in progress

Completion date: 31/12/2017

2017-2021 amount Actual	2017-2021 amount CDP 2011	Delta
€ 3.9 M	€ -- M*	+ € 3.9 M

(\*) € 2,3 M included in the first sub-period

# Central area: Multi-level parking garage F

See Schedule A: 5.2- Parking lot works for FCO Sud

## DESCRIPTION OF THE WORKS:

- Construction of a new multi-level parking garage with 1,600 stalls (5 levels above ground + usable roof). The footprint of the building is approximately 8,200 m<sup>2</sup>, for a total of 48,800 m<sup>2</sup>.
- The works will be carried out in a built-up urban area, where there are several underground utilities, and a 400 car parking lot (PR3) to relocate and archaeological surveys must also be carried out



## EXPECTED BENEFITS

- Adapting the parking availability in accordance with the demand arising from airport traffic forecast

## STATUS and AMOUNTS

Design/Construction in progress

Completion date: 30/04/2019

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 21.2 M	€ 11.0 M*	+ € 9.9 M

(\*) Additional € 6,2 M in the first sub-period

# East Area (long term parking): Multi-level parking garage G

See Schedule A: 5.4- Parking lot works for FCO

Sud

## DESCRIPTION OF THE WORKS:

- Design and implementation of a multilevel parking unit for vehicles in the East Area of Fiumicino's current grounds (to be reachable by the GRTS from Fiumicino Nord)
- The multilevel parking garage will be built on multiple operating levels providing a total capacity of 1500 car stalls



## EXPECTED BENEFITS

- Adapting the parking availability in accordance with the demand arising from airport traffic forecast

## STATUS and AMOUNTS

Design/Construction in progress

Completion date: 30/09/2023

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 1.8 M	€ 17.4 M	- € 15.6 M

## OTHER WORKS PLANNED FOR FIUMICINO SUD

6.1 – Restructuring Fiumicino Sud

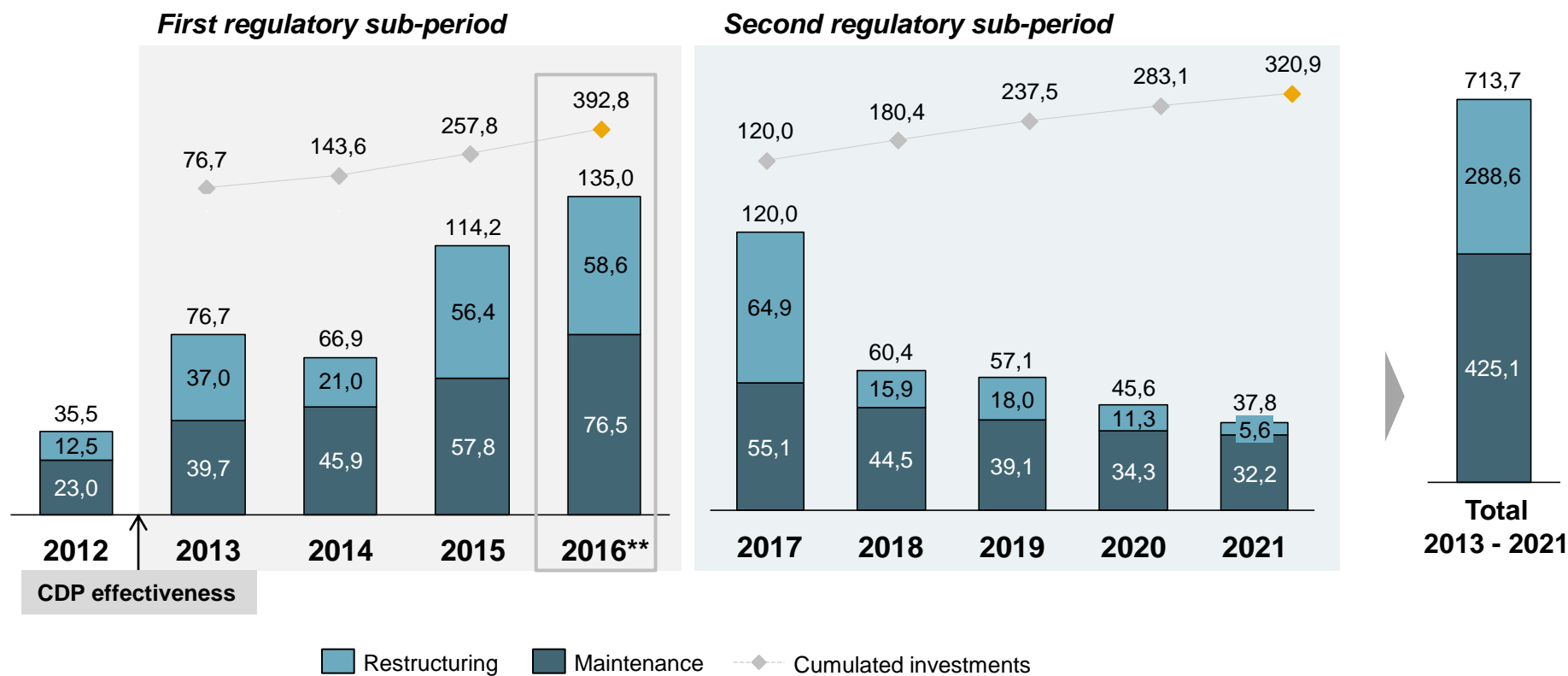
6.2 – Maintenance Fiumicino Sud

6.3 – Information systems and miscellaneous



The CDP includes resumption of investments for maintenance and restructuring of FCO\* to restore quality (€ 393 million for 2013/2016); in the second sub-period, reduction of the capex planned, in relation to the investments already implemented and the infrastructure development program

Trend of maintenance and restructuring investments 2012-2021, € millions



\* Investments described in lines 6.1 and 6.2 of Schedule A

\*\* Values for the 6+6 forecast

# Restructuring works at Fiumicino Sud

## New electrical network for runways

### DESCRIPTION OF THE WORKS:

- Centralization of UPS for electrical runways equipment.
- Replace the existing airside emergency supply powercenter.
- Reorganization MV to ensure the supply redundancy.
- Revamping of existing electrical powercenter

Rif. Scheda A: 6.1- Altri Interventi FCO Sud

### EXPECTED BENEFITS

- Increased efficiency and reliability of the runways electrical system

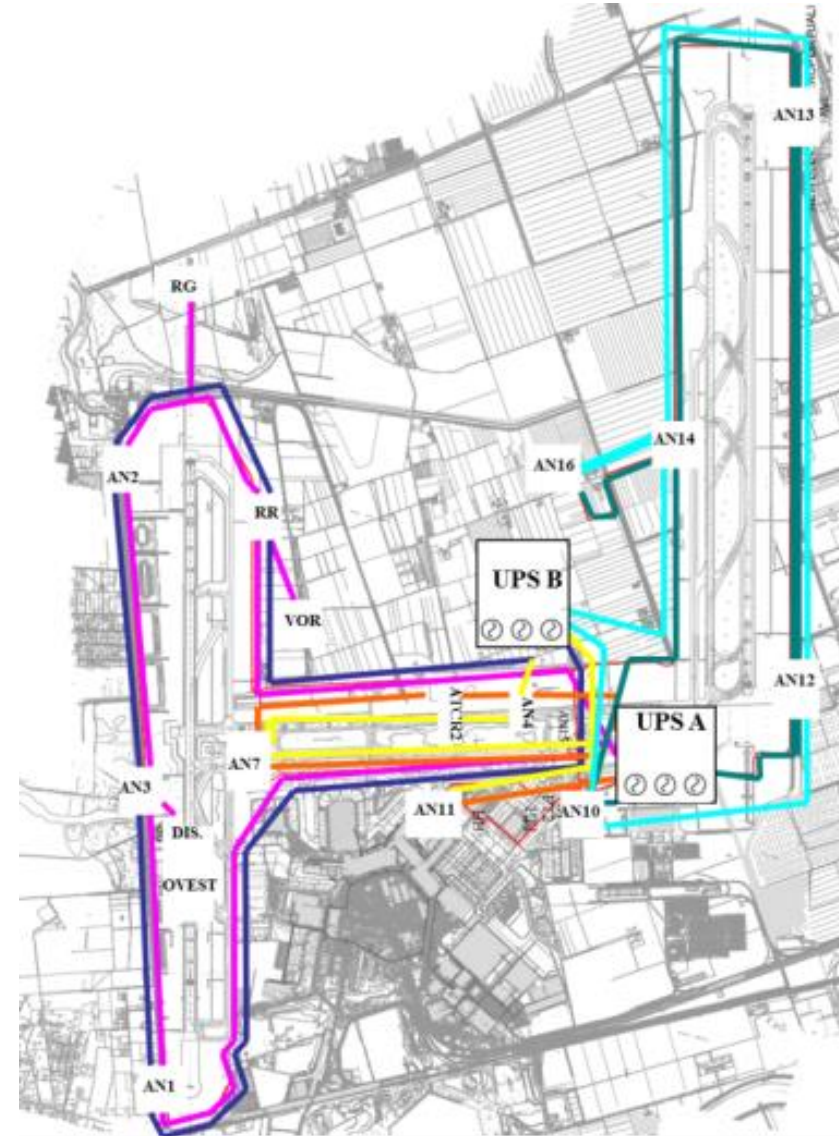
### STATUS and AMOUNTS

Construction in progress

Completion date: 2017

2017-2021 amount  
PEF 2016

11,5 € milioni



# Restructuring works at Fiumicino Sud

## Renovation of electrical substation and MV switching center

### DESCRIPTION OF THE WORKS:

Rif. Scheda A: 6.1- Altri Interventi FCO Sud

- Construction of a new electrical transformer High/Medium Voltage substation, to ensure greater reliability of the airport system.
- Use of four High/Medium transformers to divide the network into four sectors.
- New High voltage plant allowing greater safety protection, better fire compliance and lower electromagnetic emissions.



### EXPECTED BENEFITS

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- Reduced recovery time failure;
- Achieve greater system protection, best fire compartmentation and lower electromagnetic emissions

### STATUS and AMOUNTS

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Construction in progress

Completion date: 2017

2017-2021 amount  
PEF 2016

10,3 € milioni

# Restructuring works at Fiumicino Sud

## Upgrade of runway system 16R/34L

### DESCRIPTION OF THE WORKS:

- Pavement upgrading to ensure the runway gradients and visual aids:
  - runway edge,
  - runway centreline,
  - TDZ

### EXPECTED BENEFITS

- Pavement management system to guarantee compliance with EASA standards

### STATUS and AMOUNTS

Planning in progress

Completion date: 2017

2017-2021 amount  
PEF 2016

9,6 € milioni





# Restructuring works at Fiumicino Sud

## Airside - Other works

### DESCRIPTION OF THE WORKS:

- **TAXIWAY DELTA refurbishment (3,2 € M)**  
Pavement management of the taxiway Delta from the progressive 0+540 to 2+010 and structural works (also lights) to be compliant to Code "F" (Airbus A380)
- **ULD storage area in the East zone (2,4 € M)**  
New ULD area, located in East airport area.
- **TWY R, S refurbishment (0,9 € M)**  
Pavement upgrading (6 cm) in bituminous conglomerate.
- **Other works (18,9 € M)**

### EXPECTED BENEFITS

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- Ensure the infrastructure functional characteristics
- Improvement in operating performance

### STATUS and AMOUNTS

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Design/Construction in progress

2017-2021 amount  
PEF 2016

25,3 € milioni

# Restructuring works at Fiumicino Sud Terminal

See Schedule A: 6.1- Other works for FCO Sud

## DESCRIPTION OF THE WORKS:

- **REPLACEMENT/ACQUISITION OF X-RAY SCANNER FOR BAGGAGE CHECK (€ 16.4 M)**  
Update of X-ray scanners of the terminal to current technical/security standards
- **AIRPORT TERMINALS - FIREFIGHTING IMPROVEMENTS (€ 11.3 M)**  
Adaptation of airport terminals to Italian Ministerial Decree 151 of 1 August 2011
- **NEW PASSENGER SIGNAGE (€ 4.0 M)**  
Complete renovation of the signage within the terminal, along the sidewalk in front of the airport terminal, at the Bus Hub and of the pedestrian tunnels; renovation of the signage of the terminals.
- **T1-T3 - RESTRUCTURING OF RESTROOMS IN TERMINAL (€ 3.4 M)**  
Update
- **T3 - RESTORING FIRE DAMAGED AREAS (€ 2.2 M)**  
Remedial measures for "roof boats" in T3 and in the former McDonalds area (Mezzanine of T3)
- **OTHER WORKS (€ 6.3 M)**

## EXPECTED BENEFITS

- Improvement of existing subsystems/structures to comply with applicable quality requirements and regulations
- Restoration of areas damaged by fire

## STATUS and AMOUNTS

Design/Construction in progress

2017-2021 amount  
PEF 2016

€ 43.6 M

# Restructuring works at Fiumicino Sud

## Land Side

See Schedule A: 6.1- Other works for FCO Sud

### DESCRIPTION OF THE WORKS:

- UPGRADE OF CENTRAL CAFETERIA (€ 4.9 M)  
Restructuring of the building granted as concessionaire
- BURYING POWER LINES (€ 2.6 M)  
Burying a Terna power line that interferes with construction of the Cargo City area intersection; it is needed to maintain the minimum height margin between the new overpass on the Rome Fiumicino highway, the access ramp of which is above current road grade, and the high voltage power lines.
- OTHER WORKS (€ 7.8 M)  
Works related to the new ceremonial office, extraordinary landside maintenance and accessibility.

### EXPECTED BENEFITS

- Enhancement of the asset in concession
- Eliminate the interference for the construction of the Cargo City area intersection

### STATUS and AMOUNTS

Design/Construction in progress

2017-2021 amount  
PEF 2016

€ 15.3 M

### Total amount of row 6.1 Schedule A

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 115,6 M	€ 44,8 M	€ +70,8 M

# Maintenance of Fiumicino Sud

See Schedule A: 6.2- Other works for FCO Sud

## DESCRIPTION OF THE WORKS:

ADR's strategy aimed at improving the quality of supply and service standards involves not only the activities aimed at ensuring the proper operation of essential services such as electricity, baggage handling systems, roads, public lighting, etc., but also the extraordinary maintenance works needed to ensure comfort in airport terminals and to improve the travel experience for passengers.

The macro areas of the works are:

- Energy Saving measures and alternative energy sources - **(€ 12.6 M)**
- Air conditioning and plumbing - **(€ 24.1 M)**
- Electrical systems- **(€ 43.6 M)**
- Electromechanical systems- **(€ 54.5 M)**
- Special Systems- **(€ 24.4 M)**
- Civil infrastructure- **(€ 46.0 M)**

## EXPECTED BENEFITS

- Modernization and improved reliability of the systems;
- Higher company standards and quality;
- Optimization of electric energy consumption and improvement of temperature and humidity comfort of pax.

## STATUS and AMOUNTS

Planning/design in progress

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 205.3 M	€ 191.3 M	+ € 14.0 M



# Information systems and miscellaneous

See Schedule A: 6.3- Other works for FCO Sud

## DESCRIPTION OF THE WORKS:

### • DEVELOPMENT OF AIRPORT OPERATING SYSTEMS – 6.3.1 (€ 23.8 M)

- Improve passengers' Customer Experience
  - Automation of crossing points (FAST TRAVEL)
  - Travel simplification by providing services and information as customized as possible (SMART TRAVEL)
  - Implementations to achieve EASA certification.

### • ICT TECHNOLOGICAL INFRASTRUCTURE – 6.3.2 (€ 10.9 M)

- Ensure service levels required in line with business requirements:
  - ICT Security
  - Business Continuity
  - Technological support to infrastructural development
  - Service levels monitoring

### • DEVELOPMENT OF MANAGEMENT SYSTEMS – 6.3.3 (€ 6.4 M)

Implementation of the information systems needed to improve processes by making information available in real time, by simplification and standardization.

### • OTHER - 6.3.4 (€ 4.2 M)

Installation of advertising facilities within the new infrastructure that will be implemented in the plan, and purchase of basic goods and/or equipment for limited amounts.

## EXPECTED BENEFITS

- Increased automation of security and passport checks;
- Increase of corporate standards and quality;

## STATUS and AMOUNTS

Planning in progress

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
€ 45.4 M	€ 26.6 M	+ € 18.7 M

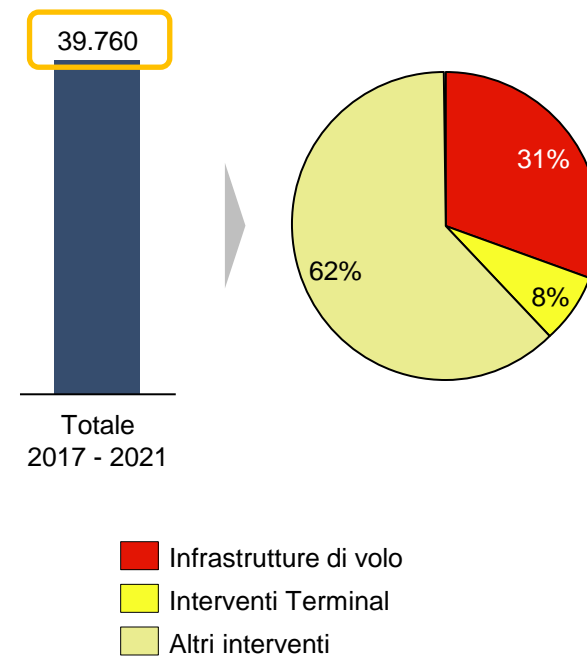
- **2017 – 2021 Investment Plan**
  - **Detail outline for FCO**
  - **Detail outline for CIA**

# 2017-2021 Investment Plan for CIA

€ mgl	Descrizione	2017	2018	2019	2020	2021	Totale 2017 - 2021
CIAMPINO	1. Infrastrutture di volo	6.970	2.978	83	1.371	742	12.144
	2. Interventi Terminal	2.495	-	122	374	-	2.992
	3. Altri interventi	10.266	4.014	6.550	1.627	2.167	24.624
	<b>TOTALE INTERVENTI CIA</b>	<b>19.731</b>	<b>6.992</b>	<b>6.755</b>	<b>3.371</b>	<b>2.910</b>	<b>39.760</b>

## Total 2017 - 2021 by type of works

The largest share of the investments in the period is the work on maintenance / restructuring (in «Altri interventi»).



# 2017 – 2021 Investment Plan for CIA – changes vs CDP

€ mgl	Descrizione	2017		2018		2019		2020		2021		Totale 2017 - 2021	
		PEF	CDP	PEF	CDP	PEF	CDP	PEF	CDP	PEF	CDP	PEF	CDP
CIAMPINO	1. Infrastrutture di volo	6.970	-	2.978	2.115	83	14.281	1.371	5.557	742	-	12.144	21.953
	2. Interventi Terminal	2.495	15.317	-	10.318	122	7.679	374	9.661	-	-	2.992	42.975
	3. Altri interventi	10.266	960	4.014	2.791	6.550	980	1.627	743	2.167	2.674	24.624	8.147
	<b>TOTALE INTERVENTI CIA</b>	<b>19.731</b>	<b>16.276</b>	<b>6.992</b>	<b>15.225</b>	<b>6.755</b>	<b>22.940</b>	<b>3.371</b>	<b>15.960</b>	<b>2.910</b>	<b>2.674</b>	<b>39.760</b>	<b>73.076</b>
<i>Delta Scheda A PEF vs CDP</i>		<b>3.455</b>		<b>-8.232</b>		<b>-16.186</b>		<b>-12.589</b>		<b>236</b>		<b>-33.316</b>	



## AIRSIDE MAIN WORKS

Refurbishment taxiway Alfa

Refurbishment Aprons 100, 200, 300 e SB, SD, TC

Riqualfica Aprons 400 e 500

## TERMINAL MAIN WORKS

Refurbishment of the Commercial Aviation Terminal

# Ciampino – Airside main works

Rif. Scheda A: C.1 – CIA - Riqualifica sistema airside

## DESCRIPTION OF THE WORKS:

- **Apron refurbishment:**
  - Area 100, 200, 300 and SB, SD, TC: functional upgrading of the pavement wherever constituted by concrete slabs and replacement of the flexible pavement with rigid pavement; surface and structural upgrading of SA and SB
  - Area 400, 500: pavement upgrading
- **Taxiway Alfa:** pavement refurbishment according to Pavement Management System

## EXPECTED BENEFITS

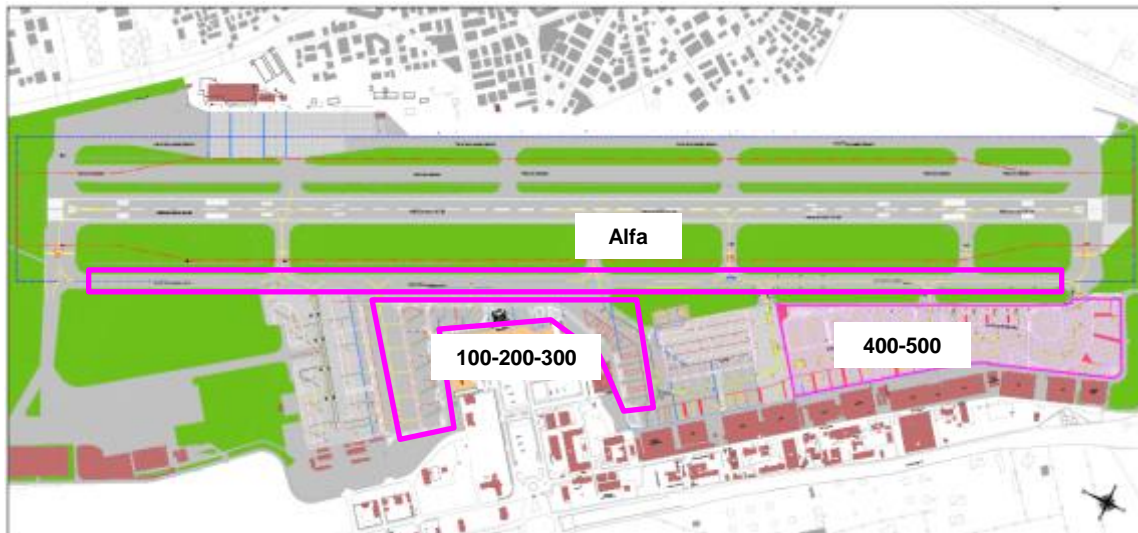
- **Guarantee the functional characteristics of the infrastructure in compliance with EASA rules;**
- **Enhance the apron floodlighting;**
- **Reduce carbon emission and ramp equipment in the apron**

## STATUS and AMOUNTS

Planning/Design in progress

Completion date: 31/05/2021

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
12,1 € milioni	9,9 € milioni	+2,2 € milioni



# Ciampino – Terminal main works

## DESCRIPTION OF THE WORKS:

- The refurbishment of the Commercial Aviation Terminal will be organized in different phases. It will be completed after the reduction of traffic foreseen in the approved Masterplan
- During 2017-2021 check-in hall and airside arrival area will be refurbished
- Works includes functional layout, finishes, equipment and plant systems.



*Render: Terminal – Commercial Aviation*

Rif. Scheda A: C.5 – CIA - Terminal Aviazione  
Commerciale e Generale

## EXPECTED BENEFITS

- Increase of level of service and quality standards
- New technological standard

## STATUS and AMOUNTS

Planning/Design in progress

Completion date of Terminal refurbishment : 30/06/2023

2017-2021 amount PEF 2016	2017-2021 amount CDP 2012	Delta
2,99 € milioni	42,97 € milioni	-39,98 € milioni