



## **14 Airports Maintenance & Construction**

Andreas Karvelas,  
Deputy Chief Technical Officer



Aktion | Chania | Kerkira | Kavala | Kefallinia | Kos | Mikonos | Mitilini | Rodos |  
Samos | Santorini | Skiathos | Thessaloniki | Zakinthos

# The Concession Project at a Glance

- **40-year concession of 14 Regional Airports**
- **Responsible for maintaining, operating, managing, upgrading and developing the 14 Airports.**
- **1.234 bil EURO upfront concession fee**
- **Annual fixed concession fee of initially 22.9M EURO**
- **Variable annual concession fee of on average 28.5% of operational profit**
- **Total investment of at least 415.0M EURO in airport infrastructure until 2021**
- **At least 600 new direct job positions**
- **Greek state receiving approximately 10bio EURO by the end of the concession**



# Facility Maintenance of Airports

**Preventive Maintenance** consists of tasks performed according to:

- ✓ manufacturer's requirements
- ✓ applicable legislation
- ✓ international standards
- ✓ specific operational conditions.

**Corrective Maintenance consists** of tasks performed in order to restore the operational condition of the systems and facilities

- ✓ Corrective maintenance relating to repairs of heavy damages of all systems is performed by the maintenance contractor.
- ✓ Corrective maintenance of simple daily issues is performed by FG personnel.

- Awarded Maintenance contractor for 14 Airports:
- Commencement of services: 11<sup>th</sup> April 2017
- FM contract duration: 2+1 years



# Facility Maintenance of Airports

## Major Disciplines

- Civil Facilities
- Airfield Ground Lighting
- Electrical Systems
- Mechanical Systems



# Steps to Organize and Manage large and dispersed Infrastructure

1. Development of proper Maintenance teams for headquarters and Airports
2. Continuous training of personnel on Airports' operation and Technical infrastructure
3. Supply of suitable spare parts, vehicles, tools & consumables for Airports' technical systems and facilities
4. Maintenance Contract implementation for complex and critical systems Maintenance
5. Planning, execution and reporting of the Maintenance activities through CMMS



# People & Equipment

## Organizational Chart

**Fraport - Greece**  
Maintenance & Construction  
Department

Maintenance Headcount 110  
(12 HQ + 98 Airports)

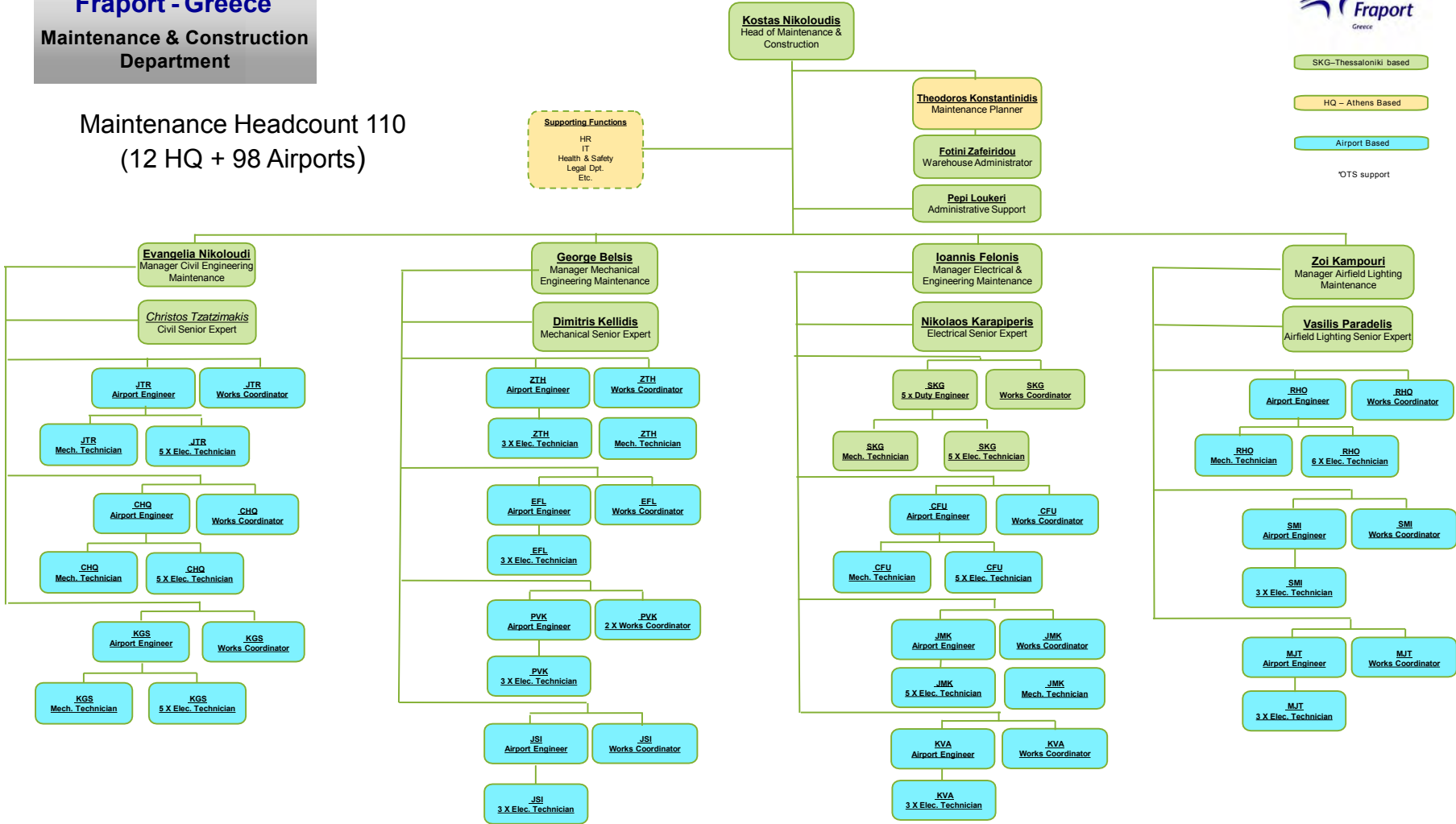


SKG-Thessaloniki based

HQ - Athens Based

Airport Based

OTS support



# People & Equipment

## Computerized Maintenance Management System (CMMS)

### Actions performed

- Software installation & users' licensing
- System configuration and parameterization
- Assets' data base creation and codification
- Locations' data base creation and codification

### Capabilities

- Work Orders Management
- Preventive Maintenance Management
- Corrective Maintenance Management
- Subcontractors Management
- Warehouse Management
- Purchasing Management



# CMMS Yearly Maintenance Plan 2018 – 2019



## MAINTENANCE PLAN



### Table of Contents

1. Introduction
2. Maintenance methodology requirements
3. Synoptic preventive maintenance schedule
4. Work Instructions
5. Consumables list
6. Computerised maintenance management system (C.M.M.S.)
7. Attachments
  - A. Geographical assets list
  - B. Detailed preventive maintenance schedule
  - C. Standard operational procedures (S.O.P.)
  - D. Equipment manuals



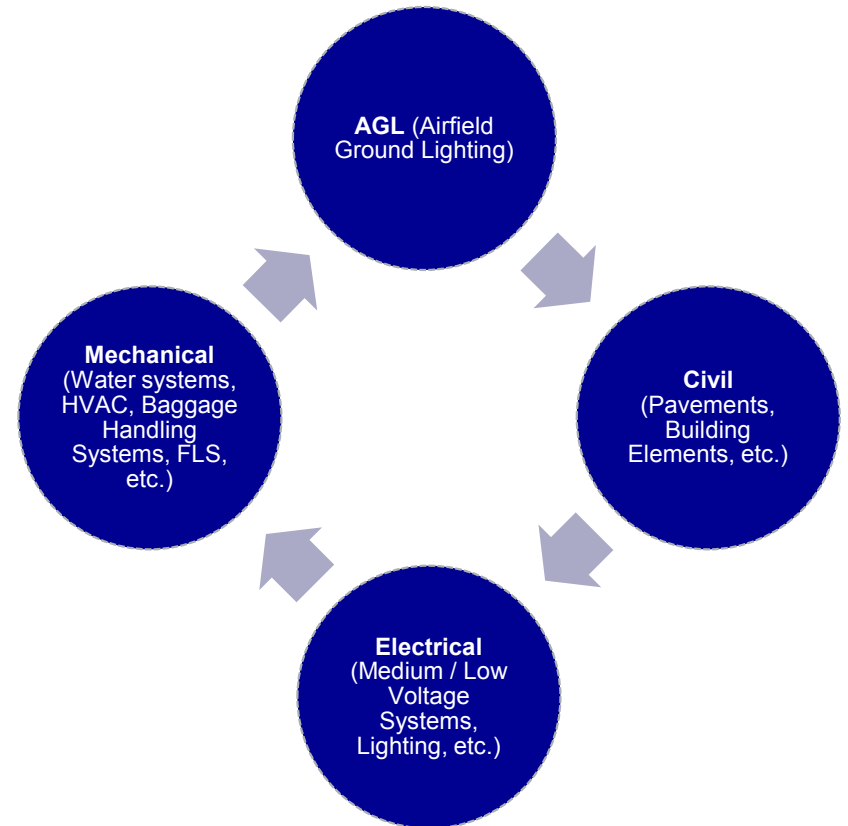
JULY 2018



# CMMS Maintenance Figures

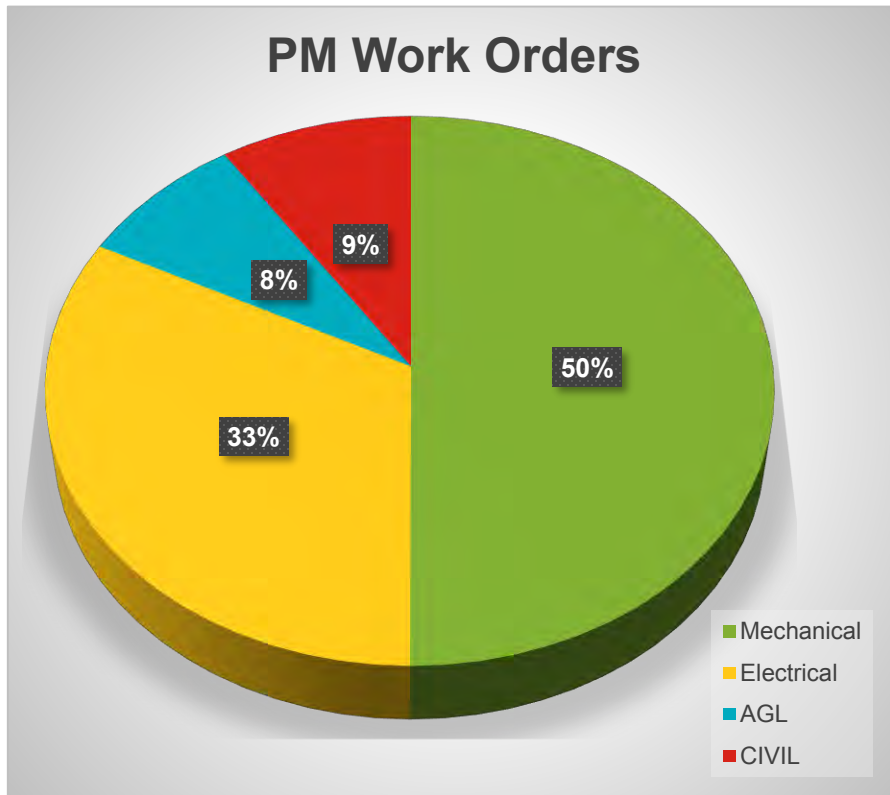
*Since the beginning of operation:*

- **29.713** Preventive and Corrective works carried out in total, at all 14 Airports covering all **4** major Sections  
i.e.:
  - **13.047** Preventive Maintenance works
  - **16.666** Corrective Maintenance works

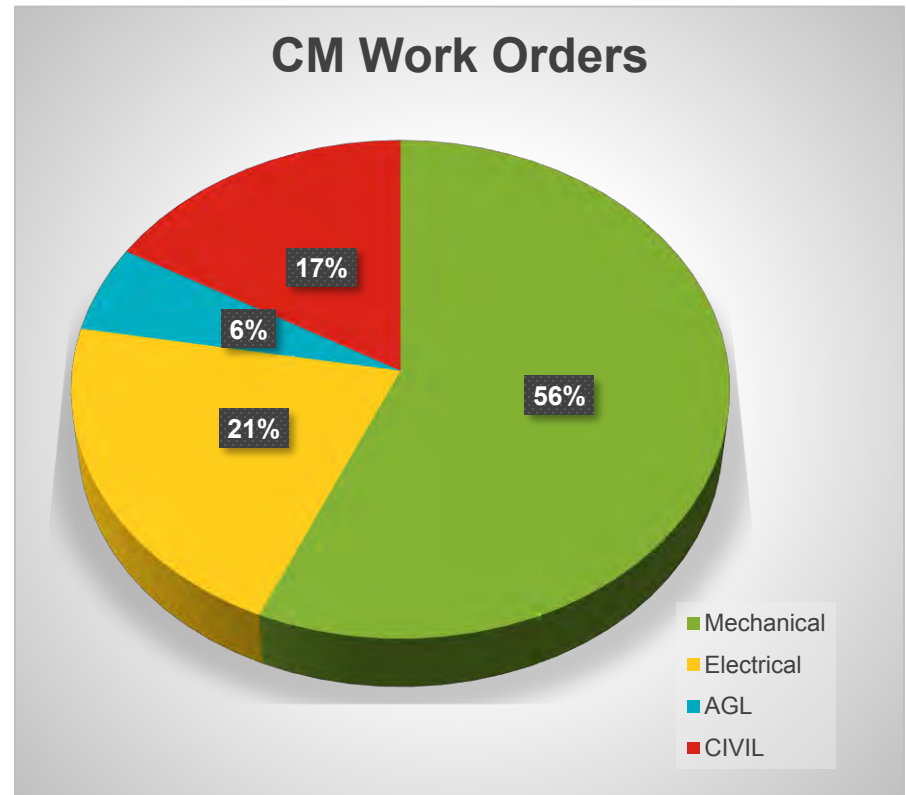


# CMMS Maintenance Figures

**Preventive Maintenance  
W.O.  
13.047**



**Corrective Maintenance  
W.O.  
16.666**



# Warehouse

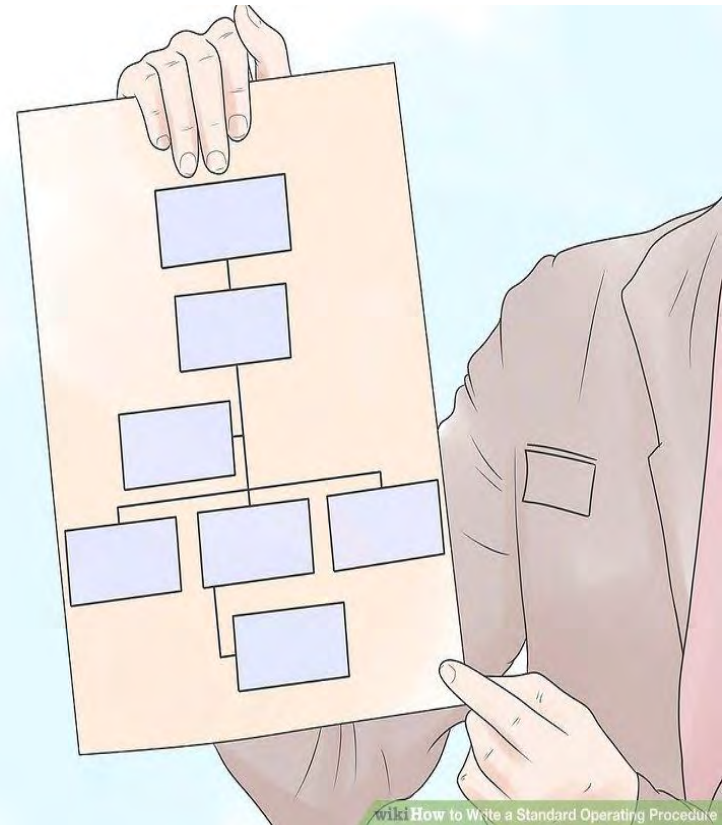
## Development of local Warehouses at 14 Airports

- Creation of Asset Registry
- Preparation of Purchase requests per airport
- Consumption of materials per work order
- Tracking of Airports material stock levels



# Maintenance & Construction SOP

- A standard operating procedure, or SOP, is a set of step-by-step instructions compiled by M&C of Fraport Greece to instruct the staff (Airport Engineers and Technicians) to carry out complex routine operations. SOPs aim to achieve efficiency, quality output and uniformity of performance, while reducing miscommunication and failure to comply with company's and airport regulations
- SOPs were created for the following main sections:
  - Maintenance activities
  - Fault reporting
  - Selected systems' failures
  - Inventory of equipment
  - State works fault reporting
- Author (Maintenance Planner or related Section Manager) drafts the SOP document
- Technical review by the Head of M&C
- Formal review by the IMS Manager of FRG
- Approval by C level officers



# Cluster A Construction Works

## Development Works in numbers



### Cluster A Airports:

- **3 New Terminals** (SKG, CFU, EFL)
- **Refurbishment & expansion in 2 Terminals** (PVK, KVA)
- **Remodeling in 2 Terminals** (CHQ, ZTH)

# Construction Works

## Categories

**Construction Works are divided in two categories:**

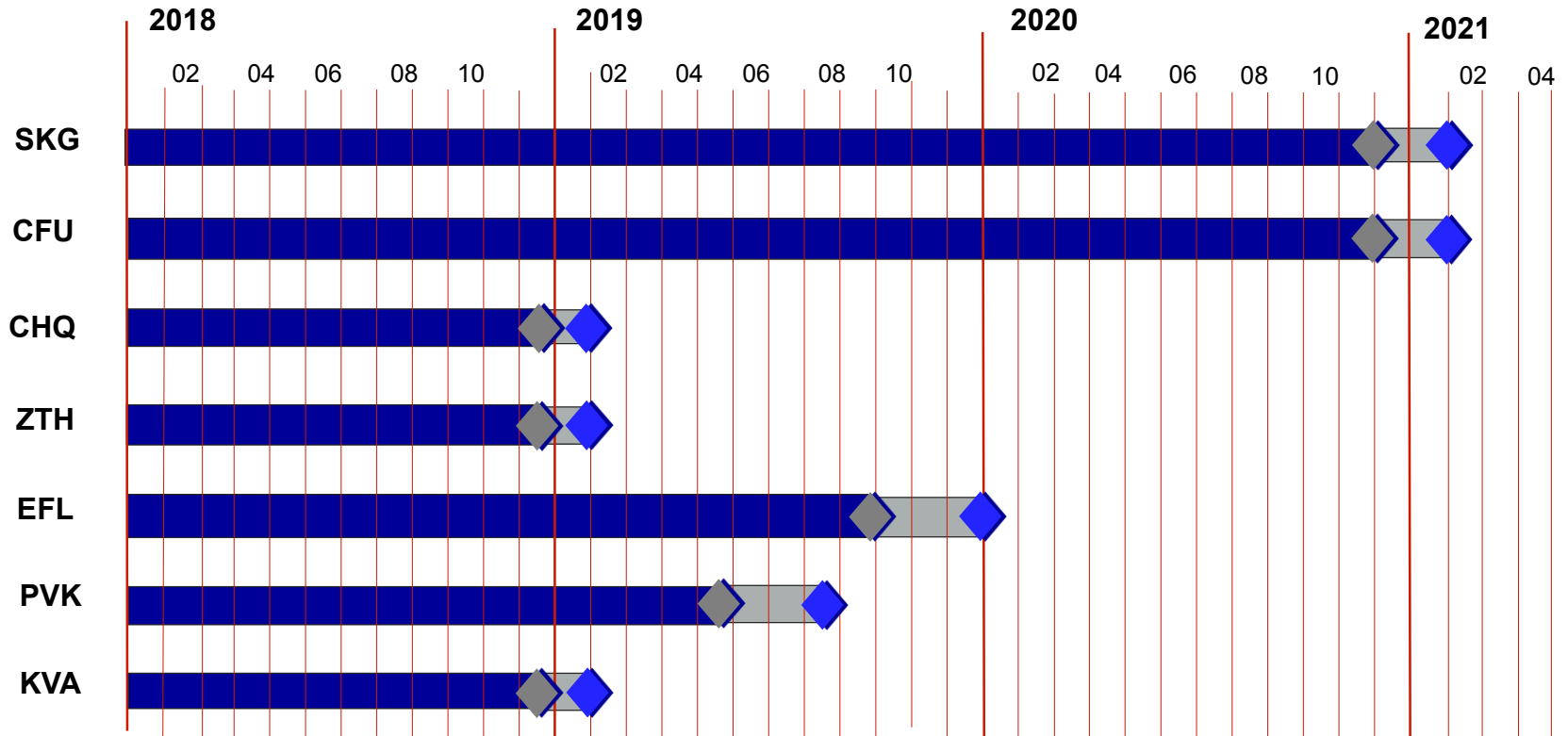
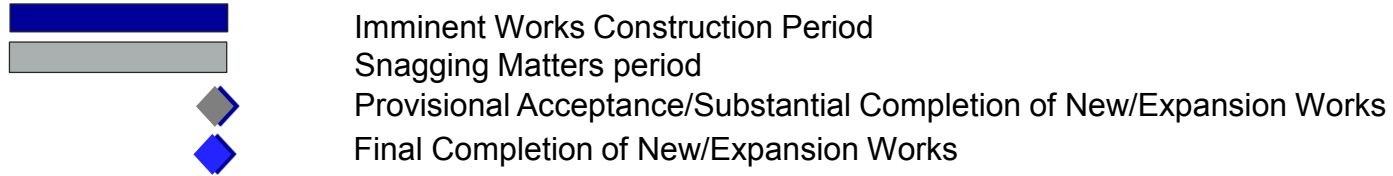
### **1. IRDP (Refurbishment) works**

- IRDP works are addressing **deficiencies that have been reported in the Airports and are affecting functionality**
- Overall 800 separate tasks (or projects) were carried out in order to address the reported deficiencies. The majority of the works was related to:
  - ✓ **Airside restoration** (repair or reconstruction of RWYs, TWYs, Aprons)
  - ✓ **Terminal repairs** (e.g. façades and canopies, fire detection, WC restoration, roof insulation, HVAC repairs etc.)
  - ✓ **Repair of supporting facilities** (e.g. trench cleaning, ATC towers restoration, landside parking repair etc.)

### **2. New or Expansion works**

- In all terminals remodeling and/or expansion works are carried out together with **processes optimized for passengers' comfort and better travelling experience.**
- **Additional apron areas will be constructed in certain Airports** (e.g. CFU, RHO)
- **New Rescue Fire Fighting** buildings are constructed or upgraded in all Airports (except CHQ, PVK)
- **New guardhouses** in most of the Airports
- **Connection of WWTP to Municipality networks** in several Airports

# Imminent Works Completion Milestones



# Cluster B Construction Works

## Development Works in Numbers



### Cluster B Airports:

- **3 New Terminals** (KGS, MJT, JTR)
- **Refurbishment & Expansion in 4 Terminals** (JMK, SMI, JSI)
- **Remodeling in 1 Terminal** (RHO)



# Construction Works

## Categories

**Construction works are mainly divided in two categories:**

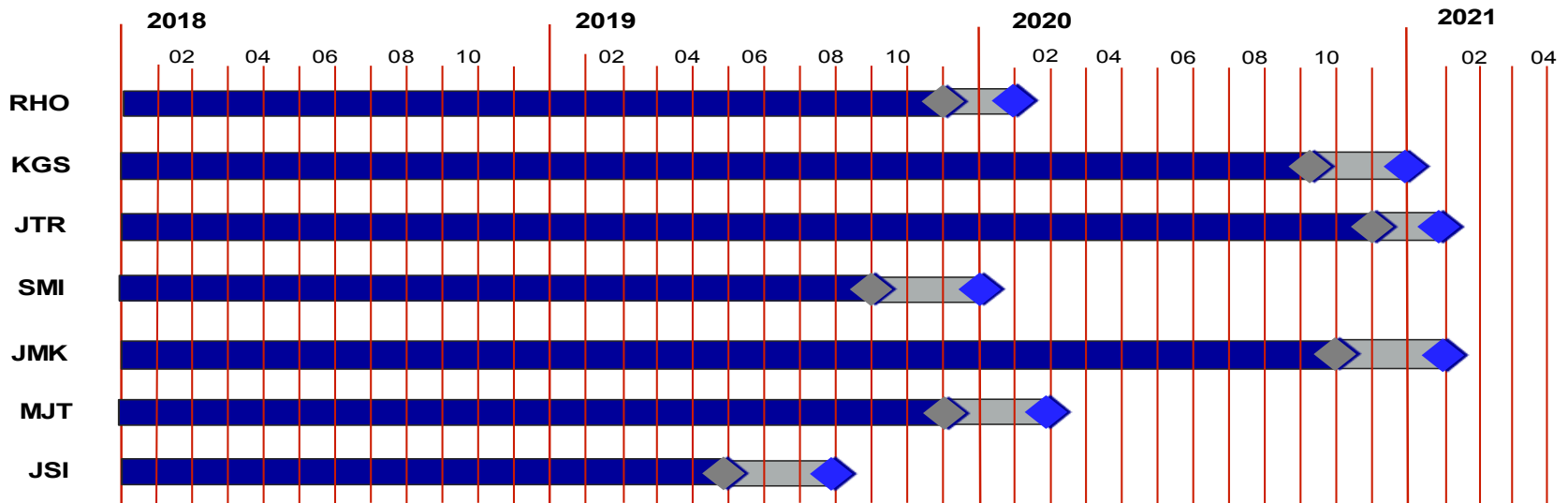
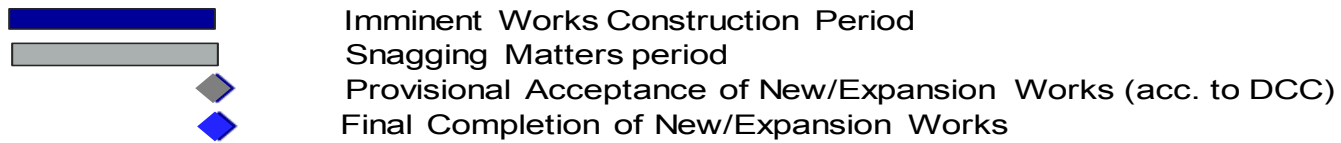
### 1. “IRDP” (Refurbishment) Works

- IRDP works are addressing **deficiencies that have been reported in the Airports and have affected their functionality**
- Overall 380 separate tasks (or projects) were carried out in order to address the reported deficiencies. The majority of the works was related to:
  - ✓ **Airside restoration**
  - ✓ **Terminal repairs** (e.g. façade and canopies, improvement of fire detection, WC restoration and upgrade, roof insulation, HVAC repairs etc.)

### 2. New or Expansion Works

- In all terminals remodeling and/or expansion works will be carried out to **optimize for the passengers’ comfort and for a better travelling experience.**
- Increase of terminal area
- Increase commercial areas
- Installation of modern inline BHS screening equipment (HBS)
- State of the Art IT-equipment (Cute, FIDS, Access control systems, WIFI)
- Increase the number of check-in counter, security lanes and passport control booths

# Imminent Works Completion Milestones Cluster B



# Combined, the 14 Greek Regional Airports served 29,9 Million Passengers in 2018 (+8,9%).



Cluster A	PAX 2018 in k	YoY
Thessaloniki	6,689	7,1%
Kerkira	3,364	15,3%
Chania	3,009	-1,1%
Zakinthos	1,800	8,5%
Kefallinia	762	21,0%
Aktion	584	2,6%
Kavala	407	20,4%
Cluster B	PAX 2018 in k	YoY
Rodos	5,568	5,0%
Kos	2,666	14,9%
Santorini	2,255	16,8%
Mikonos	1,396	15,6%
Mitilini	477	9,4%
Samos	463	12,8%
Skiathos	438	3,3%



*Gute Reise!*



*We make it happen*