Workshop Exercise, EGYPT Air Navigation Plan
10 /12/2010

# INTERNATIONAL CIVIL AVIATION ORGANIZATION EASTERN AND SOUTHERN AFRICAN OFFICE WORKSHOP ON THE DEVELOPMENT OF NATIONAL PERFORMANCE FRAMEWORK FOR AIR NAVIGATION SYSTEMS (NAIROBI, 6-10 DECEMBER 2010)


## HANDS-ON EXERCISE: PFF EXPLANATION FOR EFFICIENCY

Workshop Exercise, **EGYPT** Air Navigation plan

# WORKSHOP ON THE DEVELOPMENT OF NATIONAL PERFORMANCE FRAMEWORK FOR AIR NAVIGATION SYSTEMS

# Workshop Exercise, EGYPT Air Navigation plan

## 1. *Characteristics of the industry*

**Enumerate the current and projected growth of Air Traffic in your state and also identify, if any, the efficiency challenges in your State.**

- The growth of air traffic rate at Cairo air space is about 8%.
- The growth of all airports in Egypt about 20%.

# Workshop Exercise, EGYPT Air Navigation plan


## 2. *The air navigation service provider*

Describe briefly the organization providing the air navigation services in your State including its institutional format, capital structure, principal shareholders and the management.

- National air navigation Services company (NANSC) it belongs to Egyptian holding company of airports and air navigation – Ministry of civil aviation

# Workshop Exercise, EGYPT Air Navigation plan

## 3. *Major stakeholders/partners*

Identify the major stakeholders/partners such as the air navigation service providers, the airspace users (the commercial airlines using the airspace, business aviation, general aviation, military, etc.) and the potential funding sources.

- Regulatory Authority: Egyptian Civil Aviation Organization (ECAA )
- Air navigation services provider: National Air Navigation Services Company (NANSC)
- Airspace users:
  - Commercial airlines, Civilian Aircrafts, Military Aircrafts, Business Aviation

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### 4. Problem definition

The current conventional air navigation systems might have several limitations, which would depend

- on the State or the region concerned. List such limitations in your State.
- Military reservation ( due to military activities and several military areas) affecting the airspace in both of TMA and ACC

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## 5. Performance based National Air Navigation Plan

**Define the geographical scope of the National Air Navigation Plan and determine the major traffic flows. Explain briefly the vision of your State for achieving a seamless Global ATM system. Specifically, establish national performance objectives for the air navigation infrastructure, list current air navigation systems and through gap analysis define near and medium term operational improvements.**

- Implemented (Mode -S) in 5 Radar sites , to reduce the work load of identified the traffic (installed and ready to use).
- Implemented El DAKHLA Radar station to cover all CAIRO airspace (reused Valid)
- Implemented VHF frequency in the South/west part of Egypt to cover all CAIRO airspace (Valid).
- Implement RNAV-5 in all CAIRO airspace to meet the Global plan of PBN (valid).
- Implementing the multilatration system, to have full coverage for previewing any obstructed areas (coming into force contract)
- Implemented the resectorization in Cairo airspace (activated)
- Implemented AMHS system for ATN services (activated).
- Implemented eTod ,design procedure (Valid).
- Implementing OLDI application between Egypt & Saudi Arabia (ACC) (coming into force contract)
- Implemented the VHF equipments with mode VDL-2 (valid).
- Implemented Approach with GNSS/RNAV in all international Airports (valid).
- Implemented reduce landing rate to 6 miles on Final Approach (Valid)
- Implemented Simultaneously Departure (Valid)
- Implemented parallel runways operations (valid to use)

## 6. Performance framework forms (PFFs)

Using the standard approach, develop PFFs for different national performance objectives by determining relevant projects/tasks and ensuring the linkage to Key Performance Areas (KPAs) and Global Plan initiatives (GPIs).

# PERFORMANCE FRAMEWORK FORMS FOR EFFICINCY

## STRATEGIC OPERATIONAL IMPROVEMENT/ NATIONAL PERFORMANCE

*OBJECTIVE – 1*

## ENHANCE CAPACITY AND EFFICIENCY OF CAIRO FIR

### Performance Benefits

| | | | | |
|---|---|---|---|---|
| **Safety** | Increase safety to Reduce RWY incursion<br>Increase safety to Reduce traffic conflict in movement area | | | |
| **Environment** | Applied RVSM within CAIRO FIR increased airspace capacity<br>Reducing the landing rate to 6 NM which reduced the flying time in TMA | | | |
| **Capacity** | Established Upper and Lower areas within CAIRO FIR to have an optimum flow of air traffic through many sectors during times when demand exceeds the available ATC capacity.<br>Improved search and rescue services | | | |
| **Cost effectiveness** | Reduced GHGE | | | |
| **AOM, DCB, TS and CM** | Implemented AMHS system for ATN services | 2009-2010 | NANSC | Completed |
| | Transition to new flight plan | 2010-2012 | NANSC | ongoing |
| | Implementing OLDI | 2010-2011 | NANSC | ongoing |
| | Implementing AXIM | 2010-2011 | NANSC | ongoing |
| | Implement eTod for Area | 2010-2011 | NANSC | ongoing |
| | Implementation of | 2010-2011 | NANSC | Ongoing |

| ATM Operational Concept Components | Projects/Tasks | Timeframe Start/End | Responsibility | Status |
|---|---|---|---|---|
| AOM ( DCB , TS ,CM ) , AUO | - Implemented the resectorization in Cairo airspace<br>- Implement RNAV-5 in all CAIRO airspace to meet the Global plan of PBN<br>- Increase role of civil /military co-ordination<br>- evaluate current system capability to establish new ATS routes<br>- devolve regional guidance material on :-<br>. civil / military co-ordination<br>. state to develop a national policy<br>. regulation and procedures to be achieved<br>.optimum use the airspace by all users<br>. monitor implementation progress<br>. implemented D-ATIS in Cairo & 3 airports and the other under contracture<br>. implemented ATFM in cairo ACC ,cairo tower (slots)<br>-. Implementing ATFM in | June 2009 - October 2010<br>2008-2011<br>2009- 2011 | NANSC | Completed<br>Completed<br>Ongoing<br>Ongoing<br>Ongoing<br>planning<br>planning<br>planning<br>Ongoing<br>Ongoing<br>Completed<br>Completed<br>Ongoing |

| | | | | |
|---|---|---|---|---|
| AOM, DCB, TS and CM | Implemented AMHS system for ATN services | 2009-2010 | NANSC | Completed |
| | Transition to new flight plan | 2010-2012 | NANSC | ongoing |
| | Implementing OLDI | 2010-2011 | NANSC | ongoing |
| | Implementing AXIM | 2010-2011 | NANSC | ongoing |
| | Implement eTod for Area | 2010-2011 | NANSC | ongoing |
| | Implementation of eAIP | 2010-2011 | NANSC | ongoing |
| Risk Management | -The Final word crises affect the income (Implementation flexible time table of our projects).<br>- Shortage of staff<br>- Communications<br>- The development of the new fleet must need a new infrastructure (staff)<br>- We are not apple to archive the SID & STAR in most Egyptian Airports due to the military requirements. | | | |
| Linkage to GPIs | GPI/5: NANSC; GPI/9: SMS dep. (NANSC & CAC and ECAA); GPI/13: CAC; GPI/14: NANSC; GPI/15: MET; GPI/17: SITA & ARINC; GPI/18: Egyptian FIC; GPI/19: MET company; GPI/20: WGS-84; GPI/21: NANSC & CAC; and GPI/22: Egyptian communication Comp .and satellite by NANSC | | | |

**STRATEGIC OPERATIONAL IMPROVEMENT/ NATIONAL PERFORMANCE**

***OBJECTIVE – 2***

**ENHANCE CAPACITY AND EFFICIENCY OF**

**Cairo Airport**

| **Performance Benefits** | |
|---|---|
| **Safety** | Increase safety to Reduce RWY incursion<br>Increase safety to Reduce traffic conflict in movement area |
| **Environment** | **Increased runway capacity by reducing landing rate and simultaneous departure increase the departure rate** |
| **Capacity** | **Established standard taxiway routes to meet the density of traffic which increasing the aerodrome capacity** |
| **Cost effectiveness** | Reduced GHGE |
| **Performance Measurement** | |
| **Metrics** | **To meet increase ratios of departure and arrival** |
| | **To meet reduce the delay Period for the landing and arrival** |

# *Strategy*

## Medium term *(2010 - 2015)*

| ATM Operational Concept Components | Projects/Tasks | Timeframe Start/End | Responsibility | Status |
|---|---|---|---|---|
| | Implemented SMGCS to meet a great level of safety in bad weather conditions | 2009 | NANSC | Completed |
| | Maximize runway capacity in all weather operations = 30/hr | 2008 | NANSC | Completed |
| | Implementad ATFM Slots process | 2009 | NANSC | Completed |
| | Implemented VHF equipments coverage all Cairo FIR | 2009 | NANSC | Completed |
| | Implemented RNP5 in all Egyptian airports | 2010 | NANSC | Completed |
| | Implemented automation of weather systems at aerodromes D-ATIS | 2009 | NANSC | Completed |

| | | | | |
|---|---|---|---|---|
| **AOM, DCB, TS and CM** | Implemented a broadcast Volume for weather for Egypt FIR | 2009 | NANSC | Completed |
| | Cairo airport equipped with ground lighting system Cat II operation | 2007 | CAC | Completed |
| | Implemented the third Runway equipped with two rapid exit taxiway from each side | 2010 | CAC | Completed |
| | Fixed all Cairo airport signage as updated and recommended | 2010 | CAC | Completed |
| | Existing PAPI | 1980 | CAC | Completed |
| | Implemented LEDs for runway lighting | 2009 | CAC | Completed |
| **Supporting tools** | Technology evaluation and gap analysis (applicable ) | | | |
| | Safety case and safety analysis (applicable ) | | | |
| | Business case and cost benefit analysis (applicable ) | | | |
| | National workshops and seminars (applicable ) | | | |

| | |
|---|---|
| **ATM Community members** | Egypt, airlines operators (Egypt air and others..etc), CAC,ECAA, airlines, military traffic ,charter flights, private flights, NANSC, THALES, ECAA and ICAO |
| | Capacity to meets peak demands, while minimizing restrictions |
| | Cost effective air navigation services |
| | Minimize environmental impact |
| | Flexibility in adapting flight trajectories |
| | Technical and operational interoperability and harmonization |
| | High levels of service provided |
| | To meet Safety is highest priority by SMS department |
| **Project Output** | Regional/national performance plan for implementation of air navigation system elements that are operationally suitable, technically feasible and economically viable. |
| **Project Outcome** | Enhanced capacity and efficiency of aerodrome operations. |
| **Risk Management** | **The Final word crises affect the income (Implementation flexible time table of our projects).**<br>**- Shortage of staff**<br>**- Communications**<br>**- The development of the new fleet must need a new infrastructure (staff)**<br>**- We are not apple to archive the SID & STAR in most Egyptian Airports due to the military requirements.** |
| **Linkage to GPIs** | GPI/5: NANSC; GPI/9: SMS dep. (NANSC & CAC and ECAA); GPI/13: CAC; GPI/14: NANSC; GPI/15: MET; GPI/17: SITA & ARINC; GPI/18: Egyptian FIC; GPI/19: MET company; GPI/20: WGS-84; GPI/21: NANSC & CAC; and GPI/22: Egyptian communication Comp .and satellite by NANSC |

## STRATEGIC OPERATIONAL IMPROVEMENT/ NATIONAL PERFORMANCE

## *OBJECTIVE – 3*

# ENHANCE CAPACITY AND EFFICIENCY OF

# Cairo TMA

## Performance Benefits

| | |
|---|---|
| **Safety** | Increase safety to Reduce RWY incursion<br>Increase safety to Reduce traffic conflict in movement area |
| **Environment** | **Increased runway capacity by reducing landing rate to 6 miles and simultaneous departure to provide optimum economic operations** |
| **Capacity** | **Established and trained the air traffic controllers on a parallel runway's procedures and simultaneous departure** |
| **Cost effectiveness** | Reduced GHGE |

# Performance Benefits

| | |
|---|---|
| **Safety** | Reduced Separation to 5 N/M<br>Reduced unstabilized approaches<br>Coordinate with military side to achieve safety |
| **Environment** | Increased runway capacity by reducing landing rate to 6 miles and simultaneous departure to provide optimum economic operations |
| **Capacity** | Established and trained the air traffic controllers on a parallel runway's procedures and simultaneous departure |
| **Cost effectiveness** | Reduced GHGE |
| **Metrics** | **To meet increasing landing and take off rate /hrs** |

# *Strategy*
# Medium term *(2010 - 2015)*

| ATM Operational Concept Components | Projects/Tasks | Timeframe Start/End | Responsibility | Status |
|---|---|---|---|---|
| | Implemented SMGCS to meet a great level of safety in bad weather conditions in approach control room | 2009 | NANSC | Completed |
| | Maximize runway capacity in all weather operations = 30/hr | 2008 | NANSC | Completed |

| | | | | |
|---|---|---|---|---|
| | Implemented automation of weather systems at aerodromes D-ATIS | 2009 | NANSC | Completed |
| **AOM, DCB, TS and CM** | Implemented a broadcast Volume for weather for Egypt FIR | 2009 | NANSC | Completed |
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| | Implemented the third Runway equipped with two rapid exit taxiway from each side | 2010 | CAC | Completed |
| | Fixed all Cairo airport signage as updated and recommended | 2010 | CAC | Completed |
| | Existing PAPI | 1980 | CAC | Completed |
| | Implemented LEDs for runway lighting | 2009 | CAC | Completed |

| | |
|---|---|
| **Supporting tools** | Technology evaluation and gap analysis (applicable ) |
| | Safety case and safety analysis (applicable ) |
| | Business case and cost benefit analysis (applicable ) |
| | Regional workshops and seminars (applicable ) |
| **ATM Community members** | Egypt, airlines operators (Egypt air and others..etc), CAC,ECAA, airlines, military traffic ,charter flights, private flights, NANSC, THALES, ECAA and ICAO |
| | Capacity to meets peak demands, while minimizing restrictions |
| | Cost effective air navigation services |
| | Minimize environmental impact |
| | Flexibility in adapting flight trajectories |
| | Technical and operational interoperability and harmonization |
| | High levels of service provided |
| | To meet Safety is highest priority by SMS department |

| | |
|---|---|
| **Project Output** | national performance plan for implementation of air navigation system elements that are operationally suitable, technically feasible and economically viable. |
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| **Risk Management** | **The Final word crises affect the income (Implementation flexible time table of our projects).**<br>**- Shortage of staff**<br>**- Communications**<br>**- The development of the new fleet must need a new infrastructure (staff)**<br>**- We are not apple to archive the SID & STAR in most Egyptian Airports due to the military requirements.** |
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# *Thank you*

# Workshop Exercise, EGYPT Air Navigation Plan
# 10 /12/2010

**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

**EASTERN AND SOUTHERN AFRICAN OFFICE**

**WORKSHOP ON THE DEVELOPMENT OF**

**NATIONAL PERFORMANCE FRAMEWORK FOR AIR NAVIGATION SYSTEMS**

**(NAIROBI, 6-10 DECEMBER 2010)**

**HANDS-ON EXERCISE: PFF EXPLANATION FOR EFFICIENCY**

## 1. Characteristics of the industry

**Enumerate the current and projected growth of Air Traffic in your state and also identify, if any, the efficiency challenges in your State.**

- The growth of air traffic rate at Cairo air space is about 8%.
- The growth of all airports in Egypt about 20%.

## 2. The air navigation service provider

**Describe briefly the organization providing the air navigation services in your State including its institutional format, capital structure, principal shareholders and the management.**

- National air navigation Services company (NANSC) it is belongs to Egyptian holding company of airports and air navigation – Ministry of civil aviation

## 3. Major stakeholders/partners

**Identify the major stakeholders/partners such as the air navigation service providers, the airspace users (the commercial airlines using the airspace, business aviation, general aviation, military, etc.) and the potential funding sources.**

- Regulatory Authority: Egyptian **Civil Aviation Organization (ECAA )**
- Air navigation services provider: **National Air Navigation Services Company (NANSC)**
- Airspace users:

- **Commercial airlines,**
- **Civilian Aircrafts,**
- **Military Aircrafts,**
- **Business Aviation**

**4. Problem definition**

**The current conventional air navigation systems might have several limitations, which would depend on the State or the region concerned. List such limitations in your State.**

- Military reservation ( due to military activities and several military areas) affecting the airspace in both of TMA and ACC

**5. Performance based National Air Navigation Plan**

**Define the geographical scope of the National Air Navigation Plan and determine the major traffic flows. Explain briefly the vision of your State for achieving a seamless Global ATM system. Specifically, establish national performance objectives for the air navigation infrastructure, list current air navigation systems and through gap analysis define near and medium term operational improvements.**

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- Implemented VHF frequency in the South/west part of Egypt to cover all CAIRO airspace (Valid).
- Implement RNAV-5 in all CAIRO airspace to meet the Global plan of PBN (valid).
- Implementing the multilatration system, to have full coverage for previewing any obstructed areas (coming into force contract)
- Implemented the resectorization in Cairo airspace (activated)
- Implemented AMHS system for ATN services (activated).
- Implemented eTOD, design procedure (Valid).
- Implementing OLDI application between Egypt & Saudi Arabia (ACC) (coming into force contract)
- Implemented the VHF equipments with mode VDL-2 (valid).
- Implemented Approach with GNSS/RNAV in all international Airports (valid).
- Implemented reduce landing rate to 6 miles on Final Approach (Valid)
- Implemented simultaneous Departure (Valid)
- Implemented parallel runways operations (valid to use)
- Implemented ATFMU in Cairo ACC and Cairo tower & three major Airports
- Implemented D-ATIS system in Cairo tower & three major Airports and going to complete installing in the others.

## 6. Performance framework forms (PFFs)

Using the standard approach, develop PFFs for different national performance objectives by determining relevant projects/tasks and ensuring the linkage to Key Performance Areas (KPAs) and Global Plan initiatives (GPIs).

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## 7. Risk Management

What are the risks identified for this National Air Navigation Plan and if any, briefly describe the risk mitigation plans/techniques.

- ***Economic***

**- The Final word crises affect the income (Implementation flexible time table of our projects).**

- ***Human factors***

**- Shortage of staff**

- ***Industry technology change***

**- Communications**

**- The development of the new fleet must need a new infrastructure (staff)**

**- We are not apple to archive the SID & STAR in most Egyptian Airports due to the military requirements.**

## STRATEGIC OPERATIONAL IMPROVEMENT/ NATIONAL PERFORMANCE

*OBJECTIVE – 1*

**ENHANCE CAPACITY AND EFFICIENCY OF Cairo FIR**

### Performance Benefits

| | |
|---|---|
| **Safety** | Increase safety to Reduce RWY incursion<br><br>Increase safety to Reduce traffic conflict in movement area |
| **Environment** | Applied RVSM within CAIRO FIR increased airspace capacity<br><br>Reducing the landing rate to 6 NM which reduced the flying time in TMA |
| **Capacity** | Established Upper and Lower areas within CAIRO FIR to have an optimum flow of air traffic through many sectors during times when demand exceeds the available ATC capacity.<br><br>Improved search and rescue services |
| **Cost effectiveness** | Reduced GHGE |

### Performance Measurement

| | |
|---|---|
| **Metrics** | **To meet increase ratios of departure and arrival**<br><br>**To meet reduce the delay Period for the landing and arrival** |

| **ATM**<br><br>**Operational Concept Components** | **Projects/Tasks** | **Timeframe Start/End** | **Responsibility** | **Status** |
|---|---|---|---|---|
| **AOM ( DCB , TS ,CM ) , AUO** | - Implemented the resectorization in Cairo airspace<br>- Implement RNAV-5 in all CAIRO airspace to meet the Global plan of PBN<br>- Increase role of civil /military co-ordination<br>- evaluate current system capability to establish new ATS routes<br>- devolve regional guidance material on :-<br>. civil / military co-ordination<br>. state to develop a national policy<br>. regulation and procedures to be achieved<br>.optimum use the airspace by all users | June 2009 - October 2010 | NANSC | Completed<br><br>Completed<br><br>Ongoing<br><br>Ongoing<br><br>Ongoing<br><br>planning<br><br>planning<br><br>planning<br><br>Ongoing |

| | | | | |
|---|---|---|---|---|
| | . monitor implementation progress<br>. implemented D-ATIS in Cairo & 3 airports and the other under contracture<br>. implemented ATFM in cairo ACC ,cairo tower (slots)<br>-. Implementing ATFM in most of airports towers | 2008-2011<br><br>2009- 2011 | | Ongoing<br>Completed<br>Completed<br>Ongoing |
| **AOM, DCB, TS and CM** | Implemented AMHS system for ATN services | 2009-2010 | NANSC | Completed |
| | Transition to new flight plan | 2010-2012 | NANSC | ongoing |
| | Implementing OLDI | 2010-2011 | NANSC | ongoing |
| | Implementing AXIM | 2010-2011 | NANSC | ongoing |
| | Implement eTod for Area | 2010-2011 | NANSC | ongoing |
| | Implementation of eAIP | 2010-2011 | NANSC | ongoing |
| **Risk Management** | **-The Final word crises affect the income (Implementation flexible time table of our projects).**<br>**- Shortage of staff**<br>**- Communications**<br>**- The development of the new fleet must need a new infrastructure (staff)**<br>**- We are not apple to archive the SID & STAR in most Egyptian Airports due to the military requirements.** | | | |
| **Linkage to GPIs** | GPI/5: NANSC; GPI/9: SMS dep. (NANSC & CAC and ECAA); GPI/13: CAC; GPI/14: NANSC; GPI/15: MET; GPI/17: SITA & ARINC; GPI/18: Egyptian FIC; GPI/19: MET company; GPI/20: WGS-84; GPI/21: NANSC & CAC; and GPI/22: Egyptian communication Comp .and satellite by NANSC | | | |

## STRATEGIC OPERATIONAL IMPROVEMENT/ NATIONAL PERFORMANCE

*OBJECTIVE – 2*

## ENHANCE CAPACITY AND EFFICIENCY OF

## Cairo Airport

| Performance Benefits | |
|---|---|
| **Safety** | Increase safety to Reduce RWY incursion<br><br>Increase safety to Reduce traffic conflict in movement area |
| **Environment** | Increased runway capacity by reducing landing rate to 6 miles and simultaneous departure to provide optimum economic operations |
| **Capacity** | Established standard taxiway routes to meet the density of traffic which increasing the aerodrome capacity |
| **Cost effectiveness** | Reduced GHGE |
| **Performance Measurement** | |
| **Metrics** | About 35 aircraft /hr between departure and arrival |
| | Arrival/departure delay is 4 minutes per flight in rush hours |
| | Number of aircraft entering a specified volume of airspace about 15/hr |

### *Strategy*
### Medium term *(2010 - 2015)*

| ATM Operational Concept Components | Projects/Tasks | Timeframe Start/End | Responsibility | Status (as of …) |
|---|---|---|---|---|
| | Implemented SMGCS to meet a great level of safety in bad weather conditions | 2009 | NANSC | Completed |
| | Maximize runway capacity in all weather operations = 30/hr | 2008 | NANSC | Completed |
| | Implementad ATFM Slots process | 2009 | NANSC | Completed |
| | Implemented VHF equipments coverage all Cairo FIR | 2009 | NANSC | Completed |

| | | | | |
|---|---|---|---|---|
| | Implemented RNP5 in all Egyptian airports | 2010 | NANSC | Completed |
| | Implemented automation of weather systems at aerodromes D-ATIS | 2009 | NANSC | Completed |
| **AOM, DCB, TS and CM** | Implemented a broadcast Volume for weather for Egypt FIR | 2009 | NANSC | Completed |
| | Cairo airport equipped with ground lighting system Cat II operation | 2007 | CAC | Completed |
| | Implemented the third Runway equipped with two rapid exit taxiway from each side | 2010 | CAC | Completed |
| | Fixed all Cairo airport signage as updated and recommended | 2010 | CAC | Completed |
| | Existing PAPI | 1980 | CAC | Completed |
| | Implemented LEDs for runway lighting | 2009 | CAC | Completed |
| **Supporting tools** | Technology evaluation and gap analysis (applicable ) | | | |
| | Safety case and safety analysis (applicable ) | | | |
| | Business case and cost benefit analysis (applicable ) | | | |
| | Regional workshops and seminars (applicable ) | | | |
| **ATM Community members** | Egypt, airlines operators (Egypt air and others..etc), CAC,ECAA, airlines, military traffic ,charter flights, private flights, NANSC, THALES, ECAA and ICAO | | | |
| | Capacity to meets peak demands, while minimizing restrictions | | | |
| | Cost effective air navigation services | | | |
| | Minimize environmental impact | | | |
| | Flexibility in adapting flight trajectories | | | |
| | Technical and operational interoperability and harmonization | | | |
| | High levels of service provided | | | |
| | To meet Safety is highest priority by SMS department | | | |
| **Project Output** | Regional/national performance plan for implementation of air navigation system elements that are operationally suitable, technically feasible and economically viable. | | | |
| **Project Outcome** | Enhanced capacity and efficiency of aerodrome operations. | | | |
| **Risk Management** | **The Final word crises affect the income (Implementation flexible time table of our projects).**<br>**- Shortage of staff**<br>**- Communications**<br>**- The development of the new fleet must need a new infrastructure (staff)**<br>**- We are not apple to archive the SID & STAR in most Egyptian Airports due to the military requirements.** | | | |
| **Linkage to GPIs** | GPI/5: NANSC; GPI/9: SMS dep. (NANSC & CAC and ECAA); GPI/13: CAC; GPI/14: NANSC; GPI/15: MET; GPI/17: SITA & ARINC; GPI/18: Egyptian FIC; GPI/19: MET company; GPI/20: WGS-84; GPI/21: NANSC & CAC; and GPI/22: Egyptian communication Comp .and satellite by NANSC | | | |

## STRATEGIC OPERATIONAL IMPROVEMENT/ NATIONAL PERFORMANCE

*OBJECTIVE – 3*

## ENHANCE CAPACITY AND EFFICIENCY OF

## Cairo TMA

**Performance Benefits**

| | |
|---|---|
| **Safety** | Increase safety to Reduce RWY incursion<br><br>Increase safety to Reduce traffic conflict in movement area |
| **Environment** | Increased runway capacity by reducing landing rate to 6 miles and simultaneous departure to provide optimum economic operations |
| **Capacity** | Established and trained the air traffic controllers on a parallel runway's procedures and simultaneous departure |
| **Cost effectiveness** | Reduced GHGE |

**Performance Measurement**

| | |
|---|---|
| **Metrics** | About 25 aircraft /hr between departure and arrival |
| | Arrival/departure delay is 4 minutes per flight in rush hours |

## *Strategy*
## Medium term *(2010 - 2015)*

| ATM Operational Concept Components | Projects/Tasks | Timeframe Start/End | Responsibility | Status (as of …) |
|---|---|---|---|---|
| | Implemented SMGCS to meet a great level of safety in bad weather conditions in approach control room | 2009 | NANSC | Completed |
| | Maximize runway capacity in all weather operations = 30/hr | 2008 | NANSC | Completed |
| | Implemented automation of weather systems at aerodromes D-ATIS | 2009 | NANSC | Completed |

| | | | | |
|---|---|---|---|---|
| **AOM, DCB, TS and CM** | Implemented a broadcast Volume for weather for Egypt FIR | 2009 | NANSC | Completed |
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| | Implemented the third Runway equipped with two rapid exit taxiway from each side | 2010 | CAC | Completed |
| | Fixed all Cairo airport signage as updated and recommended | 2010 | CAC | Completed |
| | Existing PAPI | 1980 | CAC | Completed |
| | Implemented LEDs for runway lighting | 2009 | CAC | Completed |
| **Supporting tools** | Technology evaluation and gap analysis (applicable ) | | | |
| | Safety case and safety analysis (applicable ) | | | |
| | Business case and cost benefit analysis (applicable ) | | | |
| | Regional workshops and seminars (applicable ) | | | |
| **ATM Community members** | Egypt, airlines operators (Egypt air and others..etc), CAC,ECAA, airlines, military traffic ,charter flights, private flights, NANSC, THALES, ECAA and ICAO | | | |
| | Capacity to meets peak demands, while minimizing restrictions | | | |
| | Cost effective air navigation services | | | |
| | Minimize environmental impact | | | |
| | Flexibility in adapting flight trajectories | | | |
| | Technical and operational interoperability and harmonization | | | |
| | High levels of service provided | | | |
| | To meet Safety is highest priority by SMS departement | | | |
| **Project Output** | Regional/national performance plan for implementation of air navigation system elements that are operationally suitable, technically feasible and economically viable. | | | |
| **Project Outcome** | Enhanced capacity and efficiency of aerodrome operations. | | | |
| **Risk Management** | **The Final word crises affect the income (Implementation flexible time table of our projects).**<br>**- Shortage of staff**<br>**- Communications**<br>**- The development of the new fleet must need a new infrastructure (staff)**<br>**- We are not apple to archive the SID & STAR in most Egyptian Airports due to the military requirements.** | | | |
| **Linkage to GPIs** | GPI/5: NANSC; GPI/9: SMS dep. (NANSC & CAC and ECAA); GPI/13: CAC; GPI/14: NANSC; GPI/15: MET; GPI/17: SITA & ARINC; GPI/18: Egyptian FIC; GPI/19: MET company; GPI/20: WGS-84; GPI/21: NANSC & CAC; and GPI/22: Egyptian communication Comp .and satellite by NANSC | | | |

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