



REMOTE CONTROL TOWER

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Introduction

- NANSOC operates 22 airports in Egypt including 6 major airports Equipped with ordinary control towers, and full radar systems to enhance safety and traffic flow.
- Other Airports ranges between medium, small, and VFR airports.



Current Situation



- In 2010 NANSC inaugurated the highest control tower in Egypt and the middle east of a 120 m height, and of 30 million dollars cost.
- Equipped with new generation technologies to ensure safety and easy flow of Air Traffic Management.



Current Situation Cont.

- Some of our major international airports (ex: Hurghada – Sharm El Shiekh Airports) control towers needs replacement building and equipment wise.
- When new runways and terminals were built at those airports it decreased the efficiency of the current working towers mainly for the controllers view.



Current Solutions



- NANSC contracted to build a new control tower at Sharm El Sheikh that will approximately cost 35 million dollars within NANSC investment plan.
- Same procedure was expected for Hurghada's airport, but recently decided to install camera's instead



Goals

- Being updated with the recent technologies in the international traffic management field, a new technology (Remote Control Tower) caught our attention started operating in some European countries like Sweden and Norway, Australia, and gulf countries like Dubai, Bahrain, and Abu Dhabi.



What is Remote Control Tower?



- Replacing concrete towers with remote towers opens a range of possibilities for service optimization and cost savings
- Remote Tower made it possible to control air traffic without a physical control tower through a better use of technologies and procedures.



What is Remote Tower? Cont.

- Remote Tower is based on the use of high definition cameras and multiple screens.
 1. Pan/ Tilt/ Zoom (PTZ) Cameras
 2. Optical and Infrared (IR)
 3. Signal Light Gun
 4. Acoustic Sensor
- More than multiple locations can be controlled from one remote tower center

Benefits of Remote Control Tower to and Impact on operational procedures in the ME Region



- Implementing the Remote Control Tower technology in the Middle East region would improve:

1. **Flexibility:**

Camera masts are easily portable offering much greater flexibility in provision of traffic control

- Ex: Accommodate expansion developments or operational changes.

Benefits of Remote Control Tower to and Impact on operational procedures in the ME Region



2. Contingency:

Enables more flexible contingency operations as cameras and working positions are easily replicated.

The facility itself can be located off-site or in a more secure environment offering improvement in service continuity.

3. Security:

Improved using: infrared – cameras – motion tracking (particularly in low visibility)

Benefits of Remote Control Tower to and Impact on operational procedures in the ME Region



4. **Cost:**

Significantly reduce capital on tower facilities and reduce operating costs by consolidating views of multiple geographical depressed

5. **Safety:**

Improved foreign object detection and low visibility operations.

Survival opportunity for smaller airports with low traffic density

Role of the regulators and their role in the implementation process



- After running a validation test for the remote control tower, a proposal will be sent to the regulators to proceed with the execution procedures implementing the Remote Control Tower technology in Egypt.

Controllers Training Required



Air traffic controllers will require minimum training to fully understand and be able to operate the remote control tower.

- Remote Control Tower application in large Complex Airport

Examples



- The first remote tower established is already operating in Ornskoldsvik Airport located in Sweden (controlled 150 KM away) and activities are now underway in places such as Norway, Germany, Italy, Sweden, and Dubai for managing multiple airports at once for contingency ATC services

R-TWR Pilot Implementation Project Sweden

- Contract awarded in January 2011
- Two airports Sundsvall and Örnsköldsvik
- The RTC will be located in Sundsvall
- Delivered December 2013
- Operational validation 2013
- Final Validation report February, 2014
- Approval for Operational use in Q4 2014
- Operation start April 2015



R-TWR test site to Airservices Australia

- Contract was signed on the 1st of June 2011
- Remotely control Alice Springs airport from Adelaide (1500 km)
- Site survey performed in Alice Springs 5-7 of June 2011
- Based on the Swedish implementation + visual tracking
- Delivery in Q4 2013
- FAT December 2013
- SAT February 2014
- Validation start Q2, 2014



Picture of Alice Spring at Adelaide Remote Tower Center (1500km)



Thank You



Any Questions?