CANSO Global ATM Operations Conference

MADRID | SPAIN | 8-9 MARCH

Smart tower evolution – digital enhancement or remote operations?

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ANSP Challenges

Increased Capacity

- **Lack of ATCOs**
- **Low utilization of ATC Staff**
- **Limited Flexibillity**

Increased Safety

- **Airport and RWY extensions**
- **Redundancy/Contingency**
- **RWY Incursion, Airspace Infringement, Drones (with new Digital Tools)**

Reduced Costs

- **LFV – Competitive Market**
- **New or Equipment upgrades**
- **EU and Customers (Airports and Carriers)**

AIRPORT

- **New or upgraded Tower Building**
- **New Business Models (open on demand)**
  "Save the Airport"

EXPERIENCES FROM IMPLEMENTING RTS SUCCESSFULLY

Stepwise implementation

Stick to existing rules and regulations

Focus on TWR service needs

Change management

Technical development driven by operators

Replicating a conventional tower as much as possible

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RTC Operational Experiences

- ✓ **Important mindset**; We shall provide the same service from an center with new technical tools. (Move the mind from the conventional TWR.)
- ✓ **ATCOs can move easily between airports** because of the same Controller Working Position. Same LATSI.
- ✓ **Depth sight,** is a mental process that ATCO´s learn in the new operational environment.
- ✓ **Reduction of separation minima** can be used according to doc 4444

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RTC Operational experiences

- ✓ **We can use most of our operational manuals.** (Design decision 2010).
- ✓ **New modern integrated alarm system** Technical alarms are presented from operational point of view.
- ✓ **Cameras** present “longer” days and visual positive effects in mist.

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RTC Operational Experiences

- ✓ **Every OTW screen present an exact angle** of the visual presentation regardless line of sight (compare TWR). Maybe be used for new geographical separation.
- ✓ Other **visual overlays** can be introduced to give ATCO decision support. BUT nice to have isn´t always need to have
- ✓ **MET observations** can be adopted.

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To Conclude – way to success

- ✓ To see is to believe
- ✓ LFV Solution, R-ATS in a Remote Centre
- ✓ Today according to excisting regulations
- ✓ Early consultation with regulator
- ✓ Early consultation with stakeholders, unions etc.
- ✓ One integrated Technical System
- ✓ New tools or operational concepts might need a change of regulations.
- ✓ **Digital platform creates possibilities**

MEMBER OF SESAR JOINT UNDERTAKING

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Second generation – based on operational experience

- Up to 24 airports
- Reduced maintenance
- New cameras
- New tools, C-APP, Multiple Airport Control etc..
- **Industrialised – Standard product**

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LFV-SDATS RTS next generation - A centre of towers

SMART SOLUTIONS FOR THE AVIATION OF TOMORROW

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MOTIVATION – TARGET BENEFITS

- REDUCED INFRASTRUCTURE EXPENDITURE
- PROVISION OF ATS TO MULTIPLE AIRPORTS
- EFFICIENT RESOURCE ALLOCATION
- MAINTENANCE OF CAPACITY
- CONTINGENCY POTENTIAL

TECHNICAL INFRASTRUCTURE

14 cameras (360º) at Cork and Shannon Airports

14 Screen Display System in Dublin

Network Connectivity between Dublin, Shannon and Cork

TRIALS IN COLLABORATION WITH SESAR

Trials Successfully Completed in 2016

50 Trials in total – including simultaneous remote ops of Cork & Shannon from Dublin

EC SES Award (March 2017)!!

PHASED IMPLEMENTATION of RTS

1 | SHANNON

Phase 1 remote tower implementation - 2019

2 | CORK

Phase 2 remote tower implementation - 2020

3 | SHANNON and CORK

Phase 3 remote tower implementation - 2021

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