CANSO Global ATM Operations Conference

MADRID | SPAIN | 8-9 MARCH

Smart tower evolution – digital enhancement or remote operations?

Csaba Gergely
Hungaro Control PTE
Senior ATM Advisor

HungaroControl
Straight to the point

HungaroControl
Digital Tower Project

Csaba Gergely
Senior ATM Advisor

Madrid
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Budapest Remote Tower - Project overview

Challenges of the tower building:

- The tower building belongs to the airport, rented by HungaroControl with common responsibilities
- More than 30 years old concrete tower building, facing enormous maintenance costs
- Airport closing due to irregularities of the infrastructure in 2012 and 2015
- Complete reconstruction of the tower building is expected in a few years

Business requirements and project goal: Air Traffic Control (ATC) services shall be provided remotely in such a way that the airspace users should be supported with the same level of services as if the ATS were provided locally from the tower building.

Special features of HungaroControl and Budapest Liszt Ferenc International Airport

- Two parallel runways, and two aprons with more than 6 km between the farthest thresholds
- A-SMGCS – controlling traffic without any visual information, based only on radar view
- More control positions in the same time, specialized duties (ADC, CDC, GRC - apron, TPC, SV)
- Stripless operation; MATIAS tower capability, ILS and AGL control

SESAR single remote tower solution could be further developed according to Budapest Liszt Ferenc International Airport specialities

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4 phase strategic program

We obtain the authority approval for the Remote Tower with distributed camera system

- in 2016 for large-scale demonstration,
- in 2017 for contingency operations, and for validation and training purposes,
- in the mid of 2017 for live operations.

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Strategic program results so far

REMOTE TOWER STATISTICS 17.02.2018

ACTIVE SHADOW

167 h

CONTROLLED MOVEMENTS

3 064

VISIBILITY

VMC	IMC	LVP2
159 h	7 h	1 h

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Video wall in Budapest Remote Tower

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PTZ and infra cameras

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Fix and PTZ cameras

Lessons learned

Lessons learned

Accurate understanding of the operative requirements and consolidating with the technological capabilities are critical

Comprehensive mapping of the relevant internal stakeholders (e.g. operations, meteorology, etc.)

Comprehensive mapping and managing the dependencies in terms of external stakeholders

The human factor risks has to be handled with high priority and integrated to the project process.

It is also important from change management point of view

Allow enough time for air traffic controllers to get used to the new environment, to reduce stress caused by the changes and to regain their self-confidence in working with the new system

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HungaroControl 2020 – We are committed to shape the future

Collaborate on the development of European regulations: EASA RTWR RMG

Leading the discovery and pioneering of advanced and emerging technologies (e.g. augmented reality and virtual reality)

Driving the development of European standards: EUROCAE WG-100

SESAR 2020 PJ05 – Multiple Remote Tower

Extending Remote Tower capabilities to deliver multi-airport operations (ATC services in Debrecen)

SESAR VLD – Budapest 2.0

Fully-capable Remote Tower for live operations in Budapest

Advising and consulting to help the ANSP in Dubai (DANS DXB)

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THANK YOU FOR YOUR ATTENTION!
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