



FOR A SAFER WORLD

ENAC Remote Tower International Seminar Toulouse, 10th October 2018

Significant Traffic Movements

Mixed VFR / IFR

OUPE DES CLUBS CHAMPIONS EUROPÉENS

No / Limited Surveillance

Leading through experience - end-to-end

Benefit from 18 years of experience and the related learning curve





4 | ENAC Remote Tower International Seminar

DFS: Remote Tower Centre Leipzig to control 3 airports from remote

First approved remote tower solution managing airports with complex IFR/VFR traffic



* Our remote tower concept is based on a unique technological and operational solution. Efficiency will be improved and costs reduced. Plus, the proficiency and know-how of air traffic controllers can more easily be maintained" - Klaus-Dieter Scheurle, CEO DFS



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How to implement Remote Tower



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Your specialist to build, implement & certify advanced vision solutions

Technical and operational support of customer process in all phases





Step 1 | Analysis





Step 2 | CONOPS

Fulfill all ICAO requirements as of today in conventional scenarios





Step 4 - Implementation

...more than just delivering hardware





Evaluation | Iterative development/configuration of controller working position Working position designed by operators and adjusted to customer needs





The advanced view



smartVISION – enhancing the tower view

Advanced stitching algorithms - real-time image processing





Augmented reality to reduce head down times and to raise situational awareness





Enhancing the tower view with thermal IR

Use of thermal IR technology, object tracking & augmentation





From small to large – it's a question of individual needs

Human needs and capabilities determine in the end the size of the system





Individualization of the HMI

"Controller takes care of the airspace - not of the system"





Control room subsystem - Flexible and scalable working position

Adaptable for different customer use cases





Leading experience in multi-remote tower technologies

Controller Working Position





Remote Tower around the World





Iceland: Akureyri airport - remote air traffic and flight info services from Egilsstaðir Ensure continuous ATC operations at all conditions



Akureyri became the major airport in Iceland during Eyjafjallajokull eruptions in 2014, when Kevlavik had to be closed.



Jersey International Airport – Contingency Operations System

Challenge: First approved airport in the British Isles



Compact working position for contingency operations





Vienna Airport - High resolution video panorama & PTZ

Increase operational efficiency at a large airport



Increasing efficiency of airport operations with deep learning and artificial intelligence







Airways New Zealand: Auckland Digital Tower Demonstrator

Alternative to bricks and mortar towers while improving safety & efficiency



*Digital towers are one of the intelligent transport technologies we are looking at to modernise our air traffic network. In the future, digital towers could support greater air connectivity, by giving us the option to extend services in areas of New Zealand where the costs of building or servicing a physical tower are currently not cost effective," – Pauline Lamb, Chief Operating Officer Airways NZ





US Air Force – First military remote tower contract

Adapting RVT technology to military needs



Remote virtual tower are relevant in military environments as well. For deployed operations the provide additional protection of staff as ATC can be provided out of a safe place.



Advanced remote sensing around the world

References in all categories - based on the most flexible systems in the market





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