smartVISION
Remote Virtual Tower Solutions

ICAO RPAS and Remote ATS Symposium
Stockholm, Sweden
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Remote tower - rethinking airport control towers

Take…

and give…

Enhanced vision and integrated Surveillance

Safety Nets

Enhancement Tools

Vision Augmentation

Tower Automation
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Market segmentation

Flexible operations
Cost savings

Remote tower
- Single remote towers
  - Airfield monitoring
- Single remote towers
  - Control zone monitoring
- Multi remote towers

Throughput
Safety

Tower enhancement
- View enhancement
  (Blind Spots Coverage)
- Video enhanced surveillance
- Contingency solutions

Efficiency
Process optimisation

Airport operations
- Apron management
- Security and infrastructure protection
- Airport operation centre
Flexible product for various customer solutions
Support of customer process

- Needs for Remote Technology
- Business Case
- CONOPS
- Solution Definition
- Implementation
- Regulatory Approval

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OTW Vision focused Operations
Surveillance focused Operations
Visual Separation GND/CRT

Solution A
Solution B
Solution Y
Solution Z
Remote tower applications and market segments
Midsize airports with mixed traffic showing highest complexity for RT

**Airport Movements**

- **> 150’000**
- **70’-150’**
- **10’-70’**
- **5’-10’**
- **< 5’000**

**Larger Airports**
- Contingency operation
- Apron management

**Midsize Airports**
- Mixed Traffic VFR, IFR
- Ground & Control Zone
  - Limited Radar Coverage
- DFS References
  - Dresden, Saarbrücken, Erfurth

**Small Airfields**

System Performance & Complexity
Remote Virtual Tower – more than just visualisation
Complete turnkey solution from Frequentis

Enable remote capabilities

Remote Tower Centre

Contingency solution

IP network (Voice, Data, Video)

Airport
• Tower automation system
• MET, Nav Aids & Airfield Lights integration
• Voice com / radio integration
• Camera & video processing technology

Remote Tower Control centre
• Console & control room design
• Integrated controller working position
• Human factors / usability

ATM networks & recording
• ATC grade network design
• Bandwidth management
• Network contingency solutions

Complete turnkey solution from Frequentis
Stitched 360° panorama picture
For single monitor or multi-screen setup
Scalable and flexible solution
Fitting for all customer cases

- Flexible workstation concept
- Integration of all tower applications

- Harmonized HMI
- Seamlessly stitched 360° OTW image for flexible (1 to many screens)

Ensuring optimal situational awareness and usability
Frequentis remote technologies

Frequentis Air Traffic Management solutions leverage more than sixty years of experience showcasing true leadership in this market. Delivering new technologies to support the growing international aviation system, while ensuring best in class safety and security is paramount for Frequentis.

Join the conversation and talk to us about:
Remote virtual tower: High performing solutions for small and medium-sized airports
Tower augmentation: Visual and surveillance augmentation to stretch capacity at large airports
Airport operations: Apron management, airport security, and infrastructure protection
RPAS communication solution: Next generation voice and data communication solution to enable the safe and secure integration of RPAS into the airspace

For any inquiry please feel free to contact us:
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