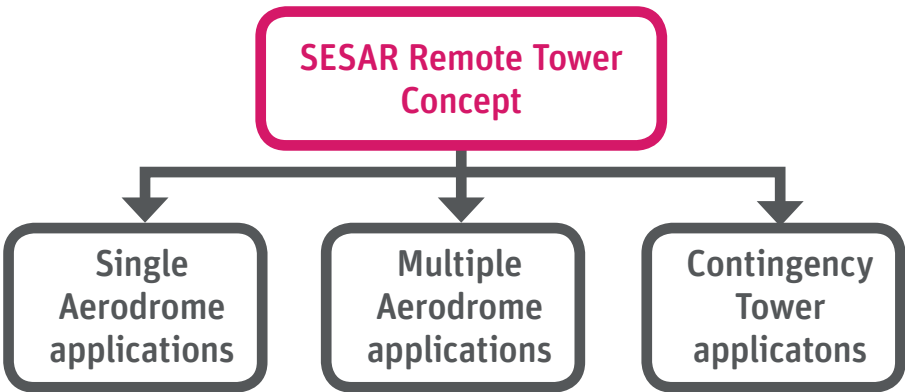


# Remote Tower

**Remote Tower** enables the provision of ATS from a facility autonomous of the local tower (either on or off airport site). A Remote Tower facility has to provide the controller with a means of visual observation and sufficient situational awareness to maintain ATS to at least the same level as in current operations.

**SESAR Solution**  
SESAR Remote Tower projects P06.09.03 and P06.08.04 developed the operational concept, safety and human performance cases. The projects focused on Single, Multiple and Contingency applications to small to medium airports. The aim was to develop a “basic” Remote Tower solution to validate the concept. A series of Advanced Visual Features were added at a later stage to expand the technical solution and potential use cases.

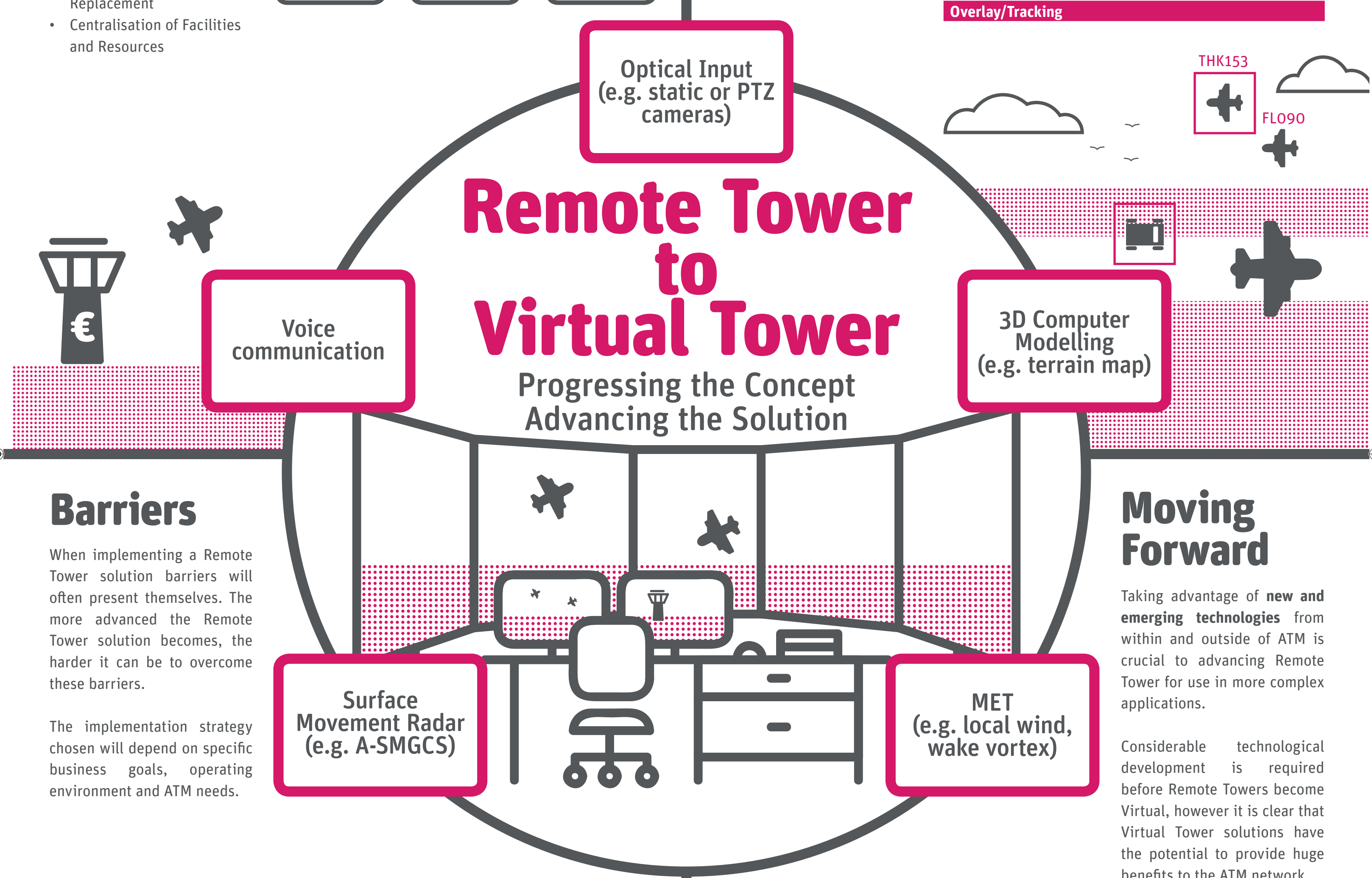
- Benefits of Remote Tower**
- Cost Efficiency
  - Operational Resilience
  - Service Continuity
  - Flexibility of ATS provision
  - Alternatives to Tower Replacement
  - Centralisation of Facilities and Resources



# Advanced Visual Features

**Facilitating New Technologies within ATS**  
Remote Tower provides a **unique environment and opportunity** to enable other technologies to be used in ATS provision. Such technologies were primarily developed to support controller situational awareness, however additional benefits are likely to emerge.

- | Advanced Visual Features                                | Potential benefits                  |
|---|-------------------------------------|
| • Pan Tilt Zoom (PTZ) cameras                           | • Improved Situational Awareness    |
| • Infra-Red Sensors                                     | • Reduced Workload                  |
| • Visual (non-cooperative) Target Tracking              | • Enhanced Operational Safety       |
| • Integrating Optical Sensors with Surveillance Sensors | • Increased Capacity and Resilience |
| • Augmented Displays                                    |                                     |
| • Area of Interest Viewing                              |                                     |
| • Adapted Visual Presentations                          |                                     |



- Solutions to align with ATM needs
- Technology that is fit for purpose
- Reliability and robustness
- Aligning virtual reality with real operations
- Technological development
- Integration with current ATM systems
- Flexibility of the solution

- Perceptions of all stakeholders
- Ensuring Safety
- Impact on working methods
- Co-existing with the local tower
- Interactions of multiple ATCO roles and CWP

- Compliance with existing regulation
- Need to create new rules
- Standardised vs. made to order solutions
- Minimum standards/specifications

## Virtual Tower

**Virtual Tower** is where ATS are remotely provided through the use of computer generated images of the aerodrome, aircraft and vehicles and/or surveillance. Example of the types of technology which can be used in Virtual Towers include:

- Augmented Reality
- Head Mounted Displays
- Computer Modelling of Aerodromes
- Integration of Information
- Use in both Local and Remote Tower Environments

