

# Swedish Air Transport Society

Swedish Air Transport Society communicates facts and knowledge of the aviation industry in Sweden. We produce reports , policy briefs, and organizes seminars and hearings.

Members:

Swedish regional airports (SRF), GKN Aerospace , SAAB Aerospace, LFV and the The Swedish Aviation Industry Group. The organization represents the entire Swedish aviation industry.

- Airports
- Carriers
- Air Traffic Management
- Aerospace Industry

FÖRENINGEN

**Svenskt Flyg**



Remote Tower  
**CONCEPT**

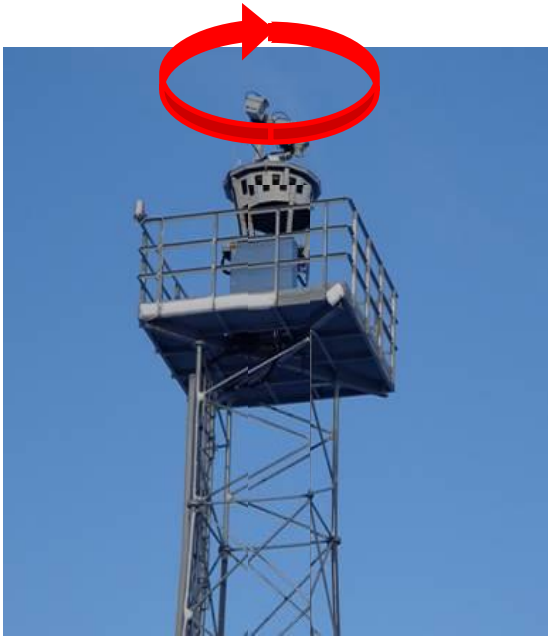
# TRADITIONAL ATS - REMOTE TOWER

- ▶ ATS provided from a tower, located at the airport to -
- ▶ The ability to provide ATS from a remote location



# REMOTE TOWER – TOWER VIEW & SOUND

- ▶ The tower view is captured with high resolution digital cameras
- ▶ Capturing up to 360 degree view
- ▶ A zoom camera replaces the ATCO binocular
- ▶ The zoom camera is mounted on a Pan-Tilt robot device – PTZ
- ▶ The airport sound is captured with 2 microphones

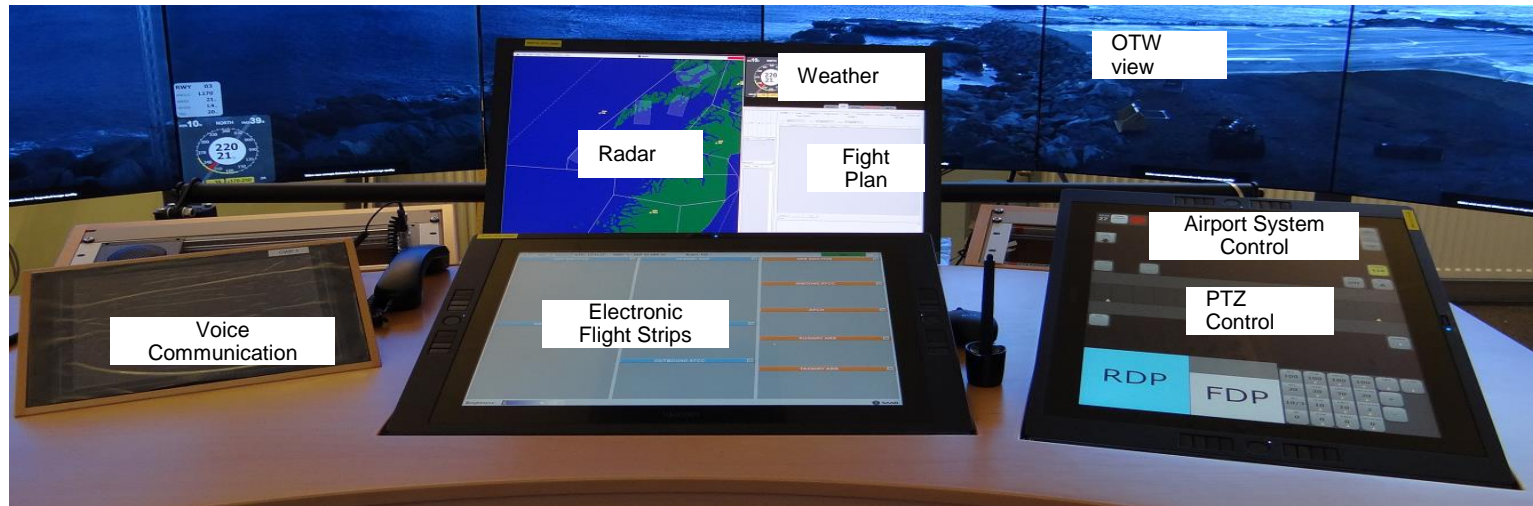


# REMOTE TOWER – CWP

- ▶ The Out The (Tower) Window (OTW) view is presented for the ATCO in the Controller Working Position (CWP)



# REMOTE TOWER – CWP SYSTEMS



➤ All airport systems are remotely controlled/monitored:

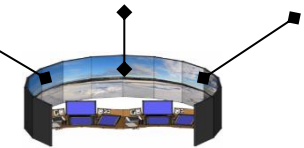
- Runway Lights
- Emergency Alert
- Navigation Aids
- Radio Communication
- Radar Data
- Flight Plan information
- Weather information
- .....

# REMOTE TOWERS - BENEFITS



- Co-locate the service in a centre where a number of airports are controlled:

- Cost reduction by more effective staffing
- Flexibility, ability to open and close an airport when needed – ATS on demand
- Increased safety, introduction of new tools, such as visual tracking and IR



- Cost reduction with remote tower:

- Establish remote tower instead of refurbishment or building a new tower
- Contingency solution at larger airports
- Solve problem with remote runways at an airport

- Multiple controlled Remote Tower - one person can provide ATS for more than one airport simultaneously

- Establish remote tower instead of refurbishment or building a new tower
- 3 SESAR simulations during 2013
- 2 validations at operational sites (Sweden and Norway) in 2014



To increase safety and ATCO/AFISO situational awareness:

Multiple Airports in one CWP

Cameras in new positions

Night vision camera

Infrared imaging provides a thermo graphic representation of the focused area

Automatic digital brightness adjustment

Target tracking

Runway incursion warnings

FOD warnings

Overlays

Record and Replay of video - All video data are recorded and stored for 30 days

Remote Tower

# ENHANCED FEATURES

# ALTERNATIVE CAMERA – FOG SITUATION



Enhanced situational awareness

# REMOTE TOWER – OPERATIONAL SYSTEM

- Contract awarded in January 2011
- Requirements addressing validation findings
- Two airports Sundsvall and Örnsköldsvik (S&O)
- The RTC is located in Sundsvall
- Delivery in Q3/Q4 2012
- Certification of the concept Q3Q4 2014

