



SEARIDGE
TECHNOLOGIES



HungaroControl
Straight to the point

First Certified Medium-Capacity Remote Tower: Budapest International Airport (BUD)

Medium-Capacity, Multi-Runway Remote Tower

Challenge

With air traffic levels forecasted to double by 2020 at Budapest International Airport (BUD), and the existing control tower reaching end of life, HungaroControl decided to introduce remote services to help them enhance air traffic controllers' operational efficiency, situational awareness and flight safety.

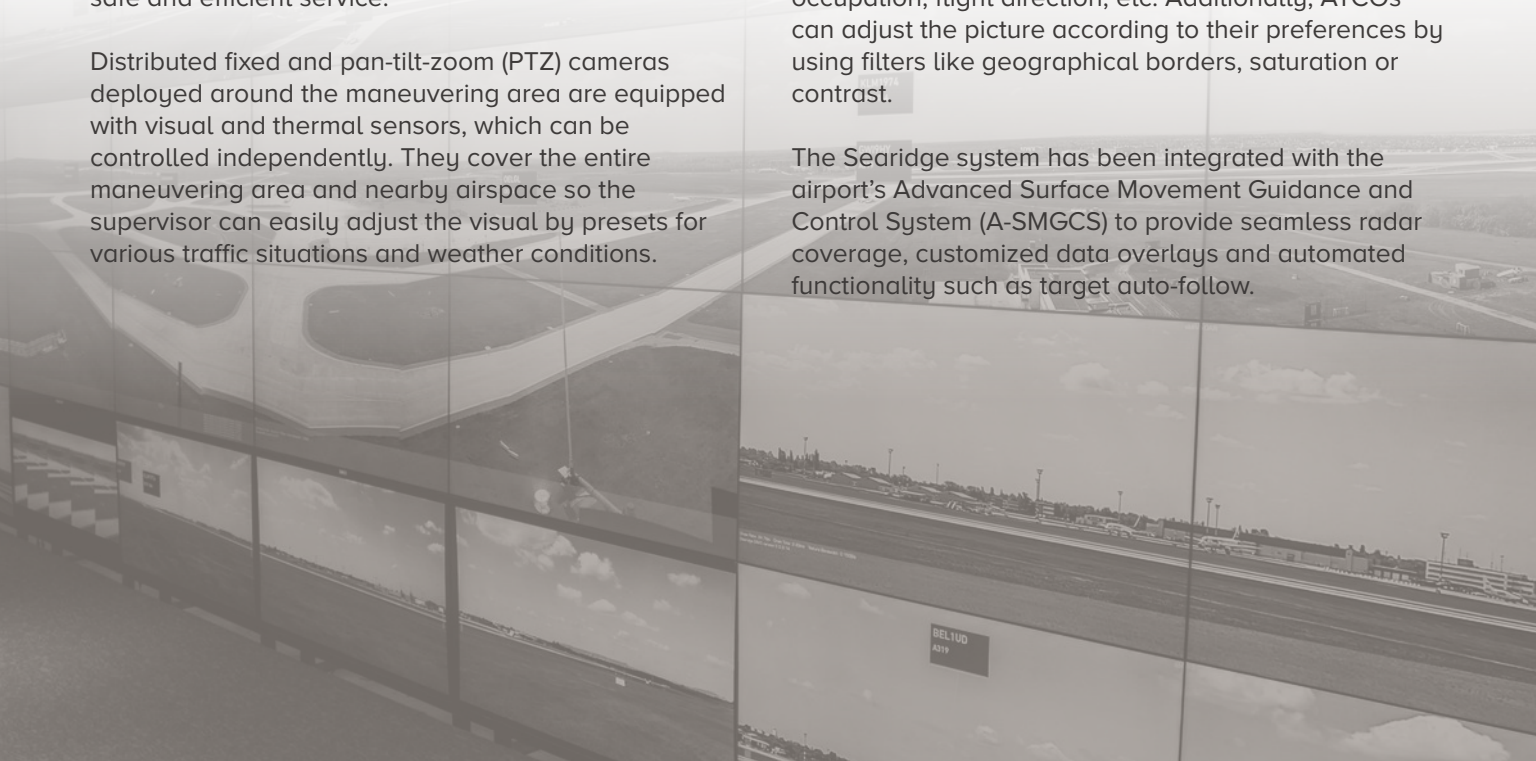
The Solution

The Searidge Remote Tower solution provides Hungarian air traffic controllers a series of panoramic 'out the window' views of the airfield on a video wall from a remote location, which delivers reliable, visual information to enable air traffic controllers to provide a safe and efficient service.

Distributed fixed and pan-tilt-zoom (PTZ) cameras deployed around the maneuvering area are equipped with visual and thermal sensors, which can be controlled independently. They cover the entire maneuvering area and nearby airspace so the supervisor can easily adjust the visual by presets for various traffic situations and weather conditions.

The captured video stream is placed on a large video wall providing common and role-specific visual information for ATCOs. The live picture can be labelled with graphical symbols and flight data for additional information to help manage situations such as runway occupation, flight direction, etc. Additionally, ATCOs can adjust the picture according to their preferences by using filters like geographical borders, saturation or contrast.

The Searidge system has been integrated with the airport's Advanced Surface Movement Guidance and Control System (A-SMGCS) to provide seamless radar coverage, customized data overlays and automated functionality such as target auto-follow.



The Road to Certification

The initial contract was awarded to Searidge in April 2016. In Fall 2016, HungaroControl and Searidge successfully completed live trials of its' integrated Remote Tower. Thirteen air traffic controllers were trained and participated in a combined total of 405 hours of passive shadow mode activities, which validated the system for progression to activate shadow mode live trials. Close to 600 movements were managed during the three-week trial period, without any limitation or constraints regarding the scheduled traffic. All responsibilities were delegated to a fully seated shift, including four ATCOs and a supervisor providing smooth and fluent air traffic control services.

Feedback from Controllers during the trial included: that the large-scale video wall display provided reliable, visual information and that controller workload was not changed because of the new

equipment. They agreed that they were able to handle the peak hour traffic from the remote tower facility and that the new functions and user interfaces provided useful and reliable information to control traffic safely.

The Searidge Remote Tower solution was certified in the Fall of 2017 by the Hungarian Civil Aviation Authority for live operations, without restrictions. This means that live service can be provided from the remote tower (rTWR) with no capacity restrictions and no shadow operation is needed from the current physical tower. This is the **first medium-capacity airport** where controlling arrival and departure air traffic and ground movements can be independent of the airport environment.



The Searidge Remote Tower solution was certified in 2017 for live operations, without restrictions.

Going Forward

† All the tower controllers have been trained and the certified system will be used for contingency operations, live training and as a back-up system, but by 2020, HungaroControl's goal is to operate a full-time remote tower in Budapest.

Although Budapest airport is not the world's first remotely controlled airport, it is the first of its size and complexity, with nearly 100,000 movements per year.

