



Digital Towers:

# The Future of Air Traffic Control







# Control towers have long been iconic structures on the airport landscape, projecting authority over the steady stream of arriving and departing aircraft.

Today, through innovative technology, super-fast fibre networks, and high definition cameras, we are seeing a revolution in air traffic management. Services traditionally provided from a control tower are now being offered from hundreds or even thousands of miles away in a separate control centre with **enhanced controller situational awareness, efficiency, and safety.**



# Remote Operations, a Reality:

Offering Improved Safety and Efficiency

*The concept of remote operations is not new in ATC – en route and approach control services have long been provided away from the airports they serve.*

Remote tower operations are no longer a theoretical way of providing ATC services in the future. Today, these operations are being implemented globally and we're seeing the many benefits these services can offer airports.

They include:

## Resilience:

Contingency in case of unplanned outage of main ATC facility; mitigates the risk of weather-induced restrictions.

## Capacity:

Opportunities for digital "smart" tower to provide additional capacity, either through runway optimisation or improved visual surveillance of operational areas which can enable increased throughput.

## Cybersecurity:

Digital tower enables the implementation of real-time cyber threat detection and response capability and robust remote access controls.

## Airport Expansion:

Supports airport expansion (ie: additional runways) by providing operational surveillance of new runways without the need to build a new ATC tower.

## Situational Awareness:

With multiple data sources integrated to provide a comprehensive/intuitive heads-up display, Controllers are given additional tools to make more informed decisions that will increase safety and efficiency of the airport.

## Cost Savings:

A digital tower is a cost effective alternative to building a new ATC tower. The minimum cost for a single position tower is \$3-7M USD. However, recent builds have shown significantly higher investments: Chicago O'Hare's second tower cost \$65 million, and its third cost an additional \$45 million. The new Las Vegas tower cost \$100 million, and the new SFO tower \$77 million (plus \$50 million to demolish the old tower).



# Remote Apps – Remote Towers – Digital Towers

*Searidge has been providing remote applications and remote tower services for over ten years.*

We spent the early years convincing customers that this was the future of air traffic management. It was a long, hard road, but today Searidge has successfully proven its vision and technology with some of the largest remote/digital deployments and projects in the industry. We pride ourselves on our series of industry firsts, which include: first operational video system in an ATC tower, first to offer seamless video-stitching for panoramic views, first certified medium-capacity remote tower, and first to introduce artificial intelligence for ATC and airport efficiency. Our experience and innovation has led to the most advanced Digital Tower solution on the market with the largest number of global users.

## Global Acceptance & Adoption

- 2018 — **HKG: Hong Kong** Digital Tower
- 2018 — **LHR: NATS** Digital Tower
- 2017 — **SIN: Changi** Digital Smart Tower
- 2017 — **BUD: Budapest** Remote Tower- Certified
- 2017 — **FNL: FAA/CDOT** Remote Tower
- 2016 — **ORY: Paris Orly** Remote Aerodrome Surveillance
- 2016 — **CDG: Paris Charles Du Gaulle** Remote Apron
- 2016 — **FSP & MQC: DSN** Remote Apron
- 2015 — **TIA: Albcontrol** Remote Surface Management
- 2014 — **DOH: Doha** Taxiway Lighting Automation, Remote Apron
- 2014 — **DXB: Dubai** Remote Apron
- 2013 — **OAK: Oakland** Remote Apron
- 2012 — **FLL: Fort Lauderdale** Virtual Apron Tower
- 2011 — **DXB: Dubai** Lighting Automation
- 2011 — **SEA: Seattle** Remote Apron & Non-Coop Tracking
- 2011 — **YUL: Montreal** A-SMGCS Gap Fill
- 2010 — **DFW: Dallas Fort-Worth** FAA Staffed NextGen Tower
- 2009 — **MLA: Malta** Remote Apron & Full Surface Surveillance
- 2008 — **AUH: Abu Dhabi** Remote Runway Surveillance

## Remote vs. Digital Tower

### + REMOTE TOWER

A remote tower, is typically characterized as a low volume operation controlled remotely from another airport or Remote Tower Centre (RTC).

### + DIGITAL TOWER

A digital tower, is a larger airport with multiple digital data sources such as surveillance and ATM data, where the opportunity to integrate useful data can prove beneficial. Digital applications will be a function in the digital tower: decision support tools, safety nets, weather data, flight data interfaces. Digital towers will evolve around the applications required, integration data available and development of new methods to manage traffic.



# The Searidge Difference:

Innovation-Versatility-Adaptability

*Searidge offers a unique approach to Remote and Digital Tower systems.*

Using a flexible platform that offers a variety of proven, best-in-class technologies – each specifically selected and tailored to best support the customer’s operational requirements, site and constraints – our platform optimizes functionality and efficiency for airports worldwide. We can easily integrate our software with the client’s existing systems and customize their hardware, work environment, and user interface to meet their distinctive needs. This approach positions us well to support not only small regional airports, but also large multi-faceted airports with complex operations.

- + Most Advanced Digital Tower Solution
- + Flexible Technology Platform
- + First Certified Mid-Size Remote Tower (Budapest Airport)
- + Panoramic Views
- + Most Advanced Video Stitching/Processing
- + 3D Map with Augmented Reality
- + AI-Enhanced Tracking and Detection (e.g. FOD detection, ramp management)
- + Intuitive HMI - ICWP
- + Flexible Display Configuration
- + Extensive ATC & Airport System Integration Experience
- + Support for Multiple Concepts of Operations (HIRO, medium/large, and low volume/complexity airports, Military)
- + Largest Number of Global Users
- + Support from Tender to Certification



# First Choice for Airports Big and Small

*From international hubs to small regional airports; from tender to certification, Searidge provides end-to-end support for your digital tower program.*

Partnering with Searidge helps pave the way to a successful digital tower implementation. Our technical expertise, experience integrating with best of breed ATC and airport technology, combined with regulatory and procedural expertise of our existing ANSP partners provide a solid foundation on which to build your digital tower strategy.

Searidge solutions have been in use around the world for over 10 years. We are the first to have a mid-size, multi-runway remote tower certified for operational use – without restrictions – at Budapest airport, making it the largest remote tower in the industry. Acceptance of the capabilities and benefits of remote operations is growing and Searidge is at the forefront of some of the largest projects in the industry, including those in Singapore, Hong Kong and United Kingdom.



## Contact us

to learn how we can help with your specific remote service or digital tower project.

[searidgetech.com](http://searidgetech.com)

1 866 799 1555

[info@searidgetech.com](mailto:info@searidgetech.com)

