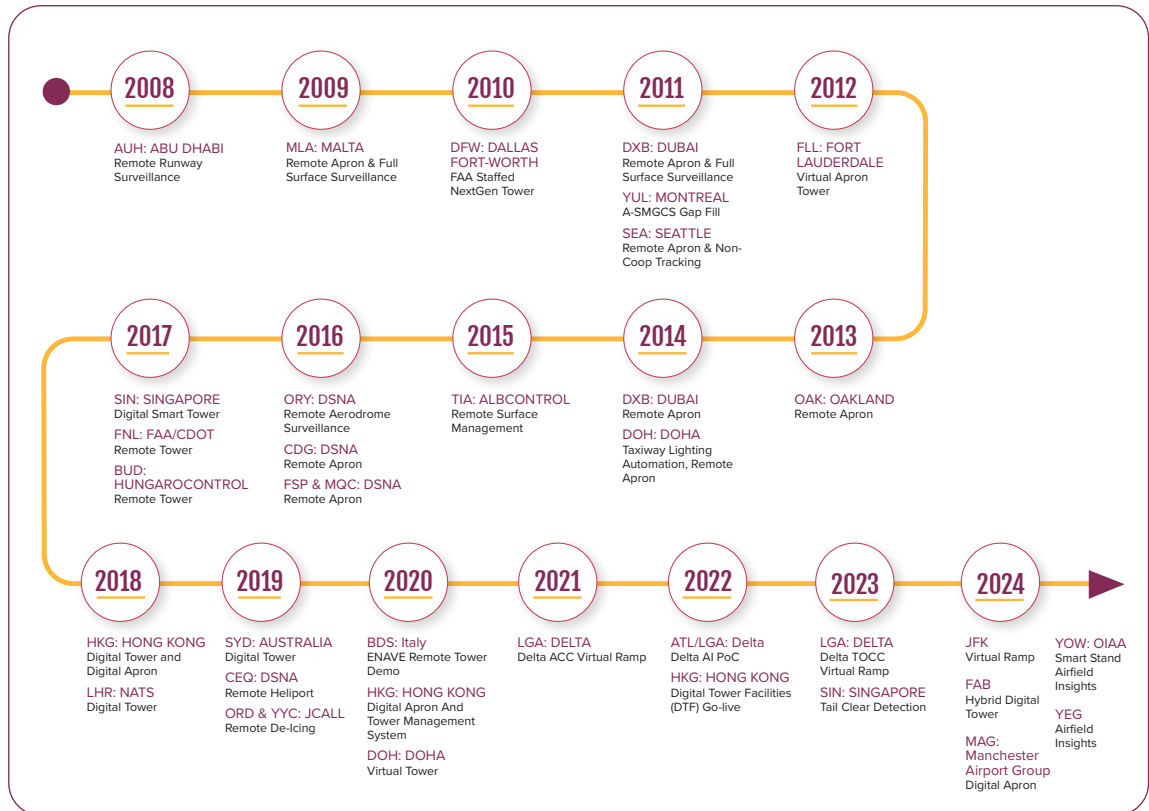# CORPORATE OVERVIEW

**Searidge Technologies** develops innovative technology to improve safety and efficiency in the aviation market. We are a global leader and preferred partner for Digital Towers and Advanced Airport solutions. Through operational enhancements, collaboration, AI and automation, our team helps our customers proactively transform the way they offer and deliver services to meet changing demands.

We have worked exclusively with Airports, Airlines and Air Navigation Service Providers (ANSPs) worldwide for over 15 years and pride ourselves on our "first of" track record including the first to have an operational video system in an air traffic control tower, first to introduce Artificial Intelligence (AI) for air traffic control and airport efficiency and first deployment of a single digital platform for collaboration between an airport and ANSP.

Searidge has technology at over 40 sites in 25 countries, including the largest digital tower projects in the industry at Hong Kong, Singapore and the United Kingdom.

## 2008
**AUH: ABU DHABI**
Remote Runway Surveillance

## 2009
**MLA: MALTA**
Remote Apron & Full Surface Surveillance

## 2010
**DFW: DALLAS FORT-WORTH**
FAA Staffed NextGen Tower

## 2011
**DXB: DUBAI**
Remote Apron & Full Surface Surveillance

**YUL: MONTREAL**
A-SMGCS Gap Fill

**SEA: SEATTLE**
Remote Apron & Non-Coop Tracking

## 2012
**FLL: FORT LAUDERDALE**
Virtual Apron Tower

## 2013
**OAK: OAKLAND**
Remote Apron

## 2014
**DXB: DUBAI**
Remote Apron

**DOH: DOHA**
Taxiway Lighting Automation, Remote Apron

## 2015
**TIA: ALBCONTROL**
Remote Surface Management

## 2016
**ORY: DSNA**
Remote Aerodrome Surveillance

**CDG: DSNA**
Remote Apron

**FSP & MQC: DSNA**
Remote Apron

## 2017
**SIN: SINGAPORE**
Digital Smart Tower

**FNL: FAA/CDOT**
Remote Tower

**BUD: HUNGAROCONTROL**
Remote Tower

## 2018
**HKG: HONG KONG**
Digital Tower and Digital Apron

**LHR: NATS**
Digital Tower

## 2019
**SYD: AUSTRALIA**
Digital Tower

**CEQ: DSNA**
Remote Heliport

**ORD & YYC: JCALL**
Remote De-Icing

## 2020
**BDS: Italy**
ENAVE Remote Tower Demo

**HKG: HONG KONG**
Digital Apron And Tower Management System

**DOH: DOHA**
Virtual Tower

## 2021
**LGA: DELTA**
Delta ACC Virtual Ramp

## 2022
**ATL/LGA: Delta**
Delta AI PoC

**HKG: HONG KONG**
Digital Tower Facilities (DTF) Go-live

## 2023
**LGA: DELTA**
Delta TOCC Virtual Ramp

**SIN: SINGAPORE**
Tail Clear Detection

## 2024
**JFK**
Virtual Ramp

**FAB**
Hybrid Digital Tower

**MAG: Manchester Airport Group**
Digital Apron

**YOW: OIAA**
Smart Stand Airfield Insights

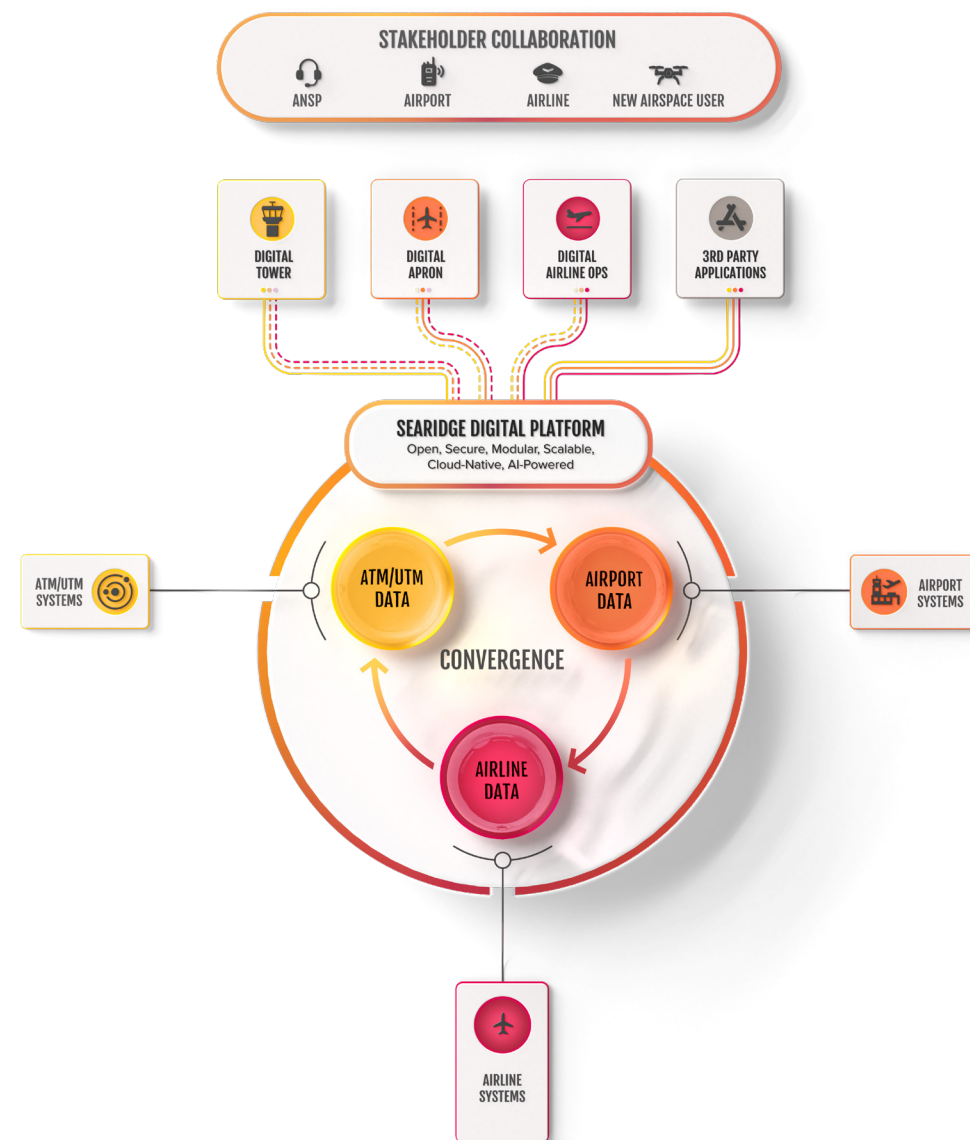**YEG**
Airfield Insights

## SEARIDGE
TECHNOLOGIES

As the aviation industry builds back from the pandemic and prepares to meet future capacity challenges, airports, airlines and ANSPs will need to transform their operations to respond to cost pressures and to improve operational efficiency through the use of automation and contingency. Greater collaboration and innovation will be needed to unlock future growth by supporting leaner operations and resolving operational constraints. Advanced digital technology has steadily taken the place of conventional systems to drive a convergence between airport/airside and tower operations, merging previously separate processes. The next step is recognising the additional benefits that come from digital transformation, in particular the value of sharing data between industry stakeholders.

## Foundation for Collaboration & Growth: The Searidge Digital Platform

To create the optimal collaborative ecosystem, Searidge designed and developed a Digital Platform to support multiple applications and underpin future development. The backbone of the Platform consists of non-proprietary components, making it an ecosystem that emphasizes openness and minimizes data silos and vendor lock-in. Through its modular and hardware agnostic design, the ecosystem can scale with the operation regardless of specific equipment manufacturers and models. Built on a cloud native technology stack, it can seamlessly be deployed within a private on-premises cloud (virtual server) or a public cloud.

The Digital Platform also provides capabilities such as communication encryption, data integrity checking, and safety monitoring for all information within the platform, providing a facility for aviation stakeholders to share data with each other in a way that adheres to cybersecurity best practices and provides high availability/fault tolerance.
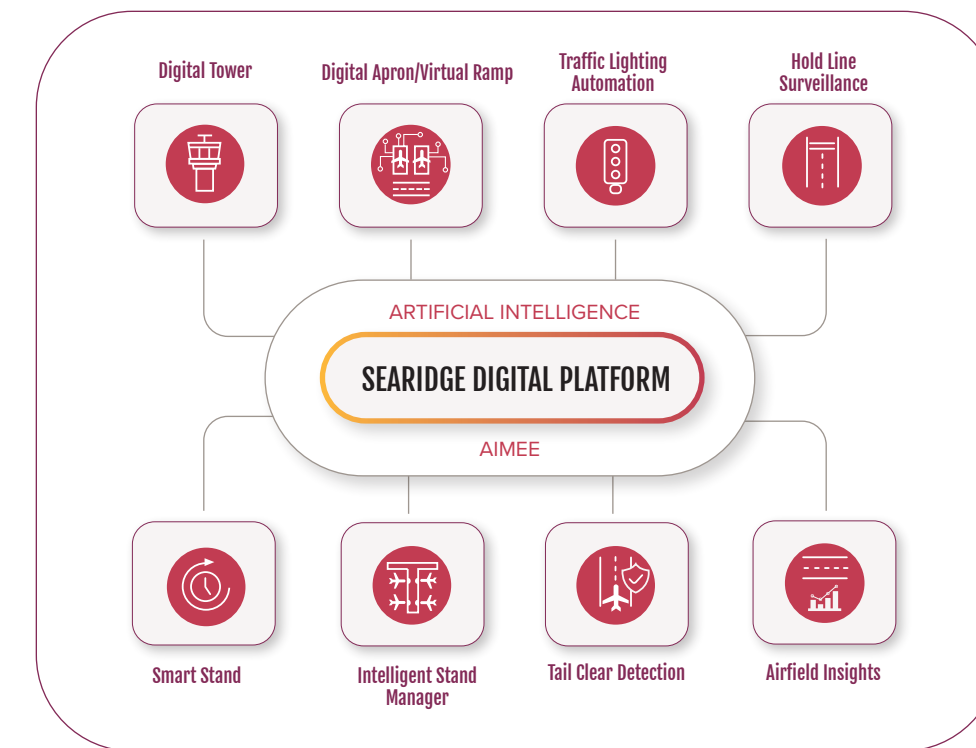


## Showcasing Value of Convergence

Hong Kong International Airport (HGK) is the first airport to recognize the value of convergence by creating an ecosystem around the Searidge Digital Platform. Connecting operators, users and service providers by means of a single, common data ecosystem, this open, participative infrastructure continues to expand as more microservices are added. Importantly, users continue to access further value from the information available and direct their efforts towards building more efficient operations.

## Unlocking the Potential: Artificial Intelligence

Aimee is our advanced neural network framework for the development of artificial intelligence based solutions for ATC and airport efficiency. Searidge has been pioneering the use of AI in the industry for several years with its vision processing/remote tower technology. Leveraging this experience into the development of Aimee and extending the platform to include new functional areas has laid the foundation for an exciting new era in ATM technology. With Aimee we are making it easy for our customers to conceive, develop and implement new operational solutions that enhance safety and improve efficiency.



# FIRST IN THE INDUSTRY

Hong Kong International Airport: First collaboration between an airport and an ANSP for a single digital platform and the largest digital deployment to date. This collaboration shows the way forward in airport digitalization, a single platform that unites airport stakeholders to enhance safety, operational resilience, interoperability and collaborative decision making.
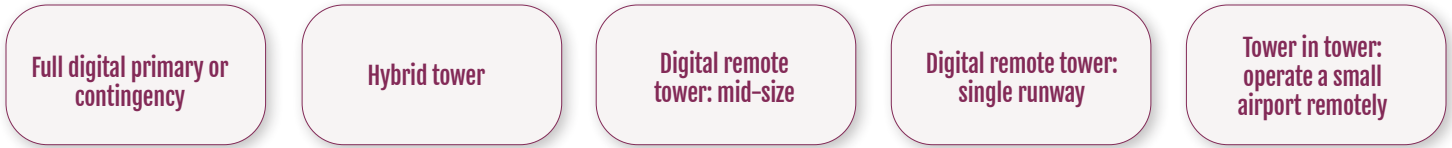
## OVER 98% ACCURACY

Searidge is collaborating with parent company NATS and UK Civil Aviation Authority (CAA) to develop the safety case to support the introduction of AI applications into safety-critical air traffic control operations. The first of these efforts is the development of a real-time hold line surveillance system to monitor aircraft exiting the runway. Tested in a performance study with 30,000 movements at London Heathrow, the technology achieved accuracy rates above 98% during all conditions of light and climate, with the only performance correlation identified as camera placement. A separate study in Singapore with modified camera locations achieved even higher accuracy.

## Digital Tower: Power and Flexibility

The reality is that a Digital Tower can be whatever an airport needs it to be - from a turnkey solution that replicates operations more cost-efficiently, to something underpinned by industry-leading AI that addresses complex and specific operational challenges. Almost anything is possible if we allow ourselves to explore what this technology is really capable of.

Searidge offers the most advanced Digital Tower solution with five operational models to support international hubs to small regional airports:

| Full digital primary or contingency | Hybrid tower | Digital remote tower: mid-size | Digital remote tower: single runway | Tower in tower: operate a small airport remotely |

## THE UNDENIABLE BENEFITS

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

**CAPACITY**
Opportunities for a digital "smart" tower to provide additional capacity, either through runway optimisation or improved visual surveillance of operational areas, increasing 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 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 the safety and efficiency of the airport.

**COST SAVINGS**
A digital tower is a cost effective alternative to building a new ATC tower. Recent tower builds: Las Vegas tower total cost coming in over $100 million, and the SFO tower $151 million.

## Leading the Way in Digital Apron Management

We're seeing significant interest from many airports and airlines who want a scalable approach to modernizing their operations. The Searidge Digital Platform enables customers to select any desired mix of features, including digital apron services, gate turnaround analytics (Aimee), and ground surveillance apps that can be run on mobile devices.

Digital Apron Management has expanded rapidly from a visual to a data domain. It has moved beyond the initial smart stand objective of streamlining processes and enhanced efficiency to create a digital environment that adds an extra layer of safety, monitors human actions, and logs historical data. This allows analysis and machine learning to help future performance and predict future events. With more than five years' operational experience using AI tools in the airport environment, Searidge's Digital Apron Management System has evolved to support an increasing number of data driven applications. In addition to video imagery, customers can use the platform to build a data dashboard to support activities such as stand allocation and management, automated alerts, safety nets, and interactions with ATC.

## EXPERIENCE THE BENEFITS

Support Decision Making

Optimize stand allocation & associated resources

Improve on-time performance (OTP)

Coverage in low-visibility operations

Improve turnaround event accuracy to prevent departure delays

Assist holistic planning

Data integration: qualitative/quantitative parameters, including stand availability, ramp operation status, etc.

Rich integrated HMI combining alerts and video monitoring for efficient system management