The world’s first digital tower went live in Ornskoldsvik, Sweden, in April 2015, linking to a control centre 150kms away in Sundsvall.

What if a camera fails? What if the communications link fails?

Digital towers land in the UK

Digital tower trials are underway all over the world. Controllers use high definition cameras and remote sensing technology to safely and securely manage air traffic from a location away from the airport. All operational data is transferred via a secure super-fast network to a custom built digital tower operations room at NATS’ Swanwick air traffic control centre.

Wrap around screens give the controllers an unparalleled view of the entire airport. It would be no different to the low visibility (bad weather) procedures used today – every controller has an identical view of the entire airport.

Radar and weather data shown on a single Head-Up Display. Aircraft call signs displayed over aircraft as they move on screen for extra clarity. On-screen labels can be added to show taxiway boundaries. The airfield can be geofenced to show operational restrictions such as closed taxiways.

For Air traffic Controllers

Displays enhanced with augmented reality style maps and aircraft data for increased controller awareness. Laser range finder for measuring distances to pin point accuracy. Pan, tilt and zoom cameras to view any part of the airfield in unprecedented detail. High definition cameras provide a full 360 degree view of the airport. Other cameras like the pan/tilt/zoom cameras can compensate and fill gaps.

Mitigating Risks

There are two totally separate and independent data feeds running that enter at different parts of the building. Both feeds can carry image and voice communications data. A third feed can also carry communications if required.

Digital towers: the future is here.

To keep up to date with the latest news subscribe and follow NATS on social media.

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Current Situation – The Tower Building

The air traffic control tower is often an iconic airport landmark.

Traditionally every airport has a conventional air traffic control tower, but they don’t come cheap. They cost millions to build and not all parts of the airfield are always visible.

In comparison, going digital is more cost effective and offers real operational benefits.

A Digital Alternative

The air traffic control tower is a pillar of trust, often the last line of defense. How do we start to think about going digital? Digital towers can offer equivalent levels of performance, but in a more cost effective way.

Digital tower trials are underway all over the world.

Benefits

For the Airport

Tried, Tested, and Trusted

Digital towers are under consideration for over 200 airports worldwide.

Digital tower trials are underway all over the world.

The Technology

Digital display of a full 360 degree view of the airport

Large screen folder in a custom built digital tower operations room at NATS’ Swanwick air traffic control centre

Digital tower trials in a UK airport

For air traffic controllers

Every controller has an identical view to the entire airport.

Displays enhanced with augmented reality style maps and aircraft data for increased controller awareness.

Laser range finder for measuring distances to pin point accuracy.

Pan, tilt and zoom cameras to view any part of the airfield in unprecedented detail.

High definition cameras provide a full 360 degree view of the airport. Other cameras like the pan/tilt/zoom cameras can compensate and fill gaps.

Other cameras for the periphery such as lasers and pan/tilt/zoom provide additional situational awareness and increased awareness.

Mitigating Risks

What if a camera fails?

There are two totally separate and independent data feeds running that enter at different parts of the building. Both feeds carry voice communications data. A third feed can also carry communications.

What if the communications link fails?

Digital towers in the UK

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