

# LUMADA VIDEO INSIGHTS FOR SMARTER AIRPORT AND PORT OPERATIONS

**HITACHI**  
Inspire the Next

Video intelligence and analytics can help airports and ports become smart spaces that are safer, more secure, and improve the customer experience.

## Learn how airports and ports succeed with Hitachi

Airports help get us where we need to go, but they also contribute substantially to the global economy. Implementing IoT solutions across airports helps them run smoothly and safely, while providing travelers with the best experience possible.

AIRPORTS CARRY  
**4 BILLION**  
PASSENGERS ANNUALLY  
TO THEIR DESTINATIONS  
AROUND THE WORLD



**30% DECREASE**  
IN TERMINAL SPENDING FOR EVERY ADDITIONAL 10  
MINUTES A PASSENGER SPENDS IN A SECURITY LINE.<sup>2</sup>

AND BY 2036  
THAT NUMBER WILL  
NEARLY DOUBLE TO  
**7.8 BILLION**<sup>1</sup>



AIRPORTS ARE ALSO  
RESPONSIBLE FOR   
**\$1.1 TRILLION**  
OF ECONOMIC OUTPUT AND  
**9.6 MILLION**  
JOBS IN THE U.S. ALONE.<sup>3</sup>

### HOW CAN AIRPORTS AND PORTS BECOME SMARTER?

#### OPERATIONAL INTELLIGENCE

When do we need to send more staff to keep people moving?



People Counter



Queue Detector

#### BUSINESS INTELLIGENCE

How can retailers in the terminals be more successful?



Activity Visualizer



People Counter

#### SECURITY

How can we keep people safe and quickly detect threats?



Hitachi Live Face Matching



Direction Controller



Intrusion Detector



Object Detector

## VIDEO ANALYTICS

Video is the most underutilized source of data today.

A wide range of video analysis capabilities from Hitachi enable airports and ports to make their existing video capture systems much more effective.

#### Activity Visualizer

Analyzes motion duration and dwelling times for statistical purposes.

#### People Counter

Automatically counts people passing a defined area.

#### Queue Detector

Analyzes queues to detect overcrowding.

#### Parking Space Analyzer

Detects occupied parking spots and measures parking duration.

#### Privacy Protector

Privacy-protected video that pixelates humans and vehicles.

#### Traffic Analyzer

Automatically counts and classifies vehicles in defined areas.

#### Video Enhancer

Optimizes a video stream by removing snow, rain and fog, and by stabilizing to provide a clear image for the operator.



#### License Plate Recognizer

Compares license plates on vehicles with specific lists.

#### Direction Controller

Automatically detects objects moving in a restricted direction.

#### Intrusion Detector

Detects persons or vehicles intruding into critical areas.

#### Hitachi Live Face Matching

Matches faces in real time and searches for similar faces.

#### Object Detector

Detects objects that enter or leave a scene and remain steady for a defined time.

#### Traffic Counter

Counts vehicles on the road.

#### Camera Health Monitor

Detects whether a camera was tampered with or the image quality has decreased over time.

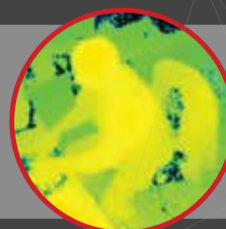
## 3D LIDAR



3D lidar uses lasers to visualize the world, similar to how sonar uses sound.



Lidar is used to create a real-time, three dimensional view that captures no personally identifiable information (PII).



Lidar data is analyzed by artificial intelligence (AI) to provide new insights and alerts where video may not work well or be appropriate.

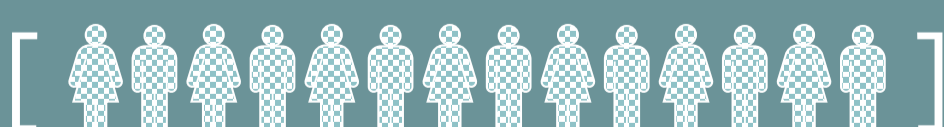
#### LIDAR USE CASES:

- Automatically predict when planes will run out of overhead bin space, improving on-time performance.
- Understand use patterns of everything from products to facilities, lounges, and furniture to gate congestion.
- Detect birds or potential collisions on tarmac or runways, day or night.

## PRIVACY PROTECTION

Privacy protection is an important aspect of any video security system and automated privacy protection can reduce risk and liability.

- COMPLETE PRIVACY:** The entire body is pixelated so no personally identifiable information (PII) is captured.
- TRANSPARENCY:** Any use of raw footage for investigations requires ID verification and is tracked to ensure compliance.
- 3D LIDAR:** Generates laser point cloud that provides rich insights without any private information.



## WHAT CAN YOU DO WITH VIDEO INSIGHTS?



Improve efficiency, make smarter business decisions, and improve public safety and security with Hitachi Smart Spaces solutions and Lumada Video Insights.

Learn more at [hitachivantara.com](http://hitachivantara.com).

<sup>1</sup> <http://www.iata.org/pressroom/pr/Pages/2017-10-24-01.aspx>

<sup>2</sup> <https://thehustle.co/airport-food-expensive/>

<sup>3</sup> <http://airportsforthefuture.org/did-you-know/files/2014/09/Economic-Impact-of-Commercial-Aviation-2013.pdf>