

## EXECUTIVE SUMMARY

# Improve Your Safety and Operations with 3D Lidar and Video Intelligence

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## KEY TAKEAWAYS

- Smart spaces use video, IoT, analytics, and AI-driven insights to improve efficiencies.
- 3D lidar keeps people and assets safe while protecting privacy.
- 3D lidar and video solutions can help manufacturers limit the spread of COVID-19.
- Hitachi Vantara helps manufacturers adapt quickly to the “new normal.”

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# Improve Your Safety and Operations with 3D Lidar and Video Intelligence

## OVERVIEW

Safety and operational efficiencies are always top of mind for manufacturers to stay competitive, reduce injury costs, and avoid reputational risk. COVID-19 is forcing businesses to change how and where they operate, making these two focal points even more challenging as safety requirements grow, potentially leading to new areas of inefficiency for connected workers. But as manufacturers deploy innovative solutions to mitigate the impacts of COVID-19, they should keep in mind how these solutions can advance their broader health, safety, and environmental goals, and how these goals align with the broader organizational strategy.

Video intelligence and 3D lidar help manufacturers collect and analyze data that improves safety and operations. Solutions like Hitachi Vantara's Lumada Video Insights help manufacturers ensure their operations are safe and efficient, and identify areas for improvement.

## CONTEXT

Mark Jules and James Destro discussed how 3D lidar and video intelligence can be used to help manufacturers

improve operational efficiency and safety, both in response to COVID-19 as well as with an eye toward the future.

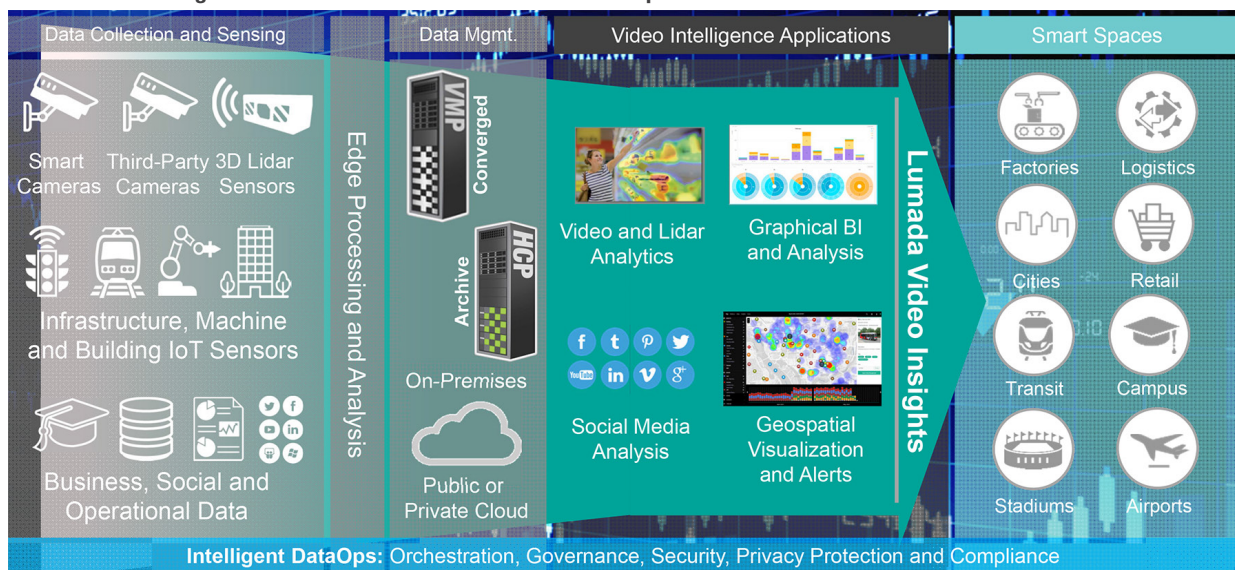
## KEY TAKEAWAYS

**Smart spaces use video, IoT, analytics, and AI-driven insights to improve efficiencies.**

Video, the Internet of Things (IoT), analytics, and artificial intelligence (AI) are being used within urban and industrial areas to create smart spaces. The data collected from and analyzed by these technologies is being used to deliver insights to people, facility managers, and machines to improve organizational efficiency and quality of life.

Using video from smart cameras and existing security cameras, organizations can capture specific information about objects, including size, position, and movement. Hitachi Vantara's Lumada Video Insights solution uses information collected from cameras and other sources across the business, including 3D lidar sensors, IoT sensors, and business, social, and operational data. The data sources provide analytics and alerts for these smart spaces.

**Lumada Video Insights: End-to-End Portfolio to Enable Smart Spaces**



# Improve Your Safety and Operations with 3D Lidar and Video Intelligence

## 3D lidar keeps people and assets safe while protecting privacy.

3D lidar is one of the key sensor technologies Lumada Video Insights uses to collect data. The laser technology shows movement in detail while protecting personal privacy by pixelating or color-masking faces or people.

## 3D lidar allows us to capture the 3D data we want, but without any kind of privacy infringement.

*Mark Jules, Hitachi Vantara*

In a manufacturing environment, 3D lidar is used to keep people and assets safe. Common uses for 3D lidar in manufacturing environments are:

- Intrusion detection
- Left-behind objects
- System stoppages
- Quality control
- Safety, such as slip and fall, incorrect machine use, and whether or not safety equipment is being used

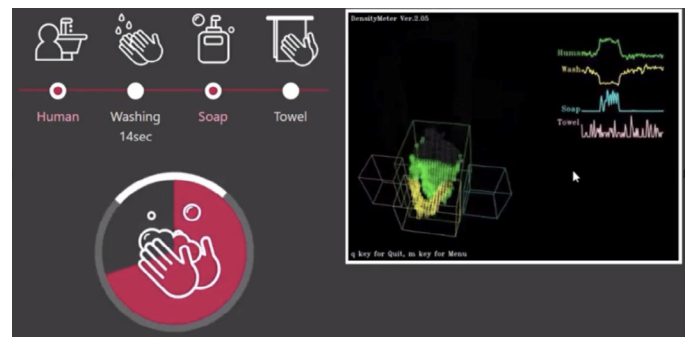
In addition to collecting the data, the Hitachi Visualization Suite (HVA) archives captured videos, lidar renderings, and metadata for incident and case management. Manufacturers also use these videos and data to understand safety and efficiency challenges in their environment so that they can be resolved.

## 3D lidar and video solutions can help manufacturers limit the spread of COVID-19.

Manufacturers face new safety challenges as they re-open facilities and bring back employees in the midst of the COVID-19 pandemic. Using video solutions, including thermal cameras, and 3D lidar,

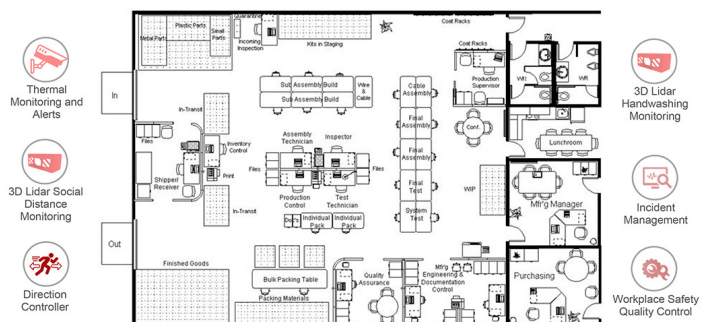
manufacturers can put in place a first layer of detection and protection without sacrificing employee privacy.

- **Detect and alert for elevated body temperatures** using thermal cameras. Alerts for temperatures above a preset threshold show the location of detection in real time and can be stored for later analysis.
- **Verify proper handwashing behavior** among employees using 3D lidar, analyzed by AI, without capturing personal information. Alerts and analytics can be created to track handwashing compliance, so that employee groups and locations not following proper procedures can be targeted for training and enforcement.



- **Enforce social distancing** with 3D lidar. Alerts and analytics can be generated from AI-analysis to track people without identity information, count people in areas, and ensure that social distancing policies, such as spacing, are followed.

### Factory Deployment Example





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## Hitachi Vantara helps manufacturers adapt quickly to the “new normal.”

While COVID-19 is immediately changing how and where businesses—including manufacturers—work, many manufacturers were already working to transition to a more general “new normal” of Industry 4.0. Hitachi Vantara helps manufacturers ease the transition to pandemic operations, as well as to the smart manufacturing and smart spaces that are necessary for the factories of the future.

Recognizing that the manufacturing industry faces the challenges of realizing value from transformation projects, Hitachi Vantara helps manufacturers accelerate the vision-to-value in three main steps.

1. A **preliminary assessment** identifies goals, objects, challenges, and themes.
2. The **define and assess** phase further identifies solutions that can help deliver outcomes.

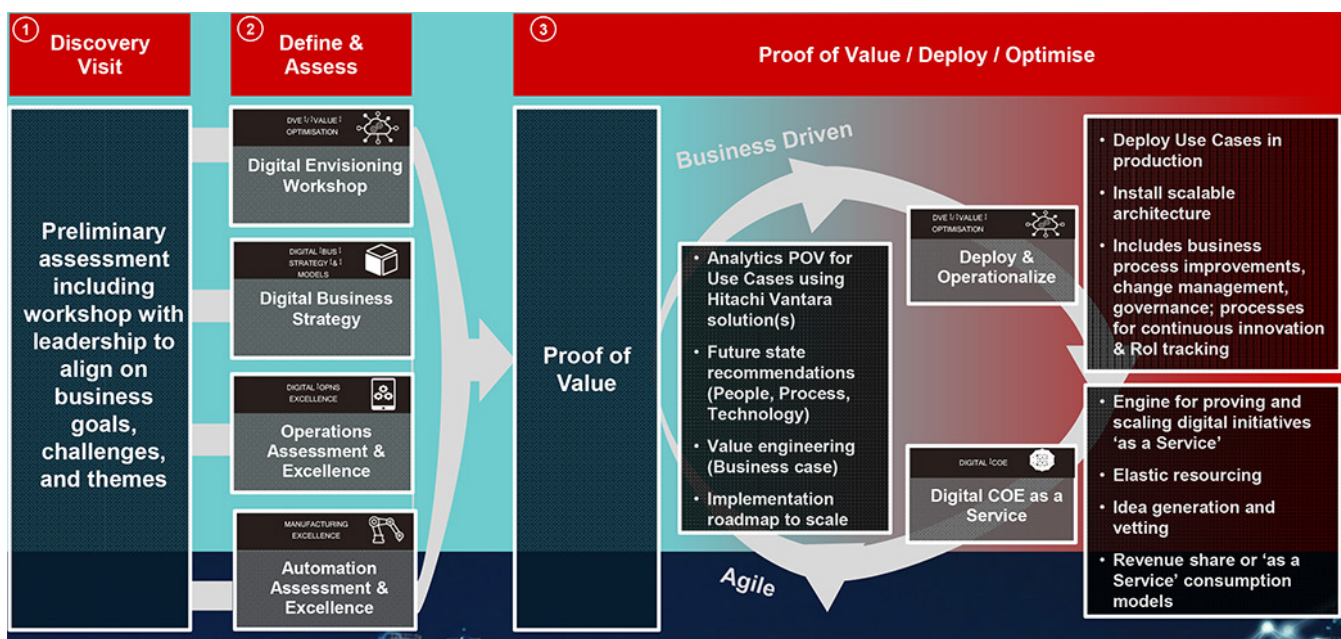
3. Finally, the **proof of value** phase allows manufacturers to see that the solution delivers value.

**We accelerate vision-to-value by aligning stakeholders and getting trusted advisors and practitioners in to help drive the overall transformation companies are working toward.**

*James Destro, Hitachi Vantara*

Hitachi Vantara uses its solutions in its own factories to great accolades. Hitachi’s Omika Works, which uses Lumada-based technology solutions, was recognized as an “Advanced 4th Industrial Revolution Lighthouse” by the World Economic Forum. Customers have also experienced success with Lumada both in preparing for the future and in transforming during COVID-19.

### Accelerate Vision-to-Value



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## Examples of Customer Successes

Company	Transformative Vision	Implementation
Precision Drilling	Oil and gas rigs for the future	Using 3D lidar and video, measuring previously unmeasurable equipment and processes to understand how and where transformation can happen and improve efficient operations.
Ericsson	Factory of the future	Creating a fully automated factory using a 5G electronics assembly line. The first step is to process analytics for visibility in delays and defects.
Logan Aluminum	Quality, safety, and environment steward	Driving innovation around quality, safety, and the environment. Also using the solution to help support a spike in aluminum production due to COVID-19.

## OTHER IMPORTANT POINT

- Solutions go beyond COVID-19. When the pandemic is eventually over, manufacturers won't be left with useless equipment and software. Hitachi Vantara's Lumada solution can be implemented with COVID-19 safety and detection in mind and then extended to support Industry 4.0 and other business outcomes at any time. This includes things like operator procedure observation and analysis, visualizing activity in an area with employee movement heatmaps, safety alerts for personnel occupancy when vehicles like forklifts are in the area, and waste build-up alerts that indicate bins need to be emptied.

## BIOGRAPHIES

### Mark Jules

Vice President, Smart Spaces and Lumada Video Insights, Hitachi Vantara

Mark Jules is Vice President at Hitachi Vantara. He heads up Smart Spaces and Video Intelligence, which delivers software and hardware solutions that support safer, smarter and more efficient communities, businesses, and organizations through the Internet of Things (IoT), video innovations, and connected intelligence. Mark joined Hitachi in 2014, following its acquisition of the Avrio RMS Group, a public safety solutions company, where he served as the company's CEO for more than a decade. Prior to Avrio, he was the President and Founder of Protean Solutions, a provider of mobile platforms for battlefield and emergency communications.

### James Destro

General Manager, Manufacturing Practice, Hitachi Vantara

James Destro currently heads the Manufacturing Practice at Hitachi Vantara. His practice focuses on delivering high value outcomes through deep domain consulting and digital solutions that leverage advanced analytics to Hitachi's manufacturing customers globally.

James' background includes more than 20 years of industrial digital solutions leadership in the manufacturing, oil and gas, chemicals, and aviation industries.