SAKE
Improves worker safety
by NTT DATA

The Solution for Managing Workplace Safety through AIoT

SAKE is an IoT-based worker safety platform powered by Artificial Intelligence for proactive hazard detection, designed to enhance workplace safety across industrial facilities while ensuring full GDPR compliance.

Market Overview

Reducing workplace accidents and their impact has become a top priority for industrial facility managers, placing employee health and safety at the forefront of operational concerns.

As a result, organizations are increasingly focusing on specialized solutions that not only ensure regulatory but also enhance data quality and accelerate digital maturity across the enterprise.

Studies show that investing in environmental, health, and safety compliance helps lower accident rates and related costs while boosting productivity, trust, and employee satisfaction.

Yet the HSE (Health, Safety & Environment) market still faces major challenges: limited scalability, lack of automation, high integration costs, and growing operational expenses driven by ongoing maintenance requirements. Moreover, some systems rely on specific smart PPE (Personal Protective Equipment), creating further issues in replacement management and maintenance.

Introducing SAKE

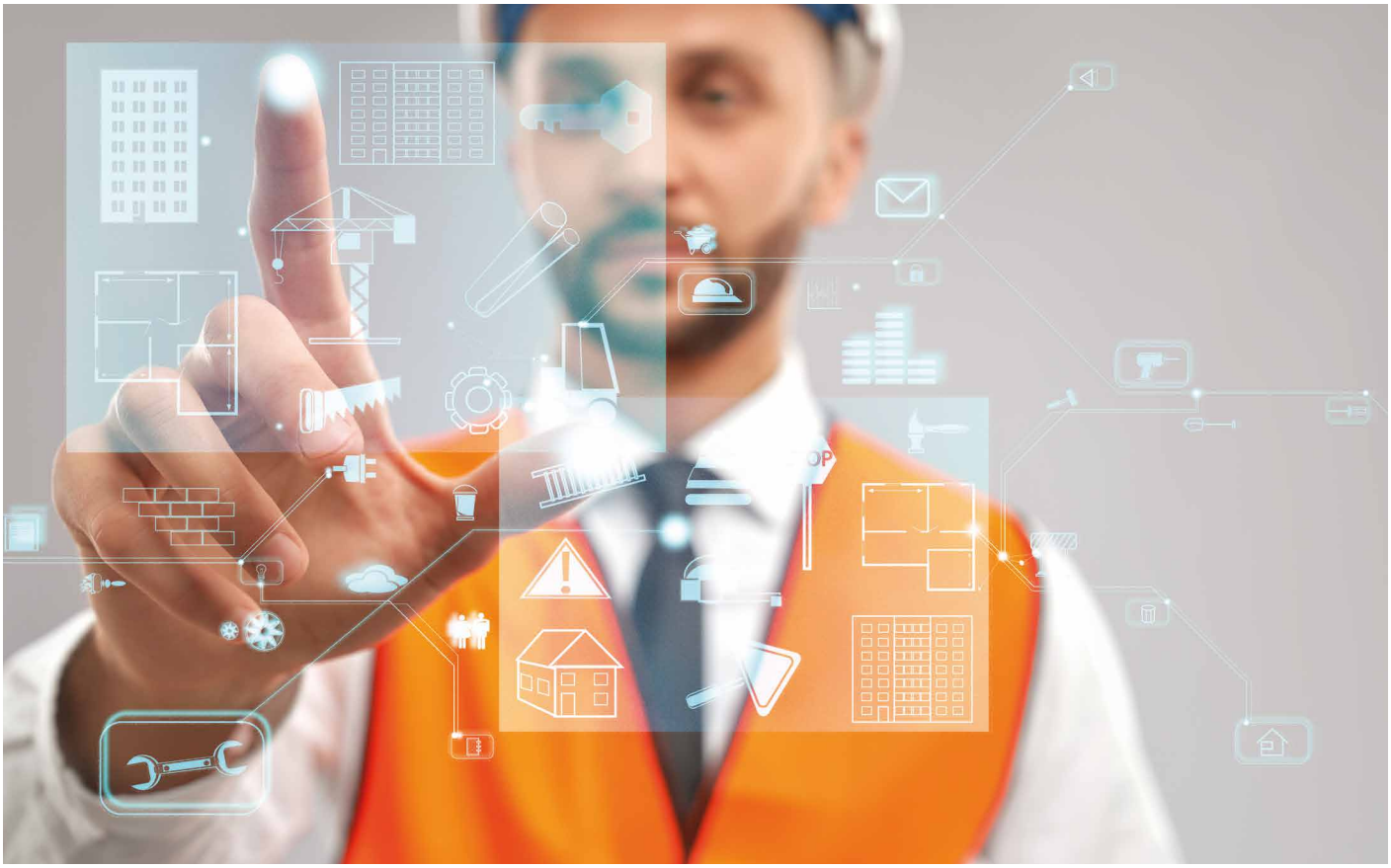
NTT DATA positions itself as a strategic partner in the digital transformation of workplace safety. SAKE, its innovative HSE management platform, tackles the sector's key challenges by offering:

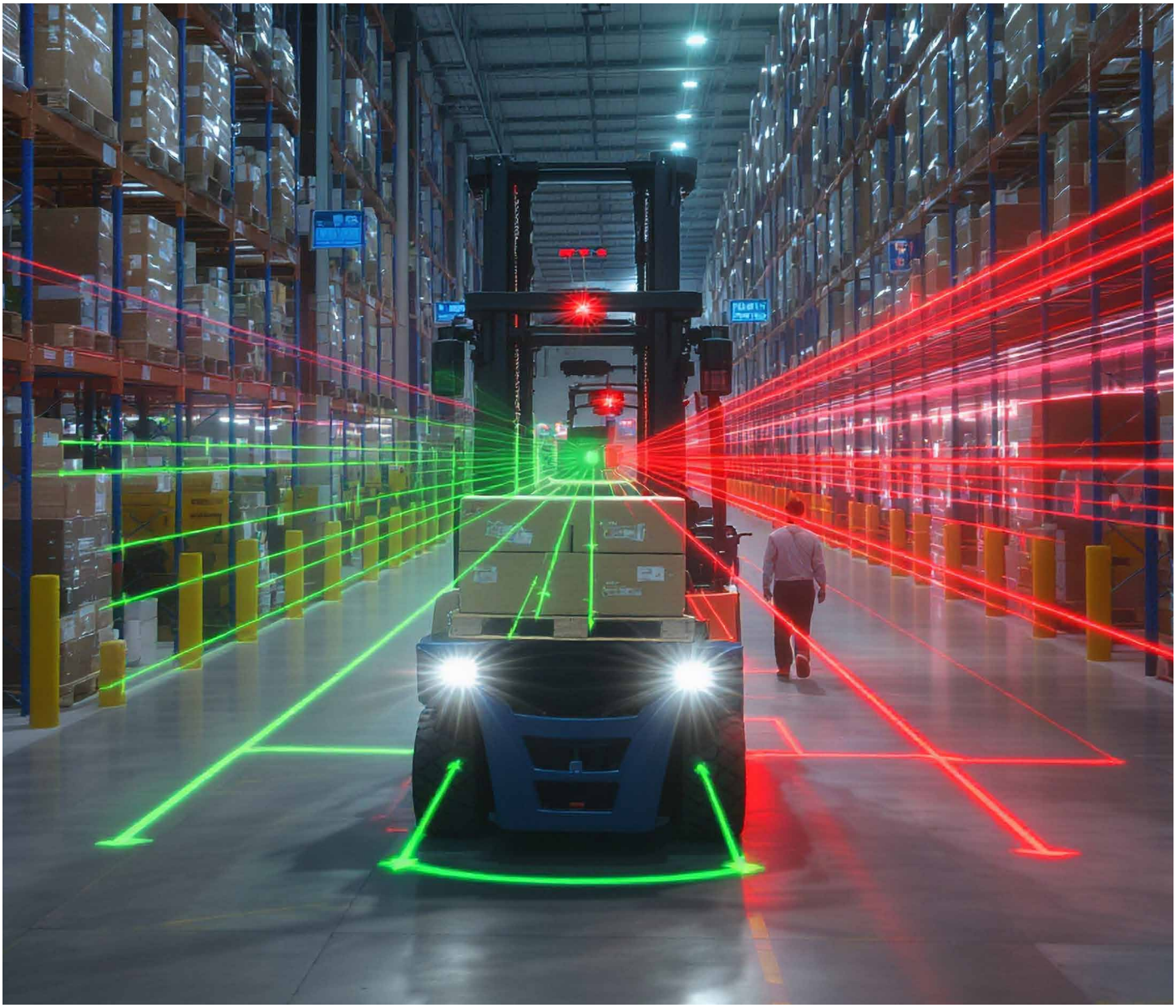
- High scalability and reliability
- Automated monitoring processes
- Cost reduction and faster implementation
- A device-agnostic approach

SAKE is designed to prevent collisions between people and machines, as well as between machines, monitor the use of personal protective equipment, manage access to high-risk areas, and respond to "Man Down" emergencies.

SAKE is suitable for a wide range of sectors, especially Manufacturing, Transportation, Logistics, Pharmaceuticals, Energy, and Utilities, as well as n any organization operating in high-risk environments.

With SAKE, NTT DATA doesn't just deliver technology – it provides a strategic approach that turns HSE management into a streamlined, scalable, and sustainable process. This enables organizations to safeguard their people while optimizing both costs and resources.





Why SAKE

SAKE is an IoT-based worker safety platform powered by Artificial Intelligence for proactive hazard detection, designed to enhance workplace safety across industrial facilities while ensuring full GDPR compliance.

It is designed to help organizations manage compliance and minimize negative impacts on the environment, people, and society.

It leverages a combination of IoT sensors, artificial intelligence algorithms, and data analytics tools to continuously monitor environmental conditions and workforce activities, enabling the identification of hazards and the anticipation of potential incidents.

The platform also includes automated reporting tools and supports efficient emergency management, ensuring seamless communication between operators and supervisors during critical events.

Key Features

Real-time Monitoring

Using IoT sensors distributed throughout the workplace, cameras, computer vision, and wearable devices worn by operators, SAKE continuously collects data on safety conditions - such as gas detection, temperature, movement, and the presence of personnel in critical areas.

- **Alarm Georeferencing**.
- **Global Overview** of the entire company and all production facilities.
- **Emergency Management** – in the event of anomalies or critical situations, the system promptly sends alerts to operators and managers, enabling swift and safe evacuation.

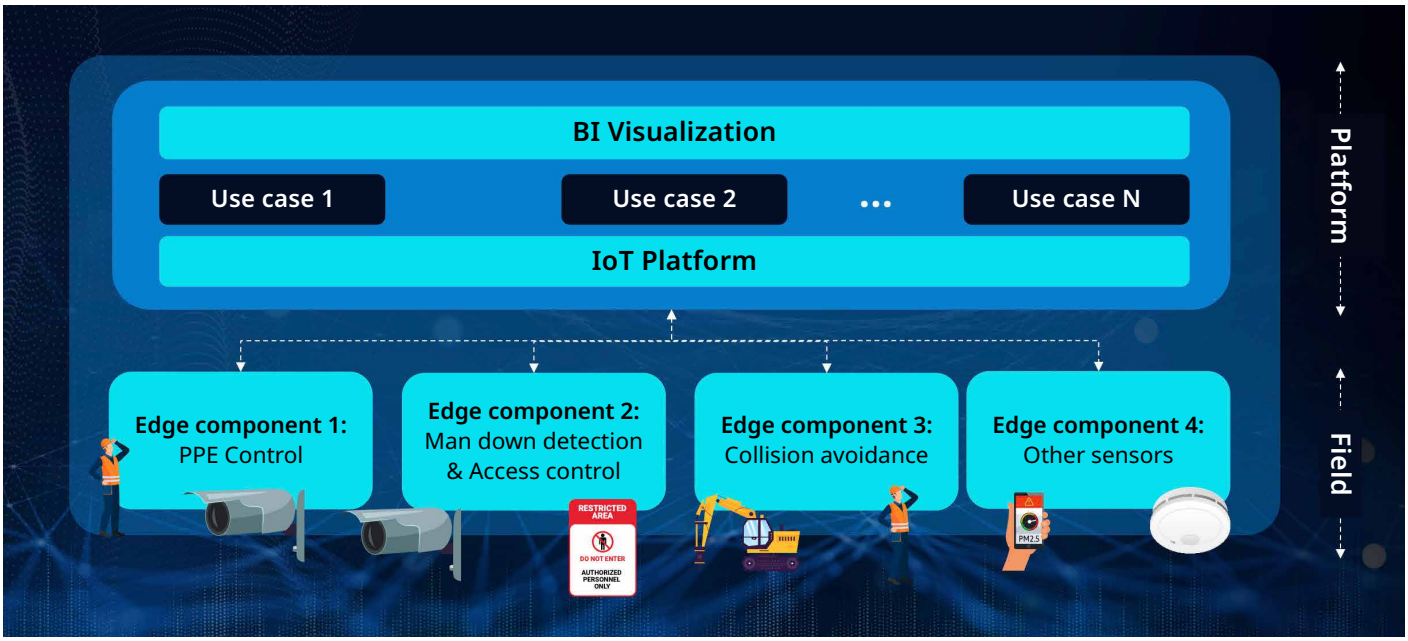
KPI Monitoring

Data is analyzed using AI algorithms to identify risk situations and forecast potential incidents. Insights from near misses and actual incidents are collected and used to strengthen preventive measures.

- **Predictive Accident Analysis** - Machine learning and computer vision models are used to identify risk situations before they occur.
- **Dashboard and Reporting** - Visualization and monitoring of security indicators (KPIs).
- **Heatmap** of all alarms categorized by type.

Compliance and Reporting

Full support for compliance with safety regulations and standards by automatically generating detailed reports on safety conditions and detected events.



SAKE strengthens the safety of workers, vehicles, and infrastructure across diverse environments through its highly modular design.

Benefits

Risk Awareness

SAKE boosts risk awareness by identifying potentially dangerous situations, allowing companies to accurately assess and understand their risk levels.

Injury Reduction

Implemented use cases not only detect and track non-compliance but also alert workers to risks through audible and visual notifications. Non-compliance detection, combined with insights gained by the HSE Manager, enables targeted interventions – such as focused training – to proactively reduce incidents.

Enhanced Safety

SAKE ensures worker safety through proactive hazard detection, monitoring of vehicles and infrastructure across different environments, and GDPR compliance, all enabled by its modular and easy integrable design.

Improved Corporate Image

By implementing cutting-edge technologies like SAKE, companies can showcase their commitment to workplace safety, strengthening their reputation.

Impact

Thanks to its “Open Platform” approach and accessible pricing, SAKE offers:

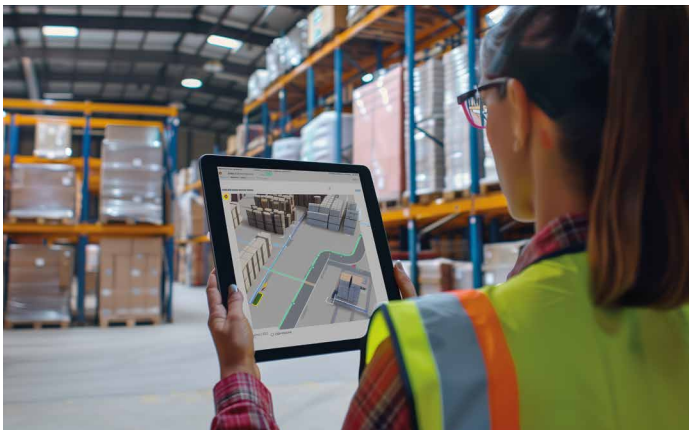
- Lower hardware costs
- Fast implementation
- Seamless integration with third-party software and hardware solutions
- Geo-referencing and a strong focus on privacy

Event Monitoring

Each alarm is georeferenced to ensure fast and targeted responses – every minute saved can make a critical difference.

Analysis

Through continuous data collection and analysis, SAKE provides the HSE Manager with timely, strategic insights, making it easier to identify risky behaviors and non-compliant situations. This enables informed decision-making and targeted corrective actions, improving operational practices and contributing to a safer, more efficient workplace.



Use Cases

Vehicle Collision Prevention

Context and Objective

In manufacturing plants, preventing collisions between vehicles – and between vehicles and operators – is essential to ensure greater worker safety.

Solution

The system processes video feeds locally, directly on the forklift, detecting operator presence in near real time. It can interface with the forklift's standard digital inputs to:

- Control warning lights
- Optionally limit maximum allowed speed
- Optionally trigger a safety braking ramp

Benefits

Fewer collisions and a significant reduction in serious injuries.

Using Fixed Cameras to Prevent Collisions in Production Plant Blind Spots

Context and Objective

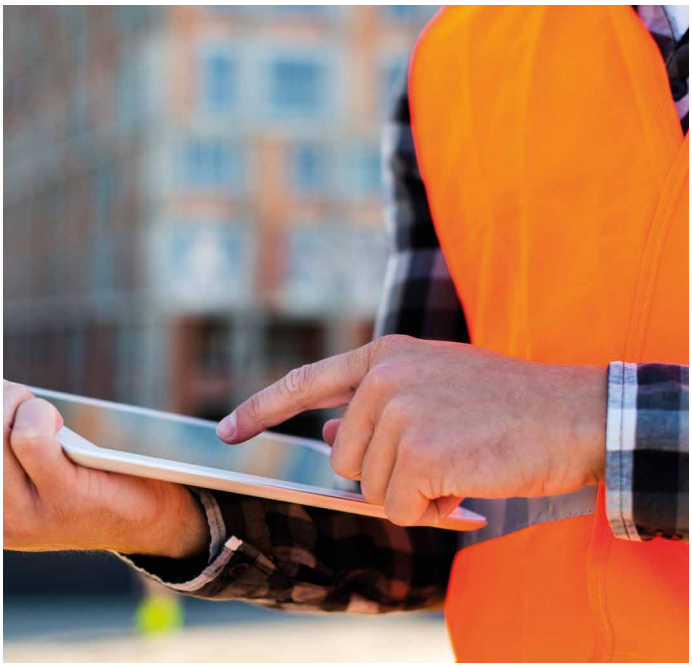
A system designed to prevent collisions between forklifts – and between forklifts and operators – within a production facility, improving overall worker safety.

Solution

The system processes video feeds locally from fixed security cameras and detects the presence of forklifts and operators near monitored intersections in near real time. It automatically activates or deactivates warning lights and opens or closes access gates as needed. The solution adapts to tight corners and areas with limited visibility.

Benefits

- Reduced accidents and near misses.
- Seamless integration with existing CCTV systems.



Use Case

Emergency and Lone Worker Management

Context and Objective

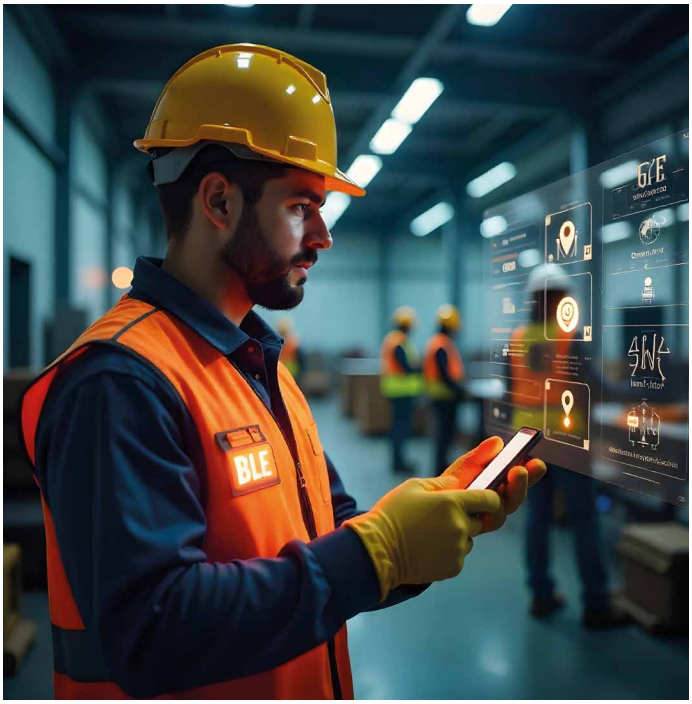
In emergencies, quickly locating workers who may be injured or unable to reach the assembly point is crucial, particularly in complex or high-risk environments.

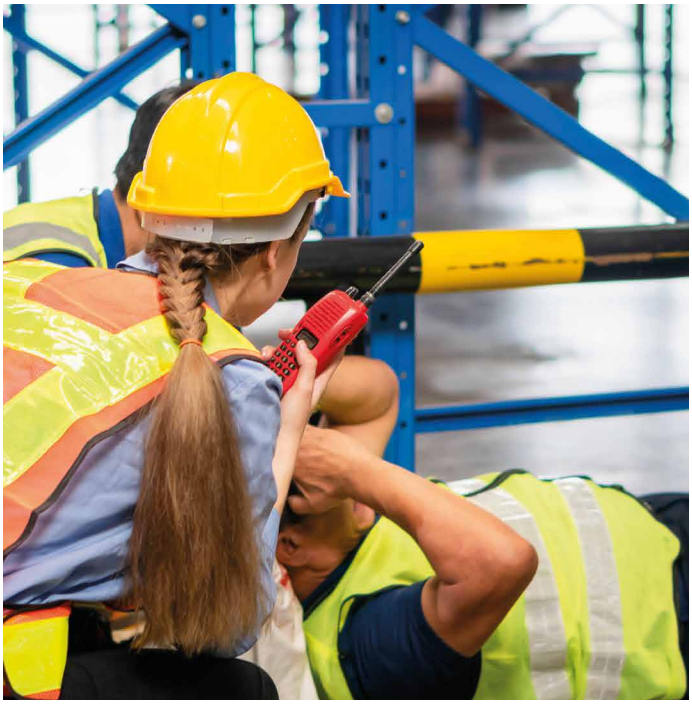
Solution

The system employs a hybrid indoor/outdoor tracking approach. Workers carry smart badges that combine BLE beacon signals for indoor positioning and GPS for outdoor tracking. In the event of a fall or emergency, the badge automatically sends the last known location and nearest beacon to the SAKE platform, along with a manual emergency alert activated via a dedicated button.

Benefits

- Faster and more accurate worker location.
- Reduced emergency response times.
- Increased safety awareness.
- Integration with SAKE for real-time monitoring and alerting.





Use Case

PPE Monitoring

Context and Objective

Ensuring that workers consistently wear the required Personal Protective Equipment (PPE) is critical for safety on construction sites. Traditional manual checks at entry points are not only time-consuming but also prone to errors and inconsistencies.

The client was seeking a scalable, automated solution to verify PPE compliance at access points and continuously monitor worker presence within the work area.

Solution

The solution integrates BLE (Bluetooth Low Energy) beacon technology and computer vision to deliver automated, real-time PPE monitoring. BLE tags attached to helmets, gloves, jackets, and footwear enable presence detection, while strategically positioned cameras use AI-driven computer vision to verify both presence and proper PPE usage. All data is processed and sent to the SAKE platform, which centralizes information, triggers alerts, and maintains a complete audit trail.

Benefits

- Enhanced compliance with safety regulations.
- Improved safety performance.
- Reduced risk of serious injuries.
- More efficient access procedures.
- Continuous on-site personnel monitoring.
- Centralized management and reporting through the SAKE platform.

> SAKE is the most powerful way to turn safety into a true competitive advantage

NTT DATA

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