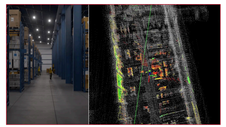
Core Technology

3D LiDAR Spatial Recognition Solution

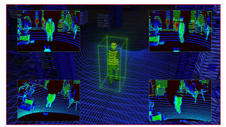


01 Real-Time Map Creation & PCD Collection

- 3D PCD scanning based on 3D LiDAR/SLAM
- Separation of stationary spatial data and moving objects on 3D PCD
- Real-time environmental information update & 2D/3D map creation

02 Object Recognition / Semantic Segmentatio

- 3D object recognition and tracking
- Extract object features (ID/speed/height)
- Categorical classification of object and infrastructure



03 Dataset Optimization by Industry

- Design object data learning model
- Collection of object dataset from various angles and environments
- Advancement of industrial dataset & object recognition rate improvement via learning model

04 3D Geofence Based on PCD

- Setting Geofence in 3D space (event creation)
- Recognition of object in close proximity to Geofence
- Integration of notification device

05 Spatial Management Platform

- Real-time update on PCD changes/platform integration
- Safety/logistics/process management monitoring

WATA //

Applicable Industrial Field

All fields that require safety improvement and increased productivity

- Manufacturing
- Offshore/Shipbuilding/Trading
- Construction
- Refinery/PetroChemical
- Retail/Logistics
- Power plants

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3D LiDAR Spatial Management Platform

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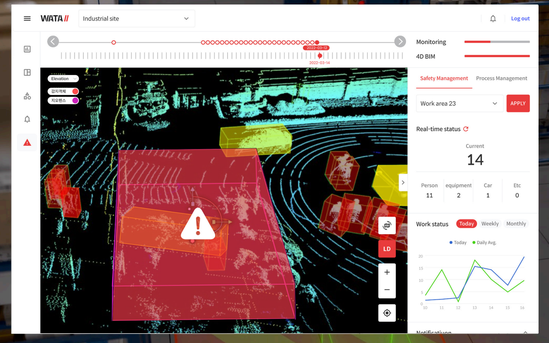
Find the location, Provide the next step.

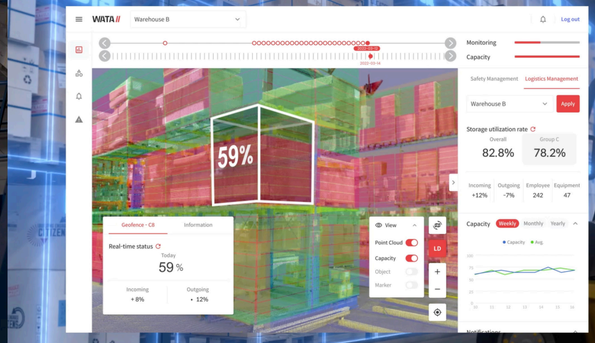
ABOUT WATA

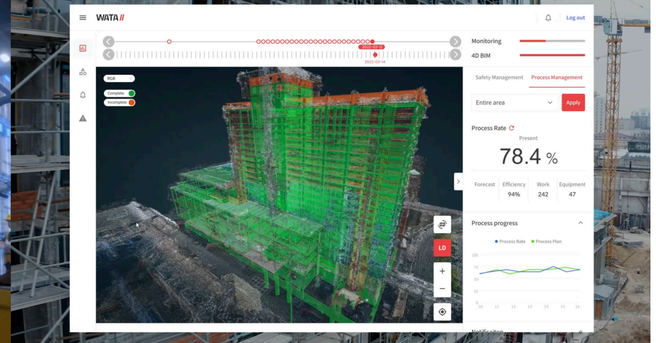
WATA, on the foundation of 3D LiDAR technology, utilizes real-time map creation, object recognition and detection, semantic segmentation, and industrial 3D point cloud dataset to provide effective solutions for possible safety, logistics, and process management issues in various industrial sites.
Moreover, in order to grant a higher level of user experience, WATA provides an integrated control and monitoring platform specialized for industrial sites, which comprises 3D Geofence automation, environment-specific multi-data integration, measurement of point cloud data change, etc.

Our goal is constant growth via data. We aspire to creating a smart city, which would form a data network based on constant building of dataset, by securing point cloud dataset optimized for each industry and providing the service to various corporations.

WATA's technological innovation was recognized by winning the CES 2022 Innovation Award, the KES 2022 Innovation Award, and the Grand Prize at the World IT Show, the largest IT expo in Korea.







3D LiDAR Safety Management Platform

Danger detection and prevention of industrial safety issues via real-time worker/heavy equipment location.

- Real-time worker/heavy equipment and object recognition in observed area
- Setting and registration of observation area (3D Geofence) on accident prone and dangerous locations
- Monitor safe speed and distance of workers, heavy equipment, etc. and provide warning notification upon detection of danger

Object Recognition
Worker/heavy equipment recognition via AI industry dataset

3D Geofence Setting
Geofence setting on routes and highly populated areas, restricted areas, safety zone, etc.

Danger Detection/Notification
Warning notification upon speed and distance violation of heavy equipment and workers in safety zones and danger zones

Data Statistics
Workers/heavy equipment traffic data statistics by space and safety warning notification records management

3D LiDAR Logistics Management Platform

Increased work efficiency and productivity improvement via visualization of shelf and logistics information and automation of logistics management.

- Create digital twin through visualization of shelf and logistics DB
- Auto-conversion to 3D Geofence through recognition of shelf frames on 3D PCD
- Identify shelf storage status through calculation of changes in real-time 3D point cloud data

Visualization of Logistics DB
3D visualization of warehouse and shelf frames and display of real-time storage status

Auto-Creation Management of 3D Shelf Geofence
Auto-conversion to 3D Geofence upon recognition of 3D PCD of each shelf frame and input and management of attribute value of converted Geofence shelf

Auto-Update of Logistics Information
Visualize and display logistics information by recognizing the changes in point cloud data upon load entry to or exit from the 3D Geofence set on each shelf

Data Statistics
Provide shelf storage status and entry/exit statistics, and load type and stock statistical data

3D LiDAR Process Management Platform

Automation and remotization of manual process rate identification via coordination of BIM data and real-time 3D PCD.

- Set BIM data and collected 3D PCD as standard coordinate
- Auto-segmentation by each process item
- Calculation of real-time process rate by comparing the amounts of PCD changes based on classified BIM data

Auto-Segmentation of BIM Data
Classification through subdividing collected point cloud data by process item and space on BIM data

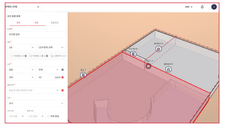
Process Rate Identification
BIM & PCD data coordination and calculation of process rate by items

Integrated Support of Sensor Data
Integrated support of various data created and collected in construction sites, such as PCD data, video/image, IoT sensor, drone data, etc

Data Statistics
Provide various statistical data, such as calculated process rate data on BIM standard, process record by date, etc

Product Specification

3D LiDAR Safety Management Platform



3D Geofence Setting on Danger Zones

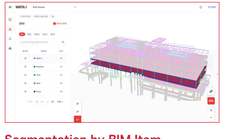
Safe Distance and Speed Monitoring of Forklift/Heavy Equipment

3D LiDAR Logistics Management Platform

Visualization of Shelves (3D View / LiDAR View)

Visualization of Storage Information & Load Monitoring

3D LiDAR Process Management Platform



Segmentation by BIM Item

Process Status Identification and Completion Status