


# YARD MANAGEMENT

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Solution Brief

An aerial photograph of a large industrial yard. The yard is filled with hundreds of green tractors, many of which are arranged in neat, parallel rows. In the foreground and middle ground, there are several long rows of white semi-trailers parked. A large, modern industrial building with a dark roof is visible on the right side of the yard. The background shows a grassy area, a body of water, and some residential houses.

Ubisense Yard Management helps you easily locate and manage WIP (Work-In-Progress) across your indoor and outdoor storage areas. Eliminate wasted time searching for finished or unfinished products that are widely dispersed around site and receive real-time automated alerts of ageing or forgotten WIP.



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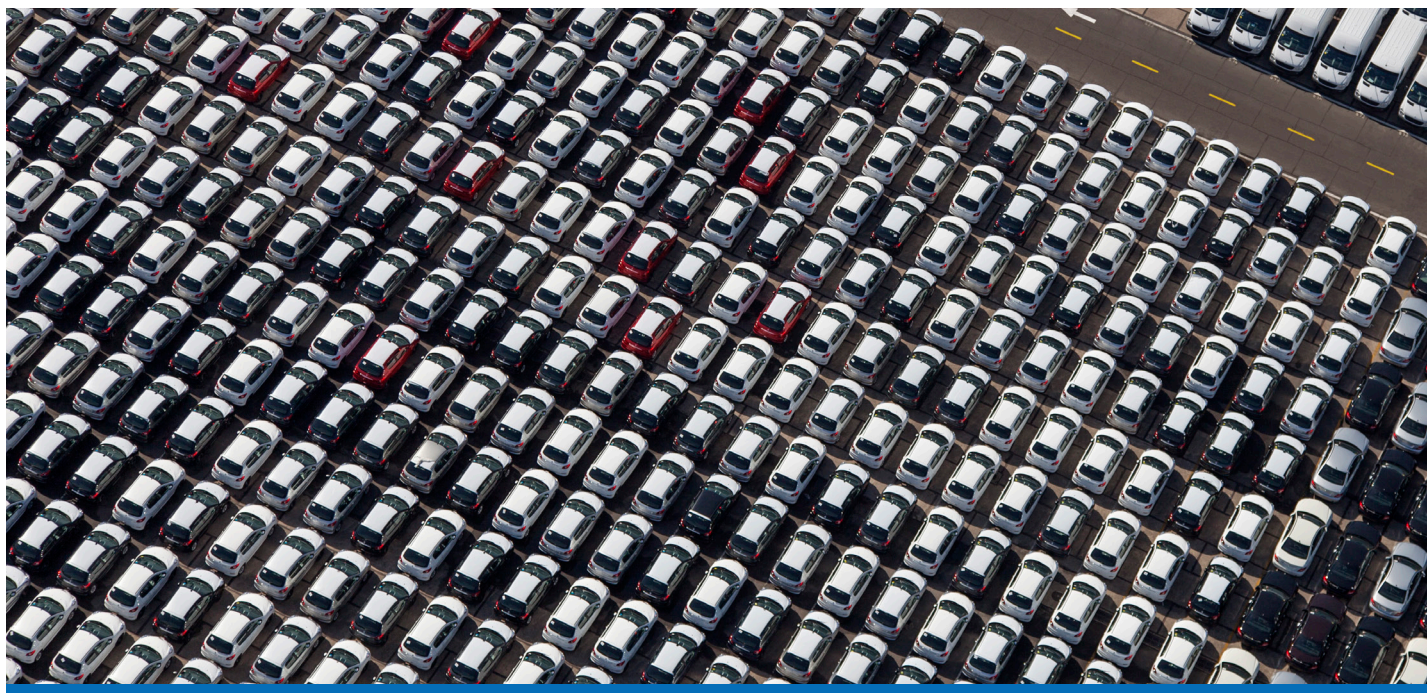
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## The Challenge

With high volumes of finished and unfinished product widely dispersed around site, it can be difficult to find and stage assets effectively. Time is often wasted searching for lost or forgotten WIP. Production resources are left idle waiting for their next job or movement waste is created by incorrect storage or staging of products.

### These challenges can lead to:

- Increased costs from inefficient use of space and resources
- Delayed product completion and delivery schedules
- Ageing work in progress at risk of damage or loss



Ubisense Yard Management creates a digital twin of your indoor and outdoor yards, defining storage, work and dispatch zones

## The Solution

Ubisense Yard Management creates a digital twin of your indoor and outdoor yards, defining storage, work and dispatch zones and tracking the real-time movement of products through them.

### Pre-configured functionality includes:

- Maps and searches for real-time location of assets
- Customizable alerts for ageing or misplaced products
- 'Snap to space' to neatly depict location and orientation of products
- Graphical reports for process times and space utilization

## The Outcomes

Ubisense is proud to work with leading organizations around the globe to help improve the storage, locating and management of physical assets providing the following outcomes:

- Reduced capital and operational costs through better resource utilization
- Increased productivity and reduced process cycle time
- Elimination of search-time waste

# Ubisense Yard Management Functionality

Ubisense Yard Management includes pre-configured SmartSpace® software and a real-time location system (RTLS) to track the precise location, movement and interaction of assets to provide the following core functionality.

## • Digital map of your facility

- Digital browser-based map of your facility imported via drawing or CAD file.
- Standard map icons for displaying common spaces and asset types (product, vehicle, forklift etc).
- Simple import/scale/orient functions for custom icons and photos of assets.

## • Define assets and spaces

- Define different types of assets with related properties and representation icons (e.g. product, container, vehicle).
- Create virtual spaces in 3 dimensions based on pre-defined space types (workstation, store, buffer etc) plus a fixed number of user definable types.
- Neatly depict location and orientation of assets within spaces with 'Snap to Space' by filtering out distracting noise from location data.

## • Connection with Location System data

- Connect and track any type of Location System data (Ultra-Wideband, Bluetooth Low Energy, WiFi, GPS, RFID, LPWA) to suit requirements.
- Process real time tag data including location, battery status and properties (temperature, accelerometer).

## • Tag association

- Manually assign tags to assets via an easy-to-use web form, barcode scan or CSV import
- De-associate tags using manual barcode scan or using de-association zones

## • Authentication and User access

- Role-based user access to SmartSpace web interface using Active Directory or local users

## • Pre-configured alerts

- Pop-up alerts, email notifications and icon updates with asset property changes:
  - Exceeding maximum age
  - Non-moving assets
  - Not located ('Lost') with last known location
  - Enter or exit of defined zones
  - Low battery

## • Pre-configured searches

- Locate and filter assets using pre-defined asset properties:
  - Asset ID
  - Type, category or sub-category
  - Location (in defined spaces)
  - Age or time in space
  - Non-moving' assets
  - Tags by battery status
  - Associated or non-associated tags by MAC address
- Display asset properties (picture, ID, type, reference, designation, zone, availability) in searches and text fields for users to enter comments related to assets.

## • Standard reports (web reports)

- Real-time reports for displaying:
  - All associated and unassociated tags
  - All assets by type and space
  - All assets not located
  - Inventory report
  - Historical reports for displaying:
    - Location history per asset over time (trail of movement overlaid on digital map)
    - Location history of asset by defined spaces including dwell time

## • Application Integration

- Integration with MES or ERP
  - Facility to interface to MES or ERP systems to receive properties through CSV file, RDBMS integration or API.
  - Push products location (within defined spaces) to MES or ERP system.

## • Persistent logging in database

- Logging of product movements (location) and properties changes
- Logging of alerts and notifications

## • Optional Functionality:

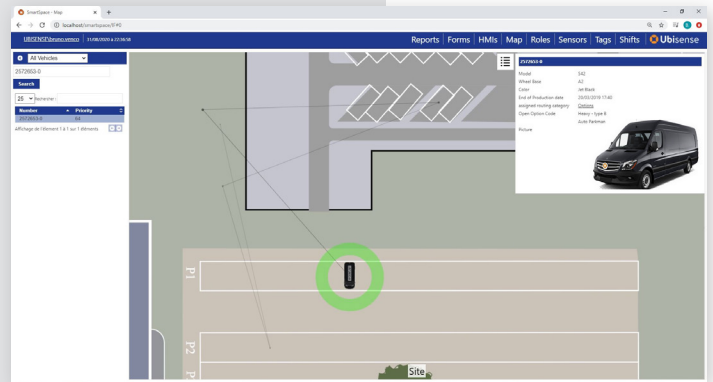
- Custom reports and dashboards
- Advanced IT
  - High availability setup (Failover and Dataset replication)
  - Test and production environments (property transfer)
  - Health monitoring
- Additional SmartSpace solutions:
  - Routing monitoring
  - Process monitoring

## Locating Work-In-Progress

With high volumes of finished and unfinished product widely dispersed around site, it can be difficult to find and stage assets effectively. Time is often wasted searching for lost or forgotten WIP.

**Ubisense Yard Management** reduces wasted search time and helps coordinate the correct staging of WIP in your processes.

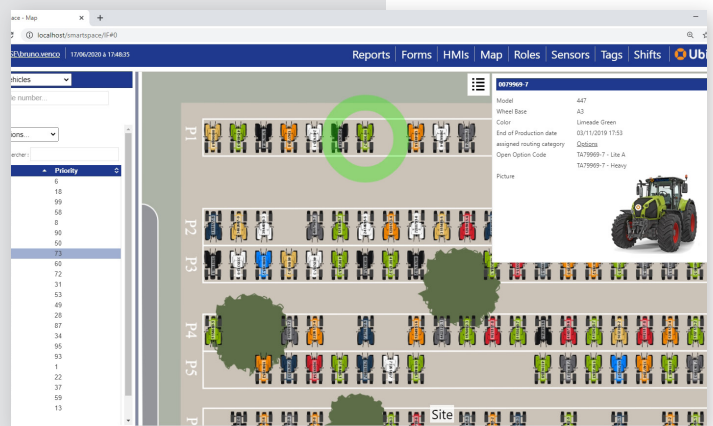
- Quickly find finished or unfinished products on a digital map of your facility
- Create searches based on product location and status
- Easily see the real-time location and status of all WIP



## Prioritize Work-In-Progress

**Yard Management from Ubisense** creates a complete digital-twin of your indoor and outdoor yards. By combining the real-time location and status of WIP with intelligence from planning systems (such as process time limits or product delivery schedules), configurable business-rules can automatically prioritise products and tasks to reduce cycle times and meet goals.

- Prioritize search results using attributes including asset type, status, time in process and delivery schedules
- Configure business-rules to guide colleagues and ensure processes and WIP are optimized

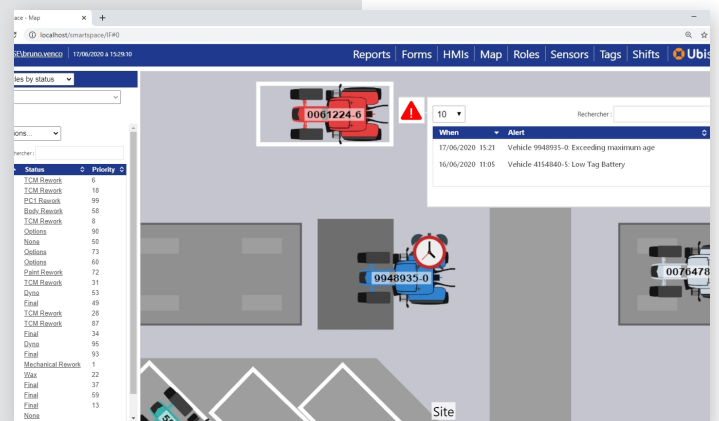


## Create Alerts

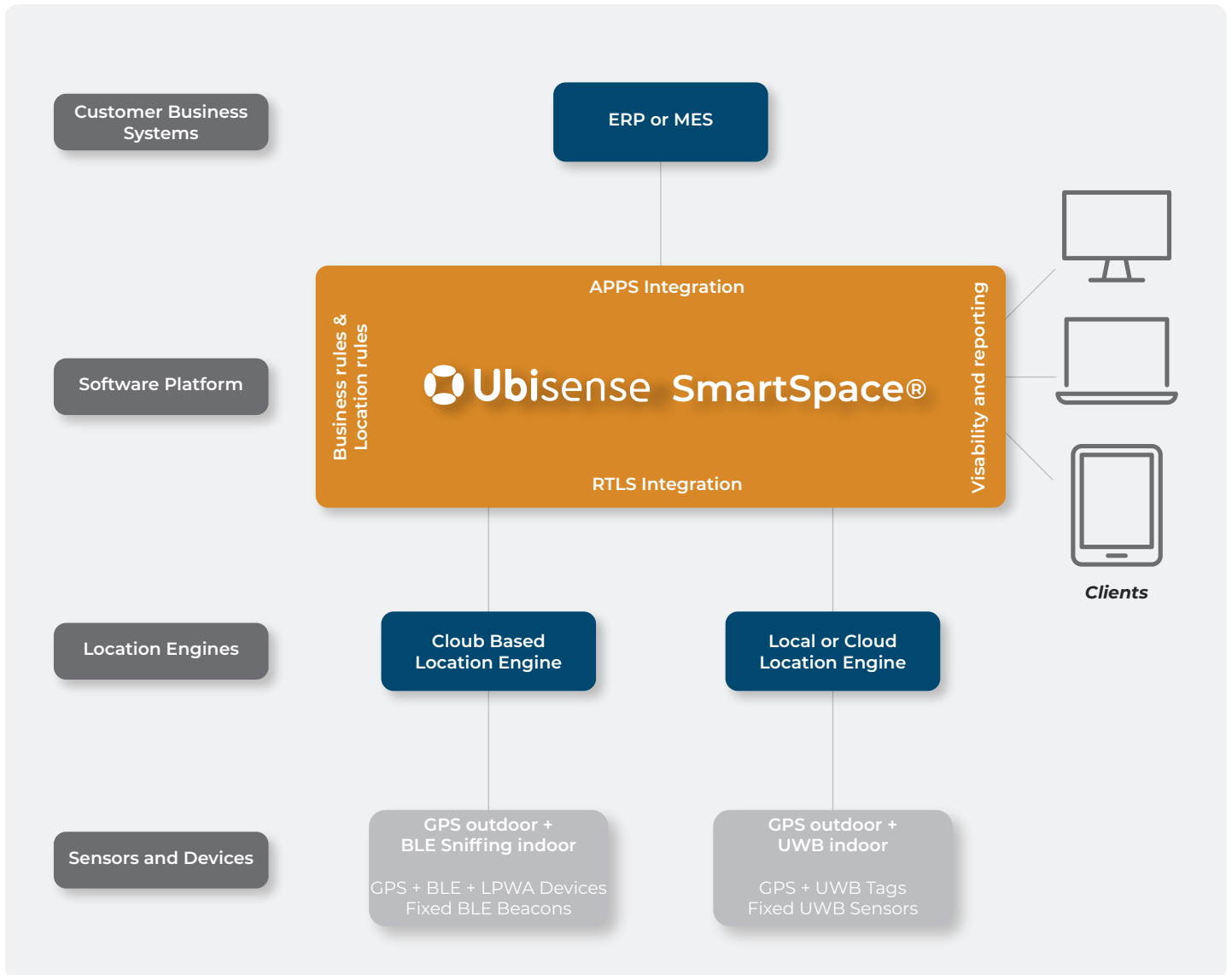
In busy production facilities with high volumes or finished and unfinished products widely dispersed around site, WIP can be easily forgotten or lost, increasing the risk of damage or missed delivery schedules.

**Ubisense Yard Management** can automatically alert colleagues of misplaced or out-of-policy WIP.

- Easily customizable alerts for ageing or misplaced products
- Prompts for routing WIP with the option for capturing feedback notes directly in the system



# Solution Architecture



Ubisense SmartSpace takes any location sensor data, including Ultra-Wideband, Bluetooth Low-Energy and GPS, and integrates with existing tooling, maintenance and calibration systems to provide insight and control via any browser-enabled device.



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