



**Unleash the power of  
real-time location solutions**

[pozyx.io](https://pozyx.io)

## **Industry 4.0 RTLS**

**Solutions · Use cases · Inspiration**



### **Pozyx RTLS solutions**

**Track and identify any asset in industry**  
**Real-time data to relieve real-time operational pain**

**Accurate · Effective · Simple**

## TABLE OF CONTENTS

About Pozyx	3	RTLS platform	13
RTLS & UWB Technology	4	Tags & anchors	14
Industry 4.0 solutions	5	Pozyx Platform	15
Labor & work efficiency	6	Triggers & events	16
WIP & material flows	7	Control Tower	18
Warehouse efficiency	8	Industrial Applications	19
Equipment tracking	9	Case stories	20-21
Lean manufacturing	10-11	References	22
Safety & security	12	Enterprise Kits & technical specs	23

# The Power of Real-Time Positioning

## What if you could?



### TRACK

- People, assets, tools equipment, orders
- In real-time
- Worldwide to indoor with 10cm accuracy



### MEASURE

- Location-based events
- Time budgets
- Operational efficiency
- Workforce efficiency

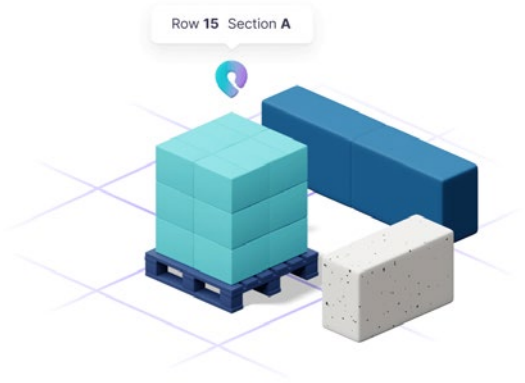


### IMPROVE

- Real-time asset visibility
- Location analytics
- Location-based automation
- Space utilization

**Pozyx is proud to bring**  
**Industrial innovation to companies worldwide**





## ABOUT POZYX

# Real-time indoor & outdoor positioning for smart industry solutions

Pozyx delivers real-time location systems (RTLS) for indoor and outdoor asset tracking and identification based on UWB (ultra-wideband) and other location technologies to position people, vehicles, orders and any asset in the industry to improve operational efficiency, enhance productivity and workflow performance.

The new Pozyx Platform is based on the omlox hub where location data from UWB, 5G, RFID, WiFi, Bluetooth, and GPS converge to deliver real-time operational insights, independent of technology and manufacturer.

The Pozyx use cases are defined to bring visibility and valuable insights on WIP, workforce efficiency, supply chain, and space utilization. It facilitates warehouse and inventory control, keeps track of returnable packaging and critical tools and slashes lost asset costs.

Designed and developed for the most demanding industrial environments and global industry players, the Pozyx solution is robust, built to perform and user-friendly. With over fifty thousand tags in the field and thousands of anchors deployed, Pozyx can rely on a proven track record of its technology and solutions.

**Accurate. Effective. Simple.**



## POZYX RTLS SOLUTIONS

Pozyx designs its own hardware and invests heavily in the development of algorithms to make solutions more stable and robust in industrial environments. Pozyx has also developed software that makes it easy to install and maintain any set-up, and has a complimentary set of APIs to guarantee easy and fast integration with enterprise software suites. Pozyx prides itself for its customer-centric approach, listening, anticipating and accomodating to customer requirements in a flexible way.



## UWB FOR ACCURATE INDOOR LOCALIZATION

Pozyx has its roots in the development of UWB RTLS. Ultra-wideband is a wireless radio technology specifically designed and developed for accurate localization. Through its very large bandwidth of over 500MHz, it can achieve a positioning accuracy of below 10cm, even in the most challenging environments.

Apart from that, UWB delivers:

- Low-power
- Signals penetrate objects & thin walls
- Low-cost
- Small form factor
- No radio interference

To learn more on UWB and the 10 benefits that make UWB the winning technology for highly accurate localization, please download our ebook

<https://get.pozyx.io/state-of-uwb>

## MULTI-TECHNOLOGY FOR WORLDWIDE COVERAGE

Apart from UWB, Pozyx integrates location data from other technologies such as 5G, RFID, WiFi, Bluetooth, and GPS in its recently launched Pozyx Platform.

The Pozyx Platform is based on the omlox hub. omlox is the open and internationally recognized standard for RTLS, with the ambition to achieve the common goal of creating an integrated RTLS technology ecosystem that seamlessly supports data from different location technologies.



# Track anything in manufacturing

## Ultra efficient



### LABOR & WORK EFFICIENCY

Optimize efficiency & increase safety.

#### Ultra effective.

Accurately measure & monitor operator efficiency to define realistic and efficient production times and to analyze labor cost. Increase critical operator safety with precise real-time employee location tracking and situational awareness tools. Create dynamic safety zones and trigger alerts for moving assets and for protecting people. Define geofence zones to restrict access, to trace presence and track behavior.

### WIP & MATERIAL FLOWS

Follow every asset in the production flow.

#### Ultra reliable.

Pinpoint, monitor and surveil items, assets, vehicles and people on the shop floor. Ensure efficiency, accuracy, and traceability throughout the entire manufacturing or assembly process for optimized cycle time, enhanced OEE and increased OOE.

### EQUIPMENT TRACKING

Pinpoint lost equipment & restrict use.

#### Ultra compliant.

Track tools and equipment and never search for lost items again. Restrict the use of tools or equipment to trained operators only and increase safety.

### WAREHOUSE OPTIMIZATION

Track all warehouse assets.

#### Ultra fluent.

Stop wasting man-hours searching for pallets, machines, tools or goods. Obtain full real-time yard management to improve operational efficiency. Use a strong inventory control tool, part of the WMS (warehouse management system) for utmost inventory performance.

### ACCESS CONTROL & SAFETY

Keep sites safe and protected.

#### Ultra secure.

Combine smart automation with ease of use for safe, secure and easy to access facilities. Define restricted zones to avoid entrance of unauthorized personnel or visitors. Install geofences and curfews. Automatically manage and automate doors, lights and HVAC systems based on occupancy.

### LEAN MANUFACTURING

Smarten quality & improve output.

#### Ultra boosted.

Eliminate the 8 wastes of lean and optimize production time, material and labor. Create WIP dashboards to improve production, assembly and logistics flows. Practice value stream mapping, initiate SMED methods and deliver to Kaizen and Lean 6 Sigma.

# Pozyx Industry 4.0 solutions



# Pozyx RTLS accurately tracks labor efficiency & labor cost Ultra effective



## LABOR & WORK EFFICIENCY

Optimizing labor force and improving operator effectiveness (OOE) can have a spectacular impact on production efficiency and provides valuable insights on labor cost.

The Pozyx real-time location system tracks operators during the full production or assembly cycle. Know where people are, where they lose time and what the cost impact is.

Enforce work processes and standards for safety and health-related processes, effectuate risk mitigation and legal compliance.

## DATA DRIVEN RELIABILITY

Collect real-time productivity data to streamline labor efficiency.

The Pozyx RTLS collects, tracks and reports on employee activities on the shop floor. It tracks how much time operators spend in a workstation to provide exact input on labor cost for every single production or assembly order.

Dynamically assign staff, reduce cost of labor and create an efficient work environment.

### Labor productivity

- Optimize work shifts
- Calculate workstation efficiency
- Automate time sheet registration
- Register real-time roll count
- Find employees faster
- Improve processes and workflows
- Increase workforce efficiency

### Labor cost insights

- Find the most effective workflow, based on real numbers
- Scale up more efficiently
- Pinpoint bottlenecks
- Calculate workstation efficiency
- Make objective staffing and HR decisions

### Dynamic work force

- Assign tasks more efficiently & minimize production time
- Discover productivity issues & add people to speed up production flows
- Understand delays & optimize processes
- Identify operator requirements during peak times or seasonal production

# Pozyx RTLS optimizes WIP & enhances material flows Ultra reliable



## Track orders & material flows

- Eliminate manual scanning
- Easily locate (prioritized) orders
- Manage buffers more efficiently
- Reduce the number of load carriers
- Increase material turnover
- Provide real-time order status to customers

## Quality validation & checks

- Verify correct order location in workstations & buffers
- Spot LIFO or FIFO buffer order violations
- Scrutinize orders or parts passing storage time limits
- Trace orders that skip a process step or that are in the wrong sequence
- Avoid product with quality defects from re-entering production cycles

## Efficiency checks

- Avoid WIP buffers overflowing
- Alert on parts buffers running low
- Warn on empty workstations
- Pinpoint outlier cycle/takt times
- Monitor idle time between processing steps

## WIP & MATERIAL FLOWS

WIP levels is one of the critical KPIs for manufacturing companies.

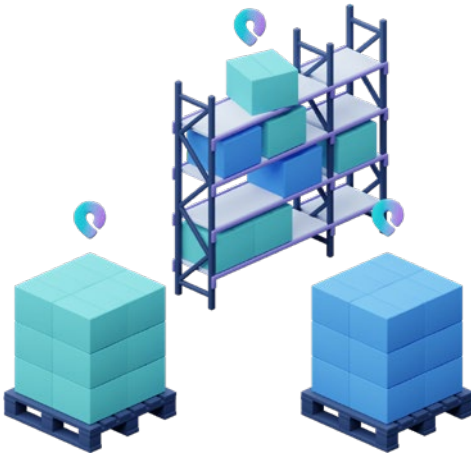
Pozyx has developed its WIP tracking solution that collects location data, analyzes xyz-datastreams and generates triggers and alerts for increased operational efficiency.

The Pozyx RTLS provides visibility and transparency on job orders during the production process which are critical to measure efficiency, enhance cycle time, increase operator efficiency (OOE) and overall equipment effectiveness (OEE).

Especially in MTO (make to order) or QRM (quick response manufacturing) environments, real-time efficiency data can optimize cost calculations and eliminate variability in operations.

## INCREASE QUALITY & EFFICIENCY

The Pozyx RTLS ensures efficiency, accuracy, and traceability throughout the entire manufacturing or assembly process. It automates and foolproofs the quality validation process and activities across all phases of the production cycle.



# Maintain inventory accuracy & improve goods movement flows

## Ultra fluent



### WAREHOUSE EFFICIENCY

Warehouse sites are some of the most challenging environments for indoor positioning systems (IPS). They are complex by nature due to their size and demanding due to the number of processes and assets that govern them. Pozyx provides ease of use, robustness and flawless integration capabilities to provide warehouse applications with vital real-time asset, equipment and people tracking data that create process flow insights and translate into real business value.

Losing track of pallets, carriers or goods means losing time and money.

The trigger-based system provides a detailed overview of pallets and goods movements to enhance process workflows and to resolve bottlenecks.

### RISK ANALYSIS & INCREASED SAFETY

Industrial robots and forklifts are high safety-risk assets in warehouses, tracking their interactions helps to reduce collision risks. The Pozyx warehouse orchestration system is based on real-time location data and brings efficiency and safety to the overall business.

### Inventory control

- Know the exact location of goods, pallets and assets and save time
- Eliminate manual scanning
- Achieve & maintain inventory accuracy
- Reduce laborious and expensive physical inventory audits

### Labor productivity & safety

- Calculate & increase warehouse operator efficiency
- Automate time registration
- Create safety applications to avoid human/robot/forklift collisions
- Monitor driver behaviour, identify high traffic & risk areas, apply automated speed control

### Warehouse optimization

- Optimize facility footprint & layout
- Analyze goods handling routes & promote process efficiency
- Deliver cost savings by improving journey routing capabilities
- Use accurate real-time stock information to reduce (excess) stock holding needs



# Track equipment movements & increase efficiency & usability

## Ultra compliant



### Tracking all equipment

- Easily find all moving or missing equipment on the floor
- Track a limited number of critical pieces of equipment or all assets & tools on the floor
- Scan how items move & generate heat maps to optimize production

### Full equipment visibility

- Track the what, where and when of forklifts, tugger trains & pallets
- Pinpoint motion of moving elements like production batches and orders in real-time to analyze WIP
- Automate flows & create closed-loop processes to improve efficiency

### Dynamic shop floor

- Restrict the use of tools or equipment to trained operators only
- Never search for lost tools or equipment and avoid theft
- Dynamically assign workforce according to requirements during production peak times
- Real-time asset visibility to avoid bottle necks or idle time

### EQUIPMENT TRACKING

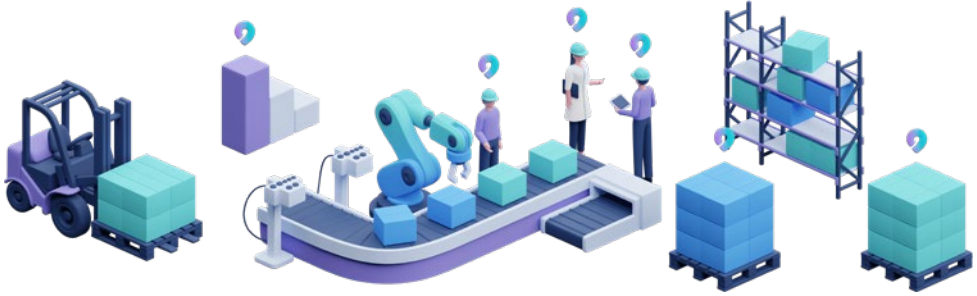
Pozyx RTLS provides real-time visibility on different kinds of equipment with precise information on location, how they move, when they moved, and when they remain static.

Start the RTLS journey with tracking a limited number of critical equipment and scale as needed to include all tools, forklifts, tugger trains and people. Get the full overview of production floor activities and improve efficiency of equipment and production flows.

### NEVER LOSE TRACK

The Pozyx RTLS collects, tracks and reports on any piece of equipment on the floor. See the real-time location of vehicles and tools and never search for misplaced items. Check efficiency to see how forklifts or tugger trains move. Ensure that operators only use the tools allowed at specified workstations. Track location of items to avoid loss.

Ensure a safer and more secure work environment by alerting operators when forklifts, robots or equipment move.



Lean transformation in manufacturing strives to create a culture of continuous improvement, eliminating waste and reducing costs. Control over production processes and real-time insights on product flows are the building blocks of lean optimization. Pozyx's RTLS tracks and analyzes moving assets, people, and WIP to discover issues that relate to the 8 wastes of lean manufacturing.

## HOW POZYX RTLS ADDRESSES THE 8 WASTES IN LEAN MANUFACTURING



### DEFECTS

Detect faulty assets and deviations from the target product state and prevent re-introduction of defective goods in the production cycle.



### INVENTORY

Locate inventory to prevent lost positions, resulting in excess stock, inventory build-up, increased storage space and higher cash flow.



### OVER PRODUCTION

Keep track of WIP to avoid goods lost, stop re-orders, avoiding increased costs and excess inventory.



### MOTION

Introduce charts tracking movements of operators, vehicles or robots to indicate how motion flows can be improved.



### WAITING

Measure waiting time of WIP or individual orders to gather accurate data and identify improvements in the production flow to avoid wait time and down time.



### OVER PROCESSING

Keep track of orders in real time and provide accurate individual work instructions in MTO environments to avoid unnecessary manufacturing process components.



### TRANSPORTATION

Map distance traveled by goods, orders, and operators and detect improvement opportunities to reduce operational costs.



### UNUSED TALENT

Automate location data collection to reduce efforts in manual time studies by industrial engineers, creating more time for analyzing & improving processes.

# The effective way to reduce waste, boost profits & achieve operational excellence

## Ultra lean



### LEAN MANUFACTURING MADE PAINLESS

The lean manufacturing system aims to maximize product value while minimizing waste without sacrificing productivity.

Using the Pozyx RTLS in lean manufacturing provides accurate real-time location data of assets in the production flow. This data is input for value stream mapping and SMED (Single Minute Exchange of Dies & Quick Changeover) techniques, adhering to the Kaizen and Lean 6 Sigma methodologies.



- Pinpoint the exact location of materials and products throughout the whole production process
- Obtain transparency on materials, reduce asset loss and avoid goods lost
- Collect actionable data for quality control and efficiency checks
- Plot process mapping to fuel performance metrics

#### Map asset performance

- Unlock asset performance data to raise OEE (overall equipment effectiveness)
- Measure asset and process idle time, reduce downtime risks
- Analyze and fix inconsistent and inefficient workflows
- Avoid inefficient wastes in motion & transportation

#### Real-time asset visibility

- Spot bottlenecks and prevent disruptions
- Minimize downtime, setup and changeover time
- Correct missing goods issues and manage inventory more effectively, avoid unnecessary WIP & decrease excess stock
- Optimize inventory management, avoid manual inventory counts

#### Efficiency checks

- Analyze policy performance and compliance levels
- Make quick decisions based on real-time data and maximize uptime
- Track movement and stock in processes, at batch and at item level
- Introduce kanban-style WIP control



# Real-time positioning guarantees workflow security & safety

## Ultra secure



### SAFETY & SECURITY

Location-based triggers create a safe and secure production environment. The Pozyx RTLS tracks the entry, presence and exit of people, equipment and vehicles on pre-defined digital maps with geofences.

### ACCESS CONTROL

The system restricts staff from accessing certain spaces and sends real-time notifications on attempted breaches to detect trespassers or unauthorized personnel.

It provides detailed employee time tracking information to automate operator clocking and enables managers to remotely check who is on-site to adapt teams according to changing production staffing requirements.

### SAFE ZONES

The real-time accurate tracking of moving equipment and vehicles like forklifts monitors traffic, feeds the collision avoidance mechanism, creates safe zones and alerts personnel to avoid accidents.

#### Safety & security

- Track any person or moving asset on the floor to improve security procedures
- Gather insights to enhance safety policies
- Enforce access right schemes
- Maximize collision avoidance

#### Geofencing

- Use mapping to visualize floor plans in real-time
- Roll-out geofencing to track employee and asset movements
- Trigger automatic alerts or warnings when people or vehicles enter or exit predefined critical or restricted areas
- Shut down equipment if operated by non-qualified operators

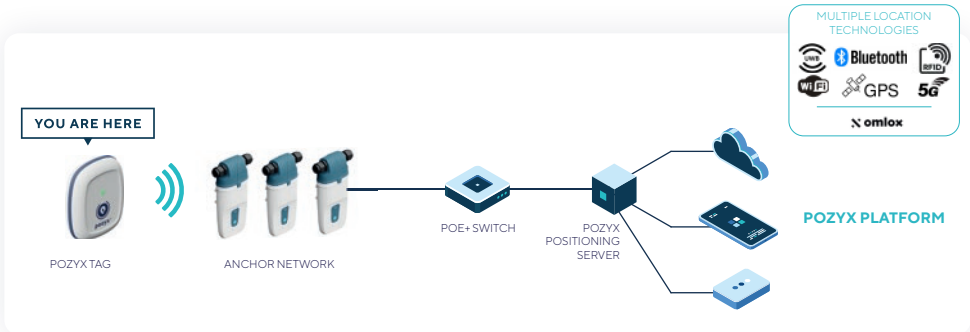
#### Access control

- Restrict or grant access rights based on floor mapping areas with decimeter accurate precision
- Keep people out of restricted zones and check on-site activities
- Automatic gate or door unlocking for a convenient hands-free experience

# Pozyx UWB RTLS

## How it works

### Ultra reliable



### POZYX SCALABLE RTLS

The Pozyx Platform is a future-proof asset tracking and identification solution for indoor and outdoor, based on the omlox hub, supporting multiple location technologies.

The Pozyx solution is built and designed with scalability for large and industrial deployments in mind and allows tracking and identification of any asset during production or on the road. The system can track and identify thousands of tags, indoor, outdoor and worldwide. Projects can start with tracking a limited number of critical assets and scale as needed to include all people, tools, orders, vehicles and equipment on the floor or on the way to customers.

### POZYX UWB RTLS

The use of UWB technology yields positioning data with up to 10-30cm location accuracy, and is typically used indoor, in specific parts of production or assembly where high accuracy is required.

The Pozyx UWB RTLS utilizes a local processing server (called the gateway) which connects to all Pozyx anchors over Ethernet.

The gateway performs the wireless synchronization between the anchors, manages the scheduling and computes the position of all the UWB tags. The gateway also monitors the system's health and performance and provides alerts upon malfunctioning. The Pozyx UWB RTLS supports TDOA-based positioning and is designed with small tags and long battery-life in mind.

### BEYOND UWB

The other positioning technologies supported in the Pozyx Platform, such as 5G, RFID, WiFi, Bluetooth or GPS allow tracking of assets with a lower positioning data accuracy and provide worldwide real-time visibility. The seamless indoor/outdoor transition allows to zoom in from a global map to a precise indoor location, up to 10cm accurate.



# Tags & Anchors for UWB RTLS

## Ultra robust

### POZYX ANCHORS

Anchors create the backbone of the Pozyx RTLS. They provide robust UWB positioning for both small or large surface projects and scale with the needs of a growing project to support even the largest permanent installations to track thousands of assets. Anchors are easy to install and built to perform in the toughest and most challenging environments.

### TOUGH, FLEXIBLE & SMART

Pozyx has 2 types of anchors, perfect for every RTLS need. The Enterprise Anchor and the Industrial Enterprise Anchor, an industrial grade anchor with IP66/67 enclosure to resist water and chemicals.

### POZYX TAGS

Tags track and position any moving or static asset or person on the shop floor, in real-time with high accuracy.

The state-of-the-art UWB technology, delivers precise positioning data, accurate up to 10 cm.

Start small and work with a couple of prototyping tags to validate positioning ideas quickly. Or scale to thousands of tags for enterprise use. The Pozyx RTLS was designed with scalability in mind.

The result? The power of positioning to improve manufacturing processes, increase operator efficiency, optimize business flows, or create safer work environments.

### 3 TAGS FOR EVERY RTLS SOLUTION



#### WEARABLE TAG

Basic tag with long battery life & several wearing options (clip, lanyard, wristband) to fit any indoor RTLS.



#### INDUSTRIAL TAG

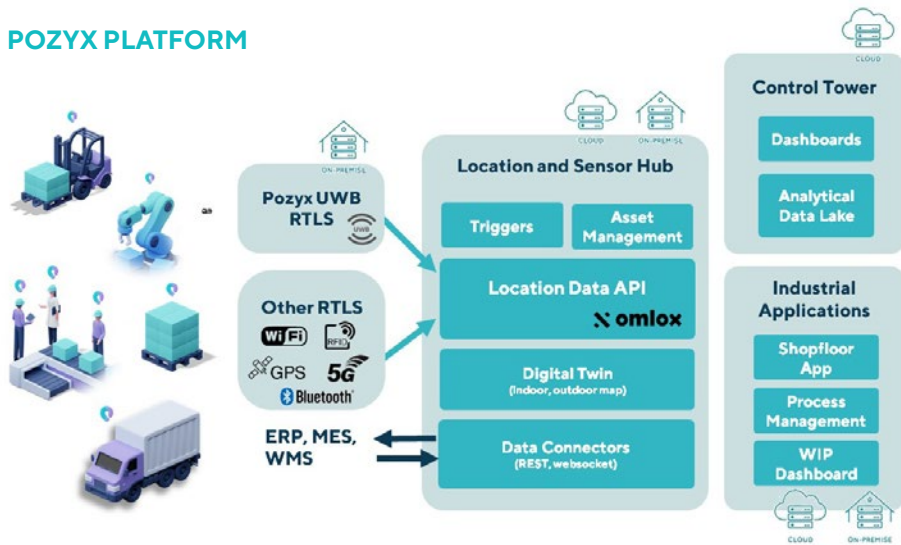
Built for demanding industrial settings. Track any asset – pallets, forklifts, vehicles, tools – on the floor.



#### DEVELOPER TAG

Ideal for research and prototyping of new RTLS projects.

## POZYX PLATFORM



### FUTURE-PROOF SOLUTION

The Pozyx Platform is where the magic happens. It collects data from the Pozyx UWB RTLS as well as other location technologies or sensor data. It is based on the omlox hub and has an open architecture with flexible interfaces and APIs for a smooth integration with ERP, MES and WMS. To connect with installed systems, a thin middleware layer may be needed depending on the specific implementation.

The Pozyx Platform consists of 3 parts.

#### 1 - LOCATION AND SENSOR HUB

The Location and Sensor Hub is home to the **Trigger** functionality that allows the creation and launching of automated events and notifications.

The **Digital Twin** module manages maps, floorplans and geofences and allows a seamless indoor/outdoor transition to pinpoint assets. It enables zoom-in from a global map to a precise indoor location, up to 10cm accurate with UWB. It supports IMDF vector-map

format and image floorplans. Finally, the **Asset Management** environment is where the assets and tags can be configured. Users can create any type and add metadata and custom fields to adapt to any business case.

#### 2 - CONTROL TOWER

The collected data in the **Analytical Data Lake** stores historical object data that is processed to fuel the operational and managerial **Dashboards**.

Depending on different user profiles, various dashboards can be made available.

#### 3 - INDUSTRIAL APPLICATIONS

A broad offering of industrial applications is available to take control of the day-to-day activities in the plant. The **WIP Dashboard** provides full visibility on WIP. **Shopfloor Apps** are designed for operators for easy linking of tags to objects on handheld devices. **Process Management** provides process mining and management features.





# Location based Triggers put RTLS tracking to work Ultra automated



## TRIGGERS LAUNCH EVENTS

The Pozyx trigger feature that runs on the Pozyx Platform generates events that launch whenever a condition (based on location of assets or sensor data) is fulfilled and convert these into automatically generated actions such as alerts, notifications, or status updates.

The trigger feature removes manual programming from RTLS solutions and simplifies the implementation of value stream mapping, safety policies, quality validations, WIP visibility and efficiency checks.

## TRIGGERS IN ACTION

Triggers funnel xyz-data streams from different input channels and narrow down the vast data influx to create operations-relevant events.

Triggers are launched from location or sensor conditions of the tracked assets, such as when a tagged asset enters, exits or remains in a specific zone or when sensor data criteria are met. The generated events can be defined as

alerts (push messages, emails, warning lights), as actions (emergency stop, turn equipment off) or as real-time process automation input.

The Pozyx trigger mechanism is fully configurable and is integrated in the Pozyx Platform.

Within an industrial context, triggers from the Pozyx Platform can interact with PLCs and existing manufacturing environments, at SCADA level or in MES and ERP systems.

## EASY TO IMPLEMENT - NO CODING

Pozyx offers a wide variety of triggers to capture business logic in production environments. Their configuration is easy and can be defined on individual tags, groups of tags or based on specific zones or geofences.

The triggers are omlox compliant and combine accurate location data with in/out fence information and sensor data.

## GROWS WITH PROJECT NEEDS

The trigger feature is designed for scalability from a small number of critical assets to tracking thousands of tags over multiple fences, floors, facilities and with a seamless indoor/outdoor/global transition.



## POZYX RTLS TRIGGER CODE

```
{  
  'event_type': 'region_exit', # type of trigger  
  'timestamp': 1624279895.234, # epoch timestamp  
  'tag_id': '3344' # Tag id that caused trigger  
  'zone_id': '3434kl33' # zone id  
}
```



### INDUSTRY TRIGGER USE CASES

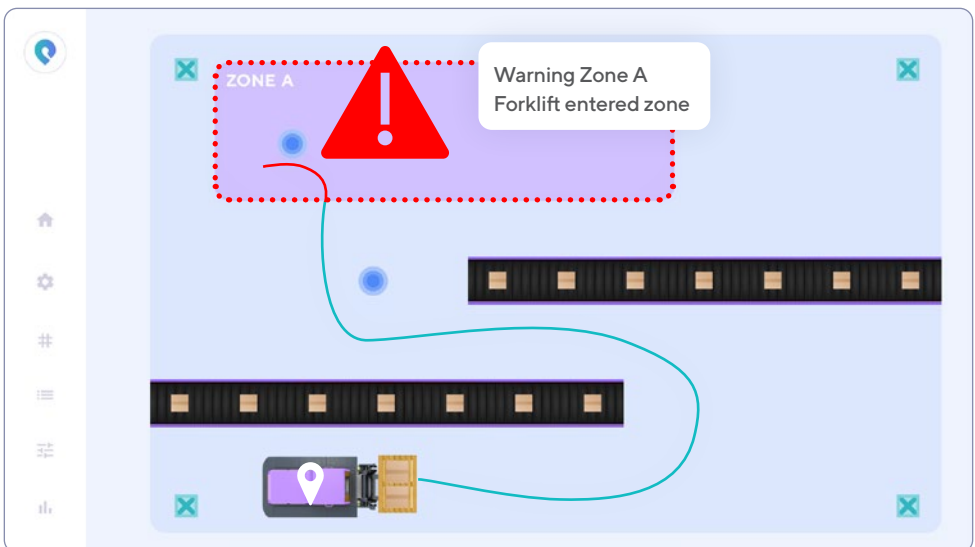
Trigger use cases are fully configurable and can be defined as assets moving in or out of a pre-defined geofence, or sensor criteria being met.

The asset can be any object with a tag: a forklift, a person, a tugger train, a bin or an order. The geofence can easily be drawn on the virtual floorplan and marks the trigger fence zone. Next, the actual trigger can be defined to create an event, whenever an asset or group of asset types enters or leaves the zone. The event can be a warning light, a text message, an email, an alert in a dashboard, or powering off a machine.

### ENDLESS POSSIBILITIES

The scenarios to configure use cases generate an almost endless list of opportunities to optimize production floor activity. Pozyx has a wide set of highly configurable triggers to capture all business flows.

The basic building blocks contain event trigger logic based on the activities of tagged assets. Event triggers can be defined as positioning triggers, business zone triggers, movement triggers or sensor triggers. or a combination, to create more complex trigger scenarios in smart industry settings.





# Pozyx Control Tower Analytics & Dashboards

## Ultra powerful

### ANALYTICAL DATA LAKE

The collected asset data is stored in the **Analytical Data Lake** in the Pozyx Platform. The data lake stores object data based on location data, originating from different location technologies such as UWB, RFID, Bluetooth, 5G, GPS, WiFi. It collects details on triggered events, sensor data and object metadata. Real-time and historical object data is analyzed to fuel the operational and managerial dashboards that reflect asset visibility and valuable, fine-grained insights. Depending on different user profiles, various dashboards can be made available.

The main users of the control tower are the operational leaders who need real-time data and KPIs to support their objectives and critical measurables.

The drill-down capabilities provide total visibility on assets in any stage of the production flow.

Process engineers and continuous improvement groups will be able to analyze and correct new

opportunities previously not offered or made visible. Operators and supervisors have real-life data at hand to assess progress, incidents, bottlenecks and every situation on the floor.

### ANALYTICAL DASHBOARDS

The Pozyx Platform supports the easy creation of custom dashboards.

It provides heatmaps, time budgets, spaghetti charts and zone analytics based on algorithms and adds the ability to filter on asset type, activity, location and metadata.

The dashboards link with data from the data lake or other sources like Excel, databases and APIs. Embedded analytics can also be obtained from external dashboard providers such as Microsoft Power BI, Tableau, Cumul.io, Looker, etc.



# Industrial Applications Ultra sharp



## INDUSTRIAL APPLICATIONS FROM THE MENU

The Pozyx Platform contains a broad offering of industrial applications to take control of the day-to-day activities in the plant. It provides a fully featured toolbox to explore asset positioning data through multiple interactive views.

## SHOPFLOOR APPS

The Shopfloor Apps is a series of apps for both handheld or desktop devices. They are designed for operators, for example for easy linking of tags to objects or for supervisors to focus on specific order tracking or incident visibility.

## PROCESS MANAGEMENT

This area provides process mining and management features to process engineers and members of the continuous improvement groups. The analytics provide insights for process mapping exercises and for process mining activities with drill down capabilities. It is ideally suited for MIFA (Material and Information Flow Analysis) where actuals are compared to what was planned and Job Code Tracking to compare cost against the pricing model.

## WIP DASHBOARD

The WIP Dashboard provides full visibility on WIP. It is a kanban-style dashboard that shows the process steps based on geofences and reflects the state of each order in the process based on its location.

The WIP Dashboard makes it easy to filter on any metadata, metric or property to obtain total visibility on every step in the production or assembly flow, for all or a selected subset of orders, assets, goods and operators.

Dashboard users can obtain real-time data to automate materials control and management workflows, to locate lost assets or tools and to track rework or expedite orders.

In short, the Pozyx real-time asset WIP Dashboard will alleviate real operational painpoints and improve operational efficiency, enhance productivity and increase overall workflow performance.



# RTLS case stories that made the difference

## Ultra beneficial

### BONDUELLE IMPROVED WAREHOUSE EFFICIENCY BY 3%

#### SMALL MISTAKES COST MONEY

Bonduelle's freshly packed salad factory in Italy depends on moving hundreds of loads of fresh vegetables as quickly as possible. With over 1400 pallet operations per day, errors in misplacing a pallet in the 3000 m<sup>2</sup> warehouse quickly add up. The company experienced significant time loss when pallets were lost and needed to be retrieved. Since time is crucial when working with ultra fresh foods, sometimes with less than 30 minutes between customer order to truck departure, Bonduelle wanted to be sure that pallets were stored exactly where they needed to be, requiring real-time positions of forklifts at storage confirmation in the WMS (Warehouse Management System). With turnaround times of less than 24 hours, speed and precision are vital and there is no time to look for lost pallets or bins.

#### UWB ADVANTAGES ARE KEY

Bonduelle first experimented with other positioning technologies to identify pallets with better precision but discovered several disadvantages. Some systems take up too long to install. Others required holes to be drilled in the ground, which limits the flexibility of a dynamic warehouse. What's more, many of the lettuce bins are so small that a 15 cm error in position could be the difference between the right load and the wrong one.



With an accuracy of 10 cm, a user-friendly installation, and a proven implementation procedure, Bonduelle had found the key to unlock warehouse efficiency in Pozyx's RTLS solution.

### UWB ACCURACY IMPROVES EFFICIENCY BY 3%

After implementing the Pozyx solution, Bonduelle saw a 3% increase in its warehouse efficiency. The system's pinpoint accuracy drastically reduced the number of misplaced pallets and bins. The company now has a real-time overview of where assets are, saving both time and money.

Bonduelle has already implemented the system in other warehouses and in a next step wants to track the flow of raw materials and use real-time location to keep people safe in extremely cold working environments. For Bonduelle, the Pozyx solution is a recipe for warehouse efficiency success.

Visit [pozyx.io](https://pozyx.io) for more case stories.



# RTLS case story

## Efficiency tracking

### Ultra visibility

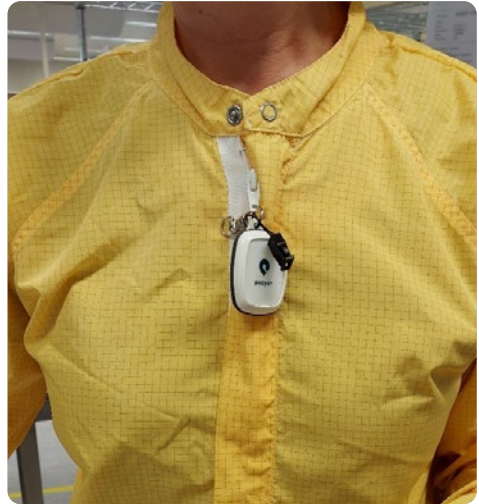
#### POZYX RTLS SOLUTION AT ALCON WITH EYE FOR DETAIL

Alcon assembles thousands of unique surgical packs and was looking for an efficiency tracking system to monitor operator efficiency and to build in flexibility with changing team sizes and varying production flows for their dynamic product portfolio. The Pozyx solution resulted in an efficiency dashboard to optimize operator work output and is used as input to the finance department to evaluate labor cost and improve cost calculations.

#### BLURRY VISION ON EFFICIENCY AND COST

Alcon keeps a complex order and BOM list linked to a complicated assembly process, with over 40.000 unique components. It is difficult to quantify output in terms of cycle times, cost, and efficiency. One of the key challenges is to provide the finance department with accurate data on labor cost to obtain better price setting and product profitability. A detailed understanding of labor cost per specific order was lacking.

The production is executed by about 300 operators, working in three shifts. Line managers take charge of order prioritization and instruct the operators on the shop floor. But because the production process is complex and dispersed, it is difficult to monitor the status of partial orders which keeps shipments from going out. This leads to expediting orders and pulling operators away from their original planning to work on these priority orders.



#### REAL-TIME PRODUCTIVITY VISUALIZED

The Pozyx RTLS was implemented to cover the shop floor of with a total of 31 anchors. At the start of their shift, the 300 operators wear a Pozyx tag and virtual zones in the Pozyx web app match the physical location at workstations. This allows Alcon to collect, track, and report how much time employees spend in each workstation, on each order.

#### PRODUCTIVITY DASHBOARD

The platform monitors and reports in real-time how many operators are currently working at a workstation. The ERP system adds information on which order is being processed. By combining these two data streams, Alcon can use their dashboard that indicates the efficiency of workstations in real-time.



## DON'T TAKE OUR WORD FOR IT

Pozyx has been selected in **Gartner's 2021 Magic Quadrant for Location Services** as a niche player for sub-meter accurate indoor location services. With a stunning 4.8-star rating in Gartner's Peer Insights, our customers have confirmed the Pozyx superior accuracy, ease of use, flexibility and scalability. Pozyx is indeed honored and proud with these excellent results and reviews.



**Gartner**  
peerinsights™

**Pozyx Rating 4.8**



"Pozyx, amazing value. Good experience, good quality hardware, software & documentation. Solid system performance. Really improved our manufacturing logistics efficiency."

"If you think about implementing RTLS, start working with the great company Pozyx is."

"Best RTLS out there today!"

"Great location service. Working with Pozyx was a very fast and agile process. The support was very good by people who know what they are doing. We managed to deliver our targets on time. The Pozyx support and integration possibilities are by far the best in the industry."

"The highest accuracy of the location data combined with an outstanding support."

## POZYX, GLOBAL PLAYER - AT YOUR SERVICE

Pozyx, headquartered in Ghent, Belgium, is an internationally recognized scale-up and develops its portfolio of algorithms, hardware, analytics solutions and applications for global RTLS based on UWB and other location technologies.

## PROVEN TRACK RECORD

With over fifty thousand tags in the field and thousands of anchors deployed, Pozyx can rely on a proven track record of its technology.

The recently launched Pozyx Platform strengthens its future-proof RTLS vision where users and application builders do not have to worry about the underlying technologies used. Pozyx has successfully expanded its smart manufacturing customer base and with offices in the US and a mature partner eco-system, Pozyx is poised to continue its steady growth pace to keep serving customers in over 80 countries.





# Pozyx RTLS UWB Kits

## ideal for project validation

### Ultra valuable



#### READY TO GIVE IT A TRY?

The Enterprise kits are the ultimate UWB RTLS validation packages.

They contain everything needed to be up and running with indoor positioning in record time, and provide a low cost intro to kickstart any RTLS project.

The kits come in two options: the Enterprise Kit and the Enterprise Lite Kit. The kits are scalable to unlimited area sizes and their content can be re-used in future large-scale Enterprise deployments.

More info in the Pozyx store:

[store.pozyx.io](https://store.pozyx.io)

#### POZYX UWB RTLS TECHNICAL SPECIFICATIONS

- Accurately position tags within 10–30 cm
- Supports variable update rates up to 75Hz and more
- Provides up to 2000 position updates per second (server limitations apply)
- Performs real-time TDOA positioning
- Supports low-power tags with up to 5 years of battery life
- Supports an unlimited number of anchors per server
- Supports multiple gateways per deployment
- Connects up to 8 anchors in a chain with PoE+
- Time-synchronized through NTP
- Supports rapid integration with other software through MQTT
- Pozyx management software for quick deployment and easy maintenance
- Creates actionable analytics with location-based trigger events
- Pozyx analytics software for automated heatmaps, spaghetti charts and zone analytics



## Get in touch

[pozyx.io](https://pozyx.io)

**Contact Pozyx for your Industry 4.0 demo  
and find out how RTLS can smarten  
your use case and industry application**



Real-time asset tracking to improve operational efficiency, enhance productivity workflow performance



People tracking for optimized labor efficiency, automated time registration, and improved safety



WIP dashboard visibility to automate materials management and tracking of rework or expedite orders



Tracking of reusable packaging and critical tools



Automated Trigger events  
No coding required to create smart contextual location alerts & actions



Analytics and dashboards for real-time asset visibility and valuable insights on historical data



Seamless indoor/outdoor transition  
Zoom in from worldwide map to precise location, up to 10cm accurate



Multi location technologies  
UWB, RFID, WiFi, BLE, 5G, GPS



Standardized & open API for industry under the open & interoperable omlox standard



Scalable to support small environments as well as global operations with many thousands of tags



Robust and optimized for demanding industrial environments and harsh circumstances



Open architecture, flexible interfaces and seamless integration protocols for ERP, MES and WMS

### Pozyx RTLS solutions

**Track any asset in industry in real-time**

**Accurate • Effective • Simple**