

INTRANAV An Inpixon Company CASE STUDY

Intelligent Material Flow & Management from Goods Receipt to Production Supply

How Inpixon's INTRANAV solution helped a leading international supply chain management and logistics company with digital recording of truck delivery and standing times, FIFO, and productivity monitoring to ensure optimal production supply

The Company

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A leading international supply chain management and logistics solutions company

With over 2,000 locations worldwide, the corporate group is one of the world's leading providers of global logistics services, supporting industry and commerce in the international exchange of goods through land transportation, air and sea freight, contract logistics, and supply chain management.



The Challenge

Digital recording of truck delivery and standing times, FIFO, and productivity monitoring to ensure production supply

At the ramp entrance or in the truck line, the goods unloading and receipt times are very tight. Each truck supplier is given various time slots in which the goods must be delivered and removed. If the supplier exceeds these slots, so-called penalties (contractual penalties in transport law) are applied, as further delivery processes are blocked. This is particularly challenging for companies with connected production, as they are dependent on "just-in-time" deliveries. The company to which the delivery is made is responsible for providing proof. An inconsistent time recording system can lead to unwanted costs, placing the receiving company in a disadvantage.

The factor "time" continues to run through the entire intralogistics process; if the incoming goods times are not recorded correctly, FIFO (first in, first out) tracks cannot be occupied correctly either, which is relevant for production supply.

Many of our customers operating large plants, experience high turnover rate. If the number of containers handled is not monitored and there are fluctuations in the material flow, production can be delayed.

Read about the solution INTRANAV, an Inpixon company, implemented to optimize incoming goods and monitor the KPIs of the container turnovers in real-time for our customer, one of the leading companies in supply chain management and logistics solutions.



Customer Requirements



Digital forklift support according to the FIFO principle

For an automated and seamless recording of incoming goods during the truck unloading process.



Digital truck delivery and standing time logging

Complete and correct truck delivery and standing time logging.



Digital coordination at the FIFO tracks

Correct allocation of goods receipts according to the FIFO principle at the FIFO tracks/buffer zone.

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Digital productivity monitoring

Control tool for the frequency of container handling, measured according to container transport of the forklift and route train fleet (from the warehouse to the supply of the goods to the production line).

The Solution

Process illustration: Intelligent material flow and store floor management

Goods receipt – Goods intake and material supply – Production supply



Goods Receipt

Digital forklift support according to the FIFO principle

- Delivery and unloading of goods is carried out via a truck line (trucks line up one after the other).
- Each forklift truck ("unloading forklift") is equipped with a tablet and INTRANAV.RTLS Vehicle TAG+. Via the INTRANAV.APP Transport Driver, forklift drivers receive information and instructions on which truck must be unloaded next. The instruction of the trucks to be processed takes place according to the prioritization principle.
- At the same time, the app shows the real-time progress of the truck unloading process. It counts and displays how many units per container have already been unloaded.

Digital real-time system logging of truck standing times

- According to the delivery bill, the number of containers to be unloaded from the truck is recorded. The INTRANAV.APP calculates the estimated unloading and transport time for the unloading forklift, respectively.
- The INTRANAV.APP records how long the actual unloading process takes by tracking the realtime location of the forklift.
- The real-time unloading information serves as digital proof of the actual truck standing times in the tube. If a truck stands in the tube for too long, this can cause additional costs, and the actual unloading time can be proven to the forwarding company accordingly.

2 Buffer Zone

- During the truck unloading process, the INTRANAV.APP Transport Driver indicates to the forklift driver which FIFO lane has to be occupied with the incoming goods according to the first in-first out principle.
- In addition, there is a monitor placed in the goods receiving (buffer) zone, which shows which container occupies which goods receiving lane according to the first in-first out principle.

3 Goods Storage in the Warehouse and Material Supply for the Production Line

- The goods are then stored in the warehouse.
- There is a continuous request for goods from the production line (JIS/JIT): Route trains are loaded and bring the requested material to the production line.

Digital shopfloor management

- Tracking boards are located in various warehouse areas to measure productivity and compliance with handling targets. The overview helps shift supervisors keep track of material units handled. Real-time numbers, data, and facts enable team leaders to coordinate the forklift and route train fleet efficiently. If the fleet is overloaded or underloaded, it can be managed accordingly.
- The digital shop floor management system is automatically supplied with real-time information.
- The number of containers handled per hour is displayed and monitored: target value per hour in relation to the number of containers handled per hour.

Products Used

INTRANAV.IO Platform





Real-time location data integration into the digital shopfloor management system



The Result

Using INTRANAV.APP Transport Driver and INTRANAV.RTLS, our customer achieved the following results:

Optimization of goods receipt:

- Increasing process reliability during goods receipt processing: Correct, complete and digital process recording and booking.
- Correct truck standing time recording and logging based on real-time location data (highest process accuracy, as digitally recorded)
- Correct supply of the FIFO lanes

Control system to ensure "just-in-time" production supply:

• Productivity monitoring of container handling figures ensures fast response to material supply fluctuations

Key Benefits

- Automated and seamless recording during the inbound process saved 50% of personnel costs.
- Reconciliation with truck standing time logs could avoid annual penalties.
- Measurable increase in ramp management (inbound) efficiency through digital forklift support (application according to FIFO).
- Optimization of production supply through real-time recording of transport and container handling data into the digital tracking board. Shift supervisors can react faster and more efficiently to deviations and fluctuations in target values. The resources required for compliance can be optimally allocated and coordinated. Fluctuations can be compensated more quickly, and the "source of disruption" can be identified immediately through the process mapping.

If our smart factory or virtual manufacturing solution is of interest to you, contact us to discuss optimization possibilities for your manufacturing and logistics workflows today!

About Intranav

INTRANAV, an Inpixon company, offers a highly flexible and cost-effective enterprise solution, ideally suited for automotive, aerospace, logistics or production. Further fields of application are for example, in the area of production line automation; automatic cycle feedback into SAP systems, line balancing/production leveling by **INTRANAV SMART Factory**, "Just in Sequence" – provision for the right sequence, plausibility checks or zone-based control of automatic programmable logic controllers.

Let's talk about your goals.

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