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# MOKO SMART



LoRa®



MOKO SMART

## Ahead of Every Arrival: How LoRaWAN® Smart Badges Transformed Truck Unloading Operations at a Industrial Park

MOKO Smart's LW006 Smart Badge, combining LoRaWAN, Bluetooth, Wi-Fi, and GPS, delivers proactive truck arrival visibility to a large Peruvian industrial park, replacing reactive manual processes with automated, data-driven unloading coordination.

## QUICKFACTS

### Company

MOKO SMART  
[www.mokosmart.com](http://www.mokosmart.com)

### Customer Profile

MOKO SMART is a leading IoT device manufacturer specializing in LoRaWAN-based sensors, trackers, and gateways. With over a decade of wireless expertise, MOKO SMART develops end-to-end IoT hardware solutions for logistics, smart cities, industrial monitoring, personnel safety, and asset tracking, serving enterprise customers across global markets.

### Objectives

- Replace manual, reactive truck arrival monitoring at a large industrial park in Peru
- Achieve real-time visibility of incoming trucks before they reach unloading bays
- Enable unloading staff to prepare resources and assign personnel proactively
- Reduce unnecessary waiting time for truck drivers and unloading personnel
- Deploy a scalable, low-power wireless solution requiring minimal new infrastructure

### Results

- Real-time truck arrival alerts sent to staff as trucks approach the park gate
- Unloading teams notified in advance, enabling proactive scheduling and resource allocation
- Reactive manual monitoring replaced by automated, data-driven staff notifications
- Single badge provides indoor and outdoor coverage through combined LoRaWAN, Bluetooth, Wi-Fi, and GPS
- Scalable LoRaWAN architecture covers the entire park with minimal gateway infrastructure

### Products and Services

- Semtech's [LoRa Edge™](#) LR1110



## INTRODUCTION

Industrial and logistical operations are among the most complex and time-sensitive environments to manage. Efficiency depends on the seamless coordination of supply chains, inventory management, and transportation. Any delay from one part of the chain triggers a cascade of adverse consequences downstream. For industrial parks handling hundreds of truck movements daily, the pressure to improve operational visibility without proportionally increasing costs or headcount has never been greater.

MOKO Smart, a Shenzhen-based IoT device manufacturer with deep expertise in LoRaWAN solutions, developed a truck arrival tracking system built around the LW006 Smart Badge. The solution was implemented together with SMELPRO S.A.C, a Peru-based technology company specializing in IoT and AI solutions for Industry 4.0 applications. SMELPRO integrates sensors, field controllers, and IoT platforms (cloud and on-premise), leveraging technologies such as LoRaWAN and machine learning for advanced data analysis and real-time industrial process automation. Deployed at a large industrial park in Peru, the combined solution integrates MOKO Smart's LW006 hardware with SMELPRO's IoT platform, delivering real-time truck arrival alerts, proactive resource planning, and automated staff notifications, all without requiring costly wired infrastructure across the facility.

## CHALLENGE

A large industrial park in Peru, central to manufacturing and logistics operations, faced significant challenges in optimizing its unloading processes. Extending across several kilometers and attracting numerous trucks daily, the park serves as a busy commercial hub for diverse businesses. Trucks arrive fully loaded with goods, typically in an unpredictable manner driven by real-time traffic conditions, variable departure times, and route changes beyond anyone's control. The park had long relied on traditional manual methods that proved difficult to manage in real time.

The core problem was the absence of advanced visibility. Without any reliable way to know when a given truck would arrive, unloading staff operated in a perpetually reactive state. Employees could not prepare in advance, resulting in frequently random arrangements. Staff found themselves interrupted mid-task to scramble for an arriving truck or left idle waiting for one that had not yet appeared. This not only disrupted their workflow but extended the unnecessary waiting time of truck drivers at the gate.

Over time, this reactive pattern compounded into systemic inefficiency. The cumulative effect was reduced overall throughput and rising operational friction, a growing cost to the park and its commercial tenants. The situation made the urgent need for a more innovative and efficient solution obvious, and this is precisely where IoT-based truck arrival tracking offered a clear path forward.



“ LoRa® technology has enabled MOKO SMART to deliver reliable, low-power, and long-range IoT hardware solutions across various industries such as asset tracking, personnel safety, and environmental monitoring. By leveraging LoRaWAN®, our customers are able to deploy scalable IoT networks with lower maintenance costs and improved operational efficiency, even in challenging environments. ”

**Jerry Li,**  
Co-founder at MOKO SMART

## SOLUTION

MOKO Smart proposed a connected system designed to transform the park's unloading operations from reactive to proactive. The core of the solution is the LW006 Smart Badge, a card-format multi-technology tracker equipped with LoRaWAN, Bluetooth, Wi-Fi, and GPS, issued to every truck driver operating within the park's logistics network. This single device provides both reliable indoor positioning and accurate outdoor geolocation, making it suitable for the park's combination of covered loading areas and open storage yards.

As the solution integrator, SMELPRO S.A.C combined MOKO Smart's LW006 hardware with its IoT infrastructure. Through the integration of LoRaWAN connectivity, IoT platforms, and intelligent data processing, SMELPRO enabled real-time monitoring, alert management, and operational automation tailored to the industrial park's logistics workflow.

To enable precise arrival alerts, MOKO Smart installed M3 Industrial Beacons near the park gates. As a truck approaches, the driver's LW006 badge automatically detects the BLE beacon signal and immediately transmits this event, including the driver's identity and position, through the LoRaWAN network to the IoT cloud platform. The data is processed through SMELPRO's integrated IoT solution, and the moment this data is received, automated alerts are pushed to the relevant unloading staff, giving them advance notice to prepare the bay, assign the right personnel, and have resources ready before the truck enters the facility. Additional M3 Mini BLE Asset Tags placed on cargo and equipment further enrich indoor positioning accuracy across the park.

The LoRaWAN network, powered by Semtech's LoRa® embedded in the LW006, spans the entire park across both covered indoor loading areas and open outdoor yards, with just a small number of gateways. Location data flows continuously to the IoT cloud platform and connected application, giving park management a live view of truck movements and staff activity. By combining MOKO Smart's IoT hardware with SMELPRO's platform, the result is a system that converts unpredictable arrivals into structured, anticipatory operations, shifting unloading staff from a state of constant reaction to one of confident, proactive preparation.

## BENEFITS

- **Real-time truck arrival visibility**  
Park managers and unloading supervisors receive live alerts the moment a truck approaches the gate. Accurate, timely arrival data flows directly to the IoT platform and connected application, eliminating the guesswork of manual monitoring and giving operations teams the situational awareness they need to act decisively.
- **Proactive resource planning**  
Advance notice of incoming trucks allows unloading staff to allocate the right resources, assign the right personnel, and prepare the bay before a truck arrives.

The operation shifts from a reactive scramble to a structured, anticipatory workflow, reducing disruptions and improving the consistency of throughput across the park.

- **Automated staff notifications**

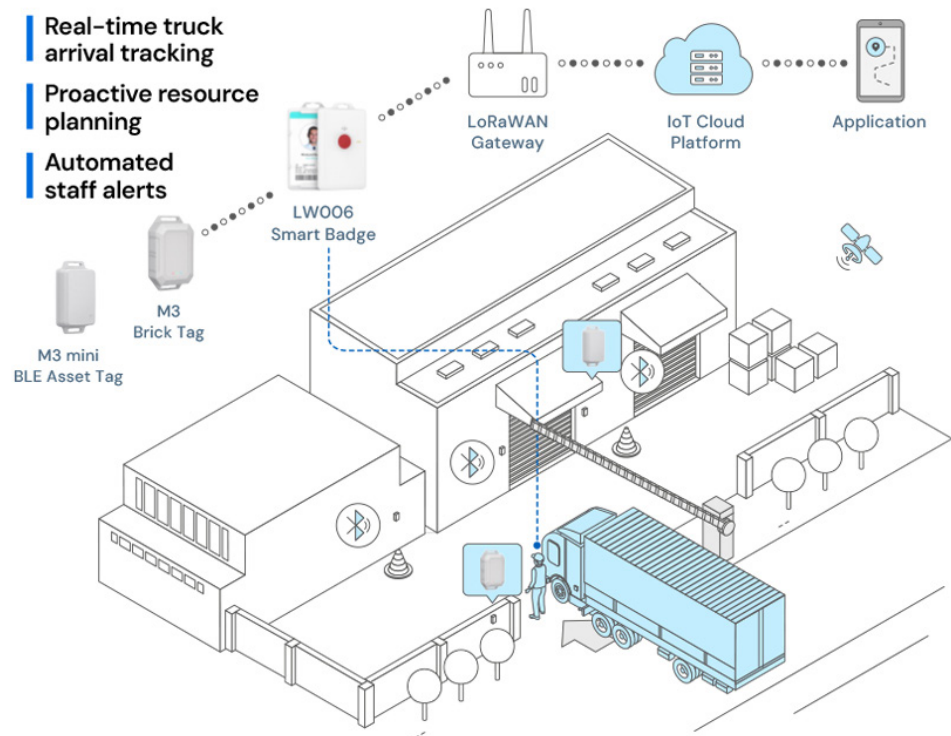
Arrival alerts are triggered automatically when a driver's badge detects a gate beacon, with no manual reporting, radio calls, or phone check-ins required. Staff receive timely, accurate notifications that allow them to respond without interrupting their current tasks, building a more disciplined and efficient daily rhythm.

- **Complete indoor and outdoor coverage in one device**

The LW006 Smart Badge's combination of LoRaWAN, Bluetooth, Wi-Fi, and GPS positioning delivers consistent visibility whether a truck is approaching the outer gate, moving through a covered loading bay, or parked in an open storage yard. No separate hardware is required for different zones of the facility.

- **Scalable with minimal infrastructure investment**

LoRaWAN's long-range, low-power architecture requires only a small number of gateways to cover the entire park. Expanding the system to additional gates, larger areas, or a growing driver fleet requires no proportional increase in network infrastructure, making the solution as cost-effective to scale as it is to deploy.



#### About Semtech

Semtech Corporation (Nasdaq: SMTC) is a leading provider of high-performance semiconductors powering AI data center networking, IoT connectivity and intelligent connected devices worldwide. Our global teams are committed to empowering solution architects and application developers to develop breakthrough products for the infrastructure, industrial and consumer markets.

To learn more about Semtech technology, visit us at [Semtech.com](https://www.semtech.com) or follow us on [LinkedIn](#) or [X](#).

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