

Intelligent Parking Mobility Solutions

Powered by Intel and Wei Long Electronics Engineering

Transforming Urban Mobility Through Integrated Intelligence.



About

Wei Long Electronics Engineering:

Wei Long Electronics Engineering is a trusted innovator in next-generation automated parking and mobility management solutions, delivering smarter, faster, and more seamless parking experiences for today's high-demand environments. The company specializes in Electronic Parking Systems (EPS), Video Parking Guidance Systems (VPGS), and Digital Twin technologies in combining advanced engineering with deep industry expertise to transform how parking facilities are managed, monitored and optimized. Guided by its vision of *Innovating Automated, Efficient Parking*, the company provides fully integrated hardware and software platforms that enhance operational efficiency, improve user experience, and maximize system reliability. With proven deployments across hi-traffic locations – including shopping malls, airports, and commercial districts – Wei Long Electronics Engineering empowers operators to modernize their parking ecosystems through intelligent, connected, and future-ready solutions.

Executive Summary

As cities and transportation hubs evolve, operators must manage not only vehicle parking but also mobility flows such as ride-hailing services. Wei Long Electronics Engineering, a leader in smart parking solutions, extends its smart parking expertise into intelligent mobility systems, by integrating Intel® technologies to deliver high-performance, scalable, and resilient solutions.

From automated parking to real-time e-hailing queue management, Wei Long enables seamless traffic orchestration, improved passenger experience, and optimized operational efficiency.

The Challenges

Today, modern transport hubs and parking operators face increasing complexity. Several core challenges continue to constrain performance and customer experience:

- **Traffic Congestion and Latency:** High vehicle volumes – including private cars and e-hailing vehicles cause congestion at entry points and pickup zones.
- **Fragmented Mobility Management:** Separate systems for parking and ride-hailing create inefficiencies and poor coordination.
- **Scalability and Cost Pressure:** Expanding infrastructure to handle growing vehicle/passenger demand can significantly increase costs.
- **Resilience and Continuity:** Network disruptions can cause system downtime, leading to revenue loss and service interruptions.

The Solution

To address these challenges, Wei Long Electronics Engineering integrates Intel® technologies into its smart parking and mobility solution that combines automation, AI-driven analytics, and real-time data processing to optimize parking operations and traffic flow in high-demand environments.

The solution integrates Electronic Parking Systems (EPS) and Video Parking Guidance Systems (VPGS) with License Plate Recognition (LPR) and cashless payment technologies into automate vehicle entry, exit and space allocation. By leveraging edge AI and centralized management platforms, the solution enables real-time decision-making, reduces latency, and delivers a seamless user experience, while ensuring continuous operation and scalability.

Designed as a future-ready platform, the solution also extends beyond parking to support broader smart mobility use cases, including traffic monitoring, digital twin visualization, and integrated urban mobility management.

1. Cloud-Enabled Centralized Management

Intel® Core™ Ultra processor-powered cloud infrastructure enables centralized management, analytics, and reporting of parking and mobility services across multiple sites to the parking management dashboard. This unified architecture enhances operational visibility, accelerates decision-making, and supports seamless scalability as new facilities, services, or integrations are added.

2. Edge Computing for Real-time Operations

Using Intel® Xeon® processors deployed at the edge enables real-time processing for automated enforcement, license plate recognition, and local decision-making for queue and traffic control. By handling critical transactions locally, the system ensures low-latency responses, enhanced reliability, and uninterrupted operations—even during network disruptions.

3. Edge AI Parking Guidance & Digital Twin Platform

Powered by Intel® Core™ processors, Wei Long's smart parking guidance solution integrates ultrasonic sensing, AI-enabled video analytics, and Digital Twin technology to provide real-time occupancy monitoring, intelligent parking guidance, and operational visibility. By combining accurate space detection with live digital representation of the parking environment, the solution enables faster parking, improved utilization, enhanced security, and data-driven decision-making for modern parking facilities and smart mobility ecosystems.

Key Outcomes & Benefits:

- Enhanced User Experience**
 - Faster parking and e-hailing operations
 - Reduced waiting times
 - Seamless, cashless transactions
- Optimized Traffic Flow**
 - Integrated control of parking, traffic, and ride-hailing
 - Intelligent routing and congestion reduction
- Operational Efficiency**
 - Lower infrastructure costs
 - Reduced manual intervention via automation
- High Reliability**
 - Edge-based processing ensures uninterrupted operation
 - Resilience against network disruptions
- Future-ready Smart City Platform**
 - Supports EV charging and green initiatives
 - Supports AI-driven mobility services
 - Scalable for airports, traffic, commercial buildings and urban deployments

Key Intel® Technologies:

- Intel® Xeon® Processors**
High-performance compute for centralized analytics and orchestration
- Intel® Core™ Ultra Processors**
Edge computing for real-time LPR, AI analytics and enforcement
- Intel® Core™ Processors**
Edge intelligence for faster parking decisions, real-time visibility, and seamless mobility experiences.

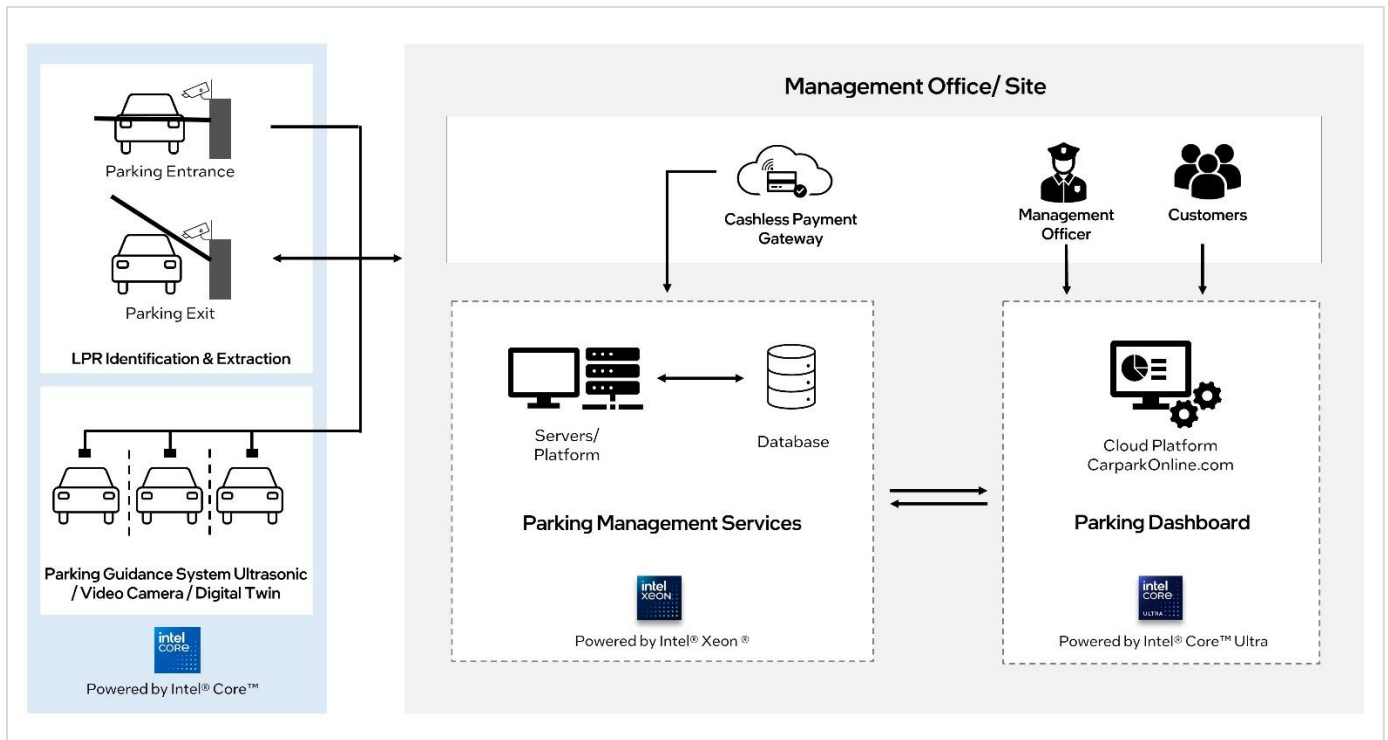


Figure 1: Smart Parking and Mobility Solution Architecture powered by Intel® Technologies

Conclusion

Wei Long Electronics Engineering's smart parking and mobility solution transforms traditional parking infrastructure into an intelligent, connected mobility ecosystem. Powered by AI-driven analytics, Digital Twin technology, and Intel® processor-based edge computing, the solution delivers real-time visibility, operational efficiency, and enhanced user experiences across parking facilities, transportation hubs, and smart city environments. By enabling data-driven decision-making and scalable deployment, the solution helps organizations reduce congestion, optimize utilization, and lay the foundation for the next generation of smart and sustainable mobility.

Learn More

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