



# Mobile Shuttle

**Space Efficiency.**  
**High Technology.**  
**Flexibility.**

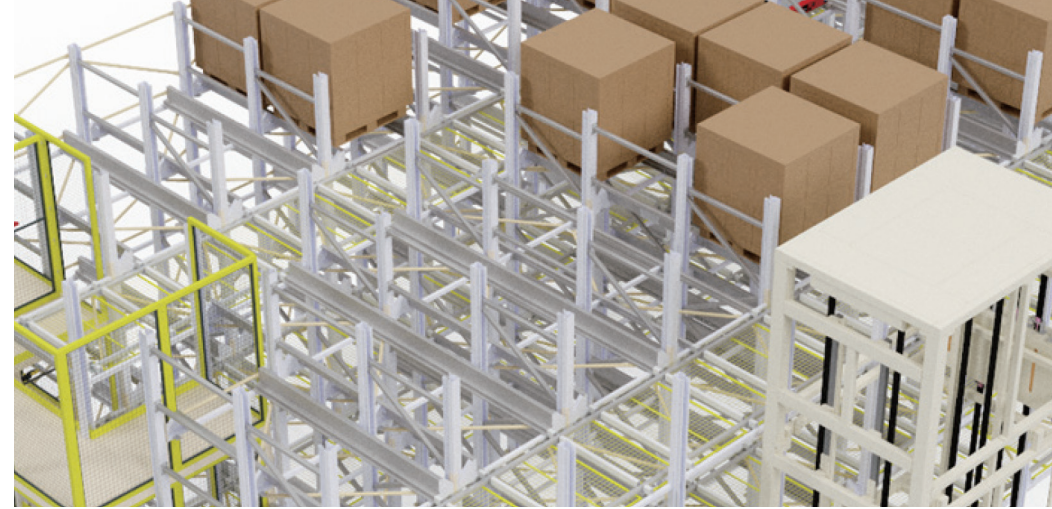
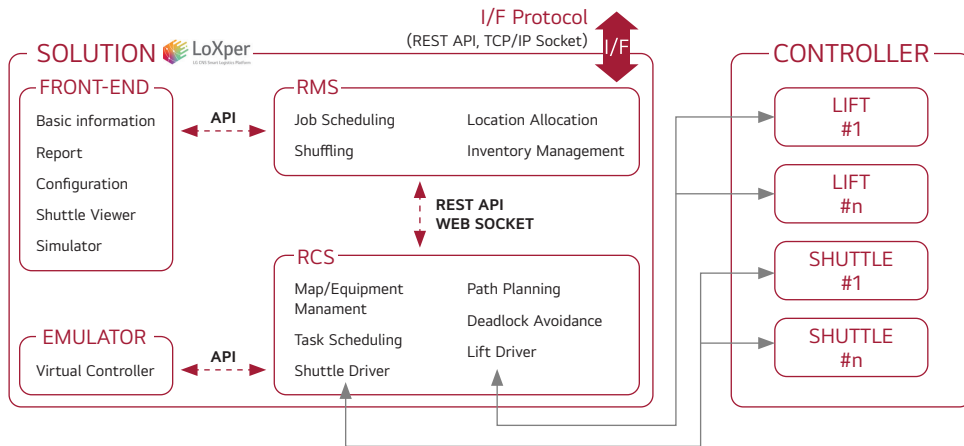
The **Mobile Shuttle Solution** enables unrestricted horizontal and vertical movement while integrating transport, lifting/lowering, storage, and inbound/outbound operations into a single system.

Its modular rack structure allows easy installation, expansion, shuttle addition, and flexible layout configuration to meet diverse operational needs.

# IT Control System

The LoXper Shuttle system comprises various API functions designed to meet diverse customer requirements. It provides optimized path algorithms and location strategy solutions for a wide range of layouts. Furthermore, the system includes a web-based monitoring GUI and simulation tools to ensure optimal operation across a variety of environments.

## System Architecture



## Key Points



### Space Efficiency

By configuring the space with high density, the space efficiency is more than twice that of a standard pallet rack.



### High Technology

Maximization of shuttle interlayer movement and simultaneous operation.



### Flexibility

Easy to expand according to operational conditions. Flexible response to complex and diverse layouts with multidirectional movement.

## Function

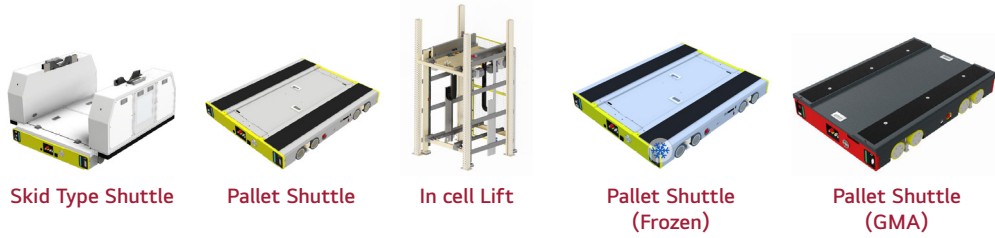
RCS		RMS (Additional Option)	
<b>Map/Facility Management</b>	Map Setting Equipment Communication Driver Charging Strategy for Shuttle Bot	<b>Job Scheduling</b>	Job Sequence Management Zone/Bot Balancing & Allocation
<b>Path Planning</b>	Cost-based Path Planning Advanced Avoidance Deadlock Avoidance	<b>Location Allocation</b>	Provides multiple options to fit different operational needs of the center
<b>Task Scheduling</b>	Task Scheduling Equipment Task Allocation & Sequence Management	<b>Shuffling Planning</b>	Shuffling based on the take-away prediction algorithm
<b>Driver</b>	Various bot/lift driver source-code	<b>Inventory Management</b>	Manage detailed inventory data LOT/ SKU-based take-away job junction

The key differentiator of the Mobile Shuttle solution is its ability to operate across three temperature environments: Ambient, Refrigerated, and Frozen.





- 1 Enhanced ease of maintenance and replacement through standardized design
- 2 Improved operational time by expanding battery capacity with optimized design
- 3 Provides jig installation options according to cargo type, enabling handling of various cargo types
- 4 Durability ensured with Loop Chain method
- 5 Enhanced shuttle loading and unloading stability with sag prevention Stopper Unit
- 6 Improved maintenance convenience with motor positioned at the bottom
- 7 Enhanced safety features with chain break and sag detection sensors, and application of brakes



Skid Type Shuttle

Pallet Shuttle

In cell Lift

Pallet Shuttle (Frozen)

Pallet Shuttle (GMA)

W1,100~1,400 x L1,000~1,200  
// GMA 40"x48"

**Load Parameter**

Pallet Size	W1,100~1,400 x L1,000~1,200 // GMA 40"x48"
Max Load	3,300lbs   1,500kg
Max Speed	1.2 ~ 1.5m/s
Max Acc.	0.3 ~ 1.0m/s <sup>2</sup>
Positioning Accuracy	±2mm
Temperature	-15°F ~ 113°F   -26°C ~ 45°C
Positioning Method	Data Matrix Code +Encoder Positioning
Rated Duration	≥8 h




**Pallet Shuttle**

Interface	Wireless AP
Max Lift Speed.	0.9m/s
Max Lift Acc.	0.1 ~ 0.45m/s <sup>2</sup>
Positioning Accuracy	±2mm
Positioning Method	Motor Encoder + Dog

**In cell Lift**

Loading Mode	Pallet, Shuttle, Pallet+Shuttle
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## Shuttle Lift Lineup

	PALLET TYPE	COMPACT TYPE	LIGHT TYPE
<b>Product</b>			
<b>Type</b>	Rack & Pinion	Belt	Rack & Pinion
<b>Rated Load</b>	Max. 3,300lbs (1,500kg)	Max. 1,720lbs (780kg)	Max. 220lbs (100kg)
<b>Speed</b>	Max 0.9 m/s (Max 54 m/min)	Max 1.0 m/s (Max 60 m/min)	Max 0.7 m/s (Max 42 m/min)
<b>Loading Mode</b>	Pallet Shuttle	Pallet Shuttle	Pallet (C/V application) Shuttle
<b>Feed Height</b>	Min. 470 mm	Min. 470 mm	Min. 470 mm
<b>Positioning</b>	±2 mm	±2 mm	±2 mm
<b>Specs</b>			
<b>Power</b>	3 kW * 4 ea	7.25 kW	2 kW * 2 ea
<b>Control</b>	PLC Servo system	PLC Servo system	PLC Servo system
<b>Sensor</b>	Upper and lower Stopper Limit Sensor	Upper and lower Stopper Limit Sensor	Upper and lower Stopper Limit Sensor
<b>Safety Option</b>	all sides (excluding Shuttle entry) Cover	all sides (excluding Shuttle entry) Cover	all sides (excluding Shuttle entry) Cover
<b>Environment</b>			
<b>Temperature</b>	-15 ~ 113°F   -26 ~ 45°C	-15 ~ 113°F   -26 ~ 45°C	-15 ~ 113°F   -26 ~ 45°C
<b>Noise</b>	Under 80 dBA	Under 80 dBA	Under 80 dBA



# An Integrated 4PL Partner

OVER  
**30%**  
COST REDUCTION

Achieved through our expert network analysis and strategic optimization.

LG CNS provides a single, unified solution combining strategic consulting, managed services, and integrated technology to optimize your entire logistics network.

4PL oversees multiple 3PLs and manages the entire logistics strategy and network including consulting services, while a 3PL executes logistics operations.

The Key Differentiator

## End-to-End Simplicity

Core Parcel Services

Smart App Service

Freight Audit Service

We act as your single partner, coordinating your entire parcel network to eliminate complexity and drive operational efficiency.



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