LG CLOi™ CarryBot

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AMR solution
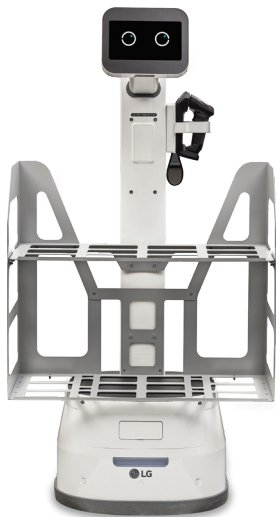## **for efficient**
warehouse operation

LG CLOi CarryBot supports warehouse operation for improved efficiency and productivity, with optimized solutions for various customer needs.

Warehouse Automation by LG CLOi CarryBot

- LG Autonomous Mobile Robot (AMR) can support the operator by indicating which items need to be picked and by delivering the items end-to-end while the operator can stay in the assigned zone only
- Operator can perform the required level of work without having extensive job experience
- Flexible for changes in the work environment and work protocol
- Capable of running in a 24-hour operation when using multiple AMRs
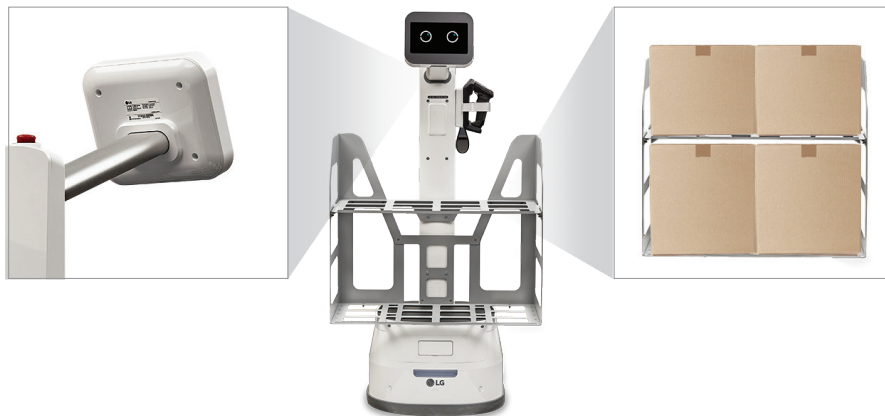
Mounting Type

Rolltainer Type

Why LG CLOi™ CarryBot?

User-friendly Design

LG CarryBot is **the optimal partner** for your work environment

User-friendly hardware design provides enhanced operator convenience and productivity (eg. Optimized display position and mounting shelf size)

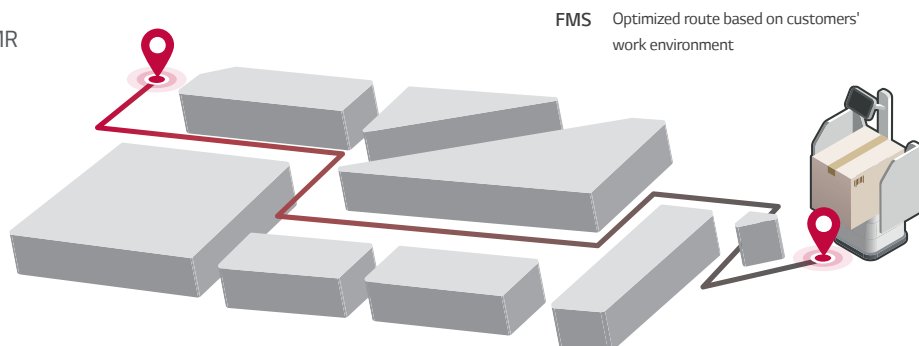|	
Productivity	⬆
Work efficiency	⬆
(ex : reduced operator-training time and paperless instructions)	
Flow of operator traffic	⬇
Job complexity	⬇

Optimized Driving Solution

LG CarryBot **supports efficient warehouse operation**

LG AMR driving algorithm with the Fleet Management System (FMS) enable the AMR to set the fastest route to the destination

Productivity	⬆
Work efficiency	⬆
Lead time	⬇
Job complexity	⬇

FMS Optimized route based on customers' work environment

Smart Order Grouping

LG CarryBot helps improve **work efficiency and productivity**

LG Material Control System (MCS) supports efficient AMR operation by optimizing order distribution and scheduling

Productivity	⬆
Work efficiency	⬆
Lead time	⬇
Job complexity	⬇

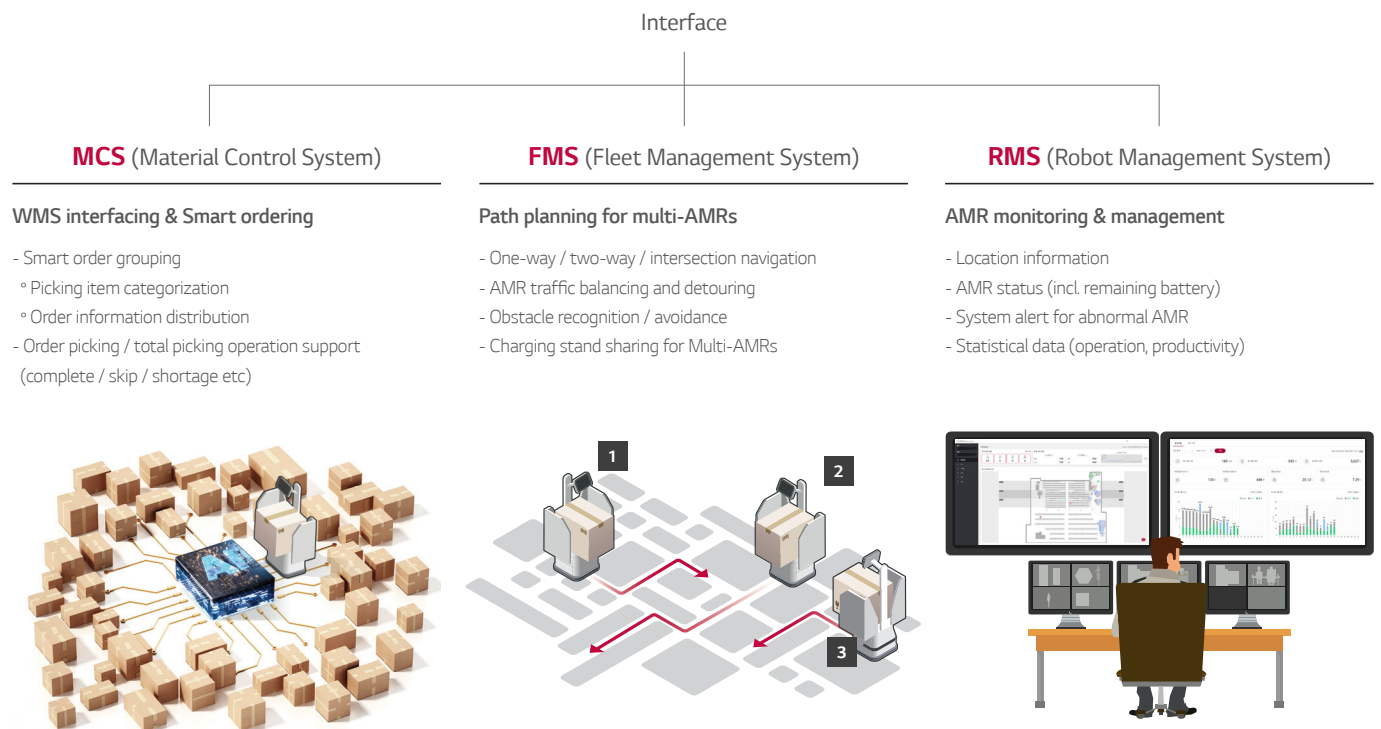#1 Order #2 Order #3 Order #4 Order

For ease of use, CarryBot provides simple and clear work steps through smart order grouping.

LG CLOi™ CarryBot **Solution**
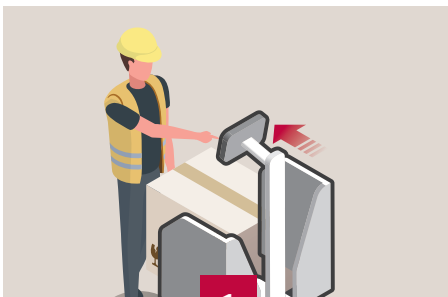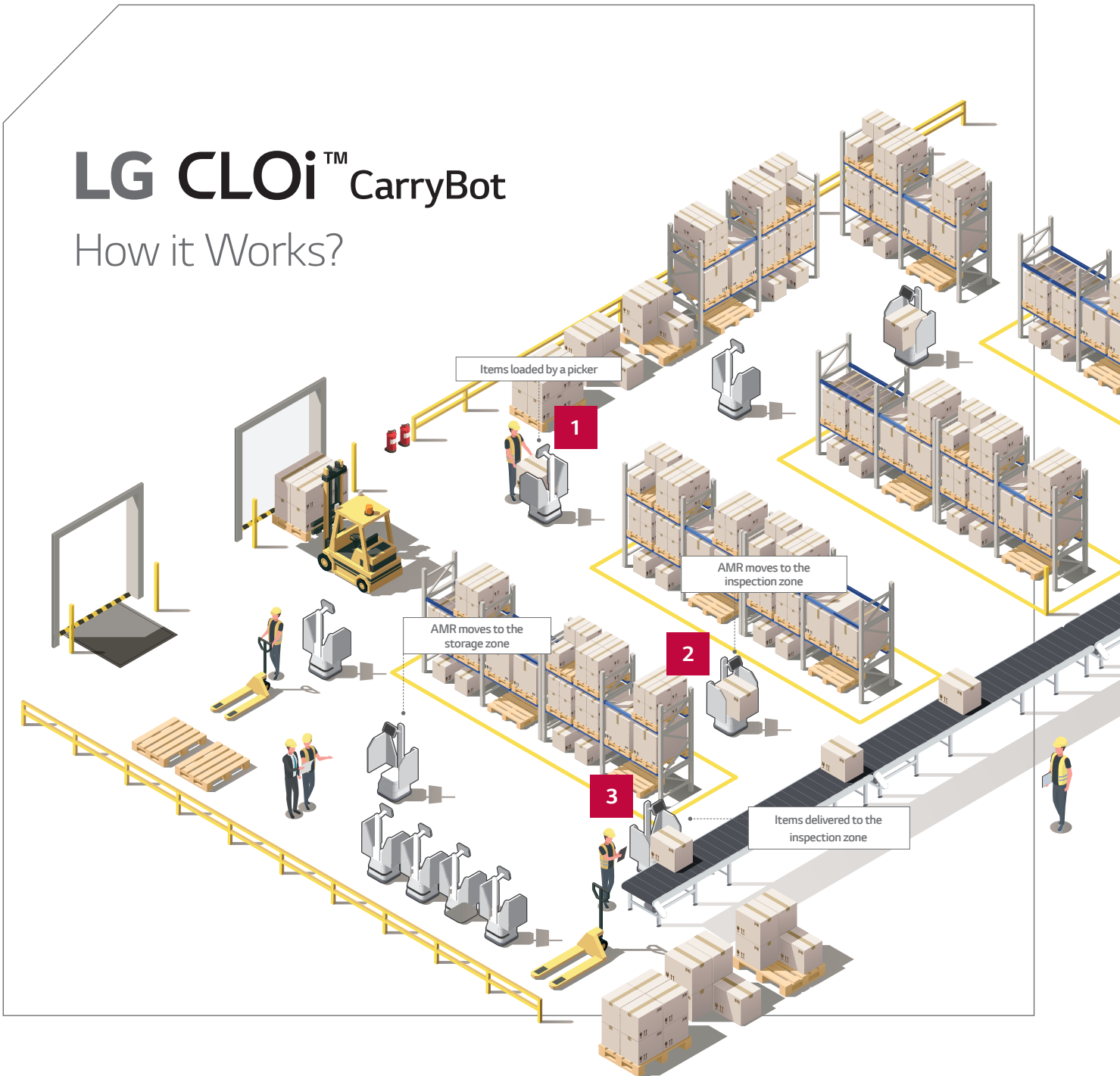
WMS (Warehouse Management System)

Interface

MCS (Material Control System)

WMS interfacing & Smart ordering

- Smart order grouping
  ° Picking item categorization
  ° Order information distribution
- Order picking / total picking operation support
  (complete / skip / shortage etc)

FMS (Fleet Management System)

Path planning for multi-AMRs

- One-way / two-way / intersection navigation
- AMR traffic balancing and detouring
- Obstacle recognition / avoidance
- Charging stand sharing for Multi-AMRs

RMS (Robot Management System)

AMR monitoring & management

- Location information
- AMR status (incl. remaining battery)
- System alert for abnormal AMR
- Statistical data (operation, productivity)

LG CLOi™ CarryBot **Specification**

Product	Mounting Type	Rolltainer Type
Payload	30 kg (66 lb)	40 kg (88 lb)
AMR Dimension (W x D x H)	510 x 510 x 1,480 mm (20 x 20 x 58 inch)	510 x 510 x 1,340 mm (20 x 20 x 53 inch)
AMR Shelf / Rolltainer Dimension	760 x 417 x 657 mm (30 x 16.5 x 26 inch)	1,000 x 612 x 1,262 mm (39.5 x 24 x 50 inch)
Display	Touch LCD (9.2")	
Charging	25 Ah x 2	
Speed (max.)	1.2 m/s	
Sensor	ToF (Time of Flight) / LiDAR / RGBD Camera / Magnet	
Charging Time	6 hour / Auto Charging	
Continuous Operating Time	Typ: 18hr 30 min depending on usage.	
Connectivity	Wi-Fi (11 a/b/g/n)	

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How it Works?

Items loaded by a picker **1**

AMR moves to the inspection zone

AMR moves to the storage zone

2

3

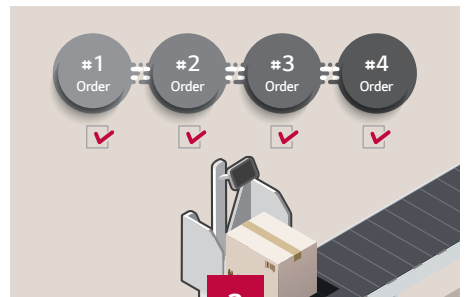Items delivered to the inspection zone

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1

User Friendly Design

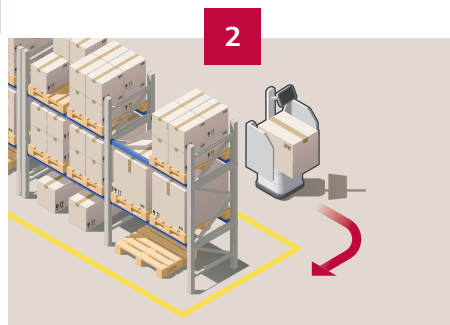AMR hardware design is optimized for easy and efficient operation

Optimized Driving Solution

Enables AMRs to determine the fastest driving route to the destination based on the assigned job order and traffic of other AMR units

2

#1 Order   #2 Order   #3 Order   #4 Order

3

Smart Order Grouping

Optimized order distribution and scheduling helps improve productivity

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