



# Warehouse Robots Create a New Division of Labor

## Smart Software Harmonizes Robots and Humans to Maximize DC Productivity and Profitability

DCs are starting to employ autonomous mobile robots (AMRs) in collaborative picking processes working directly with people, and in travel-intensive activities where product handling is minimal. AMRs are doing the heavy lifting and taking the long-distance trips, making DC work safer and easier for workers.

As DCs combine robots and people, they are creating dynamic new processes. AI-based smart software orchestrates and optimizes these processes to get the most out of robots and reduce time and effort for human co-workers.

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## Emerging Robotic Workflows



### Robot-to-Goods

AMRs travel among workers in pick zones, stopping at pick locations where human pickers (directed by voice) pick and put items in the appropriate tote on the AMR. Multiple robots meet each worker, who can remain in a smaller pick area.

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### Goods-to-Person

AMRs carry products in totes or stowed on moveable shelves to pick-stations where workers pick, scan and place items in totes for shipping.



### Follow-the-Robot

AMRs function like powered, intelligent picking carts or pallet jacks. The AMRs can carry bigger batches of orders, improving pick density.

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## Transit Robots

Conventional voice-directed pickers using push carts within picking aisles off-load completed totes or cartons at staging locations. Robots fetch and transport the tote to their next destination.



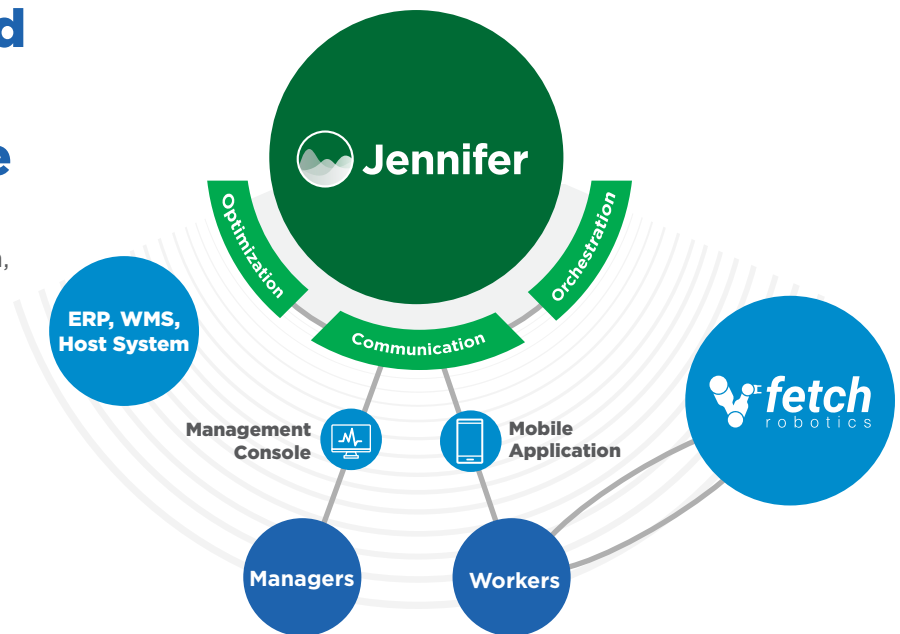
## Full Pallet Moves and Transfers

Robots perform full-pallet put-away or replenishment moves, replacing people in one of the most travel-intensive activities in the DC. When a worker requests a replenishment, robots answer the call.

## Optimizing the Hybrid Workforce With Jennifer™ Intelligence

The Lucas warehouse optimization suite, featuring Jennifer™, uses AI to manage, plan, and orchestrate the hybrid workforce to maximize robot utilization and minimize labor.

DC workers use multi-modal mobile applications combining Jennifer™ voice, vision and scanning, and they interact with robots using speech, lights, RFID and other mobile technologies.



Learn how Lucas Systems and Fetch Robotics are teaming up to harmonize robots and people in the DC at: [www.lucasware.com/warehouse-robots](http://www.lucasware.com/warehouse-robots)