BG FLEX™ Mobile Robotic Platform
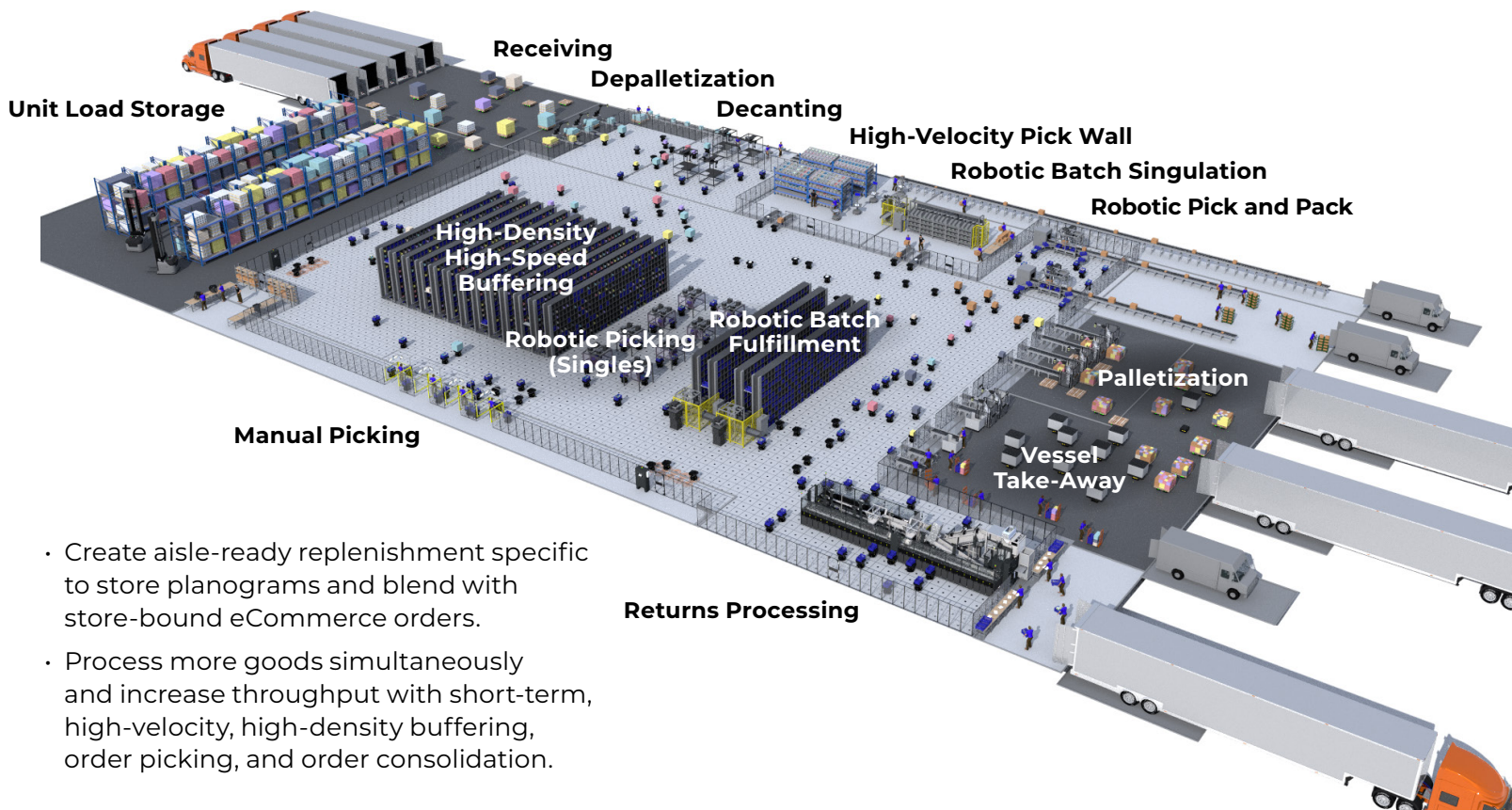## Enable Fast, More Profitable, Higher Throughput eCommerce and Retail Fulfillment

Berkshire Grey's comprehensive, AI-based platform enables faster and higher throughput eCommerce fulfillment, buy-online-pickup-in-store (BOPIS), curbside delivery, and store replenishment operations.

This modular robotic platform integrates Berkshire Grey's dynamically controlled fleets of industrial-grade mobile robots, and goods-to-person and goods-to-robot picking stations, with both low- and high-density buffer units. These modular, scalable elements work together to induct, transport, pick, sort, sequence, and discharge items, cases, and containers of merchandise in a single, configurable fulfillment package.

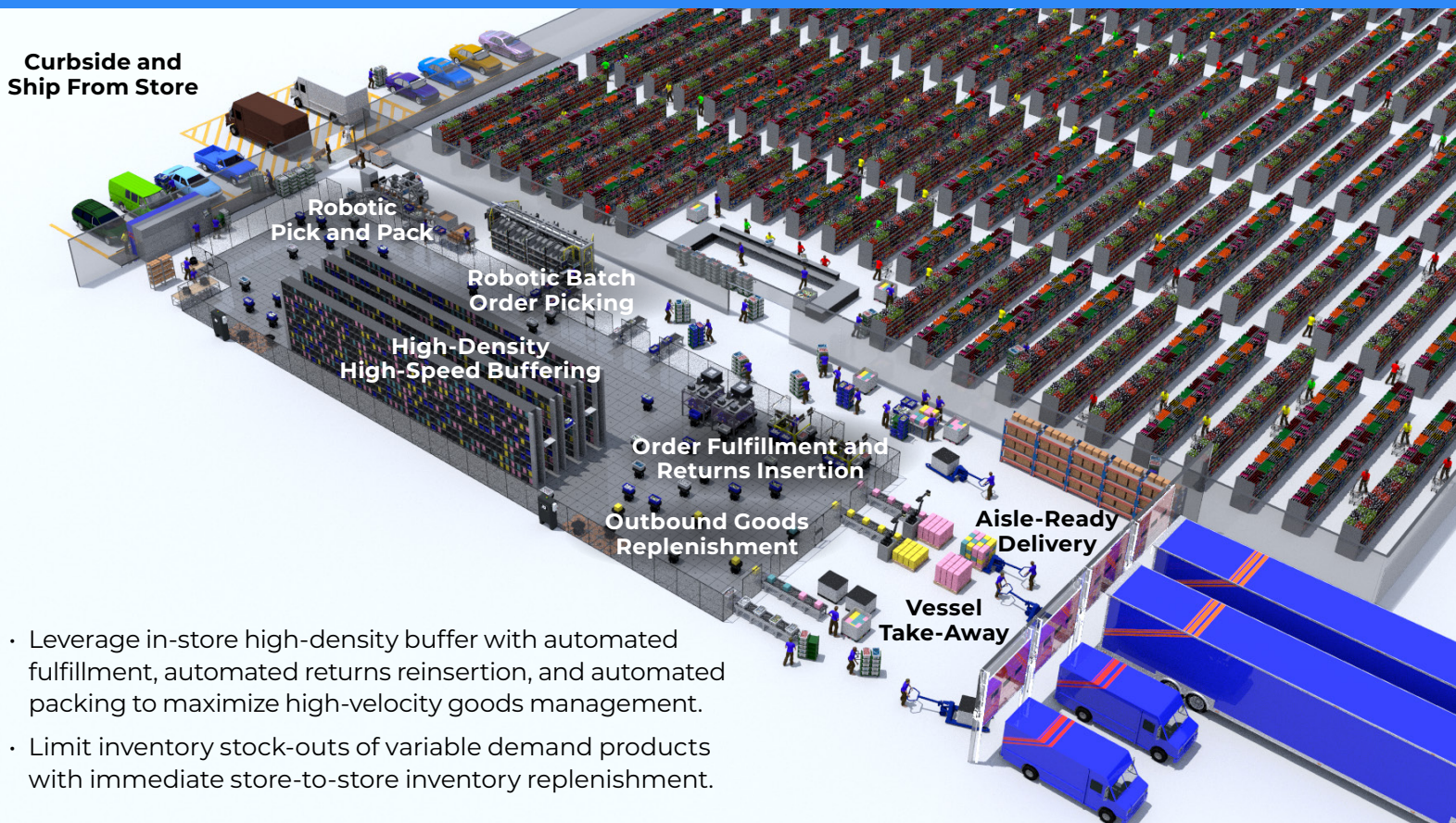## SOLUTION APPLICATIONS AND BENEFITS

- Streamline back-of-store, micro-fulfillment, and distribution center processes using the same, complementary technology across all.

- Bundle case and item picking with inventory and order buffering, mobile robotic transport, and outbound order sequencing from a single supplier.

- Process a wide array of items, including products that other mobile robotic solutions, conveyors, and unit sorters cannot handle.

- Optimize store labor while decongesting store aisles for fulfillment of BOPIS and curbside delivery orders at stores.

- Easily convert any floor into a flexible any-to-any induct to discharge sortation system.

- Process faster in less space than traditional sortation systems — without adding labor.

- Load aisle-friendly trucks using highly granular sequencing, which reduces unload and put-away time at stores while increasing truck turns.

- Minimize air in transport vehicles, reduce goods-handling damage, and limit dwell times with just-in-time ship vessel builds.

- Optimize the loading of transport vehicles to match the specific discharge order of delivery routes.

Learn more at **berkshiregrey.com/mobile**

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Distribution Center Operations

Unit Load Storage

Receiving

Depalletization

Decanting

High-Velocity Pick Wall

Robotic Batch Singulation

Robotic Pick and Pack

High-Density High-Speed Buffering

Robotic Picking (Singles)

Robotic Batch Fulfillment

Palletization

Vessel Take-Away

Manual Picking
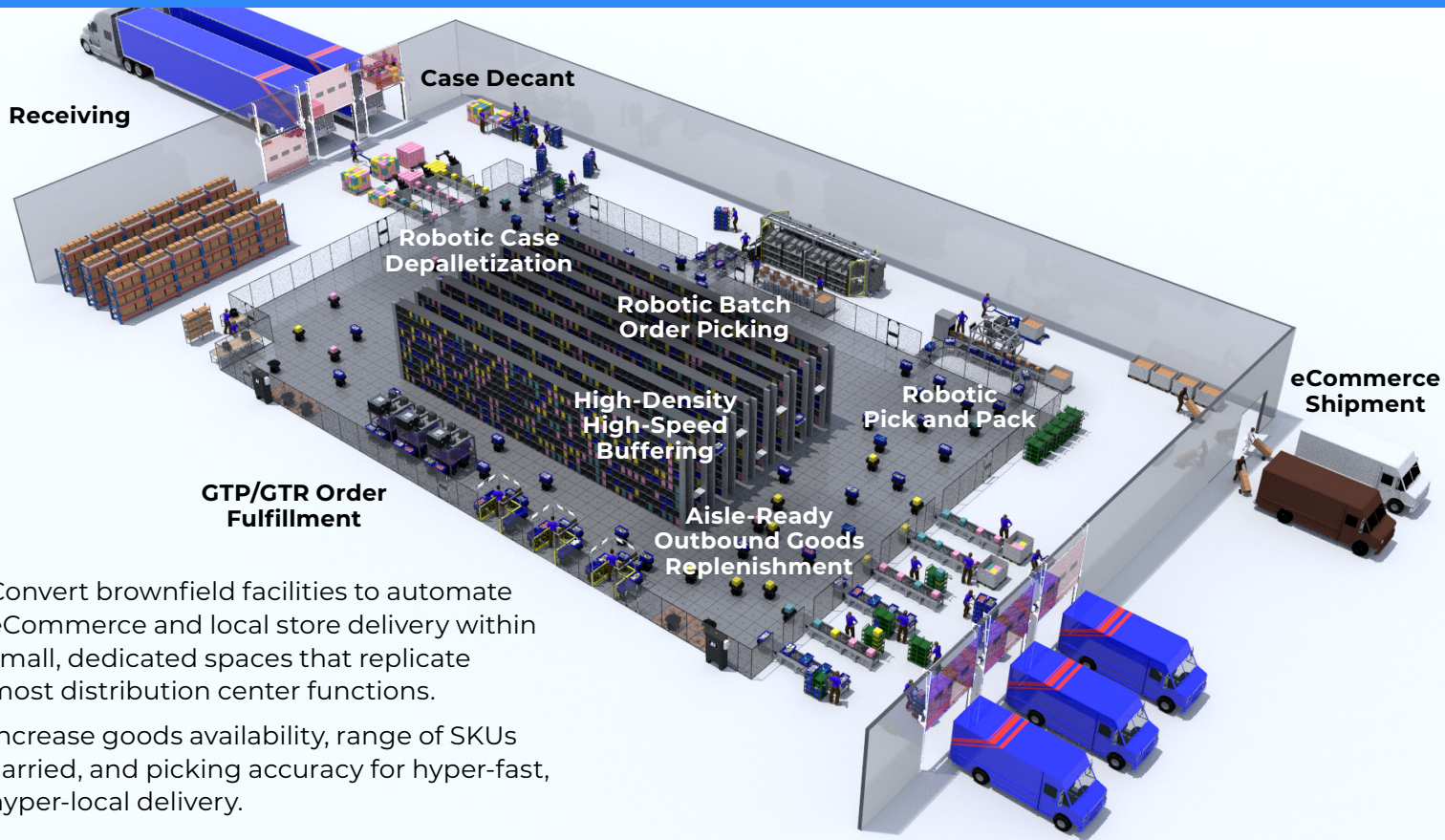
Returns Processing

- Create aisle-ready replenishment specific to store planograms and blend with store-bound eCommerce orders.

- Process more goods simultaneously and increase throughput with short-term, high-velocity, high-density buffering, order picking, and order consolidation.

Nano-Fulfillment / Back of Store Operations

Curbside and Ship From Store

Robotic Pick and Pack

Robotic Batch Order Picking

High-Density High-Speed Buffering

Order Fulfillment and Returns Insertion

Outbound Goods Replenishment

Aisle-Ready Delivery
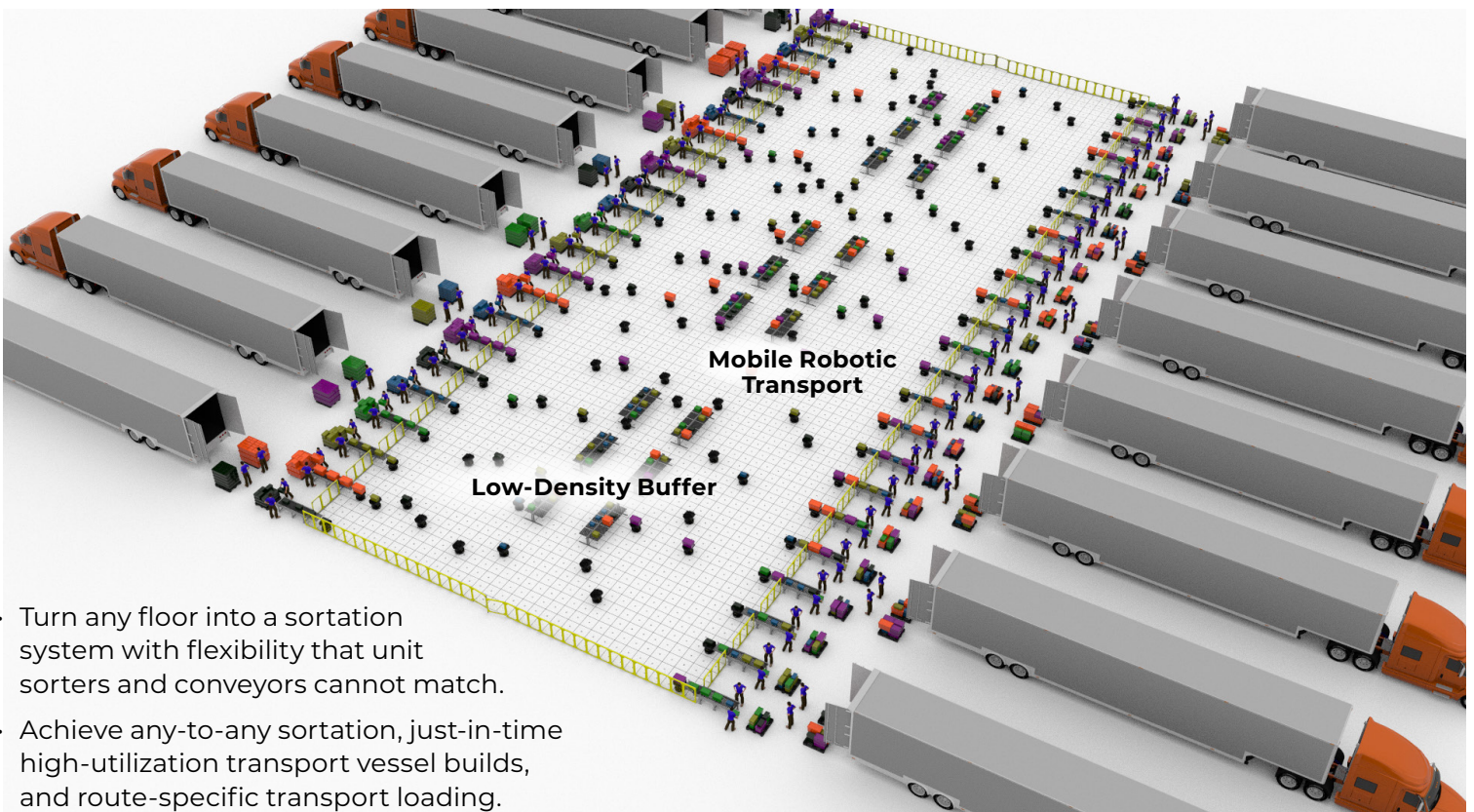
Vessel Take-Away

- Leverage in-store high-density buffer with automated fulfillment, automated returns reinsertion, and automated packing to maximize high-velocity goods management.

- Limit inventory stock-outs of variable demand products with immediate store-to-store inventory replenishment.

Micro-Fulfillment / Dark Store Operations

Receiving

Case Decant

Robotic Case Depalletization

Robotic Batch Order Picking

High-Density High-Speed Buffering

Robotic Pick and Pack

GTP/GTR Order Fulfillment

Aisle-Ready Outbound Goods Replenishment

eCommerce Shipment

- Convert brownfield facilities to automate eCommerce and local store delivery within small, dedicated spaces that replicate most distribution center functions.

- Increase goods availability, range of SKUs carried, and picking accuracy for hyper-fast, hyper-local delivery.

Cross Dock Operations

Mobile Robotic Transport

Low-Density Buffer

- Turn any floor into a sortation system with flexibility that unit sorters and conveyors cannot match.

- Achieve any-to-any sortation, just-in-time high-utilization transport vessel builds, and route-specific transport loading.

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CAPABILITY		BENEFIT
Cloud Orchestration Software	AI-based software dynamically coordinates transport, buffer, and picking for both waveless and wave-based order information, leveraging machine learning to improve system throughput over time.	• Powerful control of platform components enhances fulfillment operations while increasing accuracy and throughput speed. • Integrates with major WMS solutions. • Remote management permits assessment 24x7 from anywhere.
Flexible Re-Configurability	Reconfigures (changes/expands) existing workflows with unlimited flexibility to meet evolving customer needs and demand for increased throughput capacity — with minimal disruption to existing operations.	• Limited to no downtime with redundancy built-in. • No labor costs to reconfigure workflows. • Fast deployment and solution expansion.
Picking Options	Manual (goods-to-person) and automated (goods-to-robot) solutions provide the widest assortment of picked goods with fast throughput and limited donor goods rebuffering.	• Leverages best-in-class robotic picking by Berkshire Grey. • Automated picking increases accuracy due to decreased picking errors.
Real-Time Simulation	Digital Twin real-time simulation allows the actual orchestration system to run on a virtualized customer-duplicate field, delivering insights and leading to an optimized solution from day one of deployed operation.	• Increases confidence level when deploying. • Delivers a cost-effective way to mitigate implementation risks.
Industry-Leading Mobile Robots Built to Run in Fleets	FlexBots transport goods between induction, system components, and discharge points using highly accurate navigation for high-speed coordinated operations, a counter-rotating mechanism that permits proper payload orientation at all times, and opportunistic charging that ensures availability under maximum throughput needs.	• Increases throughput speed. • Boosts operational efficiency. • Reduces mission time with minimization of robotic orientation changes. • Works with cloud orchestration to enable 100s to 1,000s of FlexBots to operate efficiently in the same deployment.
Low- and High-Density Buffer	Buffer options deliver industry-leading SKU entitlement under peak throughput operation, managing increasingly diverse SKUs simultaneously across items, cases, and containers of variable sizes and with high-volume variability.	• Buffers goods with highly different physical characteristics for fully automated sortation and sequencing in a single system. • Enables Quick Commerce operation with fast per order fulfillment times in both wave and waveless operation. • Increases inventory availability and order completion rates by processing more goods simultaneously with limited staging.

Components

Low-Density Buffer   High-Density Buffer   FlexBot   FlexFeed   FlexStation   AutoPick Station

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