

GreyMatter Feature Brief to Accompany GreyOrange Press Release

Optimized for omnichannel, e-commerce and store replenishment efficiency performance

GreyMatter software capabilities (1) accelerate speed and scale for omnichannel and e-commerce fulfillment; (2) enhance replenishment efficiency at stores by packing orders according to individual store layouts and preferences, and (3) integrates operation of the Company's Ranger™ series of robots. Advantages include:

- **Always-Solving Intelligence:** Predictive and prescriptive intelligence pre-plan inventory placement and order fulfillment decisions, which are then considered against comprehensive real time data calculations to further refine the benefits and costs of order priorities based on current order flows. Orders with the highest payoffs are prioritized ahead of orders with lower payoffs regardless of when they entered the system. Maximizing payoffs and minimizing tradeoffs when prioritizing orders enables High Yield Fulfillment™ operations.
- **Waveless Order Streaming:** Real-time order flow to the floor maximizes fulfillment decision flexibility without handcuffing users to fulfilling orders in fixed “batches” or “waves.”
- **Inventory-in-Motion:** GreyMatter makes all inventory visible and accessible to fulfill orders across all channels at all times. Rather than consider “storage” an acceptable inventory state, GreyMatter optimizes for continuous inventory movement. Robots stage and move inventory based on order flow, item popularity, promise dates, profitability analysis, Service Level Agreements (SLAs), customer value and other variables in real time. GreyMatter continuously recalculates the optimal placement and movement of inventory based on real time popularity (the pace at which items are ordered) and affinity (the likelihood of different items to be ordered together) to speed fulfillment.
- **Store-Ready Replenishment:** Stores receive inventory packed on trolleys and racks according to the store's layout and preferences to speed inventory receipt and stocking to the store shelf. This enables users to simultaneously improve how inventory is handled at stores and distribution centers. Since retail organizations have many more stores than they have distribution centers, this capability meaningfully multiplies the business improvements gained through automating fulfillment operations.
- **Robot Operation at Scale:** GreyMatter has the intelligence and processing capability to command the movement of hundreds of robots simultaneously. Ranger robots also gather intelligence collectively and collaborate with each other and GreyMatter to continuously optimize travel routes and pacing based on real-time conditions. If there are anomalies in distribution center conditions, such as the condition of barcodes guiding movement, the robots' self-learning capabilities enable these to be worked around and communicated to other robots. Robots also have the intelligence to send themselves for recharging and to re-assign work to other robots when needed. Robot providers lacking a Fulfillment

Operating System as robust as GreyMatter typically can instruct only a limited number of robots simultaneously.

- **Orchestrated Order Consolidation:** Robots are instructed in time with order flows to access inventory and transport it to pick/pack consolidation areas to accelerate throughput and eliminate time required for workers to retrieve inventory manually.
- **N-Deep Technology:** Unlike humans, robots can access high-density inventory zones that lack aisles, including on multiple mezzanines, to maximize inventory capacity and fulfillment throughput from existing facilities. GreyMatter can assign multiple robots to work together to retrieve inventory from high-density areas that lack aisles, with some robots moving aside racks to create access while others retrieve the racks holding the desired inventory and transport them to picking stations. Using their resident GreyMatter intelligence, robots communicate real-time information regarding floor conditions, retrieval and placement pace, and other relevant factors to each other and to the GreyMatter Fulfillment Operating System to keep operations synchronized.
- **Business Rule Fluidity:** Business rule logic is decoupled from process logic so business leaders can fluidly adapt decision parameters based on real-time considerations without needing IT support and without disrupting process flows. Operators can adjust the relative importance of different variables when prioritizing orders. For example, they might prioritize meeting Service Level Agreements for key customers one day, while prioritizing overall throughout the next day.
- **Real-time Revenue & Cost Awareness:** Robots leverage machine learning capabilities that continuously factor inputs from real-time experience to dynamically calculate risks of breaching order commitments and the rewards of on-time fulfillment. This intelligence then guides how orders are prioritized for fulfillment.
- **Inventory Grouping Flexibility:** Companies with omnichannel operations can keep inventory grouped in different quantities in the same place. For example, in individual units; in boxes holding multiple units; in cases holding multiple boxes; and on pallets holding multiple cases. Unlike traditional Warehouse Management Systems and Warehouse Execution Systems, GreyMatter is able to use order trends and intelligence that adapts over time to continuously direct how items are placed in each of these measures and then track that information for fulfillment without having to have the different measures located in different areas. This meaningfully enhances space utilization and fulfillment speed.
- **Dynamic Pace-to-Robot-and-Rack Assignments:** Because different workers perform at different paces -- sometimes varying by as much as 35% -- and it takes varying amounts of time to fill orders of different sizes, GreyMatter senses varying fulfillment rates in real time and accordingly instructs robots to transport racks of inventory to different pick/put stations to eliminate wait times for both robots and workers. GreyMatter also varies the pace at which it assigns tasks to racks of inventory based on their distances from pick/put stations. This improves performance by as much as 20%

over systems that rigidly allocate robots to stations and can't dynamically change assignments based on real time performance.