



**BERKSHIRE
GREY**





PICK, PACK, PERFECT

Robotic Automation
That Delivers



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Omnichannel has changed the way we shop forever, a reality that was cemented this year as millions of consumers turned to online shopping to avoid exposure to the COVID-19 virus. Social distancing and reduced store hours have accelerated eCommerce and alternative digital shopping methods such as curbside pickup, Buy Online Pickup in Store (BOPIS), and new home delivery options to transform retail customer experiences.

The need for efficient fulfillment has skyrocketed as thousands of tons of retail goods now need to be shipped in much smaller quantities and with compressed delivery times. To address the challenge of increased customer expectations and rising costs to compete effectively, global enterprises including multiple Fortune 50 retailers have turned to Berkshire Grey. The company's proprietary picking, sorting, and packing solutions deliver robotic automation with an immediate business impact. Berkshire Grey's AI-powered robotic solutions are changing the face of fulfillment for global retailers, eCommerce companies, parcel carriers, and logistics providers by getting tens of millions of products to consumers more efficiently, cost-effectively, and safely than ever before.

Experience, vision, and value

The high international demand for its solutions led Berkshire Grey to establish local presence in the UK and Japan earlier this year to deliver local sales, engineering, and support resources. Alongside Fortune 50 retailers, Berkshire Grey also serves leading eCommerce, third-party logistics, and first-tier parcel carriers, with a growing client base.

"The company is a leader in state-of-the-art artificial intelligence (AI) and robotics, and it is changing the way the world does order fulfillment."

Founded in 2013, the company recently announced a Series B funding round of \$263 million. Founder and Chief Executive Officer Tom Wagner is the former CTO at iRobot. In addition to overseeing the evolution of iRobot's robotic vacuum category, Wagner also worked on military projects utilizing robots that located and identified landmines, as well as reconnaissance robots used for search and rescue missions.

In contrast to many technology companies who start with a technology in search of a problem, Wagner spent two years searching for a meaningful and impactful problem to solve with technology. He ultimately landed on operations in fulfillment,

retail replenishment, and logistics because of their importance to the supply chain. Even before COVID, operators were beginning to realize that their traditional fulfillment methods were not up to the challenge of "the Amazon effect" – the increased customer expectations and associated margin pressure.

The traditional warehouse answer to scaling demand for goods was to add more physical labor to perform tasks. Traditional conveyors reinforced this reliance on labor as warehouses were designed to store and ship goods to retailers in great volumes rather than in many smaller orders. With the added costs, surge in demand and increased competition for the same labor pool during the COVID-19 pandemic, Berkshire Grey's retail, eCommerce, and logistics customers needed to transform their supply chains.

At a time when fulfillment workers are scarce and public health demands fewer people touching products, Berkshire Grey's solutions tackle the most difficult, time-consuming problems in fulfillment. The company's intelligent solutions are able to execute tasks that competitors' products cannot: efficient order picking and transport by accurately and rapidly identifying, gripping, sorting, and processing the millions of items that consumers buy daily, including the tens of millions of different SKUs (items) that warehouses and distribution centers handle. ▶



Steve Johnson
COO

► Innovation with purpose

Berkshire Grey innovates by taking a holistic approach to developing and integrating modular solutions based on scalable AI software technologies for perception (e.g., computer vision), path planning, machine learning, motion planning, grasping, and sensing. Berkshire Grey threads these technologies together with industrial robotics, engineered infrastructure, and robotic mobility to automate entire production processes.

Thanks to its patent-pending technologies, the company's retail, eCommerce, and logistics clients are discovering exactly how big a difference these AI and robotic solutions are making. "The world has changed, and we need to change to keep up," says Steve Johnson, President and Chief Operating Officer. "We have an incredible team of engineers and PhDs focused on robotic automation, so our customers don't need these skills in-house."

While other companies offer robotic piece parts, Berkshire Grey goes further in delivering turnkey solutions. It prides itself on studying clients' processes in detail and then tailoring its core technology to enable sophisticated workflow enhancements, taking into consideration the customer's existing processes, as well as the complexity and flow requirements of each customer's operation.

Berkshire Grey's intelligent robotic solutions identify, pick, pack, and sort products, orders, and packages at all nodes in the supply chain. The company is particularly well-known for robotic systems that handle a wide variety of individual items, with the ability to target and pick products from an assortment of jumbled goods of different sizes, textures, and form factors. This capability to automatically identify, pick, and carefully place objects is the type of robotic automation necessary to pick and pack orders, one of the most time-consuming and labor-intensive activities in warehouses.



Tom Wagne
CEO

"Berkshire Grey has many dynamic configurations available, making its solutions fit conveniently into any established operation."



Robotic automation solutions

Berkshire Grey has multiple dynamic configurations available to fit easily into established workflows, whether current operations are executed manually or make use of traditional automation. The company's solutions also complement traditional automated storage and retrieval systems (ASRS) and micro-fulfillment systems to automate item picking for order selection. Some of its most popular solutions include robotic pick and pack cells that automate robotic picking from totes and conveyor belts. These systems offer sophisticated placement of items where space is at a premium and careful handling of various and fragile goods is necessary.

Another solution popular with top tier eCommerce operations and parcel carriers is used to rapidly process small parcels. Large quantities of individual packages are picked, identified, sorted, and bagged or containerized according to their destinations. This solution uses Berkshire Grey's patented HyperScanner™ vision recognition and scanning technology which allows parcel and postal carriers to efficiently deal with small, individual, eCommerce shipments packaged in a variety of containers such as poly bags, flat mailers, tubes, small boxes, and padded envelopes, all of which traditional sortation systems struggle to process.

Berkshire Grey also offers a system that supports complete break-pack picking and sorting of individual products for store replenishment and store allocation order processing. This system moves stock for multiple orders from storage areas, picks items, and packs them into outbound containers without worker intervention. The order containers are then moved to a sealing station where they are closed, labeled, and sent on to the shipping department. "National retailers are using our robotic automation solutions to pick millions of items per month in production facilities, saving thousands of labor hours today," says Johnson.

The company also offers a mobile robotic sort-and-sequence solution comprised of patented mobile robot fleets synchronized to deal with inventory and outbound orders to optimize packing requirements at the end destination. With this smart sequencing, retail warehouses can now pick orders and load trucks dynamically for aisle-friendly put away according to each destination store's layout and storage set-up. Truck unloading and shelf stocking time within stores is cut dramatically, which translates into safer, more efficient store operations and tremendous cost and labor savings.

Customer-first culture

While innovation is a core competency at Berkshire Grey, the company agrees that its most important emphasis is on its clients' success. The company's culture puts "customers first" supported by a collaborative team approach, and its mission is to help customers succeed. The heart of the company is the team of professional engineers and industry experts that invent and implement its solutions. "We have an amazing team with incredible intelligence, laser focused on delivering value for our customers. We always start by assessing the customer's challenges and objectives before recommending an automation solution," Johnson says.

Looking ahead, the company is experiencing significant growth and scaling to support customers across industries and geographies. The interest in the company's robotic automation solutions is accelerating – especially for eCommerce, 3PL, and grocery fulfillment solutions. This mirrors trends across the retail ecosystem as consumers increasingly embrace omnichannel shopping and consumer demand drives supermarkets to become increasingly open to new delivery modalities. ■

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