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CASE STUDY

Capacity Warehouse Thrives During Demand Challenges Despite Labor Shortage

Capacity, a forward-thinking third-party logistics firm with expertise in Health and Beauty products, was seeking new ways to improve their warehouse throughput.

The combination of unpredictable spikes in demand with limited staff availability was decreasing the 3PL company's efficiency. The operations team had experimented with a robotic automation solution for order sortation earlier that year but it had been unsuccessful.

DEPLOYMENT LOCATION
New Jersey, USA

INDUSTRY
Health & Beauty

SOLUTION
Covariant AI Robotic Putwall

Download the Assessment

Highlights

Capacity, a Health and Beauty 3PL, **sought a robotic solution to help address demand spikes** and improve throughput and efficiency

After a thorough assessment process, Covariant's award-winning **AI Robotic Putwall performed exceptionally**, even with challenging requirements

Successfully deployed the first putwall station, performing at **515 PPH with 99.9% accuracy**, and deploying additional stations

Prior challenges at the Capacity warehouse

"After two years of testing a different robotic putwall, it became clear the station would never meet the benchmark metrics required for financial viability," shared Thom Campbell, Chief Strategy Officer of Capacity. "The team was skeptical that these next-generation automation solutions were ready for the real world."

After meeting Covariant at an industry event, the Capacity team was cautiously optimistic about trying another robotic order sortation solution. "We embrace innovation at Capacity and pride ourselves on being early adopters," Campbell continued. "We were hesitant to try another robotics vendor but Covariant's deep bench of AI talent described a robotics solution that was actually intelligent and could be autonomous in real life. We had to try it."

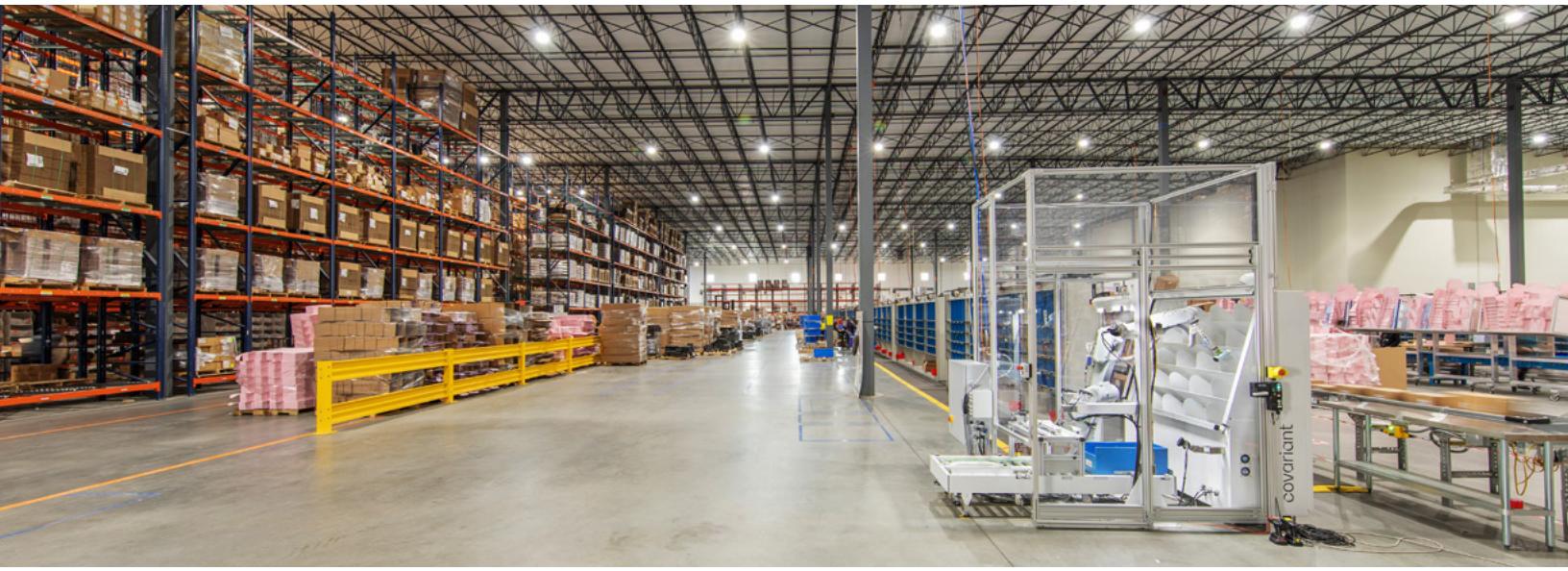
Superior performance with untested data

To begin the vendor assessment, the Capacity team mailed Covariant a variety of products to pick and place in a putwall. Health and Beauty products tend to be small, irregularly shaped, and often encased in transparent plastic packaging. The combination of size, shape, and packaging is often a challenge for computer vision to accurately pick.

The Covariant Brain leverages AI to specifically address these challenges and enable robots to successfully handle a virtually infinite variety of objects. Based on original research, the Covariant team followed a standardized unbiased assessment for demonstrating their technology's value.

"Watching the uncut recording of the Covariant robot successfully picking and placing brand-new items it had never encountered was when I started to get excited about the possibilities of AI-powered robotics and its superior learning abilities," shared Campbell. "The market is getting noisier and it can be hard to tell what is just hype. The Covariant Brain is the real deal."

After completing the initial test, Capacity also required Covariant to demonstrate the robot's ability to accurately scan SKUs -- another important requirement of the putwall application. Covariant again demonstrated success with industry-leading accuracy.



Team collaboration for easy integration and installation

Capacity was ready to discuss installing a full and complete putwall station in one of their warehouses, but they had specific requirements of layout and processes that needed to be taken into account. While other vendors often need to retool much of the warehouse, Covariant's AI Robotic putwall station was designed to be flexible enough to fit into their existing setup.

The Covariant team partnered with Capacity to integrate with the systems and processes without needing to overhaul the materials handling workflow and floorplan. Covariant's AI robotic putwall station (consisting of the Covariant Brain, robot arm, conveyors, scanners, and vision system) was customized to meet Capacity's unique operational settings resulting in value on Day 1.

"Covariant's solution team not only had the technical expertise but also a collaborative approach," said Ed Shapiro, Director of Engineering at Capacity. "The collective mindset of our teams ensured a successful deployment and continuing success."

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Thom Campbell
Chief Strategy Officer
Capacity LLC

Increased throughput without compromising accuracy

Now with the ability to run **up to 16 hours a day** (or two shifts), Capacity has adopted the Covariant robot as one of its own and even nicknamed it Waldo. With an operations team that's human and machine, the warehouse's productivity is at an all-time high while also remaining cost-effective.

Upon the successful integration and deployment of the first station, running at up to 515 PPH with less than 0.1% of orders requiring human intervention, Capacity and Covariant are in the process of deploying additional robotic putwall stations. "Modern Materials Handling named the Covariant AI Robotic Putwall as a Product of the Year for a good reason. With Covariant, we're confident for whatever the future may bring in terms of order volume. That peace of mind is invaluable," concluded Campbell.

Results

Speed

Reaches a peak speed of **515 items per hour**. Traditional labor picks at **450 items per hour** during peak.

Accuracy

Less than 0.1% of orders required human intervention even as it continues to learn new objects each week.

Expansion

Deploying additional Covariant AI Robotic Putwalls to further increase efficiency and throughput.

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Covariant is building the Covariant Brain: universal AI that allows robots to see, reason and act on the world around them. Founded in 2017 by the world's top AI researchers and roboticists from UC Berkeley and OpenAI, Covariant is bringing the latest artificial intelligence research breakthroughs to the biggest industry opportunities.

The company is headquartered in Berkeley, CA.

For more information, visit covariant.ai