News Release

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For Immediate Release

Plus One Robotics Utilizes Yaskawa Motoman to Expand Its Induction and Mixed Depalletizing Solutions

San Antonio, Texas, May 10, 2023 -- Plus One Robotics, a provider of advanced AI vision software and solutions for robotic parcel handling, today announced new customer programs using Yaskawa Motoman robots. These customer deployments are for Plus One's induction and mixed depalletizing solutions.

This deployment of Plus One and Yaskawa robotic solutions consists of 12 new induction systems acquired by FedEx Corp. This purchase builds upon the four existing robotic systems in use at the FedEx Express Hub in Memphis, TN. Additionally, Plus One successfully introduced its mixed depalletizing systems at the FedEx Reno, NV facility. Plus One's mixed depalletizing systems will allow for easier, more efficient movement of cases from palleted shipments throughout the FedEx facility. FedEx will utilize Plus One's human-in-the-loop software Yonder, allowing for remote supervision of the robots.

"The technology in these depalletizing arms helps us move certain shipments that would otherwise take up valuable resources to manually offload," said Brian Marflak, FedEx vice president of Global Engineering, Research and Technology. "Having these systems installed allows team members to perform more skilled tasks such as loading and unloading airplanes and trucks. This has been a great opportunity for robotics to complement our existing team members and help them complete tasks more efficiently."

"We're proud that the Plus One solutions not only achieve the throughput necessary to fill the workforce gap experienced by all distribution centers, but do so with near 100% fulfillment accuracy," said Plus One CEO and co-founder, Erik Nieves. "This not only keeps the operations running 24/7, but also provides benefits like ergonomics, safety, and the flexibility to handle the variance associated with seasonal shipping schedules."

Key to Plus One Robotics' effectiveness is its remote supervision software, Yonder. Utilizing human-in-the-loop capabilities employees, or Crew Chiefs, can supervise multiple robots from any location allowing robots to handle a pick exception and return to autonomous operation within seconds. Utilizing Crew Chiefs to remotely supervise the robots helps organizations reduce downtime and creates a workforce multiplying effect that keeps parcels moving while freeing up on-site employees for other higher-value work. The software then uses this data to improve the machine-learning model for future picks.

"With Plus One's incredibly fast image acquisition and processing, Yaskawa robots can achieve maximum production potential," stated Doug Burnside, Yaskawa Motoman Vice President of North American Sales and Marketing. "This, combined with the intuitive Yonder remote supervisor support helps to efficiently and accurately manage robot operation for more fluid production."

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About Plus One Robotics

Plus One Robotics provides the industry's fastest and most reliable parcel-handling robotics platform. Founded in 2016 by computer vision and robotics industry experts, Plus One's intelligent solutions combine computer vision, AI, and supervised autonomy to pick parcels for leading logistics and e-commerce organizations in the Global 100. Plus One is headquartered in San Antonio with offices in Boulder, Pittsburgh, and The Netherlands. Visit www.plusonerobotics.com for more information, and follow us on LinkedIn, Twitter, YouTube, and Facebook.

About Yaskawa Motoman

Founded in 1989, the Motoman Robotics Division of Yaskawa America, Inc. is a leading robotics company in the Americas. With over 540,000 Motoman® robots installed globally, Yaskawa provides automation products and solutions for virtually every industry and robotic application; including arc welding, assembly, coating, dispensing, material handling, material cutting, material removal, packaging, palletizing and spot welding. For more information please visit our website at www.motoman.com or call 937.847.6200.
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Introduction: Plus One Robotics creates vision software that provides robots with the hand-eye coordination needed to pick and place disparate objects in warehouses and distribution centers. Utilizing AI-powered perception, the software enables the robots to get smarter over time.

Although robots offer excellent repeatability, accuracy, speed, and payload capability, they lack situational awareness. This makes it difficult for them to operate in dynamic environments with extensive variability, such as high-volume ecommerce fulfillment and distribution centers where there is a continuum of mixed parcels, bags, and products. The co-founders of Plus One Robotics, all with decades of robotic automation experience, had a deep understanding of these limitations and were early to market in developing solutions to overcome robot constraints.

Unique to the Plus One Robotics platform is the utilization of human-in-the-loop remote robot supervision to handle exceptions. This approach allows one human worker to manage up to 50 robots from anywhere at any time. In the rare occasion that a robot does not know how to respond to an unfamiliar circumstance, a human can step in and handle the exception while, the AI system learns from the intervention. This process further improves the robot system's capabilities allowing it to recognize similar exceptions in the future, minimizing downtime and enabling 24/7 fulfillment.

Founders' Experience: Plus One Robotics was founded by Erik Nieves in 2016 with a focus on delivering cutting-edge 3D and AI vision capabilities to logistics robots, where he was soon joined by co-founders Shaun Edwards and Paul Hvass. The convergence of these three industry experts occurred over years of cooperating on other industry projects and a set of shared awareness and beliefs.

Nieves is a veteran of Yaskawa Motoman Robotics, the world's second largest industrial robot OEM, where he was employed for 18 years, most recently serving as Technology Director responsible for mapping robotics growth and development in the Americas and where he was an early champion of ROS (Robotic Operating System).

Edwards and Hvass both spent over a decade as researchers in the Robotics and Automation Engineering Section (RAES) at Southwest Research Institute (SwRI®). In 2011, while Edwards was a visiting researcher at the Willow Garage in Silicon Valley, he developed software for the first industrial robot controlled with the simple_message protocol, later to become known as ROS-Industrial (ROS-I). At the same time, working with his team at the SwRI, he launched the ROS-I Repository and Hvass launched the ROS-I Consortium, a membership organization providing cost-shared applied R&D for advanced factory automation. The ROS-I Consortium made its debut at the 2013 Automation Conference in Chicago with a 3D vision-driven robotic picking demonstration in its booth. Nieves became Yaskawa's member representative in the consortium.

While still working at the SwRI, Edwards led a parcel singulation research project that garnered the interest of an e-commerce company. At this point, Nieves was participating with NASA on RROXITT (Remote Robotic Oxidizer Transfer Test)[1], a remote human-in-the-loop control for satellite servicing.

Product Development and Launch: In 2015, the success of the parcel singulation project and the obvious market need for perceptive and smart automation within the warehouse led Hvass and Edwards to develop the PickOne Perception System. This became Plus One's first commercial product with a PickOne v1.0 release in 2018.

The PickOne system comes with software, specialized gripper, controls, and vision. It enables logistics robots to do a variety of picking and positioning jobs, such as induction and depalletizing, in e-commerce fulfillment and warehouse distribution facilities by providing exact eye-hand coordination. PickOne locates and delivers the location and orientation of randomly oriented items in a pile to a robot. Each parcel is selected by the robot from the pile and placed on a conveyor. PickOne then checks for faults and corrects them by sending a shuffle instruction to rearrange parcels and force a rescan.

Understanding the need for continuous productivity, Plus One then developed a remote supervision software to bring greater efficiencies to warehouse operations through remote robot management. This is the first "Human-In-The-Loop" robotics remote supervision software that enables humans to remotely supervise and assist robots from any location. If the robot is unable to locate a parcel to be picked, PickOne sends a request to a human Crew Chief. The Crew Chief helps the robot handle the exception, while the robot learns from the experience allowing it to better recognize the situation the next time it occurs, in turn reducing downtime.

Growing to Meet Market Need: In today's market, online shopping accounts for 20% of total retail globally and is expected to hit 30% by 2030[2]. This growth, in combination with ongoing labor shortage issues with 73% of warehouses saying they are short-staffed[3], make the implementation of automated solutions a key strategy for logistics and fulfillment companies across the world.

Today, Plus One accomplishes over 2-million parcel picks each day in production — 20X more than its nearest competitor — with an installation base that has collectively reached over 600 million picks. Since its founding, it has grown to nearly 100 employees located at three North American locations and a European sales office. The company has achieved 2.8X year over year sales growth, has $14 million in ACV bookings for 2022 alone, and a solid base of recurring license revenue.

Compatible with a variety of robots and focused on solving specific customer needs, Plus One partners with many leading warehouse and distribution centers to jointly serve some of the largest eCommerce and logistics companies across the globe, including FedEx, DHL, Pitney Bowes, MSC Industrial and others.

References:

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