

Bags Meet Bots: Journey Robotics Outsmarts Airport Bottlenecks



With global travel hitting record highs, airports move hundreds of millions of heavy bags every year. Ground crews are stretched to the limit, grappling with labor shortages and relentless pressure to keep operations running swiftly. Enter **Journey Robotics**—their cutting-edge autonomous, touchless baggage handlers revolutionize airport logistics by tackling the grueling lifting and hauling that exhaust workers. Rapid, safe, and nonstop, these robots supercharge baggage throughput, safeguard staff from injury, and empower airports to deliver a faster, more seamless passenger experience.

Journey Robotics CEO and Founder **Reeg Allen** spent over a decade at Pittsburgh powerhouse RE2 Robotics, where he gained extensive experience in aviation automation and forged strategic partnerships with airports worldwide. At RE2, Allen spearheaded the development of an automated underwing servicing and outdoor baggage-handling prototype for Singapore Changi Airport. After RE2's acquisition by Sarcos in 2022, the company pivoted away from robotics hardware. Rather than abandon the work, Reeg Allen and fellow RE2/Sarcos veterans **Keith Gunnett** and **David Lee** launched Journey Robotics in early 2024 to carry it forward.

The team quickly zeroed in on a clear initial target: indoor baggage handling. In their first year, Journey Robotics created a compact, vacuum-powered, autonomous robot engineered specifically for tight bag rooms, with seamless “drop-in” integration into existing infrastructure. The robot features a space-saving industrial robotic arm with a patent-pending end-of-arm tool. Leveraging advanced AI and computer vision, it rapidly and accurately handles bags weighing up to 70 pounds (32kg) at a remarkable rate of eight bags per minute. Built to empower—not replace—ground crews, the system boosts safety, eases labor shortages, and keeps bags and passengers moving.

Challenge

Journey Robotics faced a formidable technical challenge in prototyping and integrating a new end-effector for their robotic arm, the part of the robot that interacts directly with objects. Through development cycles, the team shifted from a top-down gripper to a more reliable front grip arm, necessitating a change to the end-effector.

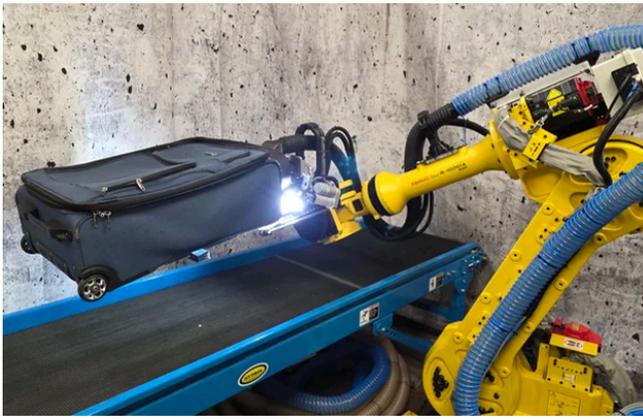
The project required more than basic design work, though; it called for seamless integration of industrial hardware, sensors, and software, along with thorough testing to ensure the end-effector performed reliably within the larger robotic system. Journey Robotics collaborated closely with design firm I2T, navigating the uncertainties of joint prototyping. The partnership delivered substantial technical and operational validation of a key system component through iterative development and evaluation, laying the groundwork for future productization.

Project Details

Company: **Journey Robotics** Year Founded: **2024**

Founders: **Reeg Allen, Keith Gunnett, David Lee, Kyle Solomon**

Programs Participated In (Year):
Robotics Factory Create Aviation Summit (2023)
Innovation Works Scalable Grant (2024)
Robotics Factory Scale Residency (2024)
Robotics Factory Accelerate Program (2024)



Solution

Journey Robotics gained critical early lift from the Robotics Factory. The team forged industry relationships at the Robotic Factory's Create Aviation Summit and, with Robotics Factory's tutelage, secured a \$25,000 Innovation Works Scalable Grant in 2024. Participation in the Scale Residency and Accelerate program soon followed, providing the capital, mentorship, and infrastructure needed to deliver Journey Robotics' first custom end-effector and move decisively toward market launch.

Initial prototyping and further testing/refinement of the end-effector was conducted at the Robotics Factory shop. Journey Robotics Director of Product Development **Aaron Nicely** and team leveraged 3D printing and advanced tooling to refine complex elements, optimize airflow, and perfect connections for the front-grip design. Rapid, iterative testing ensured clean electromechanical integration with third-party suppliers and prepared the robot for real-world aviation environments. The Robotics Factory's hands-on guidance and counsel propelled Journey Robotics' advance, bolstered credibility in a conservative aviation market, and laid the groundwork for full-scale commercial deployment.



In 2025, Journey Robotics deepened its development pipeline through the xBridge program at Pittsburgh International Airport, the airport's testbed for next-gen aviation

tech. The team installed and rigorously tested its latest iteration in a decommissioned terminal, inside live baggage operations. By April, they unveiled the system to potential customers at the Global FTE Innovation Summit (a followup



“Our Pittsburgh support system is helping us go from zero to one, in record time.”

--Reeg Allen
Founder and CEO, Journey Robotics

to the Robotics Factory Create Aviation Summit), essentially launching their beta product in under a year.

Journey Robotics has harnessed Pittsburgh's deep bench of robotics talent, industry ties, and airport infrastructure to fast-track its path from concept to commercial deployment. Early backing from Innovation Works and Robotics Factory provided crucial capital, strategic guidance, and market validation, culminating in a \$250,000 investment through the 2025 PA Commonwealth State Small Business Credit Initiative. Selection for International Airlines Group's 12-week accelerator now places the team inside live aviation workflows with global partners—including potential opportunities at London Heathrow. These programs sharpened the product, validated processes, and prepared the technology for international scale.

Anchored by deep technical leadership and a uniquely supportive regional ecosystem, Journey Robotics is rapidly turning bold concepts into deployable solutions. By revolutionizing baggage management, the company is setting new standards for safety, efficiency, and automation, shaping the future of aviation logistics worldwide.

Innovation Works and the Robotics Factory

Innovation Works is one of the most active early-stage investors in the country and the most active in Pennsylvania. Since its inception of the seed fund in 1999, Innovation Works has invested in over 780 companies that have gone on to raise \$3.4 billion in follow-on funding. Innovation Works is part of the Ben Franklin Technology Partners network, which has catalyzed economic growth over the last 30 years by providing access to capital and networks that help foster innovation and technology-based economic development in Pennsylvania. The Robotics Factory is an array of robotics programs led by Innovation Works and the Pittsburgh Robotics Network. Learn more at innovationworks.org and roboticsfactory.org.