

# BALYO

## Transforming Material Handling with Intuitive Autonomous Robots



Pascal Rialland,  
CEO

By replacing manual forklift applications with automation, logistics businesses hope to enhance the efficiency of their operations, cope with skyrocketing demands, and free up personnel to perform critical and high-value tasks. As global supply chains continue to experience accelerated digitalization, logistics firms are working to automate and streamline their material handling processes within manufacturing sites and distribution centers. However, achieving this level of automation traditionally required a team with engineering project management and robotics automation expertise to mitigate safety challenges and bolster the transition. Most businesses lack this necessary know-how and only have limited capital to dedicate to material handling automation, hindering the deployment of effective logistics robotics.

Eliminating this reliance on automation expertise with its breakthrough technology, BALYO transforms standard forklifts into intelligent robots. BALYO's portfolio includes affordable and autonomous VNA and Reach robots for high lift applications (up to 17m), standard & counterbalanced stackers for low-level lift applications, and pallet trucks and tugger robots for horizontal load movements.

BALYO offers to sell, lease or operate (as a fully managed service) its customer's pallet movement operations from 0m to 17m. This has driven never-before-seen levels of material handling and warehousing efficiency. Driven by BALYO is a proprietary

breakthrough technology that allows BALYO's robots to maneuver in warehouses without requiring any additional infrastructure like reflectors or magnets. By storing the facility "map" in its brain, BALYO robots can locate themselves in real-time using the stored map to find optimum paths.

Backing this comprehensive product suite is BALYO's longstanding partnerships with OEM forklifts and service networks, which allows it to build autonomous robots on standard well-known fork trucks and offer unmatched technical support to its clients. BALYO's team of seasoned project representatives works to identify a warehouse's operational gains by simulating the expected impact (throughput and savings) of a robot implementation and offering solutions to help its clients establish a lean and autonomous warehousing and material handling infrastructure.

"We help clients transition from a manual material handling approach to a fully automated experience in the simplest and most affordable way, while minimizing operational disruptions and lowering costs," says Pascal Rialland, CEO of BALYO. The company's ability to transform conventional forklifts into autonomous robots is driven by a core tenet of minimal disruption. Essentially, BALYO easily connects with existing automation like the conveyors, alarms and automated doors within customer facilities without significantly augmenting their existing racking, spacing, and aisles.

BALYO's competitive edge is also driven by its innovative localization software, which combines the most advanced navigation software, based on simultaneous localization and mapping (SLAM) algorithm with LIDAR technologies. This unique combination also enables the company to retrieve information from a robot's surroundings and compute thousands of positions to allow it to self-localize, without implementing additional infrastructure: a major boost for warehouses, essentially brownfield sites.

Concurrently, the generated reference map records every structural element within a facility (walls, racks, columns, and machines) and records it into a robot's memory. In a day-to-day scenario, BALYO's robots can perform a 360° scan of its environments and correlate what it sees with the generated reference map to localize itself accurately in real-time. These strong capabilities enable the company's products to operate in many environments, including an ecosystem with evolving technology infrastructure. In such cases, BALYO's robots leverage an adapted set of features, which include advanced multimap LIDAR, relative perception intelligence, and vision equipment.



With such unparalleled capabilities, BALYO has ignited several success stories since its inception. In a recent engagement, the company deployed its products to assist leading logistics organization, DB Schenker Singapore in effectively automating material handling within their distribution centers. For this customer, the company leveraged its prowess in 3D camera analysis to customize and deploy a reach truck capable of handling 30 pallet types, which is transformative in an industry where most material handling robots can only handle two. Similarly, BALYO deployed multiple VNA racking robots into a single-aisle for a German customer. It is currently handling 90 pallets an hour, assisting the client in coping with skyrocketing demands and shrinking timelines.

Alternatively, BALYO's recent engagement in installing a VNA robot that picks/drops pallets up to a whopping height of 17m within a Singapore-based logistics facility has set a world record. This success showcases the true prowess, technological capability, and reliability of the company and highlights how such solutions have the potential to massively increase efficiency and make the supply chain resilient.

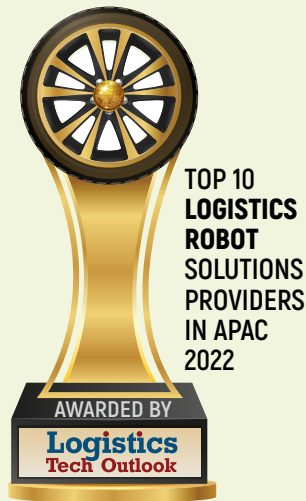
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Several successful use cases are driving BALYO to accelerate the conversion of the material handling market to autonomy, driving a new mindset among logistics firms where they can 'fix their operational expenses now to avoid cost-cutting later.' With the pandemic-induced automation boom, BALYO is ready to meet the dynamic demands of modern-day warehouses and offer an autonomous solution to increase efficiency. Looking ahead, BALYO is poised to revolutionize how logistics robots are leveraged within warehouses and distribution centers with its portfolio of innovative robots, proprietary localization software, and global partnerships with forklift and material handling OEMs. **LT**

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*The annual listing of 10 companies in APAC that are at the forefront of providing Logistics Robot solutions and transforming businesses in the region*

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