



Denali Automation Tech Day

A deep dive into process improvement solutions featuring Zebra Technologies

White Paper



Introduction

Denali Automation Tech Days are a series of exclusive events held at our main locations across the US and UK, tailored for logistics leaders and specialists eager to drive operational advancements. Each Tech Day showcases powerful process improvement solutions, highlighting how Denali's automation systems—integrated with Zebra Technology's advanced RFID and scanning hardware—boost efficiency, safety, and compliance.

Through live demos, hands-on sessions, and expert-led discussions, attendees witness the practical applications of Denali's tailored solutions. These demos illuminate a variety of use cases, helping participants envision how these technologies can be applied to specific operational challenges. Tech Day also offers a unique opportunity for one-on-one discussions with Denali's automation experts, enabling attendees to identify which solutions best match their unique environments and which will maximize efficiency and impact.

Featured Solution Demos

Water Spider

The Denali Water Spider Solution is a cutting-edge Autonomous Mobile Robot (AMR) designed to optimize material handling within warehouse environments. Equipped with a customizable cart attachment, the Water Spider efficiently moves inventory or materials to where they're needed, when they're needed.

The solution offers flexible material handling, supporting both "push" and "pull" systems, and seamless integration with existing Warehouse Execution Systems (WES) for streamlined workflows. Its intelligent navigation enables the AMR to safely avoid obstacles, adapting to changing environments, while continuous operation ensures round-the-clock material flow.

With predictable performance and cost, the Water Spider provides consistent reliability without unexpected expenses, enabling uninterrupted operations. Scalability allows it to adapt to changing workflows and facility layouts, making it suitable for growing businesses. Real-time data collection offers insights into material movement, delivery times, and operational efficiency, while lean material management enables a "just-in-time" approach, reducing waste and boosting productivity.



Deep Learning Defect Detection

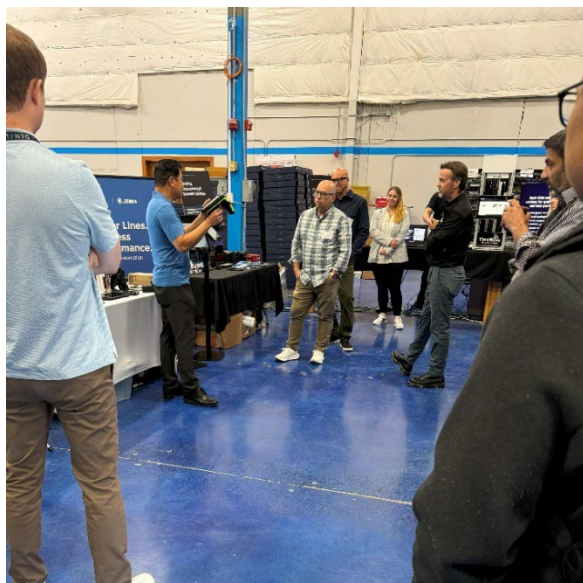
Denali's AI-powered defect detection solution leverages real-time insights to maintain rigorous quality standards on the production line. Using advanced image recognition, it quickly identifies manufacturing defects, ensuring that products meet the highest standards before reaching the next stage. This proactive approach minimizes rework, saves time, and enhances overall production quality by identifying issues early in the process.

Integrated with Zebra's barcode scanners and RFID technology, the solution provides seamless tracking capabilities, enabling precise traceability of defective items along the production line. This level of visibility helps manufacturers address quality issues efficiently and reduce waste by pinpointing defective products as soon as they appear. With its powerful combination of AI and Zebra's hardware, this solution brings a new level of accuracy and efficiency to quality control in manufacturing.

Real-Time Product Inventory and Worker Safety

The Real-Time Product Inventory and Worker Safety solution combines automated safety monitoring with inventory tracking to enhance both productivity and workplace safety. Using AI-powered recognition, the system verifies workers' adherence to PPE requirements—such as wearing hard hats—by detecting and tracking compliance in real-time. Visual indicators, like a green or red stack light, provide immediate feedback on safety compliance, while alerts are automatically triggered when non-compliance is detected.

Beyond safety, the solution integrates advanced tracking technologies, including Zebra barcode scanners and RFID, to streamline inventory management. This dual functionality allows companies to monitor product movement across the facility, ensuring that both safety and inventory management operate seamlessly. Additionally, the system can capture video clips of non-compliance events and store them in a dashboard, enabling easy tracking and reporting on safety adherence over time. This real-time approach minimizes downtime, reduces error, and provides a comprehensive view of workplace safety and inventory flow.



RFID Asset Tracking

Denali's RFID Asset Tracking Solution leverages Zebra's cutting-edge RFID hardware to provide precise, real-time data on the location of high-value assets throughout a facility. This real-time visibility minimizes the risk of asset loss, ensuring that every asset is accounted for and readily accessible. With immediate tracking updates, businesses gain more control over asset allocation, reducing the time and labor associated with manual checks and improving operational efficiency.

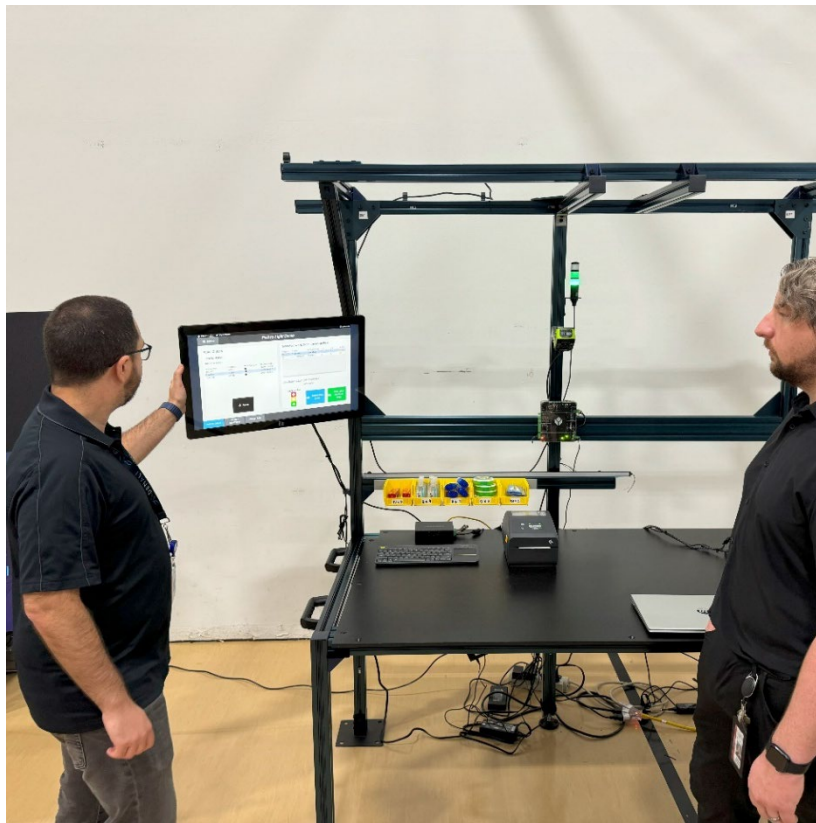
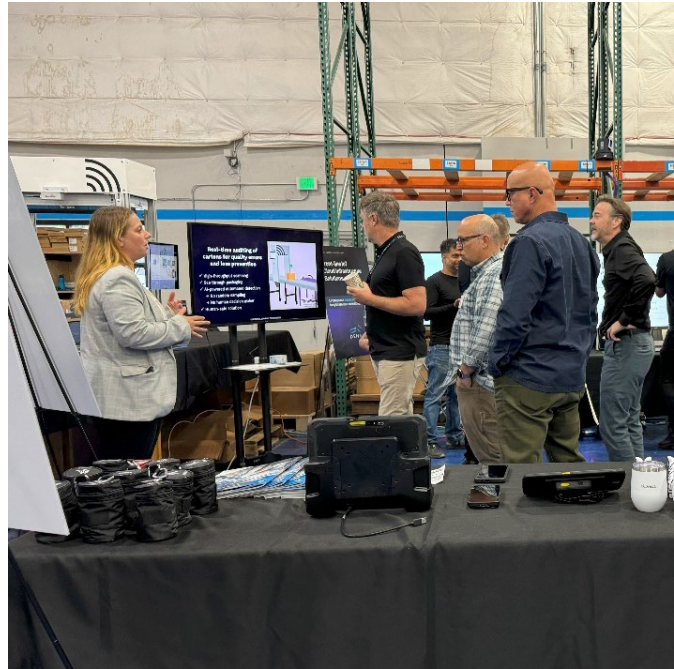
This RFID-enabled solution is designed for companies looking to elevate their logistics and operational control. By integrating RFID asset tracking, organizations can maximize resource utilization, making sure that essential equipment and materials are always positioned where they're needed most. The solution's accuracy and speed allow for seamless inventory management, enhanced productivity, and significant cost savings, offering an essential tool for modern asset-heavy industries.

Contents Inspection

Denali's Contents Inspection Solution leverages advanced ThruWave imaging technology to inspect the contents of packages without opening them, enhancing quality control and safety. This cutting-edge imaging solution allows for safe, non-intrusive package inspections, enabling companies to maintain high standards of product quality and comply with safety regulations. By providing a clear view inside packages, it streamlines the inspection process, helping organizations detect any anomalies or inconsistencies in real time and reducing the need for manual package checks.

Auto-Scan Manual-Label (ASML)

Denali's Auto-Scan Manual-Label (ASML) Solution streamlines the labeling process by automating data capture, label printing, and verification on a conveyor system. This setup accelerates product induction by capturing essential data from packaging, creating unique labels, and verifying application, which reduces the need for manual scanning and minimizes errors.



Pack Bench of the Future

Denali's Pack Bench of the Future solution optimizes packing efficiency with automated 1D/2D barcode scanning and high-resolution label reading powered by Zebra technology, along with mobile dimensioning capabilities. By eliminating handheld barcode scanners, the solution allows operators to use both hands for faster packing and label application, significantly boosting productivity. Easy to implement and delivering a quick return on investment, this system streamlines packing workflows, making it ideal for companies seeking to enhance speed and accuracy in their packing processes.

Cloud and Infrastructure Optimization

Denali's Cloud and Infrastructure Optimization Solutions provide a robust, scalable platform for automation, enhancing security, efficiency, and operational flexibility. Through Cloud Optimization Services, Denali enables organizations to effectively manage costs, automate workflows, and streamline DevOps processes. These services reduce operational expenses, optimize resource allocation, and increase agility.

For high-performance infrastructure, Denali's Hyperscale Fabric with Hedgehog on Supermicro, integrated with Rapid MDF (RMDF) enclosures, accelerates deployment and ensures a 98% on-time delivery rate. This infrastructure solution supports rapid scaling and complex automation, allowing businesses to seamlessly expand and operate efficiently. Together, these services form a secure, reliable foundation that empowers organizations to drive automation at scale.

Generative AI Integration

Generative AI and advanced analytics are redefining process efficiency across key industries such as logistics, manufacturing, and retail. By leveraging AI-driven decision-making and machine learning, these solutions automate complex tasks, streamline workflows, and enable intelligent, adaptive interactions.

Vision Management

Designed for industries like manufacturing and healthcare, these systems process multiple camera feeds using AI-powered object detection and precise 6DOF (six degrees of freedom) positioning. This setup enables accurate visual inspection, real-time monitoring, and data-driven decision-making. By automating visual management, organizations can reduce human error, improve quality control, and make more efficient use of resources.

AI-Assisted Troubleshooting and Triage

Particularly valuable in telecommunications, logistics, and manufacturing, this toolset rapidly identifies and resolves operational issues, minimizing downtime. AI algorithms analyze large datasets to pinpoint root causes, enabling automated troubleshooting and enhancing system reliability.



Next Best Action

This analytics-driven tool recommends optimal next steps based on real-time data insights, which aids decision-making across industries. It boosts customer satisfaction, improves workflow efficiency, and maximizes resource utilization by predicting and automating the most effective actions in complex processes.

Integrating these AI solutions into automation environments creates a powerful foundation for achieving operational excellence. Generative AI technologies enable precise, real-time responses to challenges, delivering measurable gains in efficiency, reliability, and customer satisfaction. With Denali's expertise, businesses can harness AI to transition into a new era of intelligent, responsive, and scalable operations.



Denali + Zebra Technologies

Through close collaboration with Zebra, Denali delivers solutions that combine best-in-class hardware with custom software and integration services. This approach yields several key advantages:

Enhanced Visibility and Traceability

With Zebra's RFID and scanning technology embedded in Denali solutions, businesses gain clear visibility into asset location, product flow, and compliance metrics. This level of traceability supports accurate, data-driven decisions, critical for industries with complex supply chains.

Streamlined Workflows and Productivity

Automation reduces manual handling and speeds up processes. Zebra's devices, combined with Denali's automation expertise, create systems that automate routine tasks, freeing up employees for more valuable work and boosting overall productivity.

Improved Compliance and Risk Mitigation

Zebra's reliable scanning and tracking technology allows Denali solutions to monitor and enforce compliance standards consistently. This minimizes human error and helps ensure adherence to industry regulations, improving safety and reducing liability.

Customized Solution Design

Experts illustrate how Denali tailors automation solutions to meet industry-specific requirements, taking into account operational constraints, scalability, and future growth.

Flexible Deployment

Denali's unique subscription-based models offer flexibility and predictable costs, making high-tech automation accessible without significant upfront investment.

Ensuring Longevity and Peak Efficiency

Through continuous monitoring and support, Denali and Zebra's combined solutions maintain peak efficiency and uptime, ensuring businesses achieve optimal productivity.



Attend the Next Denali Automation Tech Day

Denali Automation Solutions are designed to improve key processes, enhance quality, increase safety, and optimize material handling. With flexible options, predictable cost models, and dedicated service teams, our solutions can reduce costs and elevate the efficiency of your operations.

Denali Automation Tech Day offers a unique opportunity to explore the latest advancements in process improvement solutions. By attending, you'll gain insights into how Denali's automation systems, integrated with Zebra Technologies' hardware, can enhance efficiency, safety, and compliance within your operations.

If you're interested in learning more, please contact marketingrequests@denaliai.com or your Denali contact for the latest dates and details on upcoming Tech Days.