FORTNA

Thought Leadership Series

Solution Spotlight: FORTNA Hai Robotics Warehouse Automation Solution

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Throughput demands are climbing, warehouse space is shrinking and unpredictability is no longer an exception. Today's rising pressures are exposing the limits of manual systems, turning everyday operations into constant tradeoffs between speed, cost and capacity.

The FORTNA Hai Robotics warehouse automation solution addresses these challenges with a flexible, high-density goods-to-person (GTP) approach that combines advanced robotics, intelligent software and FORTNA's proven design and integration expertise. With this turnkey solution, you can **increase throughput by 3x, lower labor costs by 67% and reduce your storage footprint by 75%**.

Discover how to design and implement a scalable solution that delivers immediate performance improvements while enabling long-term growth.

What is the FORTNA Hai Robotics warehouse automation solution?

The FORTNA Hai Robotics solution is a robotic automated storage and retrieval system (ASRS) powered by autonomous mobile robots that store and retrieve inventory directly from racking and deliver it to ergonomic workstations.

Unlike traditional ASRS or grid-based systems, Hai Robotics uses mobile climbing robots and flexible rack configurations to access inventory across multiple levels.

Key system components include:

- HaiPick autonomous case-handling mobile robots
- High-density racking systems
- Goods-to-person workstations
- Intelligent orchestration software

The robots navigate warehouse environments independently, reducing travel time and increasing picking efficiency.

What differentiates the FORTNA Hai Robotics solution?

FORTNA takes a consultative, data-driven approach, ensuring the solution is engineered specifically for each operation and application, seamlessly integrating into full end-to-end facility designs.

- **Right-fit operational design:** FORTNA analyzes your SKU mix, order profiles and throughput requirements to design a tailored solution instead of a one-size-fits-all system.
- **Flexible system architecture:** Hai Robotics systems adapt to existing facilities and workflows with minimal infrastructure changes.
- **Seamless integration:** Fully integrated with WMS, WES and WCS, as well as upstream and downstream automation for complete visibility without disruption.
- **Lifecycle performance services:** Ongoing optimization, maintenance and support ensure long-term ROI.

The FORTNA approach focuses on aligning robotics and software with real operational needs, helping organizations reduce risk and accelerate time to value.

FORTNA Hai Robotics warehouse automation solution FAQs

How does the FORTNA Hai Robotics solution improve space utilization?
Space is one of the most constrained and expensive factors in distribution. Oftentimes, expanding isn't always an option. The FORTNA Hai Robotics solution is designed to maximize both vertical and horizontal storage density. This empowers an organization to grow without relocating or rebuilding.

- Uses vertical storage up to 12 meters (39.37 feet), offering more storage density
- Reduces aisle width and eliminates unnecessary travel paths
- Reduces storage footprint by up to 75% while increasing capacity

HaiPick systems, such as HaiPick Climb, attach to standard racking and access inventory from both sides of narrow aisles, delivering high-density storage without complex infrastructure.

How does it improve throughput and productivity?
The FORTNA Hai Robotics solution transforms picking operations by bringing goods directly to the operator.

Performance benefits include:

- Up to 3x increased daily throughput
- Provides a 4x boost in efficiency
- Faster order fulfillment cycles
- Reduced walking and manual searching

Systems like HaiPick Climb can deliver totes to workstations in minutes and support thousands of tote movements per hour, significantly increasing throughput. The result is consistent, predictable performance, even during peak seasons and periods of unpredictable, fluctuating demand.

How does the solution impact labor and accuracy?
Labor challenges remain one of the biggest constraints in warehouse operations. In fact, the 2026 MHI Annual Industry Report found that 58% of organizations rank talent acquisition and workforce challenges as their number one concern.[1] The FORTNA Hai Robotics solution reduces dependency on manual labor while improving working conditions.

Labor and accuracy improvements:

- Up to 99.9% picking accuracy
- Reduced reliance on hard-to-fill roles
- Labor costs reduced by 67%
- Faster onboarding and simplified training
- Improved ergonomics and safety

[1] https://www.mhi.org/annual-industry-reports

Is the FORTNA Hai Robotics solution scalable?
Every square foot of space and hour of work must be fine-tuned to support sustained growth. When outdated or manual processes begin to hinder performance, the case for a smarter, scalable warehouse solution becomes clear.

The FORTNA Hai Robotics system is designed to grow with your business:

- Add robots to increase throughput
- Expand racking to increase capacity
- Reconfigure layouts without major disruption
- Deploy in phases to align with budget cycles

Because the solution is modular by design, organizations can scale incrementally without shutting down operations.

Can it be deployed in existing facilities?
The FORTNA Hai Robotics solution is ideal for both brownfield environments and greenfield facilities.

Unlike traditional automation that requires significant infrastructure changes, Hai Robotics systems:

- Work with standard racking
- Entail minimal floor requirements
- Integrate into existing workflows
- Reduce implementation time and cost

Working with a proven system integrator can significantly alleviate the stress and complexity associated with integrating your systems and software.

Key benefits of the FORTNA Hai Robotics solution

The FORTNA Hai Robotics solution is designed to solve the most pressing constraints in modern warehouse operations. By combining high-density storage with flexible, goods-to-person automation, it enables organizations to improve performance today while building a foundation for future growth. The result is a more efficient, adaptable operation that can respond to changing demand without costly disruption or expansion.

- **High-density storage:** Maximize space and delay facility expansion
- **Flexible warehouse automation:** Adapt to changing demand and workflows
- **Improved productivity:** Accelerate picking and fulfillment
- **Reduced labor dependency:** Do more with fewer resources
- **Fast implementation:** Deploy without major disruption
- **Future-ready scalability:** Grow without relocating or rebuilding

Why expertise matters for Hai Robotics automation

Seamless operations depend on more than robotics. To achieve automation success, it is critical to have the right design, integration and ongoing support.

FORTNA provides:

- Proven experience in distribution strategy and design
- Advanced simulation and throughput modeling
- Seamless integration across complex systems
- Lifecycle services that sustain performance

The FORTNA Hai Robotics solution is a strategic investment in flexibility, efficiency and long-term performance. By combining innovative robotics with FORTNA's consultative approach, organizations can transform warehouse operations, unlock capacity and scale with confidence.

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FORTNA CAN HELP

Ready to see how the FORTNA Hai Robotics solution can transform your distribution operation? Connect with us to explore solutions designed specifically for your facility, objectives and growth plans.

Contact us today at **www.FORTNA.com**