



Allen-Bradley

by ROCKWELL AUTOMATION

Independent Cart Technology

Remove Bottlenecks.
Improve Flexibility.
Transform What's Possible.



**Rockwell
Automation**

▶ BEGIN

A more flexible factory is coming into focus

Market dynamics and buyer behaviors are rapidly evolving. Demand for personalized products and fast delivery are surging, and customers expect manufacturers to keep pace with their changing needs. But trying to keep up with what's new with existing designs can reduce productivity, lower customer satisfaction and hurt the bottom line.

Thankfully, intelligent motion is changing what is possible at every corner of the plant and allowing a new type of production to take shape. In this new environment, goods flow smoothly through the factory and machines flex to new conditions at unprecedented speed.

With truly flexible automation, you can:

- **Reach** the market faster with new, more innovative products
- **Adapt** to demands quickly and profitably
- **Achieve** stronger supply chains

Deliver a new era of factory motion using independent cart technology

Belt and chain conveyors have long been the standard for moving products. Teams have grown accustomed to scheduling downtime for maintenance, rejecting or reworking products and planning for longer tact times that reduce the overall effectiveness of their machines. But these assumptions no longer apply. Independent cart technology is ushering in a new era of intelligent motion in plants across the industrial spectrum.

Are you ready for a more productive future?

- ▶ **Deliver** products faster and with better quality
- ▶ **Increase** flexibility and profitability
- ▶ **Raise** the Overall Equipment Effectiveness (OEE) of new and existing assets
- ▶ **Realize** smarter, more data-enabled production
- ▶ **Accelerate** innovation and drive sustainability

Redefine productivity using electromagnetic propulsion

Independent cart technology enables you to deliver performance never before possible by using electromagnetic force for faster, more precise motion control. You no longer have to be held back by systems that use complex mechanical linkages – causing slower movement and worn parts that can bring down production. Our independent cart technology portfolio uses only solid-state components to precisely control movement. As a result, systems can be transformed into simpler, longer lasting and more efficient assets.

Increased throughput

Get more from your systems by moving products at speeds up to **10 times faster than traditional systems** and precisely control carrier acceleration and deceleration to start and stop loads without losing control or putting wear on parts.

More reliability

Since there are no moving parts involved generating motion, **motors have a Mean Time Before Failure (MTBF) in excess of 20 years** – meaning your designs last longer and you can worry less about scheduling downtime.

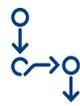
Higher OEE

Adding intelligent motion can improve more than just your conveyor performance. By increasing precision and reducing tact times, **each process in the chain can become more valuable.**



Discover new efficiencies with smart motion technology

In an increasingly complex manufacturing environment, independent cart technology provides a way to simplify how products move within machines and throughout facilities. Previously, adjusting designs or changing the product mix could make keeping up with demand difficult, costly or simply impossible. With intelligent conveyance, each cart in the system is its own intelligently controlled axis of motion – enabling carriers to speed up or slow down based on where other carts are in the system. Now, your production systems can adapt on the fly and automatically adjust to maintain optimal flow with little to no human intervention required. The result? Fewer bottlenecks and increased output.



Achieve the best path every time when the system intelligently controls each carrier, automatically routing it to its destination without the need for complex motion programs or manual intervention.



Harness process data to track and trace carriers within the system and preserve individualized production.



Advance your sustainability goals when carriers only consume power while in motion and regenerate power back to the system while stopped.



Deliver zero-pressure conveyance at high density with automatic, anti-collision safeguards and smart carriers that adjust on the fly.

Move in a new direction and **unlock your full flexible manufacturing potential**

Adding new products or scaling up production volume can slow time to market, restrict innovation and put stress on profitability. But what if you could adapt to these changes faster and quickly move into profitable production without significant effort? Now you can. With independent cart technology, your conveyance has flexibility built in – making it easier than ever to stay ahead of market demands and drive innovation in your products while keeping margins on target.

Gain the freedom to design your way

With independent cart technology, each system is configured from a standard set of components. Simply join the elements end-to-end and connect them via Ethernet for a simple, dynamic solution.

Put your most ambitious plans into motion

With options such as diverters, turntables and elevators, you're only limited by your imagination. It is even possible to transfer from one independent cart solution to another.

Quickly adapt, adjust and scale your production

True flexibility doesn't end once the systems are in place. You can quickly and easily expand your system by changing your layout or adding new movers. Just update the path in the software and get back to action!

Maximize your performance with our complete solution portfolio

Independent cart technology solutions present the opportunity to move goods with more speed and intelligence than ever before. But the productivity doesn't have to stop there. When you integrate an intelligent motion solution, you can seamlessly connect your system to our industry-leading hardware and software to unlock even more value.



Emulate3D™ digital twin software

Build it better by designing, programming, testing and training in a digital world first. Not only can you easily design and refine your optimal independent cart technology solution, but you can improve how people work across an asset's entire lifecycle.



Studio 5000® environment

Integrate your next automation solution using a single environment for holistic system design. Independent cart technology solutions integrate seamlessly with the Studio 5000 environment to enable you to synchronize processes and optimize solution performance.



Robot synchronization

Extend the value of your independent cart technology solution by coordinating system motion and robot movement. When both technologies are synchronized, you can achieve processes that are highly precise and exceptionally productive.



Application code libraries

Work smarter by starting your next project using modular, pre-tested code. Then adjust or expand the program to meet your specific needs and drive the results that matter most.



A new era
of factory
motion
PG 3

Electromagnetic
propulsion
PG 4

Smart motion
technology
PG 5

Unlimited
flexibility
PG 6

**Complete
solution
portfolio
PG 7**

MagneMover
LITE intelligent
conveyor
systems
PG 8

QuickStick
intelligent
conveyor
systems
PG 10

iTRAK
intelligent
track
systems
PG 12

Define your
ideal solution
PG 14



MagneMover LITE

intelligent conveyor systems

Achieve smarter, more adaptive routing of light payloads

MagneMover® LITE™ intelligent conveyor systems provide a smarter, more efficient way to move products that must be flexibly routed or travel long distances. These systems track and trace each carrier independently and use anti-collision technology to maintain optimal flow even at high speeds and high density.

With an almost endless variety of layouts possible, a single system is all you need to deliver new levels of performance.

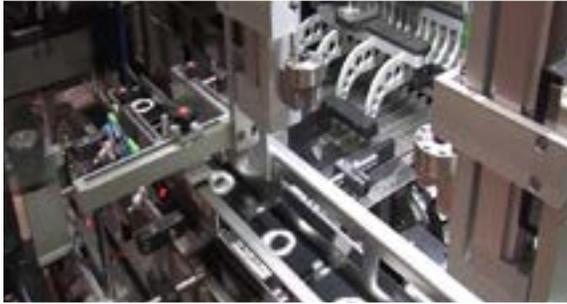


MagneMover LITE
intelligent conveyor system



MagneMover LITE intelligent conveyor systems

Use cases*



Process-to-process transport

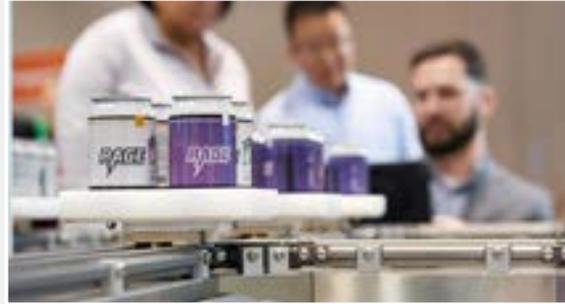
INDUSTRY: Semiconductor

Common applications

- Wafer fabrication
- Foundry operations

Key outcomes

- Reduced tool idle time and yield loss
- Improved worker productivity
- Decreased energy footprint and improved sustainability
- Minimized contaminants with improved handling



Finished goods routing

INDUSTRY: Warehousing & Fulfillment

Common applications

- Facility-wide transportation
- Sortation
- Kitting & order fulfillment

Key outcomes

- Individualized product tracking and traceability over complete journey
- Improved energy efficiency with demand-based energy use
- Removal of sorting equipment and improved product flow using in-route sortation



Individualized production

INDUSTRY: Life Sciences

Common applications

- Pharmaceuticals
- Single use device test kits
- Automated test transportation

Key outcomes

- Increased floor cleanroom space availability
- End-to-end tracking and tracing
- Maintained product quality

*Used application examples - no limit to further industries & applications

QuickStick intelligent conveyor systems

Deliver dynamic, high-speed transport of medium to high payloads

QuickStick® intelligent conveyor systems are designed to help unlock new production value by providing high-performance transportation of goods within your machines and throughout your facility.

Ideal for applications where loads must be moved with exceptional speed, precision and care, these systems can be a catalyst for raising line productivity and quality.



QuickStick 150
intelligent conveyor system



QuickStick HT
intelligent conveyor system



QuickStick intelligent conveyor systems

Use cases*



Battery production line

INDUSTRY: EV Battery

Common applications

- Battery cell manufacturing
- Battery module, and pack manufacturing & assembly
- Stacking and tab welding

Key outcomes

- Removal of buffers
- Higher station to station repeatability
- Improved flexibility



Car assembly & components

INDUSTRY: Automotive, Electric Vehicle, Tiered Suppliers

Common applications

- Seat manufacturing
- Vehicle body handling
- Drivetrain manufacturing & assembly

Key outcomes

- Higher asset utilization
- Increased throughput
- Improved precision and quality



Sorting & fulfillment systems

INDUSTRY: Warehousing & Fulfillment

Common applications

- Package sortation
- Facility-wide transport
- Irregular products handling

Key outcomes

- Tracking and tracing of products
- More intelligent, efficient routing
- Greater reliability and uptime

*Used application examples - no limit to further industries & applications

iTRAK intelligent track systems

Add faster, more precise motion to your in-machine applications

iTRAK® intelligent track systems provide faster, more flexible motion in your machines. By moving carriers independently on straight or curvilinear paths, your systems can be ready to meet batch sizes of one and perform changeovers at the push of a button.

iTRAK intelligent track systems easily integrate into the machine control architecture, so that communication and synchronization with surrounding automation such as robots is optimized.



iTRAK 5730 intelligent track system



iTRAK 5750 intelligent track system



iTRAK intelligent track systems

Use cases*



Packaging equipment

INDUSTRY: Consumer Packaged Goods, Food & Beverage

Common applications

- Flow-wrapping
- Fill and seal pouching
- Packaging systems

Key outcomes

- Rapid changeovers
- Flexible handling
- Higher quality and improved customer satisfaction



Handling & assembly machines

INDUSTRY: Life Sciences

Common applications

- Automated testing
- Single-use kits
- Medical device assembly

Key outcomes

- End-to-end product tracking
- Individualized production
- Increased machine output



Sorting & fulfillment systems

INDUSTRY: Warehousing & Fulfillment

Common applications

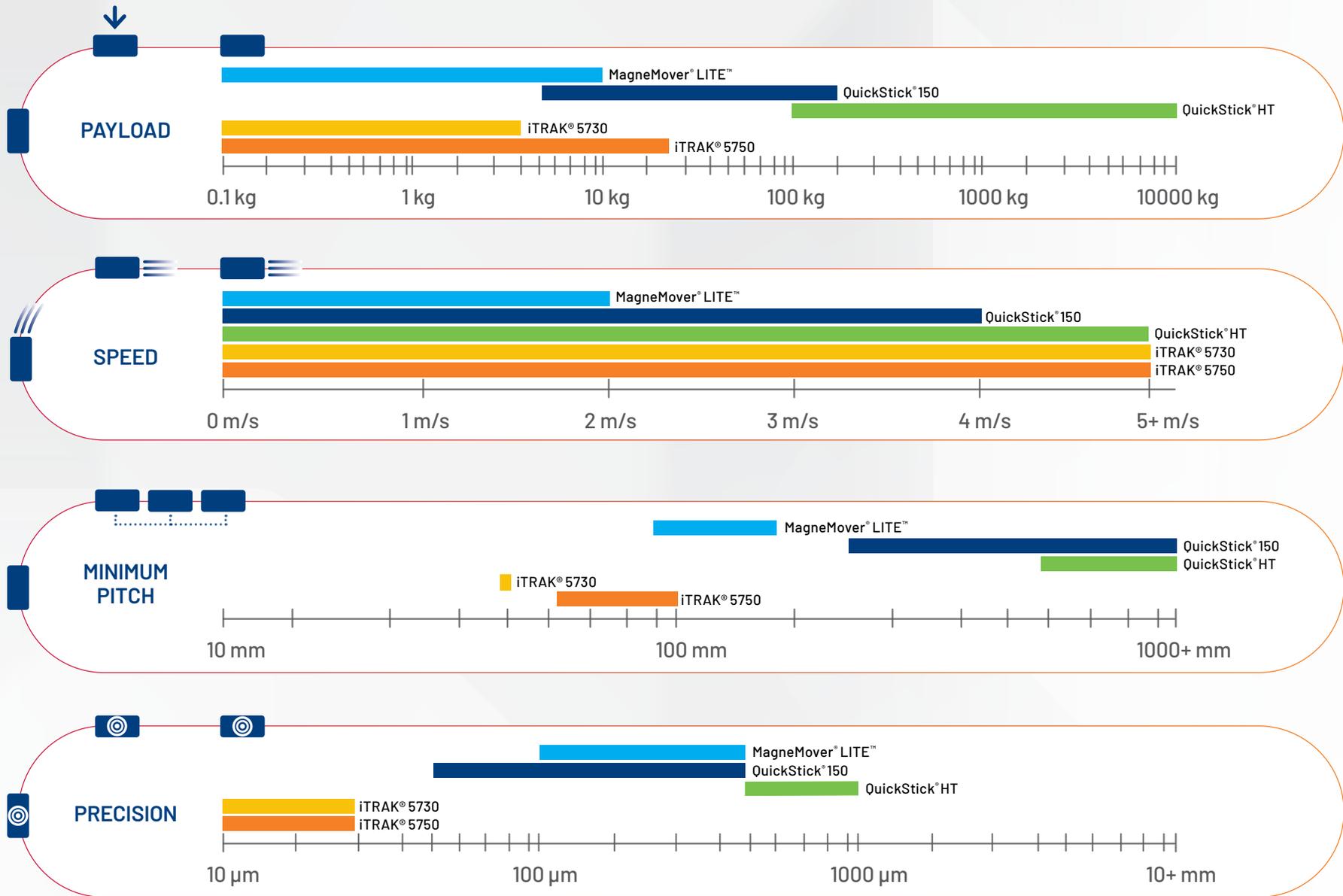
- High-speed sorting and gapping
- Mix pack systems
- End load cartoning

Key outcomes

- Flexible product flow
- Ability to meet high-mix, highly-variable order volume
- Increased throughput

*Used application examples - no limit to further industries & applications

Define the solution that best fits your application



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rockwellautomation.com

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