Always an Edge Ahead
SOLVING MATERIAL HANDLING CHALLENGES WITH TAILORED AUTOMATED MATERIAL HANDLING SOLUTIONS

Increased domestic and international competition in today’s business environment requires companies to improve material handling operations to stay ahead. Each company’s challenges are varied and distinct, requiring innovative solutions to meet an endless variety of needs. That’s what Wynright, a subsidiary of Daifuku North America, is all about. We use our blend of engineering and breadth of material handling products available throughout the Daifuku companies to design, test and validate a unique automated solution that can help you:

- Streamline Processes
- Decrease Cycle Time
- Minimize Errors
- Improve Productivity
- Maximize Usable Floor Space

PROVEN EXPERIENCE, UNEQUALED PERFORMANCE FOR COMPANIES OF ALL SIZES

The heart and soul of any Wynright solution is Wynsoft™, the Warehouse Execution Solution software that allows our clients to operate with the most up-to-date technology and operational effectiveness. The ever growing need for businesses to react to day-to-day changes and be able to use real-time data to make well-informed business decisions is crucial to the design, allowing Wynright to deploy what’s needed, when it’s needed and where it’s needed.

Our solutions are designed with a modular communication backbone for moving data not only between the modules, but to other software and hardware environments, for a truly interoperable solution. The bottom line is that Wynright has the flexibility to combine any technologies to create customized solutions for complex business problems.

Wynright, utilizing Wynright and Daifuku Co., Ltd automated material handling equipment and system solutions can help you resolve your most complex material handling challenges. To ensure the highest quality standards and performance, we design and manufacture many of the products we integrate including:

- Conveyor & Sortation Solutions
- Automated Storage and Retrieval Systems & Shuttles
- Order Fulfillment Solutions
- Robotic Solutions
- Automated Guided Vehicles and Carts (AGVs & AGCs)
- Warehouse Execution Software and Controls
- Mezzanines, Pick Modules and Structural Solutions
HOW WE ARE DIFFERENT

We understand that no two material handling challenges are alike, and we don’t try to resolve all problems with the same solution. Instead, our approach to improving your operation is to first gain a deep understanding of your issues and challenges and by evaluating your existing operations. Only then can we apply our blend of engineering expertise and automated material handling products to design a unique automated material handling solution that addresses your exact needs.

We analyze and validate your data so we can understand your current processes and plans for the future. We work with you to design an optimal solution. Our design architects validate your optimal solution by simulating/emulating your conditions and design requirements to test the WMS and WCS rules, including the “What If?” scenarios that test system limits. In short, we make sure the planned solution performs to your satisfaction before we ever start to employ it.

It is through this approach that we are able to gain a deep understanding of your challenges, then design and tailor a unique automated material handling system to help you realize your goals.

OUR PRODUCT

Our automated material handling equipment is engineered and manufactured following Japanese and American long-standing traditions of superior quality and precision. Our innovative solutions are designed to operate quietly, work reliably, and deliver years of unequaled performance for your facility.

LEGACY OF FIRSTS

1966 | Daifuku installed Japan’s first AS/RS
1969 | Daifuku developed one of the world’s first computer-controlled AS/RS
1972 | Daifuku designed the first standard, pre-engineered AS/RS package
1974 | Wynright developed the industry’s first sortation arm designed to integrate with belted conveyor
1994 | Wynright introduced the axle isolator to reduce wear on roller axles and minimize static electricity
2005 | Wynright developed a powder-coat process that utilizes metallic flecks to reduce static electricity
2006 | Daifuku engineered the first two-crane synchronized AS/RS
2012 | Wynright produced the world’s first fully autonomous robotic truck loader and unloader
2012 | Wynright introduced HYBRID, the automated fulfillment system that integrates light-directed and voice-directed technologies into a single offering
CONVEYOR & SORTATION

Wynright’s conveyor and sortation systems have been implemented to enhance and streamline the transport of product in manufacturing facilities and distribution centers of all sizes.

We employed the latest technology available to design our newest conveyor platform. In doing so, we not only came up with revolutionary innovations to improve energy consumption and ease of control, we also addressed the age old problem of conveyor aesthetics by incorporating a common side channel across four different conveyor families. The sleek new design offers operational enhancements and reduces our clients carbon footprint by reducing energy consumption.

From simple gravity and belt conveyor to our sophisticated AutoRoll+ Motor Driven Roller (MDR) conveyor, we have the right equipment for your applications.

Wynright’s sorters play a key role in a number of applications, such as pre-sorting, routing, sequencing, and shipping. We have several equipment options available for your sortation needs. From low rate sort arms and pushers to medium rate belt sorters, all the way up to high speed sliding shoe sorters, we have the right sorter for your specific application.

AS-30 Sliding Shoe Sorter
The heart of our sortation offering is the AS-30 Sliding Shoe Sorter. The AS-30 is a high-speed automated sortation system for sorting medium size totes and cartons. Operating at speeds up to 475 ft./min. the AS-30 can process as many as 13,500 pieces per hour.

Bi-directional shoes allow items to be off-loaded to both sides of the sorter, improving space
utilization while providing greater design flexibility. Loads are tracked on the sorter using pulse mode tracking and are then diverted using mechanical or electro-magnetic actuators.

**Sorting Transfer Vehicle (STV)**
The Sorting Transfer Vehicle is a fast, flexible, and easily installed material transport system. STVs can be used to move loads of all sizes. Advantages of STVs include: fewer motors, no single point of failure, high speed, high throughput, and expansion flexibility to handle future growth. Our STVs are designed for seamless integration with unit load AS/RS to effectively transport raw materials, work-in-process and/or finished goods. STVs can also integrate with conveyor or ergonomic workstations to facilitate efficient order picking for consolidation and shipping.

**Multi-Belt Sorters**
Reaching conveyor speeds of 400 fpm and a sort rate of 100+ cpm, the MB30, 30 degree divert multi-belt sorter is fast and accurate. In lieu of one wide belt, the MB30 utilizes multiple smaller width belts to carry product. The MB90, 90 degree divert multi-belt sorter reaches conveyor speeds of 300 fpm and a sort rate of 60+ cpm.
AS/RS combines equipment and controls to handle, store, and retrieve materials with precision, accuracy, and speed. A system enables companies to recapture floor space, improve efficiency and ensure inventory control. Loads are moved vertically and/or horizontally in the aisle and then laterally to place the load in a storage location. Wynright’s Automated Storage and Retrieval Systems vary in sophistication from simple order-picking machines operating in small storage structures to fully-automated systems that are integrated into complex manufacturing, distribution, or warehousing processes. AS/RS is effective for staging in a lean inventory operation.

The key benefits realized from the implementation of an Automated Storage and Retrieval System are:

- Regained floor space
- Streamlined, high-speed storage/retrieval
- Improved throughput
- Inventory accuracy and control
- Increased productivity

Wynright’s AS/RS offerings have the capability to manage standard and long-load storage and retrieval requirements. Our lines of AS/RS equipment include: Unit Load, Mini Load, and Rack-Supported Building.

**Unit Load**
Wynright’s unit load is a high-density pallet buffer designed to maximize vertical storage space while maintaining a compact footprint. Several models are available to handle pallet loads from 1,100 to 6,600 lbs. and rack heights up to 131 ft. The unit load can also be used to store long or bulky items and hazardous materials. It is also ideal for freezer and low-noise applications. In addition to a standard unit load, a double-deep rack configuration is also available.

**Mini Load**
The mini load is a high-speed, high-density buffer that can replace conventional static rack to maximize vertical storage space within a compact footprint. The mini load moves and stores irregularly-shaped goods or parts placed in: stacking totes, collapsible totes, nesting containers, case/cardboard boxes, and bins. The system handles containers that weight up to 662 lbs. Rack height ranges from 10-66 ft.

A mini load is effective in forward pick operations and in applications that include the buffering and storage of small raw materials and/or finished goods. It is also a good buffering system for
small items that represent work-in-process. Another use for the mini load is organizing loads from a random state into an ordered state, or vice versa for short-term staging.

**Rack-Supported Building**
Wynright’s rack-supported building AS/RS is a multi-level automated warehouse in which the rack is integrated into the building. The unit load storage rack serves as the basic structural system and integrates material handling and information systems together to form an optimum storage option.

**Shuttle Rack M**
The ground-breaking Shuttle Rack M is a fast, vehicle-type AS/RS designed to provide storage and sorting function by group or by specific loading sequence. It is perfect for:

- Shipping buffer
- Picking/sortation buffer
- Palletizing buffer
- Picking buffer
- Merging buffer

The Shuttle Rack M can handle cartons, totes, and trays. Both single-deep and double-deep configurations are available.
Leveraging 25 years of CAPS™ pioneering experience with computer assisted pick-to-light technology, Wynright continues to provide the next generation of modular light-directed and voice-directed order selection, consolidation, and put solutions. In addition, Wynright has developed HYBRID, a revolutionary design (patent pending) that combines lights and voice, into a seamless, highly productive picking experience. HYBRID provides the user with a visual representation of required product, followed by structured voice instructions to complete the pick. Wynright’s selection solutions offers:

- High, medium, and low-velocity order picking solutions
- Order pick and put methodologies
- Voice-enabled systems
- Cart-based, mobile pick-to-light
- Manufacturing workcells
- Warehouse Control Software (WCS)

Let us show you how we can seamlessly integrate your existing ERP & WMS systems with a selection option that will convert data to voice commands and visual displays. Our selection solutions will reduce your training time by 50%, improve your selection accuracy to 99.9% and increase productivity up to 80%. Best of all, you’ll receive your ROI in as little 9 to 12 months for voice applications and 15 to 30 months for light applications.
ROBOTICS

Wynright has been recognized as one of the Top 50 most notable companies in the global robotics industry, largely due to developing the industry’s first self-guided, autonomous robotic truck and shipping container unloader (RTU).

The RTU utilizes advanced perception technology that allows it to sense and acquire product that has been floor-loaded within a semi-truck trailer or ocean freight container. Wynright’s truck unloading technology is ideal for rectangular boxes, bales, and even tires. The system has the capability to unload product automatically, adjusting its position by sensing the sidewalls, floor, and product as it unloads and moves forward to completely unload the container.

Wynright also offers a complete line of high-performance robotic and non-robotic automated palletizing solutions. Each solution provides carefully thought out custom designs to automate the arrangement of cases onto pallets, slave boards, or slip sheets. Other automated robotic solutions can pick product from fixed shelving and place it into a storage location, creating a lower-cost storage and retrieval system.
AUTOMATIC GUIDED VEHICLES

Our AGVs do not require charging/discharging maintenance. The real-time spread-spectrum wireless communication and laser guides for autonomous travel facilitate efficient dispatching. Other AGV guidance options include inertial, wire and magnetic tape, which can be used for maximum layout flexibility. Models are available to transport loads of various weights and sizes.

AGVs are recommended for operations that need to transport raw materials, work-in-process and/or finished goods between storage buffers and workstations. AGVs are also helpful in transporting finished goods from order-picking workstations to consolidation and shipping. AGVs can replace conveyors, forklift trucks and hand carts.

Automatic Guided Vehicle

Wynright’s AGV is a safe, reliable, and efficient material transport vehicle that can be used to move loads of all sizes. AGVs can travel forward, backward, and sideways with 90 degree crabbing to save floor space.

SmartCart AGC

SmartCart Automatic Guided Cart (AGC) is a flexible and cost-effective AGV that is guided by magnetic tape, which allows you to quickly install or modify the guideway in as little as a few hours. SmartCart AGCs are ideal for moving products on an assembly line or transporting goods throughout a plant or warehouse. Automatic and durable, SmartCart AGCs provide reliable and consistent point-to-point movement of everything from small parts to heavy pallet loads.
WAREHOUSE EXECUTION SOLUTIONS (WES)

Wynsoft™
Imagine having all of the pieces of information at your fingertips to ensure that your distribution or fulfillment facilities are running at peak efficiency. Wynsoft provides a comprehensive set of PLC and software modules that have been fine-tuned for ease of implementation and modularity. At the core of each module lies the intelligence to maximize the efficiency of each modules functions and interact with other modules to pass information and instructions. Modularization allows Wynright to offer a customized set of solutions to fit the needs of your enterprise and to deploy those modules with minimal modifications.

Each module within the solution suite provides valuable data to our Visibility Module so you can take advantage of statistical information to further enhance your operations. We know your requirements change with the growing and complex fulfillment requirements of your customers. The Solution Suite can grow with your operations and is flexible for expansion and change.
STRUCTURAL SOLUTIONS

Floor space within a facility is very often at a premium, whether it’s needed for order picking, packing, shipping, sortation, or additional storage. Wynright has the resources and expertise to assist you in fully utilizing the overhead space within your facility. Let us show you the most cost-effective way to expand your warehouse and increase productivity: by transforming unused overhead space into manufacturing, office, storage or security. We design and manufacture to your exact specifications. Our custom-designed structural solutions include:

- Industrial mezzanines
- Office supported mezzanines
- Rack and shelf supported structures
- Conveyor crossovers and catwalks
- Stairs and stair towers
- Safety and guarding equipment
- Pick modules and other custom support structures
- Specialized tables and workstations

Our award winning design team will work with you to make sure your custom structure is designed to your exact specifications. From 135,000 square foot mezzanines to individual pallet stacking guides, no job is too large or too small.

Daifuku CO., LTD. is the largest manufacturer of automated material handling systems in the world and a leading systems integrator. Our depth and breadth of resources uniquely positions us to efficiently and cost-effectively develop and engineer solutions to meet the needs of both small and large companies.