

SUPPLY CHAIN SOLUTIONS



The Company



System Logistics belongs to System Group, an innovative world-leading player in industrial automation. System Logistics is a “company partner” designing and producing technology and complete systems for handling goods inside company production/distribution systems, offering tailored solutions for any intra-logistics requirement. The company philosophy is customer oriented, supplying a suitable consulting and co-design activity, contributing to automate in-house logistics processes thanks to its technology and maximizing the product and/or service value. System Logistics designs and produces machines, hardware and software in-house and has always been featured by the dynamic focus

of its services and the state-of-the-art solutions in today’s economic scene, where logistics is becoming more and more strategic to increase company competitiveness. After more than three decades of activity in material handling System Logistics is a leading provider of automated warehouses and material handling systems with hundreds of employees and more than twenty-five branches in eighteen countries throughout the world.

▀ MILESTONES

- **1986** - System CMA is established, specializing in the manufacturing of automated material handling systems.
- **1987** - System Logistics, a division of System Group, is established when the first MODULA® automated vertical storage system is introduced.
- **1987** - System Logistics launches its first automatic vertical warehouse - MODULA® (www.modula.eu).
- **2008** - Due to its important growth System Logistics becomes an S.p.A. and it’s now an independent company within System Group.



A History of Excellence in Supply Chain Automation

- **2009** - System Logistics acquires Diamond Phoenix Corporation; a 30-year-old American company that designs and manufactures automated split case order fulfilment systems.

- **2010** - In order to support continued growth, System Northern Europe (Sweden) and System LTD (United Kingdom) are established.

OUR VALUES

Advanced technologies, expertise and total commitment to achieve outstanding results for our customers.

These are the core values of System Logistics to ensure a world of innovative solutions tailored to

your needs ranging from the simplest warehouse system to fully automatic picking solutions.

System Logistics improves Customers operational performances by designing and implementing the best Intra-Logistics solutions based on leading-edge technologies and best in class design.

Implementing these types of Intra-Logistics solutions is a complex process requiring strong business relationships between the solutions provider and the Customer. System Logistics shows the flexibility and knowledge to ensure the business relationship becomes another element of the overall success of improving Intra-Logistics performance.

System Logistics is a leader in developing automated solutions for storage, picking

and material flow within warehousing, manufacturing and distribution operations. System Logistics offers a full line of automated material handling systems to make your operations more productive, more efficient and more profitable. In today's business environment, your material handling system has a small margin of error; you have to get your orders out the door fast and you have to get them right.

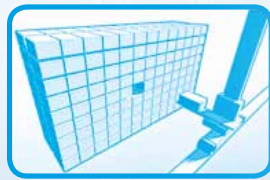
The Company



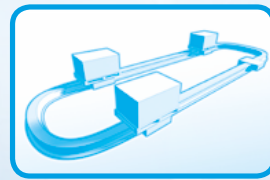
Partnership. Innovation. Creating Supply Chain Solutions.



**Unit Load
Stacker Cranes**



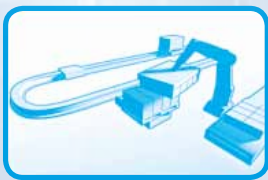
**Miniload
Stacker Cranes**



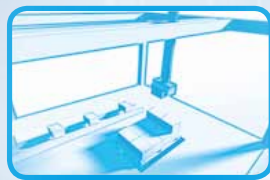
**SVL
System Vehicle Loop**



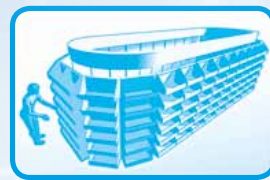
**AGV
Automatic Guided Vehicle**



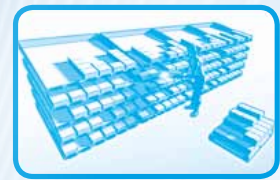
**Layer Palletizing
and Depalletizing**



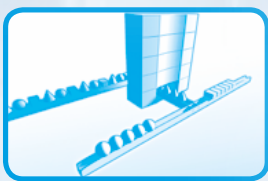
Palletizer



**DIAMOND
Horizontal Carousel**



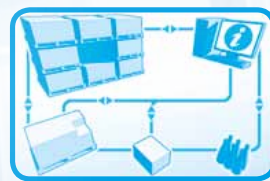
**Pick to Light
and Pick to Voice**



**VLS
Vertical Lift Sequencer**



MODULA



**WMS - Warehouse
Management System**

Thanks to a wide range of technologies and a broad experience gained in many markets and geographical areas, System Logistics is able to develop any kind

of project with you to make our world of expertise and technologies become your best fitting solution for:

- Split Case Picking
- Full Case Picking
- Automated Storage and Retrieval Systems
- Buffering and Sequencing

Technologies and Tools

SYSTEMS	TECHNOLOGIES										TOOLS								
	UNIT LOAD STACKER CRANE	MINILOAD STACKER CRANE	SVL - SYSTEM VEHICLE LOOP	AGV - AUTOMATIC GUIDED VEHICLE	VLS - VERTICAL LIFT SEQUENCER	MODULA	DIAMOND HORIZONTAL CAROUSEL	HC MAX TRACTOR I/E	PALLET CONVEYORS	CASE/TOTE CONVEYOR	PALLETIZER - DEPALLEZIZER	SORTERS	PICK TO LIGHT	VOICE DIRECTED PICKING	RF	CARTS	CARTON FLOW	FLOW RACK	CONVEYORS
SPLIT CASE PICKING																			
Pick and Go						X	X						X	X	X	X	X		
Order Routing		X			X		X			X		X	X						X
Remote Picking		X			X			X		X		X							X
CASE PICKING																			
Pick and Go: ARP & PPS	X		X		X	X	X						X	X	X				X
Order Routing: TPS	X	X		X	X				X	X			X	X				X	X
Remote Picking: SPL	X		X						X										X
Remote Picking: MOPS	X	X	X		X				X	X	X	X							X
AUTOMATED STORAGE AND RETRIEVAL SYSTEMS																			
Case/Unit Storage		X				X	X										X		
Pallet Storage	X			X														X	
BUFFERING & SEQUENCING																			
Order consolidation		X			X		X	X	X	X		X							X
Just-in-Time Shipment	X		X	X					X	X									X

Full Case Picking

Pick and Go: ARP and PPS



Palletizer



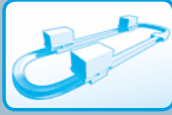
Layer Palletizing and Depalletizing



Unit Load Stackers



Miniload Stackers



SVL System Vehicle Loop



VLS Vertical Lift Sequencer



AGV Automatic Guided Vehicle



WMS - Warehouse Management System

Automated Warehouse Solutions Designed to Handle Bulk Items



FULL CASE ORDER PICKING SYSTEMS

System Logistics full case order picking systems apply varying levels of warehouse automation based on the requirements of the application. Optimizing your picking processes, these solutions minimize your labor requirements, reduce the amount of floor space required for storage, improve ergonomics and eliminate errors, all while increasing the productivity and efficiency of your operation.

Full case order picking solutions include:

PICK AND GO:

- **ARP (Automatically Refilled Picking):** based on the traditional man-to-goods concept, this solution automates the replenishment process;
- **PPS (Pick-to-Pallet System):** a system that combines the advantages of both man-to-goods and goods-to-man concepts;

ORDER ROUTING:

- **TPS (Tunnel Picking System):** an evolution of traditional Tunnel Picking concept, this system ensures a dynamic balance of the entire system while maintaining high picking productivity through all areas;

REMOTE PICKING:

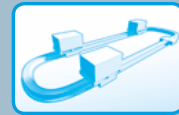
- **SPL (Steady Picking Location):** making use of SVL pallet handling systems and the goods-to-man concept, this system is designed to handle average order picking volumes;



Unit Load
Stacker Cranes



AGV
Automatic Guided Vehicle



SVL
System Vehicle Loop



WMS - Warehouse
Management System

Order Picking Solutions Designed to Manually Handle Cases

• **MOPS (Modular Order Picking System):** this solution is ideal for applications with large daily case picking volumes, but a small number of items per order.

PICK AND GO ORDER PICKING SYSTEMS

Pick and Go order picking systems represent the simplest method of picking orders. The level of activity associated with this type

of picking is fairly low and commonly related to the completion of smaller order sizes. Product is typically stored in the **MODULA®**, flow rack or static shelving and may incorporate Light Directed Locations with System Logistics **Pick-to-Light**.

This system is based on a man-to-goods concept in which an operator, through the use of paper lists, voice picking, pick-to-light or RF picking, completes the order by traveling with it through multiple zones. The items collected during the

picking process can be collected directly on a picking cart, pallet jack, etc. to complete the order. Once the order is completed it is brought to the next operation in the process (consolidation, packing, shipping, etc.).

Full Case Picking / Order Routing - TPS



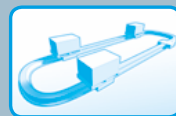
WMS - Warehouse Management System



VLS Vertical Lift Sequencer



Pick to Light and Pick to Voice



SVL System Vehicle Loop



Miniload Stacker Cranes



Unit Load Stacker Cranes



AGV Automatic Guided Vehicle

Order Routing Solutions Designed to Handle Full Case Picking

TPS FULL CASE ORDER PICKING SYSTEM

The Tunnel Picking System of System Logistics is an evolution of traditional Tunnel Picking concept based on the Zone Picking principle. The TPS system is generally designed in a two floor layout. The pallet containing the order moves along the tunnel on a conveyor. Operators are stationed in small and limited

picking zones allowing them to pick quickly with limited movement. The picking activities of the operator are guided by a Pick-to-light system.

Inside the tunnel, SKU's are divided on two sides and are based on fast and slow movers. Flow racks with full pallets are used for fast movers. VLS (Vertical Lift Sequencer) technology with integrated carton flow rack is used to handle the slow moving SKU's.

Replenishment of the system can be accomplished with forklifts, AGV's or Stacker Cranes.

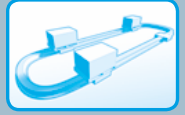
Through optimal slotting of all SKU's across the various areas of the TPS system you can ensure a dynamic balance of the entire system while maintaining high picking productivity among all areas.

The main advantages of the TPS system can be identified by high productivity increases, reduction of picking errors, and increased

Remote Picking - SPL



Unit Load
Stacker Cranes



SVL
System Vehicle Loop



WMS - Warehouse
Management System

Automated Full Case Picking System

traceability of picking activity. It also offers automatic palletizing and labeling as well as a higher flexibility in the pallet preparation.

SPL FULL CASE ORDER PICKING SYSTEM

The Steady Picking Location™ (SPL) is an order picking system based on innovations in pallet

handling systems, using System Vehicle Loops (SVL) to deliver goods to picking areas. By fully exploiting the concept of goods-to-man, stored pallets or those placed in temporary stations are sequentially conveyed and sorted to the order picking areas according to FIFO/LIFO criteria, possible stacking classes, reverse picking systems, etc. Order picking stations are highly ergonomic and equipped with weighing scales, lifting platforms and PC

workstations. The customer's pallet is arranged and automatically reintroduced into the warehouse, ready for shipment. SPL is ideal in applications with medium picking volumes (less than 4,000 items per hour), 300 or more SKUs and orders of 8-10 items or more. Order picking operations are streamlined, increasing productivity, efficiency and accuracy.

Full Case Picking ▸ Remote Picking - MOPS

MOPS is a Highly Automated Solution for Order Fulfillment



▸ MOPS FULL CASE ORDER PICKING SYSTEM

MOPS is a world class, completely automated solution for both case picking and automatic mixed SKU pallet building. Scalable and flexible, this solution sets a new standard for mixed SKU pallet building and is ideal for a moderate amount of SKU's in a high volume environment, where each customer pallet requires more than one SKU per pallet and likely more than one SKU per layer.

MOPS is implemented in modules so that the final solution is customized to meet your specific requirements.

The basic modules include:

- **Case picking:** the case picking module selects cases in batches from source or inventory pallets. Batch size is determined by our SYSTORE™ WMS software and is measured by the capacities of all other elements of the overall solution. The case picking module can be based on manual

picking using RF picking, pick-to-light or voice picking, or can be fully automated using case or layer picking robots.

- **Handling and sorting:** cartons that are picked need to be conveyed and sorted into the palletizing modules. MOPS may take a variety of approaches to address this challenge, depending on rates and handling characteristics. For example, a beverage industry application, in which handling of carbonated beverages may be a critical



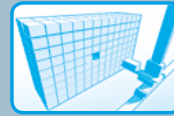
Palletizer



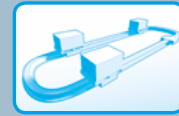
Layer Palletizing
and Depalletizing



AGV
Automatic Guided Vehicle



Miniload
Stacker Cranes



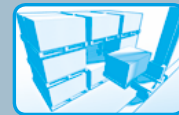
SVL
System Vehicle Loop



VLS
Vertical Lift Sequencer



WMS - Warehouse
Management System



Unit Load
Stacker Cranes

Automated Solution for High Volume Mixed SKU Pallet Building

issue, might incorporate different handling technologies than those used in a food industry application. System Logistics has studied various industries where MOPS can be applied and has developed a handling solution specific to those unique requirements.

- **Sequencing and Palletizing:** in a mixed SKU palletizing environment, it is critical to build both a physically stable pallet and to meet a customer's business rules for pallet building. Whether there are multiple stops per

pallet, complex rules for following a manifest sequence or other business rules, System Logistics has developed a solution to handle these requirements.

- **SYSTORE™ WMS and Sequencing:** our proprietary software manages business rules and physical dynamics of all SKUs in the item master through our "best fitting" software algorithms. The software manages the flow of cartons into and out of our VLS sequencing towers, ensuring that the right carton arrives at a palletizer in the

correct sequence at the right time.

- **Palletizing robotics:** we supply highly flexible carton handling robots that pick and place cartons onto the pallet. This approach is much more flexible than using layer palletizers because we can build pallets case by case instead of layer by layer. Robots can be either Gantry or Cartesian, depending on the requirements.

Split Case Picking ▸ Pick and Go



MODULA



DIAMOND
Horizontal Carousel



Miniload
Stacker Cranes



Pick to Light
and Pick to Voice



WMS - Warehouse
Management System

Automated Warehouse Solutions Designed to Handle Split Case Picking



▸ SPLIT CASE ORDER PICKING SYSTEMS

Split case order picking systems apply varying levels of warehouse automation based on the requirements of the application. Optimizing your picking processes, these solutions minimize your labor requirements, reduce the amount of floor space required for storage, improve ergonomics and eliminate errors, all while increasing the productivity and

efficiency of your operation.

Split case order picking solutions include:

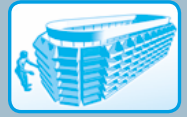
- **Pick and Go.** Based on a mix of the man-to-goods and the goods-to-man concept, this solution is implemented under a variety of operating conditions, whether based on small order sizes that are easy to fulfill or large orders that are too complex to route. Operators pick the necessary item(s) from a storage position and then travel with the order to the next picking operation.

When the order is complete it moves to one or more of the following operations: packing, shipping, order consolidation, manufacturing, repairing, etc.

- **Order Routing.** Based on a mix of the man-to-goods and the goods-to-man concept, this solution allows for an order to travel through several picking zones it is completed. Order routing is typically implemented in a high SKU count, medium line count environment, in which



MODULA



DIAMOND
Horizontal Carousel



Pick to Light
and Pick to Voice

Order Picking Solutions Designed to Handle Split Case Picking

the benefits of bringing orders to zones outweighs the cost of implementing the handling technologies.

- **Remote Picking.** Based solely on the concept of goods-to-man, this solution automatically picks and conveys product to a picking station where an operator is working to fill one or more orders. The individual SKUs are automatically entered back into the storage device when the operator has taken the necessary quantity of items.

▲ PICK AND GO ORDER PICKING SYSTEMS

Pick and Go split case order picking systems represent the simplest method of picking orders. The level of activity associated with this type of picking is fairly low and commonly related to the completion of smaller order sizes. Product is typically stored in the **MODULA®**, flow rack or static shelving and may incorporate Light Directed Locations with System Logistics **Pick-to-Light**.

This system is based on a man-to-goods concept in which an operator, through the use of paper lists, voice picking, pick-to-light or RF picking, completes the order by traveling with it through multiple zones. The items collected during the picking process can be collected directly on a picking cart, pallet jack, etc. to complete the order. Once the order is completed it is brought to the next operation in the process (consolidation, packing, shipping, etc.)

Split Case Picking

Order Routing



MODULA



Pick to Light
and Pick to Voice



DIAMOND
Horizontal Carousel



WMS - Warehouse
Management System

Order Routing Solutions Designed to Handle Split Case Picking



ORDER ROUTING PICKING SYSTEMS

Order Routing split case picking systems provide an efficient and productive method of picking orders with a high return on investment. Based on the concept of goods-to-man, Order Routing involves more automation than the Pick and Go system and requires multiple operators

to work the various zones to complete an order. These systems are typically based on multiple picking zones that incorporate **DIAMOND Horizontal Carousel pods**, flow rack areas, static shelving areas and possibly **MODULA®**. When sized appropriately and with proper slotting of SKUs within the zones, operators have higher picking rates. Within the various zones, operators may

be assisted by **voice directed picking** or **pick-to-light systems**. Totes or order boxes enter the picking zone where the operator subsequently picks the required items to add to that specific order. If additional items are required to complete the order, it is routed to the next zone in the system. Otherwise, it is routed to another task in the process (packing, consolidation, shipping, etc.).

Remote Picking



DIAMOND
Horizontal Carousel



Miniload
Stacker Cranes



VLS
Vertical Lift Sequencer



Palletizer



WMS - Warehouse
Management System

Automated Split Case Picking System

REMOTE PICKING

Remote Picking is a highly automated solution for order fulfillment. Unlike **Pick and Go** where the operator moves with the order through various zones or **Order Routing** where an order tote is conveyed through various zones, Remote Picking provides a solution where the available SKU's

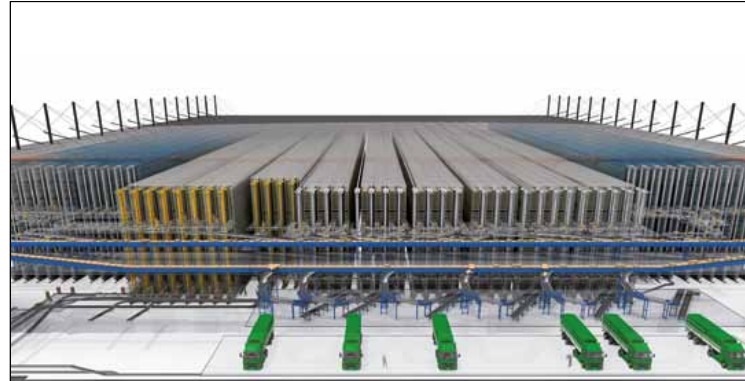
are conveyed from a central automated storage and retrieval system to several operator picking stations. The SKU's are also conveyed back to the system where they are automatically returned until needed for the next picking operation. Various technologies can be used to create this system and typically include **DIAMOND Horizontal Carousels** with **Inserter/**

Extractors, Miniload Stacker Cranes or the **VLS (Vertical Lift Sequencer)**. Conveyors are used to move the SKU to and from the storage system to the operator. **Pick-to-light** technology is used at the picking stations to allow the operator to fill more than one order at a time. The lights direct the operator where to put the items picked and how many of each is required to fill each order.

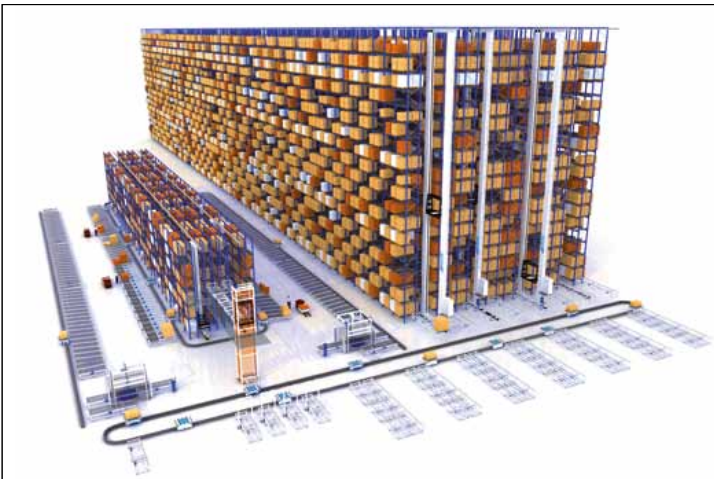
Automated Storage and Retrieval Systems:



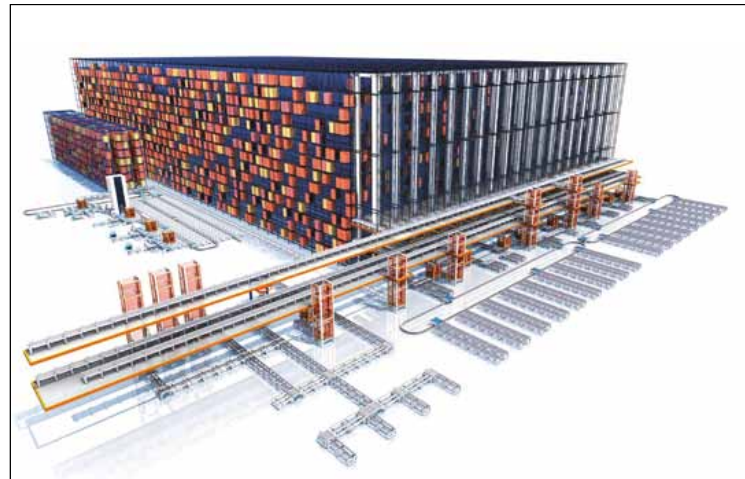
- 54.000 pallets
- 15 Stacker Cranes
- 8.500 picking lines/day
- > 6.000 shipped pallets/day



- > 750.000 stored boxes
- 53 Miniloads Stacker Cranes 22 m high
- Tilt-Tray-Sorter to deliver 5.000 boxes/h



- 37.440 pallets
- 4 double mast Unit Load Stacker Cranes
- 2 single mast Unit Load Stacker Cranes
- 18 SVL shuttle
- 4000 cases hour / 65000 cases day
- 5 double picking bays



- 65.000 pallets
- 160 x 85 x 32 m
- 19+2 Stacker Cranes
- 3.000 picking lines/day
- > 600+600 pallet/h IN/OUT

All types of company structures can get huge benefits using automated warehouses. Especially the saving of space inside of the buildings, the remarkable reduction of required staff and the perfect stock control are only some of the advantages enabling the reduction of the company logistic costs. Other additional advantages can be:

the preservation of goods, the improved ergonomics for operators, the reduction of order fulfilment times, the elimination of delivery errors and many others. The long-term expertise of System Logistics can suggest tailored solutions for any intra-logistics application:

- Raw material warehouses;

- Intra-operational warehouses;
- Finished product warehouses.

Thanks to the wide range of applications developed by System Logistics, each single project can be configured to satisfy the special needs in the best way:

- Storage of pallets, containers, boxes or other types of loading units;

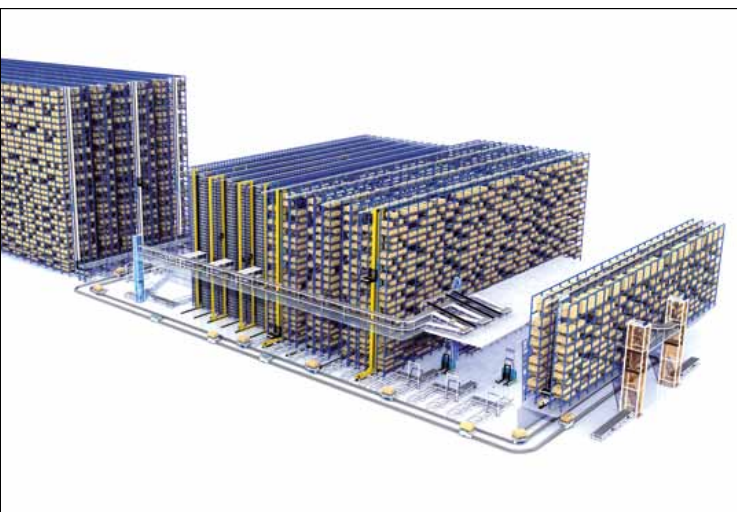
tailor made turnkey solutions



- 4 Unit Load Stacker Crane
- 4 Miniload Stacker Cranes
- 6 picking bays
- 8 SVL
- 13.600 pallets locations
- 50.000 totes locations



- 10.500 pallets
- 4 Stacker Cranes
- 6 SVL shuttles
- 50 buffer seats for high movers
- 100 picking lines/h



- 3 different and connected warehouses
- 6 Miniload Stacker Cranes
- 6 Unit Load Stacker Cranes
- 16 SVL
- 10 picking bays



- Double depth warehouse
- 14.500 pallets
- 6 Stacker Cranes h=19 m
- 12 SVL shuttle
- 100+250 pallet/h IN+OUT
- 2 "goods to man" picking bay

- Single, double or multiple depth locations;
- Self-cladding or independent racks;
- Integration of different picking systems;
- Balancing of the suitable automation level to the investment budget.

Automated Storage and Retrieval Systems join high-performance with high-capacity.

Flexible enough to meet your unique requirements, System Logistics warehouse storage systems will minimize the space used and maximize the efficiency and productivity of your operation. Whether you're dealing with pallets, containers, raw materials, cases or totes, System Logistics has a solution that will keep your operation running smoothly.

System Logistics warehouse storage systems include:

- **Unit Load Stacker Crane;**
- **Miniload Stacker Crane;**
- **VLS Vertical Lift Sequencer;**
- **MODULA®.**

Storage ▀ Unit Load Stacker Cranes



Unit Load
Stacker Cranes



Miniload
Stacker Cranes



WMS - Warehouse
Management System



*Automated
Storage and
Retrieval Systems
that Improve
Efficiency and
Productivity*

▀ UNIT LOAD AND MINILOAD STACKER CRANES

System Logistics Unit Load and Miniload Stacker Cranes are Automated Storage and Retrieval Systems designed to handle a variety of different loads within narrow lanes, picking items from their locations and delivering them to designated areas. Outfitted with one or more collecting and replenishing components,

these warehouse cranes are customized to your application in order to transport items as quickly and efficiently as possible.

▀ ROBOSTORE™ UNIT LOAD STACKER CRANES

The ROBOSTORE™ Unit Load Stacker Crane is a high-performing, single or double masted

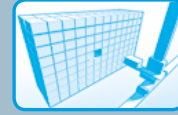
warehouse crane suitable for handling medium and heavy loads in ambient, cooled or freezer conditions:

- **Load capacity:** up to 3000 kg
- **Height:** from 7 up to 40 meters
- **Single and Double Mast**
- **Single and Double Pallet**
- **Maximum horizontal speed:** up to 4 m/sec
- **Load collection devices:** telescopic, single or double-depth forks, multi-depth satellite trucks.

Miniload Stacker Cranes



Unit Load
Stacker Cranes



Miniload
Stacker Cranes



WMS - Warehouse
Management System



MINISTORE™ MINILOAD STACKER CRANES

The **MINISTORE™** Miniload Stacker Crane is a top-performing, single or double masted warehouse crane suitable for handling light loads:

- **Load capacity:** up to 650 kg
- **Height:** ranging from 7.5 meters up to 18
- **Single and Double Mast**
- **Maximum horizontal speed:** up to 5 m/sec

- **Load collection devices:** telescopic forks, single bench, grips or drives, etc.



DIAMOND
Horizontal Carousel

Automated Storage and Retrieval Systems for High Speed Order Picking



DIAMOND HORIZONTAL CAROUSEL

Our DIAMOND Horizontal Carousels are the ideal automated storage and retrieval system for your high speed order picking, parts delivery and sortation applications. Designed and constructed for reliable performance and flexible configuration, our carousel systems all backed by the strongest warranty in the industry. Heavy duty bins are automatically positioned in front of operators...saving space, reducing labor costs, speeding throughput and improving order accuracy and inventory control using integrated PowerPick™ material handling software.

COMMON USES:

- Goods-to-man each order picking;
- Batch order picking;
- Residual handling in store replenishment

operations;

- Returns handling for e-commerce;
- Order sortation for retail store department and aisle based carton creation;

UNIQUE PRODUCT FEATURES AND BENEFITS

- All models are constructed with the same rugged, all-steel, high capacity track and frame size, ensuring the fastest delivery in the industry; bottom track is adjustable, allowing bins to be raised to the required level;
- Structural mezzanines and multiple conveyor lines are easily supported on top of carousel frames;
- DIAMOND Horizontal carousels may be double or triple stacked with no additional costs or modifications;
- Commercially available AC controllers, drive

- motors, reducers, controls and all electrical components throughout the carousel simplify repairs and minimize downtime;
- DIAMOND Horizontal carousel systems are easy to maintain; all components are accessible from outside the carousel;
- Highly efficient direct drives provide the fastest retrieval speeds in the industry; drive units do not require any adjustment and are easy and inexpensive to replace.

We also offer various light displays and workstations that are configurable with our **SpeedBar™ Horizontal Display Module**, the **FasTree™ Vertical Display Module**, the **SorTree™ Input and Sortation Display Module** and the **SpeedStation™ Modular Workstation**.



MODULA

Vertical Storage System that Maximizes Space, Efficiency and Productivity

MODULA®

MODULA® is the next generation vertical storage system from System Logistics is the ideal solution for any storage needs.

MODULA® increases storage capacity, improves picking accuracy and more ergonomic product handling for every product type in many different work environments, optimizing the available floor space within a facility, by utilizing the ceiling height available.

MODULA® is able to store and pick items, components, semi-finished and finished products of any type, thanks in part to the unit's storage capacity (70,000 kg net load capacity and the ability to consolidate over 840 Square meters of static storage into a unit of about 14 sq. m.

MODULA® has internal or external picking bays, with single or dual level delivery, equipped

with dual level tray delivery provide a very high picking speed, eliminating operator wait time between picks.

It has been designed to have a modern and attractive appearance, while having a robust frame structure composed of steel load bearing profiles, fully welded and reinforced storage trays and modular exterior steel cladding panels all produced using fully automated production processes.

MODULA® structure provides storage for steel reinforced trays that are picked and deposited to picking bays by an automatic lift platform. The unit's functions are completely managed by an innovative hardware and software system integrated into the unit's controller, allowing users to easily manage and perform fast and efficient storage operations: **MODULA® WMS**. This software can interact with any company's

IT systems, allowing for the management of up to two levels of reference sub codes, enabling operators to manage lots accurately with total traceability of all items store.

MODULA® also respects the environment with innovative options and features to ensure a significant energy saving and guaranteeing a lower environmental impact at the same time, like **MODULA® Green**.

Its units have a color graphical touch screen console designed specifically for industrial environments, enabling the operator to access all of the unit's functions quickly and intuitively.

Buffering and Sequencing Systems



Unit Load
Stacker Cranes



Miniload
Stacker Cranes



VLS
Vertical Lift Sequencer



DIAMOND
Horizontal Carousel



WMS - Warehouse
Management System

Automated Solutions that Save Time, Space and Money



The Automated Buffering and Sequencing Solutions typically use one or more of the following technologies provided by System Logistics: **Unit Load Stacker Cranes**, **Miniload Stacker Cranes**, **Vertical Lift Sequencers (VLS)** and **Inserters/Extractors** with **DIAMOND Horizontal Carousels**. These solutions are used in a large variety of applications, including manufacturing sequencing for high volume assembly operations, shipping buffers supporting shipment of individually selected case goods,

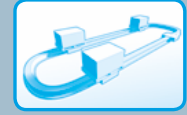
cross-dock operations and tote / case order consolidation shipping operations. Cartons or totes are automatically dispatched using efficient algorithms which manage the sequencing of materials to the required destination.

The benefits of Automated Buffering and Sequencing Systems are many:

- Direct and indirect labor savings;
- Space savings;
- Inventory reduction and accuracy;

- Increased order accuracy;
- Increased throughput;
- Increased available order window;
- Real time order status;
- Reduced workers' compensation rates;
- No products damaged;
- No manual lifting or heavy weight item movement.

Just-in-Time Shipment



SVL
System Vehicle Loop



AGV
Automatic Guided Vehicle

Flexible Solutions for Handling Pallets, Containers and other Large Loads

/// JUST-IN-TIME SHIPMENT

The handling of pallets is an important process in any order fulfilment operation. The closed-circuit System Vehicle Loop (SVL) is an extremely efficient solution for systems with high flows associated with a need for extensive pallet sortation. System Vehicle Loops significantly reduce transfer times of loading units, which is required in many order picking systems, especially automated order picking, and is essential for the "Just-in-Time" management of truck loading.

Pallet handling systems are an essential element in most operations; storage and transport throughout the warehouse must be well planned, connecting incoming goods, production, packing and shipping. Whether you're looking to increase productivity or you simply need a way to transport pallets, containers or other large loads from one end of the warehouse to another, we have a solution that will keep your facility running at maximum efficiency. Our engineers have years of experience designing pallet handling systems and they

have the most modern tools available at their fingertips, including computer-driven simulation and emulation. We'll work closely with you to determine the characteristics of the material to be handled and the flow to be achieved so that we can supply the most suitable technology for your operation. We offer a variety of pallet handling systems:

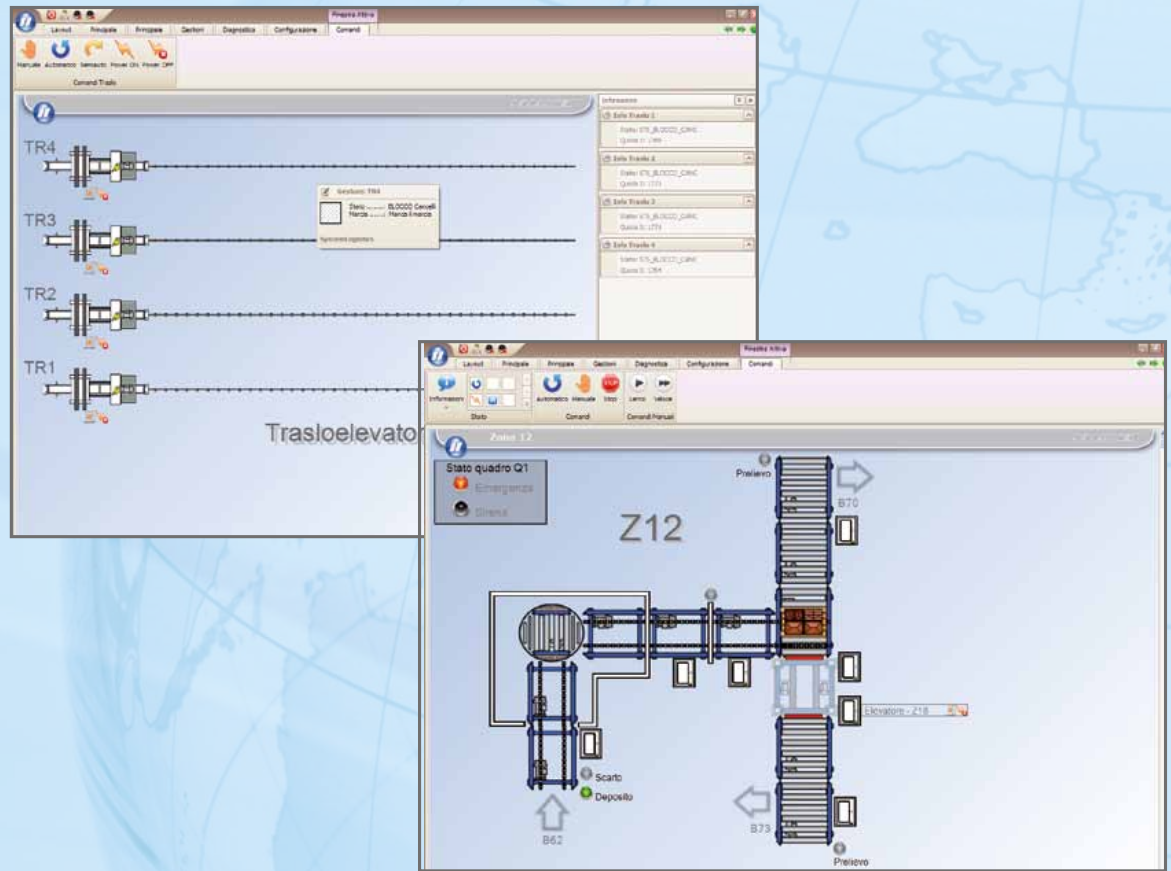
- AGV (Automated Guided Vehicle);
- SVL (System Vehicle Loops);
- Pallet conveyor.

Software



WMS - Warehouse Management System

Managing Your Warehouse with the Click of a Mouse



System Logistics knows that managing the equipment, labor and processes of your warehouse can be an overwhelming task, System Logistics developed a series of material handling software applications to help keep your system running at peak performance.

Continually updated with the latest advancements, our **SYSTORE™ Software** applications will increase productivity and efficiency, reduce costs and decrease labor requirements at your facility.

We offer several material handling software applications:

- **Warehouse Management System (WMS)** manages and integrates control of the material handling systems throughout your warehouse;
- **Warehouse Execution System™ (WES)** optimizes labor and equipment in your warehouse;
- **PowerPick™** manages order picking via DIAMOND Horizontal Carousels, vertical carousels and vertical lift modules;
- **DirectPick™** manages order picking via pick-to-light, voice picking and RF picking systems;
- **AutoPick™** manages your Automated Storage and Retrieval Systems, like automatic extractors and Stacker Cranes;
- **MODULA® WMS Base™** and **MODULA® WMS Standard™** manages the inventory in your MODULA® and other automated storage devices;
- **AutoRoute™** tracks your orders throughout your material handling system from just one interface.



Fully Featured Material Handling Software

To learn more about our material handling software applications and how they can help you improve your operations, contact us today.

SYSTORE™ WAREHOUSE MANAGEMENT SYSTEM

Fully Featured Material Handling Software
Developed by our in-house software engineering staff, the **SYSTORE™** Warehouse Management System (WMS) manages and integrates the material handling systems throughout your

warehouse, including Stacker Cranes, order picking systems, vertical storage systems, laser guided vehicles and manual warehouses.

Customized to your application, **SYSTORE™** is user-friendly, is easily interfaced with existing computer processing and ERP systems (e.g., SAP, Oracle, JD Edwards, Bann) and can be accessed remotely via the Internet.

Our Warehouse Management System software is based on a modular structure, making it easy to implement and flexible

enough to handle the processes of your material handling system, including:

- Reception, identification and tracking of goods;
- Management of storage allocations and optimization of material distribution;
- Handling flow based on traffic management strategies;
- Batch management (e.g., FIFO/LIFO logic, quality control, quarantine);
- Consolidation of orders;
- Inventory checks;
- Statistical analysis.

Customer Care



System Logistics knows that an automated material handling system is a significant investment and that you rely on it day in and day out to keep your business running smoothly. System Logistics has listened carefully to its customers to gain a true understanding of their service and support needs over time and, using that information, has developed a broad, flexible and well-structured after-sales support program that is easily customized to meet the needs of your operation. System Logistics support packages include options for keeping parts for your system on hand at our factory, at your local branch or directly at your site. An initial stock of spare

parts is defined during production to make sure parts are immediately available during the start-up of your automated material handling system.

After commissioning, the terms of your negotiated Service Level Agreement (SLA) determine the immediate availability of parts.

Preventative maintenance is the best way to ensure the performance and minimize downtime of your automated material handling system. Depending upon your needs, we'll design a custom maintenance package to sustain your productivity and efficiency levels over time. Your maintenance

package includes detailed reports and recommendations for any necessary adjustments or corrective actions.

▀ UPGRADES AND MODIFICATIONS FOR YOUR AUTOMATED MATERIAL HANDLING SYSTEM

As your business continues to grow and change in the future, it's likely that your automated material handling system will require updates or adjustments in order to maintain peak productivity and efficiency. As part of our comprehensive customer support



Customized Programs that Make Sense for Your Business

program, our logistics consultants will:

- Analyze your current material handling and logistics systems;
- Define areas in need of upgrades or modifications, including your warehouse management software and PLC control systems;
- Review all possibilities for improvement, including expanding current systems and enhancing or replacing out-of-date technologies;
- Outline the costs and benefits of all recommendations.

System Logistics knows that changes to your systems can have major implications for your operation. All after-market activities are managed by our Customer Support team,

who is specially trained to reduce system downtime and the impact on your operation.

TRAINING FOR YOUR AUTOMATED MATERIAL HANDLING SYSTEM

Training management and staff on a new material handling system is absolutely critical, whether you're installing a single piece of equipment or implementing an entirely new warehouse automation process. Staff must understand how to properly use the system and how to take advantage of features to maximize productivity and efficiency.

Training programs include both standard and customized courses that may be presented on your premises or at System Logistics sites. Classes are designed for logistics managers, warehouse supervisors, system operators and supervisors, and maintenance technicians and are structured around participants' levels of knowledge.

System Logistics customized training programs include:

- Training on warehouse management software;
- Basic and advanced courses for system operators and supervisors;
- Course for maintenance technicians;
- Training on safety regulations.

**SYSTEM LOGISTICS
SUPPLY CHAIN SOLUTIONS**

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Partnership. Innovation. Creating Supply Chain Solutions.