DATA-DRIVEN ROBOTIC FLEXIBLE SOLUTIONS

Material handling automation and the future of the supply chain

SWISSLOG

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The warehouse reimagined

Faster. More efficient. Smarter.

That's the mantra in distribution today as throughputs increase, channels converge and customer expectations continue to rise.

But simply meeting today's challenges is no longer enough. The pace of change is accelerating, and investments made today must adapt to what comes next to avoid premature obsolescence.

No one knows for sure what the future holds for warehouse operations, but we do know how to prepare for it.

To be future ready, warehouse operations need to become data driven. Breaking down data silos and enabling emerging technologies such as artificial intelligence will enable self-learning material handling systems that continually maximize throughputs, adapt to change and predict future demand.

Robotics will be an essential component of those systems as businesses seek to maximize productivity, insulate themselves from labor volatility and drive down costs.

Finally, adapting to an unpredictable future requires flexible solutions that can adapt to different building configurations, scale seamlessly with growth and flex with peaks and valleys in demand. Systems that help organizations move distribution closer to customers through micro and urban fulfillment centers and dark stores. And systems that work with each other to extend automation across processes, such as automated retrieval solutions that integrate with robotic palletizing and item picking.

At Swisslog, we are delivering this future today. Our portfolio of traditional and advanced technologies, supported by our intelligent SynQ software, is designed to meet today's requirements for faster and more efficient distribution while delivering the intelligence, flexibility and robotics that will shape the future.

With Swisslog technology, your future starts now.
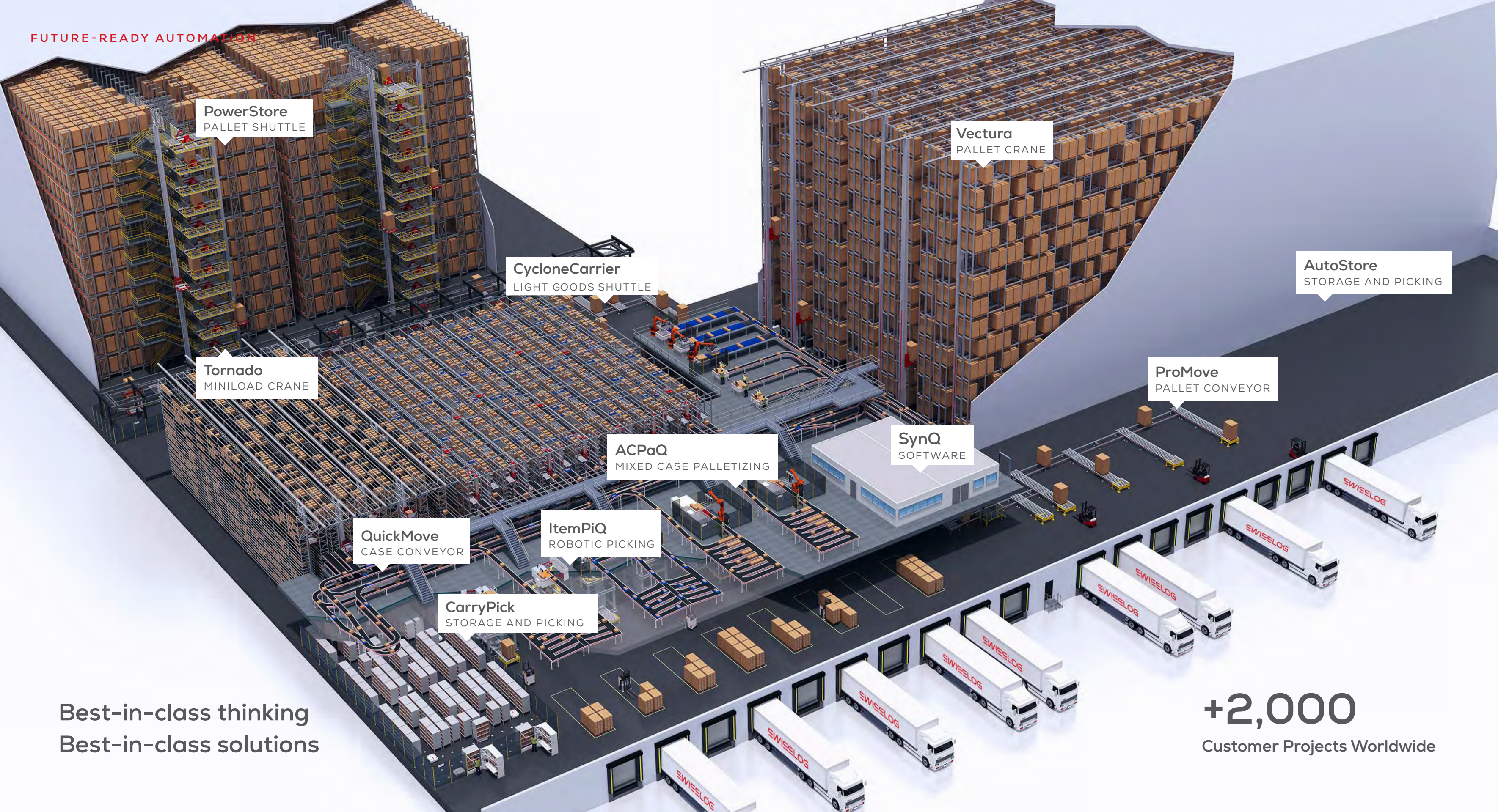
PowerStore
PALLET SHUTTLE

Vectura
PALLET CRANE

CycloneCarrier
LIGHT GOODS SHUTTLE

AutoStore
STORAGE AND PICKING

Tornado
MINILOAD CRANE

ProMove
PALLET CONVEYOR

ACPaQ
MIXED CASE PALLETIZING

SynQ
SOFTWARE

QuickMove
CASE CONVEYOR

ItemPiQ
ROBOTIC PICKING

CarryPick
STORAGE AND PICKING

Best-in-class thinking
Best-in-class solutions

+2,000
Customer Projects Worldwide

Transforming Industries

SynQ software and our automation technology are helping companies cut costs and exceed expectations in a number of industries.

Retail and E-Commerce

In a dynamic industry, our highly flexible and modular technologies excel with faster order fulfillment, improved accuracy and reduced costs.

MICRO-FULFILLMENT CENTERS

With systems that are easy to install and flexible enough to adapt to changing demand, our connected solutions can maximize inventory while saving floor space.

E-GROCERY

Our easy-to-install solutions offer flexibility and rapid fulfillment for curbside pickup and delivery, which makes them ideal for grocers looking to move beyond manual picking.

Download our e-book "The e-grocery automation playbook" for different strategic approaches and automation technologies changing the industry.
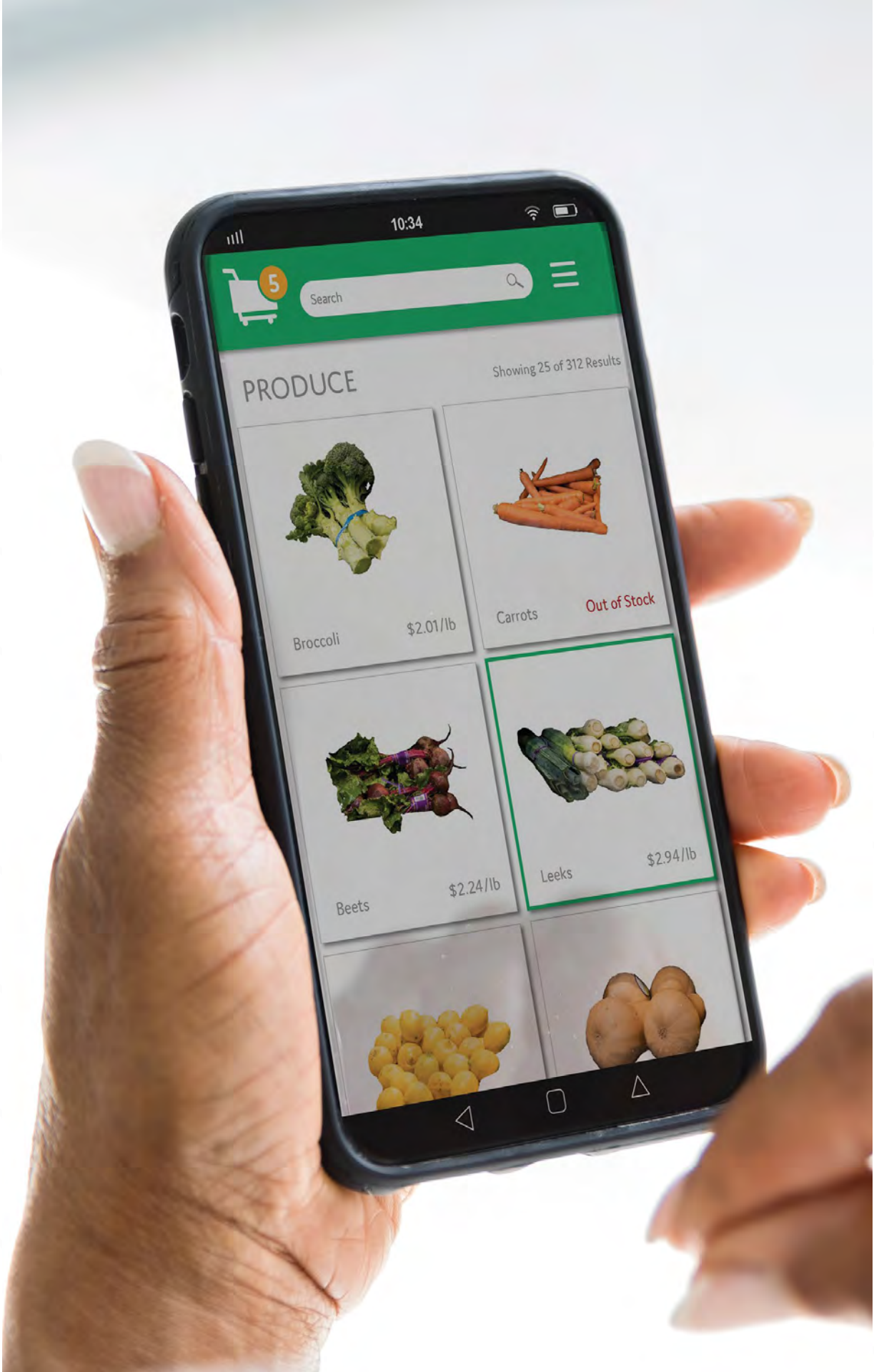
Food

In a rapidly changing industry, Swisslog offers dynamic and agile automation built to withstand the demands of cold storage warehousing while delivering results from production to point of sale.

Download our e-book "Thriving in the Cold: Integrating Building Design, Automation and Management to Improve Cold Storage Efficiency"

Beverage

Whether it's adapting to increasingly diverse product lines or meeting stricter safety regulations, our customized automated warehouse solutions are delivering results to a fast-paced industry.

Find out how companies like yours are using technology to transform warehouse storage by downloading our e-book "Optimizing Efficiency in Deep Storage of Palletized Loads"

Pharmaceuticals

Our connected automation solutions can help reduce your throughput times, save storage space while enabling you to be fully compliant in the most flexible and cost-effective way.

Download our e-book "Moving Serialization Forward: Using Automated Processes to Connect Pharmaceutical Manufacturing with the Supply Chain"

The SynQ Effect

Dynamic and intelligent, the SynQ software platform orchestrates the performance of your automated and manual warehouse operations to deliver both precise functionality and data-driven insights.

Encompassing warehouse management, material flow and automation control into a single platform, SynQ allows you to connect:

People: Connecting the right people to the right tools.

Processes: Meeting your specific industry requirements.

**Machines:** Maximizing efficiency, flexibility and agility.

Benefits

ORCHESTRATION

Our unique Single Point of Control interface lets you efficiently manage peak demands in your operation.

VISIBILITY

Our intelligence services provide visibility that transforms big data into smart data.

AGILITY

Cloud-enabled platform future-proofs your operation and is backed by a global community of engineers and experts.

FLEXIBILITY

Deploy only the modules you need, when you need them.

INDUSTRY-SPECIFIC

In addition to common warehouse functionality, the SynQ platform offers operational processes for specific industries like e-commerce, automotive, pharmaceutical, food & beverage.

VIDEO

Get the details on how the SynQ software platform allows you to optimize your warehouse operations in ways that will give you a competitive edge.
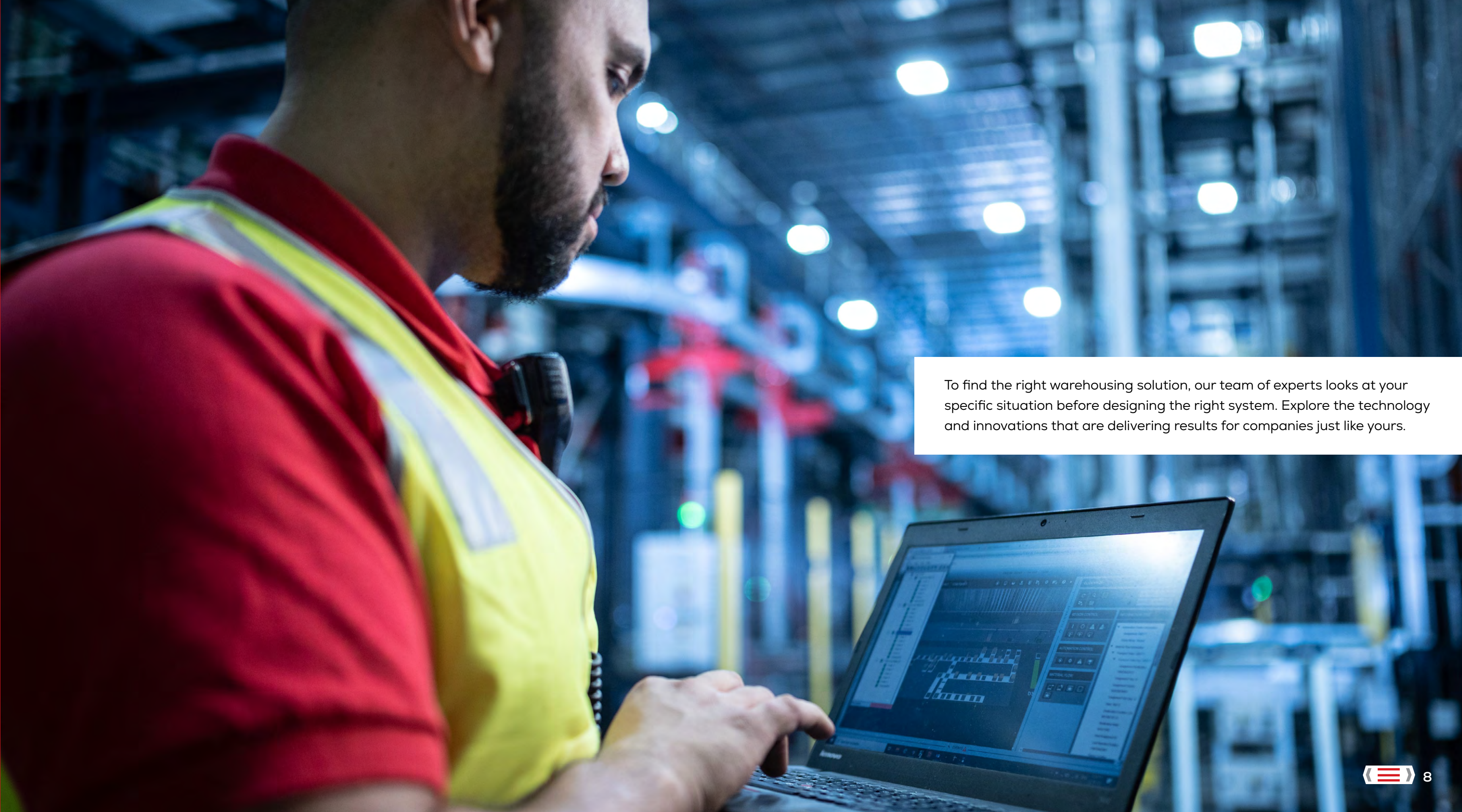
To find the right warehousing solution, our team of experts looks at your specific situation before designing the right system. Explore the technology and innovations that are delivering results for companies just like yours.

Tailored to deliver

Featuring future-proof adaptability and ability to integrate with Swisslog's performance-optimizing SynQ software, the Tornado miniload crane handles products like totes, trays and cartons, making it the ideal solution for reserve storage, replenishment of manual picking zones and direct feeding of goods-to-person pick zones.

Forlagssentralen, a Norwegian book distributor, handles up to 60,000 items a day in bins. Utilizing our Tornado miniload crane, we created a fully automated solution that handles all of their inventory, all of the time. It resulted in increased handling capacity, picking accuracy and overall efficiency.

Benefits

HIGH THROUGHPUT	Fast and accurate positioning processes
RELIABLE OPERATION	The connection method eliminates risk of fatigue
ENERGY EFFICIENT	Reduced energy consumption due to lightweight design
COMPACT STORAGE LAYOUTS	Designed to maximize space

Facts

PAYLOAD	Up to 250 kg (551 lbs), higher loads on request
AISLE HEIGHT	5 to 24 m (16.4 to 78.7 ft)
OPERATING SPEED	Up to 6 m/s (19.7 ft/s)
VERTICAL SPEED	Up to 3 m/s (9.8 ft/s)
ACCELERATION	Up to 4 m/s2
STORAGE DENSITY HORIZONTAL/VERTICAL	Single, double and multiple
TEMPERATURE RANGE	From -5° C to 40° C (23° F to 104° F)
LOAD TYPES	Standard or customized containers or trays (uniform or mixed sizes), cartons with variable sizes, or application-specific solutions

Watch the Swisslog Tornado miniload crane in action and find out why it's ideal for reserve storage, replenishment of manual picking zones and for feeding goods-to-person pick stations directly.

Productivity unleashed

Our innovative and user-friendly CarryPick storage and picking system doesn't require constructional changes to your building to improve your accuracy rate. It's also modular so it can adapt to changing needs, and, when integrated with Swisslog's SynQ, you'll be able to optimize pick performance by rapidly bringing as many products as possible to workstations.

To help keep up with growing demands, **Hagel GmbH**, a German lifestyle company, turned to the Swisslog CarryPick and the Swisslog SynQ software platform. The result? The new automation has reduced delivery time to under 24 hours.

Benefits

FLEXIBLE	Quick adaption to product line changes
MODULAR	Rapid deployment (6 months)
SCALABLE	Seamless adaption to peak periods
SMART & EFFICIENT	Intuitive user interface for fast onboarding

Facts

MOBILE RACKS – DIMENSIONS (L X W)	Rectangular: 1,300 mm x 900 mm (51 in x 35 in) Square: 1,300 mm x 1,300 mm (51 in x 51 in)
MOBILE RACKS – CONFIGURATION	Items, cases, cartons, pallets and hangers
VEHICLE LOAD CAPACITY	Max 600 kg (1,322 lbs)
VEHICLE POWER SUPPLY	Inductive charging mats
OPERATING TEMPERATURE	From 5° C to 40° C (41° F – 104° F)

▶ See how the innovative Swisslog CarryPick storage and order picking system delivers results without a grid, lift or conveyor.

A smarter solution

Energy efficient, fully scalable and able to easily integrate into existing buildings, AutoStore is a low-cost and effective way to quickly process small parts orders while increasing storage density. And when paired with SynQ software, AutoStore's pick performance and onboarding become even more impressive. At Swisslog, we've seen the results. In fact, with over 270 installations worldwide, we're the world's leading integrator of AutoStore.

As one of Britain's leading retailers, ASDA offers more than 75,000 products and is constantly looking for ways to free up space in their distribution centers. With a solution that featured AutoStore on its small case lines, ASDA was able to both maximize space and cut their picking time in half.

"AutoStore not only increases satisfaction for our customers, but also ensures highest profitability."

Roland Brack, founder of Competec / BRACK.CH

Benefits

UNMATCHED EFFICIENCY	The most space-efficient automated storage and retrieval system available.
FUTURE-PROOF SCALABILITY	Module design easily integrates into existing buildings and can be adapted to changing needs.
LOW OPERATING COSTS	Energy-efficiency and easy maintenance mean low Total Cost of Ownership.

Facts

LOW BIN INNER MEASUREMENTS	L: 603 mm x W: 403 mm x H 202 mm L: 23.74 in x W: 15.87 in x H: 7.95 in
HIGH BIN INNER MEASUREMENTS	L: 603 mm x W: 403 mm x H 312 mm L: 23.74 in x W: 15.87 in x H: 12.28 in
EXTRA HIGH BIN FOR B1 ROBOT	L: 603 mm x W: 403 mm x H 406 mm L: 23.74 in x W: 15.87 in x H: 15.91 in
HEIGHT OF THE GRID	Up to 5.4 m (17.72 ft)
THROUGHPUT BLACK LINE	Up to 650 order lines per hour per port
TYPICAL SYSTEM BIN CAPACITY	From 5,000 to 300,000 bins per system
OPERATING HUMIDITY	5-95%
TEMPERATURE	From 2° C to 35° C (36° F to 95° F)

▶ See how, as the #1 integrator of AutoStore in the world, Swisslog is turning experience into results.

Speed meets storage

Designed to deliver high throughput and excellent availability, CycloneCarrier is a dynamic automated shuttle storage and retrieval system for small loads that can retrieve up to 2,000 totes per hour, per aisle.

Cyclone Carrier helped Jaycar Electronics Group, a leading Australian and New Zealand retailer, increase output and storage volume by 30% per square meter.

> " CycloneCarrier is the heart and growth engine of our logistics service. "
>
> **Matthias Lindner, Department Head Logistics Service, Alnatura**

Benefits

FAST	Highly dynamic lifts and shuttle vehicles deliver short order processing times.
RELIABLE	Safe loading ensures reliable handling and reduces downtime.
VERSATILE	Can be configured to handle a number of different dimensions and temperature ranges.
INTEGRATED	Management software and fine sequencing integrate seamlessly and increases ROI.

Facts

| LOAD WEIGHT PER TRANSPORT UNIT	Up to 35 kg (77.16 lbs), standard application Up to 50 kg (110.23 lbs), with reduced dynamics
TRANSPORT UNIT DIMENSIONS	Min. 200 x 200 x 50 mm (7.87 in x 7.87 in x 1.97 in) Max 800 x 600 x 600 mm (18.50 in x 26.38 in x 19.69 in)
CYCLONECARRIER VEHICLE SPEED	Up to 4.0 m/s (13.12 ft/s)
STORAGE DENSITY	Single, double and triple-deep storage
THROUGHPUT OF SYSTEM	Up to 2,000 infeeds and outfeeds per aisle
SYSTEM HEIGHT	Max. 25 m (82.02 ft)
TEMPERATURE RANGE	From -30° C to 45° C (-22° F to 104° F)

Watch the Swisslog CycloneCarrier in action and see how this automated shuttle system for small loads can dramatically improve your throughput and storage capacity.

Living up to its name

Proving that high throughput doesn't have to mean giving up flexibility: the modular conveyor system QuickMove designed for easy installation and maintenance adapts to your needs while delivering performance of up to 1.7m/s.
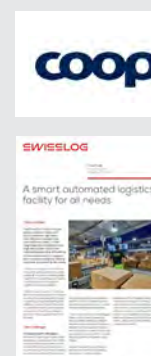
To increase productivity, Coop Norge SA, Norway's second-largest grocery chain, partnered with Swisslog to create created a flexible central warehouse consisting of an automated high-bay warehouse, conveyor system, picking locations and automated light good warehouse.

> "We need a high sales volume in order to compensate for falling prices and rising shipping costs. The Swisslog e-commerce solution allows us to efficiently meet this challenge."
>
> **René Fellmann, CEO, Competec Logistik AG**

Benefits

OPTIMIZED AND RELIABLE	Preassembled and tested conveyor elements are combined to individually optimized conveyor systems.
ENERGY EFFICIENT	Individual zone control, zones not in use will shut down, using 24 VDC drive rollers, provides energy-efficient conveyor solutions.
LOWER MAINTENANCE COSTS	Electric drives for less maintenance.

Facts

LOAD RANGE	Up to 50 kg (110.23 lbs)
TROUGHPUT	up to 3.400 TUs/h
LANE WIDTH	420 to 820 mm (16.54 in to 32.28 in)
TEMPERATURE RANGE	From 5° C to 40° C (41° F to 104° F)

▶ Learn how the QuickMove modular conveyor system can be easily adapted to meet your changing needs while delivering performance of up to 1.7m/s.

PALLET-HANDLING SOLUTIONS

Our experienced team can help you significantly improve throughput with an automated and connected solution. See the innovative products and technology that help make that happen.

Big performance
in small spaces

Designed to create up to 60% more storage than manual systems, the PowerStore high density pallet system maximizes space, fits into unusually shaped spaces and performs in environments from -30°C to 50°. It also fully integrates with Swisslog's SynQ management software and works seamlessly with customers' WMS and host systems.

When wine-seller Trinchero Family Estates USA needed help storing and shipping a huge volume of products, our PowerStore robotic storage and retrieval system reduced their storage area by 89%, enabled throughputs of 249 pallets an hour and achieved 99.998% accuracy.

"Swisslog listened and worked with us to understand our business. ...Their industry and technical expertise was vital to our ability to transform our supply chain, while their innovative products like PowerStore helped us increase speed, reduce costs and improve quality control."

Kent Mann, VP of Operations, Trinchero Family Estates

Benefits

HIGH PERFORMANCE

Throughput of up to 400 pallets per cell per hour where high performance and density is combined.

FLEXIBILITY

PowerStore can be implemented into buildings of any shape and size. The modular technology allows for easy addition of extra modules. It is also suitable for most pallet types and applications.

HIGH AVAILABILITY

Reduced error rate thanks to smart positioning system, unique design of rack interfaces and deflection of pallets.

Facts

LOAD WEIGHT PER TRANSPORT UNIT	Up to 1,500 kg (3,306.93 lbs) in standard application
TRANSPORT UNITS	CHEP, EURO BLOCKPALLET, STRINGER, AS
AISLECARRIER VEHICLE SPEED	Up to 5.0 m/s (16.40 ft/s)
ROWCARRIER VEHICLE SPEED	Up to 3.0 m/s (8.85 ft/s)
VERTICAL CONVEYOR	Up to 2.0 m/s (5.56 ft/s)
THROUGHPUT	Up to 400 pallets per hour per module
TEMPERATURE RANGE	From -30° C to +45° C (-22° F to 113° F)

▶ Watch the Swisslog PowerStore shuttle system in action and see how you can increase your pallet storage capacity by up to 60%.

Towering above
the competition

Able to handle one, two or more loads in single, double, triple and multi-deep layouts, Vectura stacking cranes transform high bay warehouses with unmatched performance and energy consumption that's up to 20% less than that of normal cranes. In addition, Vectura can be paired with SynQ software to optimize material flow even further.

Coca-Cola Amatil, one of the largest bottlers in the world, improved their accuracy, lowered costs and cut their loading times drastically by installing Vectura stacking cranes in their high bay warehouse.

"The quality of solution offered by Swisslog outstripped their competitors and reflected their knowledge of CCA's business needs."

Derek O'Donnell, National Logistics & Planning Manager Supply Chain, Coca-Cola Amatil

Benefits

SUSTAINABLE	Up to 20% lower consumption compared to traditional cranes
VERSATILE	Storage of different pallet sizes in one system
RELIABLE	Its lighter weight means less wear and tear over time
PLUG & PLAY	Assembled and tested before shipping to reduce installation time

Facts

LOAD RANGE	200 to 3,500 kg (440.93 lbs to 7,716.18 lbs)
HEIGHTS	4 to 45 m (13.12 ft to 147.64 ft)
THROUGHPUT	20 to 45 double cycles/h
SPEED OF OPERATION	Up to 5 m/s (16.40 ft/s)
VERTICAL SPEED	Up to 1.5 m/s (4.92 ft/s)
PRODUCT RANGE	Single and double mast
STORAGE DENSITY	Single to multi-deep
TEMPERATURE RANGE	From -30° C to 50° C (-22° F to 122° F)

▶ Watch the scalable Swisslog Vectura stacker crane in action to see how it can adapt and perform to high bay warehouses of any size.

Pallet performer

Delivering high throughput and able to integrate with productivity-enhancing SynQ software, ProMove is an effective multifunctional pallet conveyor system for both loads. Its flexible and streamlined design lowers investment costs and maintenance, while its drive technique that ramps speed up and down keeps loads stable and energy use down.

When Stemilt Growers consolidated their inventory into one automated distribution center, Swisslog's PowerStore and ProMove allowed them to reduce labor costs by 41% while ramping up throughput to 282 pallets an hour.

> "We can track every single pallet and know exactly when each entered storage to ensure we are always shipping on a first-in, first-out basis."
>
> Gordy Schulze, Distribution Manager, Stemilt Growers

Benefits

ENERGY-EFFICIENT	ProMove uses highly efficient motors that only run when needed.
RELIABLE	Compact starter controls speed up and down ramps to reduce wear on the conveyor.
PLUG & PLAY	ProMove is pretested before installation and able to be monitored on personal devices.

Facts

LOAD RANGE	Up to 1,500 kg (3,306.93 lbs)
STANDARD OPERATING SPEEDS	0.2, .35 or .5 m/s (0.66, 1.15 or 1.64 ft/s)
STANDARD ACCELERATION	0.4 m/s2
THROUGHPUT TRANSFER UNIT	Up to 300 load units/h
THROUGHPUT TURNTABLE	Up to 200 load units/h
SHUTTLE CAR OPERATING SPEED	Up to 5 m/s (16.40 ft/s)
CONVEYOR OPERATING SPEED	Up to 2.0 m/s (6.56 ft/s)
HEIGHT OF VERTICAL CONVEYOR	Up to 40 m (131.23 ft)
TEMPERATURE RANGE	From -30° C to 50° C (-22° F to 122° F)
LOAD CARRIES	All standard pallets, other load carriers upon request

Piece picking and palletizing solutions from Swisslog dedicated to cover your needs. Explore how our innovative technology and experienced team can help you increase your productivity while reducing your cost.

The perfect pick

Swisslog's ItemPiQ combines flexibility with intelligent self-learning to deliver unmatched efficiency to your picking operation. Able to pick a wide range of products with error-free performance, this robot-based automated piece picking solution is easy to use and, when seamlessly integrated with Swisslog SynQ WMS, can truly transform your warehouse.

Benefits

FAST ORDER FULFILLMENT	Operates 24/7 at speed of up to 1,000 items per hour.
ADAPTABILITY	Handles a wide range of products and uses AI to optimize picking over time.
RELIABLY ACCURATE	Failure-free picking and placing helps avoid expensive returns.
EASY INTEGRATION	Seamless software integration regardless of which WMS you use, ItemPiQ easily connects to any standard interface. SynQ WMS is also available for additional functionality and accelerated performance.

Facts

PERFORMANCE	Up to 1,000 items per hour
ROBOT REACH	Over 1,100 mm (43.31 in)
PRODUCT WEIGHT	Up to 3 kg (6.62 lbs)
PRODUCT DIMENSION	Surface min. 20 x 25 mm (0.79 in x 0.98 in)
SAFETY	Safety fence or safety sensor
INTERFACE	Standard interface to any WMS

▶ Watch Swisslog ItemPiQ in action as it rapidly and efficiently picks single items from a source bin into an item bin or carton.

Pallets perfected

ACPaQ is a scalable, robotic and data-driven palletizing solution that's designed to grow as you grow. It also integrates with other technologies as well as SynQ software, works in both ambient and chilled environments and creates stable, store-friendly pallets.

The German retailer **dm-drogerie markt** installed the ACPaQ robotic system in its new distribution center, along with SynQ management software and other Swisslog components including the CycloneCarrier. It was a move that garnered a German Innovation Award.

Benefits

RELIABLE

In addition to the improved accuracy and quantity of picking, ACPaQ's unique gripper type allows gentle handling of various package types.

EFFICIENT

Best-in-class robotic performance reduces labor costs.

FLEXIBLE

Its modular design allows for growing companies to increase their capacity to efficiently handle peak demands.

Facts

|	
PRODUCT RANGE	Almost all types of cartons, plastic wrapped packages or bins
SMALL TRAY LOAD	Up to 24 kg (52.91 lbs)
LARGE TRAY LOAD	Up to 35 kg (77.16 lbs)
MIN. CASE DIMENSIONS	L: 125 mm x W: 125 mm x H: 50 mm L: 4.92 in x W: 4.92 in x H: 1.97 in
MAX. CASE DIMENSIONS	L: 600 mm x W: 400 mm x H: 400 mm L: 23.62 in x W: 15.75 in x H: 15.75 in
TEMPERATURE RANGE	From 0° C to +40° C (32° F to 104° F))
PALLETS	Various types of pallets and roll cages
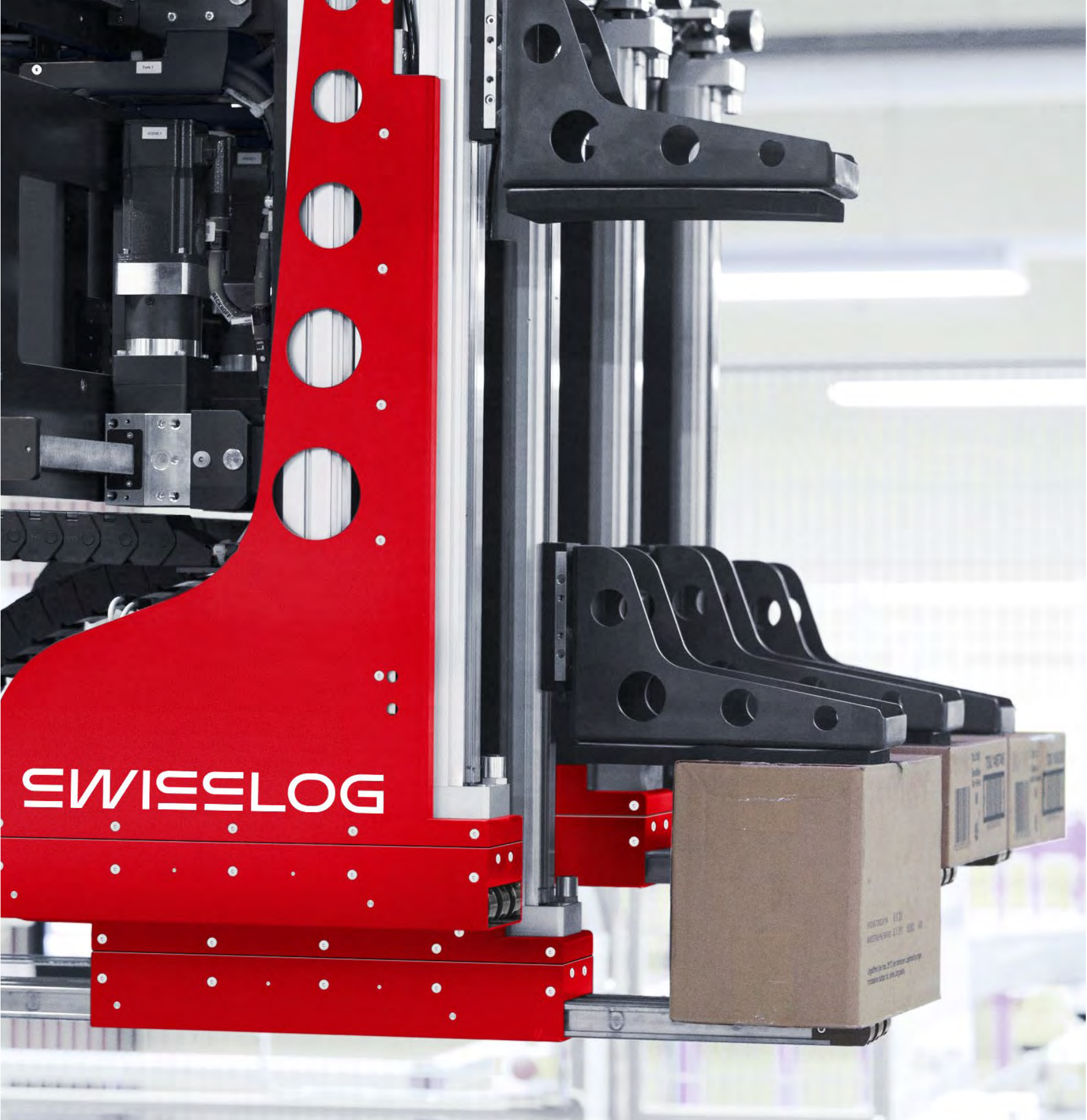
Watch the fully automated Swisslog ACPaQ's mixed case palletizing skills in action.

CONDITION MONITORING
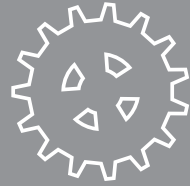
SPARE PARTS
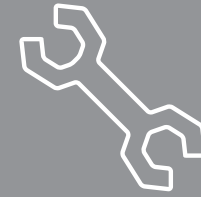
FIELD SERVICE

MODERNIZATION & EXPANSION

TRAINING

ONGOING OPTIMIZATION

24/7 SUPPORT

SYSTEM OPERATIONS

Optimizing your investment

It's one thing to get your automated solution up and running. It's another to ensure it's giving you peak performance 24/7. At Swisslog, our unmatched expertise and unwavering commitment to support help you get both maximum productivity and minimum downtime from your new system.

THE RIGHT PEOPLE

Our highly trained service engineers bring years of experience to quickly resolve any problem or fault that threatens your productivity.

THE RIGHT STRATEGIES

Based on your specific needs, we create an effective throughput services strategy to help maximize availability.

THE RIGHT EXPERIENCE

Our quick response helps ensure our customers' growth, profitability and success.

"The Swisslog design team has shown great aptitude in understanding the needs of our business, and demonstrated a willingness to customize the application to meet our requirements."

– Ant Everett, Asda Logistics Services

Tailored to you

We offer a wide range of services and solutions that are customized to meet your needs and help you achieve your throughput goals. Our service offerings include:

FIELD SERVICE	Preventive Warehouse Maintenance that provides scheduled and preventative maintenance, repairs and emergency response.
SYSTEM OPERATIONS	With guaranteed availability, our highly educated and committed service teams offer a range of on-site management options along with continued monitoring and analysis of your systems and facility.
24/7 SUPPORT	The experts at our Help Desk are always at the ready, while our Remote Support offers additional real-time, always-on protection.
CONDITION MONITORING	Tackling issues before they become problems, our Condition Monitoring services guards against downtime by spotting potential faults and unreliable equipment in advance.
IT MANAGED SERVICES	Trust our experts to keep your software current with the latest patches and updates while freeing up internal resources from routine maintenance.
SPARE PARTS	Our world-class parts inventory and management system includes more than 268,000 spare parts to reduce your inventory management and storage burden.
ONGOING OPTIMIZATION	Swisslog experts can identify and enable alternative material flow, evaluate logistics flow, optimize energy consumption and make your warehouse more dynamic.
TRAINING	Enhance your employees' skills, efficiency and safety with our comprehensive operator and safety training programs.

On-site support without the on-site visit

Using Augmented Reality, Swisslog's RemoteAssistance connects experienced engineers remotely with on-site personnel to perform diagnostics and troubleshooting through the eyes of the team on the ground. This remote guidance and support maximizes uptime and proves that help isn't just a call away. It's also right before your eyes.

Tackling tomorrow

Our future-proof solutions don't just pay dividends today. They also set you up for easy expansion and modernization in the future. Swisslog can help you update your facility and upgrade your technology in ways that will seamlessly integrate with your existing system and cause little to no downtime.