

Material Handling Solutions



The Material Handling Market Is Evolving, Fast

With the continuing shift to eCommerce and globalization, the demand for logistics, distribution, and fulfillment has never been greater. Manufacturers of material handling equipment must find innovative ways to move goods more reliably, accurately, and faster. Banner Engineering partners with companies to meet these challenges. As a leading automation manufacturer for material handling companies, we offer market and customer-specific products that increase productivity, enhance safety, and drive efficiency.

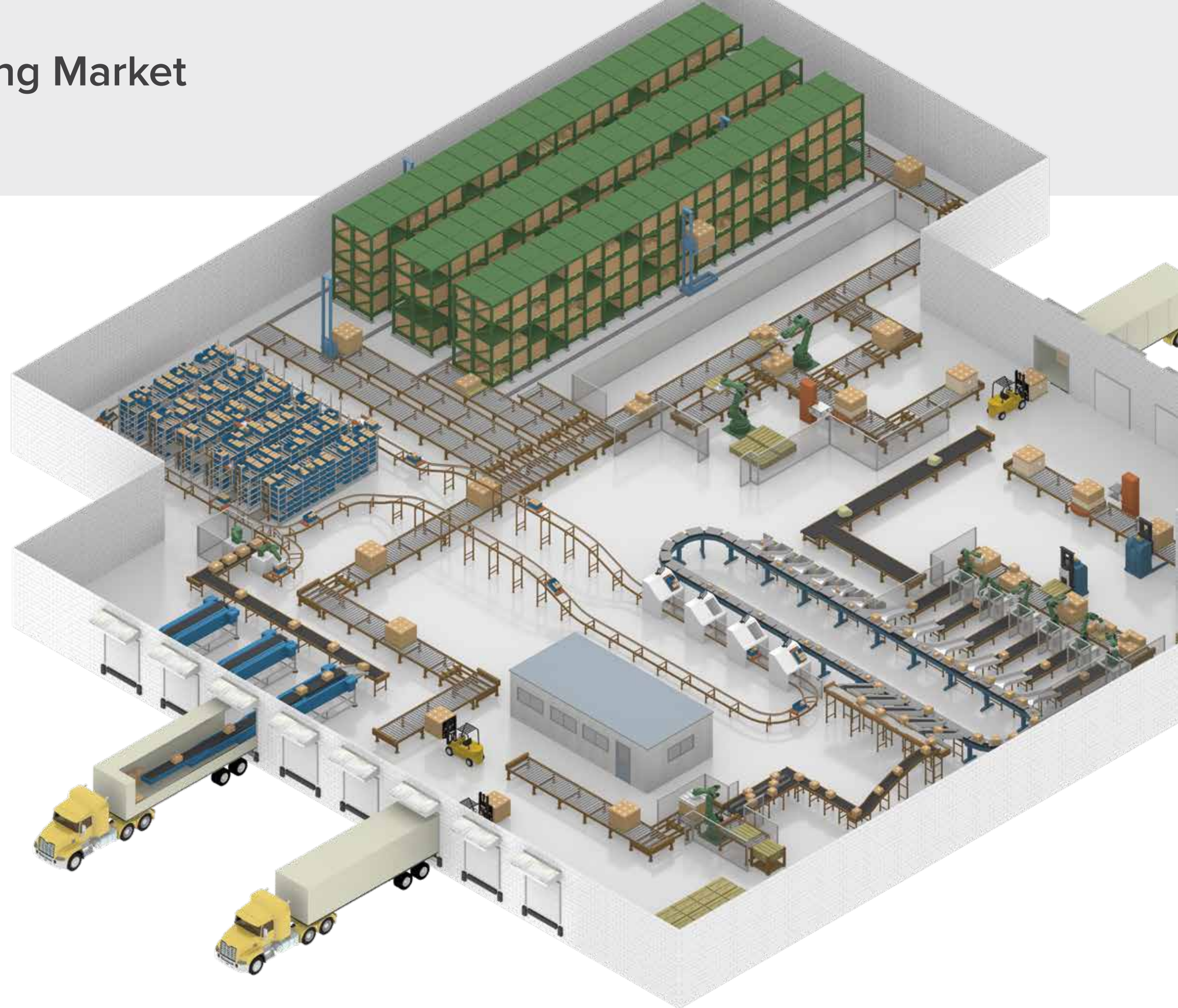
Transition to a Smart, Connected Distribution Center

The days of basic sensors operating on isolated pieces of equipment are gone. Today, Banner smart sensors provide visibility for operations and maintenance teams, with immediate process improvements after quick set—from detecting jams to creating just-in-time predictive maintenance. Gathering and sharing this actionable data is made easy with Banner industrial wireless technology. Previously unavailable data is collected and sent to the cloud where custom dashboards provide insight for continued optimization.

In addition to sensors, Banner offers greater efficiency at every point of the process with smart lighting and networked safety products, leading a vast catalog of automation solutions.

Getting Started

Throughout these pages, you will be introduced to Banner products and applications, used in various segments of the material handling market. Contact us to speak directly with an industry expert who understands your business, objectives, and challenges. We'll answer your questions and help you find the right products and solutions.



Loading Docks

Dock Status/Availability

- Easy-to-see LED indication provides daylight visibility
- Sealed housings resist outdoor elements like rain and snow
- Products: WLS27, SP350

Truck Detection

- Robust, long-range radar technology senses in tough outdoor conditions
- Multiple output types simplify integration with systems
- Products: T30R

Trailer Illumination

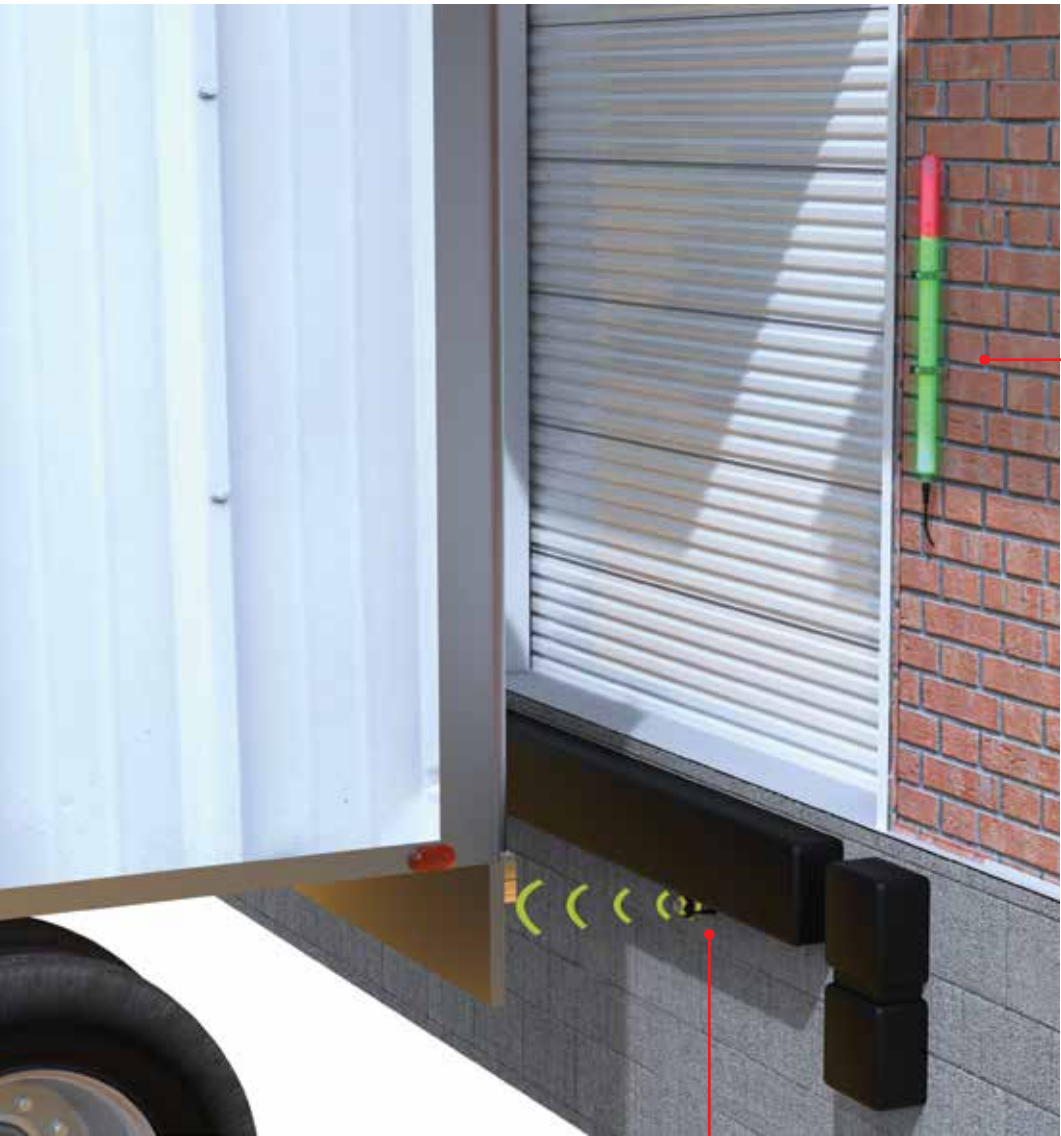
- Bright, uniform LED light provides illumination for operators
- Durable construction improves reliability in harsh environments
- Products: WLB72

Call for Support

- Reliable touch buttons allow operators to signal managers for help
- Wireless technology makes installation fast and easy
- Products: K70 Wireless, Direct Select

Dock Door Position

- Simple photoelectric sensor determines when door is open
- Powerful sensing technology withstands dust buildup and improves reliability
- Products: QS30, QS18



Traffic-light-style **indication for dock availability** with the SP350



Multicolor and animated **status indication** with the WLS27 Pro Strip Light



The Pro Series programmable multicolor LED devices from Banner Engineering offer limitless possibilities for advanced indication of dynamic machine states, operator interaction, and process statuses. Use Banner's Pro Editor Software, IO-Link, or PICK-IQ® for real-time communication across your factory.



Pulse Pro output for direct integration with Banner lights. Direct process feedback which only requires power; no controller needed.



Reliable, long-range truck detection with the T30R Radar Sensor



Enhance visibility, improve productivity with the WLB72 Strip Light



Multiple sensing modes and versatile mounting options available with the QS30 or QS18 Sensors



Notify staff of issues at the dock with the battery-powered wireless DirectSelect operator interface



Open and close dock doors with the durable and bright K50 Touch Button

Conveyors

Control and Indication

- Durable capacitive touch buttons withstand harsh conditions
- Bright LED indication notifies workers of machine status
- Products: K30, K50, S22, SSA-Series E-stop

Leading Edge Detection

- Multiple sensor designs to fit any conveyor
- Various technologies to detect everything from boxes to pallets
- Products: TTR, SAB, LX, QS18, Q20-2

Machine Status Indication

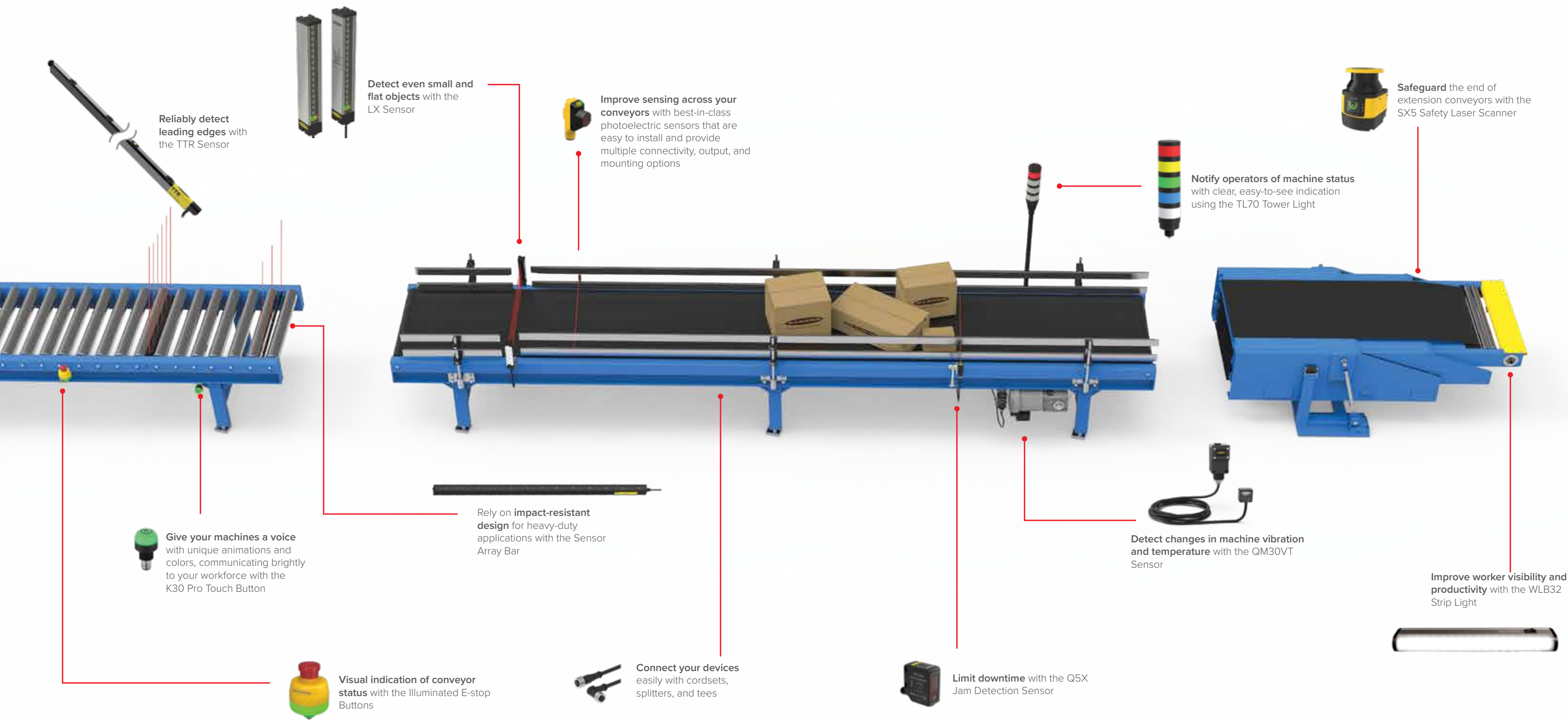
- Bright, uniform LED lights help machines communicate with operators
- Programmable models allow for more unique custom animations
- Products: TL30, TL50, TL70, WLS15, WLS27, WLS28

Predictive Maintenance

- Easy-to-install vibration and temperature sensors monitor equipment around the clock
- Reduce unplanned downtime by scheduling maintenance
- Products: QM30VT, Q45 All-in-One, DXM700, Solutions Kit

Jam Detection

- Detect conveyor jams faster and with greater accuracy
- Industry-standard M12 connector makes installation easy
- Products: Q5X Jam Detection Sensor



Work Stations

Andon Lights

- Bright LED lights notify managers from long distances away
- Complete plug-and-play solution simplifies installation
- Products: TL70 Andon Light

Overhead Lighting

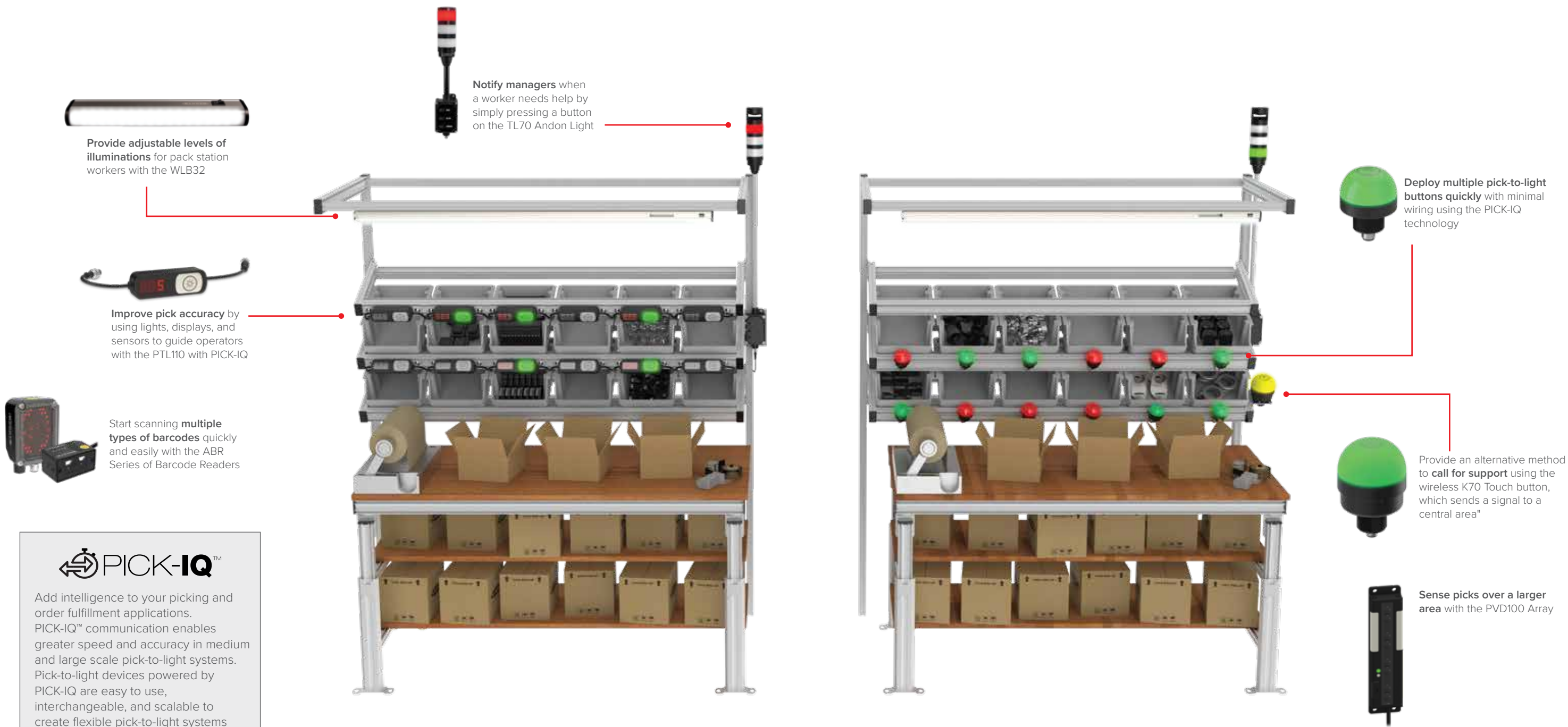
- Reliable LED lighting improves operator visibility
- Variety of lengths, colors, brackets, and power input options adapt to any workstation
- Products: WLB32, WLB72, WLS28, WLB92

Pick-to-Light/Put-to-Light

- Easy-to-see lights improve operator speed and accuracy
- Available with built-in sensors to reduce mispicks
- Products: PTL110, K30, K50

Barcode Reading

- Reliable detection of 1D and 2D barcodes improves productivity
- Variety of models provide flexibility based on detection range, barcode type, and communication interface
- Products: ABR3000, ABR7000, VE



Add intelligence to your picking and order fulfillment applications. PICK-IQ™ communication enables greater speed and accuracy in medium and large scale pick-to-light systems. Pick-to-light devices powered by PICK-IQ are easy to use, interchangeable, and scalable to create flexible pick-to-light systems that set up quickly and adapt to changing needs.

Robots and AGVs

Measurement Sensors

- Various range, output, and accuracy options fit any application
- Durable housings withstand tough environments
- Products: Q4X, Q5X, LM, LE, T30UX, T30R

Machine Status Indication

- Bright LED lights improve machine-to-human communication
- Numerous form factors simplify machine design and installation
- Products: WLS27, WLS28, K90, TL30, TL50, TL70

Personnel Detection

- Robust light curtains withstand impacts
- Various length, resolution, and mounting options simplify installation
- Products: LS, SLC4

AGV Status/Signaling

- Programmable LED lights provide turn-signal and machine status to operators
- Impact-resistant housings withstand harsh conditions
- Products: WLS15, WLS27, K50

AGV Safety

- Reliable safety laser scanners detect people and objects
- Standard encoder inputs integrate speed into detection algorithm
- Products: SX5, SC10



Storage and Retrieval

Package Dimensioning

- Fast and accurate sensors measure goods moving down a conveyor
- Various models adapt to any mounting requirements
- Products: EZ-ARRAY, MINI-ARRAY, Q5X, VE Smart Camera

Machine Status Indication

- Bright LED lights improve machine-to-human communication
- Numerous form factors simplify machine design and installation
- Products: WLS27, WLS28, K90, TL30, TL50, TL70

Crane Position Sensing

- Long-range sensors provide accurate feedback on machine position
- Basic photoelectric sensors detect when pallets are in position
- Products: LTF, LT7, Q20-2, QS18

Personnel Detection

- Robust safety light curtains withstand impacts
- Various length, resolution, and mounting options simplify installation
- Products: LS, SLC4



Sortation

Package Detection

- Precision sensors accurately measure goods for proper routing
- Various sensor technologies and form factors adapt to any machine design
- Products: EZ-ARRAY, MINI-ARRAY, Q4X, Q5X

Product Position on Belt Sorter

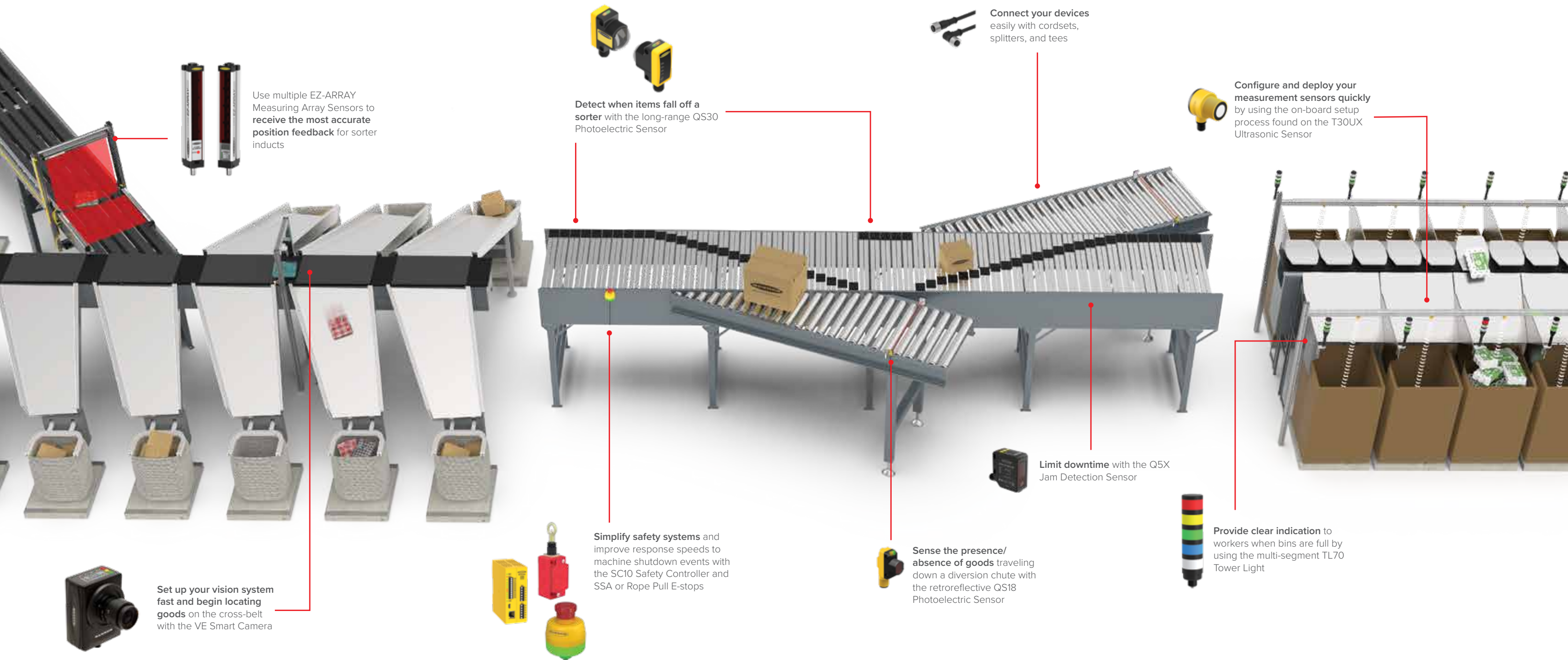
- Easy-to-use sensors determine if goods are located properly on sorters
- Multiple signal types ranging from discrete, analog to x/y coordinates adapt to any machine design
- Products: VE, iVu, Q4X

Sorter Divert Sensing

- Simple photoelectric sensors determine if goods were diverted down the correct chute or if a jam is present
- Several sensor options provide flexibility to detect any type of package
- Products: QS18, LX, SAB

Bin Level Measurement and Indication

- Robust laser, ultrasonic, and radar technologies accurately measure bin level
- Easy-to-see LED lights notify workers when bins are full
- Products: T30UX, Q5X, T30R, QS18, TL50



Use multiple EZ-ARRAY Measuring Array Sensors to **receive the most accurate position feedback** for sorter inducts



Detect when items fall off a sorter with the long-range QS30 Photoelectric Sensor



Connect your devices easily with cordsets, splitters, and tees



Configure and deploy your measurement sensors quickly by using the on-board setup process found on the T30UX Ultrasonic Sensor



Limit downtime with the Q5X Jam Detection Sensor



Sense the presence/absence of goods traveling down a diversion chute with the retroreflective QS18 Photoelectric Sensor



Provide clear indication to workers when bins are full by using the multi-segment TL70 Tower Light



Set up your vision system fast and begin locating goods on the cross-belt with the VE Smart Camera



Simplify safety systems and improve response speeds to machine shutdown events with the SC10 Safety Controller and SSA or Rope Pull E-stops



Banner Engineering manufactures industrial automation products that include sensors, LED lights and indicators, machine safety components, and industrial wireless devices. These products help produce the cars we drive, the food we eat, the medicine we take, and many of the things we touch every day. Headquartered in Minneapolis since 1966, Banner is an industry leader with more than 10,000 active products, operations on six continents, and over 5,500 employees, factory and field representatives, and application engineers. Every 3.5 seconds a Banner product is installed somewhere in the world.

