

SmartConvey



# SORTER PRODUCT MANUAL

# COMPANY PROFILE

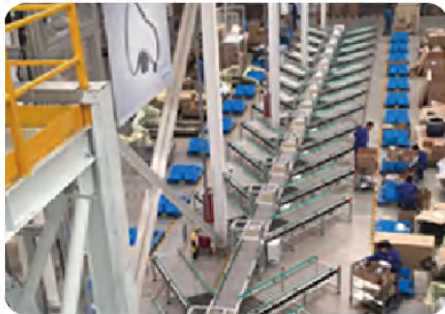
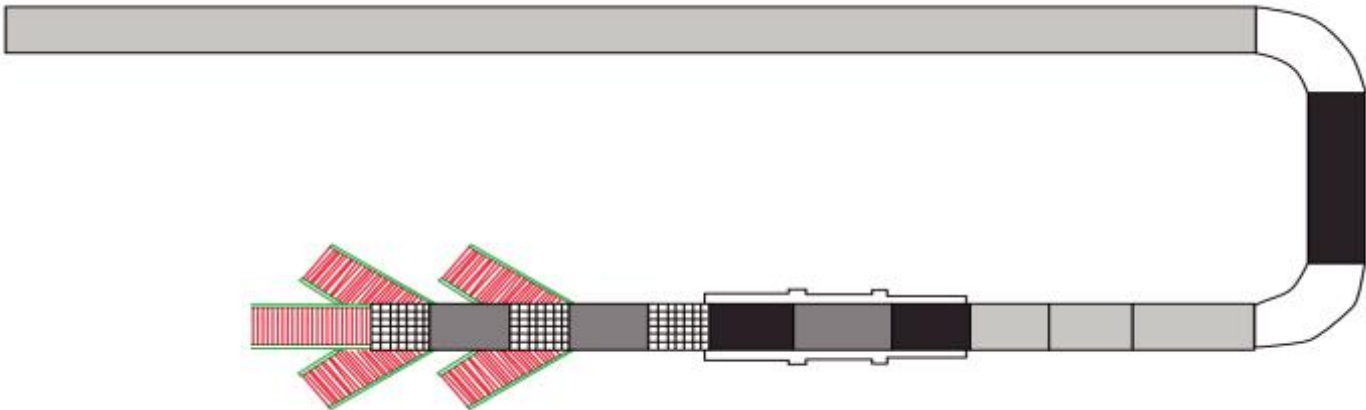


SmartConvey Automation (Shanghai) Co., Ltd. is an integrated company of R&D, design, manufacturing, sales and service. Our headquarter is in Shanghai, and production bases are located in both Shanghai and Jiangsu. Committed to the R&D and manufacturing of intelligent sorting systems, conveyor systems, and conveyor accessories, we have rich and professional experience in these areas. After years of development, we have developed a variety of conveyor accessories products, accumulated a lot of experience in conveyor system design and sorting machine system design and manufacturing experience with core technologies, which can provide equipment manufacturers, system integrators and end users with complete solutions from accessory selection, product design to system integration.

Our products include conveyor accessories represented by modular belts and flat top chains, conveyor systems dominated by modular belt conveyors, chain conveyors, PVC/PU belt conveyors, aluminum conveyors and PLC systems, and intelligent sorting systems focused on wheel sorters, singulation conveyor systems, DWS systems and roller conveyors. These products are widely applied in the production and assembly fields of food, beverage, tobacco, medicine, as well as intelligent manufacturing, e-commerce, express logistics and other fields. In 2021, our company set up International Business Department. The team members have more than 10 years of overseas service experience and have provided great services to customers in more than 50 countries. In the future, we will be committed to establishing long-term and stable strategic cooperative relationships and agency partnerships with high-quality foreign customers, strive for the upgrade of the intelligent conveying system, and spare no efforts to promote the early arrival of the era of industrial wisdom!



# SOLUTIONS



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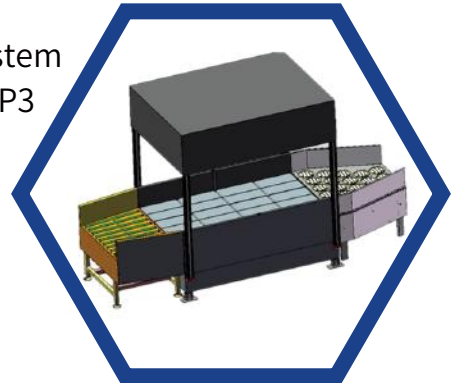
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P1



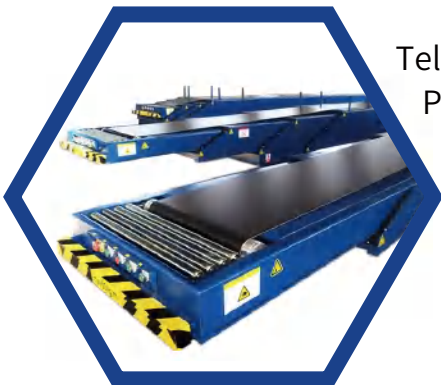
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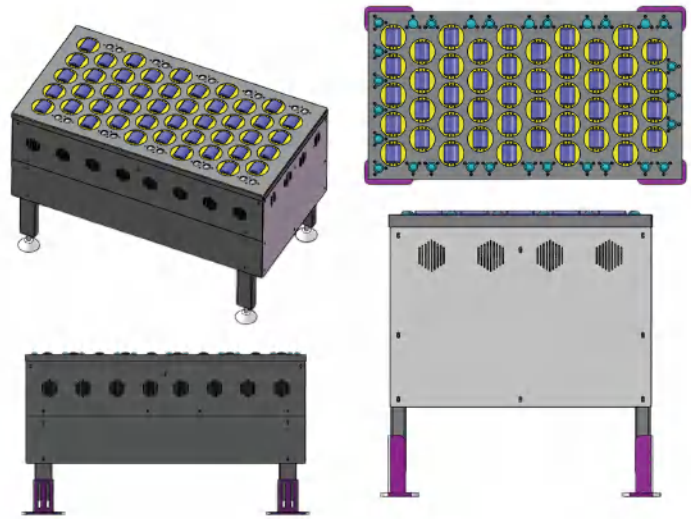
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## Electric Wheel Sorter

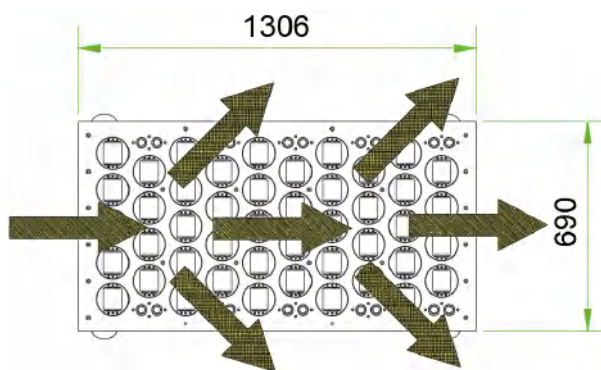


Electric Wheel Sorter

### ADVANTAGE

- EWS design is simple and stable, there is no need for maintaining frequently. Turning power from the servo motor, which has fast response, stable and reliable.
- Compact structure to make sure the smooth and stable sorting. Independent controlled and can realize the sorting action only need to accept the sorting signal, greatly reducing the on-site commissioning time.

- All parts adopt connecting rod drive design, which is easy to assemble, universal and interchangeable.
- The EWS uses a servo motor and uses a sensor to detect the movement of the balance wheel and interlocks with the sensor signal to ensure the stability and reliability of the sorting. The sorting steering mechanism is connected by joint bearings.
- Sorting angle can be fine-tuned to make on-site commissioning more flexible. The foot is adjustable which can according to the actual site situation.



SPECIFICATION	
Name	Electric Wheel Sorter
Capability	Depends on Parcel Dimensions
Diverting Angle	30~90 Degree
Discharge Direction	Right, Left and Forward
Electrical	40W, 48V per wheel
Interface Options	RS485/232 Ethernet IO
Operation Temperature	-10~40 Degree
Noise	Less than 75dB

STANDARD SIZE				
Model No.	Dimension (L*W*H)	Max Loading Weight	Commodity Dimension	Conveying Speed
SC-400EWS	536*450*800 mm	100Kg/m2	Min: L200*W100*10mm Max: L1000*W900*900mm	30-120M/MIN
SC-500EWS	656*570*800 mm			
SC-600EWS	776*690*800 mm			
SC-700EWS	896*810*800 mm			
SC-800EWS	1016*930*800 mm			

## Electrical Friction Sorter

Electric Friction Sorter



### ADVANTAGE

- Customizable: Angular rotation is powered by servo motors with a resolution of less than a degree for customized angles between 0 and 90 degrees.
- High Sorting Rate: Every wheel module has a separated powered electrical roller. Designed for high speed and bidirectional for sorting operation on both sides at the same time. Polyurethane coated wheels and bands provide enough drive to minimize loss in speeds during divert. Maximum Sorting Rate can be 7200 pieces/hour.

- Low Noise: Use new material and noise elimination technology which can be friendly for Environment, noise can be less than 75dB.
- Energy Conservation and Environmental Protection: Light weight material and low energy consumption structure as well as low power and source power (conveyor) drive to achieve successful operation.
- Flexible and Stable Sorting Operation: Online multi-row swivel wheel technology prevents conveyed goods from vibration and damage. Stably and flexibly sort goods from light duty to maximum 70kg heavy duty range.

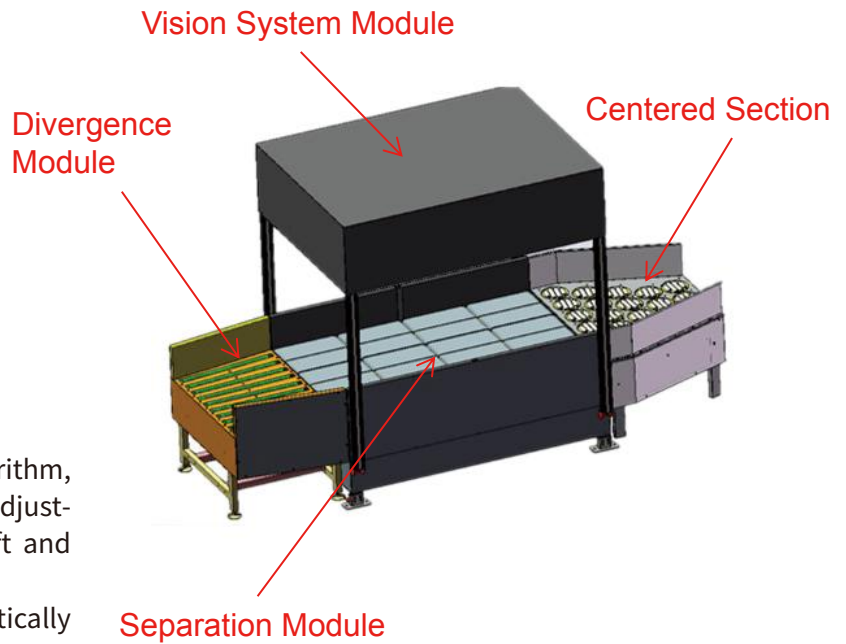


SPECIFICATION	
Name	Electric Friction Sorter
Capability	Depends on Parcel Dimensions
Diverting Angle	30~90 Degree
Discharge Direction	Right, Left and Forward
Operation Temperature	-10~40 Degree
Power	Servo Motor 1.5kw
Interface Options	RS485/232, Ethernet, IO
Noise	Less than 75dB

STANDARD SIZE			
Model No.	Dimension (L*W*H)	Max Loading Weight	Conveying Speed
SC-600EFS	630x680x800 mm	70kg/m <sup>2</sup>	0~120m/min(Adjustable)
SC-800EFS	830x880x800 mm		
SC-1000EFS	1030x1080x800 mm		



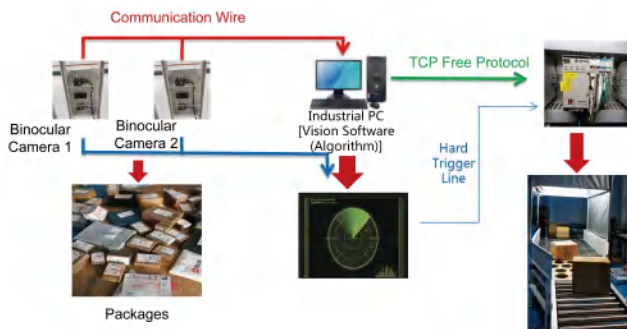
## Singulation Conveyor System



### ADVANTAGE

- High-precision contour recognition algorithm, self-developed auto-space control and adjustment, support separation of packages left and right, front and rear adhesion.
- Make messy and mixed packages automatically separate and queue up, then enter DWS and various automatic sorting equipment in an orderly manner.
- Modular and stable design, convenient installation and maintenance, high return on investment.

- The optical infrared binocular camera used in its visual recognition system has high stability and can resist ambient light interference.
- High-precision contour recognition algorithm to locate packages as low as 15mm.
- Reduce manual operation errors, and the accuracy of parcel sorting can be up to 99%.
- Friendly with various types of packages such as cartons, soft bags, woven bags, etc., with a maximum efficiency up to 5000 packages/hour, which greatly improves efficiency.
- The size of each module can be customized according to the actual needs of customers.



SPECIFICATION			
Item	Parameter	Item	Parameter
Working Mode	Separation Mode or Pipeline Mode	Package Shape	“Non-Rolling” Packages
Capacity	5000PPH(Packages Per Hour)	Speed of Divergence Module	0.8m/s~1.2m/s
Package Weight	Min 0.2kg~Max 35kgs	Speed of Separation Modules	1.2m/s~2m/s
Package Dimensions	150*150*15mm~1000*1000*600mm	Separation Success Rate	≥99%
Applications	Not limited by the degree of clutter and density	Working Temperature	-10~50 °C
	Adapt to diffuse reflection packages with surface reflectance bigger than 10%	Working humidity	20%~90% RH (Non-Condensing)

## Telescopic Belt Conveyor

Telescopic belt conveyor



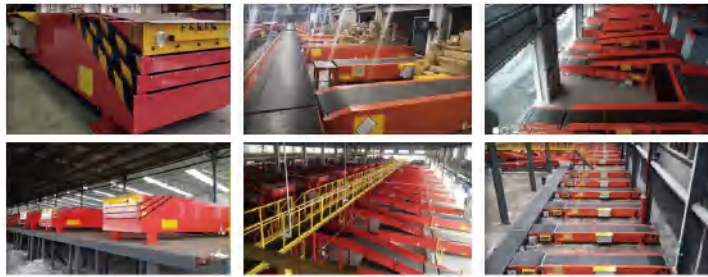
### ADVANTAGE

• **Productivity:** Telescopic Belt Conveyor reduces loading and unloading time by reducing the number of operators and effort in these processes. The Telescopic Belt Conveyor accomplishes this through easy extension and retraction, intuitive operator controls, optimal ergonomics, and seamless integration with the existing permanent conveyor solution.

This means tasks that would normally involve multiple operators, extended walking time, and inefficient picking and packing, can now be completed quickly and safely with just an operator or two — depending on package sizes. This results in faster turnaround and higher fulfillment rates.

• **Safety:** With its ergonomic design, our telescopic belt conveyor is easier for employees to use safely. It cuts down on the risk of repetitive stress injuries as well as strains and other exertion injuries by placing the loading or unloading point at an ergonomically favorable point for the operator. This ultimately leads to lower costs and less downtime.

• **Less idle time:** Without an extendable conveyor solution, much time is spent walking or forklifting packages and boxes from the permanent conveyor end to the dock (or vice versa), and additional time moving items to (or from) the innermost areas of the container. This additional handling time is considered idle time — since it is not actively contributing to the completion of the process. An extendable conveyor eliminates this wasted time by bringing the conveyor right to the loading or unloading point within the trailer.



SPECIFICATION				
Belt			Belt Driven Motor	
Material	High Quality PVK		Brand	SEW/Nord
Thickness	3mm		Input Voltage	3-P 220V, 60HZ
Grade	Industry Grade		Power	≥2.2KW
Color	Black		Telescopic Motor	
Max Loading Weight	80kg/m2		Power	≥0.75KW
Chain Wheel			Site Environment	
Belt Driven Chain Wheel	Speed Rate	1:1	Temperature	-20~50 degrees
	Speed	10~40m/min	Humidity	35%~85% rH
Telescopic Driven Chain Wheel	Speed Rate	1:1	Hydraulic System	
	Speed	10m/min	Hydraulic Power Unit	220V, 0.75KW
Structure				
Frame	High Quality PVK	Main Roller	OD 150mm Seamless Pipe, Thk≥6mm	
Support	3mm	Driven Roller	OD 108mm, OD80mm	
Beam	Industry Grade		Seamless Pipe, Thk≥5mm	

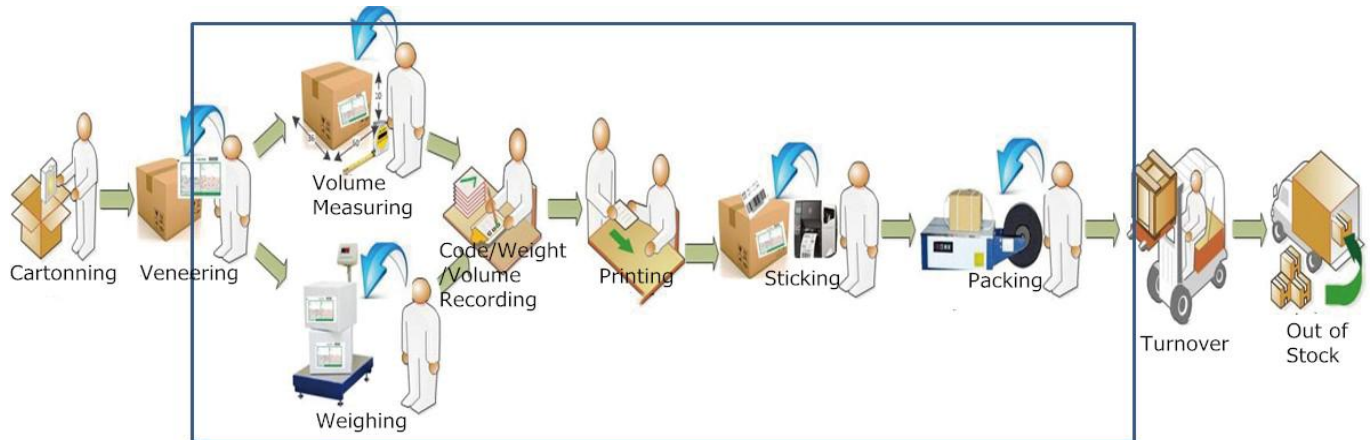




## Parts Of Case

### • Case 1: For One Company of Auto-Industry

Background: One customer contact us in 2012, they reflected that they cost too much for factory labor, and made mistakes sometimes, with low-efficiency. They expect saving labor cost, avoiding mistakes, improve efficiency through automation system. After site researching, we found there were more than 9 labors from packing to out of stock. Herebelow is their processing:



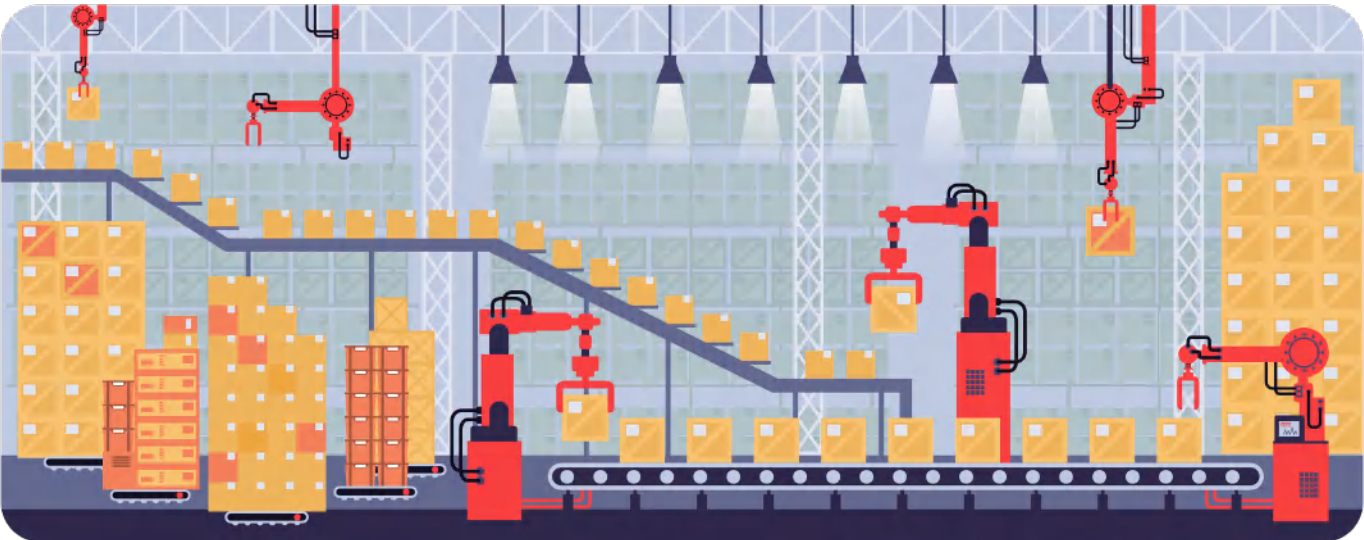
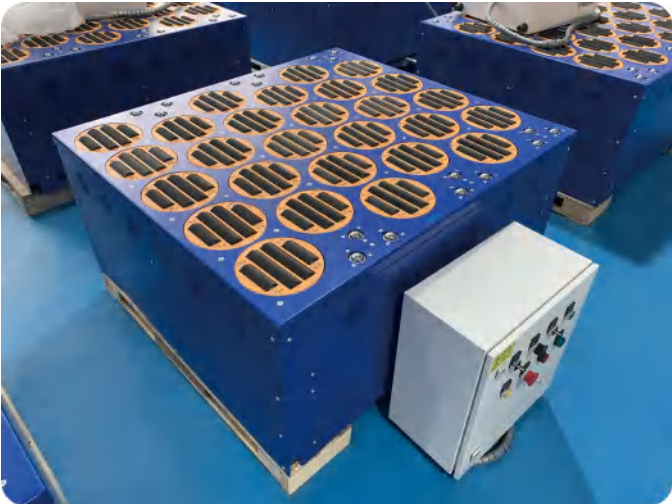
### • Case 2: For One Company of E-Commerce

Background: One customer contact us in 2017, they reflected that their workers make too much mistakes with low-efficiency. So they made a bad impression of their customers and can not satisfy the requirements of the developing! They expect avoiding mistakes, improve efficiency through automation system. Herebelow is their processing:



Factory

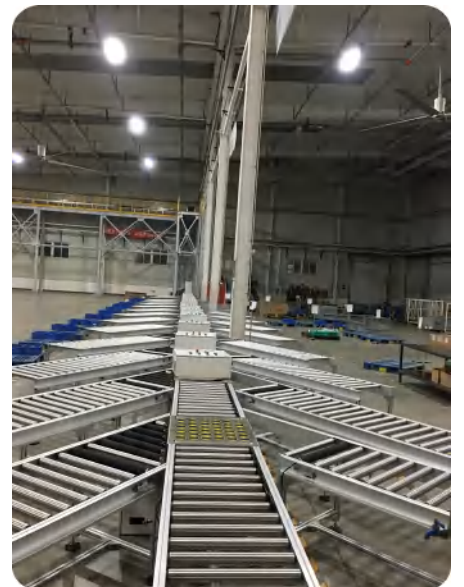
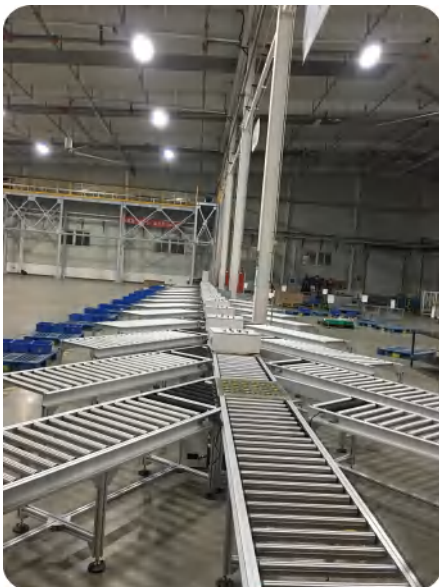
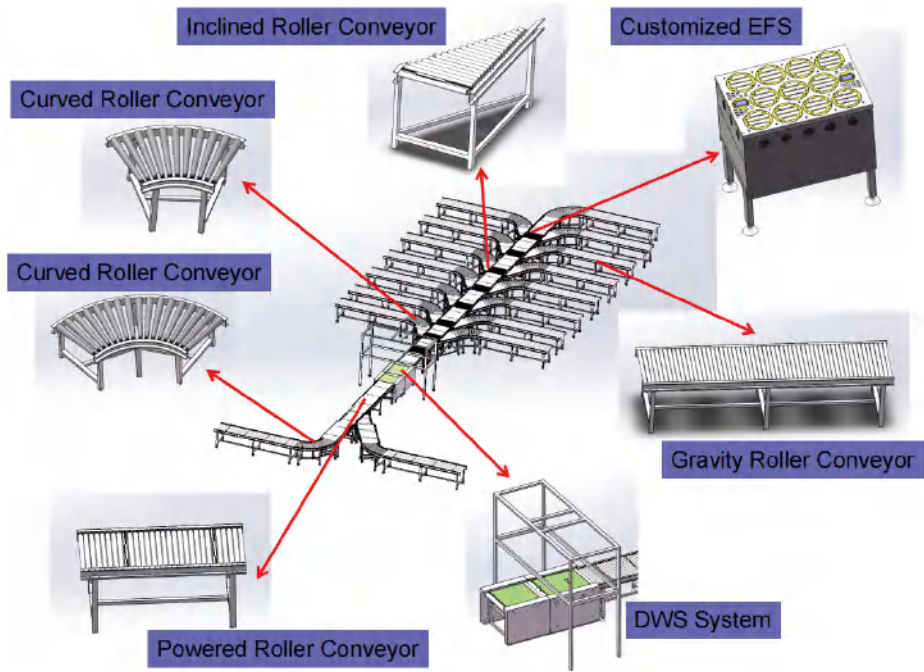
Factory







## Project 1.





Project 2.

Projects Reference







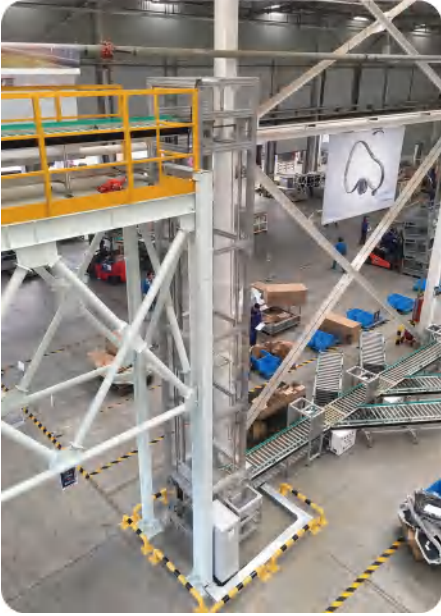
### Project 3.





Project 4.

Projects Reference

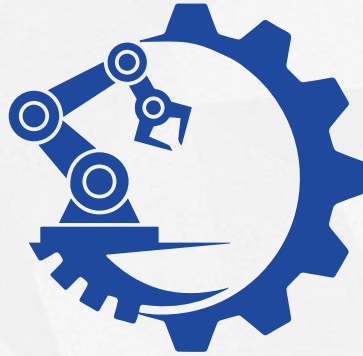






## Project 5.





SmartConvey

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