



 **Nitrans**

Konsept
Automation for better work.

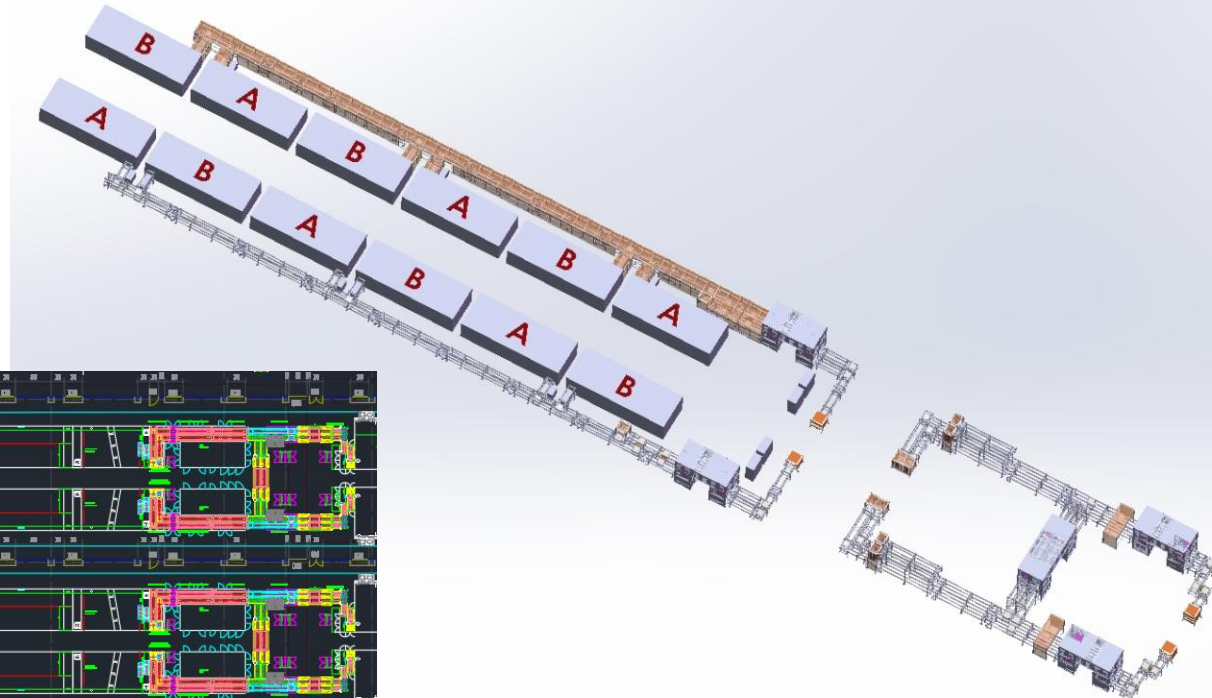
Lithium Battery Case

Battery Cell Assembly Section

Successful Cases—Battery Cell Assembly Stage

Battery Cell Assembly

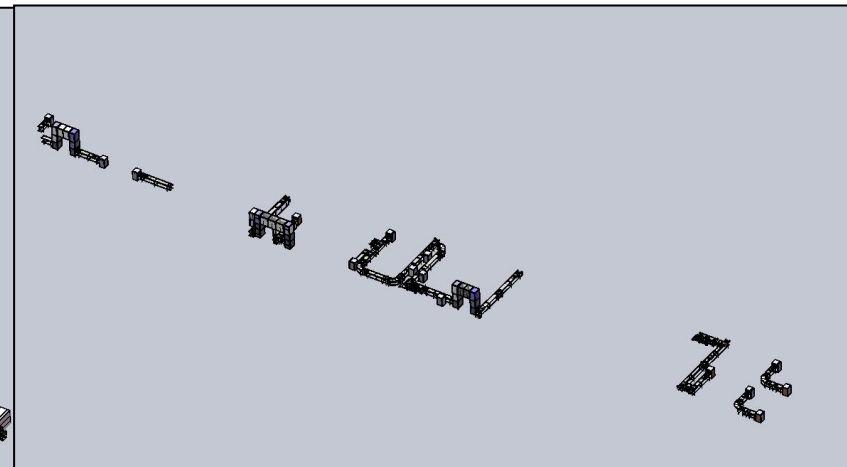
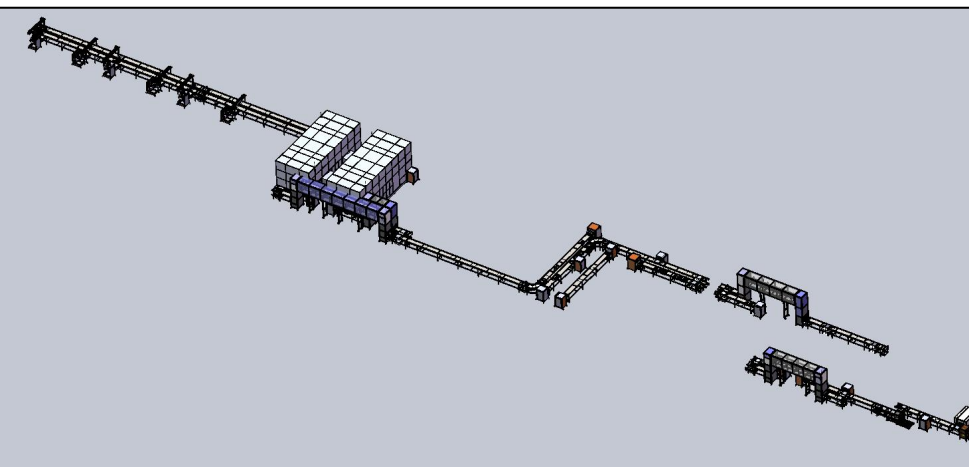
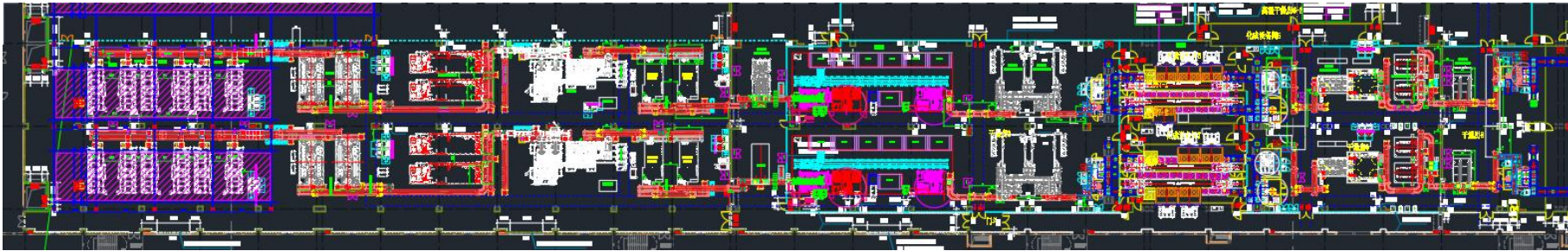
1. Single Line 24 PPM
2. Fully Automated Production, Modular Design



Successful Cases—Battery Cell Assembly Stage

Battery Cell Assembly

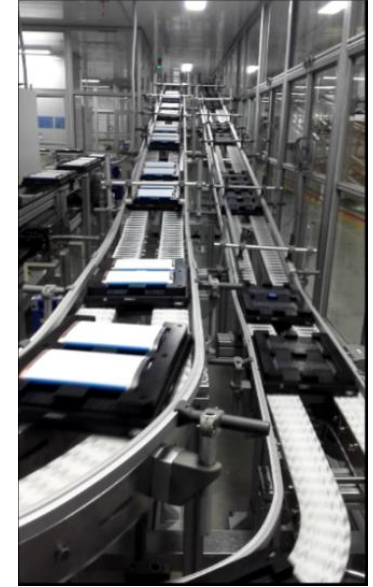
1. Single Line 50 PPM
2. Fully Automated Production, Modular Design



Successful Cases—Battery Cell Assembly Stage

Battery Cell Assembly

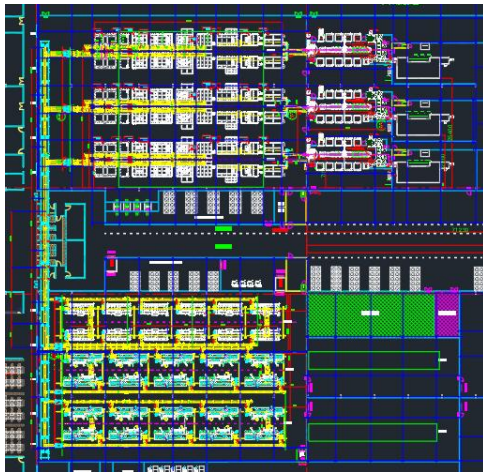
- 1. Single Line 30 PPM
- 2. Fully Automated Production, Modular Design



Successful Cases—Battery Cell Assembly Stage

Battery Cell Assembly

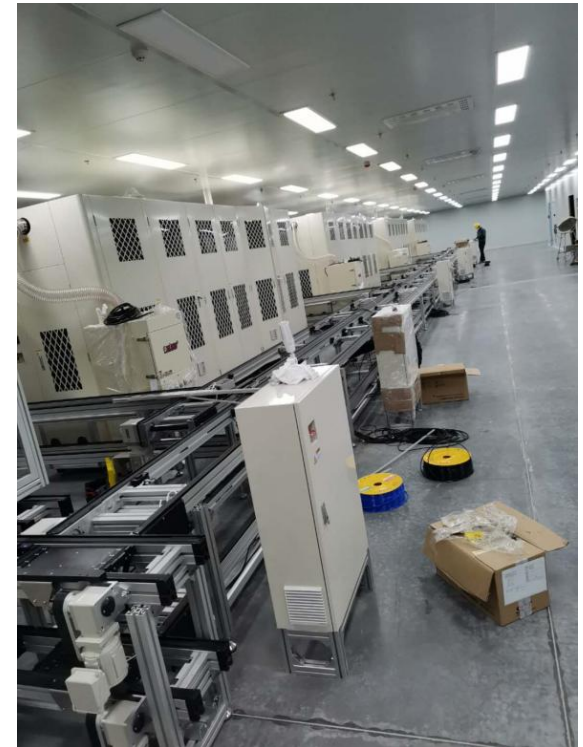
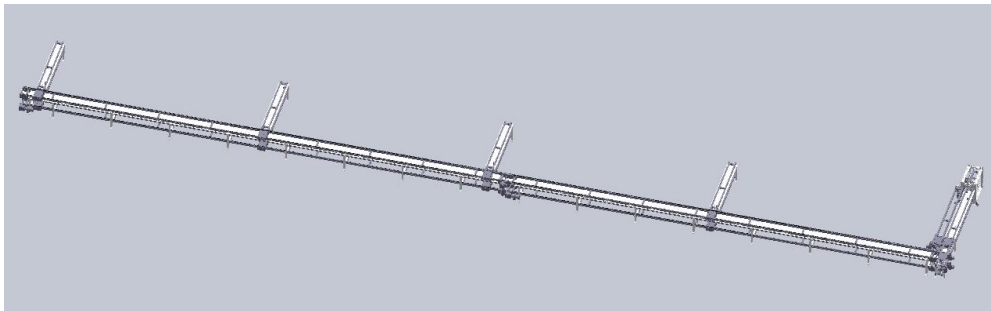
1. Single Line 36 PPM
2. Fully Automated Production, Modular Design



Successful Cases—Battery Cell Assembly Stage

Battery Cell Assembly

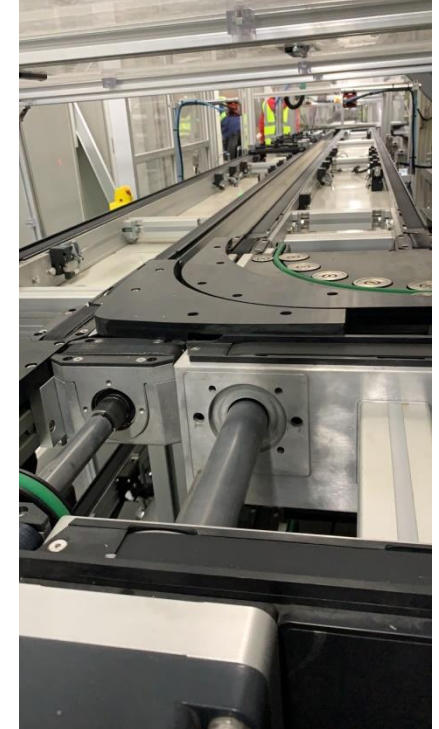
1. Single Line 40 PPM
2. Fully Automated Production, Modular Design



Successful Cases—Battery Cell Assembly Stage

Battery Cell Assembly

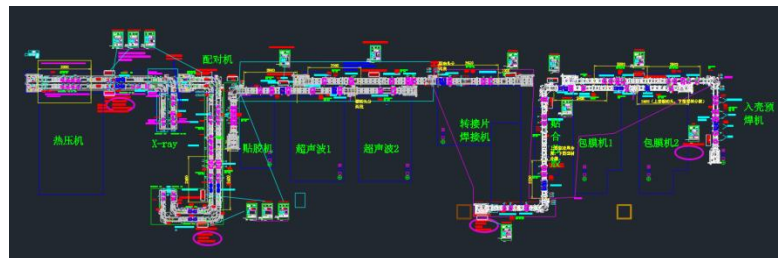
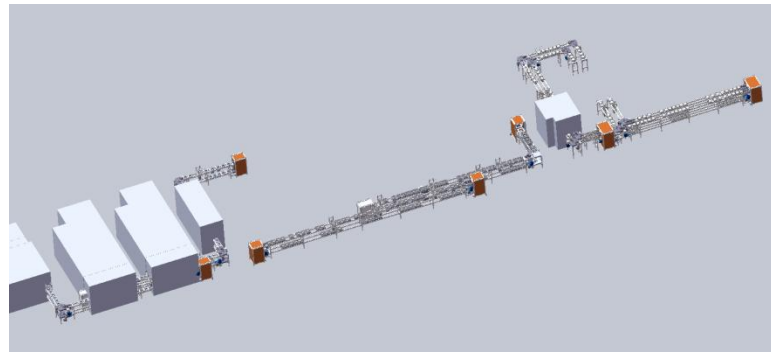
1. Single Line 5 PPM
2. Fully Automated Production, Modular Design
3. Applicable Battery Cell Dimensions: Width 140180, Length 91210, Thickness 20~80



Successful Cases—Battery Cell Assembly Stage

Battery Cell Assembly

1. Single Line 18 PPM
2. Fully Automated Production, Modular Design

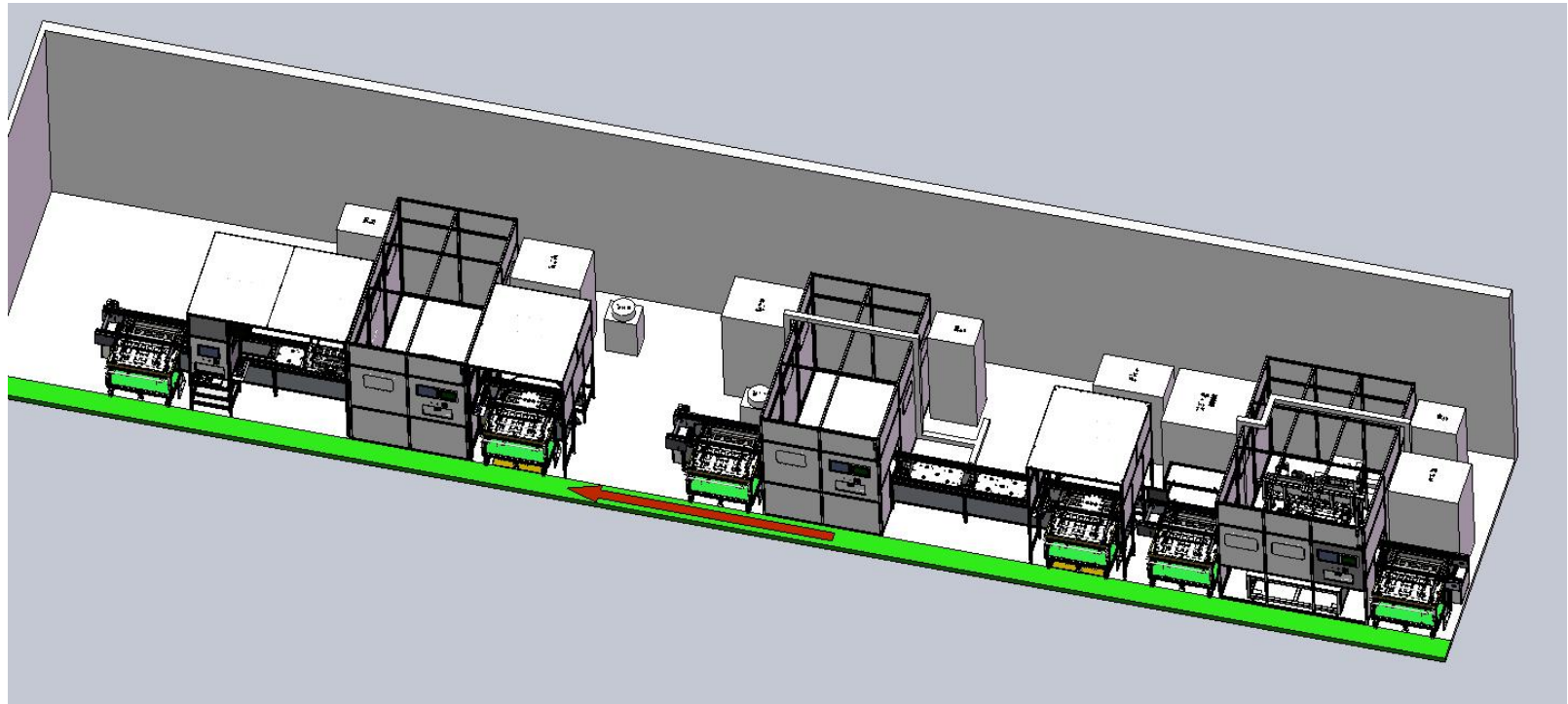


Lithium Battery Case Module Pack Section

Successful Cases—Module and Pack Section

Battery Module Testing Line

1. Uses heavy-duty triple-speed chain conveyor
2. Single tray load capacity of 145KG
3. Achieves battery module testing
4. Includes heavy-duty lifting positioning, lateral lifting, and lifting rotation



Successful Cases—Module and Pack Section

Energy Storage Battery PACK Testing Line

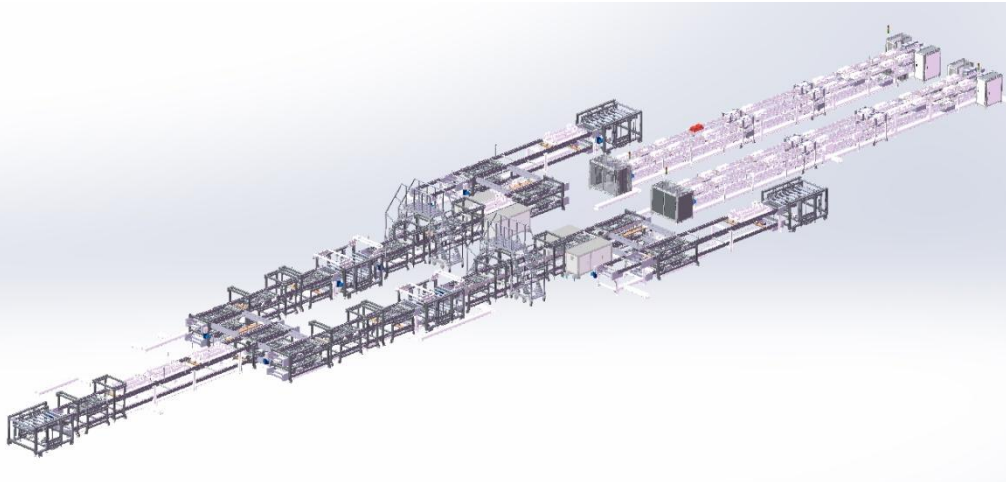
1. Uses accumulation-type roller conveyor
2. Single tray load capacity of 450KG
3. Achieves battery PACK testing
4. Includes heavy-duty lifting positioning, lateral lifting, lifting rotation, and a total of 21 stations



Successful Cases—Module and Pack Section

Battery Module Assembly and Testing Line

1. Uses heavy-duty high-speed chain (12B) conveyor
2. Single tray load capacity of 300KG
3. Achieves battery module assembly and testing
4. Includes heavy-duty lifting positioning, lateral lifting, elevators, lifting rotation, and a total of 14 sets of custom devices.

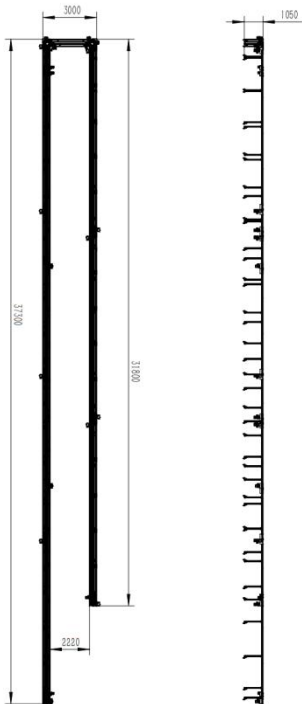


Motor Industry Case

Successful Case - Motor Assembly

Motor Assembly

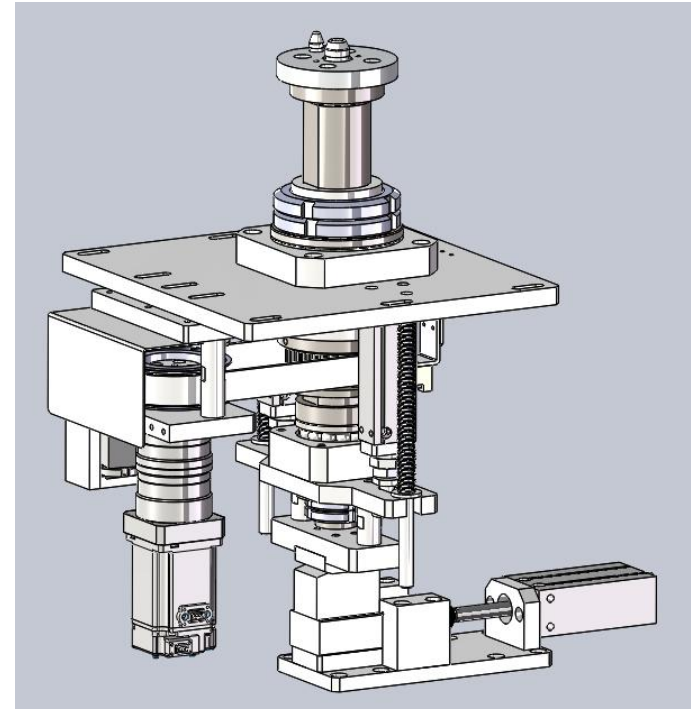
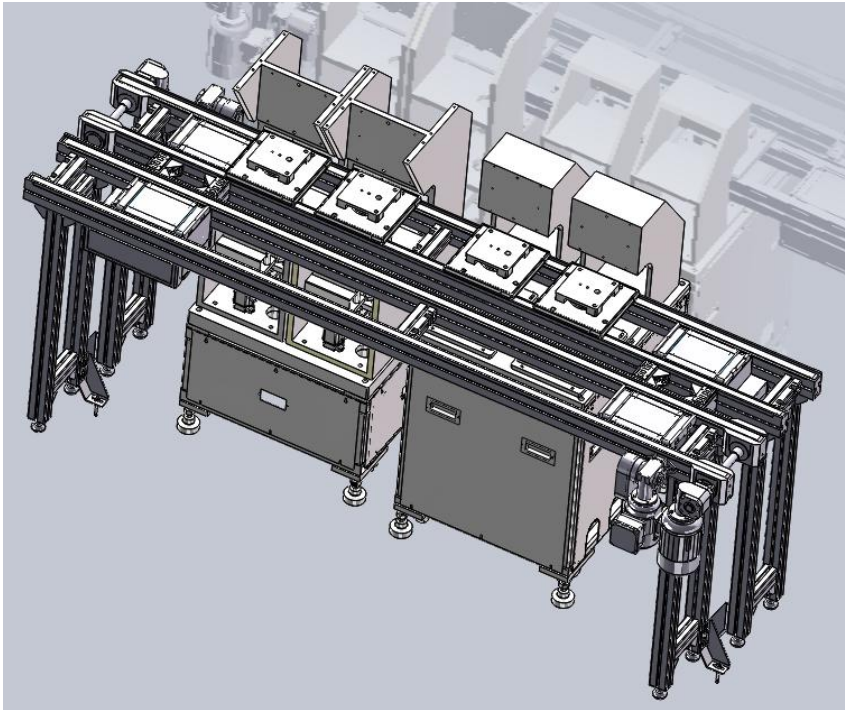
1. Entire line length of 40 meters
2. U-shaped layout
3. Fully automated production, ultimately used by the Mexican factory



Successful Case

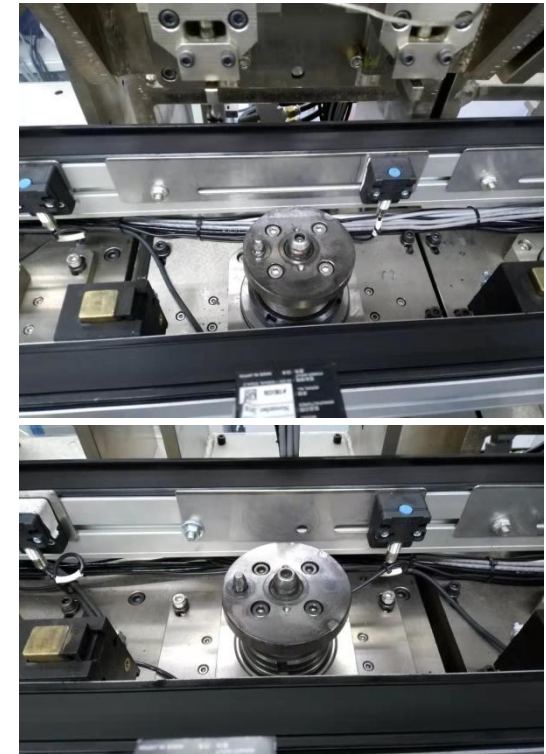
Motor Shell Testing

1. Circular reflow line
2. Achieves motor shell thrust and height testing
3. Lifting rotation allows for indexing positioning, with positioning accuracy up to $\pm 0.05^\circ$
4. Lifting rotation can simultaneously withstand 1-ton pressure



Successful Case Motor Shell Testing

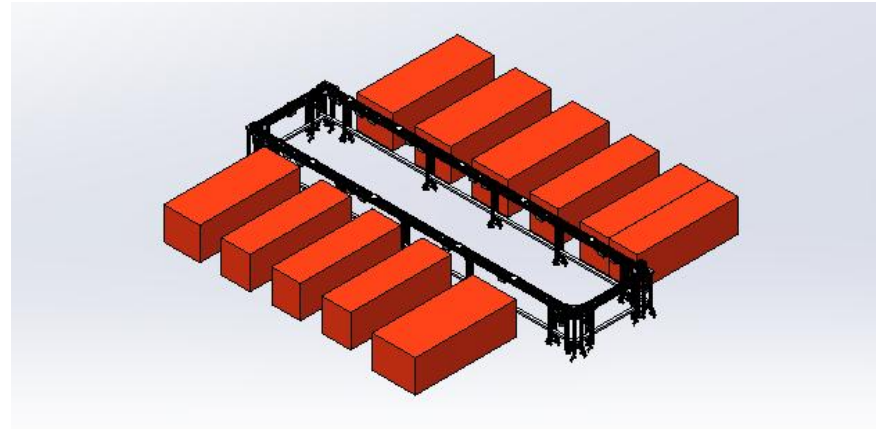
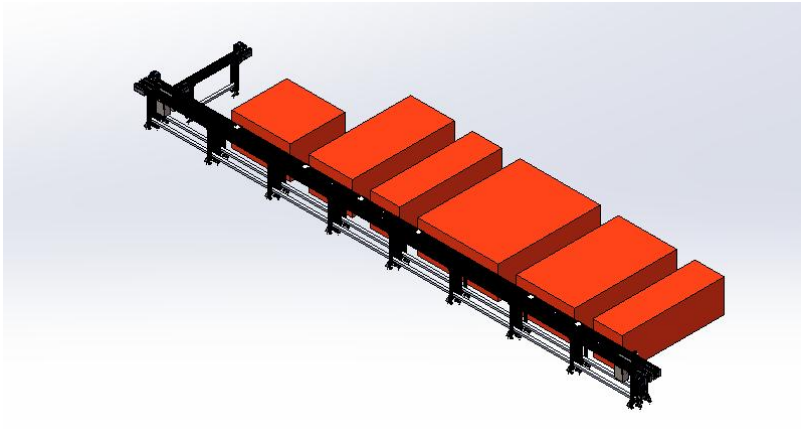
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Successful Case - Motor Assembly Conveyor Line

Motor Assembly Line

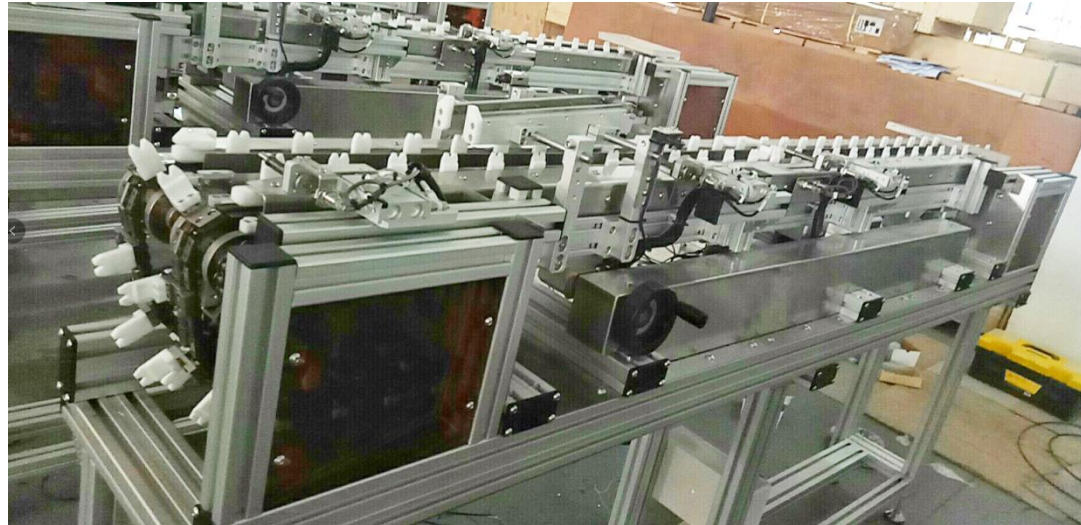
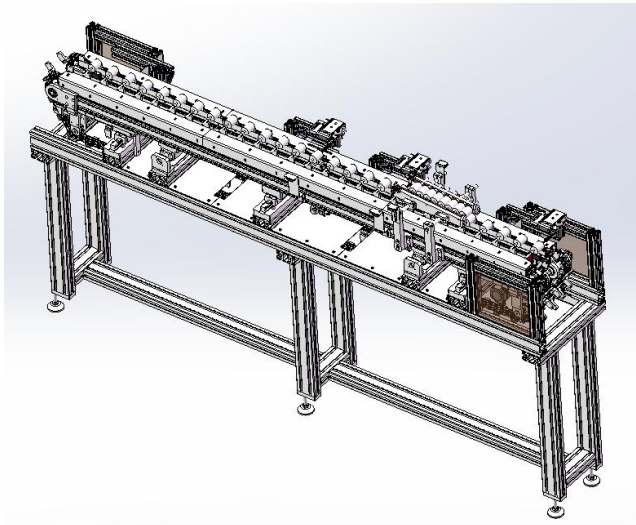
1. Entire line length of 50 meters
2. Uses circular layout
3. Fully automated production



Successful Case

Rotor Conveying

1. The fastest cycle time can reach 1.5 seconds
2. Positioning accuracy up to $\pm 0.015\text{mm}$
3. Adjustable width, suitable for conveying rotors of different sizes

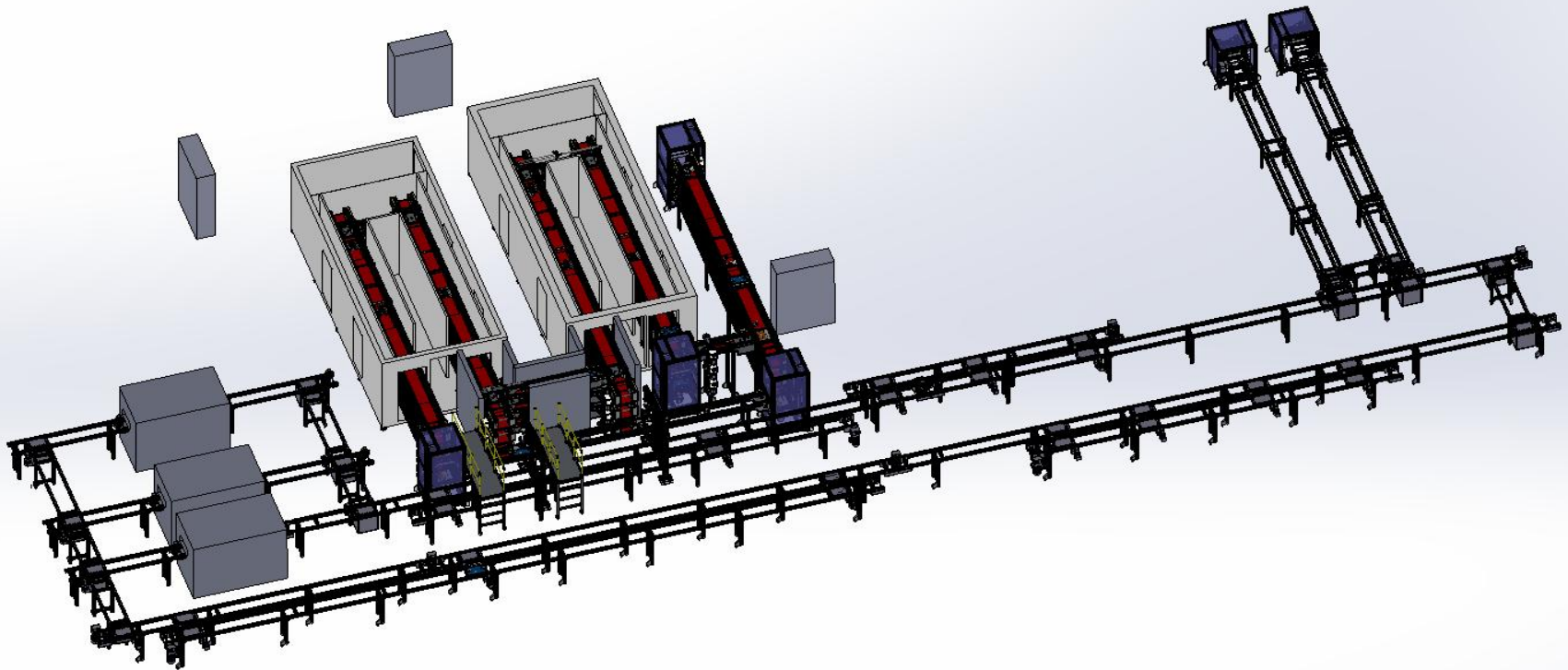


Motor Industry Case - High-Temperature Applications

Success Case - Automotive Motor Assembly

Automotive Motor Assembly

1. The process includes motor assembly, followed by adhesive application and transportation to a high-temperature furnace using a lift and automated loading/unloading robots.
2. The motor assembly uses synchronous belts and flat belt conveyor lines.
3. The temperature inside the furnace reaches 150° C, with a dwell time of 20 minutes.
4. The furnace conveyor uses a high-temperature double-speed chain conveyor.



Success Case - Automotive Motor Assembly

Automotive Motor Assembly

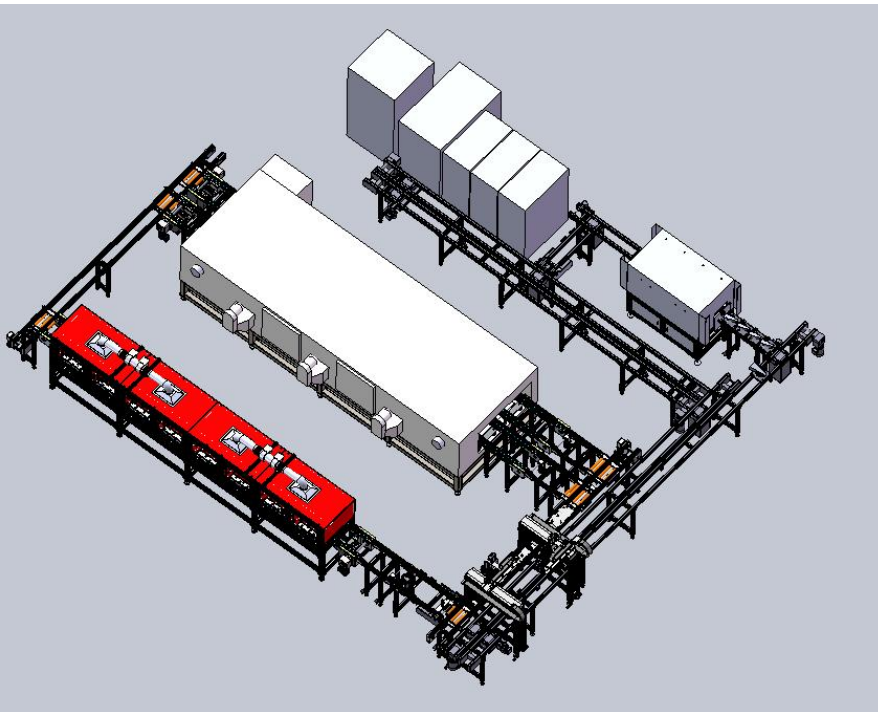
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Success Case - Automotive Motor Assembly

Automotive Motor Assembly

1. The full automation line includes processes such as soldering, vacuum glue dispensing, drying, and cooling, with a cycle time of 15 seconds per unit.
2. The online drying requires a temperature of $150 \pm 10^{\circ} \text{C}$, with an 8-minute dwell time.
3. The entire line uses a multi-layer conveyor system with lift structures. The assembly section uses a belt conveyor, while the high-temperature section employs a double-speed chain conveyor.

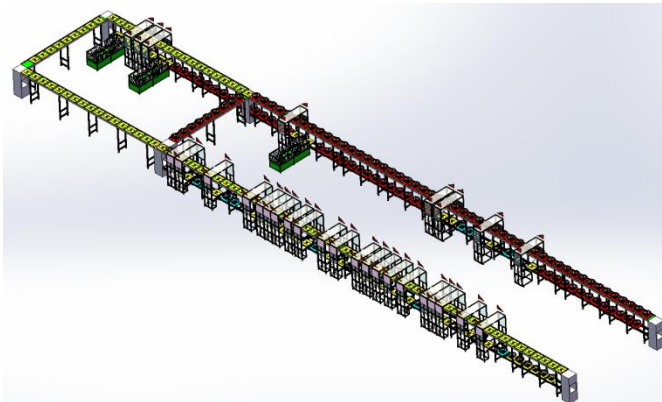


Automotive Industry Success Cases

Success Case - Automotive Audio

Automotive Audio

- 1.22 automatic workstations and 7 manual assembly workstations.
2. Uses a two-layer reflow mode with a U-shaped layout.
3. Production cycle time: 4 minutes.



Success Case - Automotive Shock Absorber Assembly

Automotive Shock Absorber Assembly

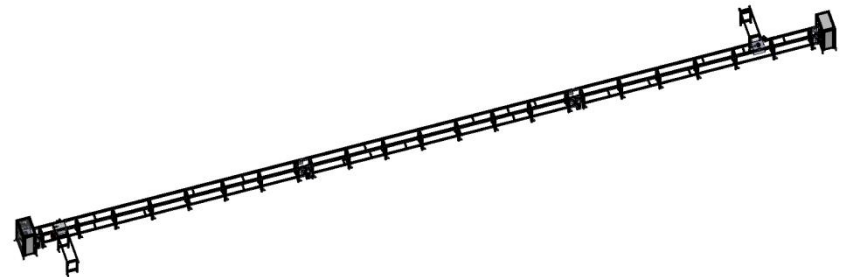
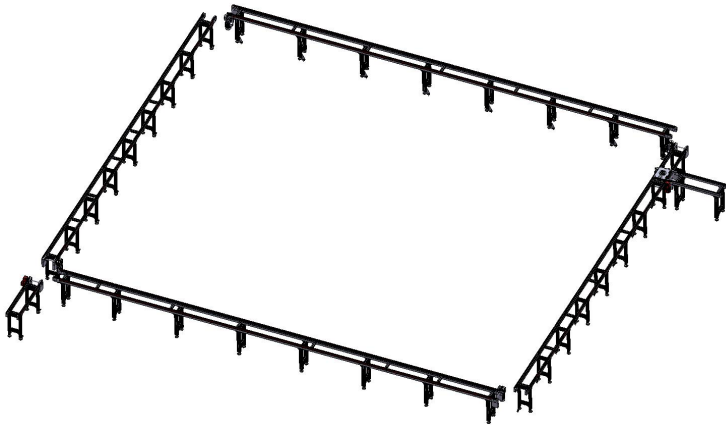
- 1.Total length of the line: 35 meters.
- 2.A total of 14 assembly workstations.
- 3.Single-layer design, compact footprint.



Success Case - Automotive Motor Assembly Line

Automotive Motor Assembly Line

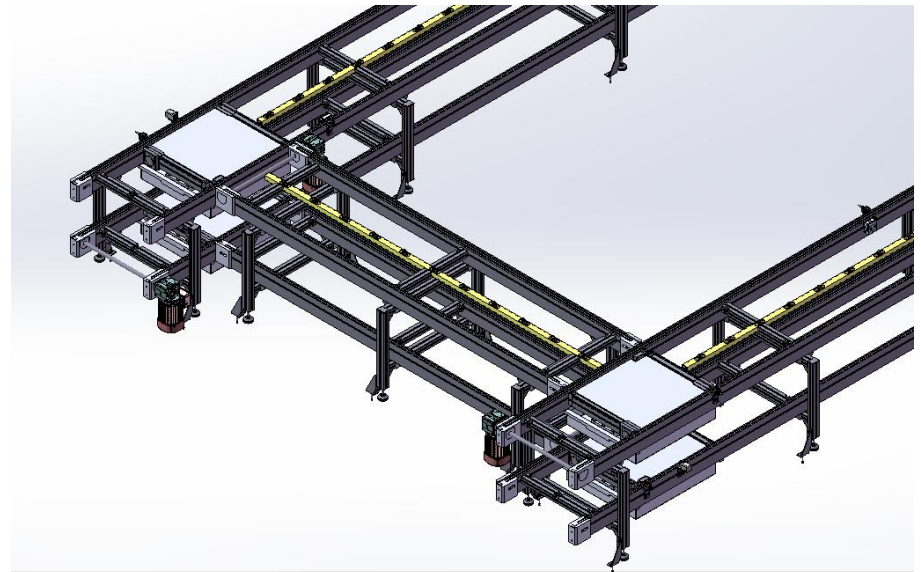
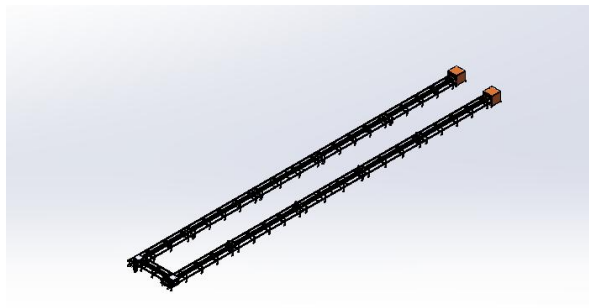
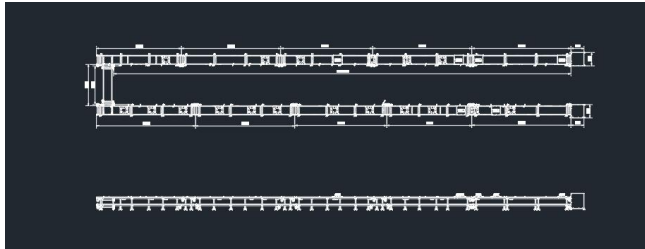
1. Single-speed chain conveyor, total length of the line: 50 meters.
2. Divided into two sections: circulating line and upper/lower layer conveyor lines.



Success Case - Automotive Electronics Assembly Line

Automotive Electronics Assembly Line

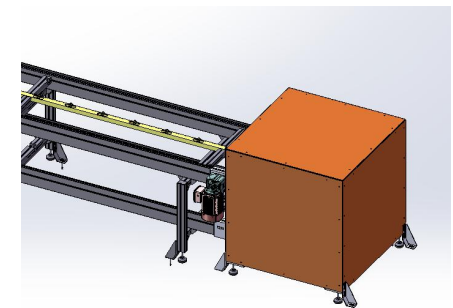
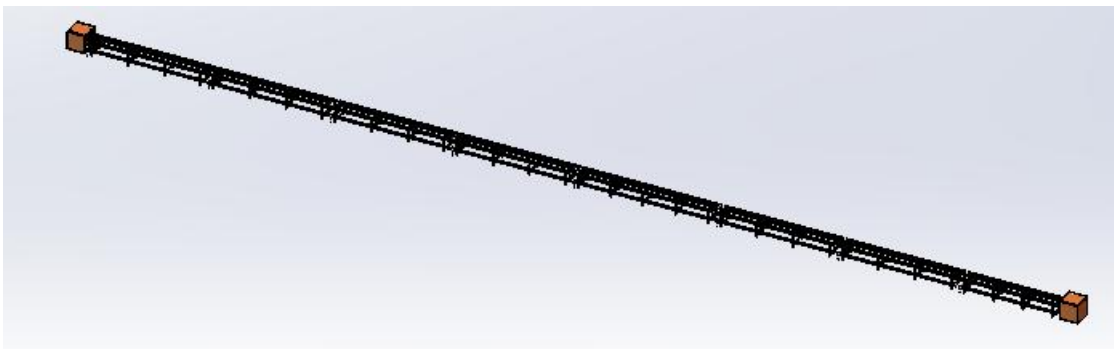
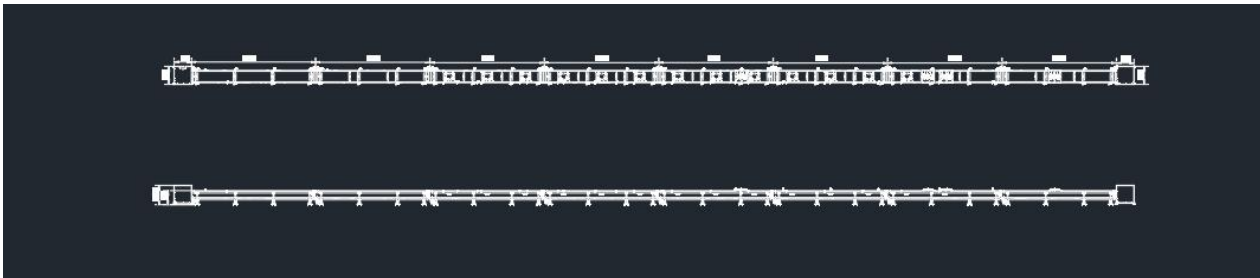
- 1.U-shaped top-mounted chain assembly line, total length of the line: 140 meters.
- 2.The line includes conductive rails.
- 3.Double-layer assembly reflow line.



Success Case - Automotive Electronics Testing Line

Automotive Electronics Testing Line

1. Automotive electronics double-layer top-mounted chain testing line, total length of the line: 50 meters.
2. Double-layer conveyor line with conductive rails on top.

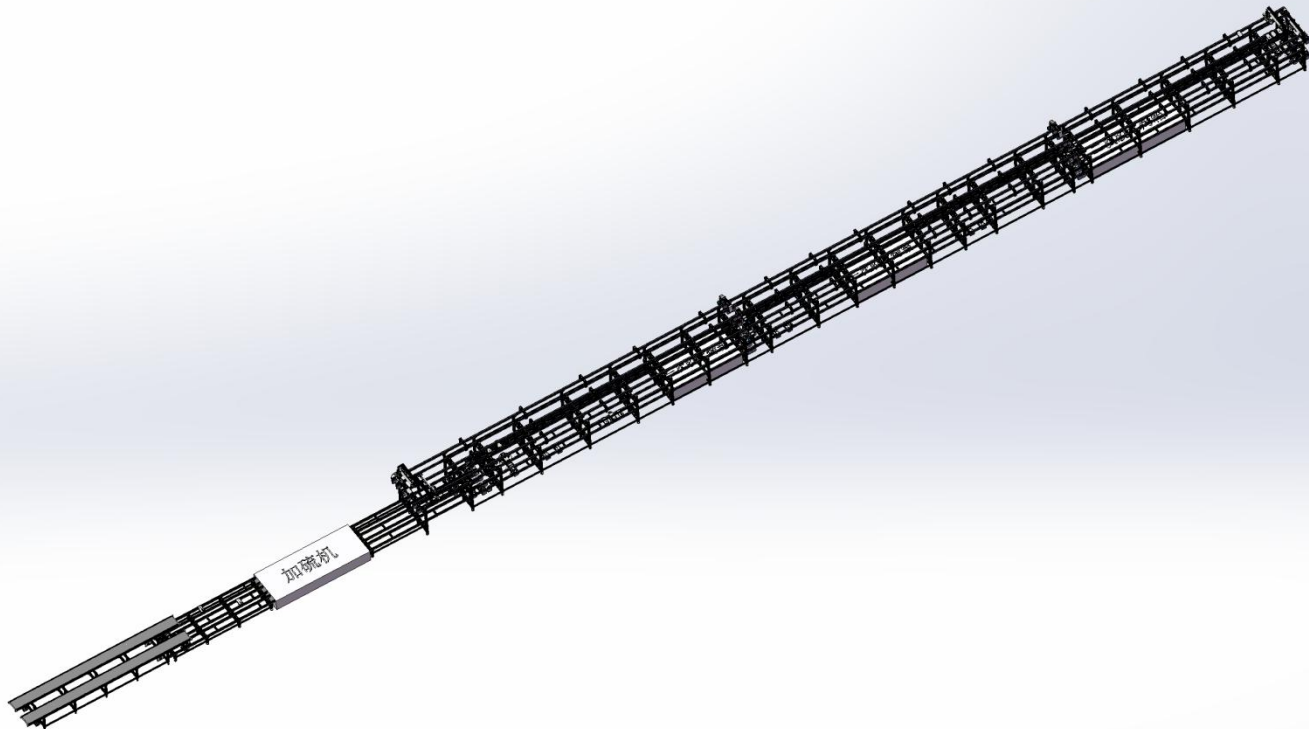


Case Study in the Footwear Industry

Successful Cases - Footwear Adhesive Application and Curing Logistics Line

Footwear Production Conveyor Line

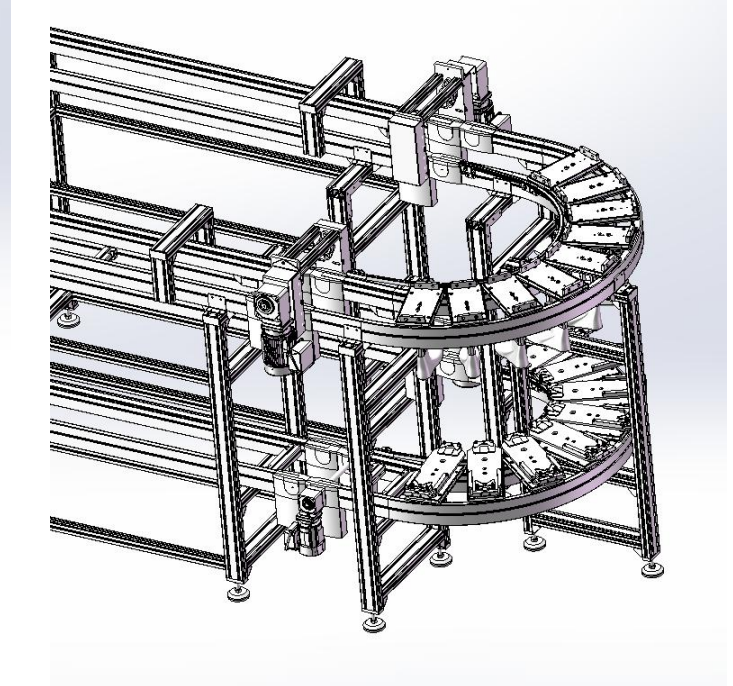
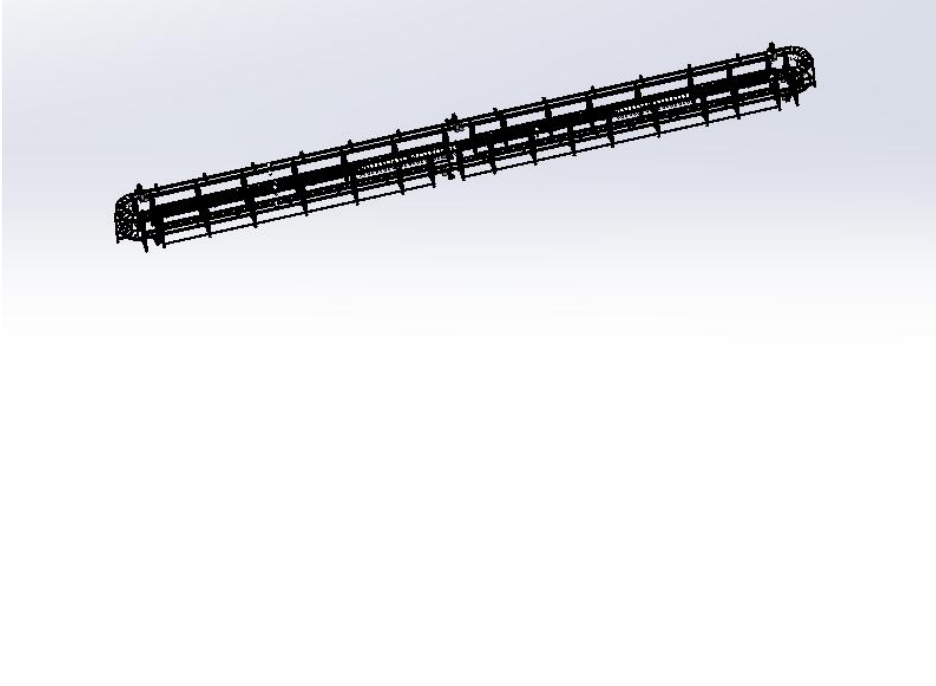
1. Dual-layer multiple chain conveyor line with a total length of 55 meters.
2. Upper layer: Customized non-standard multiple chain conveyor line for fully automated adhesive application and curing processes in shoe manufacturing.
3. Lower layer: Empty pallet buffer line.



Successful Cases - Footwear Adhesive Application and Curing Logistics Line

Footwear Production Conveyor Line

1. Dual-layer multiple chain conveyor line with a total length of 10 meters.
2. Upper layer: Customized non-standard multiple chain conveyor line for fully automated adhesive application and curing processes in shoe manufacturing.
3. Lower layer: Empty pallet buffer line.

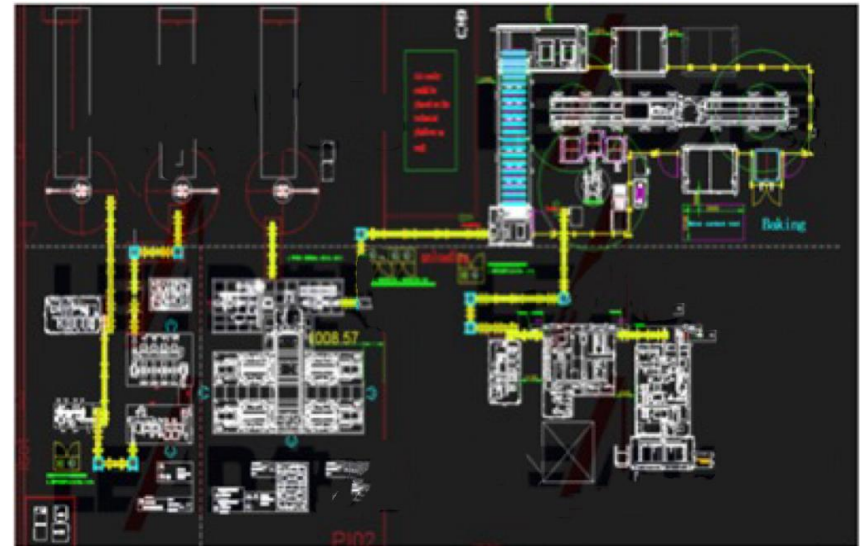
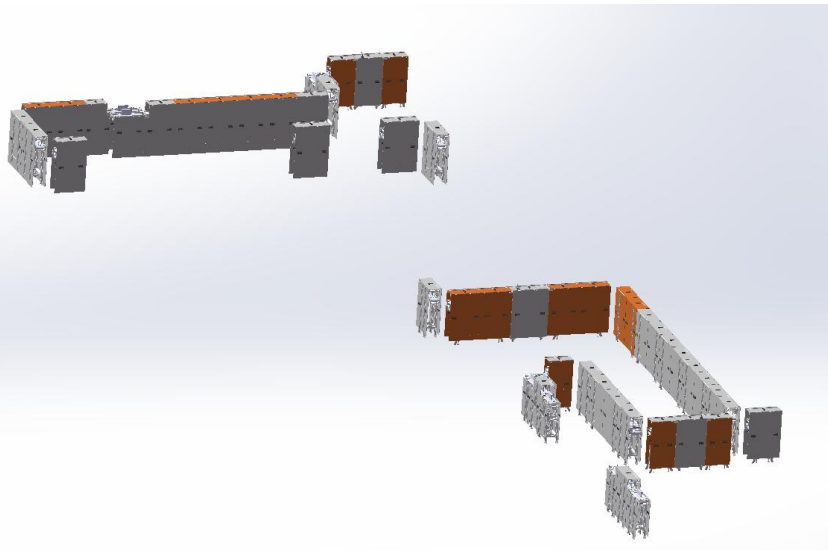


Introduction to International Case Studies

Successful Case - Roller Wall Conveyor Line

France SAFT Roller Wall Assembly Line

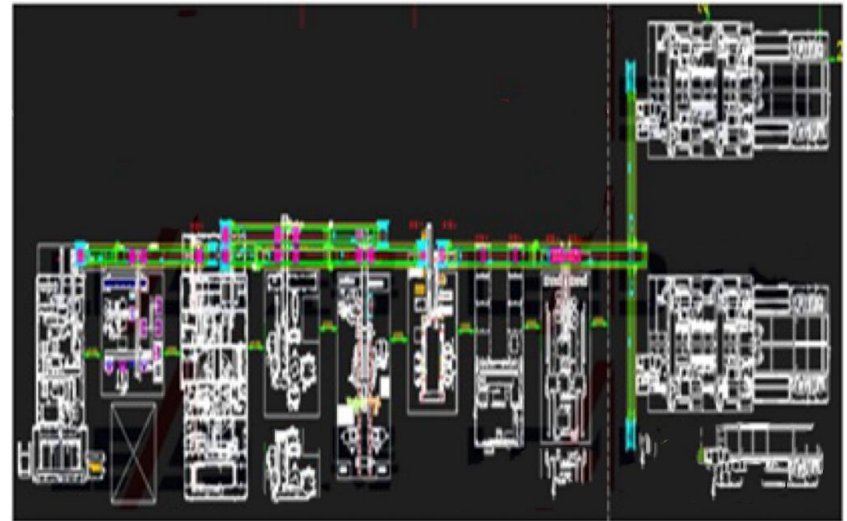
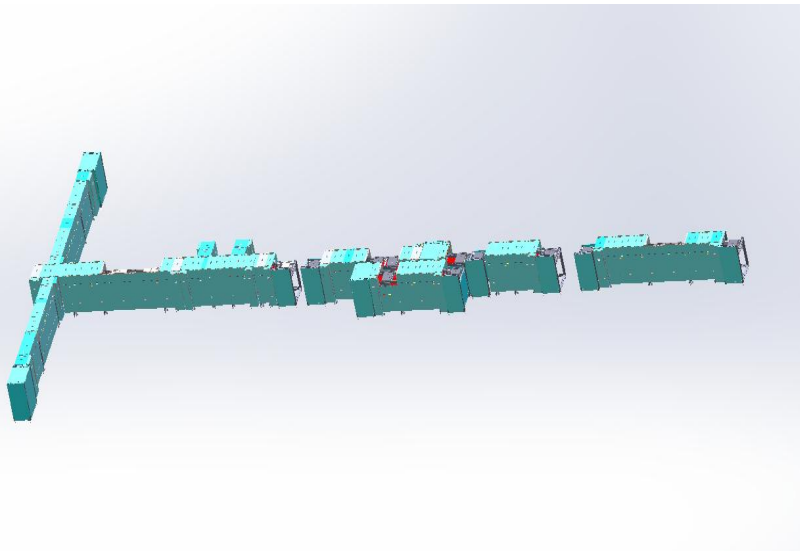
- 1.The entire line's hardware and accessories meet European CE certification standards.
- 2.Conveyor cycle time ≥ 7 PPM



Successful Case - Flat Belt Conveyor Line

France Pallet Assembly Line

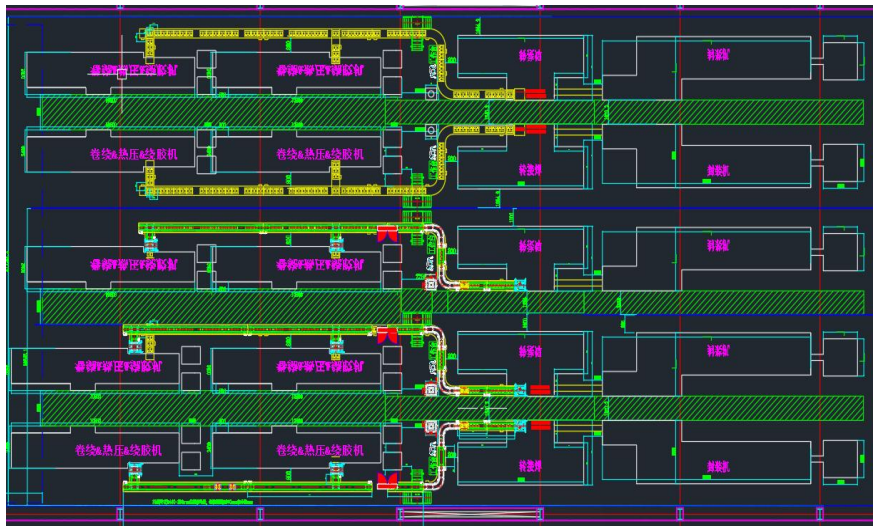
1. The entire line's hardware and accessories meet European CE certification standards.
2. Pre-welded cutting to soft connection welding machine cycle conveyor meets a conveyor cycle time ≥ 8 PPM, with a conveyor speed of 22 M/MIN.



Successful Case - Flat Belt Conveyor Line

Thailand Winding Section Assembly Line

- 1.Flat belt conveyor line, the entire line meets production rate of 45 PPM.
- 2.includes overseas installation, commissioning, and electrical wiring.
- 3.The entire line's hardware and materials meet export standards.

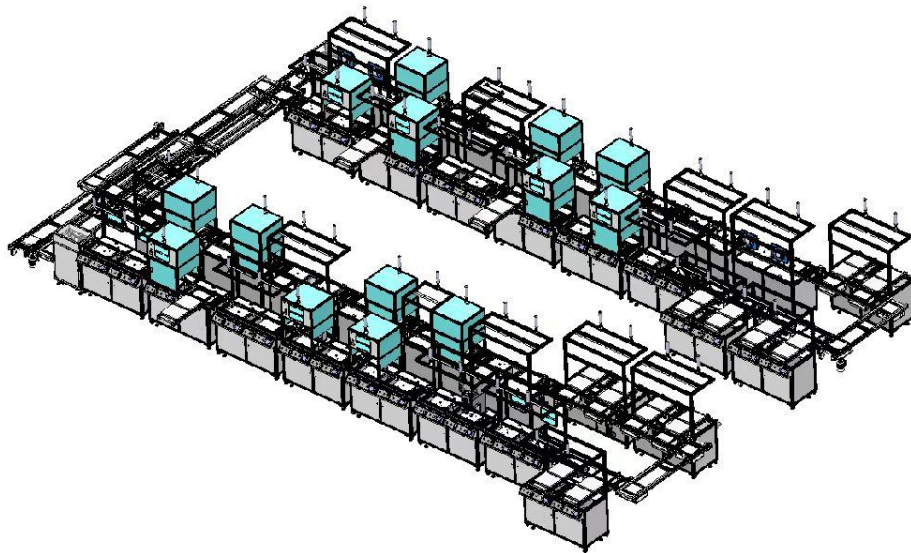


3C Industry Case Studies

Successful Case - Hair Dryer

Hair Dryer Assembly

1. The line uses a combination of synchronous belt and flat belt conveyors.
2. Total length is approximately 90 meters, with 34 workstations.



Successful Case - Robotic Vacuum Cleaner

Robotic Vacuum Cleaner Assembly

1. The line uses a combination of synchronous belt and flat belt conveyors.
2. Total length is approximately 70 meters, with 30 workstations.



Successful Case - Vacuum Cleaner

Vacuum Cleaner Assembly

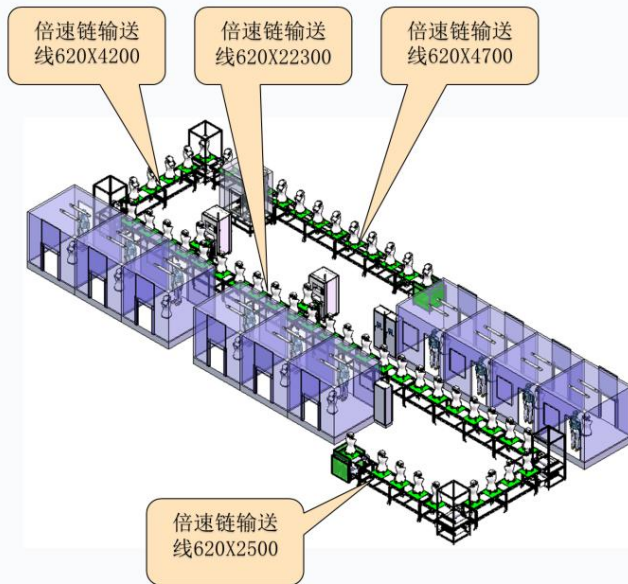
- 1.The line uses an annular belt conveyor design to achieve semi-automatic assembly.
- 2.The total line length is approximately 46 meters, with 21 workstations.



Successful Case - Service Robots

Service Robot Assembly

1. The line uses an 08B speed chain conveyor, divided into 10 sections: robot head assembly, left and right arm assembly, full machine assembly, aging test section, and packing section.
2. Total length is approximately 600 meters, with each robot assembly tray carrying approximately 90 kg.



Successful Case - Server

Server Assembly

1. The line uses a combination of belt and roller chain conveyors.
2. Suitable for the production of 6 server models: Dter 1U: 502/503/504/505; 2U: 506/507, etc.
3. The upper and lower layer design minimizes the footprint.

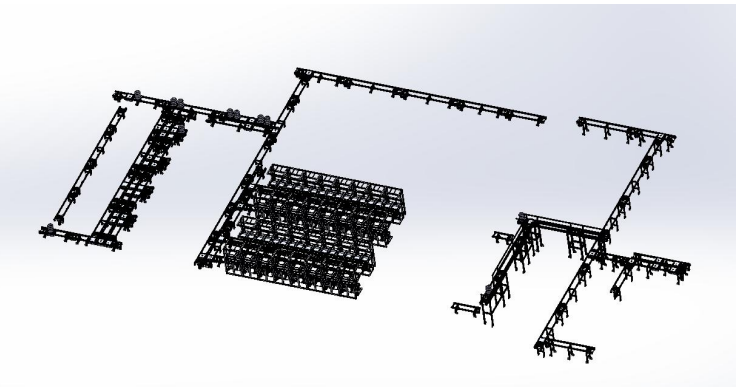
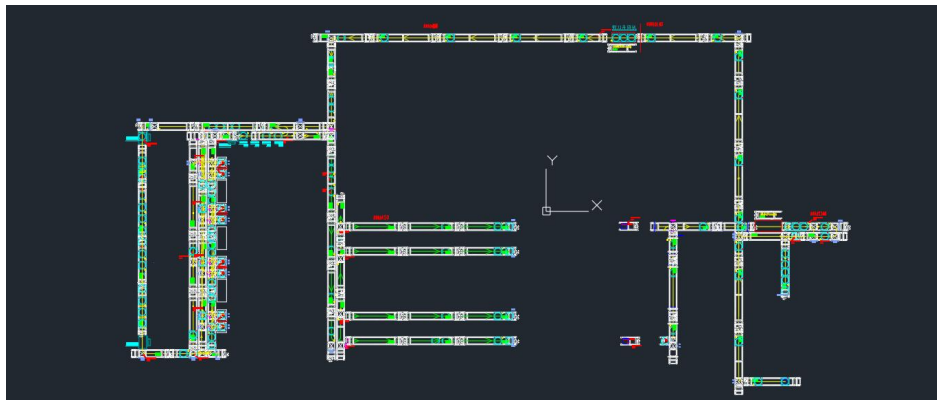


Success cases in the medical industry

Success Case - Decoction System

Automatic Decoction System Assembly

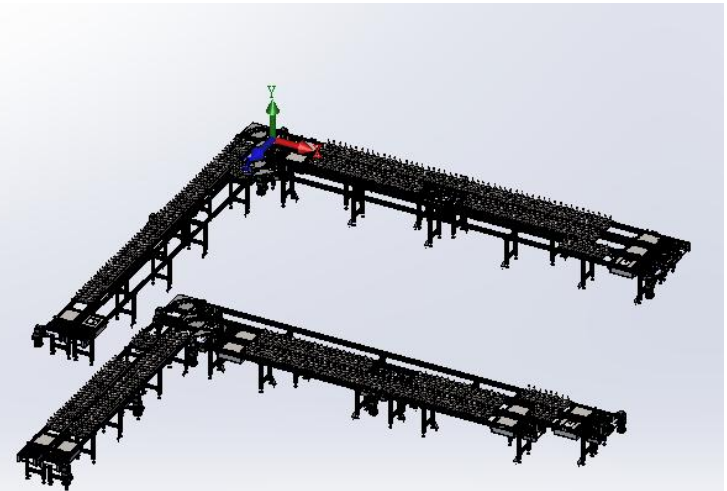
- 1.Flat Belt Conveyor Line: The total length of the line is 200 meters.
- 2.Process Areas: The system is divided into a fully automated medication dispensing and decoction area, and a dirty/empty barrel return area.



Success Case - Barrel Blank (Water Barrel Blank) Conveying Logistics Line

Barrel Blank Conveying Logistics Line

1. Single-Layer Circulating Flat Belt Conveyor Line: The total length of the line is 80 meters.
2. Customized Conveying System: The conveyor line is equipped with a customized lifting and positioning mechanism for lateral movement.



Thank you

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