

CHENG  
DU



全力以赴 全域突破

Project Name:  
Automatic Forming Tube  
Lifting Device

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## Background

Change forming tube during changeover is a safety high risk task and 20% touch effort during RCO.

**1) Forming tube is very heavy:** The JY line, there are 4 types of forming tubes, with weights ranging from 50 to 90 kg. When replacing them, two people are required to collaborate on lifting and installation, which poses significant safety risks during operation.

**2) Production model in CD:** 80% of the SKUs are PTO, and there is daily production involving the replacement of forming tubes, sometimes requiring multiple changes in a single day.

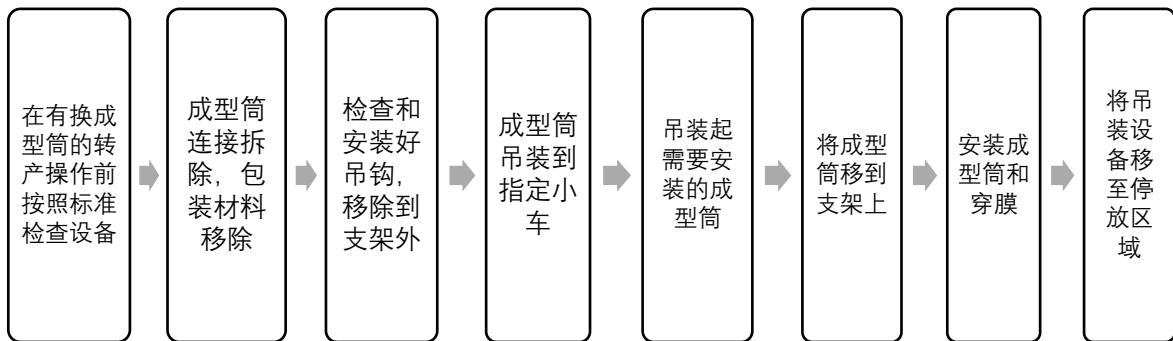
**3) Effort conflict:** 1 operator for 3 lines production, task sometimes conflicts, which increase the waiting time PRloss.

## What was done?

Researching feasibility of Automatic Forming Tube Lifting Device

- Mimicking the operational process of changing forming tubes to identify key control points for equipment improvements.
- Testing the feasibility of installing lifting equipment within the existing layout of the production line.
- Improving the sliding rails and lifting systems of packaging equipment.
- Creating Standard Work Procedures (SWP) for personnel operations and training all staff.
- Establishing a regular safety inspection process for the lifting equipment

## How it works?



## Before vs. After



Current Risk			
S	L	F	Risk
B	3	-1	B2

Final Risk			
S	L	F	Risk
E	4	-1	E3



200 #/year  
Touch#



400 min/year  
Touch Effort



High -B2-Low  
Safety risk