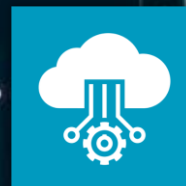


# IML Project

2025V1



# 1、Background



SMART  
SOLUTIONS



## Haitian Worldwide



Management Headquarter



Regional Headquarter



Manufacturing Center

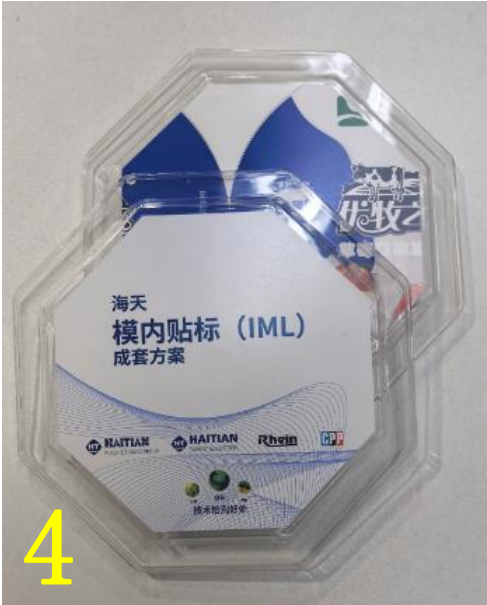


Application Experience Center

# 1、Background



# 2、IML product-cover



SMART  
SOLUTION  
S



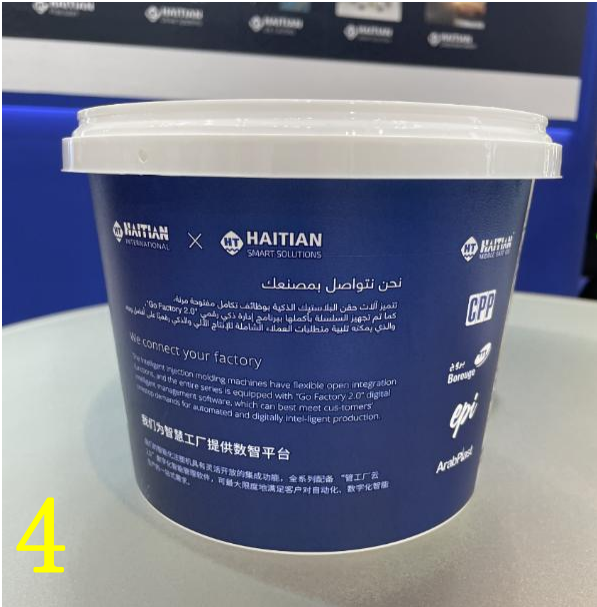
# 2、 IML product-cup



SMART  
SOLUTION  
S



# 2、 IML product-bucket



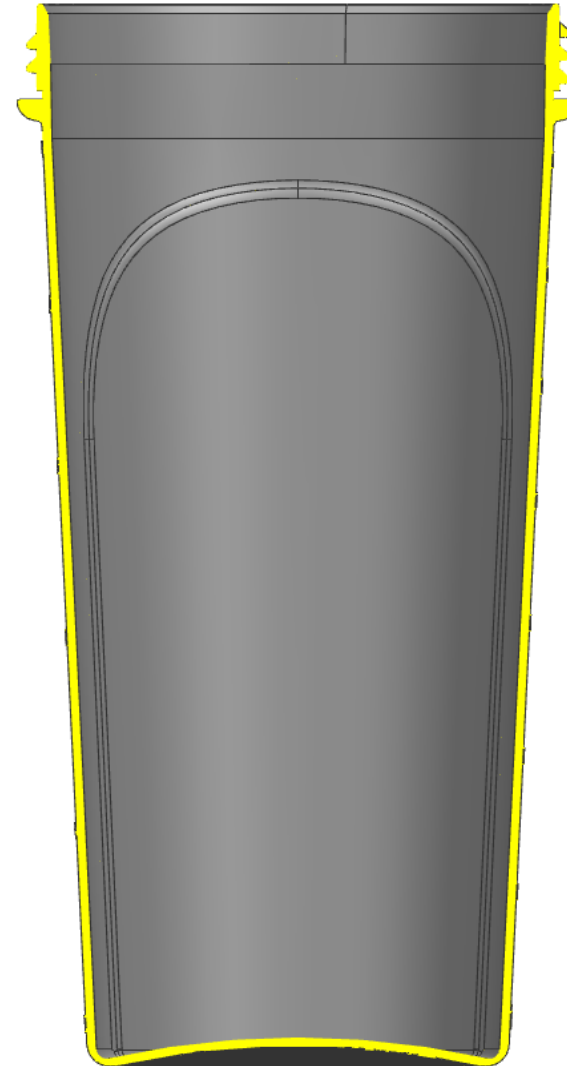
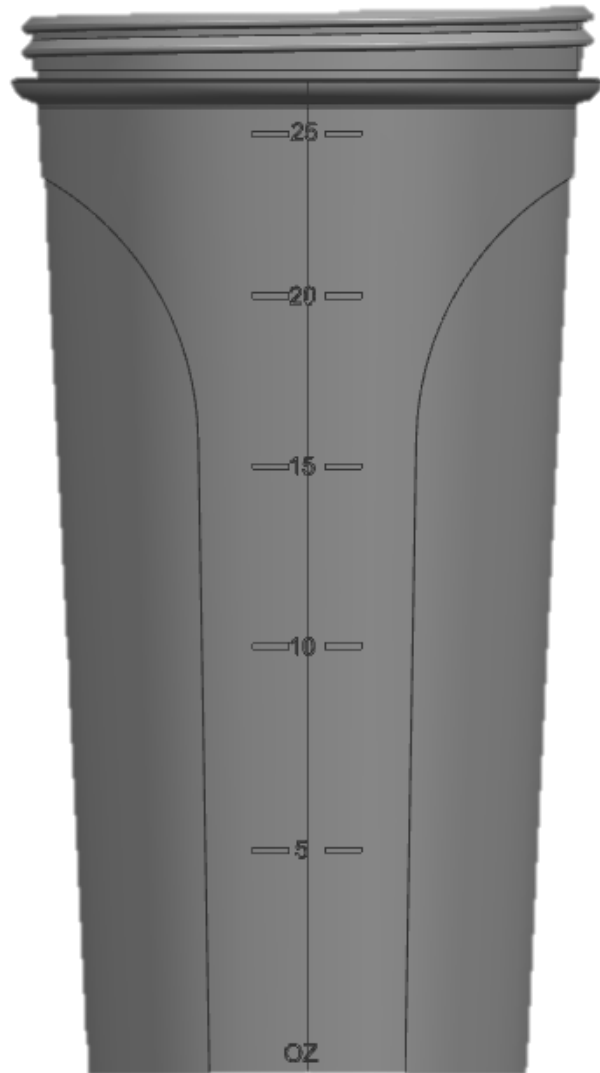
# 4、 IML product-container



SMART  
SOLUTION  
S



### 3、 How to determine whether it can be labeled-Drawing of mold

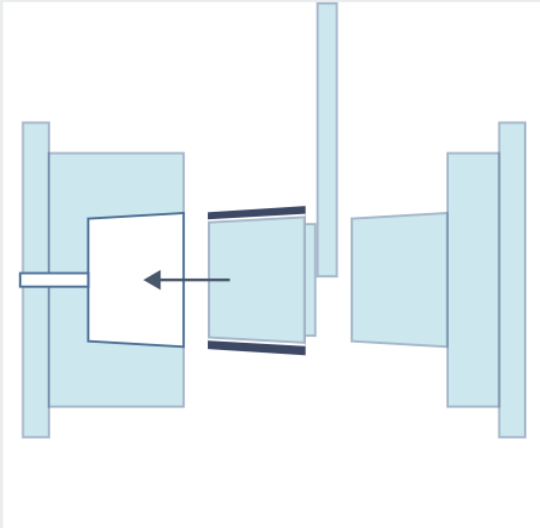


To be labeled or not?

### 3、How to determine whether it can be labeled-Technology

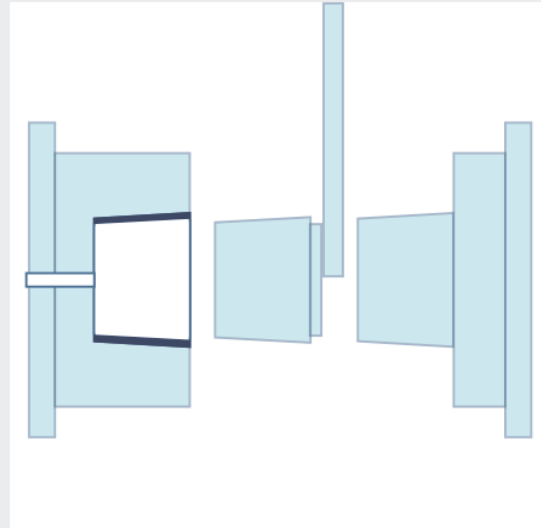


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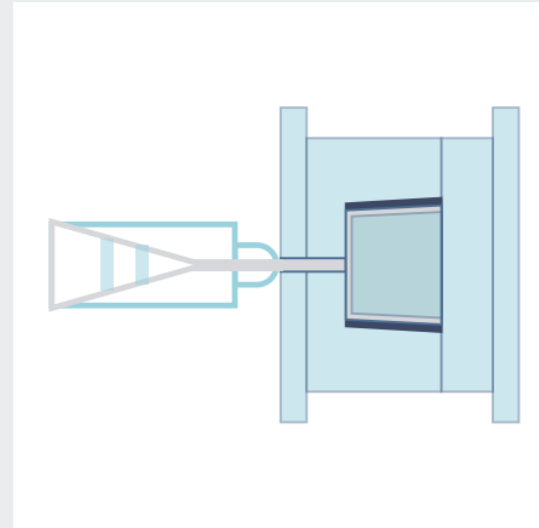
标签纸装在治具上

Wreathe the label



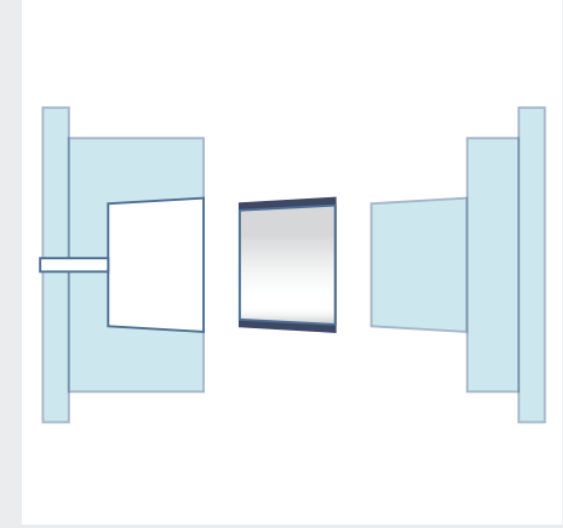
标签纸装入模腔

Labeling and electrostatic discharge



注射成型

Injection

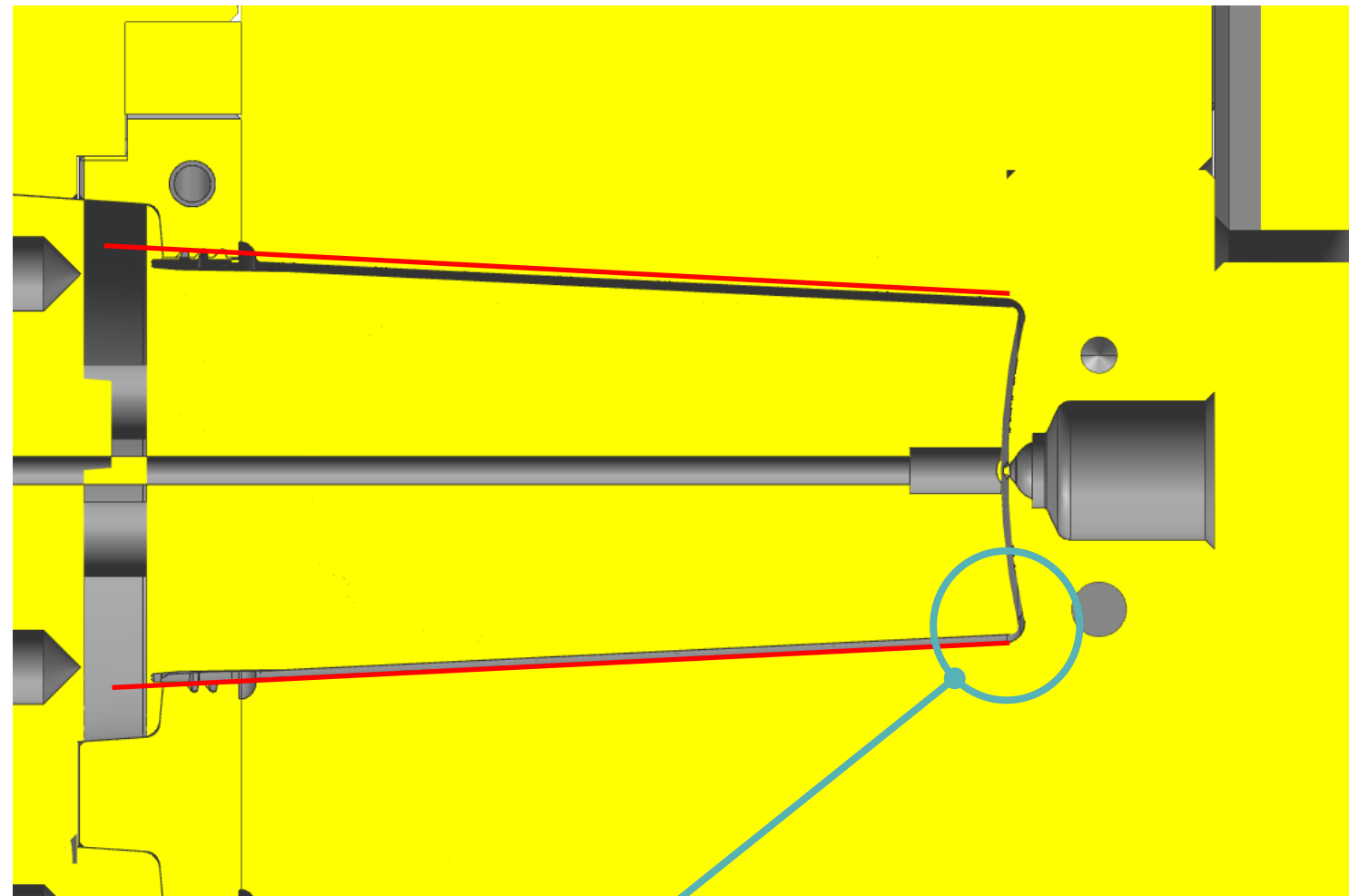
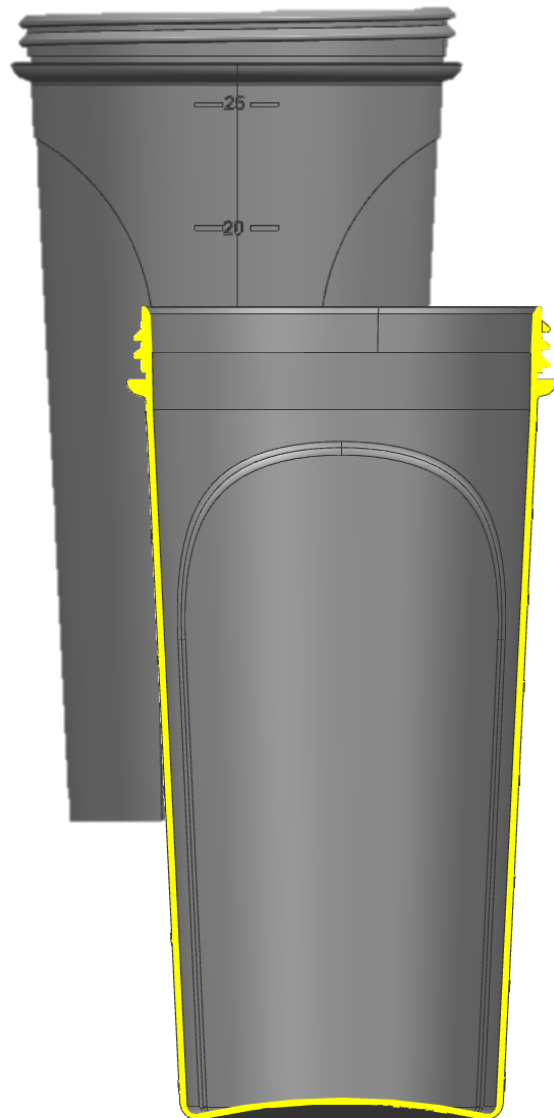


贴标成品

Labeled product

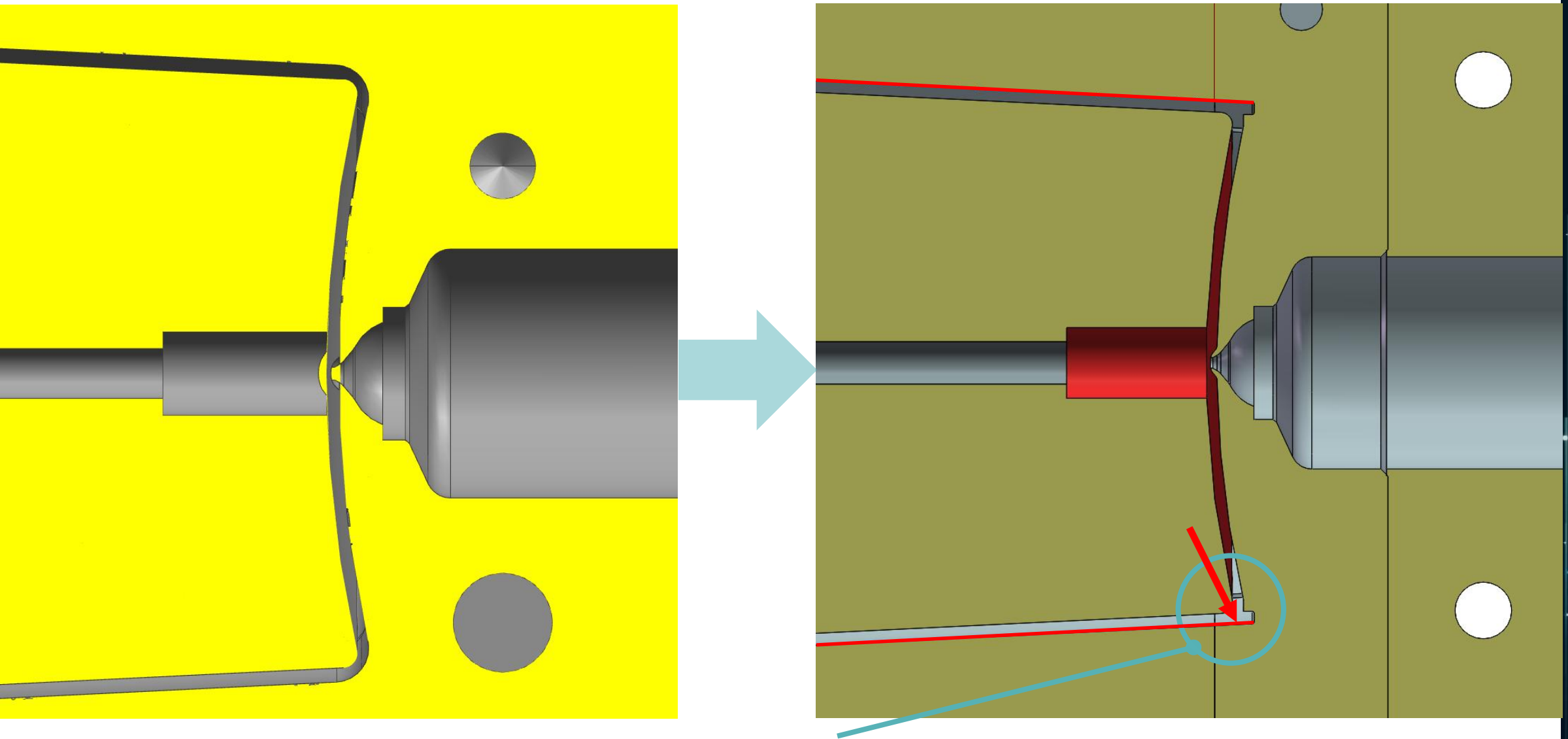


### 3、 How to determine whether it can be labeled-Analyze



Can't be labeled

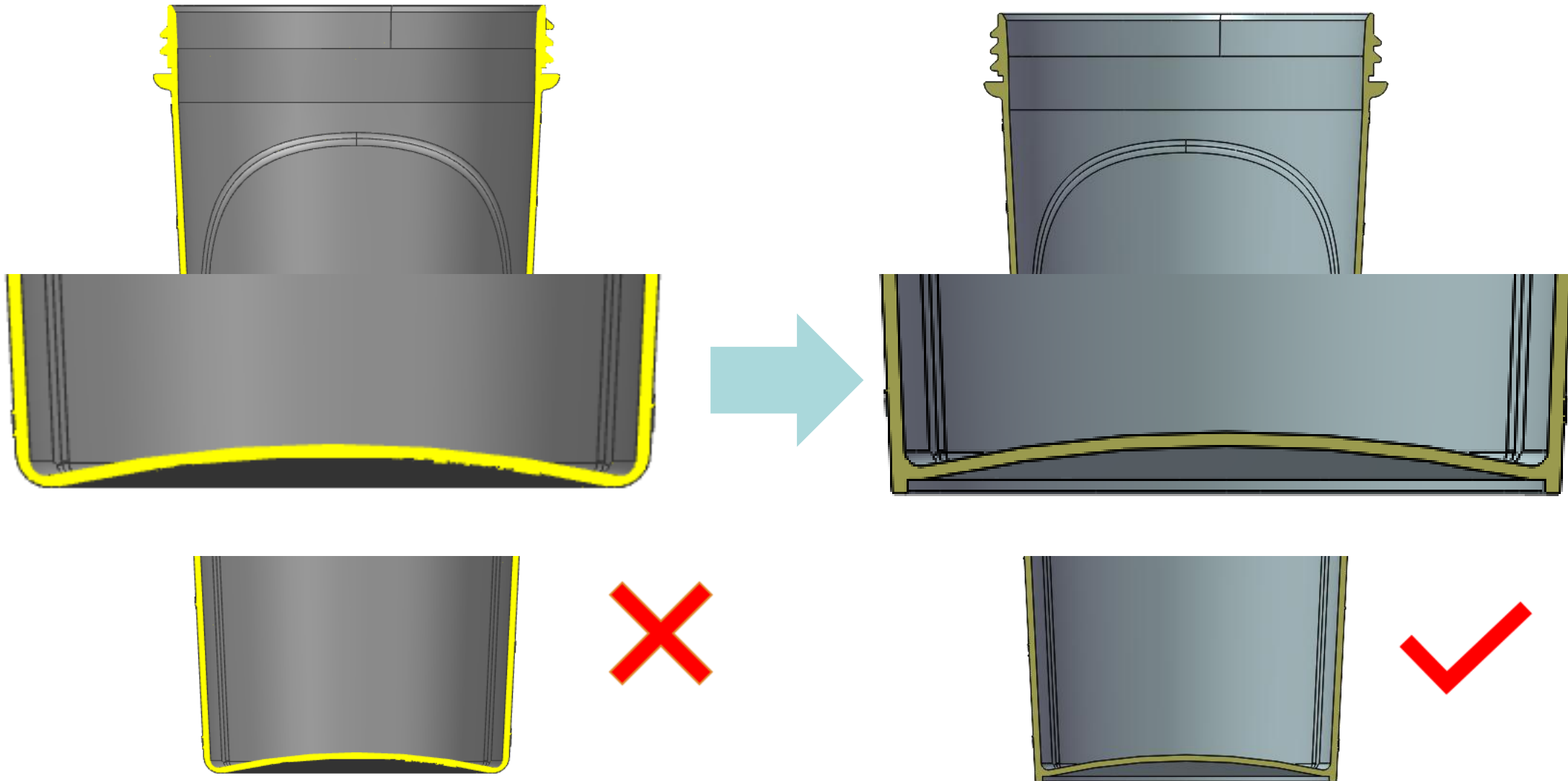
### 3、 How to determine whether it can be labeled- Analyze



The arc R angle is changed into right angle; the label can be fixed after injecting immediately

### 3、 How to determine whether it can be labeled-

#### Conclusion



### 3、 How to determine whether it can be labeled-Final product



## 4、Case study-cover

### IML robot for 04 cavities of cover

(suitable 2/4/6/8 cavities ; cover for ice cream/ cover for yogurt)

#### SG-1600/1900-lid

**150~  
260t**

Suitable: IMM

**0.8s**  
(4穴)

Max. pickup in mold

**2.8s**  
(4穴)

Complete cycle time

Included : conveyor belt/ electrostatic device  
/gripper/ parts



Side Entry lid



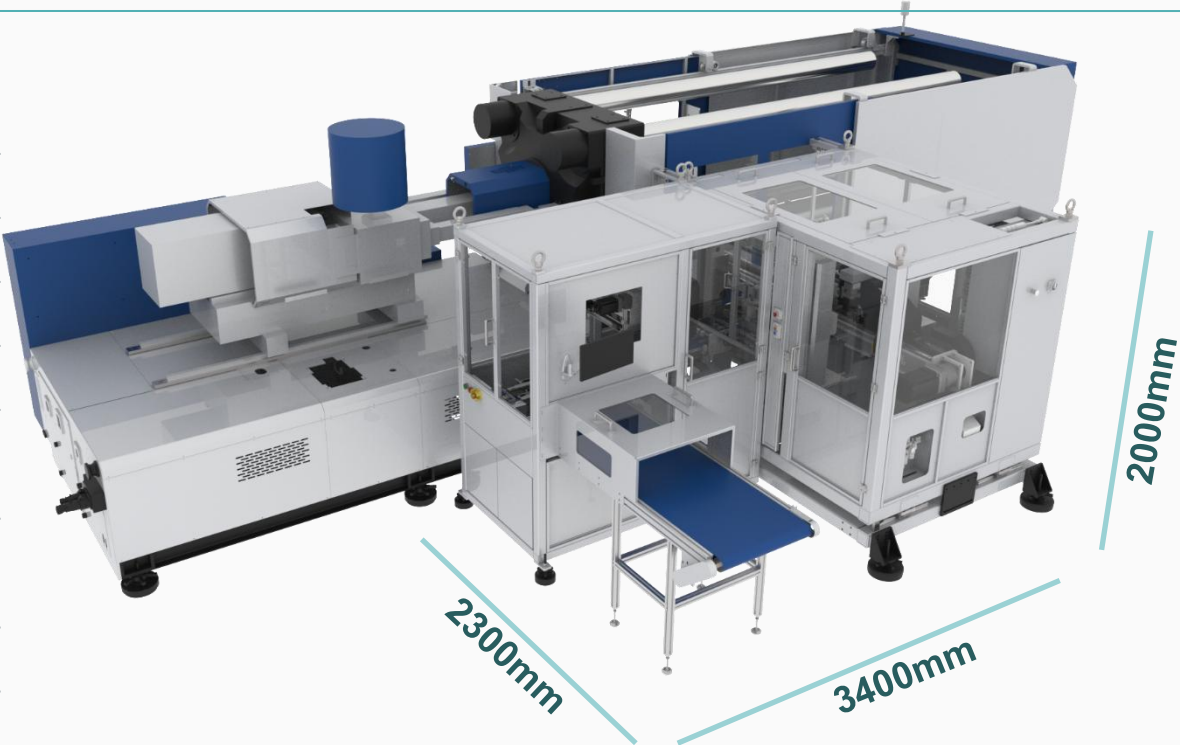
SMART  
SOLUTION  
S



# 4、 Case study-cover

## Included :

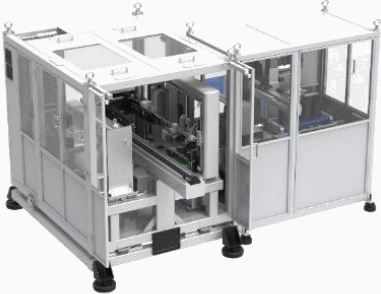
|                            |                                                                    |
|----------------------------|--------------------------------------------------------------------|
| Controller                 | 12 inch                                                            |
| Weight                     | 2500Kg                                                             |
| Size                       | 3200L*2100W*2450H                                                  |
| Conveyor belt              | 3000L*600W*800H                                                    |
| Time interval to put label | > 2h                                                               |
| Method                     | Pickup position: fixed platen<br>Labeling position: movable platen |
| Extra                      |                                                                    |



### Option : Automatic packing



### Option : Visual inspection



### Option : Automatic dust removal/ electrostatic removal



Side Entry lid



SMART  
SOLUTION  
S



## 4、Case study-cover



241220A-SG-1900-LV

|                |                                                                    |
|----------------|--------------------------------------------------------------------|
| IMM            | ZE230T                                                             |
| Product        | PP/4g                                                              |
| Cavity         | 4 cavities                                                         |
| Pickup in mold | 0.82s                                                              |
| Cycle time     | 2.68s                                                              |
| Method         | Pickup position: fixed platen<br>Labeling position: movable platen |
| Extra          | Automatic stacking                                                 |



241034A-SG-2200-LV-

|                |                                                                    |
|----------------|--------------------------------------------------------------------|
| IMM            | MA2100VF/580                                                       |
| Product        | PP/4g                                                              |
| Cavity         | 4 cavities                                                         |
| Pickup in mold | 0.61s                                                              |
| Cycle time     | 2.72s                                                              |
| Method         | Pickup position: fixed platen<br>Labeling position: movable platen |
| Extra          | Automatic packing                                                  |



230204A-SG-1900-LV

|                |                                                                    |
|----------------|--------------------------------------------------------------------|
| IMM            | ZE150III                                                           |
| Product        | PP/6.92g                                                           |
| Cavity         | 2 cavities                                                         |
| Pickup in mold | 0.84s                                                              |
| Cycle time     | 3.58s                                                              |
| Method         | Pickup position: fixed platen<br>Labeling position: movable platen |
| Extra          | Visual inspection、<br>Automatic stacking                           |

Side Entry lid



SMART  
SOLUTION  
S



## 4、 Case study-cover



## 4、Case study-competitor

### PAGES



Cycle time : 4.43s

### HT



Cycle time : 3.81s



SMART  
SOLUTION  
S



## 4、 Case study-cup

### IML robot for 12 cavities of cup 700ml

(suitable 4/6/8 cavities ; to cover for 300-700ml cup/thin-wall)

**SG-1600/1900/2200-cup**

**150~  
550t**

Suitable: IMM

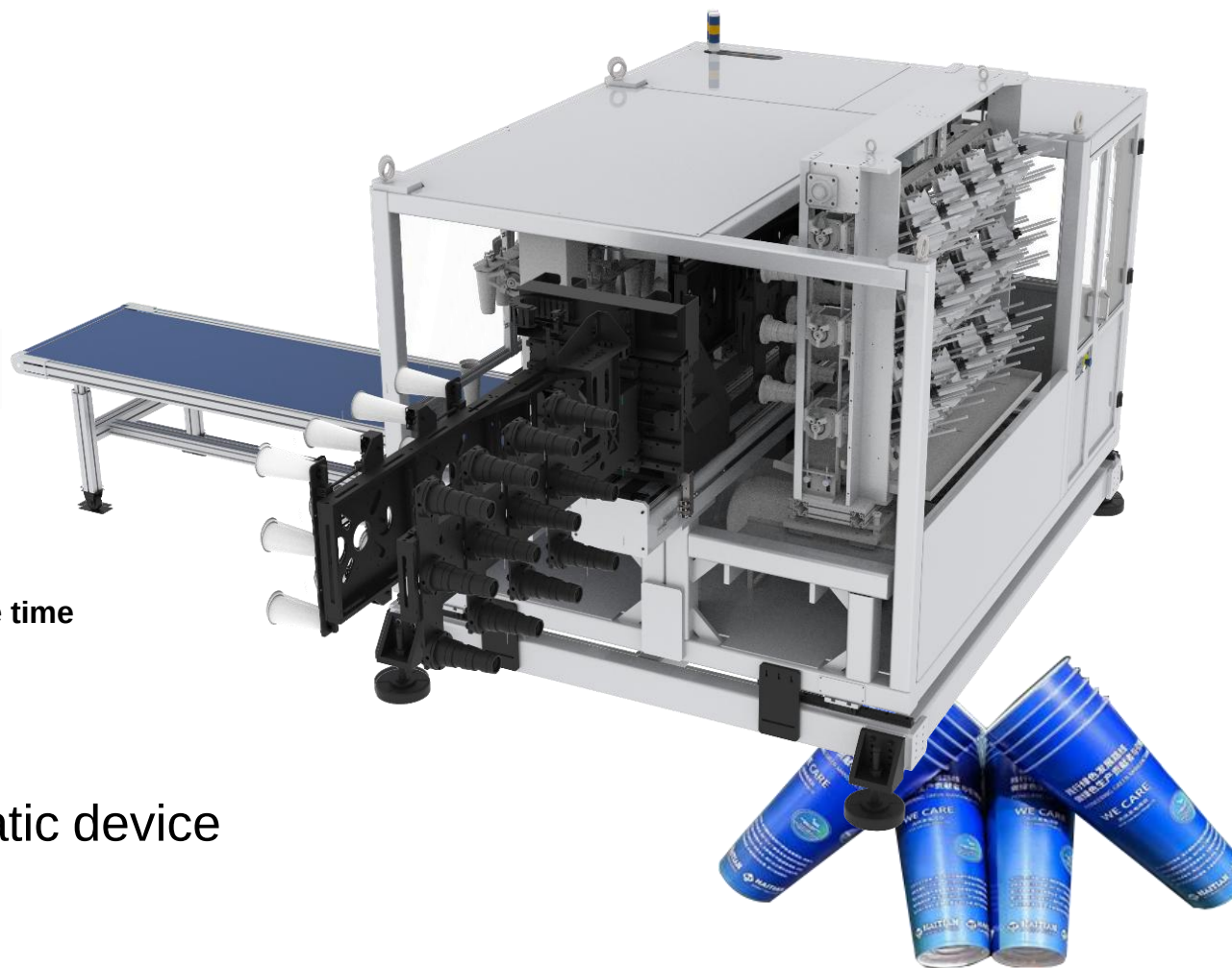
**1.97s**  
(12穴)

Max. pickup in mold

**8.5s**  
(12穴)

Complete cycle time

Included : conveyor belt/ electrostatic device  
/gripper/ parts



Side Entry **cup**



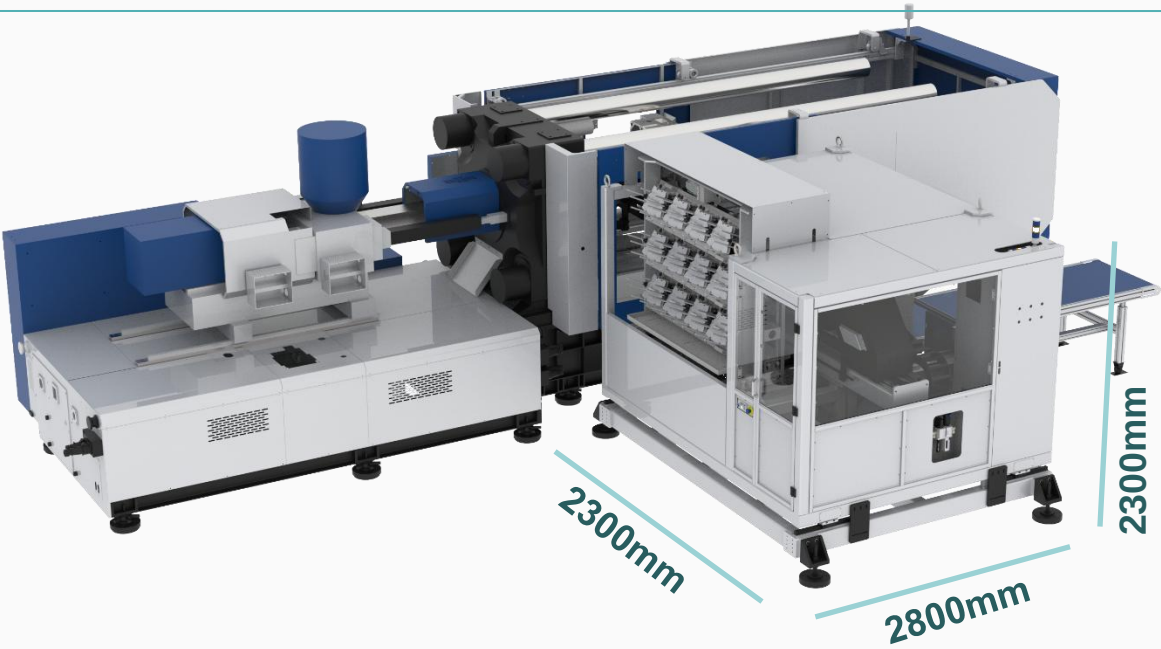
SMART  
SOLUTION  
S



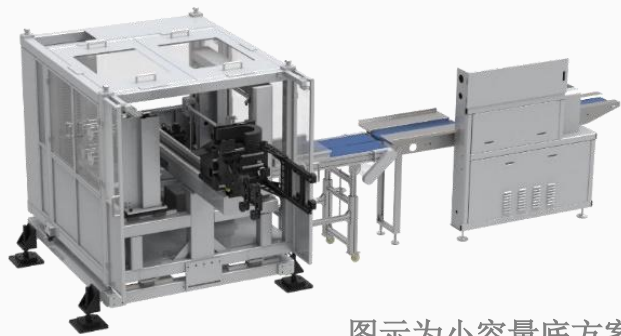
# 4、 Case study-cup

## Included :

|                            |                                                                    |
|----------------------------|--------------------------------------------------------------------|
| Controller                 | 12 inch                                                            |
| Weight                     | 2600Kg                                                             |
| Size                       | 3300L*3000W*2450H                                                  |
| Conveyor belt              | 3000L*800H*600W                                                    |
| Time interval to put label | > 2h                                                               |
| Method                     | Pickup position: movable platen<br>Labeling position: fixed platen |
| Extra                      |                                                                    |



## Option : Automatic packing



图示为小容量底方案

## Option : Visual inspection



## Option : Automatic dust removal



Side Entry cup



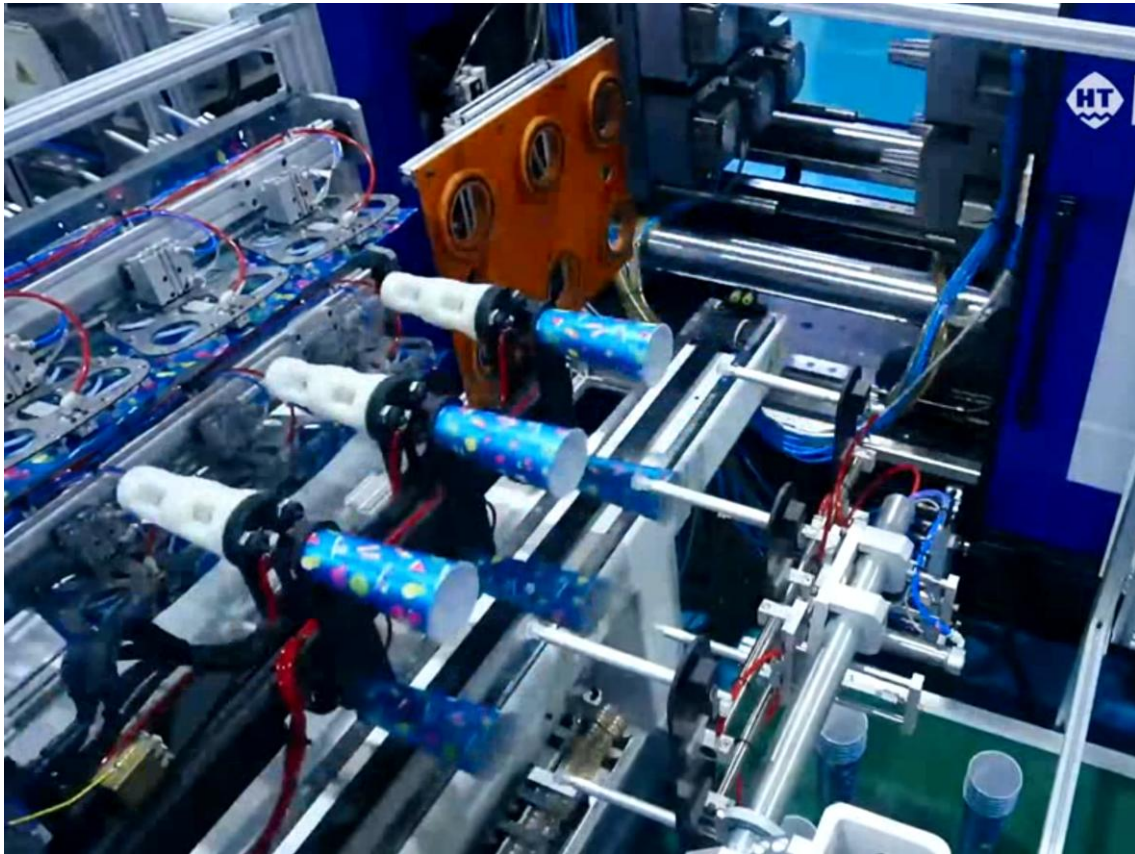
SMART  
SOLUTION  
S



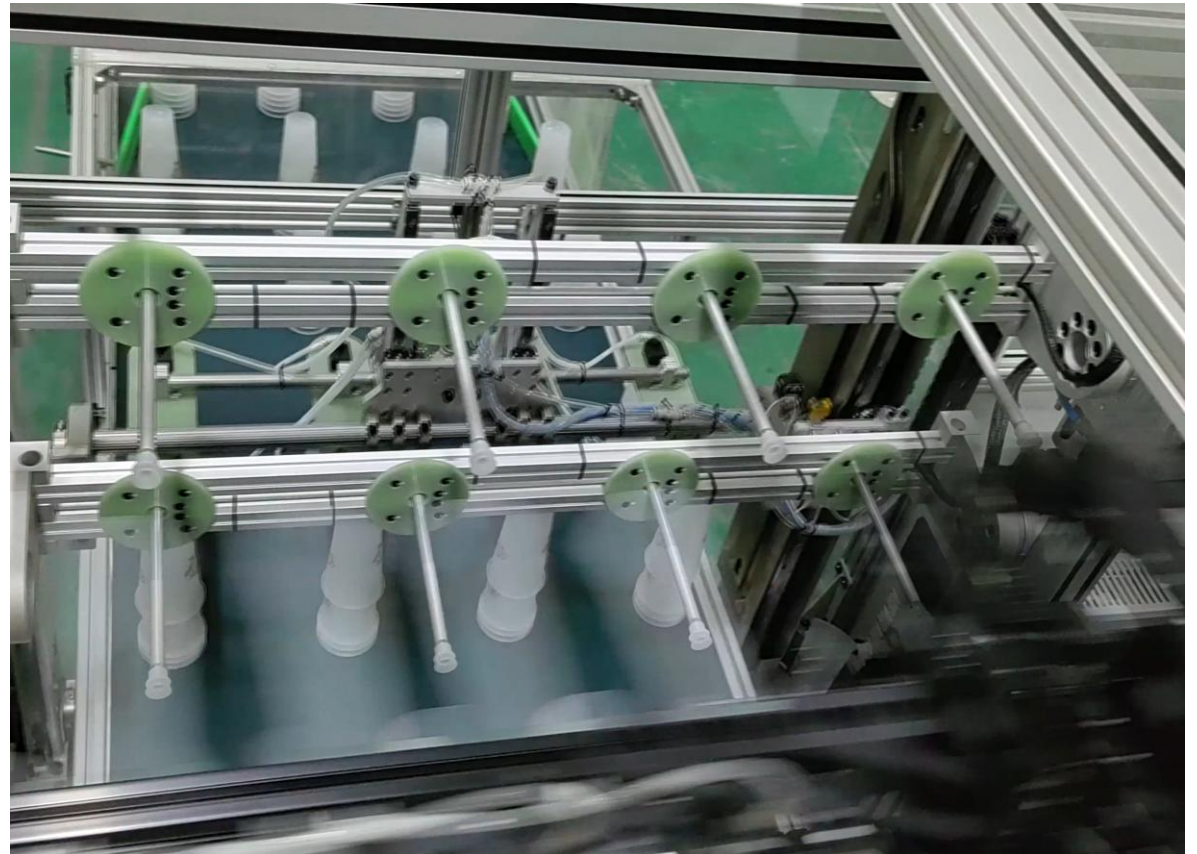
## 4、 Case study-cup



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SOLUTION  
S



Standard (Cup Mouth up)



Dust-free (Cup Mouth down)

## 4、Case study-cup



SMART  
SOLUTION  
S



241003A-SG-1900-L

|                |                                                                    |
|----------------|--------------------------------------------------------------------|
| IMM            | MA2700F/980                                                        |
| Product        | PP/19.5g                                                           |
| Cavity         | 2穴                                                                 |
| Pickup in mold | 2.27s                                                              |
| Cycle time     | 11.36s                                                             |
| Method         | Pickup position: movable platen<br>Labeling position: fixed platen |
| Extra          | Automatic stacking                                                 |



230160A-SG-1900-L

|                |                                                                    |
|----------------|--------------------------------------------------------------------|
| IMM            | MA3800H/1280PRO                                                    |
| Product        | PP/180g、200g、450g                                                  |
| Cavity         | 4穴、6穴通用                                                            |
| Pickup in mold | 1.83s                                                              |
| Cycle time     | 6.8s                                                               |
| Method         | Pickup position: movable platen<br>Labeling position: fixed platen |
| Extra          | Automatic stacking                                                 |



SG-2200-L-MA4500F-Home L

|                |                                                                    |
|----------------|--------------------------------------------------------------------|
| IMM            | MA4500F/1280                                                       |
| Product        | PP/22.5g                                                           |
| Cavity         | 6穴、8穴通用                                                            |
| Pickup in mold | 1.78s                                                              |
| Cycle time     | 5.7s                                                               |
| Method         | Pickup position: movable platen<br>Labeling position: fixed platen |
| Extra          | Automatic stacking                                                 |

## 4、Case study-cup



海天智联：12腔700ml奶茶杯，全周期8.5s

## 4、 Case study-bucket

### IML robot for 35L bucket

(suitable 10L/15L/18L/22L/35L)

included of both electrostatic in / out mold, and be suitable for metallic label

#### SG-2200/2900-Pail

**350~  
1000t**

Suitable: IMM

**3.4s**  
(20L桶借位)

Max. pickup in mold

**21s**  
(20L桶)

Complete cycle time



Included : conveyor belt/ both electrostatic device /gripper/ parts

Side Entry **pail**



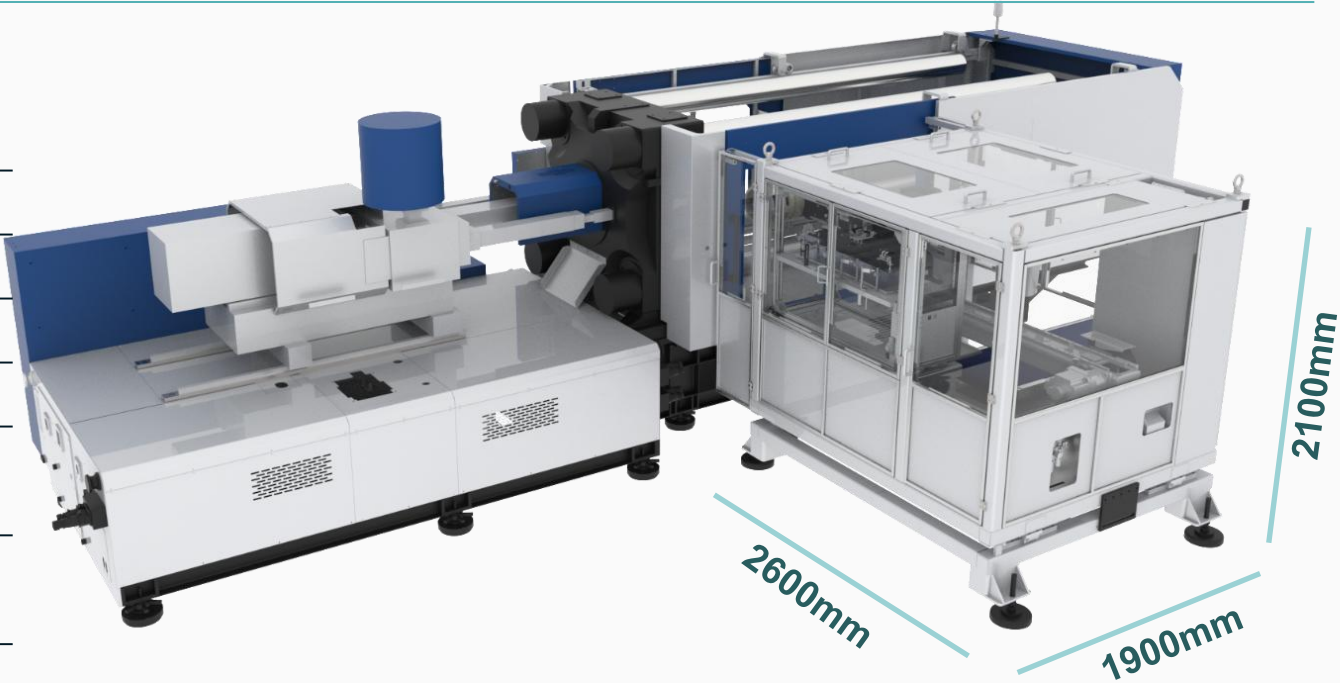
SMART  
SOLUTION  
S



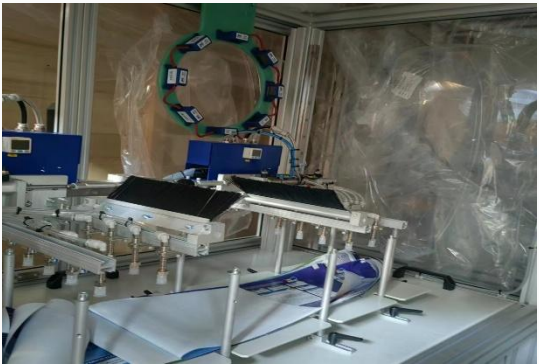
# 4、 Case study-bucket

## Included :

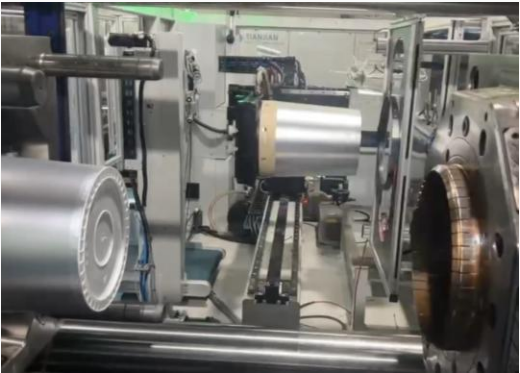
|                            |                                                                    |
|----------------------------|--------------------------------------------------------------------|
| Controller                 | 12 inch                                                            |
| Weight                     | 2200Kg                                                             |
| Size                       | 3800L*2100W*2450H                                                  |
| Conveyor belt              | 3000L*800H*600W                                                    |
| Time interval to put label | > 2h                                                               |
| Method                     | Pickup position: movable platen<br>Labeling position: fixed platen |
| Extra                      |                                                                    |



**Option :** Electrostatic out of mold/ with brush



**Option :** Open stroke is not enough, change the position to pickup



**Option :** Automatic hand-assemble



Side Entry **pail**

## 4、 Case study-bucket



241064A -SG-2200-LV

|                |                                                                    |
|----------------|--------------------------------------------------------------------|
| IMM            | MA3800F/1280                                                       |
| Product        | PP/2.75L bucket、 pail                                              |
| Cavity         | 2穴 (bucket)、 4穴(pail)                                              |
| Pickup in mold | 1.68s(bucket) 、 0.95s(pail)                                        |
| Cycle time     | 12.76s(bucket)、 6.16s(pail)                                        |
| Method         | Pickup position: movable platen<br>Labeling position: fixed platen |
| Extra          | Open stroke is not enough,<br>change the position to pickup        |



241088A-SG-2200-L

|                |                                                                    |
|----------------|--------------------------------------------------------------------|
| IMM            | MA6500V/h                                                          |
| Product        | PP/750g-20L                                                        |
| Cavity         | 1穴                                                                 |
| Pickup in mold | 3.4s                                                               |
| Cycle time     | 21s                                                                |
| Method         | Pickup position: movable platen<br>Labeling position: fixed platen |
| Extra          | Open stroke is not enough,<br>change the position to pickup        |



241104A-SG-2200-LV

|                |                                                                    |
|----------------|--------------------------------------------------------------------|
| IMM            | MA6500Ⅲ/4700h                                                      |
| Product        | PP/750g-20L                                                        |
| Cavity         | 1穴                                                                 |
| Pickup in mold | 3.43s                                                              |
| Cycle time     | 21s                                                                |
| Method         | Pickup position: movable platen<br>Labeling position: fixed platen |
| Extra          | Open stroke is not enough,<br>change the position to pickup        |

Side Entry pail



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SOLUTION  
S



# 4、Case study-bucket



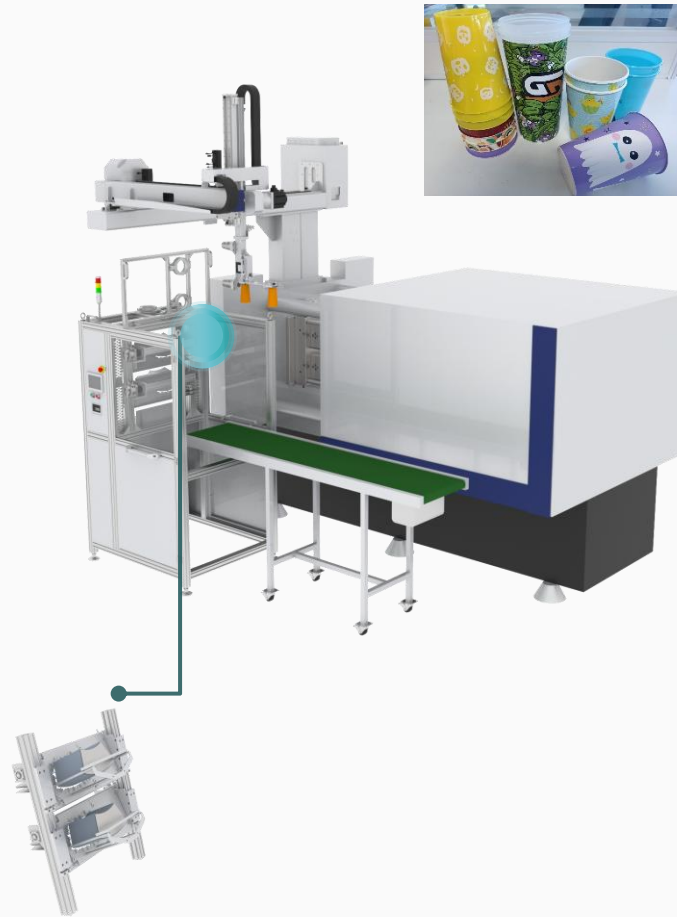
## 4、 Case study-top-entry



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Simple mechanical  
vertical storage  
(Label for cover)



Vertical storage by independent  
PLC control, with automatic label  
supply  
(Label for cup: thick-wall)



Horizontal storage by  
independent PLC control,  
with both electrostatic  
(label for bucket)

## 4、Case study-top-entry



Simple mechanical vertical storage

|                |                                                                    |
|----------------|--------------------------------------------------------------------|
| IMM            | VE150                                                              |
| Product        | PP/D87.2mm                                                         |
| Cavity         | 4穴                                                                 |
| Robot          | GA-900HD                                                           |
| Pickup in mold | 1.9s                                                               |
| Cycle time     | 8s / (No IML: 6.5s)                                                |
| Method         | Pickup position: movable platen<br>Labeling position: fixed platen |
| Extra          | Double main arms, parallel movement                                |



Vertical storage by independent PLC control

|                |                                                                    |
|----------------|--------------------------------------------------------------------|
| IMM            | MA2500III/1000                                                     |
| Product        | PP/350ml                                                           |
| Cavity         | 4穴                                                                 |
| Robot          | GA-900HD                                                           |
| Pickup in mold | 4.2s                                                               |
| Cycle time     | 27s/ (No IML: 19s)                                                 |
| Method         | Pickup position: movable platen<br>Labeling position: fixed platen |
| Extra          | Open stroke is not enough, change the position to pickup           |



Horizontal storage by independent PLC control

|                |                                                                    |
|----------------|--------------------------------------------------------------------|
| IMM            | MA6500III/4700h                                                    |
| Product        | PP/20L -783g                                                       |
| Cavity         | 1穴                                                                 |
| Robot          | GD-1500ID/h                                                        |
| Pickup in mold | 6.5s                                                               |
| Cycle time     | 30s/ (No IML: 25s)                                                 |
| Method         | Pickup position: movable platen<br>Labeling position: fixed platen |
| Extra          | Open stroke is not enough, change the position to pickup           |

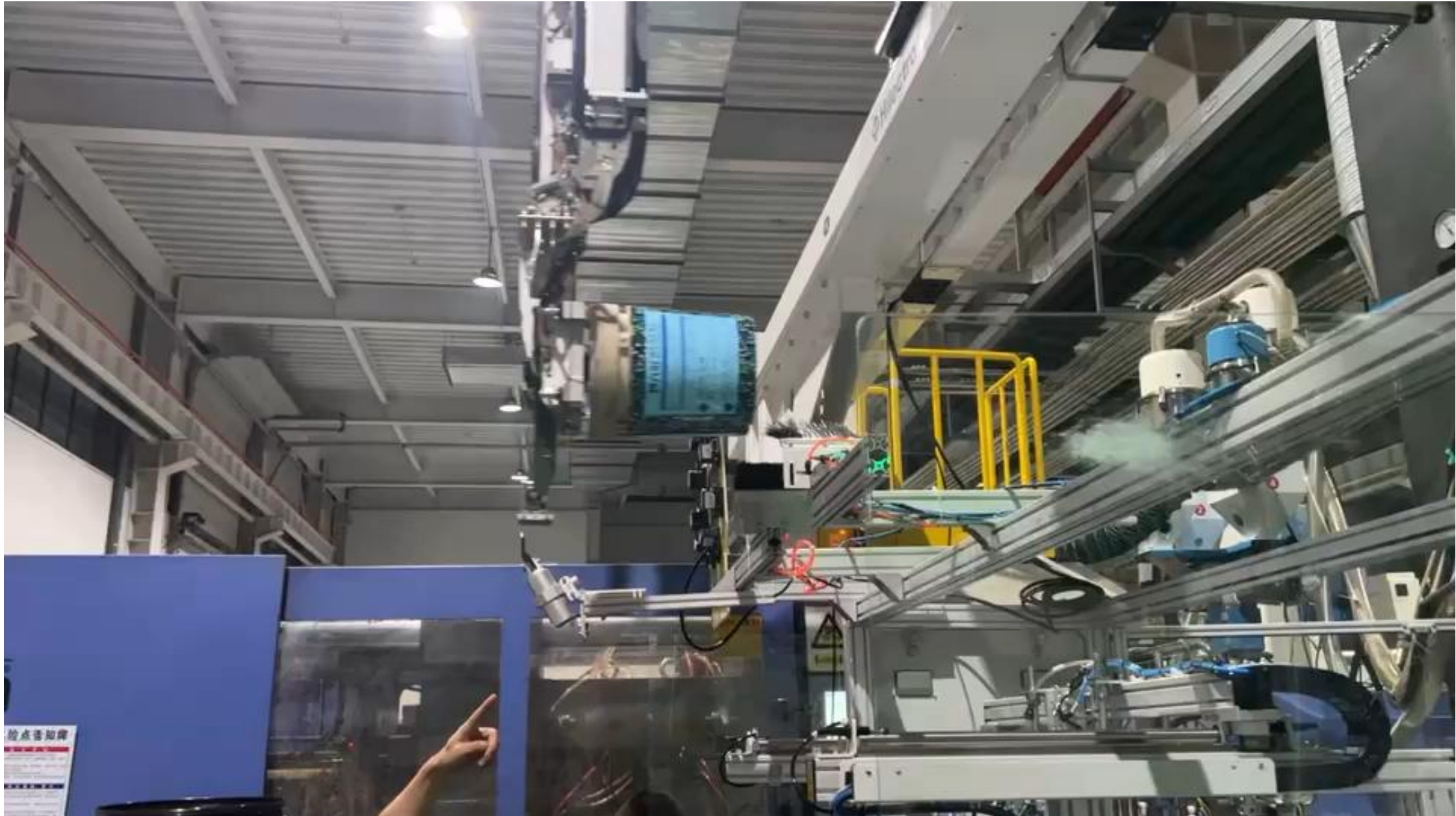
## 4、 Case study-top-entry



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## 4、 Case study-top-entry



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## 4、 Case study-top-entry



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水果篮

糖果盒

烟花桶

奶茶杯

整理箱

酸奶杯

涂料桶

饼干桶

垃圾桶

冰淇淋盖

医药箱

冰淇淋杯



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# Thanks