

China's Automation Tsunami: Pinpointing The Opportunities

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InterChina



英特华



Strategy | M&A Advisory
www.InterChinaConsulting.com

InterChina

Leading Strategy and M&A advisory firm in China

Our Value

- China specialist.
- Strategy and M&A advisory.
- Focused on 5 sectors.
- 20 years of experience.

Our People

- Located in Beijing and Shanghai.
- Multicultural partnership.
- 60 professionals.
- Chinese, senior, industrial background.



Our Clients

- Medium-sized to Fortune 1000.
- 500 strategy projects.
- 165 transactions (USD 6 bn).
- 2/3 of projects are returning clients.

Our Reach: IMAP

- Leading global mid-market M&A organization.
- 40 offices, 31 countries, 500 professionals.
- Over 200 transactions p.a.
- Exclusive China partner since 2006.



InterChina has realized **over 200 projects** with machinery and industrial equipment clients in China over the last 10 years

| | Machine tools | | | | | Production Machinery | | | | | Other Machinery | | |
|--|---|---|---|---|---|---|--|---|---|---|---|---|---|
| Machine types InterChina has been advising on: | Milling | Machining Center | Turning Lathes | Grinding | EDM | Presses, Forming Bending | Constr. equ. | Mining equ. | Textile Equ. | Mass-prod. Equ. | Paper, Pka, print eq. | Testing Equ. | Others* |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |

Origin of clients

- Germany 
- Switzerland 
- Italy 
- Spain 
- USA 
- China 

An excerpt of machinery and industrial equipment clients who have engaged InterChina

- **Nearly 200 projects realized:** In the last 10 years, InterChina has executed 190 projects – and counting – with machinery clients.
- **Working with leaders:** InterChina has been working with global market leaders, whether cross-application or in niche segments, for improving their position in China.
- **Understanding our clients:** We are close to our clients' origins and cultures, with our offices in China and Europe, and our consultants speaking Mandarin, English, Spanish, French, and German.



* Others include components and services, such as Turrets, Engines, Pumps, Machinery leasing and financing, Mold & Die, Elevators and escalators, Propulsion systems, Waste treatment, Renewable energy machines.

It's time to automate



Agenda

- Underappreciated sectors
- Vendors' KSFs vs Chinese account traps
- Emerging local competition
- Future engagement models



Our definition of 'factory automation' includes management software, integration, system/products, and robots

Factory automation definition

Example Foreign Vendors

Example Chinese vendors

Management Software

ERP, MES, PLM



Integration

Automation Solutions



System, Automation Products

PLC, HMI, low voltage inverters, machine vision, etc.



Machines (Robotics)

Robotics



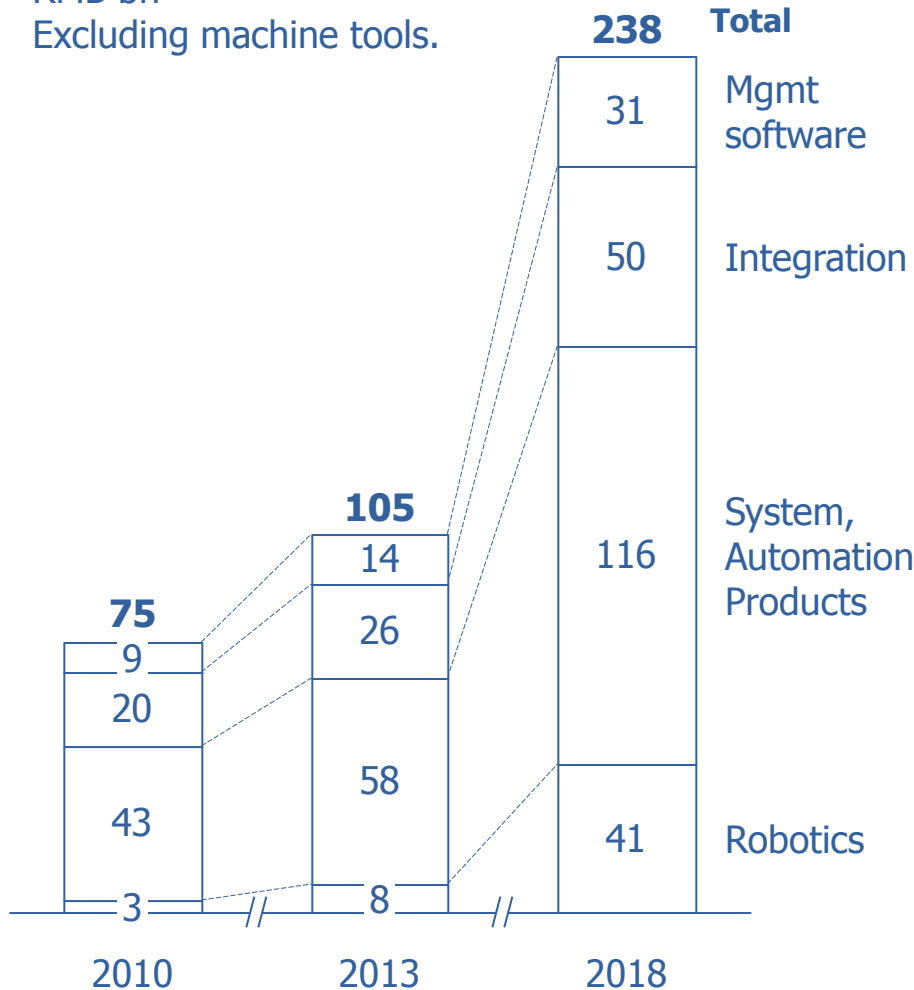
Typically excluded

- Machine Tools, other production equipment
- Conveyor Belts, etc.

The future is bright...

China factory automation market size

RMB bn
 Excluding machine tools.



CAGR 2010-13 2013-18

12%

18%

17%

17%

9%

14%

10%

15%

35%

40%

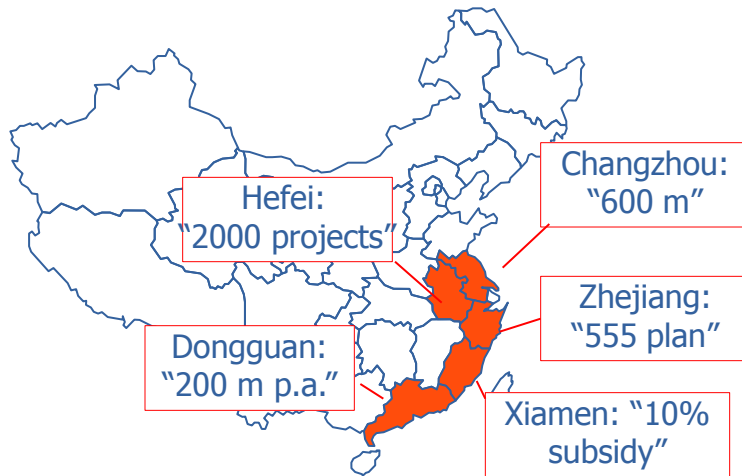
Key drivers

- Labor: Increasing cost, limited availability
- POEs, flattened hierarchies
- Higher quality requirements
- Larger production batches
- Access to finance
- Pollution control and energy consumption
- Active gov't support

Various policies supporting automation are emerging in strong manufacturing-heavy provinces...

Strong manufacturing provinces provide aggressive support for automation...

... meaning both Boom and Doom for foreign vendors



Supporting policies include:

- Subsidies for procurement
- Tax discount
- Financing support
- Technology support
- Etc.

"...achieve breakthrough in sensors, intelligent instruments, automatic control systems, industrial robotics, as well as core components including servo, drive..."

-- 2012 China State Council: 12th FYP National Strategic Emerging Industry Development Plan

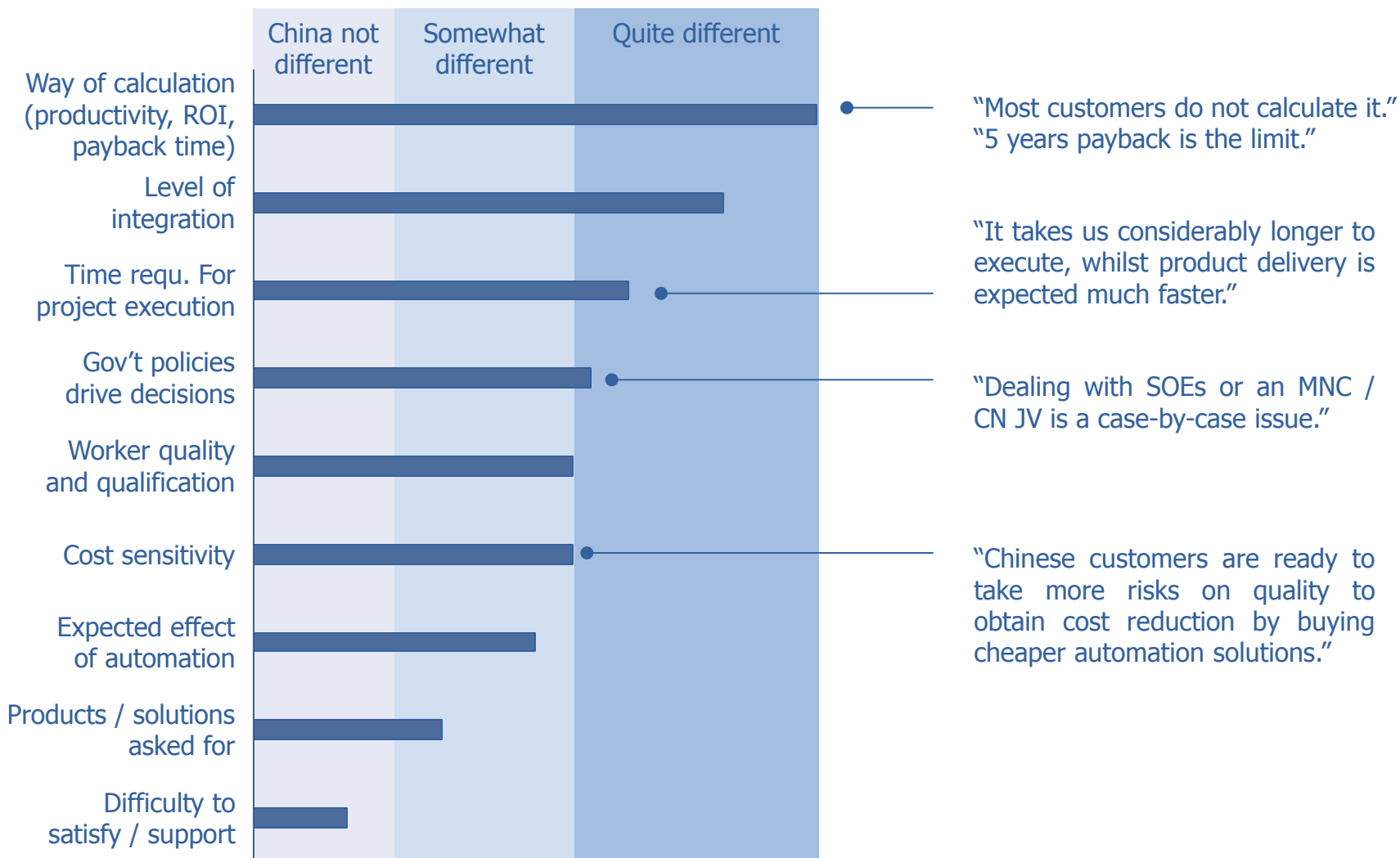
"..By 2020, build up comprehensive industrial robotic industry, cultivate 3~5 companies globally competitive...take over 45% of high end market..."

-- 2013 China MIIT: Guidance on Promoting the Development of Industrial Robotic Industry

What is so special about the Chinese automation market?

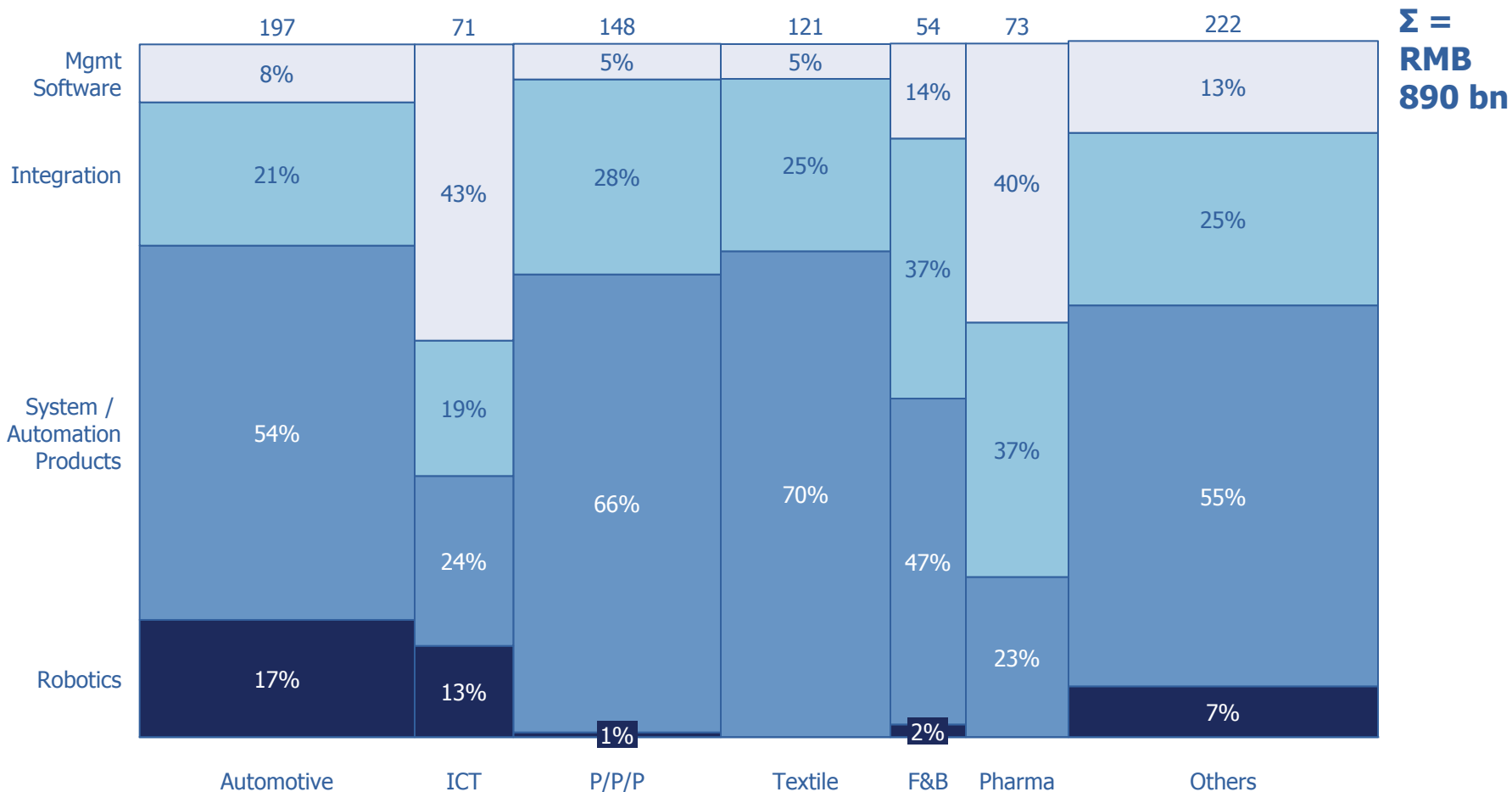
Key differences China - RoW

Voices of foreign automation vendors



Compared with the past, the sectors packaging, F&B and pharma will provide new emerging opportunities for automation vendors

China's estimated future acc. spending on factory automation, 2014 -2018, RMB bn



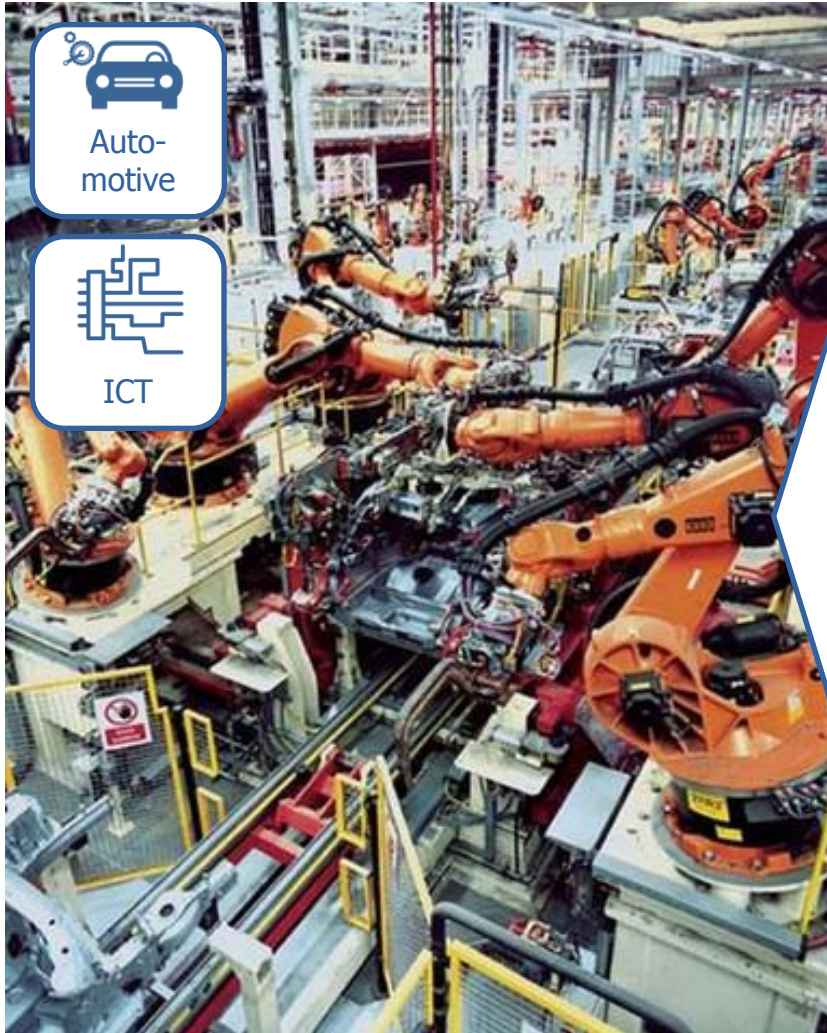
There are two automation worlds in China now





There are two automation worlds in China now

The large, mature accounts...



- Already mature, automated
- No “upgrade needs” per se
- Quality key concern
- Large accounts
- Own standards, strong bargaining power against vendor
- Limited after-sales opportunities
- Start to prefer Chinese vendors

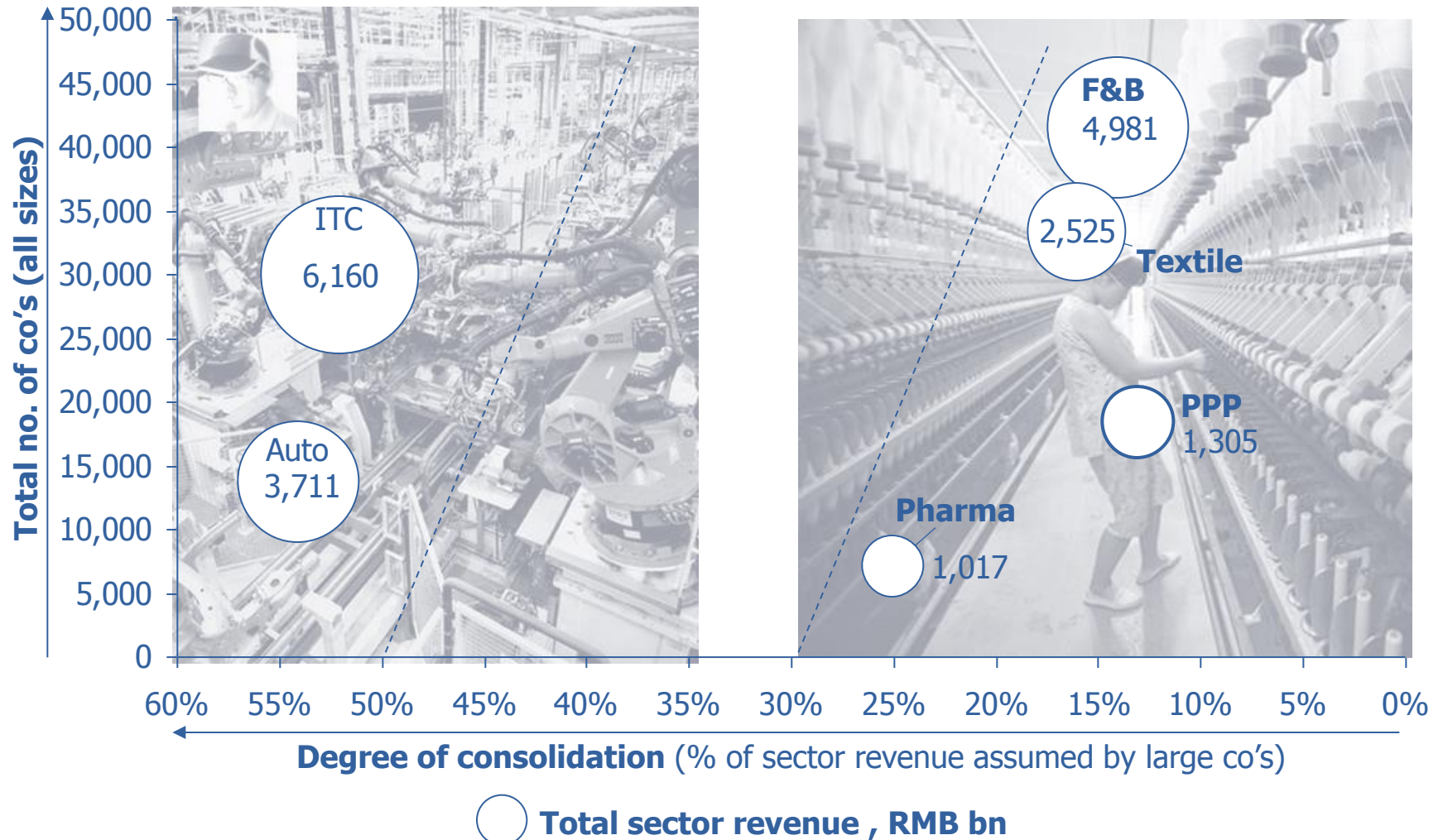
There are two automation worlds in China now ... and the upcoming drivers of automation needs in China

- Large customer universe
- More immature, upgrade needs
- Possibility to engage them early on in the process for automation
- Lower bargaining power
- Potential for after-sales / maintenance, spare part sales
- Foreign vendors preferred



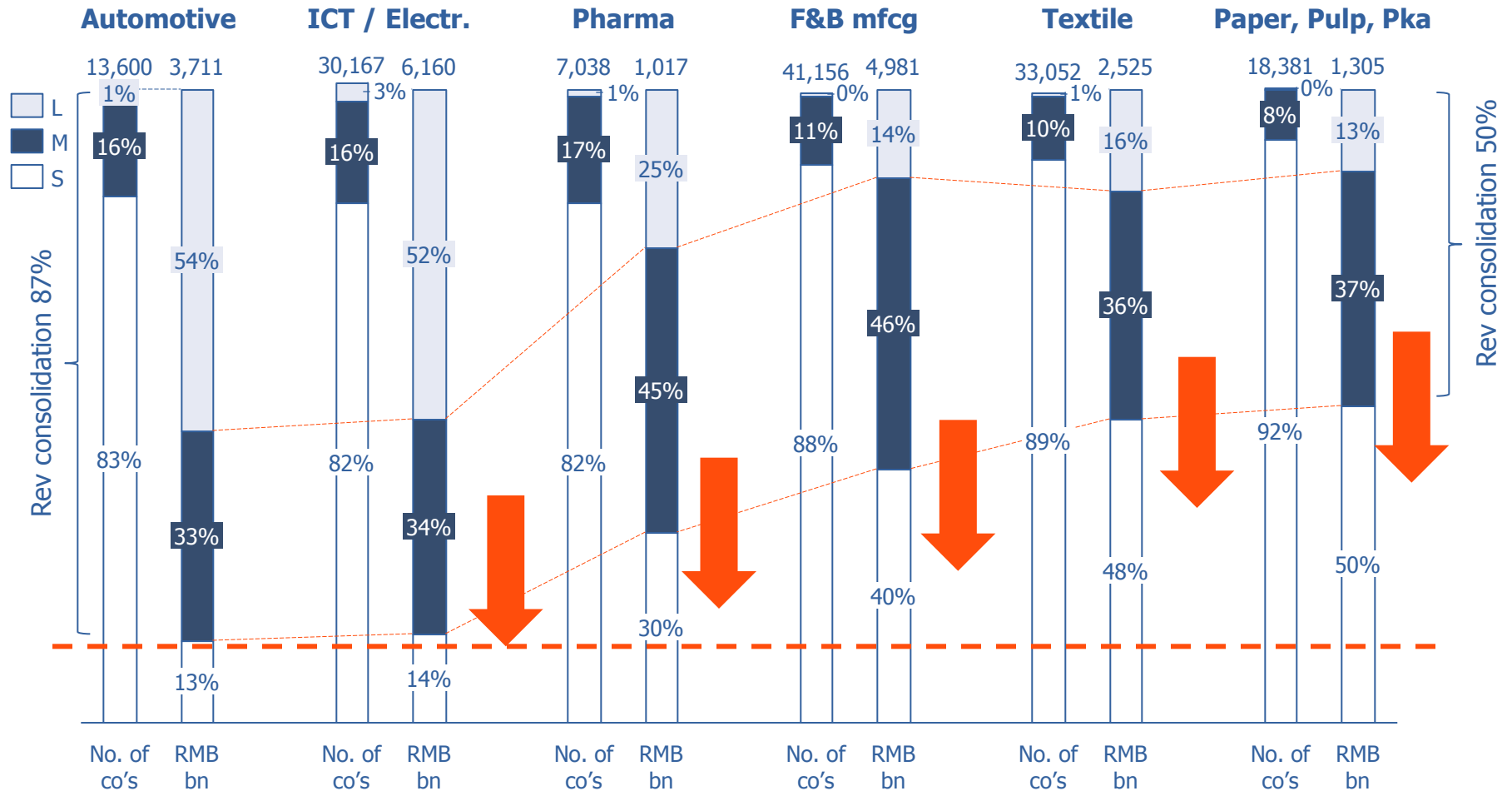
There are two automation worlds in China now

An issue of consolidation and size



Sector consolidation and growing mid-sized companies will fuel the need for automation in China, approaching automotive sector levels

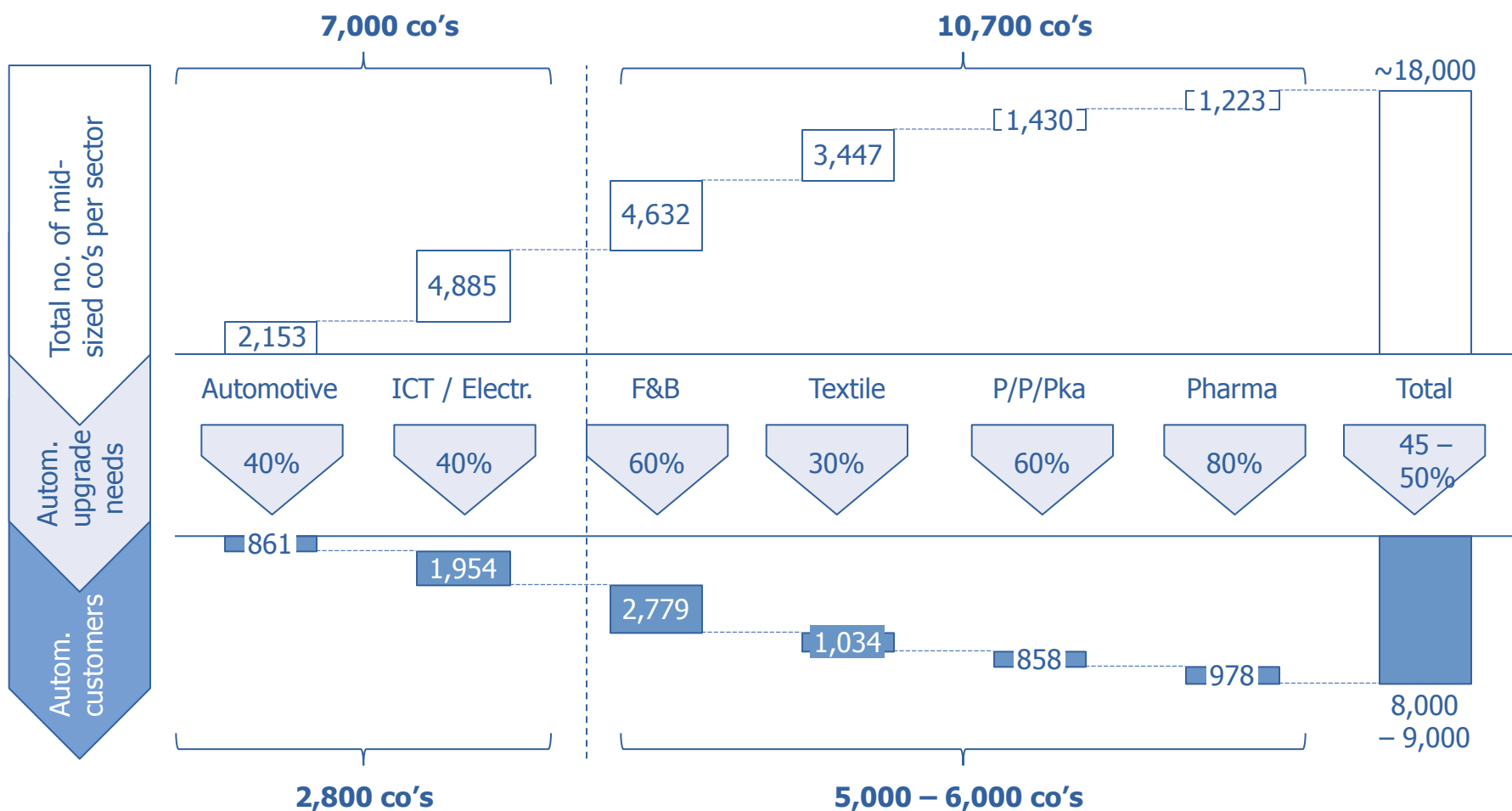
No. of companies and revenues p. sector, large / mid-sized / small companies



Sources: Various, mostly 2010/ 2011 data, InterChina Research.

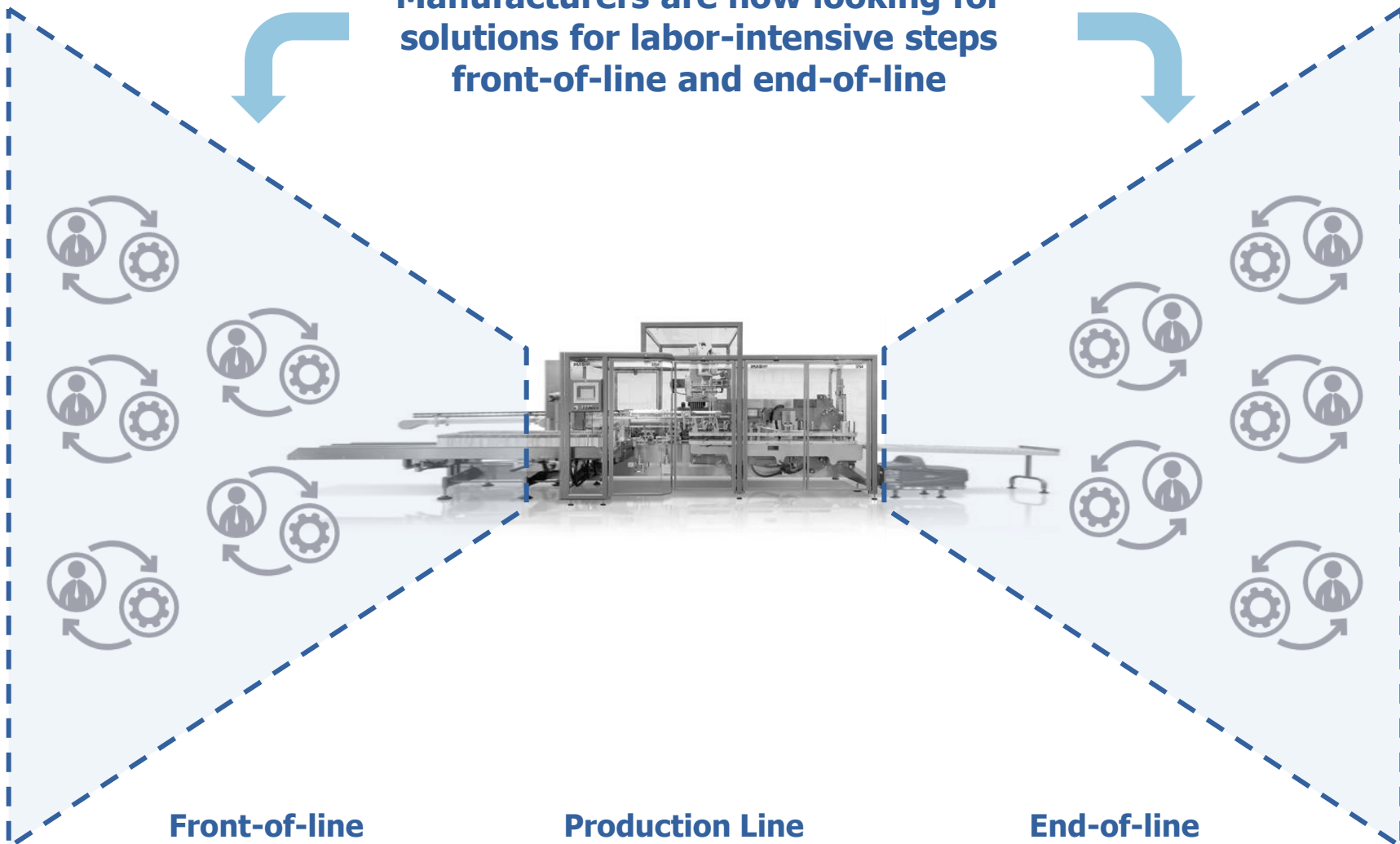
(L) Large co: > RMB 1bn, (M) Mid-sized co: RMB 0.5 -1 bn, (S) Small co: RMB 100 m – 500 m

The good news: Mid-sized companies form a vast customer universe and will further drive the demand for automation in China



Peripheral automation

Manufacturers are now looking for solutions for labor-intensive steps front-of-line and end-of-line



Front-of-line

Production Line

End-of-line

Recent observations at mid-sized companies in China

Paper Maker

- Manual feeding
- Manual filtering of impurities



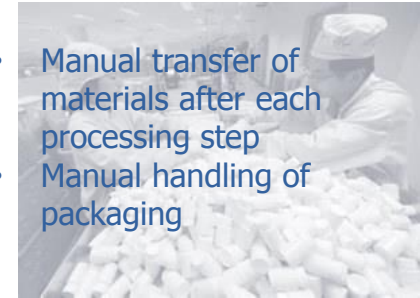
Textile Company

- Manual winding
- Manual weaving



Pharma Co'

- Manual transfer of materials after each processing step
- Manual handling of packaging



Edible Oil Company

- Manual control of temp., water, material balance



ICT Company

- Optical testing
- Visual inspection



Pka Converting Co'

- Manual feeding
- Manual packing



Basic profile of Lummy

- Chongqing Lummy is a **public** pharmaceutical company with revenue over **RMB 750 m** in 2013

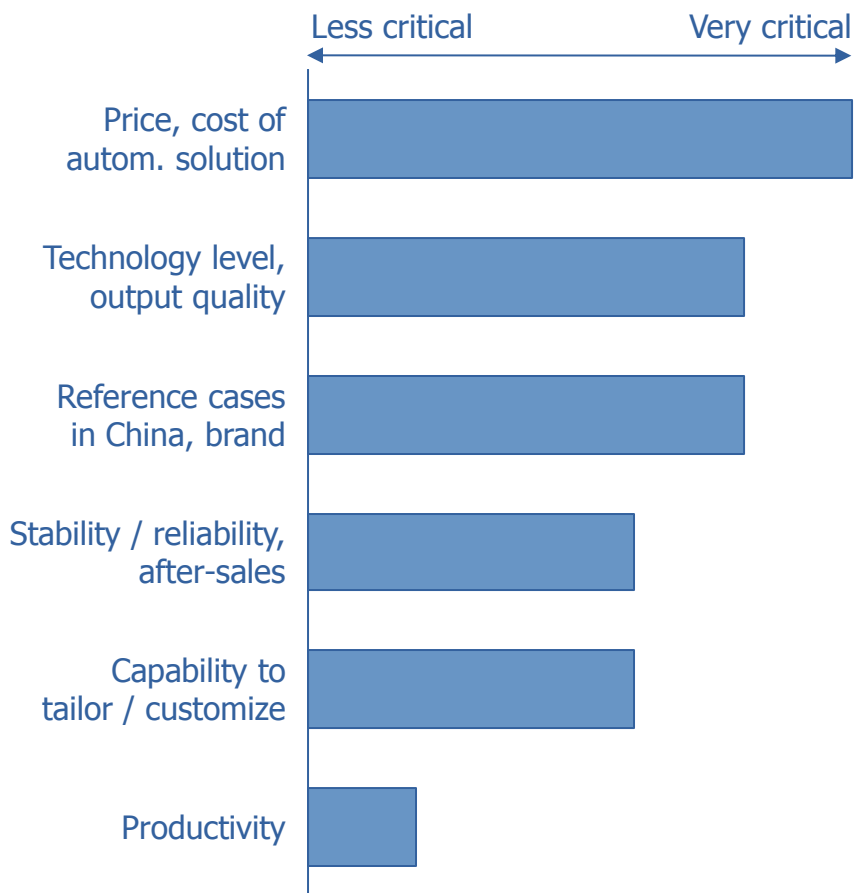


Lummy's headache in packaging

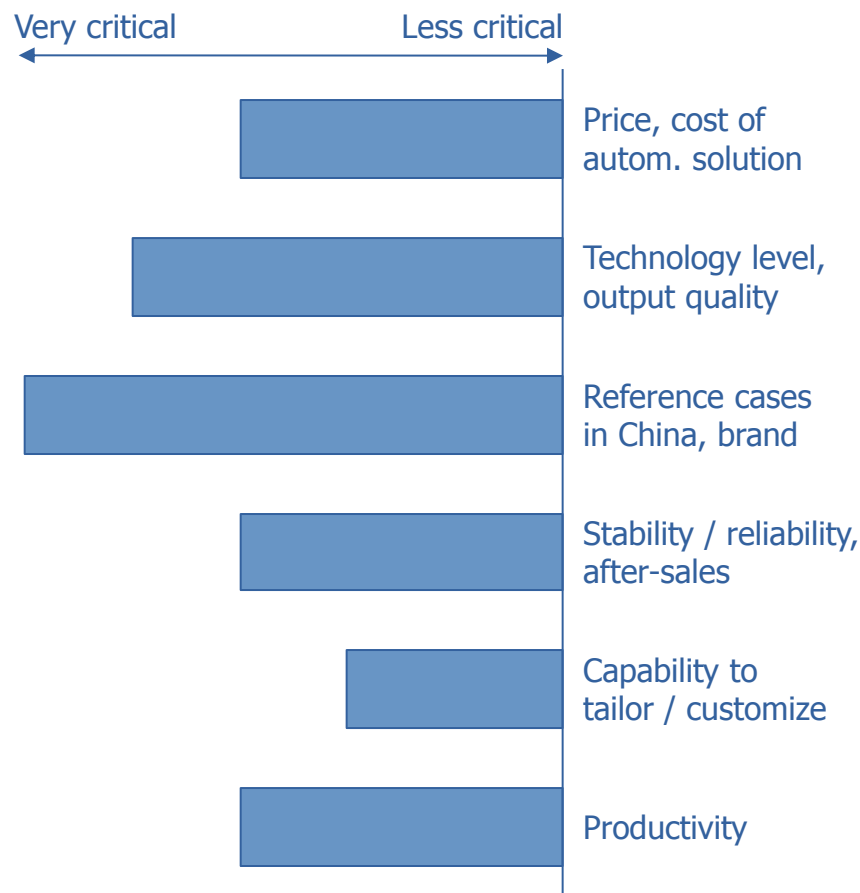
- **The packaging** is still done manually by operators in some plants. This requires a lot of labor, with each production line 20~30 workers for packaging.
- Lummy is now conducting a series of **technical renovation projects** to automate packaging. The labor for packaging could be reduced to 3~4 in each production line after automation.
- But there is a still a dilemma in front of Lummy: **how to achieve both precision and stability?**
 - Foreign brands: Higher precision but higher risk of downtime (poor input materials).
 - Chinese brands: Higher tolerance, but lower precision.

What do Chinese customers want, and what are vendors' KSFs?

What do customers believe is most important for them to select a vendor?



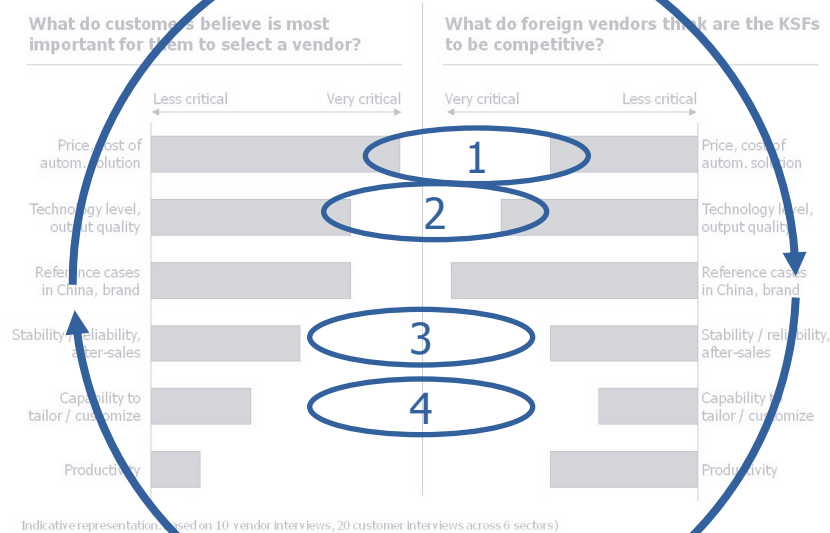
What do foreign vendors think are the KSFs to be competitive?



Beware the Chinese account trap: The right selection of customers and project is key

1) Chinese customers are quite aware that foreign vendors will be more expensive, and will ask for lower prices, but at relative high quality.





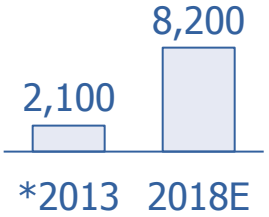




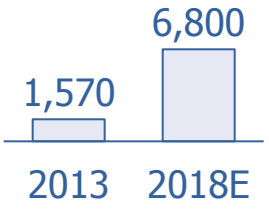



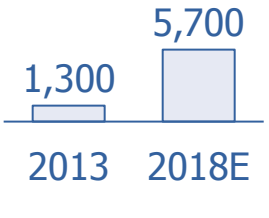
2) If vendors offer lower prices, customers are aware that this will mean lower quality, and they put on the squeeze on the vendor.



4) Customers will ask for customized solutions, opening up opportunities for smaller vendors (large vendors / integrators will shy away).

3) Many customers actually want foreign vendors instead of Chinese for key systems / equ. (**reliability** is the key issue)

Certain Chinese players are likely to develop dramatically in the next 5 years, growing at ~30% per year

| Company | Key FA products | Example customers | Size 2013, hypoth., RMB m | Drivers | | | | |
|---|--|--|---|---------|-------|-------|-------|--|
|  (founded in 1993) |  (PLC, motion control) |  山西四建集团有限公司 CHINA SHANXI SIJIAN GROUP CO.,LTD  地鐵公司 MTR Corporation |  <table border="1"> <tr> <td>2013</td> <td>2018E</td> </tr> <tr> <td>2,100</td> <td>8,200</td> </tr> </table> | 2013 | 2018E | 2,100 | 8,200 | <ul style="list-style-type: none"> • 10% of revenue on R&D • Steady expansion to new sectors every year • IPO NASDAQ / Globalization |
| 2013 | 2018E | | | | | | | |
| 2,100 | 8,200 | | | | | | | |
|  (founded in 2003) |  (Inverters) |  ZOOMLION  宇通客车 (Yutong) |  <table border="1"> <tr> <td>2013</td> <td>2018E</td> </tr> <tr> <td>1,570</td> <td>6,800</td> </tr> </table> | 2013 | 2018E | 1,570 | 6,800 | <ul style="list-style-type: none"> • Technology and culture inherited from Huawei • Focus on several sectors • 8% of revenue on R&D |
| 2013 | 2018E | | | | | | | |
| 1,570 | 6,800 | | | | | | | |
|  (founded in 2000) |  (Robotics) |  FAW |  <table border="1"> <tr> <td>2013</td> <td>2018E</td> </tr> <tr> <td>1,300</td> <td>5,700</td> </tr> </table> | 2013 | 2018E | 1,300 | 5,700 | <ul style="list-style-type: none"> • Cooperation with China Science Academy • Over 900 R&D employees • Value chain integration • Export for global awareness |
| 2013 | 2018E | | | | | | | |
| 1,300 | 5,700 | | | | | | | |

Note: The 2013 revenue of Hollysys refers to the revenue in its 2013 fiscal year.
 Source: Annual report of companies; InterChina's Interviews and Analysis

Again, why do Chinese customers keep working with foreign vendors?

In-country references

- Physical and practical capability demonstration
- Proven in China
- Confidence, trust

Assured reliability

- After-sales service capabilities
- Reaction time
- Full and continuous support

Localization

- Local team capable and qualified
- Cutting the red tape
- Tailoring towards China

Staying ahead – ideas for engagement models

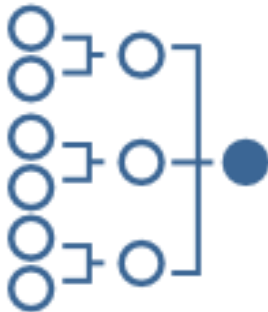
“Reliability team”



Managing the inputs



System integrator interface



Renting out operators



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