

## Industrials - China

# China automation – 4Q23 sales +0.1% YoY; OEM-based markets saw recovery

Industry Overview

### China automation sales +0.1% YoY in 4Q23, miss

MIR Databank released the 4Q23 China automation market sales data. In 4Q23, the sales growth of China automation market recovered to 0.1% YoY (-1.9%/-3.1%/-2.1% in 1Q/2Q/3Q23), with sales value of RMB66bn. In 4Q23, OEM-based automation markets saw a marginal recovery recording RMB24bn with growth contraction narrowing to -2.7% YoY from -9.3% in 3Q23, while project-based markets largely stayed still reading 1.7% YoY (1.8% in 3Q23) with sales value of RMB42bn. It gave full year sales of RMB291bn, -1.8% YoY (OEM-based -7.5% YoY, project-based +1.7% YoY). **By end markets**, sales to machine tool saw a strong rebound in 4Q23 with growth reading 12% YoY (-5.2% in 3Q23), while that to semiconductor/battery industry stayed weak, recording -8%/-15% YoY (-12%/-20% in 3Q23). Sales growth to electricity/auto industries moderated further to 5%/12% YoY in 4Q23 (14%/18% in 3Q23). Yet sales to mining/papermaking industries picked up to 13%/9% in 4Q23 from 6%/5% in 3Q23.

The overall sentiment in automation markets remained low in 4Q23 with sales missing by 7% of our forecast (OEM/project-based markets missing by 14%/2%), largely on weak demand and high stock accumulation in the markets according to our channel check (please see [Industrials - China: Conference call takeaways: China automation 2024E outlook 12 January 2024](#)). Looking into 2024E, we believe automation markets can see a mild recovery helped by the order pickup in 3C/general automation sectors, coupled with the completion of de-stocking.

### IR sales grew by 1.6% YoY in 4Q23, slightly beat

In 4Q23, China IR sales volume grew by 1.6% YoY (-2.1% in 3Q23), recording 76,331 units, 3% ahead of our forecast. It gave full year sales volume of 283k units, +0.4% YoY. **By end markets**, IR sales to PV sector remained strong in 4Q23 reading 65% YoY despite slowing from 110% in 3Q23, while that to lithium battery stayed sluggish reading -19% YoY (-26% in 3Q23). Sales to semis picked up further to 18% in 4Q23 from 15% in 3Q23 and sales to auto industry narrowed to -9% in 4Q23. **By players**, share of domestic players (47.7%) lost 0.5ppts QoQ to overseas names in 4Q23, particularly to leading overseas names such as Fanuc/Yaskawa, which concentrated on providing the high value-added solutions in solar cell production. In 4Q23, shares of FANUC/Yaskawa increased by 1.2/2.6ppts QoQ to 15.9%/7.6% while that of domestic leading names stayed still with Estun only improving 0.1ppts QoQ to 8.8%, likely on the decelerated orders from PV industry. **By product**, COBOT continued to outperform in 4Q23, recording 34% YoY, followed by small IR/SCARA (7%/7%). Large IR sales growth dipped further to -10% YoY from -8% in 3Q23.

The 4Q23 IR market saw a marginal recovery largely on the demand pickup from electronics/semis industries while still dragged by the high stock accumulation in the markets. In 2024E, the orders from PV industry are expected to decelerate due to overcapacity. Yet the market can be helped by the sequential recovery of 3C sector.

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OEM: Original Equipment  
Manufacturer

COBOT: Collaborative robot

CNC: Computerized Numerical  
Control

IR: industrial robot

SCARA: Selective Compliance  
Assembly Robot Arm

PMI: Purchasing Manager Index

PV: Photovoltaic

Small IR: small 6-axis articulated  
robots

Large IR: large 6-axis articulated  
robots

RFID: Radio Frequency Identification  
Devices

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Refer to important disclosures on page 5 to 7.

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# China automation market

## Exhibit 1: China automation market sales by product

IR shipments growth was back to the expansion zone in 4Q23, reading 1.6% YoY, thanks to the strong sales of COBOT.

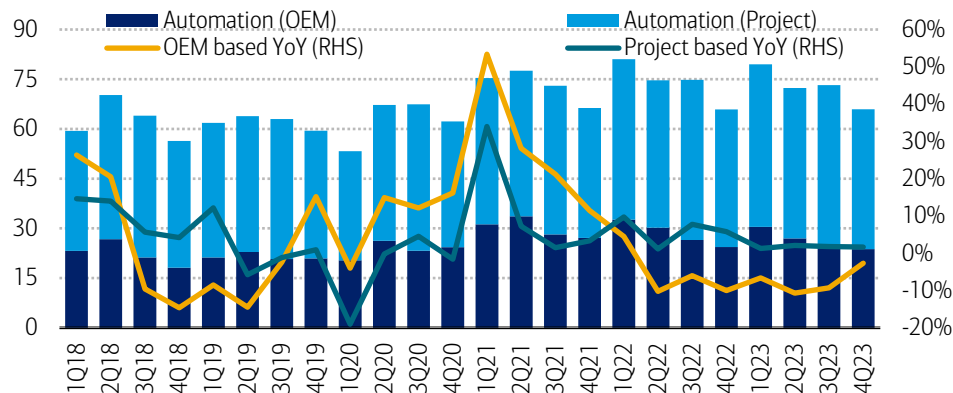
By product		1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23
AC Servo	RMB mn	5,776	6,536	5,632	5,383	6,055	5,926	5,351	4,929	5,539	5,597	5,142	5,077
PLC	RMB mn	3,430	4,221	4,060	4,137	3,924	4,215	4,515	4,332	3,925	4,182	4,135	3,802
Large-Medium PLC	RMB mn	1,668	2,071	1,925	2,226	1,992	2,080	2,115	2,394	2,081	2,200	2,136	2,258
Small PLC	RMB mn	1,762	2,150	2,135	1,911	1,932	2,135	2,400	1,938	1,844	1,982	1,999	1,544
LV Inverter	RMB mn	7,335	8,370	8,107	7,141	8,001	8,133	8,547	6,937	7,763	7,782	8,035	
HMI	RMB mn	1,044	1,400	1,332	1,326	1,152	1,448	1,443	1,350	1,134	1,305	1,240	1,102
CNC	RMB mn	4,990	5,282	3,720	3,286	4,218	4,511	3,271	2,765	3,757	3,178	2,836	
Contactora	RMB mn	2,215	4,190	3,714	3,305	2,325	3,584	3,370	3,081	2,298	3,640	3,121	3,257
Sensor	RMB mn	2,433	2,997	3,100	2,883	2,845	2,997	3,099	3,451	3,247	3,233	2,909	2,866
IR	Unit	54,562	74,550	61,258	65,990	67,974	64,713	74,250	75,139	65,910	68,205	72,708	76,331
Small 6-axis articulated robot	Unit	20,042	29,566	21,742	22,442	22,130	20,612	23,639	23,910	21,317	23,160	24,249	25,569
Large 6-axis articulated robot	Unit	15,464	18,058	17,648	21,608	21,820	18,872	27,300	29,955	21,604	20,665	25,010	26,875
SCARA	Unit	14,437	20,912	16,223	15,864	18,125	19,705	16,608	13,903	16,695	17,760	16,146	14,840
Delta	Unit	1,529	1,874	1,770	1,518	1,415	1,361	1,654	1,716	1,447	1,395	1,430	1,471
COBOT	Unit	3,090	4,140	3,875	4,558	4,484	4,163	5,049	5,655	4,847	5,225	5,873	7,576
YoY													
AC Servo		69%	33%	35%	13%	5%	-9%	-5%	-8%	-9%	-6%	-4%	3%
PLC		39%	22%	21%	8%	14%	0%	11%	5%	0%	-1%	-8%	-12%
Large-Medium PLC		32%	21%	21%	10%	19%	0%	10%	8%	4%	6%	1%	-6%
Small PLC		46%	22%	20%	7%	10%	-1%	12%	1%	-5%	-7%	-17%	-20%
LV Inverter		43%	15%	12%	5%	9%	-3%	5%	-3%	-3%	-4%	-6%	
HMI		42%	30%	19%	17%	10%	3%	8%	2%	-2%	-10%	-14%	-18%
CNC		173%	56%	20%	-33%	-15%	-15%	-12%	-16%	-11%	-30%	-13%	
Contactora		32%	23%	6%	6%	5%	-14%	-9%	-7%	-1%	2%	-7%	6%
Sensor*						17%	0%	0%	20%	14%	8%	-6%	-17%
IR		94%	69%	28%	28%	25%	-13%	21%	14%	-3%	5%	-2%	2%
Small 6-axis articulated robot		93%	81%	21%	20%	10%	-30%	9%	7%	-4%	12%	3%	7%
Large 6-axis articulated robot		87%	67%	43%	66%	41%	5%	55%	39%	-1%	10%	-8%	-10%
SCARA		95%	50%	19%	2%	26%	-6%	2%	-12%	-8%	-10%	-3%	7%
Delta		45%	36%	16%	-6%	-7%	-27%	-7%	13%	2%	2%	-14%	-14%
COBOT		189%	161%	67%	79%	45%	1%	30%	24%	8%	26%	16%	34%

Source: \*Sensor includes Photoelectric Switch, Displacement Sensor, Safety Sensor, RFID, Proximity Switch, IR Databank, BofA Global Research

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## Exhibit 2: China automation market size (RMBbn) and YoY growth

China automation market grew by 0.1% YoY in 4Q23, thanks to the sales improvement in OEM-based markets.

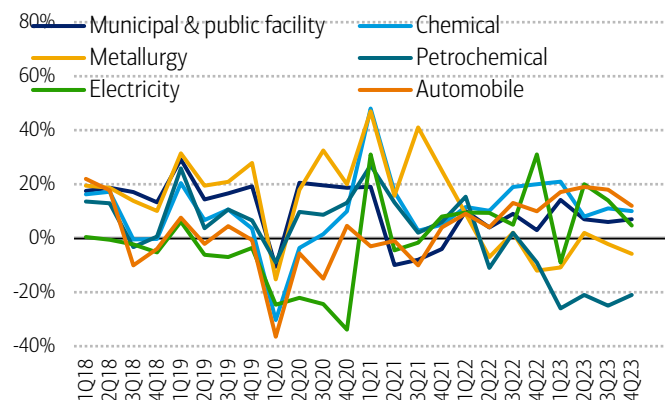


Source: MIR Databank, BofA Global Research

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**Exhibit 3: Project-based automation market growth by segment**

Automation sales growth to petrochemical remained sluggish in 4Q23

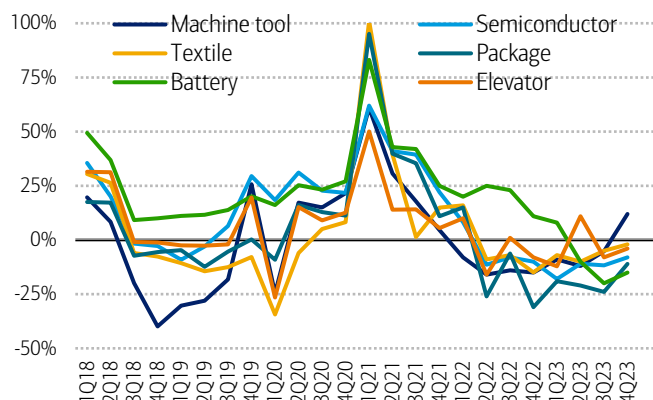


Source: MIR Databank, BofA Global Research

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**Exhibit 4: OEM-based automation market growth by segment**

Automation sales to machine tool outperformed in 4Q23.

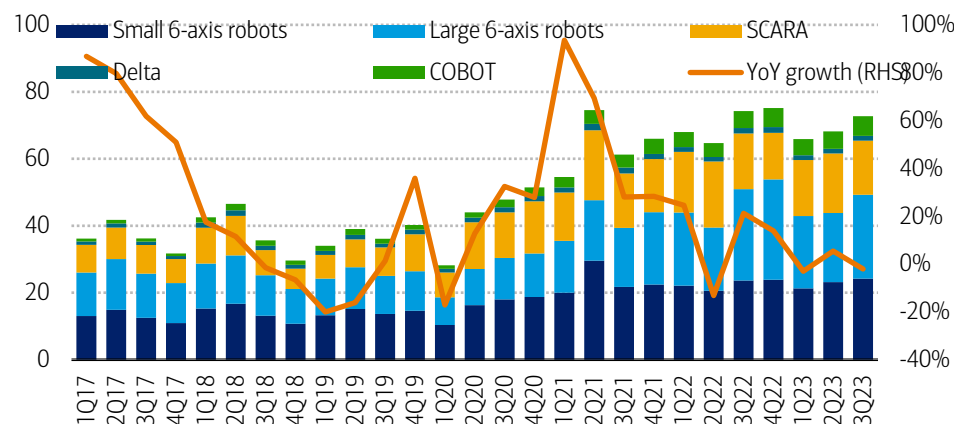


Source: MIR Databank, BofA Global Research

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**Exhibit 5: China industrial robot sales ('000 unit) by product**

IR shipments growth was back to the expansion zone in 4Q23, reading 1.6% YoY, thanks to the strong sales of COBOT.

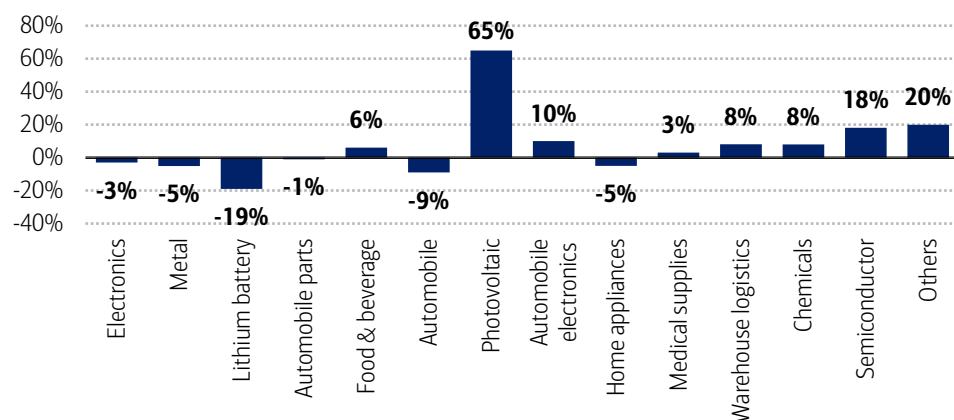


Source: MIR Databank, BofA Global Research

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**Exhibit 6: 3Q23 China industrial robot sales growth by end market**

PV industry sustained the momentum on IR sales in 4Q23 despite slowing down from 110% YoY in 3Q23.

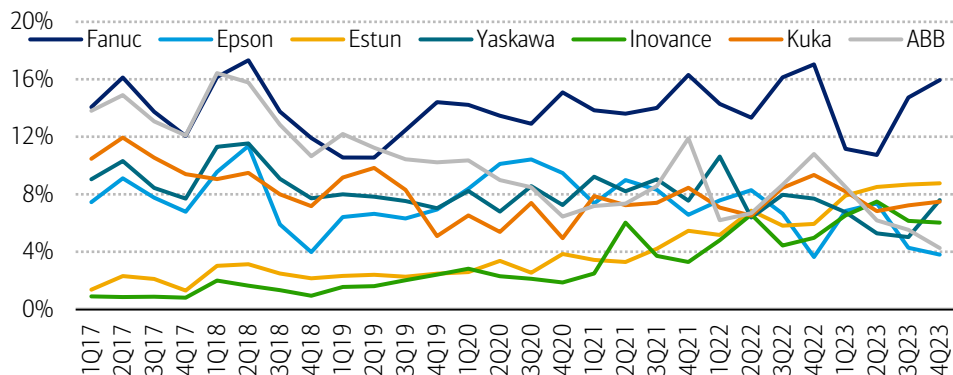


Source: MIR Databank, BofA Global Research

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**Exhibit 7: China industrial robot market share by brand**

Shares of Fanuc/Estun/Yaskawa climbed up to 15.9%/8.8%/7.6% in 4Q23, from 14.7%/8.7%/5.0% in 3Q23, while ABB's share dropped to 4.3% in 4Q23 from 5.5% in 3Q23.

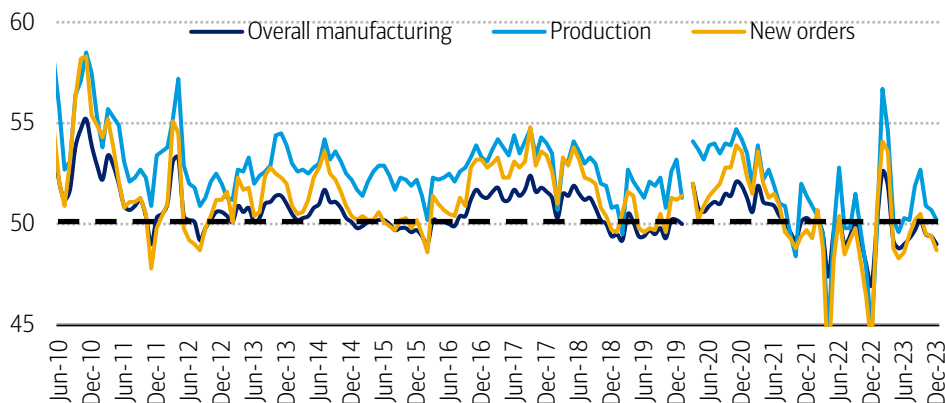


Source: MIR Databank, BofA Global Research

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**Exhibit 8: China manufacturing PMI**

Mfg. PMI dipped to 49.0 in Dec.

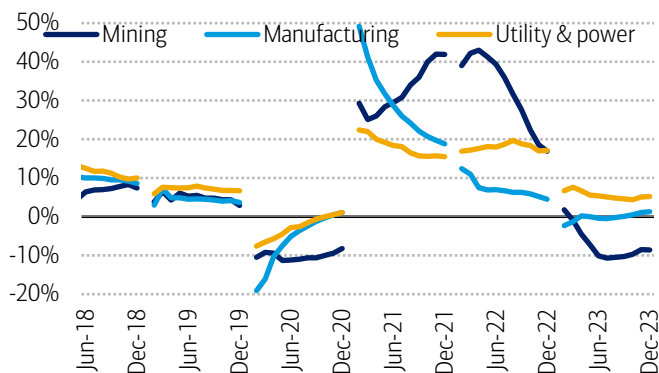


Source: NBS, BofA Global Research

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**Exhibit 9: China industrial sales (RMBbn) YTD growth**

Sales growth of Mfg. enterprise growth edged up to 1.3% YoY in 2023.

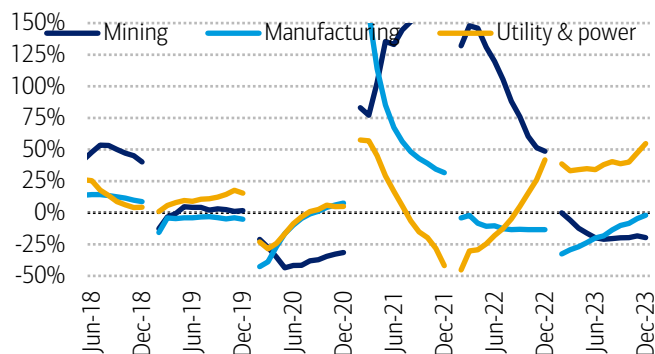


Source: NBS, BofA Global Research

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**Exhibit 10: China industrial total profit (RMBbn) YTD growth**

NP contraction of mfg. enterprises narrowed further to -2.0% YoY in 2023.



Source: NBS, BofA Global Research

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