

ITA Beijing Machine Tool Desk

Third Period Report

(December 2024 - February 2024)

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China's latest economic dynamics and machine tool industry trends summary

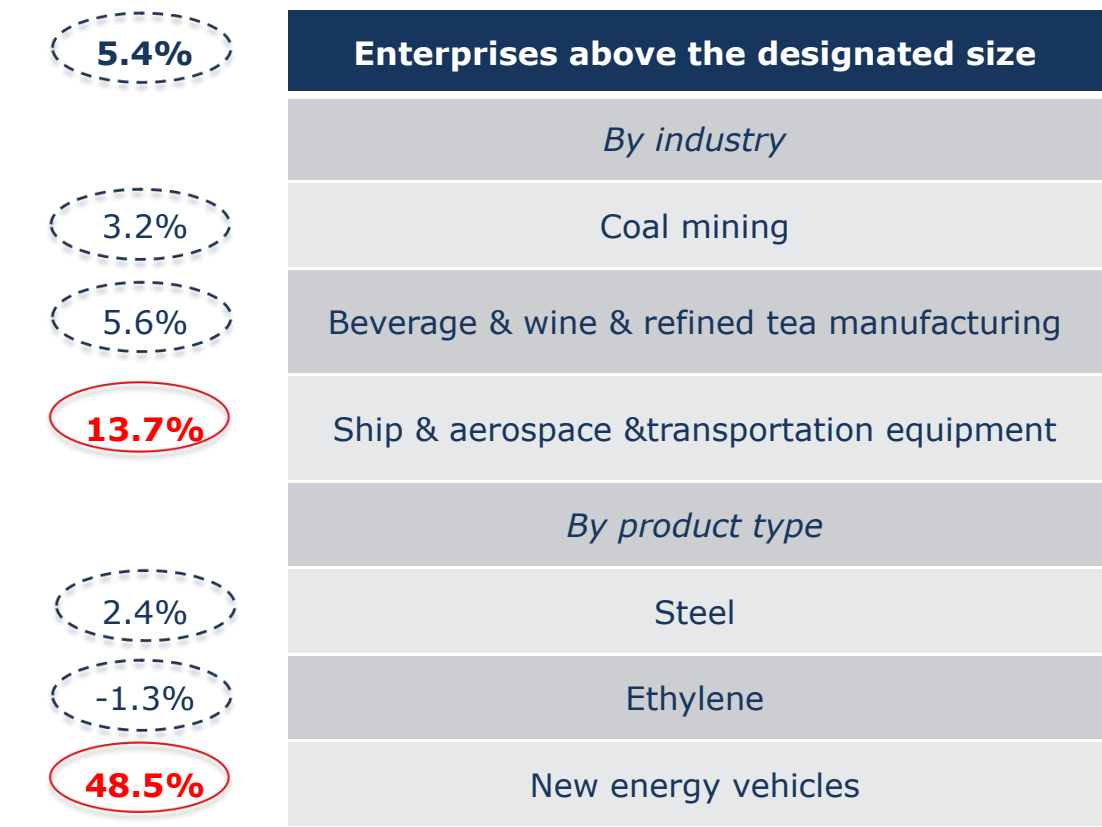
- China's economy is showing a stable growth from October to December 2024.
- According to the Purchasing Manager Index (PMI) in November 2024, China's manufacturing industry is experiencing consecutive expansions after six months of decline.
- According to the Purchasing Manager Index (PMI) in December 2024, China's manufacturing industry is experiencing three consecutive months of expansion.
- According to the Purchasing Manager Index (PMI) in January 2025, China's manufacturing industry is displaying a moderate decline after the 3-month consecutive expansion.
- In the entire year of 2024, the overall operating income of China's machine tool industry is dropping, despite an increase in the production and market order.
- Italy-China machine tool trade data (Jan-Aug 2024 & Jan-Sep 2024 & Jan-Oct 2024).

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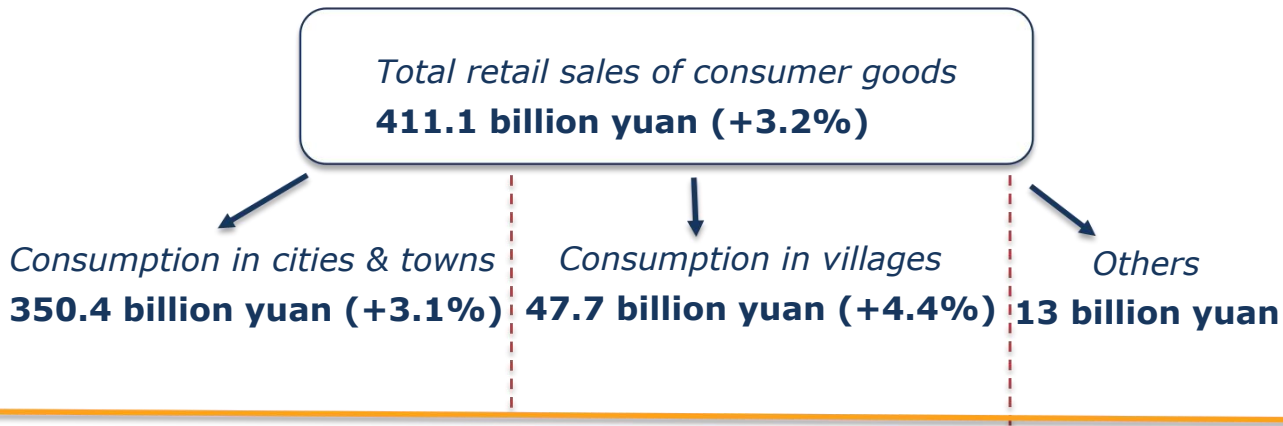
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In October 2024, China's economy is exhibiting a steady growth, despite moderate fluctuation in certain indicators

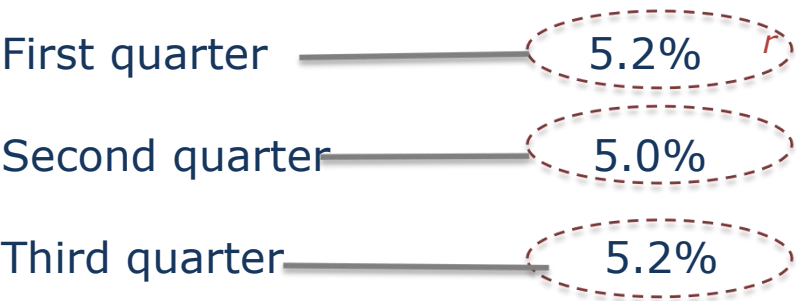
Stable growth in industrial output, despite a moderate decline in certain product categories



Continuous increase of consumption over regions



Slight fluctuation in the unemployment rate (in the first three quarters of 2024)



In November 2024, China's industrial production and consumer price is on a rising trend, despite a slight production/price drop in some categories

Value-added of enterprises above the designated size (value-added)

November 2024 +5.4%
January-November 2024 +5.8%

By sector (value-added)

Electric machinery & equipment manufacturing +5.2%
Automobile +12%
Non-metallic mineral products -2.3%
Railroad & aerospace & shipbuilding +7.9%

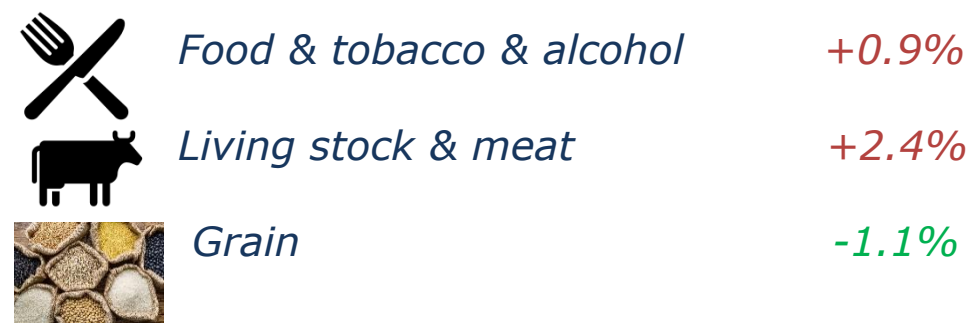
By product type (production volume)

Steel --118.81 million tons +5.1%
Cement --169.34 million tons -10.7%
New energy vehicles --1.57 million units +51.1%

National consumer prices index (CPI)



By consumer product type

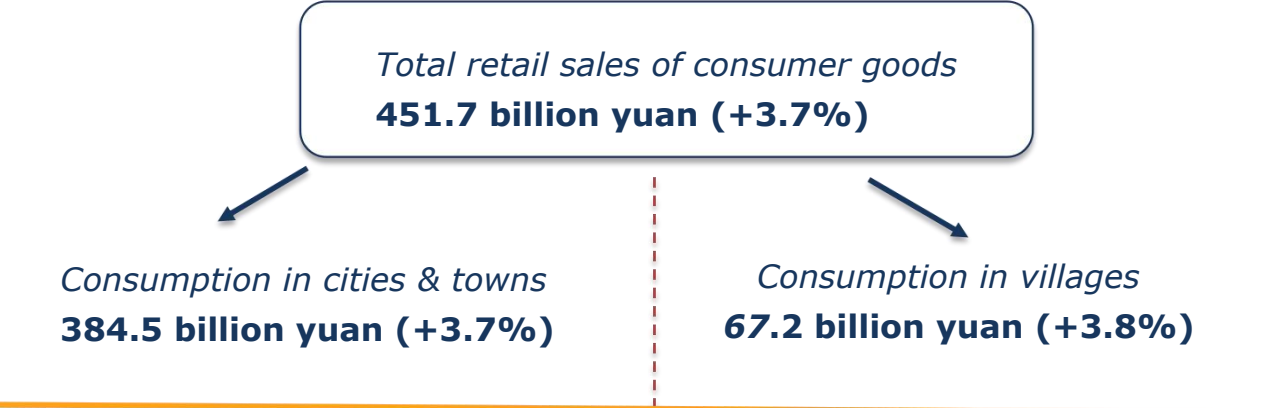


In December 2024, China's economy is exhibiting a steady growth, with automobile (EV) manufacturing sector showing the largest expansion





Full-scale expansion in industrial output

6.2%	Enterprises above the designated size
	By industry
2.2%	Oil & gas mining
9.7%	Electric machinery & equipment manufacturing
17.7%	Automobile manufacturing
	By product type
7.1%	Steel
-2.0%	Cement
43.2%	New energy vehicles

Steady increase in the retail sales of consumer goods

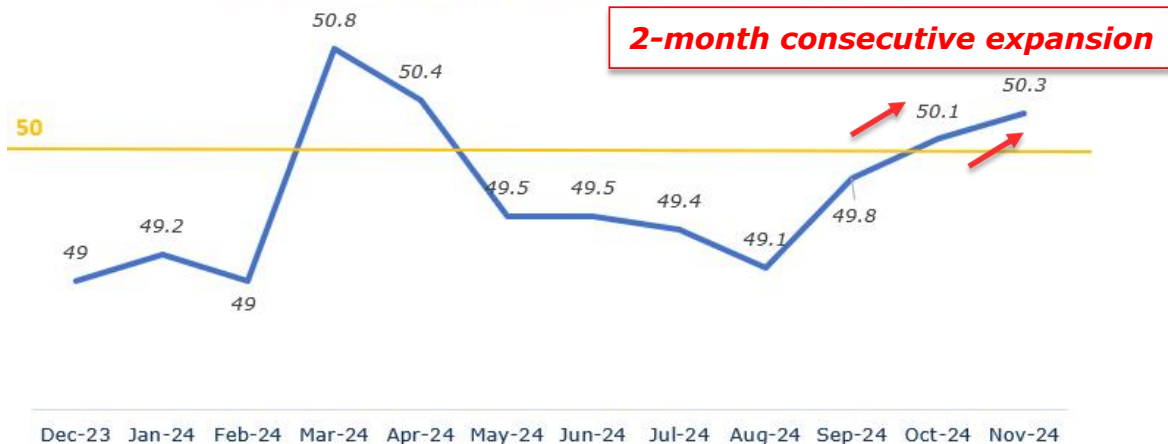


Steady increase in energy production

	Energy type	Domestic production	Import
	Coal	0.44 billion tons (+4.2%)	52.4 million tons (+10.9%)
	Crude oil	17.9 million tons (1.4%)	47.8 million tons (-1.1%)
	Natural gas	21.8 billion m³ (6.2%)	131.7 million tons (+9.9%)
	Electricity	846.2 billion KWH(+0.6%)	/

According to the Purchasing Manager Index (PMI) in November 2024, China's manufacturing industry is experiencing consecutive expansions after six months of decline

PMI Index (% , Dec 2023 - Nov 2024)



*Notes: A PMI index over 50 represents growth or expansion within the manufacturing sector compared with the prior month. A reading under 50 represents contraction, and a reading at 50 indicates an equal balance between manufacturers reporting advances and declines in their business.

Possible reasons for the consecutive growth

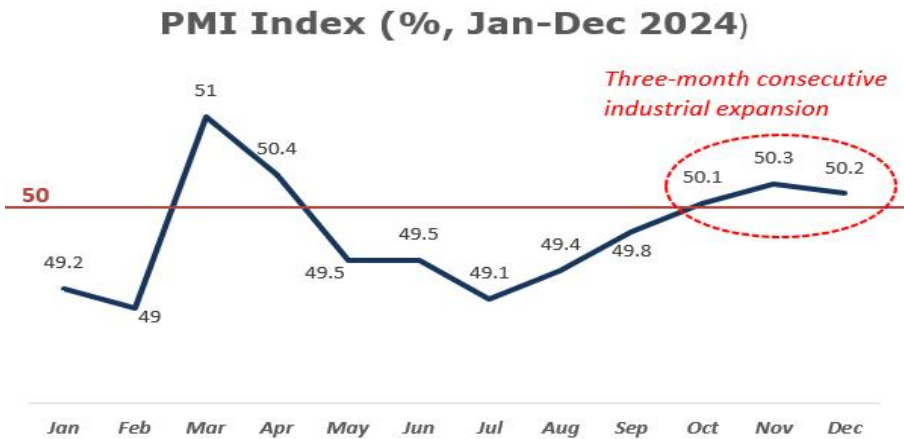
- 1 A series of stimulative policies is introduced at the end of September.
- 2 The rapidly expanding high-end manufacturing sector boosts the industry vitality.

PMI component indexes of the manufacturing industry

	PMI	Production	New order	Raw material inventory	Employee	Supplier delivery time
Dec 2023	49.0	50.2	48.7	47.7	47.9	50.3
Jan 2024	49.2	51.3	49.0	47.6	47.6	50.8
Feb 2024	49.1	49.8	49.0	47.4	47.5	48.8
Mar 2024	50.8	52.2	53.0	48.1	48.1	50.6
Apr 2024	50.4	52.9	51.1	48.1	48.0	50.4
May 2024	49.5	50.8	49.6	47.8	48.1	50.1
Jun 2024	49.5	50.6	49.5	47.6	48.1	49.5
Jul 2024	49.4	50.1	49.3	49.9	48.3	49.3
Aug 2024	49.1	49.8	48.9	47.6	48.1	49.6
Sep 2024	49.8	51.2	49.9	47.7	48.2	49.5
Oct 2024	50.1	52	50	48.2	48.4	49.6
Nov 2024	50.3	52.4	50.8	48.2	48.2	50.2

- The manufacturing industry was showing a **continuous upward trend** after an extended period of decline.
- The **production quantity of the manufacturing industry was significantly improving**.
- New market order displayed a moderate increase.
- The overall employment situation was still to-a-certain-degree worsening.
- A modest reduction on the delivery time of raw materials could be observed.

According to the Purchasing Manager Index (PMI) in December 2024, China's manufacturing industry is experiencing three consecutive months of expansion



*Notes: A PMI index over 50 represents growth or expansion within the manufacturing sector compared with the prior month. A reading under 50 represents contraction, and a reading at 50 indicates an equal balance between manufacturers reporting advances and declines in their business.

Warning signals to watch out for in the near future

- 1
- The decline of foreign demand in the manufacturing industry, indicating the lost of interest from overseas clients.
- 2
- Worsening employment situation (enterprises are cutting off staff while the order demand is on the rise).
- 3
- The rising costs of raw materials and labor narrowed down the profit margin for manufacturing enterprises.

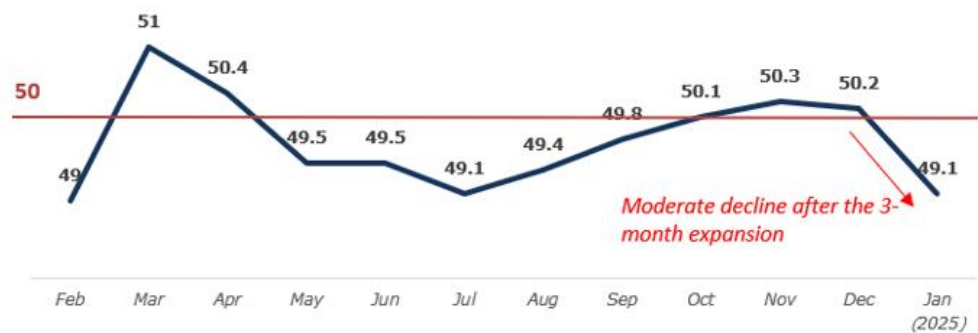
PMI component indexes of the manufacturing industry

	PMI	Production	New order	Raw material inventory	Employee	Supplier delivery time
Jan 2024	49.2	51.3	49.0	47.6	47.6	50.8
Feb 2024	49.1	49.8	49.0	47.4	47.5	48.8
Mar 2024	50.8	52.2	53.0	48.1	48.1	50.6
Apr 2024	50.4	52.9	51.1	48.1	48.0	50.4
May 2024	49.5	50.8	49.6	47.8	48.1	50.1
Jun 2024	49.5	50.6	49.5	47.6	48.1	49.5
Jul 2024	49.4	50.1	49.3	49.9	48.3	49.3
Aug 2024	49.1	49.8	48.9	47.6	48.1	49.6
Sep 2024	49.8	51.2	49.9	47.7	48.2	49.5
Oct 2024	50.1	52	50	48.2	48.4	49.6
Nov 2024	50.3	52.4	50.8	48.2	48.2	50.2
Dec 2024	50.2	52.1	51	48.3	48.1	50.9

- The manufacturing industry is maintaining an expanding trend, despite **less rapid** than the previous month.
- The production activity of the manufacturing enterprises is rapidly accelerating.
- The market order of the manufacturing industry is **on the upward trend (driven by the domestic market)**.
- Inventory of major raw materials is declining.
- The employment situation in the manufacturing industry continues to worsen.
- The delivery speed of raw materials is increasing by a modest extent.

According to the Purchasing Manager Index (PMI) in January 2025, China's manufacturing industry is displaying a moderate decline after the 3-month consecutive expansion

PMI Index
(%, Feb 2024-Jan 2025)



*Notes: A PMI index over 50 represents growth or expansion within the manufacturing sector compared with the prior month. A reading under 50 represents contraction, and a reading at 50 indicates an equal balance between manufacturers reporting advances and declines in their business.

Reasons for the pivot into industrial decline

- 1 Weaker industry dynamics with the approach of the Chinese new year
- 2 Rising tariff uncertainties under the second-time Trump administration.

PMI component indexes of the manufacturing industry

	PMI	Production	New order	Raw material inventory	Employee	Supplier delivery time
Feb 2024	49.1	49.8	49.0	47.4	47.5	48.8
Mar 2024	50.8	52.2	53.0	48.1	48.1	50.6
Apr 2024	50.4	52.9	51.1	48.1	48.0	50.4
May 2024	49.5	50.8	49.6	47.8	48.1	50.1
Jun 2024	49.5	50.6	49.5	47.6	48.1	49.5
Jul 2024	49.4	50.1	49.3	49.9	48.3	49.3
Aug 2024	49.1	49.8	48.9	47.6	48.1	49.6
Sep 2024	49.8	51.2	49.9	47.7	48.2	49.5
Oct 2024	50.1	52	50	48.2	48.4	49.6
Nov 2024	50.3	52.4	50.8	48.2	48.2	50.2
Dec 2024	50.2	52.1	51	48.3	48.1	50.9
Jan 2025	49.1	49.8	49.2	47.7	48.1	50.3

- ♦ The manufacturing industry displayed a **slight contraction**, after the three-month consecutive rise.
- ♦ The production activity of the manufacturing enterprises shows a mild slowdown.
- ♦ The new market order of the manufacturing industry is going down.
- ♦ Inventory of the raw materials is significantly decreasing.
- ♦ The unemployment situation of the manufacturing industry is still worsening.
- ♦ The delivery time of the raw materials is increasing by a narrow margin.

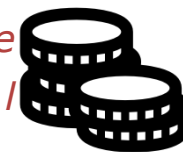
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The overall operating income of China's machine tool industry is dropping, despite an increase in the production and market order (January – October 2024)

Total operating income	838.7 billion yuan	-5.9%
Operating income of metal-cutting machine tools		+7.7%
Operating income of metal-forming machine tools		+8.9%

The overall income is dropping despite the increase in some major machine tool categories. (metal-cutting, metal-forming)



Market orders on the rising trend, both in terms of new orders and existing orders on hand.

New orders for metal-processing machine tools	+3.2%
Existing orders for metal-processing machine tools on hand	+1.5%



Total import & export of machine tools	-1.8%
Import of machine tools	-9.6%
Export of machine tools	+2.6%

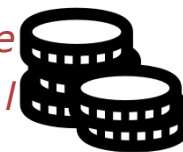
China's machine tool industry is becoming more export-oriented, with a rise in export and a significant decline in import.



The overall operating income of China's machine tool industry is dropping, despite an increase in the production and market order (January – November 2024)

Total operating income	930.2 billion yuan	-5.6%
Operating income of metal-cutting machine tools		+6.6%
Operating income of metal-forming machine tools		+5.5%

The overall income is dropping despite some increase in several major machine tool categories (metal-cutting, metal-forming).



Market orders on the rising trend, both in terms of new orders and existing orders on hand.

New orders for metal-processing machine tools	+8.1%
Existing orders for metal-processing machine tools on hand	+4.3%



Total import & export of machine tools	-1.2%
Import of machine tools	-9.4%
Export of machine tools	+3.2%

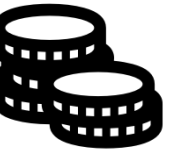
China's machine tool industry is becoming more export-oriented, with a rise in export and a significant decline in import.



The overall operating income of China's machine tool industry is dropping, despite an increase in the production and market order (January – December 2024)

Total operating income	1040 billion yuan	-5.2%
Operating income of metal-cutting machine tools		+6.3%
Operating income of metal-forming machine tools		+4.4%

The overall income is dropping despite some increase in several major machine tool categories (metal-cutting, metal-forming).



Market orders on the rising trend, both in terms of new orders and existing orders on hand.

New orders for metal-processing machine tools	+5.5%
Existing orders for metal-processing machine tools on hand	+10.8%



Total import & export of machine tools	-0.3%
Import of machine tools	-8.6%
Export of machine tools	+4%

China's machine tool industry is becoming more export-oriented (despite the total international trade volume is going slightly downward), with a rise in export and a significant decline in import.



Trade exchange data in the machine tool industry between Italy and China (January-August 2024)

Italy's machine tool imports and exports worldwide (in millions of euro)

	Import			Export		
	Value	YOY change 2023-2024	Percentage share	Value	YOY change 2023-2024	Percentage share
Asia	184.3	-47.4%	27.6%	456.7	+8.6%	18.2%
Oriental Asia	177.8	-46.9%	26.6%	190.7	-12.5%	7.6%
China	44.3	-22.7%	6.6%	138.4	-15.3%	5.5%
Worldwide total	668.6	-43.3%		2510.2	+7.9%	

Italy's machine tool imports and exports with China by category (in millions of euro)

Marked blue are the respective indicators for worldwide total

		Value	YOY change	Share of worldwide total
Metal-cutting machine tools	Import	15.5 (444.3)	-30.6% (-42.8%)	3.5%
	Export	98.7 (1077.3)	-23.6% (+5.4%)	9.2%
Metal-forming Machine tools	Import	11.0 (121.3)	-12.8% (-43.8%)	9.1%
	Export	30.0 (1153.5)	+55.8% (+9.4%)	2.6%
Non-conventional technology machine tools	Imports	17.7 (102.9)	-20.5% (-44.8%)	17.2%
	Exports	9.6 (279.4)	-35.1% (+11.7%)	3.5%

Key takeaways

- Italy's machine **tool import from the rest of the world drops by approximately a half year-on-year**, with **the import from China displaying a similar trend but on a relatively smaller scale** (down by 22.7%). In terms of export, Italy's trade with Oriental Asia countries (China, Japan, South Korean) shows a downward trend.
- A **comprehensive decline** (for both import and export) in all machine tool categories can be observed between Italy and China, except a **large rise in Italy's metal-forming machine tool export** to China.

Trade exchange data in the machine tool industry between Italy and China (January - September 2024)

Italy's machine tool imports and exports worldwide (in millions of euro)

	Import			Export		
	Value	YOY change 2023-2024	Percentage share	Value	YOY change 2023-2024	Percentage share
Asia	211.2	-44.8%	27.5%	518.5	+9.1%	18.4%
Oriental Asia	203.7	-44.5%	26.5%	224.8	-9.1%	8%
China	51.16	-18.7%	6.7%	162.92	-13.7%	5.8%
Worldwide total	769	-41.3%		2822.9	+7.5%	

Italy's machine tool imports and exports with China by category (in millions of euro)

Marked blue are the respective indicators for worldwide total

		Value	YOY change	Share of worldwide total
Metal-cutting machine tools	Import	19.36 (444.3)	-22.7% (-42.8%)	3.8%
	Export	118.29 (1208.0)	-17.9% (+5.2%)	9.8%
Metal-forming Machine tools	Import	11.54 (121.3)	-14.2% (-43.8%)	8.6%
	Export	32.69 (1290.8)	+35.2% (+8.3%)	2.5%
Non- conventional technology machine tools	Import	17.7 (118.13)	-20.5% (-42.6%)	17.2%
	Export	11.94 (323.3)	-41.9% (+13.9%)	3.7%

Key takeaways

- Based on data from September 2024, Italy's machine tool **import from Oriental Asian countries (China, Japan, South Korea) was cut by almost a half on a year-on-year basis**; Italy's machine tool **import from China was also dropping but on a much smaller scale.**
- In September 2024, Italy's machine tool **trade with China was significantly decreasing for all categories**, except a large rise in the export of metal-forming machine tools.

Trade exchange data in the machine tool industry between Italy and China (January - October 2024)

Italy’s machine tool imports and exports worldwide (in millions of euros, January – October 2024)

	Import			Export		
	Value	YOY change 2023-2024	Percentage share	Value	YOY change 2023-2024	Percentage share
Asia	237.4	-44.5%	27.7%	589.8	+9.7%	18.6%
Oriental Asia	229.7	-44.1%	26.8%	255.5	-6.5%	8.1%
China	59.0	-15.7%	6.9%	190.31	-9.0%	6.0%
Worldwide total	857.6	-41.2%		3173.1	+5.7%	

Italy’s machine tool imports and exports with China by category (in millions of euros, January – October 2024)

Marked blue are the respective indicators for worldwide total

		Value	YOY change	Share of worldwide total
Metal-cutting machine tools	Import	23.2 (568.1)	-17.6% (-41.2%)	4.1%
	Export	142.0 (1348.1)	-8.9% (+2.9%)	10.5%
Metal-forming Machine tools	Import	12.6 (154.7)	-15.8% (-40.6%)	8.2%
	Export	34.0 (1460.3)	+15.1% (+6.5%)	2.3%
Non-conventional technology machine tools	Imports	23.6 (134.7)	-13.6% (-41.8%)	17.2%
	Exports	14.3 (364.7)	-39.9% (+13.2%)	3.9%

Key takeaways

- According to data from January to October 2024, **Italy’s machine tool import was significantly dropping** on a global basis. In terms of **machine tool export, Italy was pivoting the focus onto southeast Asian countries**, with an upward trend being observed (but a downward trend for other Asian countries).
- According to data from January to October 2024, **Italy’s machine tool trade with China, both export and import, was decreasing comprehensively. China’s import of metal-forming machine tools was still increasing** (+15.1% year-on-year) but on a much smaller scale compared to the previous month (+35.2% year-on-year).

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In-detail analysis of China's machine tool industry summary

- Both domestic and foreign machine tool manufacturers have a strong tendency to locate in China's developed regions, particularly in the Yangtze-Delta area.
- Foreign machine tool manufacturers are still dominating the high-end market segment in China, with domestic manufacturers focusing on the low-end market but rapidly catching up.
- Divergent trends of development can be observed between domestic and foreign machine tool manufacturers.
- Italy's machine tool industry boasts a long history, which can be traced back to the era of Industrial Revolution.
- After decades of development, Italy has become a major player on the global machine tool industry landscape.
- Italy's machine tool industry possesses unique characteristics on the global stage.
- China is Italy's third-largest machine tool export destination (in 2023), after US and Germany.
- Italian machine tool manufacturers in China.
- China's eastern cluster consists of seven provincial regions/municipalities- Shanghai, Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, and Shandong.
- Major machine tool manufacturers headquartered in China's eastern cluster.

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Both domestic and foreign machine tool manufacturers have a strong tendency to locate in China's developed regions, particularly in the Yangtze-Delta area

Geographic concentration of (both foreign and domestic) machine tool manufacturers in China

City of HQ/main office	Amount of analyzed machine tool builders
Shanghai	36
Jiangsu	27
Zhejiang	10
Guangdong	6
Beijing	4
Shandong	4
Liaoning	3
Hubei	2
Chongqing	1
Hunan	1
Shaanxi	1
Tianjin	1



Source: ITA machine tool desk, In3act analysis

Shanghai (with long-standing international appeals), Zhejiang, Jiangsu(Suzhou- largest Italian industrial cluster outside of Italy; Taicang- hometown of German business) accommodates approximately 80% of the machine tool manufacturers, both domestic and foreign ones, in China.

Foreign machine tool manufacturers are still dominating the high-end market segment in China, with domestic manufacturers focusing on the low-end market but rapidly catching up

	Foreign	Chinese domestic
Level of precision	Japanese and German machine tool manufacturers, such as Okuma and Trumpf, can usually achieve an accuracy of 0.005 mm.	Domestic companies have been catching up and making significant progress in the manufacturing of high-precision machine tools.
CNC technology	At the forefront of CNC technology application.	China has been rapidly developing CNC technology, especially in five-axis linkage and heavy machine tool technology, and is beginning to export high-CNC machine tools.
CNC penetration rate (data from 2022)	General CNC rate in Japan > 80% General CNC rate in USA > 70%	CNC rate of metal-cutting machine tools: 46.3% CNC rate of metal-forming machine tools: 11.3%
Quality of accessories and key parts	Leading foreign companies, (e.g. Okuma and Mori Seiki) can provide more mature and efficient solutions.	Chinese companies have been making breakthroughs in the R&D of functional accessories and key parts.
Company structure	Machine tool companies in South Korea and Taiwan are mostly small and medium-sized enterprises that can quickly respond to market changes.	Mostly large state-owned enterprises, with low flexibility and adaptability to market changes.

Divergent trends of development can be observed between domestic and foreign machine tool manufacturers

<i>Domestic</i>	<i>International</i>
Large-scale equipment renewal and upgrading for machine tools <p>The last round of sales peak for machine tools was witnessed from 2011 to 2014. According to data from Sina Finance, until the end of 2020, China's domestic market owned about eight million units of machine tools, with at least 60% reaching the end-of-life stage (having been in use for more than ten years) and therefore facing replacement in the next few years.</p>	Inclusion of networking technology <p>Rapid advancement in networking technology has made it easier to connect smart devices and build local networks for the machine tool industry, leading to a more efficient manufacturing mechanism.</p>
Domestic substitution of core machine tool equipment <p>China's has been pursuing the independent production of machine tools (in line with the overarching Domestic Substitution Policy Initiative), and has, up till now, achieved a decent production scale in the field of precision CNC system, electric spindle, ball screw, CNC tool holder and servo system, in the domestic market.</p>	Integration of AI <p>As the machine tool industry becomes automated to a greater degree, programs need to be written and executed in real-time for better management. That is where AI came in. AI can be used to monitor the programs, detect wear and tears, and assist in the maintenance of machine tools.</p>
Hugely driven by downstream industrial demands <p>Rising demand from military & aerospace industry – drives up the production of optical measurement & control instruments and composite materials. (Representative company: Aopu Optoelectronics)</p> <p>Stringent environmental requirements – drives up the production of turbocharger that is applied in new energy vehicles. (Representative company: Best Automotive)</p> <p>Wide application of humanoid robots – drives up the production of industrial master batch.</p>	Cybersecurity issues on the agenda <p>As the machine tool industry embraces more digital technologies and becomes more automated, the concern of industrial hacking, which can possibly lead to system disorder and even cause severe damage to the operators, is on the forefront of the agenda. Experts are working to enhance the cybersecurity so that a safe manufacturing process can be guaranteed.</p>

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Italy's machine tool industry boasts a long history, which can be traced back to the era of Industrial Revolution



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After decades of development, Italy has become a major player on the global machine tool industry landscape

Italy’s machine tool market performance: data from 2022

	Consumption		Production	
	Value (in billion USD)	Rank	Value (in billion USD)	Rank
China	27.4	1	27.1	1
USA	9.3	2	5.9	5
Italy	5.7	3	6.9	4
Germany	5.5	4	10.2	3
Japan	4.1	5	10.5	2
South Korea	3.1	6	4.5	6
India	2.8	7	1.4	9

	Imports		Exports	
	Value (in billion USD)	Rank	Value (in billion USD)	Rank
China	6.6	1	6.3	3
USA	5.5	2	2.1	8
Italy	2.8	5	3.2	4
Germany	2.6	3	7.3	1
Japan	0.08	15	7.2	2
South Korea	1.0	9	2.4	6
India	1.6	6	0.2	21

Source: Gardner Intelligence, Modern Machine Shop

Market performance summary

As shown in the chart, in 2022, Italy ranked **4th in terms of machine tool production**, behind China, Japan and Germany. Italy also secured the **4th position in terms of machine tool exports**, following Germany, China and Japan.

According to UCIMU data in 2022, Italy’s machine tool industry was significantly **export-oriented**, with 47.6% of the production flowing to international markets.

According to UCIMU data in 2023, Italy’s production of machine tools & robots & automation systems reached a new level with a projected value of 7.615 billion euros, representing a 4.6% year-on-year increase; Italy’s machine tool exports showed a projected value of 4.223 billion euros, marking a substantial 21.8% year-on-year. This phenomenon is largely **driven by the rising foreign demand** and indicates **Italy’s outstanding competitiveness as well as growing reliance on international markets**.

Italy's machine tool industry possesses unique characteristics on the global stage

Mainly small-and-medium-sized enterprises

According to a survey conducted by UCIMU in 2019, out of 400 machine tool manufacturers in the industry, **54.6%** were invoiced less than 12.5 million euro, and **62.8%** employed fewer than 100 people.

High degree of specialization and customization

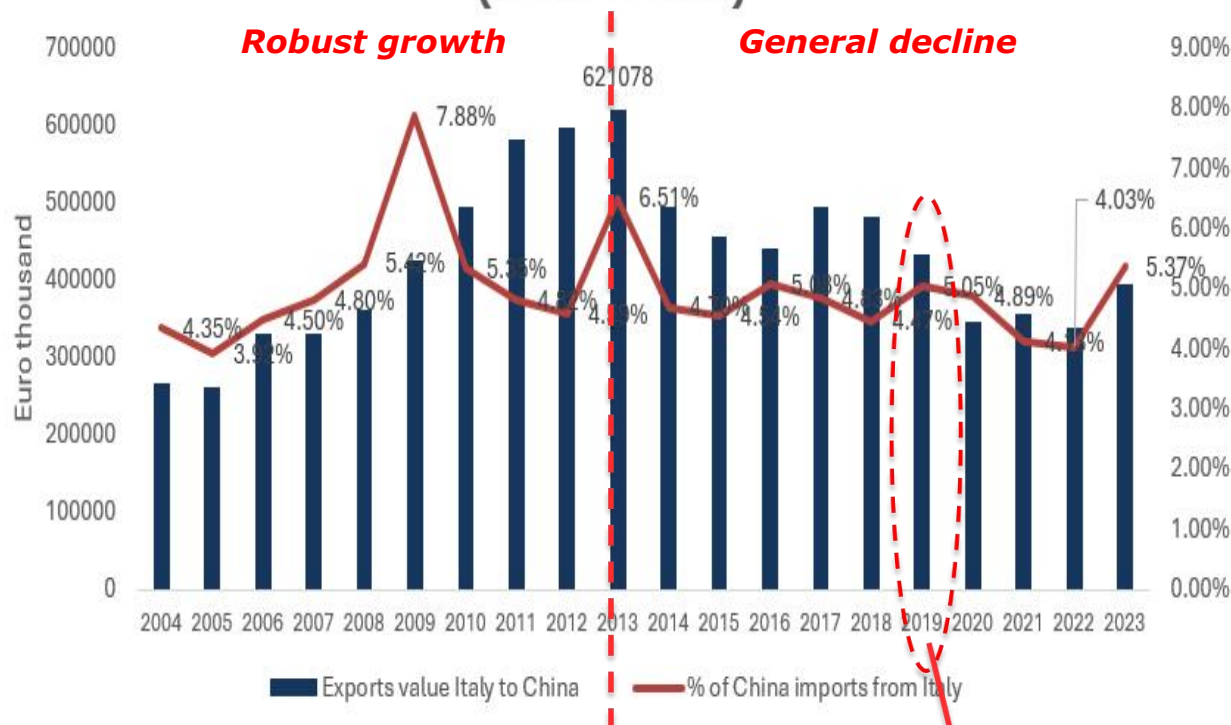
With the relatively smaller company size, Italy's machine tool manufacturers tend to focus on **specific types of machine tools that can often be customized** as per the client demand, therefore forming a unique advantage in certain sub-sectors.

Leading in heavy-duty and large-scale machine tools

Italy produces world-class heavy-duty and large-scale machine tools, which are widely used in **high-end manufacturing sectors**, such as aerospace, automotive, energy, oil & gas and shipbuilding.

China is Italy's third-largest machine tool export destination (in 2023), after US and Germany

Italy Machine tool (incl. parts) exports to China
(2004 - 2023)



2019 Milestone
Net importer – Net exporter

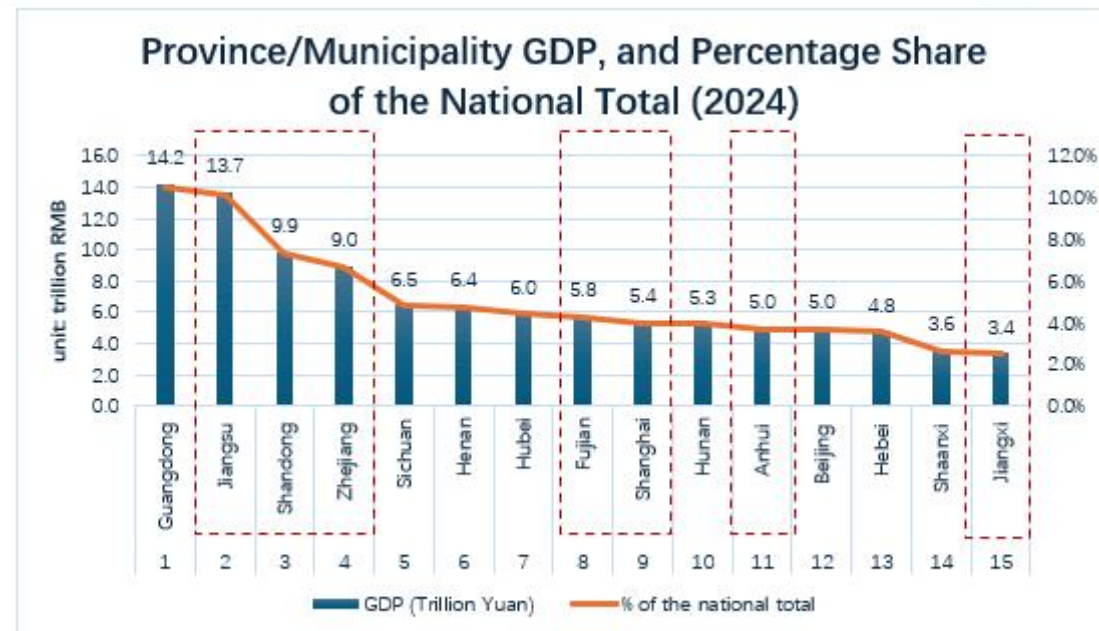
Industry insights

- According to UCIMU data in 2023, China is Italy's **third-largest machine tool export destination**, reaching 286 million euro annually.
- Italy's machine tool products have been **expanding into China's high-end sectors**, such as aerospace, automotive and rail, with **large & heavy machine tools being the most favorite products** by Chinese purchasers.
- From 2004 to 2023, machine tools exported from Italy to China achieved a **CAGR of 2.2%**. Specifically, the export experienced a **steady growth from 2004 to 2013**, peaking at 621 million euros; however, the export began **to decline on a general basis after 2013**, due to China's **efforts toward self-reliance** in the machine tool industry. ("Made-in-China 2025 Plan" issued in 2015)
- In 2019, China has **transitioned from a net importer to a net exporter** of machine tools.
- The share of machine tools China imported from Italy have been **fluctuating from 3-6%** throughout the twenty-year duration.

China's eastern cluster consists of seven provincial regions/municipalities- Shanghai, Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, and Shandong

The eastern cluster is considered one of the most developed areas in China, and contributes about **38.78%** of China's gross GDP in 2024.

Framed in brown: eastern China cluster provinces/municipalities



Source: Provincial statistical bureaus, 2024

Notes

- As a core region for China's industrial development, the eastern China cluster is in a leading position across a wide range of sectors (in China), such as **light industry, machinery, electronics, and automobile manufacturing**.
- This region also plays a crucial role in China's machine tool industry, containing also **the majority of foreign machine tool companies in China**.
- Highlights: **Jiangsu province** has exceptional performance in the field of **advanced manufacturing** and accommodates the largest number of national-level industrial clusters. Key industries include automobile manufacturing (e.g. vehicle and associated parts), high-end equipment (e.g. aviation) manufacturing, and electronic information technology.

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Up/Downstream sectors of machine tools summary

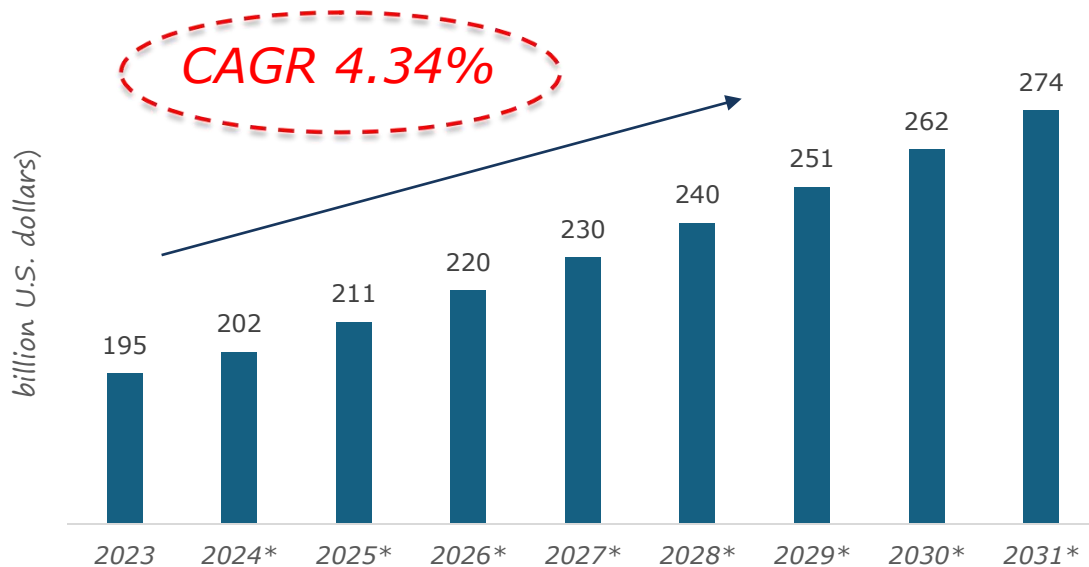
- An upward trend can be observed in the global construction machinery industry.
- Global leading construction machinery enterprises in China.
- China's metallurgy industry, as a major downstream industry of machine tools, can be broadly divided into two segments – the ferrous metallurgical segments and the non-ferrous metallurgical segments.
- Geographical distribution of China's metallurgy production companies.
- China has several major production sites for the metallurgy industry, each exhibiting distinctive characteristics.
- The future entails opportunities and threats for the metallurgy industry, which investors should watch out for.

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An upward trend can be observed in the global construction machinery industry

Global construction equipment market
size
(2023 - 2031*)



Key takeaways

The global construction machinery industry is experiencing **a significant growth**. The market is valued at approximately 195 billion USD in 2023, and is projected to reach an estimated value of 274 billion USD by 2031 (**with a CAGR of 4.34%**). The growth trajectory unveils the **robust demand** for construction machinery globally, as well as a **positive outlook** for the construction machinery industry over the coming years.

(Source: Statista)

Additional Note: China, as the largest market for construction machinery in the world, also displays an **upward industry trend**. The market is valued at 50 billion USD in 2023 (**soil excavators constitutes 60%** of the total construction machinery sales in China), with an expectation to reach 68 billion USD in 2031, **registering a CAGR of 5.55%**.

(Source: Mordor Intelligence)

Global leading construction machinery enterprises in China

Company name	Locations (province)
Xuzhou Construction Machinery Group Co., Ltd. (XCMG) 	Jiangsu
Sany Heavy Industry Co., Ltd. 	Hunan
Zoomlion Heavy Industry Science & Technology Co., Ltd. 	Hunan
LiuGong Machinery Co., Ltd. 	Guangxi
Lingong Heavy Machinery Co., Ltd. 	Shandong
China Railway Construction Heavy Industry Corporation Limited  铁建重工	Hunan

Lonking Holdings Limited 	Shanghai
Zhejiang Dingli Machinery Co., Ltd. 	Zhejiang
Shaanxi Tonly Heavy Industries Co., Ltd. 	Shaanxi
Sunward Intelligent Equipment Co., Ltd. 	Hunan
Hunan Sinoboom Intelligent Equipment Co., Ltd. 	Hunan
Inner Mongolia North Heavy Industries Group Co., Ltd. 	Inner Mongolia

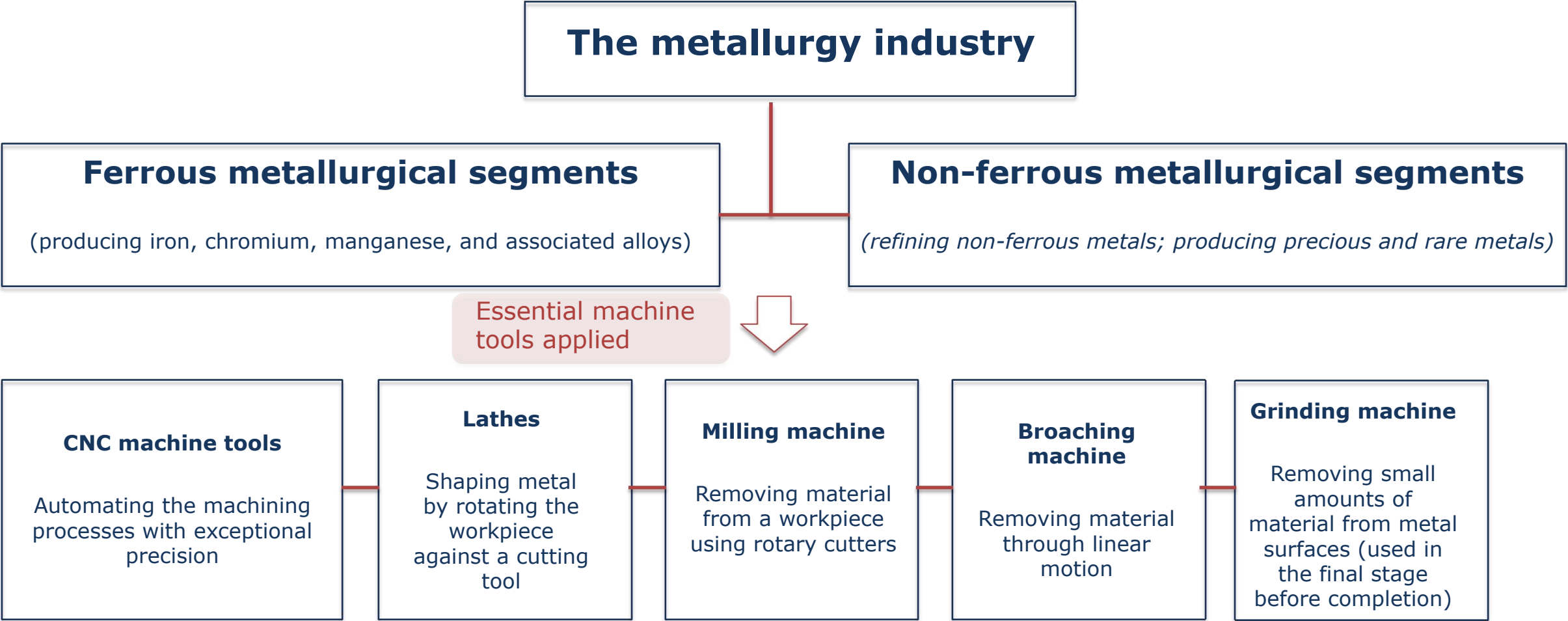


Source: ITA Machine Tool Desk, In3act Analysis

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China’s metallurgy industry, as a major downstream industry of machine tools, can be broadly divided into two segments – the ferrous metallurgical segments and the non-ferrous metallurgical segments



Geographical distribution of China's metallurgy production companies

China is the largest metallurgy market in the world, and also the world's largest steel producer, accounting for approximately 54% of the global steel production in 2023 (source: World Steel Association).

Company name	Introduction
<p>中国宝武钢铁集团有限公司</p> <p>China Baowu Steel Group Co., Ltd.</p> 	<ul style="list-style-type: none">A state-owned iron and steel company headquartered in Shanghai.The company was formed in December 2016 through the merger of Baosteel Group and Wuhan Iron & Steel Corporation, making it the largest steel producer in the world.
<p>河北钢铁集团有限公司</p> <p>Hebei Iron & Steel Group Co., Ltd.</p> 	<ul style="list-style-type: none">Headquartered in Hebei province, Hesteel Group was established through the merger of two prominent steel companies -- Tangshan Iron & Steel Group and Handan Iron & Steel Group.The company has rapidly grown into a significant player in the global steel industry after the merger.
<p>首钢集团有限公司</p> <p>Shougang Group Co., Ltd.</p> 	<ul style="list-style-type: none">Founded in 1919, Shougang Group is one of the oldest and largest steel companies in China. The company has evolved significantly since its establishment, playing a crucial role in the development of China's steel industry.

<p>鞍山钢铁集团有限公司</p> <p>Anshan Iron and Steel Group Co., Ltd.</p> 	<ul style="list-style-type: none">Ansteel Group is one of the largest steel producers globally, recognized for its extensive production capabilities and a wide range of steel products.The company has a significant historical legacy (one of the first large-scale steel manufacturing enterprises established after 1949 and is often referred to as the "Cradle of the Chinese Steel Industry.")
<p>中国铝业公司集团有限公司</p> <p>China Aluminum Corporation Ltd.</p> 	<ul style="list-style-type: none">The largest company in China in the field of aluminum, copper, rare earths (as well as related non-ferrous metal mineral products), smelting products, processed products and carbon products.
<p>中国有色矿业集团有限公司</p> <p>China Nonferrous Metal Mining (Group) Co., Ltd.</p> 	<ul style="list-style-type: none">CNMC is involved in various business areas of the non-ferrous metals industry, including:<ul style="list-style-type: none">Exploration and mining of metals such as copper, aluminum, lead, zinc, nickel, tantalum, niobium, and beryllium.Construction projects related to the mining industry.Trade and technological services associated with non-ferrous metals.



Source: ITA Machine Tool Desk, In3act Analysis

China has several major production sites for the metallurgy industry, each exhibiting distinctive characteristics

Northern China (mainly Hebei and Shanxi)



Hebei Province is China's largest steel production base and home to large enterprises such as Baosteel and Tangshan Iron & Steel.

Shanxi Province has developed a relatively complete metallurgical industry chain, benefiting from its rich coal resources.

Northeastern China (Liaoning, Jilin, Heilongjiang)



The region is dominated by heavy industry, with large enterprises such as Anshan Iron & Steel playing an essential role. The metallurgical industry in Northeast China is relatively mature in terms of technology and equipment, but faces the challenge of transformation and upgrading.

Central and south region (mainly Hubei and Jiangxi)



The metallurgical industry in Central and South China is developing rapidly, with the rise of large enterprises such as Wuhan Iron & Steel Group Company being witnessed. (It is also worth mentioning that Jiangxi Province primarily produces non-ferrous metals, including tungsten and rare earths).

Eastern China (Mainly Jiangsu, Anhui, Shandong)



East China has a developed economy, and the metallurgical industry is dominated by small and medium-sized enterprises with diversified products. Among three provinces, Shandong Province has the largest output in steel and non-ferrous metals.

The future entails opportunities and threats for the metallurgy industry, which investors should watch out for

Opportunities	Threats
<p>Rising demand in non-construction sectors</p> <p>The demand for steel in non-construction sectors (despite the sluggish demand in the construction sector) such as machinery and automobiles, are gradually increasing.</p> <p>For example, as a crucial downstream market for the metallurgical industry, the rapid development of the new energy vehicle (NEVs) sector drives up the demand for lightweight materials, such as high-strength steel and aluminum alloys.</p>	<p>Demand-supply mismatch</p> <p>China’s steel industry is the facing the dilemma of high output and inventory levels, against a sluggish market demand which is primarily due to a prolonged downturn in the real estate market.</p>
	<p>Pressure for green development</p> <p>According to the national policy requirements, by 2025, more than 80% of the steel production capacity will need to undergo the ultra-low emission transformation. However, higher production costs (due to environmental requirements) make it difficult for companies to find a balance between profitability and environmental protection, let alone persuading downstream users to accept higher prices for green steel.</p>

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The upstream (precision parts) sectors of the machine tool industry contains a broad spectrum of products, with a direct impact on the reliability and effectiveness of machine tools

Main upstream sectors	Main products
Precision parts	<ul style="list-style-type: none">•Lead screw (ball screw): used to achieve high-precision linear motions; an important part of the transmission system of CNC machine tools.•Linear guide: providing high-precision linear motion support to ensure the stability and accuracy of machine tool operation.•Bearing: referring to spindle bearings, ball bearings, etc., mainly used to support the rotating parts and reduce friction.•Spindle unit: one of the core components of the machine tool; is responsible for driving the rotation of the tool or workpiece, which directly affects the machining accuracy and efficiency.
Functional parts	<ul style="list-style-type: none">•Tool magazine: used to store and manage the tools required by the machine tool; realizing quick replacement of tools through an automatic tool changer.•Gears: used to transmit power and change the movement direction.•Milling head: used to install the milling cutter and achieve cutting processing.•Tool holder: used to fix and support tools and is an important component of lathes and milling machines.•CNC turntable: serving as the fourth or fifth axis of the machine tool to achieve multi-angle and multi-faceted processing.



Main upstream sectors	Main products
CNC system	<ul style="list-style-type: none">•Control unit: responsible for processing instructions and controlling the motion trajectory of the machine tool; applied in point control, linear control and contour control systems.•Servo drive system: realizing closed-loop, semi-closed-loop or open-loop control to ensure high-precision motion.•Software module: used for programming, simulation processing and data processing, such as macro programs and interpolation functions.
Castings	<ul style="list-style-type: none">•Lathe bed casting: ensuring the rigidity and stability of the overall structure of the machine tool.•Guide castings: supporting and guiding moving parts; ensuring precision and durability.



Notes

Precision components-- *Jiangsu Province (Suzhou and Wuxi city) serves as the core area for precision manufacturing, and is also the home to numerous **high-end ball screw & linear guide** manufacturers, while **Zhejiang Province** (Ningbo and Taizhou city) is renowned for **high-precision gear and bearing** manufacturing.*

Functional parts-- *Zhejiang Province (Wenzhou and Ningbo city) is well-known for **power chucks and CNC turntables**; while **Jiangsu province** (Changzhou and Kunshan city) is home to **spindles & tool holder** manufacturers.*

Major downstream applications of machine tool products include automobiles, molds, 3C, airplanes, shipbuilding, construction machinery, and metallurgy industry, with distinctive geographical features

Sector	Geographical features
Automotive	<p>Yangtze River Delta (Shanghai, Jiangsu, Zhejiang) is among the leading clusters for the auto sector.</p> <p>Shanghai and Guangzhou are in the leading positions for NEV and smart automobiles production, while Anhui and Zhejiang provinces are catching up.</p>
3C	<p>Suzhou (Jiangsu) has an edge in 3C products production, and stands out in precision manufacturing.</p>
Aerospace	<p>The aerospace industry in China's eastern cluster has developed rapidly in recent years.</p> <p>Shanghai has built up a strong synergy with Jiangsu and Zhejiang in the fields of large aircraft manufacturing, R&D (for drones), and airport economy (development of industrial ecosystems centered around airports, designed to facilitate global trade and boost regional economic growth).</p>
Shipbuilding	<p>Highly concentrated in the eastern cluster, with Zhejiang, Jiangsu, and Shanghai collectively accounting for 74.1% of total ship completions (OECD, 2019) in China.</p>

High-end segments of the precision parts industry are dominated by foreign companies, with mid-to-low end segments fraught with domestic companies

Precision parts industry



Definition

*The precision parts mainly consist of **spindles, screws, linear guides, and bearings**, playing a key role in improving the efficiency, precision, and accuracy of machine tools.*

Screw & linear guide market

***Monopolized by foreign companies, primarily Japanese and Taiwanese (China) companies.** Foreign enterprises possess in total 65% of the market share in China according to Soochow Securities in 2023. (Taiwanese companies like HIWIN and PMI occupy 50% of the market share; Japanese companies like NSK and THK occupy about 15% domestic market share).*

Bearing market

*The **high-end segment is dominated by leading multinational companies** such as SKF, Schaeffler, NSK, JTEKT, NTN, TIMKEN, NMB, and NACHI; while **mid-to-low-end segment is mostly filled by domestic manufacturers.***

Geographical distribution of (CNC) precision parts companies in China

Company Name	Main products	Country of Origin	Chinese HQ
NACHI	Bearing	Taiwan (China)	Shanghai
NMB	Bearing	Japan	Shanghai
JTEKT	Bearing	Japan	Shanghai
HIWIN	Ball Screws, Linear Guides, Bearing	Taiwan (China)	Suzhou city, Jiangsu province
PMI	Ball Screws, Linear Guides	Taiwan (China)	Shanghai
THK	Ball Screws, Linear Guides	Japan	Dalian city, Liaoning province
NSK	Ball Screws, Spindle bearings	Japan	Suzhou city, Jiangsu province
SKF	Ball Screws, Spindle bearings	Sweden	Shanghai
NTN	Spindle bearings	Japan	Shanghai
Schaeffler	Ball Screws, Spindle bearings	Germany	Shanghai
Bosch Rexroth	Ball Screws, Spindle bearings	Germany	Shanghai
Westwind Air Bearings	Spindles	UK	Suzhou city, Jiangsu province
Kessler	Spindles	Germany	Shanghai
GMN	Spindles	Germany	Shanghai
Kenturn	Spindles	Taiwan (China)	Shanghai

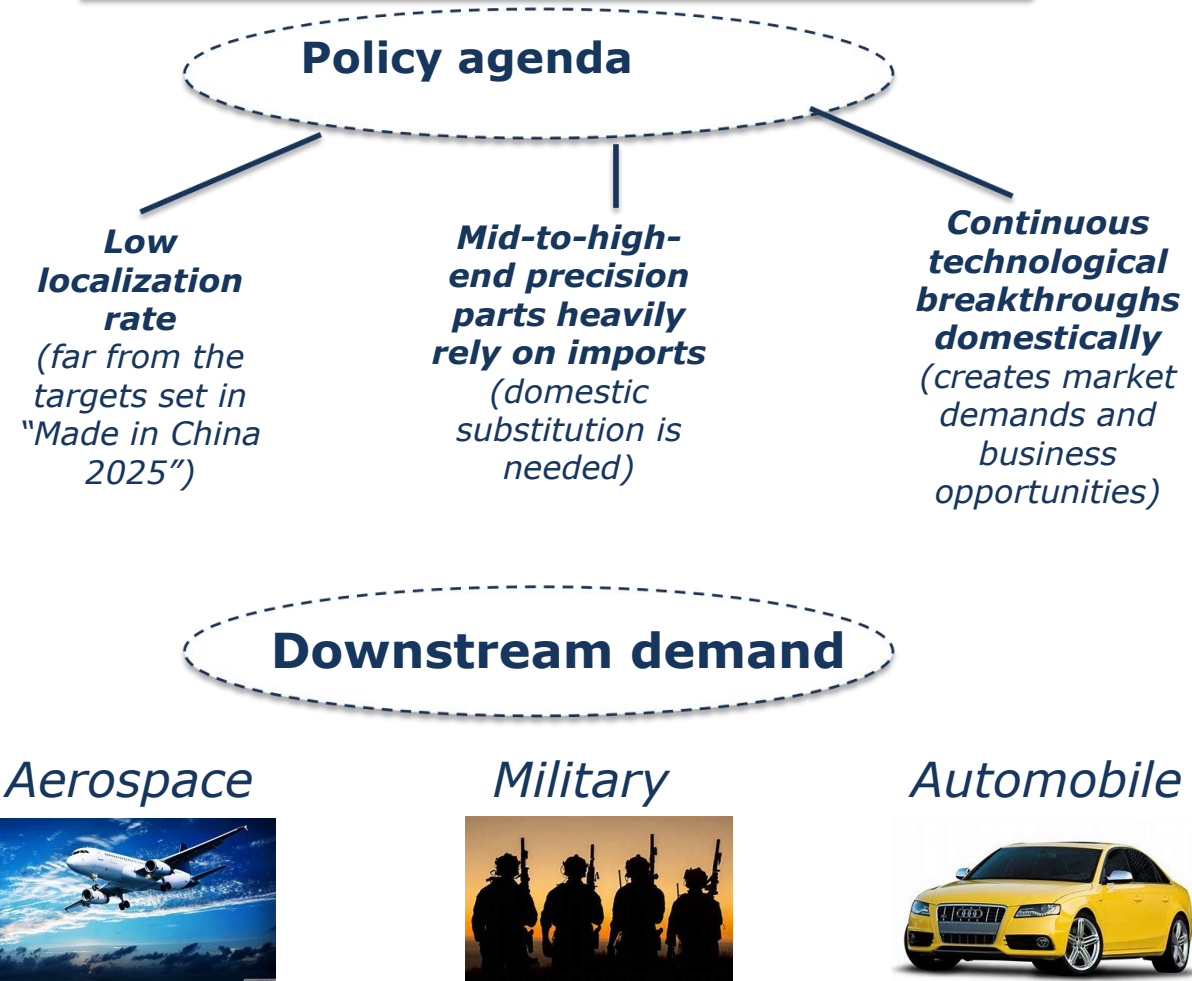
Company Name	Main products	Country of Origin	Chinese HQ
FISCHER PRECISE	Spindles	Switzerland	Shanghai
IBAG	Spindles	Switzerland	Beijing
NAKANISHI	Spindles	Japan	Shanghai, Shenzhen



Source: ITA Machine Tool Desk, In3act Analysis

China's precision parts supply is on an upward trend in the past few years, mainly driven by the policy agenda and downstream demands

Drivers for the upward trend



Outcome

In 2023, the market size of China's **ball screw industry** was approximately 3.1 billion RMB with the compound **growth rate of 10.18% from 2014 to 2023**.

China's **linear guide industry** market size in 2020 was approximately 516 million USD and is expected to reach 821 million USD in 2027, accounting for **approximately 28.67% of the global market share**.

China's **machine tool bearing market** size was projected to reach 278.5 billion RMB in 2023, a year-on-year increase of 10.82%. China has become the **world's third-largest bearing producer after Japan and Sweden**, with bearing output reaching 27.5 billion sets in 2023, a year-on-year increase of 6.18%.

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Regulations & policy initiatives of the machine tool industry

- Regional governments are putting out practical measures after the central government introduced the overarching policy initiative.
- Chinese central government has been hashing out policy initiatives to develop the financial services for the manufacturing industry.
- This “Specialized, Refined, Distinctive, Innovative Small Giants” policy initiative has gone through a process of evolution over the past few years.
- There are two specific beneficial policies that foreign-invested enterprises can leverage on.

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Regional governments are putting out practical measures after the central government introduced the overarching (financial support) policy initiative

Shanghai



Green enterprise databases: Shanghai government has established a green enterprise database to grant enterprises, that meet green development standards, privileged access to green bonds, green credit, and other relevant financial products.

Diverse green financial products: Shanghai government encourages financial institutions to launch more flexible financing products based on the industry characteristics, such as carbon assets & carbon sinks for the green industry, and equipment upgrade & technology transformation funds for the manufacturing industry.

Green project fast-track approval: Shanghai government has set up a fast-track approval channel, through which enterprises can quickly access fundings after submitting the project proposal, therefore improving project implementation efficiency.

Guangdong



Specialized loans for technological renovation: Guangdong government offers specialized loans and a series of other tailored financial support to enterprises in the process of technological renovation and high-tech transformation.

Full-cycle financial services: Guangdong government provides a financial service system catering to the entire business cycle (from start-up to expansion; from R&D to product launch). Enterprises, especially those in the high-end and intelligent sector, can access fundings at every business stage, from early-stage working capital loans to long-term technological renovation financing.

Financial services in the industrial park: Guangdong government has created financial products, such as industrial park construction loans and equipment upgrading financing (for enterprises located within the industrial park), to help enterprises achieve a robust industrial performance.

Beijing

Supply chain financing: Beijing supports leading manufacturing enterprises in developing supply chain financing by providing funding to upstream and downstream partners, as a way to reduce overall financing costs and also to enable SMEs to access financing with the credit recognition of leading manufacturing enterprises.

Bill financing: Enterprises are encouraged to issue and accept commercial bills, which helps alleviate the company's pressure in delayed payments and liquidity difficulties.

Stock and bond linkage service model: Beijing is promoting a linked financial service model between banks, insurance companies and securities institutions, so as to offer one-stop financial support (investment, lending, insurance and hedging) to enterprises in need.

Cross-border financing support: Enterprises, particularly those engaged in export business or international operations, can access cross-border funding pools and enjoy foreign exchange facilitation policies for international financing.



Chinese central government has been hashing out policy initiatives to develop the financial services for the manufacturing industry

Enhancing the financial support for manufacturing enterprises

Technological innovation-- Support the R&D of technology-driven enterprises, especially SMEs, by providing financial services throughout the entire business cycle. Risks during the R&D process can be mitigated via tools like technology insurance.

Industrial upgrading-- Support the equipment renewal and replacement in the traditional manufacturing sector via various financial tools.

Intelligent and green development-- Increase financial support for enterprises in the field of intelligent manufacturing, digital economy, industrial internet and carbon reduction.

Support from policy banks-- Policy banks will leverage their large funding base and privileged long-term loans to offer robust support for SMEs.

Strengthen the quality of financial products

Optimize the loan structure-- more credit allocation to the manufacturing sector; higher proportion of medium and long-term loans; more support for first-time loan borrowers and less dependency on physical assets like collateral.

Diversify the financial portfolio-- enrich the financial product portfolio, like intellectual property pledge loans, so as to cater to the specific demands of different manufacturing sectors.

Explore more flexible financing methods-- Banks can explore more flexible interest rate pricing and repayment methods based on the operation cycles of the manufacturing enterprises in order to help alleviate their financial burden.

Maintain the financial market order

Proper use of financial tools-- financial institutions must strictly supervise lending to ensure the proper use of credit funds.

Healthy financial market environment-- prevent excessive market competition to ensure a reasonable loan price; combat illegal financial activities.

Create a precise financial matching mechanism--

Promote personalized financing services for SMEs; industry associations, service centers and information platforms can serve as the bridge between SMEs and financial product providers.

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This “Specialized, Refined, Distinctive, Innovative Small Giants” policy initiative has gone through a process of evolution over the past few years

*Historical evolution
of the “Specialized,
Refined, Distinctive,
Innovative Small
Giants” Policy
Initiative*



- Jan 2021

The Ministry of Finance and the Ministry of Industry and Information Technology issued a notice stating that the government would provide financial, technological and talent-seeking support for SMEs. The goal is to help over 1,000 small companies, that are outstanding in specific fields, become industry leaders (through technological innovation and product quality improvement).
- Mar 2022

The concept of “Specialized, Refined, Distinctive, and Innovative Small Giants” was, for the first time, included in the Chinese government’s annual work report. This indicated the significant importance attached to the fitful SMEs.
- Sep 2022

The Ministry of Industry and Information Technology announced to have cultivated 8,997 “Small Giants” Enterprises under the “Specialized, Refined, Distinctive, and Innovative” concept, and 4,328 new enterprises were added to the fourth batch of cultivations in 2022 (and nearly 50,000 enterprises were to be cultivated at the provincial level). This rapid increase in the number of “Small Giant” enterprises has highlighted the prominence of specialized industrial development.
- 2023

In the 2023 Government Work Report, it was revealed that the number of “Specialized, Refined, Distinctive, and Innovative Small Giants” had surpassed 70,000. This indicated significant advancement and widespread adoption of this development model.

There are two specific beneficial policies that foreign-invested enterprises can leverage on

➤ “Specialized, Refined, Distinctive and Innovative Enterprises” policy

Policy content

From 2021 to 2024:

The central government will allocate 100 billion RMB in subsidies to facilitate the high-quality development of SMEs. More than 1,000 of such enterprises will be supported, and are later expected to serve as a role model for competitors to learn from.

From 2024 to 2026, key measures can be summarized as follows:

First batch in 2024

More than 1,000 SMEs will be supported initially, and the support will be expanded depending on the implementation progress.

Subsidy standards: each enterprise will receive continuous support for 3 years, with a total subsidy of 6 million RMB per enterprise.

Fund distribution

50% released at the start of the implementation period; remaining 50% released at the end of the period, upon performance evaluation.

Conditions for withdrawing/reducing the funds

Failing to meet the investment target of 20 million RMB or other set objectives.

Eligibility criteria

Business field

Operating in a specific niche market for at least two years.

R&D investment

Total R&D expenditure > 1 million RMB; the proportion of R&D expenditure relative to the total revenue >3%.

Operating performance

Total revenue in the previous year > 10 million RMB, or having raised more than 20 million RMB in equity financing (paid-in capital from qualified institutional investors) in the past 2 years.

Technology awards

Satisfying one of the followings conditions:

- ✧ Condition 1: Having received a provincial-level science and technology reward in the past 3 years, ranking in the top three of the award-winning units.
- ✧ Condition 2: Ranked in the top 500 of the “Maker China” national innovation and entrepreneurship competition for SMEs in the past 3 years.
- ✧ Condition 3: The **total new equity financing raised in the past two years** (paid-in capital from qualified institutional investors) **exceeds 60 million RMB**.
- ✧ Condition 4: The **average annual R&D expenditure over the past two years** is **above 10 million RMB**.

There are two specific beneficial policies that foreign-invested enterprises can leverage on -- continued

➤ “High-tech enterprise” policy

Eligibility criteria

Registration time

The company must be registered at least one year ago.

Intellectual Property Rights (IPR)

The company must have obtained the ownership of IPR related to core technology, either through independent R&D, acquisition, donation, or merger & acquisition.

Core technology in High-tech fields

The core technology supporting the company’s main products or services must fall within the scope of the National Key Supported High-tech fields.

R&D personnel

he proportion of R&D and related technological innovation personnel > 10% of total number of employees.

Annual R&D expenses averaged in the last 3 years

Sales revenue less than 50 million RMB: R&D expenses > 5% of sales revenue

Sales revenue 50–200 million RMB: R&D expenses >4% of sales revenue

Sales revenue over 200 million RMB: R&D expenses >3% of sales revenue (additionally, at least 60% of R&D expenses should occur within mainland China).

High-tech product/sales revenue

Annual revenue from high-tech product/services > 60% of total revenue in the year of application.

No major legal or safety issues

Tax incentives

National tax incentives

Corporate Income Tax Reduction

High-tech enterprises enjoy a **10% reduction in corporate income tax**, meaning they are taxed at **15%**, compared to the standard **25%** for non-high-tech enterprises.

R&D Expense Deduction

Small and medium-sized technology enterprises can **deduct 75%** of their R&D expenses that do not result in intangible assets, in addition to the actual amount incurred. This means they can **deduct 175%** of their R&D expenses from their taxable income.

Note: This policy was applied from **January 1, 2017** to **December 31, 2019**.

Local incentives

Beijing

Permanent Residency (Hukou) for high-tech enterprise executives and technicians.

Suzhou

✦ **Suzhou Industrial Park (SIP)**-- Companies that are certified as high-tech enterprises and have annual revenue below 20 million RMB can receive a one-time reward of 100,000 RMB.

✦ **Suzhou Xiangcheng District**-- High-tech enterprises can receive a one-time reward of 20,000 RMB for certification.

✦ **Suzhou Wuzhong District**-- High-tech enterprises in Wuzhong District can receive a one-time reward of 80,000 RMB for certification.

✦ **Suzhou High-tech Zone / Gusu District / Wujiang District / Kunshan City / Taicang City / Changshu City**-- High-tech enterprises in above areas can receive a one-time reward of 100,000 RMB for certification.

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China market entry strategies

- There are several recommended business strategies for foreign machine tool companies to adopt before entering China market.
- Common access models for Italian machine tool companies.

There are several recommended business strategies for foreign machine tool companies to adopt before entering China market

Guidance on the gradual entry process

Market research and industrial analysis

Establishing local relationships (guanxi)

Starting with direct exports

Forming strategic alliances

Setting up offices

Scaling up operations

Successful business strategies highlights

1 Policy-driven access strategy
(Aligning with China's national policy initiatives)

2 Service-oriented access strategy
(Enhancing after-sales service & support for Chinese customers)

3 High-tech access strategy
(Honing advanced technologies for competitive advantages)

4 Collaborative entry strategy
(Cooperating with Chinese local enterprises)

Common access models for Italian machine tool companies

Distributor & Agent Model

Overview

Distributor: A distributor purchases machine tool products from Italian companies, owns inventory, and sells the products through its own channels in the Chinese market.

Agent: Acts as an intermediary to facilitate transactions, earning commissions without owning the products.

Suitable Scenarios

Initial Market Testing: Ideal for Italian companies firstly entering the Chinese market, especially with limited resources and an immediate need for reaching out to Chinese customers.

Mid-to-Low-End Machine Tool Market: Suitable for ordinary products where local channels are adequate for product promotion and sales.

Advantages

Low Cost, Low Risk: Minimal upfront investment means a reduction of the financial burden.

Quick Market Access: Able to leverage the local distributors' network and customer base for swift market penetration.

High Flexibility: Cooperating patterns can be adjusted to fit the changing market demands, allowing for quick adaptations.

Disadvantages

Limited Control: Loose control over brand image, pricing, and risk management mechanisms (largely dependent on the distributor & agent performance).

Compressed Profit Margins: Local distributor & agent needs to share a certain portion of profits.

Potential conflicts: Different distributors & agents can maliciously compete against each other for business and sometimes cause trouble to the machine tool exporters.

Common access models for Italian machine tool companies - continued

Representative Office Model

Overview

A representative office is a non-independent entity aimed at market research, customer liaison, and brand promotion. It cannot engage in direct sales or contract-signing activities.

Suitable Scenarios

Market Probing: Ideal for companies that want to operate in China and have not gained a deep understanding of the local market (e.g. customer demand, competitive landscape).

Long-Term Strategy Preparation: As a transitioning step for companies planning to establish a Wholly Foreign-Owned Enterprise (WFOE) or Joint Venture (JV) in China in the future.

Advantages

Low Cost: The setup and operating expenses are lower compared to WFOE and JV models.

Minimal Risk: Risks are minimized without engaging in direct business activities.

Disadvantages

Limited Functionality: No direct sales profit; cannot provide localized after-sales services (essential in the machine tool industry).

Policy Complications: Representative offices face strict regulations and must regularly update their registration information.

Common access models for Italian machine tool companies - continued

Trading Wholly Foreign-Owned Enterprise Model (Trading WOFE)

Overview

A Trading WOFE allows foreign companies to conduct business operations in China-- directly importing machine tool products from Italy and selling in the Chinese market.

Suitable Scenarios

Mid-to-High-End Machine Tool Market: For companies looking to directly manage their brand image and customer relationships.

Stable Demand: Ideal for companies that have already attracted decent market demand through distributors & agents and wish to transition to direct sales for a larger market presence.

Advantages

Comprehensive Control: A full-scale control over pricing, marketing, and after-sales services ensures independent business operations and brand management activities.

Profit Retention: Increasing profit margins by eliminating the intermediaries.

Beneficial Policy: China offers preferential tariffs for high-end machine tool equipment imports (which is the target market segment of a Trading WOFE).

Disadvantages

High Volume of Investment: Including setting up a company, hiring local staff, and establishing logistic networks.

Bigger Market Risk: The company will suffer from losses without a sufficient demand.

Common access models for Italian machine tool companies - continued

Joint Venture (JV) Model

Overview

A Joint Venture (JV) involves partnering with a local Chinese company to create a new business entity-- sharing resources, risks, and benefits.

Suitable Scenarios

Policy-Restricted Industries: It is compulsory for foreign companies, in certain industries, to form partnerships with local firms in order to operate in China market.

Localization and Resource Integration: Joint ventures allow foreign companies to leverage the local expertise, production resources, sales channels and brand reputation of the partner Chinese companies.

Cost Advantages and Risk Sharing: Joint ventures with a Chinese counterpart can help reduce operational costs for foreign companies (therefore enhancing competitiveness), particularly in the manufacturing sector where they can take advantage of China's lower labor and resource costs. Also, the management risks can be shared through Joint Ventures.

Technology and Innovation Cooperation: Foreign companies can closely collaborate with Chinese companies to leverage local technology for research and innovation.

Advantages

Risk Sharing: Risks and investment costs are shared with the local partner.

Resource Integration: Able to leverage the local partner's industry networks, technology resources, and customer relationships.

Quick Market Access: Can help bypass the regulatory barriers, such as government procurement qualifications.

Disadvantages

Shared Control: Decision-making may be slower due to potential disputes with the local partner.

Intellectual Property Risks: Sharing proprietary technologies with a local partner increases the risk of intellectual property leakage.

Common access models for Italian machine tool companies - continued

Manufacturing Wholly Foreign-Owned Enterprise (Manufacturing WFOE)

Overview

A Manufacturing WFOE involves establishing a wholly owned factory in China in order to produce and sell machine tool products, with full ownership and control over business operations.

Suitable Scenarios

Long-Term Market Commitment: For sectors with large, stable, and long-term demand, such as automotive and aerospace sectors.

Made-in-China Products: Ideal for products that benefit from China's low labor costs and well-established supply chain.

Customization: A WFOE allows foreign companies to have complete control over the product design, manufacturing and customization processes. This is particularly important when engaging with Chinese buyers with specific demands and industrial needs.

Direct access to China's Industrial Market: A WFOE ensures direct access to the market without the complexities of sharing control with local partners. This is especially important for companies targeting premium market segments where brand reputation and quality assurance are paramount.

Market Dominance in Niche Segments: For foreign companies with specialization/advanced technology, it is a popular choice to achieve the leading position niche market segments. Large profits can be obtained by offering unique technology and solutions for local needs.

Common access models for Italian machine tool companies- continued

Manufacturing Wholly Foreign-Owned Enterprise (Manufacturing WOFE)- continued

Advantages

Cost Advantages: Local production reduces manufacturing and logistics costs.

Policy Support: China offers tax breaks and land incentives for foreign investors to set up a Manufacturing WOFE high-end manufacturing sectors.

Fast Response: Local production allows for prompt market response.

Disadvantages

High Volume of Investment: A significant amount of capital is required for the factory setup, equipment purchase, and technology transfer processes.

High Management Complexity: Compliance with local labor laws, environmental regulations, and other relevant policies adds complexity to the factory management.

Intellectual Property Risks: Manufacturing in China may expose the company to potential IP risks.

ITA Beijing Machine Tool Desk

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