

Tiangong International (00826 HK)

Industry leader of die steel and high-speed steel, well prepared to capture sustainable growth opportunities ahead

We initiate Tiangong International at Buy, given the attractive valuation, and our target price is HK\$4.4, implying 62% upside. We think the stock is attractive after recent corrections, given both long-term sustainable growth drivers and near-term catalysts.

- 1. We initiate our coverage on Tiangong International at Buy.** We believe current valuation is attractive at 10x 2022E P/E, which is much lower than industry average of 18x. We think recent market volatility has created attractive entry point for both long-term and short-term investors.
- 2. We think the company's sustainable growth capability can continuously create value for long-term investors.** We expect the company to deliver strong earnings growth of 19%/32%/16% to RMB792mn/RMB1046mn/RMB1217mn for 2022-2024, thanks to: 1) sustainable top line growth of 15%/20%/5% to RMB6.6bn/RMB7.9bn/ RMB8.3bn; and 2) continuous margin expansion, and we expect the company's blended gross margin to improve to 24.8%/26%/27.5% for 2022-24E, compared to 23.3% for 2020 and 24.5% for 2021. **In particular, we think its investments into powder metallurgy capacity and new cutting tools are very promising and can offer secular growth opportunities beyond our forecasted period.**
- 3. In short-term, with continuous government supports upon economic recovery into 2H22, we expect the company's growth to accelerate from June, which may lead to potential 'beat-and-raise' opportunities.** We believe some of the key policies to watch include: ICEV purchase tax reduction and NEV purchase subsidies; property-related policies which could lead to recovery of home appliances purchases and property investments; supportive policies towards consumer electronics.
- 4. Valuation:** We value Tiangong International at HK\$4.4, based on our discounted cash flow method. Our key assumptions include: 1) terminal growth rate of 3%; and 2) discount rate of 11.5% (3.5% risk free rate, 8% equity premium and beta of 1). Our target price implies 2022E/2023E P/E multiple of 15x/12x.



Company Report

20 July 2022

Rating: Buy

Target Price: HK\$4.40

Market Data:

Close Price: HK\$2.72

Market Cap: HK\$7.58B

52 Week H/L: HK\$2.22 ~ 5.66

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We initiate Tiangong International at BUY with TP of HK\$4.4

We believe Tiangong's valuation is attractive after recent market corrections. The stock trades at 10x FY22F P/E, vs sector average of 18x. Tiangong's current valuation is 48% lower than sector average.

Stock code	Company name	Price	EPS				PE			
			2021A	2022E	2023E	2024E	2021A	2022E	2023E	2024E
000708.SZ	CITIC Pacific Special Steel	20.81	1.58	1.82	2.04	2.26	13.21	11.45	10.22	9.20
600507.SH	Fangda Special Steel	6.72	1.27	1.22	1.26	1.30	5.30	5.50	5.31	5.16
600399.SH	Fushun Special Steel	19.02	0.40	0.47	0.66	0.85	47.89	40.41	28.90	22.27
688186.SH	Guangda Special Steel	33.59	0.82	1.65	2.34	3.25	40.86	20.40	14.38	10.35
002318.SZ	Jiuli Hi-tech Metals	15.95	0.81	1.05	1.23	1.38	19.63	15.18	13.00	11.52
Median							19.63	15.18	13.00	10.35
Average							25.38	18.59	14.36	11.70
00826.HK	Tiangong International	2.72	0.24	0.29	0.38	0.44	11.50	9.64	7.30	6.27

We think Tiangong has strong growth outlook, given decent project pipelines in 2022-23. We are forecasting the company to deliver revenue growth of 15%/20%/5% for 2022F/23F/24F. Meanwhile, thanks to new products having higher margin and fast capacity ramp-up given strong downstream demand, we expect the company to achieve sustainable improvement in gross margins, which can help the company to achieve net profit growth of 19%/32%/16% for 2022F/23F/24F.

RMB'mn	2019	2020	2021	2022E	2023E	2024E
Revenue	5,370	5,221	5,745	6,607	7,928	8,325
Cost of Revenue	-4,350	-4,007	-4,340	-4,968	-5,867	-6,035
Gross profit	1,020	1,214	1,405	1,638	2,061	2,289
Other income	56	70	129	129	129	129
Sales & Marketing expense	-98	-87	-218	-244	-285	-291
General & Administration expense	-129	-106	-135	-155	-186	-196
Research & Development expense	-259	-308	-274	-315	-378	-397
Other expenses	-2	-35	-47	-47	-47	-47
Operating profit	588	748	861	1,006	1,293	1,487
Share of profits from associates	-1	-2	13	13	13	13
Share of profit from JVs	-6	4	9	9	9	9
Finance costs	-130	-127	-131	-131	-131	-131
Pre-tax profit	450	622	752	897	1,184	1,378
Corporate tax	-46	-81	-80	-95	-126	-147
Net profit	404	540	672	801	1,058	1,232
Attributable net profit	395	537	664	792	1,046	1,217

Growth drivers	2020	2021	2022E	2023E	2024E
Revenue growth	-3%	10%	15%	20%	5%
Gross margin	23.3%	24.5%	24.8%	26.0%	27.5%
S&M expense margin	-1.7%	-3.8%	-3.7%	-3.6%	-3.5%
G&A expense margin	-2.0%	-2.3%	-2.3%	-2.3%	-2.3%
R&D expense margin	-5.9%	-4.8%	-4.8%	-4.8%	-4.8%
Operating margin	14.3%	15.0%	15.2%	16.3%	17.9%
Corporate tax rate	-13.0%	-10.6%	-10.6%	-10.6%	-10.6%
Net profit margin	10.3%	11.6%	12.0%	13.2%	14.6%
Net profit growth	35.9%	23.6%	19.2%	32.1%	16.4%

We derive our TP of HK\$4.4 via discounted cash flow method. We use discount rate of 11.5%, terminal growth of 3%, and HKD/RMB exchange rate of 0.85. Our target price implies 62% upside.

Discounted cash flow valuation					
Risk free rate	3.5%				
Equity premium	8.0%				
Beta	1.0				
FCF discount rate	11.5%				
Terminal growth	3.0%				
HKD:RMB	0.85				
RMB'mn	2022	2023	2024	2025	2026
Operating cash flow	791	882	1,622		
Cash capex	-521	-626	-657		
Free cash flow	270	256	965	1,057	1,156
Revenue	6,607	7,928	8,325	8,741	9,178
FCF margin	4.1%	3.2%	11.6%	12.1%	12.6%
Terminal value					14,008
FCF + TV	270	256	965	1,057	15,164
Discounted cash flow	242	206	696	684	8,799
Enterprise value	10,628				
Cash and equivalents	2,840				
Corporate debt	2,639				
Equity value	10,427				
# of shares (mn)	2,790				
Fair value per share (RMB)	3.74				
Target price (HKD)	4.40				

Other financial information and forecasts

Balance sheet

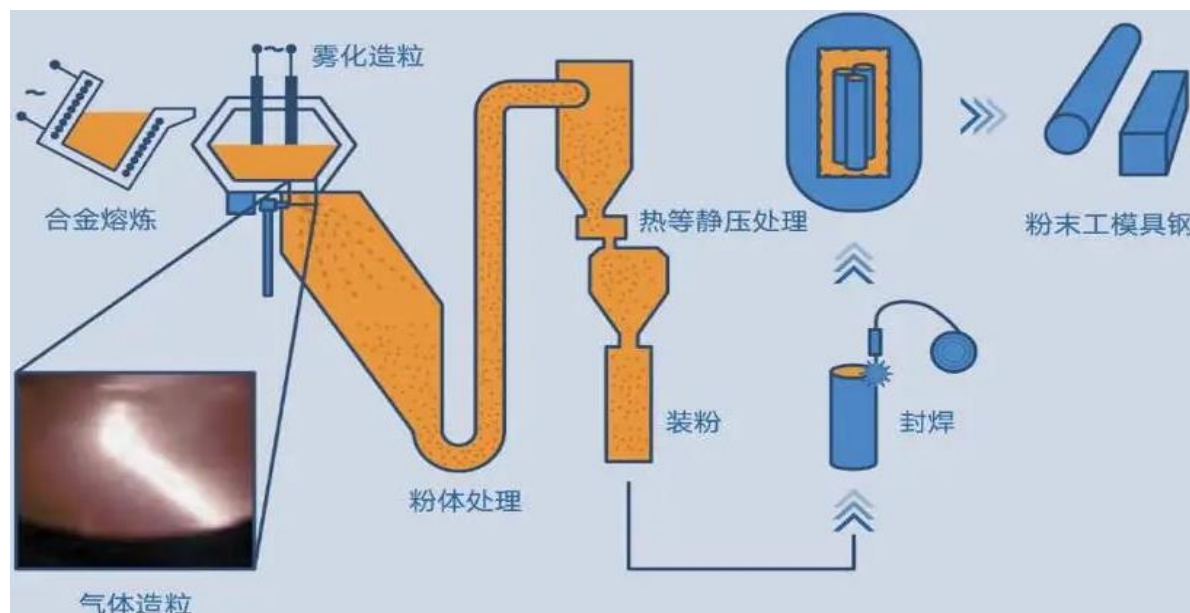
RMB'mn	2019	2020	2021	2022E	2023E	2024E
Cash and cash equivalent	898	1,177	3,106	2,840	2,440	2,645
Restricted cash	610	385	244	244	244	244
Financial assets booked at fair value	3	877	2	2	2	2
Account receivables	2,709	2,482	2,131	2,451	2,941	3,088
Inventory	1,735	1,688	2,278	2,608	3,079	3,168
Total current assets	5,954	6,609	7,761	8,144	8,706	9,146
PP&E	3,867	4,137	4,273	5,104	6,100	7,198
Pre-paid assets and other receivables	113	148	163	187	220	227
Goodwill and intangibles	22	41	39	39	39	39
Investments in associates	81	84	101	101	101	101
Deferred tax	37	44	42	42	42	42
Other non-current assets	142	136	185	213	255	268
Total non-current assets	4,262	4,589	4,804	5,685	6,757	7,875
Total assets	10,216	11,198	12,565	13,830	15,463	17,022
Short-term borrowings	2,613	2,774	1,601	1,601	1,601	1,601
Account payables	1,601	1,619	1,374	1,573	1,857	1,911
Tax payables	28	64	41	41	41	41
Deferred revenue	7	0	0	0	0	0
Other current liabilities	0	350	1,468	1,468	1,468	1,468
Total current liabilities	4,248	4,807	4,484	4,683	4,967	5,021
Long term borrowings	639	592	1,038	1,038	1,038	1,038
Deferred tax liabilities	75	101	100	100	100	100
Deferred revenue	51	58	50	50	50	50
Other non-current liabilities	765	751	1,188	1,188	1,188	1,188
Total liabilities	5,013	5,558	5,672	5,871	6,155	6,209
Share capital	46	46	49	49	49	49
Reserves	4,991	5,424	6,581	7,373	8,419	9,636
Attributable net assets	5,036	5,470	6,630	7,422	8,468	9,685
Minorities	167	170	262	537	840	1,128
Total net assets	5,203	5,640	6,893	7,959	9,308	10,813

RMB'mn	2019	2020	2021	2022E	2023E	2024E
Pre-tax profit	450	622	752	897	1,184	1,378
Provisions for asset loss	-12	6	5	0	0	0
Depreciation & Amortization	242	269	300	310	370	442
Gains/(loss) from non-cash items	-4	-3	-40	0	0	0
Net interest income	130	127	131	131	131	131
Change in net working capital	-395	359	-476	-451	-677	-182
Other operating cash flow	7	-33	-29	0	0	0
Operating cash flow	419	1,348	643	887	1,008	1,769
Tax paid	-20	-40	-100	-95	-126	-147
Net cash from operations	399	1,307	542	791	882	1,622
Investments in PP&E	-510	-476	-453	-521	-626	-657
Sale of PP&E	1	0	0	0	0	0
Other investments & sale	-22	-97	-1	0	0	0
Interest received	32	28	43	113	103	89
CF from other investing activities	47	-458	-399	-399	-399	-399
Cash flow from investments	-451	-1,004	-811	-808	-922	-967
Net proceeds from borrowings	68	29	-727	0	0	0
Issuance of new equity securities	40	38	690	0	0	0
Share buy-back	0	-9	0	0	0	0
Dividend paid	-91	-134	-207	-166	-277	-366
Interest paid	-157	-152	-107	-84	-84	-84
CF from other financing activities	0	350	1,065	0	0	0
Cash flow from financing activities	-131	122	800	-250	-361	-450

The new powder metallurgy initiative will further localize China's supply chain and help China to achieve its China Manufacturing 2025 target

Compared to Tiangong's current high speed steel offering, powder metallurgy is a more advanced metallurgy technology, with fewer bubbles produced in the production process. Prior to Tiangong's successful research into the field, Chinese downstream players have to import the high-end high-speed steel from either European or Japanese vendors.

The process of powder metallurgy



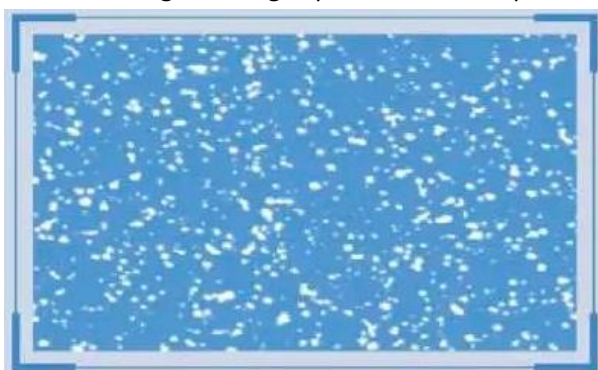
Source: Tiangong International

Compared to lower end high-speed steel, powder metallurgy has fewer bubbles in the final products, which means stronger and more durable than lower end products. As China's industrial sectors are experiencing continuous upgrades under Chinese government's strong support, we expect increasing usage of high-end high-speed steel (i.e. using powder metallurgy technology) by the end customers.

Comparison of microstructure of low-end high-speed steel



And that of high-end high-speed steel under powder metallurgy



Powder metallurgy has strong market potential in China. Based on industry channel check, the penetration of powder metallurgy in high-speed steel is around 15%, which the penetration for China is only 3%, implying strong growth potential. In addition, the current annual global production of die steel/high-speed steel is around 2.3mn tons, whereas the production of powder metallurgy-based die steel/high-speed steel is around 60k tons, implying overall penetration of around 3%. With the development of new end products, such as electricity vehicles (e.g. mega-casting), we expect the overall penetration of powder metallurgy to further increase.

Tiangong's 5000 tons of powder metallurgy capacity plan will offer additional RMB300mn gross profit to its P&L

Tiangong currently has 5000 tons of powder metallurgy capacity plan, of which 2000 tons have already been in place, while the rest 3000 tons will start capacity ramp-up by end-2022. We think the company's powder metallurgy capacity will be a game changer, especially under central government's call for supply chain localization. Hence, we expect sales amount of powder-metallurgy-based high-speed steel to catch up with its 5000 tons of capacity very quickly.

We expect the project, once fully utilized, to contribute additional gross profit of RMB327mn. Our key assumptions include: 1) average selling price of RMB128k (vs RMB17k for die-steel, and RMB47k for high-speed steel, in line with reported ASP in 2021 annual report); 2) Sales of

5000 tons of powder metallurgy by 2024E; 3) gross profit margin of 51.1% (in line with the reported gross profit margin for powder metallurgy products in 2021).

Powder metallurgy	2021A	New capacity	2023E	Growth
Capacity (tons)	2,000	3,000	5,000	150%
Sales (tons)	471	4,529	5,000	962%
ASP (RMB'000)	128	128	128	
Revenue (RMB'000)	60,350	579,712	640,062	961%
Gross profit margin	51.1%	51.1%	51.1%	
Gross profit (RMB'000)	30,839	296,233	327,072	961%

Tiangong's new cutting tools capacity in Thailand will add additional revenue and improve profit margins for its cutting tool business

Cutting tools are widely used in manufacturing, and mainly used to process key steel components. The key feature of cutting tools is that they are consumables but not durables, and the percentage of cutting tools in the BOM of final products is relatively small. In addition, there are different cutting tools of different features (e.g. hardness) and costs. Currently, though Chinese producers have high rankings worldwide in terms of production volume, most of the high-end products have to be imported. Below is the rough classification of cutting tools made from different processes.

Characteristics and application fields of various tool materials

Tool Material		Characteristics	Application field
Carbide		High hardness, and can work well under high temperatures (as high as 500C).	Widely used in cutting tools, including lathe tools, milling cutters, planer, etc.
Tool Steel (Mainly high speed steel)		Relatively poor hardness, but strong bending resistance, and at lower ASP. Hence, widely used in low-end cutting tools.	Drills, screw tap, etc.
Ceramics material		High hardness and strong resistance to high temperature, but lower bending resistance.	Very suitable for cutting tools that are used to cut materials with high hardness.
Superhard material	Polycrystalline Diamond (PCD)	Highest hardness, but low resistance to high temperature. The cost of production is high.	Suitable for precision work, as cost is high.
	Cubic Boron Nitride (CBN)	Highest end product, with strongest hardness and strongest resistance to high temperature (1400C), and second best bending resistance.	Best fit for cutting materials with strong hardness and high requirements.

Source:public information

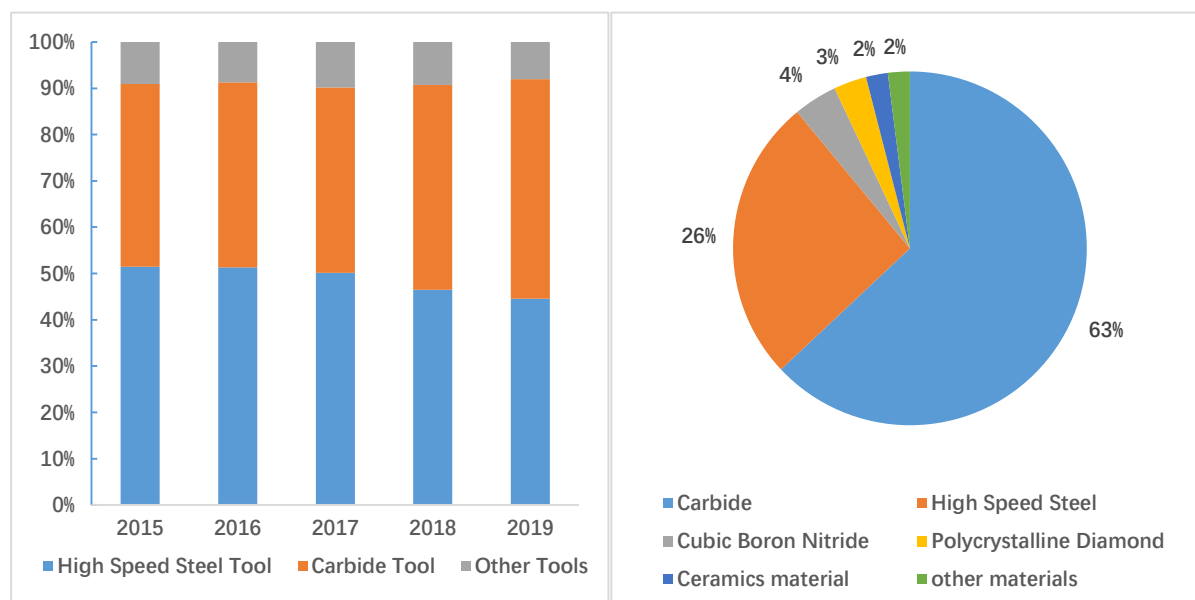
Physical and mechanical properties of different tool materials

Type of material	Hardness	Density (g/cm ³)	Flexural strength (GPa)	Impact toughness (KJ/m ²)	Coefficient of thermal conductivityW/(m·K)	Heat resistance °C
Carbon Tool Steel	63~65HRC	7.6~7.8	2.2	-	41.8	200~250
High speed steel	63~70HRC	8.0~8.8	1.96~5.88	100-600	16.7~25.1	600~700
Carbide	89~94HRC	8.0~15	0.9~2.45	25-60	16.7~87.9	800~1000
ceramics	91~95HRA	3.6~4.7	0.45~0.8	5~12	19.2~38.2	>1200
Cubic boron nitride	8000~9000HV	3.44~3.49	0.45~0.8	-	19.2~38.2	1400-1500
Polycrystalline Diamond	10000HV	3.47~3.56	0.21~0.48	-	19.2~38.2	800

Source: public information

The ASP of cutting tools can range between RMB3 to RMB70, depending the features of the products. According to China's industry association, the average price of cutting tools in 2021 is less than RMB7, implying strong upside potential given the central government's call for China Manufacturing 2025. In developed market, high-end products can account for 63% of total cutting tools, while in China, the number is only 47% in 2019.

China's output value of tools of different materials Market Structure of World Cutting Tool Products



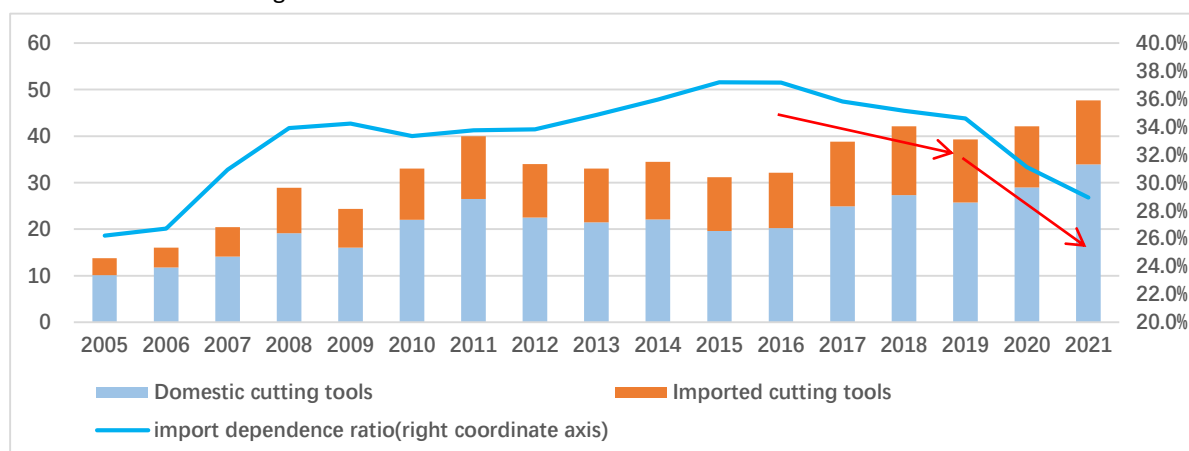
Source: China Machine Tool & Tool Bulider's Association

Source: public information

The ongoing pandemic has led to the acceleration of Import substitution. The ratio of import dependence has declined rapidly thereafter. Prior to the pandemic, downstream enterprises are used to using overseas cutting tools, and domestic cutting tools have less chance to be verified. During the pandemic, there was a gap in the supply of imported cutting tools, and domestic demands, which has accelerated the verification process for domestic players. In 2021, the total cutting tools market in China was RMB47.7billion, with

RMB13.8billion from imports. The ratio of import dependence decreased to 28.9%. We expect the domestic substitution trend to continue, given increased acceptance of domestic products.

Domestic share of cutting tools is on the rise



Source: China Machine Tool & Tool Builders' Association

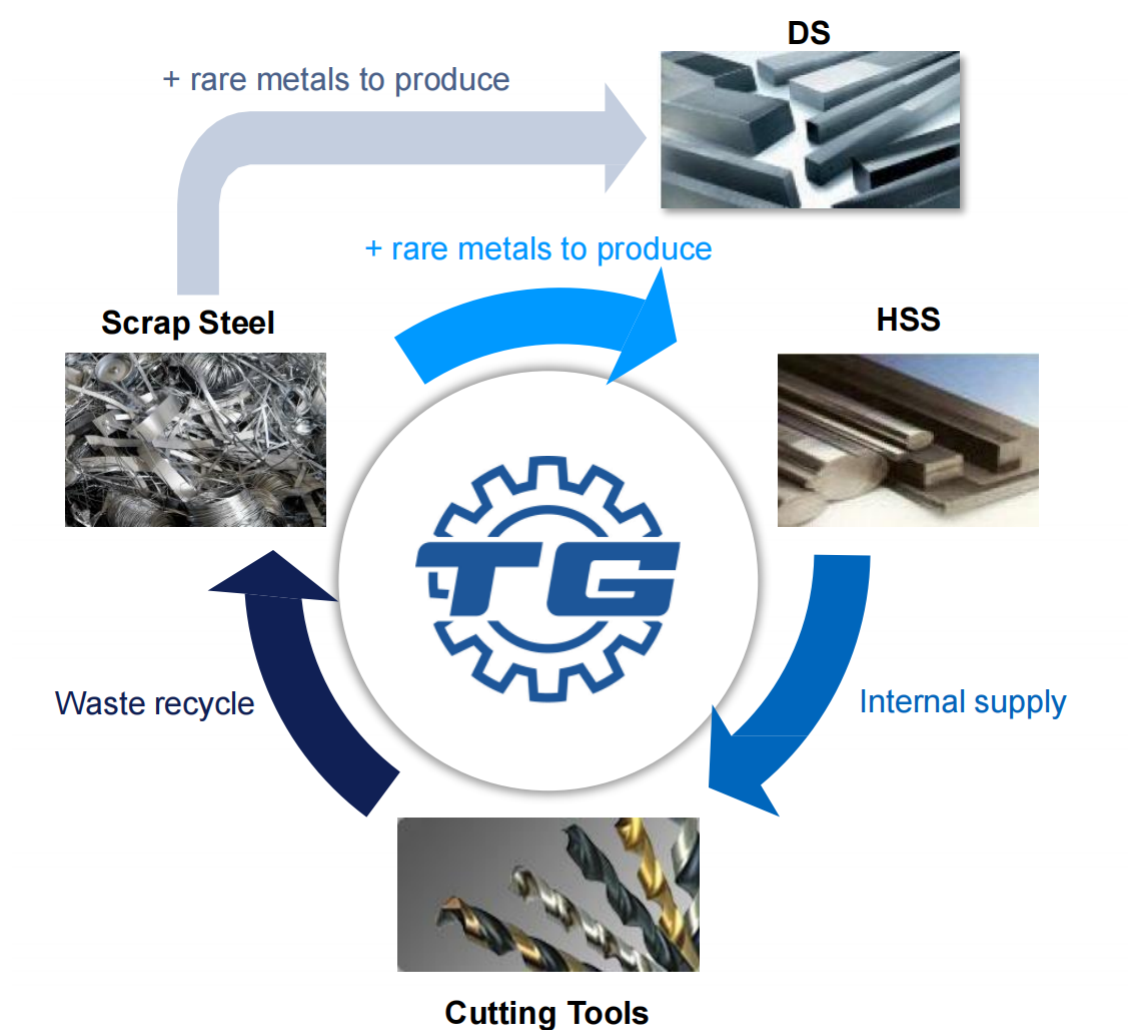
Tiangong International is an integrated leading enterprise from high-speed steel smelting to high-speed steel cutting tool production. The company has been producing cutting tools since 1987, and its export volume has reached the first in China. In recent years, the company has launched powder metallurgy-based high-speed steel cutting tools and cemented carbide cutting tools as one of its key focuses, which enables the company to seize the trend of domestic substitution, especially the higher end products (note: higher end products have ASP as high as RMB30, vs lower end at below RMB5).

As a result, we expect the company's new cutting tools capacity (mainly high-end products) to be fully booked. As a result, we estimate the new cutting tools products can add around RMB1bn of revenue and RMB355mn of gross profit, after the new capacity can be fully ramped up by 2024E.

New cutting tools					
1) 100mn cutting tools capacity in Thailand	2021A	New capacity	2024E	Growth	
Capacity ('000)	48,000	52,000	100,000	108%	
Sales volume ('000)	48,000	52,000	100,000	108%	
ASP (RMB)	5	5	5		
Revenue (RMB'mn)	240	260	500	108%	
Gross margin	28%		32%		
Gross profit (RMB'mn)	67		160	138%	
2) Screw tap project	2021A	New capacity	2024E		
Capacity ('000)	0	10,000	10,000		
Sales volume ('000)	0	10,000	10,000		
ASP (RMB)	30	30	30		
Revenue (RMB'mn)	0	300	300		
Gross margin	35%	35%	35%		
Gross profit (RMB'mn)	0	105	105		
3) Carbide project	2021A	New capacity	2024E		
Revenue (RMB'mn)	0	300	300		
Gross margin	30%	30%	30%		
Gross profit (RMB'mn)	0	90	90		

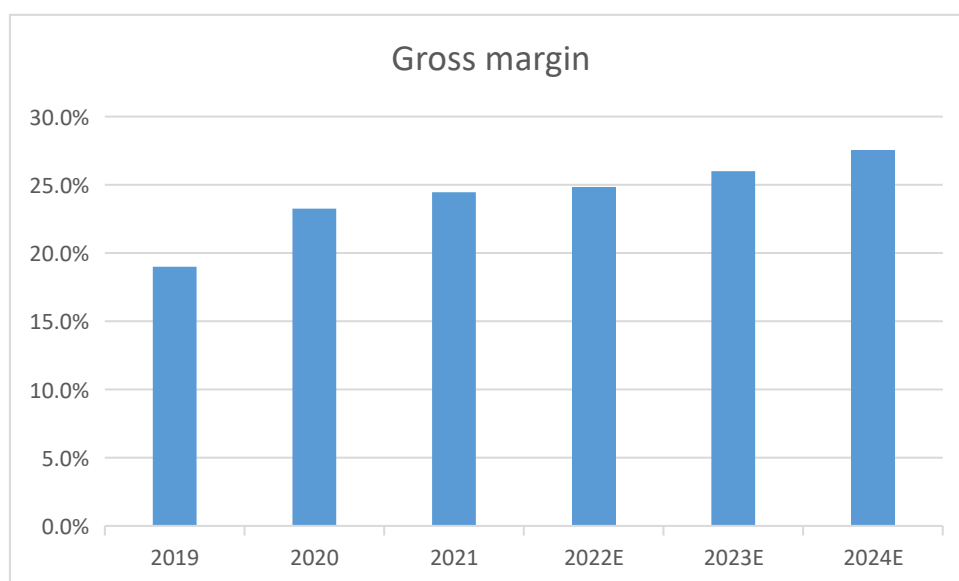
Vertical integration and deep cooperation with downstream clients to continuously improve operation efficiency and offer cost advantages

We believe Tiangong has stronger business model than its peers, leveraging its broad product offerings within die-steel/high-speed-steel category, as well as its strong relationship with downstream customers. As a result, the company has secured stable raw material sources through recycling scrap steel (especially for those scrap steel with related alloy), which we believe can reduce average unit cost of production by as much as 5%.



Source: Tiangong International

As a result of its unique business model and continuous product upgrades, we have seen clear trajectory of margin improvements in the past few years. Looking ahead, we expect the margin improvement momentum to continue, and forecast gross margin/operating margin to further improve to 27.5%/17.9% by 2024E.



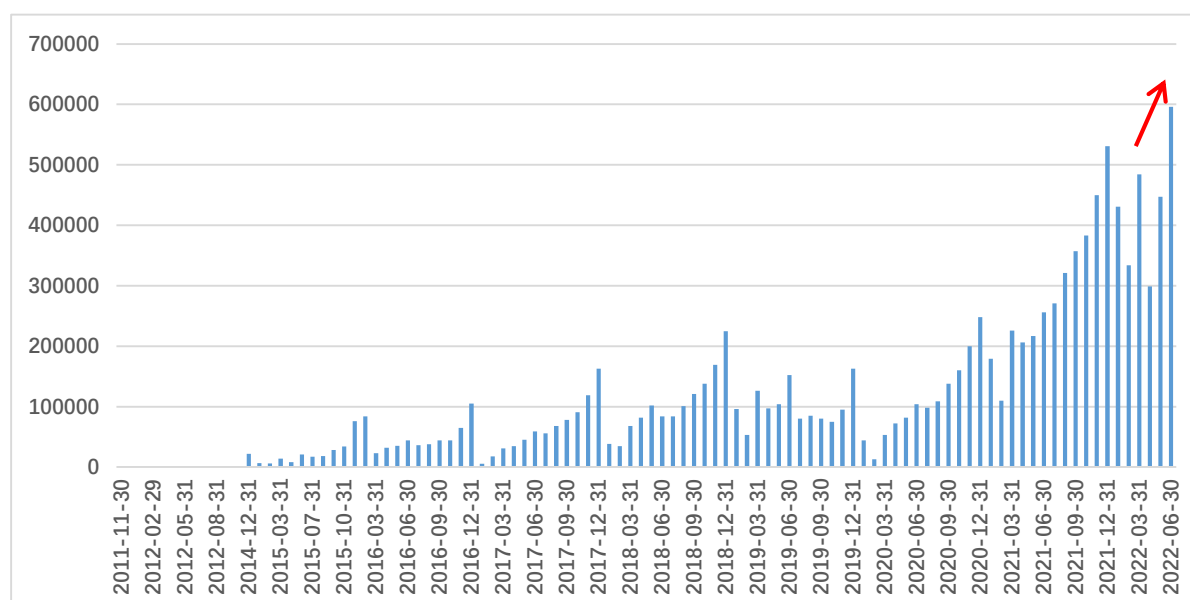
Near-term government supports on Tiangong's end-market to help accelerate its growth into 2H22

From June 2022, we have seen various government stimulus measures to support employment and economic growth, especially in the field of auto motive and real estate.

On 23 May 2022, State Council released papers to reduce PV purchase tax by RMB60bn, and local level regulations have followed the paper. Together with lifting of lockdown measures, we have seen strong recovery of automotive consumption.

In addition, we have also noticed that many local governments are giving subsidies to 3C purchases, which can also support consumer sentiment. For example, Shenzhen has released RMB100mn consumption coupons to home appliance and consumer electronics purchases.

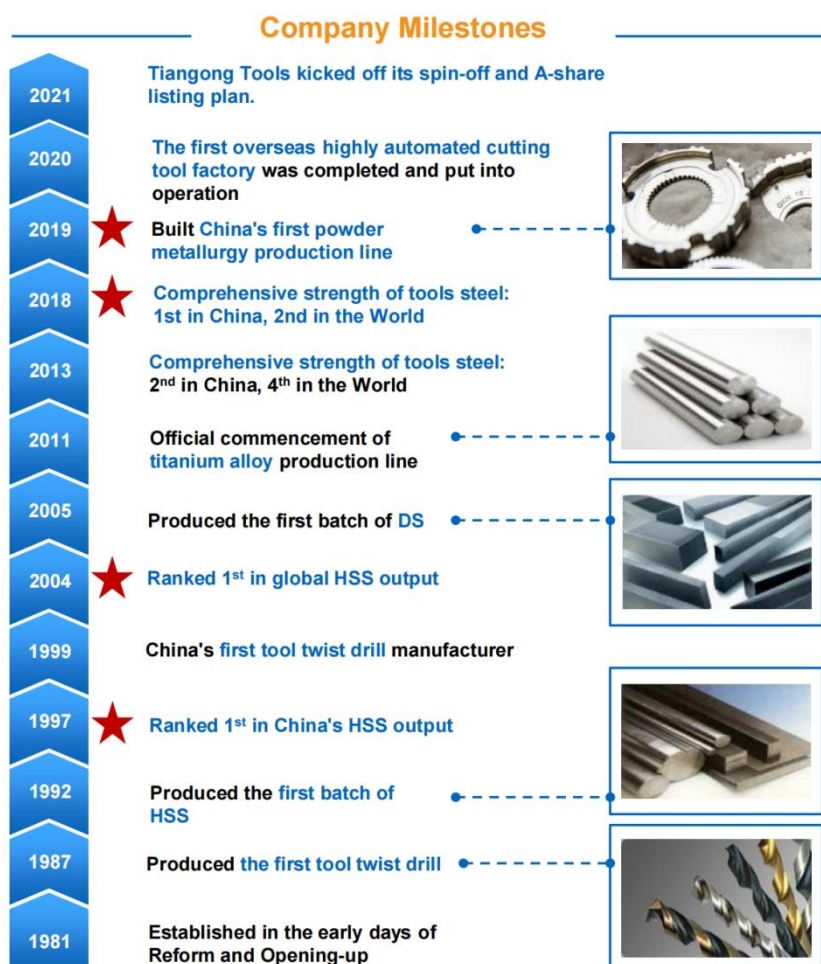
Monthly data of new energy vehicle sales (Unit: Vehicle)



Source: China Association of Automobile Manufacturers

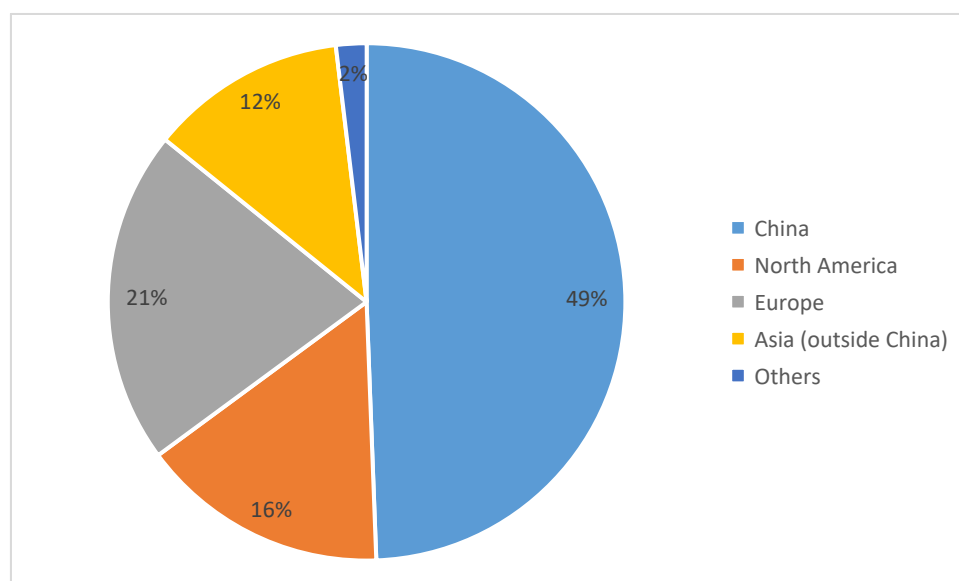
Appendix 1 - Company's overview

Tiangong International was established as early as in 1981, and launched its first steel business as twist tool producer. In 1992, the company produced the first batch of high-speed steel, and became the world's largest high-speed steel producer in 2004.
































Source: company information

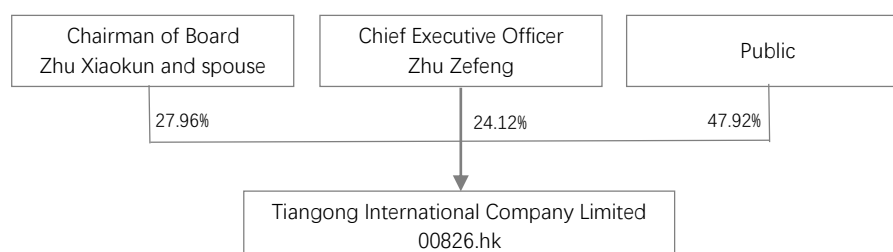
As a world's leader in high-speed steel/die steel, the company has a global foot print, with over 50% of the revenue in 2021 generated from outside China. The company has 16%/21%/12% revenue exposures to North America/Europe/Asia (outside China), as its key global customers are mostly from decent manufacturing names.



Decent customers' names

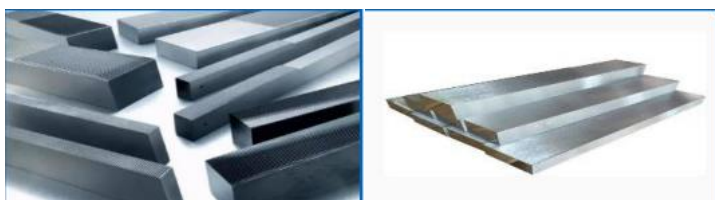
Segment	Industry	End customers
Die Steel	Automobile, Aerospace, Machinery Equipment	       
High Speed Steel	Automobile, Aerospace	    
Cutting Tools	Automobile, Aerospace, Machinery Equipment, Construction, Consumer Electronics	       
Titanium Alloy	Medical, Aerospace, Military	       

Looking at shareholding structure, around 52% is owned by Zhu's Family, whose benefits are deeply related to the company's share performance.



Appendix 2 - Business segment review

Die steel



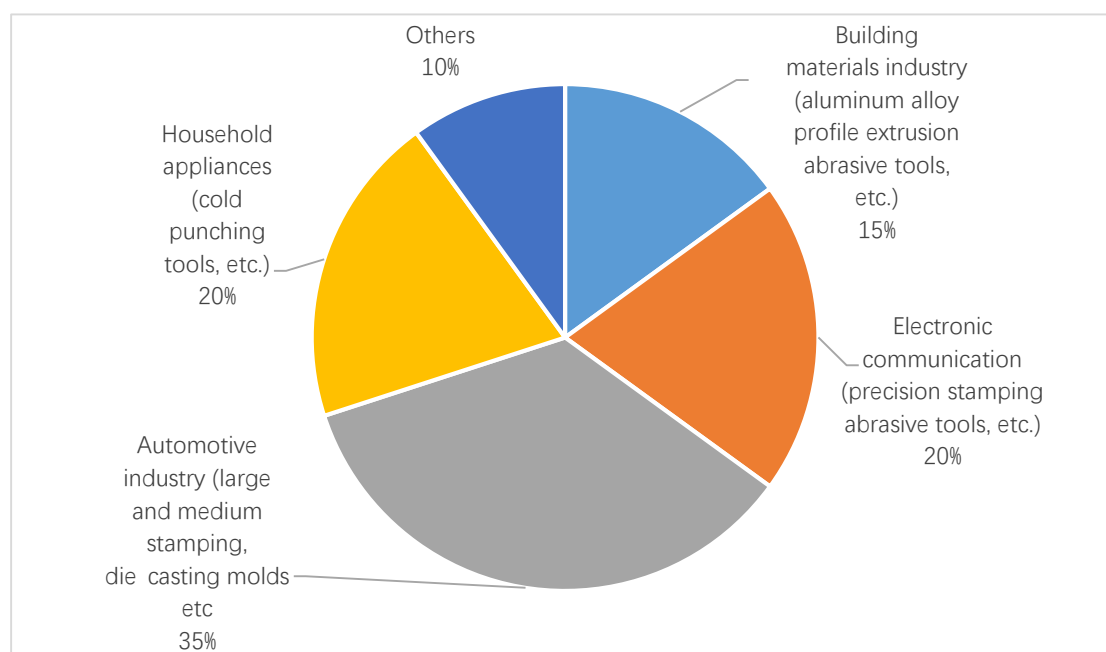
Feature:

- DS is the basic material for manufacturing industrial molds ("Mother of Industry").
- Its hardness, wear resistance, toughness and fatigue resistance directly determine the quality and life of the mold, and ultimately determine the accuracy, quality and production cost of the processed structural parts.
- 60%-80% of parts and components in machinery, electronics, automotive and other industries need to rely on mold processing and shape fixing.

Strategic Importance:

- New Materials in Key Areas of "Made in China 2025"- Advanced Basic Materials

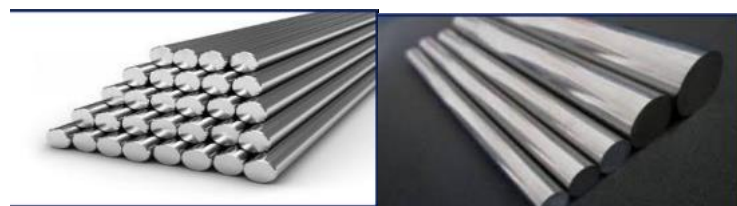
Key application areas and distribution:



Industry overview and key development trends:

- Downstream customers of DS have strong stickiness and low-price sensitivity.
- China's mold output has increased year by year, and CAGR reached more than 10% in the past 5 years, providing strong demand support for DS
- Historically, China's high-end DS products relied on imports. With the continuous improvement of the technical requirement and brand awareness of domestic DS, there is ample room for import substitution. Pace of import substitution has accelerated significantly since the outbreak of pandemic.

High Speed Steel (HSS)



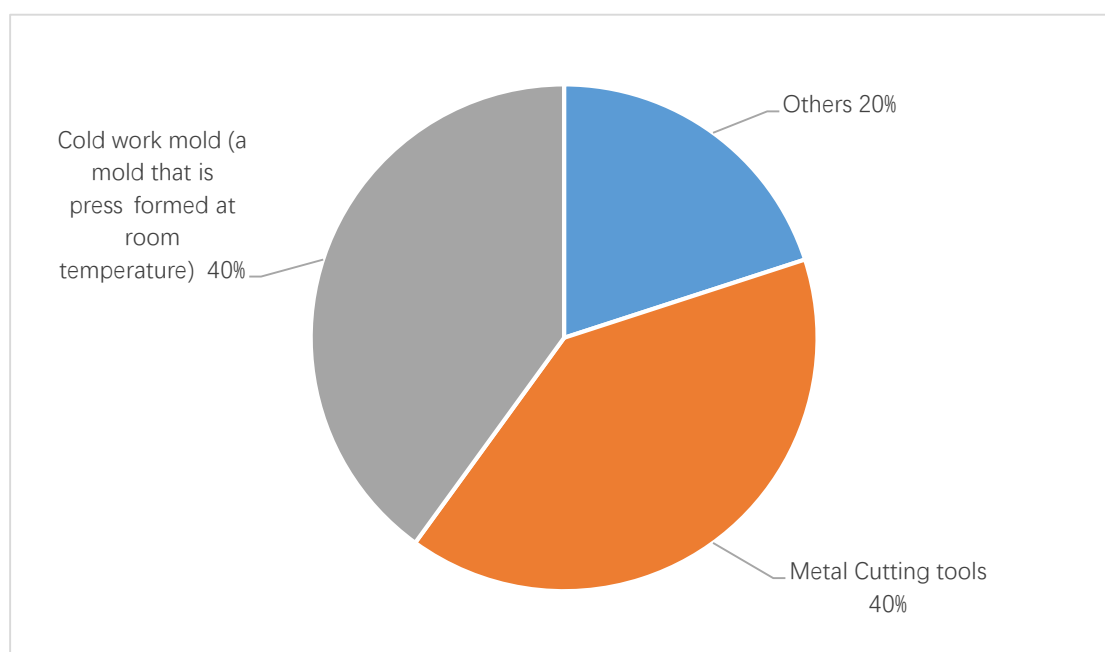
Feature:

- HSS is a tools steel with high hardness, high wear resistance and high heat resistance. It contains alloying elements such as tungsten, molybdenum, chromium, and vanadium. The total amount of alloying elements is about 10-25%.
- Due to its specific characteristics, HSS is mainly used to produce metal cutting tools, cold-worked molds, high temperature bearings, etc., and is known as "industrial teeth"

Strategic Importance:

- New Materials in Key Areas of "Made in China 2025"- Advanced Basic Materials

Key application areas and distribution:



Industry overview and key development trends:

- The scale of China's cutting tools market continues to expand, reaching about RMB 40 billion in 2019, and the degree of import dependence is decreasing year by year. This indicated that the self-sufficiency of China's high-end cutting tools and the demand for high-performance HSS are both increasing.

Powder metallurgy (HSS segment)



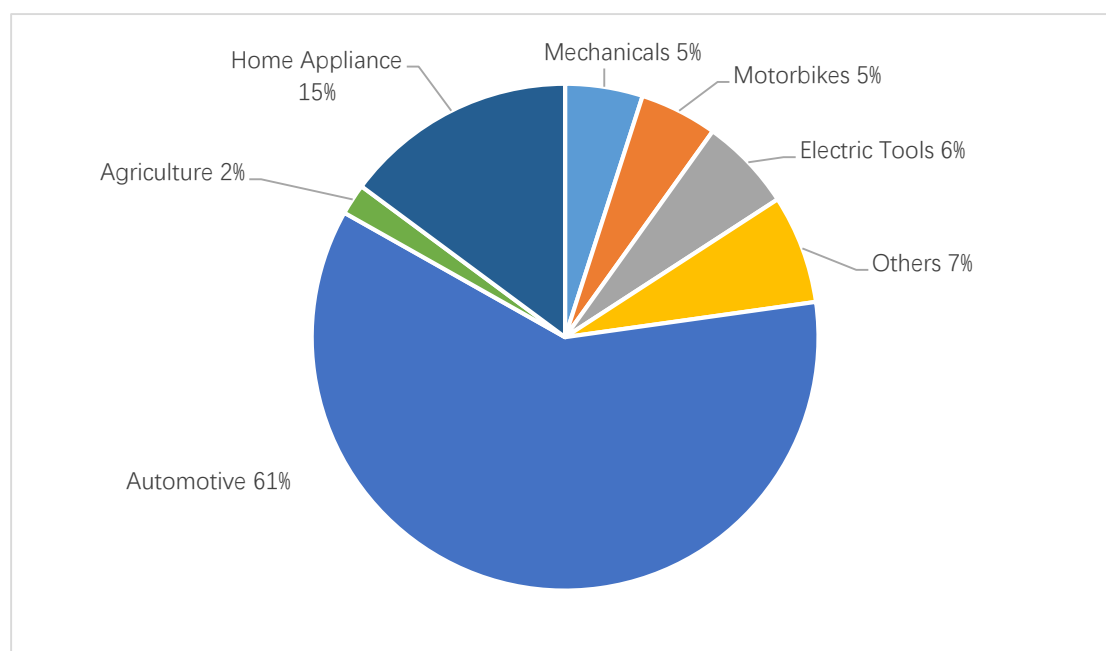
Feature:

- Powder metallurgy is a new technology that uses metal powders to produce metal materials after shaping and sintering. It has the advantages of high utilization rate, low energy consumption and high performance.
- Compared with traditional craft products, powder metallurgy products have the characteristics of high unit price (about 4 times higher) and high profit.

Strategic Importance:

- "Guiding Catalog of Key Products and Services for Strategic Emerging Industries" - Advanced Non-ferrous Metal Materials

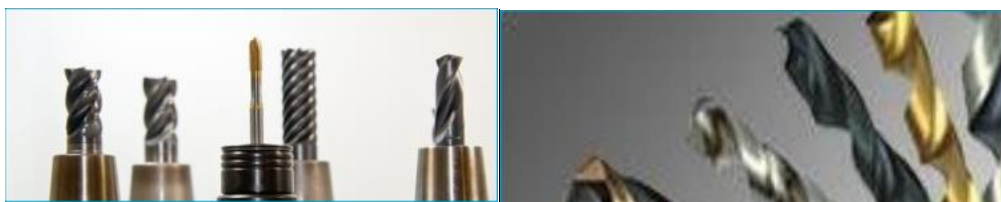
Key application areas and distribution:



Industry overview and key development trends:

- China's powder metallurgy industry is still in its infancy, with huge market potential
- Currently, China's powder metallurgy HSS accounted for less than 1% of the annual output of HSS, versus developed countries' average of 20%.
- With the improvement of the reliability requirements of China's high efficiency cutting tools, the proportion of powder metallurgy HSS applications is expected to show a high growth trend

Cutting tools



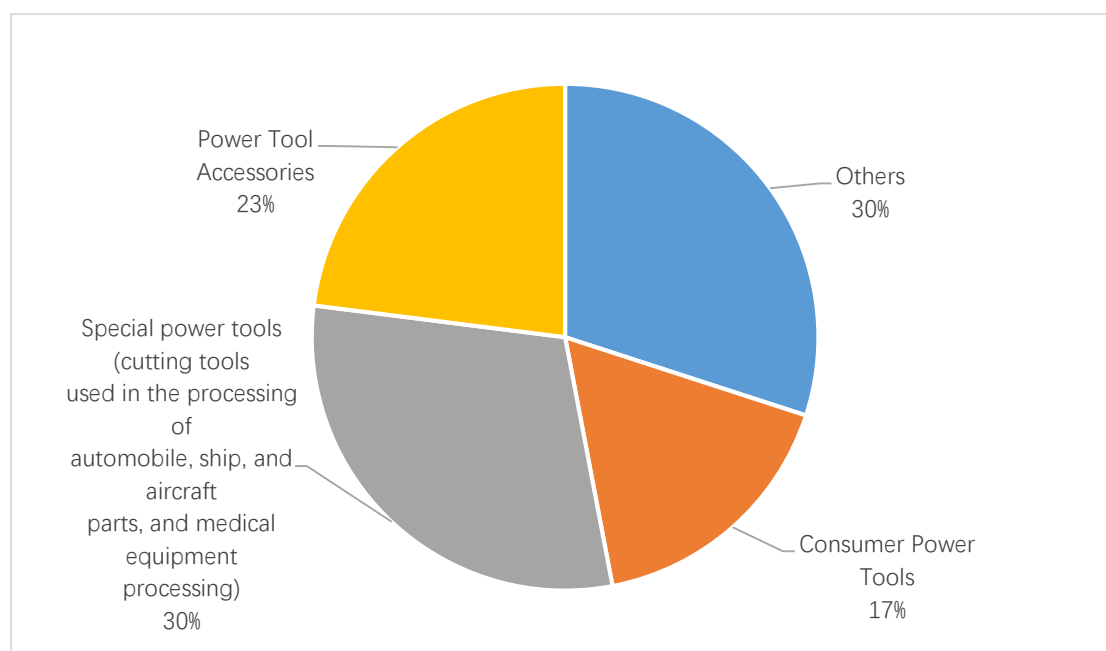
Feature:

- Cutting tools are tools used for cutting in machine manufacturing. They are the core components of CNC and the basic supporting products of the national economy.
- Cutting tools can be divided into HSS tools (hole machining tools, tapped hole machining tools, etc.) and carbide tools (carbide tapered milling cutters, drill bits, etc.).

Strategic Importance:

- "Guiding Catalogue of Key Products and Services for Strategic Emerging Industries" - Advanced Steel Materials

Key application areas and distribution:



Industry overview and key development trends:

- The downstream of the Group's cutting tools products are mainly power tools. The global power tools market maintains a steady growth trend and provides demand-side support.
- In the context of the epidemic restricting residents' movement, consumer power tools products provided an upside in the demand.
- With the further recovery of the automobile and other industries, the demand for professional power tools is also expected to increase.
- The global epidemic environment has accelerated the import substitution of cutting tool products, bringing excellent development opportunities to the leading company, like our Group.

Titanium Alloy



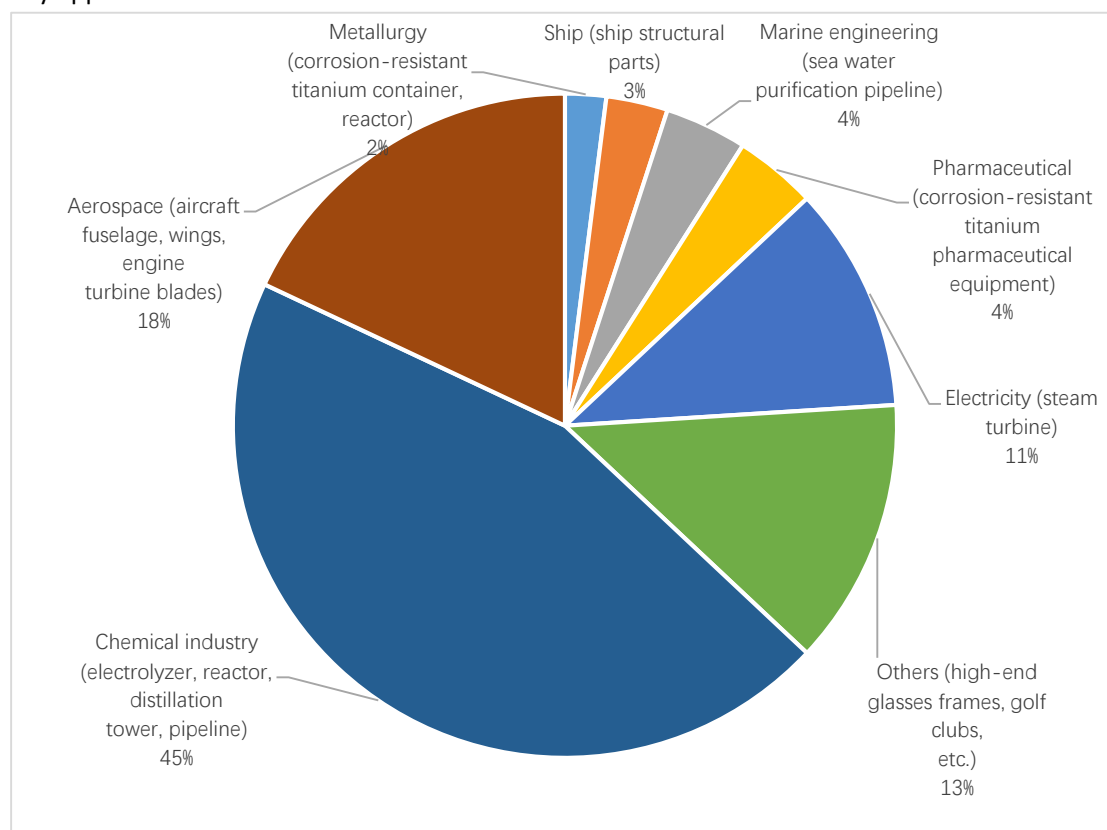
Feature:

- Titanium alloy is a structural material made of titanium based on the addition of other elements that can strengthen the properties of titanium, and through production processes such as smelting and forging.
- Titanium alloy has high strength, high toughness, fatigue resistance, corrosion resistance, and temperature resistance.

Strategic Importance:

- New Materials in Key Areas of "Made in China 2025" - Key Strategic Materials

Key application areas and distribution:



Industry overview and key development trends:

- Driven by the demand of downstream industries, the size of China's titanium alloy market is expected to grow steadily. In the coming 5 years, it is expected to maintain an average annual growth rate of more than 6%.
- The Group's production scale of titanium alloy ranks 3rd in the domestic titanium alloy market and the 1st among private enterprises.
- With the rapid development of high-end titanium alloy applications such as aerospace and marine

engineering in China, market for high-end titanium alloy is expanding. The proportion of high-end titanium alloy consumption has increased YoY.

- Currently, the Group is transforming its titanium alloy business structure from billet to material, vigorously improve the application of products in the high-end field, and seizing the growth opportunities in the high-end market

Company Rating Definition

The Benchmark:	Hong Kong Hang Seng Index
Time Horizon:	6 to 18 months
<u>Rating</u>	<u>Definition</u>
Buy 买入	Relative Performance > 15%; or the fundamental outlook of the company or sector is favorable.
Accumulate 收集	Relative Performance is 5% to 15%; or the fundamental outlook of the company or sector is favorable.
Neutral 中性	Relative Performance is -5% to 5%; or the fundamental outlook of the company or sector is neutral.
Reduce 减持	Relative Performance is -5% to -15%; or the fundamental outlook of the company or sector is unfavorable.
Sell 卖出	Relative Performance < -15%; or the fundamental outlook of the company or sector is unfavorable.

Sector Rating Definition

The Benchmark:	Hong Kong Hang Seng Index
Time Horizon:	6 to 18 months
<u>Rating</u>	<u>Definition</u>
Outperform 跑赢大市	Relative Performance > 5%; or the fundamental outlook of the sector is favorable.
Neutral 中性	Relative Performance is -5% to 5%; or the fundamental outlook of the sector is neutral.
Underperform 跑输大市	Relative Performance < -5%; Or the fundamental outlook of the sector is unfavorable.

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