Taiwanese CNC Machined Parts and Markets in MENA and Latin America

台灣CNC車修零組件在中東北非和中南美洲市場之發展剖析

1. Foreword

Due to the restructuring of the industrial supply chain caused by the global political and economic changes, Taiwan's CNC aftermarket parts industry is gradually expanding from existing markets to other emerging markets by virtue of its high-precision machining technology, flexible order-taking capability, and complete industrial agglomeration. The MENA and Latin America have become the important potential markets for Taiwanese companies to focus on due to their high level of car ownership, stable demand for aftermarket parts, and well-established industrial base. The Middle East region mainly comprises the Gulf States and industrialized countries in North Africa, showing high demand for aftermarket parts, but have more variable and complex certification thresholds and trade policies. In Latin America, Mexico is a country focused on export, which benefits from the advantages of vehicle maintenance & repair and FTAs, so it has a long-term import demand for Taiwanese related parts. This article focuses on 6 Middle East countries (Saudi Arabia, the UAE, Qatar, Kuwait, Bahrain, and Oman), 3 countries in North Africa (Egypt, Algeria, and Morocco), and 13 countries in Latin America, to analyze their market potential, the dynamics of major importers and exporters, and the competitive structure, which will serve as a reference for Taiwan's CNC machined parts (HS code 7326, 7419, 7609) and related industries to make their global layout.

2. Global Import and Export Markets of CNC Machined Parts

a. CNC Machined Parts Imports of Taiwan, MENA, and Latin America

Table 1 shows the CNC machined parts imports of Taiwan, MENA, and Latin American markets in 2020-2024. **In 2024, MENA and Latin American markets imported US$7.85 billion worth of CNC machined parts, accounting for 11% of the global import (US$71.39 billion)**, and the 5-year CAGR was 5.8%, showing a stable market demand. **Mexico was the world's 4th largest importer of CNC machined parts and its import far exceeded that of Brazil (ranking 26th).** Taiwan's annual import was US$ 750 million. If one wants to penetrate the market in MENA and Latin America, he should focus on Mexico, Brazil, Saudi Arabia, the UAE and others with higher import value.

b. CNC Machined Parts Exports of Taiwan, MENA, and Latin America in 2020-2024

Table 2 shows the CNC machined parts exports of Taiwan, MENA, and Latin American markets in 2020-2024. **In 2024, MENA and Latin American markets exported about US$2.98 billion worth of CNC machined parts, accounting for only 4% of the global export (US$ 75.30 billion)**, and the 5-year CAGR was 9.6%, still showing a certain export potential. **Mexico was the world's 8th largest exporter of CNC machined parts due to the market demand from N. America,** and its CAGR was over 10%, making it a much larger exporter than Brazil (ranked 40th). **Taiwan's annual export was US$ 1.21 billion, ranking 18th globally.** Taiwan's related industries can consider setting up factories or OEM cooperation in Mexico for exports to the American market, lowering the impact of tariffs and strengthening global distribution.

Table 1. CNC Machined Parts Imports of Taiwan, MENA, and Latin American Markets in 2020-2024

Unit: US$ 0.1 bn; %

Ranking	Importer	2020	2021	2022	2023	2024	Share in 2024	CAGR
31	Taiwan	4.8	6.0	6.2	6.1	7.5	1.1%	11.7%
4	Mexico	29.8	39.9	45.6	42.4	34.8	4.9%	4.0%
26	Brazil	5.3	6.7	8.0	7.7	8.0	1.1%	10.9%
30	Saudi Arabia	3.0	3.1	4.6	6.1	7.6	1.1%	25.7%
35	UAE	3.6	3.4	4.3	5.0	5.6	0.8%	11.7%
40	Egypt	8.0	3.7	4.4	3.7	3.8	0.5%	-16.9%
42	Chile	3.3	5.0	5.3	3.4	3.6	0.5%	2.4%
46	Morocco	1.3	1.5	1.6	1.7	3.0	0.4%	22.7%
47	Peru	1.4	1.8	2.1	2.2	2.7	0.4%	17.2%
51	Argentina	1.3	1.6	1.7	1.9	1.9	0.3%	10.5%
61	Algeria	0.9	0.7	0.7	1.0	1.3	0.2%	10.8%
66	Colombia	0.8	1.0	1.5	1.5	1.3	0.2%	10.3%
74	Kuwait	0.7	0.8	0.7	0.9	0.9	0.1%	7.0%
80	Qatar	0.6	0.7	0.8	0.8	0.8	0.1%	4.1%
83	Oman	0.8	0.6	0.7	0.7	0.6	0.1%	-6.3%
84	Panama	0.3	0.4	1.3	0.9	0.6	0.1%	15.5%
90	Ecuador	0.4	0.6	0.8	0.7	0.5	0.1%	11.7%
104	Bahrain	0.4	0.3	0.3	0.4	0.3	0.0%	-4.5%
105	Uruguay	0.2	0.2	0.3	0.3	0.3	0.0%	15.3%
109	Venezuela	0.1	0.1	0.2	0.2	0.3	0.0%	52.7%
111	Bolivia	0.2	0.3	0.4	0.4	0.3	0.0%	7.1%
131	Paraguay	0.1	0.2	0.2	0.1	0.2	0.0%	6.9%
148	Cuba	0.2	0.2	0.2	0.1	0.1	0.0%	-14.9%
MENA and Latin America Subtotal		62.7	72.6	85.5	82.1	78.5	11.0%	5.8%
Other Importers Subtotal		495.2	615.7	649.4	637.6	635.4	89.0%	6.4%
Global Imports Total		**557.9**	**688.4**	**734.8**	**719.7**	**713.9**	**100%**	**6.4%**

Table 2. CNC Machined Parts Exports of Taiwan, MENA, and Latin American Markets in 2020-2024

Unit: US$ 0.1 bn; %

Ranking	Exporter	2020	2021	2022	2023	2024	Share in 2024	CAGR
18	Taiwan	12.9	15.8	16.1	12.8	12.1	1.6%	-1.6%
8	Mexico	13.6	16.6	20.7	21.4	20.7	2.8%	11.1%
40	Brazil	1.6	2.1	2.9	4.4	2.0	0.3%	5.1%
42	Saudi Arabia	1.3	1.6	1.9	1.9	1.7	0.2%	8.1%
48	UAE	0.8	1.1	1.4	1.5	1.3	0.2%	15.0%
49	Egypt	1.0	1.3	0.7	1.3	1.3	0.2%	5.7%
57	Chile	0.3	0.4	1.1	0.7	0.7	0.1%	18.4%
59	Morocco	1.0	1.6	1.3	1.8	0.5	0.1%	-16.3%
60	Peru	0.1	0.2	0.4	0.7	0.5	0.1%	39.3%
63	Argentina	0.1	0.2	0.2	0.2	0.3	0.0%	32.0%
65	Algeria	0.2	0.2	0.2	0.2	0.2	0.0%	5.7%
66	Colombia	0.2	0.2	0.3	0.3	0.2	0.0%	2.3%
70	Kuwait	0.3	0.4	0.4	0.2	0.1	0.0%	-13.7%
76	Qatar	0.0	0.0	0.1	0.1	0.1	0.0%	23.8%
79	Oman	0.1	0.0	0.2	0.2	0.1	0.0%	14.1%
97	Panama	0.0	0.0	0.1	0.0	0.0	0.0%	64.5%
101	Ecuador	0.0	0.0	0.0	0.0	0.0	0.0%	3.8%
106	Bahrain	0.0	0.0	0.0	0.0	0.0	0.0%	1.5%
115	Uruguay	0.0	0.0	0.0	0.0	0.0	0.0%	-18.8%
138	Venezuela	0.0	0.0	0.0	0.0	0.0	0.0%	-9.3%
145	Bolivia	0.0	0.0	0.8	0.0	0.0	0.0%	-54.7%
153	Paraguay	0.0	0.0	0.0	0.0	0.0	0.0%	14.1%
200	Cuba	0.0	0.0	0.0	0.0	0.0	0.0%	-46.3%
MENA and Latin America Subtotal		20.6	26.1	32.6	34.8	29.8	4.0%	9.6%
Other Exporters Subtotal		523.4	674.7	729.8	722.2	723.2	96.0%	8.4%
Global Exports Total		**544.0**	**700.8**	**762.4**	**756.9**	**753.0**	**100%**	**8.5%**

3. Import Sources and Export Destinations of Taiwan's CNC Machined Parts

a. Import Sources of Taiwan's CNC Machined Parts

Table 3 shows the import sources of Taiwan's CNC machined parts in 2020-2024. **In 2024 the value of CNC machined parts Taiwan imported was US$750 million**, with a CAGR of 11.7%. China was its no.1 import origin, with the import in 2024 reaching US$ 286 million, accounting for 38.1%, and an average annual growth rate of 14.9%, followed by Japan (24%), the U.S. (9.6%), the Netherlands (7.6%), and Germany (4.4%), all of which accounted for over 80% of the total import. China, the U.S., Germany showed a stable CAGR of imports, indicating that **Taiwan has shifted its reliance on China to Europe, the U.S. and Japan in CNC machined parts imports.**

Table 3. Import Sources of Taiwan's CNC Machined Parts in 2020-2024

Unit: US$ 10,000; %

Ranking	Source	2020	2021	2022	2023	2024	Share in 2024	CAGR
1	China	16,424	19,767.7	20,343.8	20,170.5	28,594.2	38.1%	14.9%
2	Japan	14,878.2	19,461.3	19,384.2	16,457	18,044.3	24.0%	4.9%
3	USA	3,765.3	3750	4,591.4	4,950.5	7,197.2	9.6%	17.6%
4	Netherlands	3,971.8	3,223.5	3,231.7	3,956.6	5,729.2	7.6%	9.6%
5	Germany	787.4	1,365.6	1,575.1	2,528.3	3,312.3	4.4%	43.2%
6	S. Korea	3,132.5	4,807.7	4,636.6	3729	2,825.7	3.8%	-2.5%
7	Vietnam	930	897.2	1,457.3	1,861.8	1,928.4	2.6%	20.0%
8	Malaysia	530.7	668.2	552.8	617.7	1,275.4	1.7%	24.5%
9	Denmark	101.2	1,020.7	988.2	881.3	833.9	1.1%	69.4%
10	Singapore	123.4	333.6	188.4	591.9	736.2	1.0%	56.3%
26	Mexico	52.9	35.1	49.6	63.1	52.9	0.1%	0.0%
30	UAE	50.9	183.9	81.3	92.7	31.7	0.0%	-11.2%
34	Brazil	30	25	18.9	57.1	21.8	0.0%	-7.7%
44	Morocco	2.9	2.8	0.1	1.4	4.8	0.0%	13.4%
65	Chile	0.1	0.1	0	0	0	0.0%	-100.0%
Taiwan's Total Imports		**48,188.4**	**60,067.6**	**61,510.5**	**60,716.6**	**75,115.5**	**100%**	**11.7%**

b. Export Destinations of Taiwan's CNC Machined Parts

Table 4 shows the export destinations of Taiwan's CNC machined parts in 2020-2024. **From 2020 to 2024, the CAGR of Taiwan's CNC machined parts exports showed a decline, with the total export dropping from US$ 1.29 billion to US$ 1.21 billion** and the 5-year CAGR was -1.6%. **The U.S. was its no.1 export destination, with the export in 2024 being US$ 400 million,** accounting for 33.4%. The U.S., together with Japan (14.3%) and China (11.1%), accounted for nearly 60% of the total export. Although Taiwan's export to Mexico was only US$ 0.03 billion, the CAGR was 31.4%, indicating that **Taiwan is actively strengthening its export to Mexico, a major importer of CNC machined parts.**

Table 4. Export Destinations of Taiwan's CNC Machined Parts in 2020-2024

Unit: US$ 0.1 bn; %

Ranking	Destination	2020	2021	2022	2023	2024	Share in 2024	CAGR
1	USA	3.8	5.0	5.2	4.0	4.0	33.4%	1.6%
2	Japan	1.8	2.1	2.1	1.9	1.7	14.3%	-1.1%
3	China	2.0	2.1	1.8	1.4	1.3	11.1%	-9.0%
4	Thailand	0.3	0.4	0.5	0.3	0.4	3.4%	9.1%
5	Germany	0.5	0.6	0.6	0.5	0.4	3.3%	-3.6%
6	Canada	0.4	0.5	0.6	0.3	0.4	3.1%	-1.4%
7	Vietnam	0.5	0.5	0.4	0.4	0.3	2.8%	-7.0%
8	Netherlands	0.3	0.5	0.5	0.4	0.3	2.6%	1.8%
9	Mexico	0.1	0.2	0.5	0.3	0.3	2.3%	31.4%
10	UK	0.3	0.3	0.3	0.3	0.2	2.0%	-0.6%
22	Brazil	0.1	0.1	0.1	0.1	0.1	0.6%	3.7%
31	UAE	0.0	0.0	0.0	0.0	0.0	0.3%	1.8%
33	Colombia	0.0	0.0	0.0	0.0	0.0	0.3%	5.3%
34	Chile	0.0	0.0	0.0	0.0	0.0	0.2%	12.1%
38	Saudi Arabia	0.0	0.0	0.0	0.0	0.0	0.2%	8.5%
Taiwan's Total Exports		**12.9**	**15.8**	**16.1**	**12.8**	**12.1**	**100%**	**-1.6%**

4. Taiwan's Import and Export of Various CNC Machined Parts

a. Taiwan's Import of Various CNC Machined Parts

Table 5 shows Taiwan's import of various CNC machined parts from 2020 to 2024. **The most imported CNC machined parts of Taiwan from 2020 to 2024 were "Other Articles of Iron and Steel (HS code 7326)", with an import value of US$ 496 million in 2024, accounting for 66% of the total import,** and with an average annual growth rate of 11.3%, indicating that articles of iron and steel **are still the main import items in the CNC machined parts market. The 2nd most imported items were "Articles of Copper (HS code 7419)", with an import value of US$ 0.245 billion in 2024, accounting for 32.6%,** and an average annual growth rate of 13.9%, the highest growth rate among all items, **reflecting the increasing application of copper products in the precision maintenance field.** Hence, Taiwan needs to strengthen its processing technology and materials used to reduce the dependence on import.

Table 5. Taiwan's Imports of Various CNC Machined Parts from 2020 to 2024

Unit: US$ 0.1 billion;%

HS Code	Item	2020	2021	2022	2023	2024	Share in 2024	CAGR
7326	Other Articles of Iron and Steel	3.23	3.84	3.90	4.21	4.96	66.0%	11.3%
7419	Other Articles of Copper	1.45	2.06	2.17	1.79	2.45	32.6%	13.9%
7609	Aluminum Tubes or Pipe Fittings (e.g., Couplings, Elbows, Sleeves)	0.14	0.10	0.08	0.08	0.11	1.4%	-5.9%
Taiwan's Import Total		**4.82**	**6.01**	**6.15**	**6.07**	**7.51**	**100%**	**11.7%**

b. Taiwan's Exports of Various CNC Machined Parts

Table 6 shows Taiwan's export of various CNC machined parts from 2020 to 2024. **The most exported CNC machined parts of Taiwan from 2020 to 2024 were "Other Articles of Iron and Steel (HS code 7326)" with an export value of US$1,046 million in 2024, accounting for 86.3%,** and the 5-year CAGR of about -1.6%. **"Other articles of copper (HS 7419)" showed a significant decline.** As these products are mostly used for internal parts of engine tanks and heat exchanger systems (copper heat exchanger tubes, fixtures), as well as electrical connectors, copper grounding bushings, and turned parts for transformer repairs, such a decline suggests that the demand for certain mid- to high-end materials has weakened. **Although the share of aluminum tubes or pipe fittings (HS code 7609) was only 1.4%, the average annual growth rate was 8.9%, the only positive growth item. Taiwan's export of CNC machined parts are still concentrated on articles of iron and steel,** so it should expand the application of high-value materials and diversify its markets to cope with the risk of fluctuating orders in the steel market.

Table 6. Taiwan's Exports of Various CNC Machined Parts from 2020 to 2024

Unit: US$ 0.1 bn;%

HS Code	Item	2020	2021	2022	2023	2024	Share in 2024	CAGR
7326	Other Articles of Iron and Steel	11.17	13.52	13.75	11.12	10.46	86.3%	-1.6%
7419	Other Articles of Copper	1.65	2.10	2.11	1.50	1.49	12.3%	-2.4%
7609	Aluminum Tubes or Pipe Fittings (e.g., Couplings, Elbows, Sleeves)	0.12	0.20	0.21	0.17	0.17	1.4%	8.9%
Taiwan's Export Total		**12.93**	**15.82**	**16.06**	**12.79**	**12.12**	**100%**	**-1.6%**

Table 7 shows Taiwan's exports of 732690, 732620, 732619, 732611 from 2020 to 2024. **The export of 732690 was US$ 1,014 million, accounting for 96.9% of the total export in 2024,** but the CAGR slipped 1.3%. 732690 is mostly used in vehicle suspension links, rocker arms, fixed washers, engine mounts, and high load industrial vehicle repair parts (e.g., gear washers, steel bushings, hinge seats, etc.). These products are cost-effective, but they face price competition as they are standard parts, so their advantages of customized processing, heat treatment upgrades, and surface treatments should be strengthened in order not to be defined as middle- and low-end products. Other steel wire products, unprocessed forged/stamped steel products, and unprocessed steel grinding ball products are relatively small in value, and manufacturers need to strengthen the development of high value-added products to diversify risks.

Source: ITC

Table 7. Taiwan's Exports of 732690, 732620, 732619, 732611 from 2020 to 2024 Unit: US$ 0.1 bn;%								
HS Code	Item	2020	2021	2022	2023	2024	Share in 2024	CAGR
732690	Other Articles of Iron and Steel	10.67	12.92	13.29	10.73	10.14	96.9%	-1.3%
732620	Other Steel Wire Products	0.35	0.40	0.26	0.17	0.16	1.5%	-18.5%
732619	Unprocessed Forged/ Stamped Steel Products	0.12	0.15	0.15	0.19	0.13	1.2%	1.9%
732611	Unprocessed Steel Grinding Ball Products	0.03	0.05	0.04	0.03	0.04	0.4%	5.4%
Taiwan's Exports of 732690, 732620, 732619, and 732611		**11.17**	**13.52**	**13.75**	**11.12**	**10.46**	**100%**	**-1.6%**

5. The Impact of Global CNC Machined Parts Supply Chain Restructuring on Taiwanese Fastener Manufacturers

a. MENA and Latin American markets show potential. Brand building and local service are the Key

Although MENA and Latin America are not the main export markets for Taiwan's CNC machined parts, its imports have grown significantly in recent years, reflecting the rising demand for basic manufacturing and the expansion potential of the aftermarket sector in these countries. However, the local market has low brand awareness and high price sensitivity. It is suggested that Taiwan manufacturers enhance service timeliness and brand trust by participating in exhibitions, establishing local distribution channels, or collaborating with technical service centers.

b. The local manufacturing base is weak, and Taiwan has a technological and delivery advantage.

MENA and Latin America still have a certain demand for automotive CNC parts and depend on imports. In view of Taiwan's advantages of CNC machined part precision and delivery stability, Taiwan is suitable for the supply of medium and high-end maintenance factories or OEM market. It is suggested that Taiwanese manufacturers focus on high wear-rate items (e.g., shafts, sleeves, end caps) to carry out product customization and standard parts layout.

c. Responding to competitors' low price competition via quality differentiation and FTA

MENA and Latin American markets are becoming the targets for low-cost part exports from China. Taiwanese manufacturers should avoid price-cutting, focus on product lifespan, machining accuracy, and after-sales service, and utilize FTA between Taiwan and Latin American countries (e.g., Paraguay) to reduce the cost of import tariffs and create a global competitiveness.

d. Focus on connections to key players in the Mexican and N. American automotive markets

Mexico has gradually developed into a trend-setting country for the global automotive industry thanks to the concentration of U.S. and Japanese carmakers investing in plants, especially in the Bajío region of Mexico, where many industry clusters have been formed. In recent years, automobile industry suppliers and their satellite factories from Taiwan, Japan, Korea, and China, have continued to meet the requirements of major int'l carmakers to set up factories in Mexico. Therefore, Taiwanese manufacturers can evaluate the adoption of local processing, warehousing, and OEM, and grasp the aftermarket parts demand in the Americas to enhance the added value of its exports and toughness in the market. ■