



China's Industrial Policy in the 2020s

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What has happened to the MIC2025?

- “Made in China 2025” (MIC2025) was one of focus of the Sino-US friction during the Trump Administration
- However, there have been three events since September 2020 that lead us to expect the end of the Sino-US trade war.

- 1. US's tariffs on a vast range of imports from China were judged as an infringement of WTO rules by a WTO panel.
- 2. MIC2025 was not mentioned in the proposal on the 14th five-year plan (FYP) by the Chinese Communist Party. It seems that MIC2025 is no longer effective.
- 3. Joe Biden won the presidential election in USA. He will not take the position that a trade war with China will lead to the increase of employment opportunities in USA.
- The question I would like to tackle in this presentation is "Is MIC2025 still alive?"

Changes in Priority Industries

- MIC2025 named 10 industries as priority industries, which triggered Vice-President Pence's criticism that "China is trying to dominate 90% of the latest industries." But many of them overlapped with the "strategic emerging industries (SEIs)" in the 12th FYP (2011-2015)
- In the 14th FYP proposal, the SEIs reappeared, as if the 14th FYP is an extension of 12th FYP, skipping MIC2025.

Table 1 SEIs in the 12th FYP and 14th FYP and the Priority Industries of MIC2025

SEIs(2011)	Priority Industries, MIC2025(2015)	SEIs(2020)
Energy Saving, Environmental Protection		Energy Saving, Environmental Protection
Next-age IT	Next-age IT	Next-age IT
Biotechnology	Biopharmacy and Medical Instruments	Biotechnology
High-end Equipment	Digital Machine Tools, Robots	High-end Equipment
	Aerospace	Aerospace
	Ocean Engineering, High-tech Ships	Ocean Equipment
	Railroad Equipment	
New Materials	New Materials	New Materials
New Energy Vehicles	New Energy Vehicles	New Energy Vehicles
New Energy	Power Generation Equipment	New Energy
	Agricultural Equipment	

- Under the umbrella of MIC2025 (2015), there are:
Technology Roadmap of Key Industries (2015, 2017)
11 “action plans” for the key industries.

7 “action plans” and “guides” for the other strategic tasks

Most of the plans exterminate in 2020. Therefore, if these plans are renewed for the post-2020 period, then we can judge that MIC2025 is still alive.

From Localization to Supply Chain Control

Localization

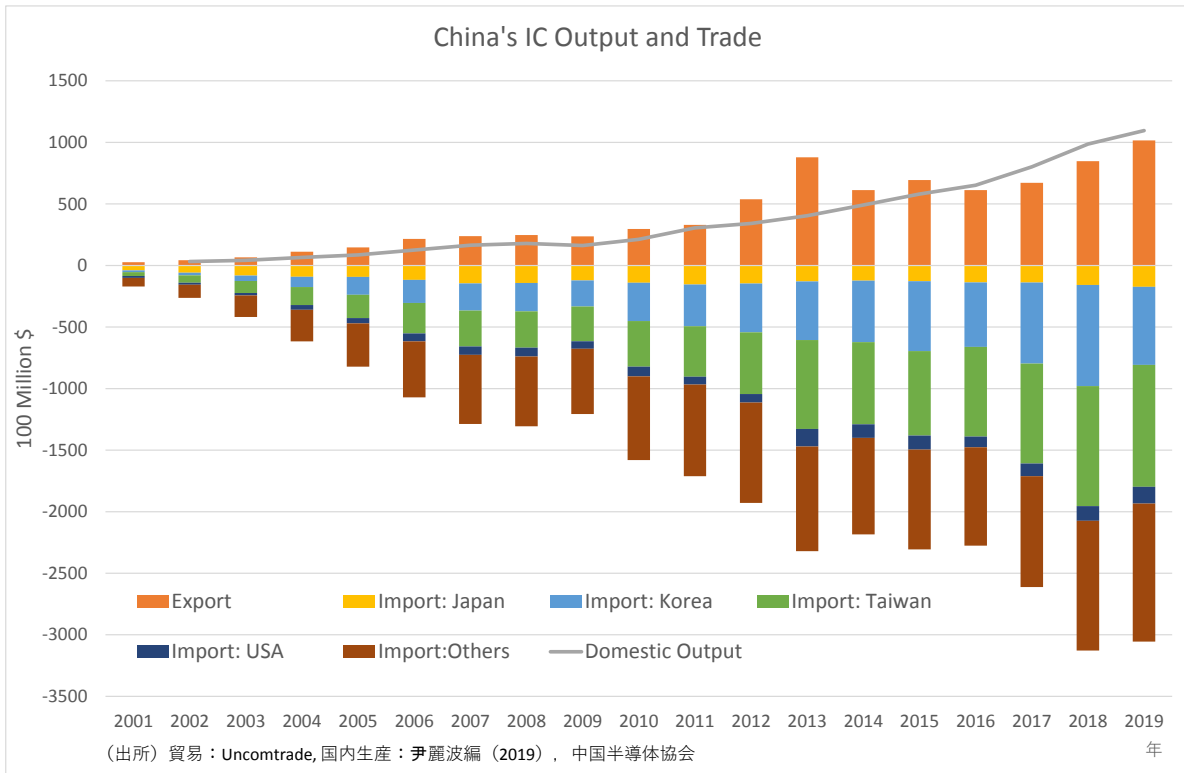
- MIC2025 states that “indigenous guarantee” of basic core components and important basic materials should be raised to 40% by 2020 and 70% by 2025
- What is meant by “indigenous guarantee” is to increase the localization ratio of high-tech goods and their major components.
- That policy is expressed in detail in the Technology Roadmap, which is a list of technologies that Chinese industries should develop in the near future. For 56 items, the goals of localization ratio for 2020 and 2025 are shown.

Technology Roadmap

- The Roadmap was compiled by the “The National Manufacturing Strategy Advisory Committee,” which consists of 43 industry experts
- The Committee is overseen by the Leading Group headed by Vice Premier Ma Kai.
- MIC2025 stipulates that the Technology Roadmap will be issued constantly. Its 2015 and 2017 versions were published, but its new version has not been published yet.
- Ma Kai is no longer Vice Premier since March 2018, but in the Committee’s website he is still the head of the Leading Group.
- These facts suggest that the Consulting Committee has been inactive since the latter half of 2018

Localization of ICs

- According to the Roadmap the localization goals of ICs are 49% in 2020 and 75% in 2030. (41% in 2015) The goals are revised in the 2017 version of the roadmap: 58% in 2020 and 80% in 2030.
- China imports more than \$300 billion of ICs every year from Korea, Taiwan, Japan and others. The increase of their localization will lead to the decline of IC industries and exports of these countries.



The actual localization rate

- Calculated as 26% in 2015 and 35% in 2019, from the previous graph, on the assumption that all domestically produced ICs are consumed domestically.
- According to IC Insights, they were 15.1% in 2014 and 15.7% in 2019
- A Chinese newspaper reports that it was around 30% in 2019.
- It is likely that the actual localization rate in 2020 fell far short of the Roadmap's goal.

IC localization Initiatives

- The Chinese Government has been actively promoting the development of domestic IC industry since the 1980s.
- In 2014, the State Council promulgated the “The Outline for the Promotion of National IC Industry Development.”
- The National IC Industry Investment Fund was established by the Ministry of Finance and others, which invested RMB139 billion in its first phase and RMB200 billion in its second phase.
- The Tsinghua Unigroup has acted as a surrogate of governmental goals, merging domestic fabless makers (Spreadtrum and RDA), attempting to merge Micron, investing in DRAM and NAND flash projects.

Disturbance of China’s High-tech Development by the US

- US Department of Commerce blocked the export of Intel’s IC to China’s supercomputers in 2015. China developed its own ICs for supercomputers “Sunway,” which was used in the “Sunway TaihuLight” supercomputer. The latter ranked No.1 in the world during 2016 and 2017.
- Exports of ICs to ZTE were suspended in 2018.
- Huawei was enlisted in the US “entity list” in 2019, and exports of ICs to Huawei have been blocked since then. The US escalated its attack on Huawei by forbidding TSMC’s fabrication services for Huawei and provisions of ICs to Huawei by whichever company in the world that uses US technology and software in August 2020.

Disturbance of Chinese IC industries by the US

- These events will enhance China's resolution to enhance IC localization
- However, the US blocked the exports of manufacturing equipment to JHICC, a DRAM maker, in October 2018.
- Technological upgrading by SMIC, a domestic IC foundry, was also blocked by US restrictions on the exports of manufacturing equipment

China seems to have given up its localization target for ICs

- A recent report in *21st Century Economic Herald* (September 23, 2020) writes that “there is a widespread rumor that the Chinese government has a target to increase its localization rate of ICs to 70% in 2025. However, ‘several authoritative people’ denied the existence of such target and it is far from the reality. It is a trick used by investors to stir up investments in semiconductors” The report did not refer to MIC2025.

The 14th FYP Proposal

- Avoided mentioning about high-tech localization
- Instead, the Proposal puts importance on “enhancing the level of the supply chain.”
- It stipulates that the country must “aim for autonomous and controllable, safe and efficient supply chains, and promote their improvement and upgrading by devising strategies and policies”
- The policy focus has shifted from localization to the enhancement of the safety and resilience of the supply chain.

From Protection to
Openness

New Energy Vehicles (NEVs)

- One of the priority industries in MIC2025 was the NEVs, which include electric vehicles (EV), plug-in hybrid electric vehicles (PHEV), and fuel cell vehicles (FCV)
- The focus is on EVs, because they are easier to manufacture than other types of NEVs and conventional vehicles.

In 2015, the domestic market was occupied by indigenous car manufacturers

Sales amount of NEVs

Year	Jan-Sept,		
	2015	2019	2020
BYD	58,869	219,362	106,744
Beijing NEV	17,060	150,601	21,086
Shanghai Car	11,123	70,987	34,931
Geely	26,554	70,599	15,868
Zhongtai	24,408	-	-
Shanghai GM Wuling	-	60,050	58,739
Chery	14,147	46,827	21,937
Guangzhou NEV	-	42,205	38,691
Changcheng	-	39,509	23,913
Shanghai VW	-	39,433	20,240
JAC	10,420	33,919	3,791
Huachen BMW	-	32,157	19,281
Changan	1,500	28,235	10,739
NIO	-	20,946	26,735
XPeng	-	16,608	13,017
Dongfeng Car	-	15,955	7,505
Tesla	-	-	79,908
Li Auto	-	-	18,160
Others	12,733	137,496	80,035
Total	176,814	1,024,889	601,320

China's Ambitions in NEVs

- The Roadmap sets the goals for indigenous NEV industry: 70% and 80% market shares in 2020 and 2025.
- In 2015, the Ministry of Industry and Information Technology (MIIT) issued the “Conditions for Regulating EV batteries,” which listed the suppliers of EV batteries. Only the NEVs equipped with the batteries of these suppliers can be the subject of purchasing subsidies. All foreign battery makers were excluded from the list.
- Domestic battery makers such as CATL and BYD grew rapidly under protection.

Abolition of the Protection

- In June 2018, the restriction on foreign investment in car production was relaxed. In the case of NEVs, even a wholly-owned foreign venture will be allowed since then.
- Tesla erected a wholly-owned factory in Shanghai in 2019, which has a capacity to produce 500 thousand units of EVs annually.
- Tesla's EVs became the best selling EVs during the first half of 2020. They were overtaken by Shanghai GM Wuling in September, another US-invested carmaker.
- “Conditions for Regulating EV batteries” were abolished in June 2019. LG Chemical and Panasonic supply batteries to Tesla in Shanghai.

What are the reasons for the abolition of protectionist policies?

- The decrease of MIC2025's political priority since the latter half of 2018.
- The success in fostering domestic EV industry

Sales amount of Cars and NEVs

Year	(10 thousand)					
	2015	2016	2017	2018	2019	2020.1-10
Cars	1,163	1,211	1,194	1,147	1,023	812
NEVs	17.7	32.4	55.6	99.3	102.5	73.4
Share	1.5%	2.7%	4.7%	8.7%	10.0%	9.0%

- With the start of EV production in China by Tesla, VW, GM, Toyota and other foreign automakers, the share of indigenous brands in Chinese EV market is likely to drop to 63% in 2020. However, the Roadmap's goal has already been forgotten.

Conclusion

- I conclude that the MIC2025 has already been inactivated because:
 - It was not mentioned in the 14th FYP proposal
 - It became obvious that with the US disturbances, it would be difficult for China to pursue its localization goals of ICs
- The abolishment of protectionist policies on NEVs
- However, the Chinese government will remain heavily involved in the development of high-tech industry. The 14th FYP Proposal writes that an "Action Plan for building a Strong Science and Technology Nation" is needed.