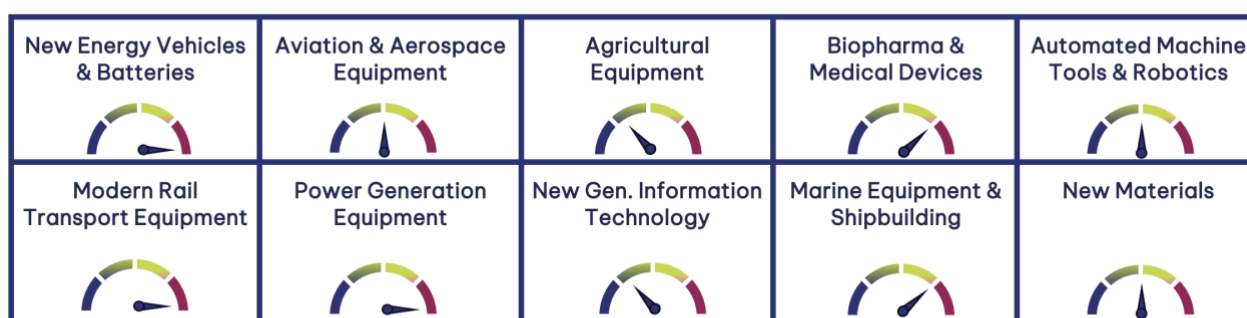


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# China's Industrial Evolution: A Scorecard for “Made in China 2025”

## Scorecard of Made in China 2025 Strategic Sectors


No Progress  Achieved Stated Goals


## Key Takeaways

- China's *Made in China 2025* (MIC25) initiative is a strategic blueprint designed to transform the country's economy from the world's top factory for low-cost goods into a leader in high-tech and innovative manufacturing.
- Since its initial release in 2015, China has frequently rebranded MIC25 to match its industrial policy objectives, while endeavoring to downplay international concerns. The U.S. government has often focused on MIC25 strategies in its intensifying economic and technological rivalry with China.
- China made significant strides in key sectors featured in the plan. It has consolidated its position as a global leader in electric vehicles, renewable energy, and shipbuilding. Despite these advancements, however, China continues to rely on imports for other critical sectors such as semiconductors and biopharmaceuticals.
- Beijing's rhetorical emphasis since 2023 on “new quality productive forces” represents a new phase in China's strategic direction beyond MIC25. It shows that China's central government is pushing as hard as ever for innovation and technological self-sufficiency to build resilience against external challenges.
- As the Trump Administration works out its policies toward China, Washington can be expected to pursue more measures to curb China's tech progress.



Both Republicans and Democrats support efforts to safeguard U.S. technology and intellectual property as a key way to handicap China's military and economic development.

- With both countries focused on the same strategic sectors, multinational companies should anticipate that technology export controls, investment restrictions, and both tariffs and non-tariff barriers affecting strategic industries will continue to be a locus for U.S.-China competition.

## The Evolution of Made in China 2025

In 2015, China's top government body, the State Council, introduced its signature industrial policy, *Made in China 2025* ("MIC25"). Prior to the plan's release, China had already established itself as the world's factory – a hub where international companies leveraged cheap labor to produce low-cost goods for export. However, the Chinese government aimed to improve the country's global status. To support this goal, they developed MIC25 – a ten-year strategic blueprint aimed at shifting China's manufacturing model from low-cost, low-quality production toward an innovation-driven, high-tech manufacturing hub. With this plan, Beijing set out to reduce reliance on and vulnerability to the West, establish China's global leadership in high-tech manufacturing, and narrow the technology gap with the United States.

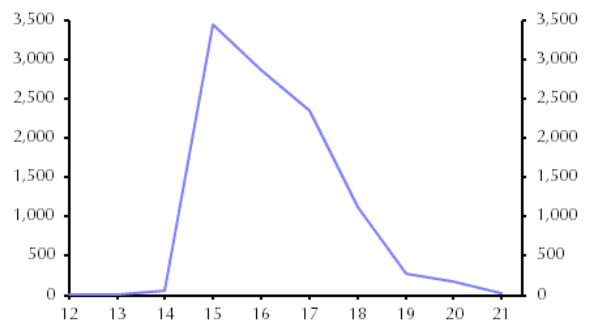
**2025 is the first of three specific timeline-focused targets that Beijing set for itself to become a global leader in high-tech manufacturing.** Of course, these are just plans, not reliable forecasts of certain success:

- In the first step in the timeline, **by 2025**, the Chinese government aimed to: 1) achieve 70 percent *self-sufficiency* in high-tech industries; 2) reduce *energy consumption*; 3) build *globally competitive* brands and industrial clusters; 4) enhance *manufacturing quality*; and 5) boost *innovation capabilities* across key industries. These five objectives remain key pillars of China's development goals today.
- In the long term, **by 2035**, China's manufacturing industry is expected to join the middle ranks of the global manufacturing industry.
- Then **by 2049**, the year of the 100<sup>th</sup> anniversary of the founding of the People's Republic of China, the plan identifies that China will lead the global manufacturing industry with an innovation-led technology and industrial system. The achievements expected by 2025 are poised to serve as critical steppingstones towards China's grand vision of becoming a world-leading high-tech manufacturing power by 2049.



The Chinese government has since rebranded its “Made in China” initiative to advance its objectives while downplaying international concerns. In response to mounting criticism about the strategic nature of the plan, the Chinese government removed the term “Made in China” from official documents starting in 2018 (see chart). In 2023, Chinese leaders began reframing the country’s strategic push under the slogan “new quality productive forces” — a term highlighting a shift away from industrial manufacturing toward new engines of productivity driven by high-tech, emerging industries such as AI, green energy, and advanced technology. Despite this shift, tech self-sufficiency remains a key driver in the national strategy. Both central and local governments use this terminology to advance the next phase of initiatives following the conclusion of MIC25.

**Chart 1: Number of Mentions of “Made in China 2025” in Chinese News Articles**



Source: Capital Economics

The U.S. government has identified MIC25 as a key prong of U.S.–China competition, given the importance of both economic security and critical emerging technologies to national security. In 2018, the U.S. Trade Representative (USTR) accused China of using “foreign technology acquisition through various means” as a prime strategy to achieve MIC25’s goals, undermining U.S. companies’ competitiveness. The report cited the MIC25 plan 116 times, highlighting U.S. concerns over the policy’s methods for achieving its goals. As recently as February 2025, the U.S.–China Economic and Security Review Commission held a hearing to help gauge the level of China’s success with MIC25. Understanding China’s progress against its own benchmarks will further inform ongoing legislative efforts to restrict commercial and academic ties with China, shift supply chains out of China, restrict advanced technology from supporting China’s military, and strengthen foreign investment reviews and intellectual property enforcement.

## MIC25: Accomplishments & Shortfalls

Now that MIC25 has reached its end date, how did China do on its stated goals? In summary, China has made notable progress in each sector highlighted in the plan. China consolidated its position as a global leader in a few emerging technologies including electric vehicles, renewable energy, and shipbuilding. However, it remains heavily dependent on imports to drive development in other key strategic sectors such as semiconductors and biopharmaceuticals.







Both the central government and local governments have implemented preferential policies to encourage growth in key sectors. The original MIC25 plan covered 10 strategic sectors that the Chinese government deemed critical to the country’s rise



as a global high-tech manufacturing hub, resulting in preferential policy measures and targeted investment toward each sector. These incentives have propelled many companies in China to become global leaders in their industry. Government incentives to benefit domestic companies in these industries are included in the table below.

 consumer and producer subsidies	 investment initiatives	 trade-in programs
 procurement benefits	 land vouchers	 tax incentives

In the following section, The Asia Group (“TAG”) rates China’s progress in the 10 strategic sectors listed in MIC25 based on the initial targets set in 2015 for each industry. Please refer to the Appendix for a summary of the main strategic and sectoral goals highlighted in the original MIC25 plan.

MIC25: 10 Strategic Sectors				
New Energy Vehicles & Batteries 	Aviation & Aerospace Equipment 	Agricultural Equipment 	Biopharma & Medical Devices 	Automated Machine Tools & Robotics 
Modern Rail Transport Equipment 	Power Generation Equipment 	New Gen. Information Technology 	Marine Equipment & Shipbuilding 	New Materials 



## New Energy Vehicles & Batteries



**China has the most advanced electric vehicle market in the world.** China produces more than 60 percent of the world's electric vehicles (EVs) and 80 percent of the world's EV batteries.

**In 2024, EV sales in China reached 11 million,** up 40 percent from 2023. China also retained its spot as the **world's largest auto exporter** after surpassing Japan in 2023.

**China dominates the global lithium-ion battery market and supply chain.** Six of the world's top 10 battery makers are from China, led by the world's largest EV battery manufacturer, Contemporary Amperex Technology Co. (CATL).



## Aviation & Aerospace Equipment



**China's key milestones in aviation include the development of the COMAC C919 passenger jet, the Fujian aircraft carrier, and the J-20 stealth fighter.**

**China is also a leader in commercial drone production and has a dominant share in the global drone market.** China-based DJI is the world's largest consumer drone manufacturer, dominating more than 70 percent of global market share.

**However, China's aerospace and aviation industries are still heavily dependent on advanced components and cooperation from Western companies.** Furthermore, China's C929 jet, its 280-seat twin-aisle mainline aircraft, is still in the early development stages and has not been delivered.



## Agricultural Equipment



**Despite increasing automation and precision agriculture, China has not met its goal of achieving over 50 percent effective utilization rates for fertilizers and pesticides.** As of 2024, fertilizer utilization in major grain crops stands at 42.6 percent, while chemical pesticide utilization reached 41 percent in 2023.

**China has not achieved its goal of having domestically manufactured agricultural equipment meet 95 percent or more of domestic market demand.** The top five domestic manufacturers account for less than 25 percent of the market, with a significant portion of agricultural machinery coming from foreign companies or smaller domestic firms.



## Biopharmaceuticals & Medical Devices



China still relies on capital, talent, and technology from Western pharmaceutical companies. China has approved 113 innovative drugs since its 14<sup>th</sup> Five-Year Plan began in 2021, but Chinese companies continue to struggle with producing novel drugs.

However, China has made notable progress in specific areas of biotechnology. China is a world leader, with India, in the production of active pharmaceutical ingredients used in generic drugs. Also, national champion BGI Group and its subsidiaries are global leaders in gene-sequencing technology and services.



## Automated Machine Tools & Robotics



China remains the world's largest market for industrial robots, accounting for 52 percent of global installations. However, Chinese domestic manufacturers have fallen short of the government's 70 percent target, capturing only 47 percent of the domestic market.

China has not achieved its goal of securing over 80 percent domestic market share for high-end computer numerical control (CNC) machine tools and basic manufacturing equipment. While China's CNC machine tool industry surpassed RMB 200 billion (USD 27.86 billion) and holds 31.9 percent of the global market, the country still heavily relies on imported high-end CNC machines and accessories.



## Modern Rail Transport Equipment



China successfully developed its first entirely domestically designed and manufactured high-speed train. Notably, the "Fuxing" Electric Multiple Unit (EMU) high-speed trains were introduced in 2017 and are considered one of the world's fastest commercially operated trains.

China Railway Rolling Stock Corporation (CRRC), the largest supplier of rail transit equipment in China, significantly outpaced other high-speed rail manufacturers in Asia and Europe. CRRC accounted for two-thirds to three-quarters of all deliveries in the global high-speed rail market over the last decade.





## Power Generation Equipment



China is a global leader in several sectors related to power generation equipment, particularly in renewable energy like solar and wind power. China holds an over 80 percent share in all solar panel manufacturing stages. It is also currently the world's largest wind turbine manufacturer, accounting for 65 percent of global production capacity.

China is rapidly advancing its nuclear power sector and is on track to lead the global nuclear energy industry. China is estimated to be 10 to 15 years ahead of the United States, particularly in deploying fourth-generation nuclear reactors.



## New Generation Information Technology



Chinese telecom giants dominate China's mobile infrastructure. In 5G rollout contracts, Huawei and ZTE won more than 80 percent of base station orders from Chinese carriers, far exceeding the 80 percent MIC25 goal. By 2020, Huawei (the world's largest telecom vendor) and ZTE together grabbed more than 40 percent of global telecom equipment revenue.

Despite this, China's self-sufficiency rate is less than 1 percent for computing and control chips, while for power and memory chips the rate is only 8 percent. China's dependency on foreign auto chip suppliers was as high as 95 percent.



## Marine Equipment & High-Tech Shipbuilding



As of 2024, China remains the world's largest shipbuilding economy, accounting for 71 percent of global orders. China State Shipbuilding Corporation Ltd. (CSSC) alone receives one-third of all global shipbuilding orders. Notably, Chinese shipyards have a production capacity of over 200 times that of the United States.

However, South Korea remains the global leader in specialized vessels. China has made progress in producing vessels that require precise manufacturing and engineering expertise. However, South Korea remains a trusted destination for many specialized shipbuilding orders, especially liquefied natural gas (LNG) carriers.



## New Materials



According to government sources, from 2012 to 2022, China's new materials industry **grew nearly sixfold**. China has made progress in producing and localizing many key materials as a byproduct of development in other tech sectors.

For example, China has become a world leader in advanced carbon fiber, a material vital in making commercial aircraft and wind turbine blades. In 2010, China accounted for less than one percent of global fiber production, but by 2022 controlled over 43 percent of the global market share.

However, domestic Chinese companies have failed to make key breakthroughs in the industry. While Chinese institutions have led in publishing high-quality research papers on advanced materials, companies have had trouble mass-producing these materials.

## Domestic Policy Watchpoints Following MIC25

China's central government will remain focused on advancing technological self-sufficiency over the next five years to build resilience against external challenges. 2025 marks the final year of the "14<sup>th</sup> Five-Year Plan (FYP)" – a high-level policy document covering 2020 to 2025 that works in tandem with MIC25 to promote broader national social and economic development.

- So far in 2025, President Xi Jinping held a rare symposium in February with the founders of China's largest private tech companies, including Alibaba, Huawei, BYD, and Baidu, as well as AI start-up DeepSeek. These companies are seen as essential players in building China's resiliency to external challenges (namely, U.S. actions) and driving economic growth.
- Also, during this year's "Two Sessions" legislative meetings in March, Xi reiterated the need for domestic tech self-sufficiency and announced government investments of USD 172 billion in science and technology research and innovation, among other ministry-level initiatives.

Beijing's emphasis on 'new quality productive forces' represents a new phase in China's strategic direction beyond MIC25. President Xi Jinping first introduced the term in September 2023, and it became the central theme of the 2023 Central Economic Work Conference and the 2024 Two Sessions. According to President Xi, developing new productive forces involves "using new technologies to transform and upgrade traditional sectors" while also fostering new industries "based on local resources, industrial foundations, and scientific research conditions." The achievements of MIC25 provide a foundation for future growth in new industries, such as AI, quantum, and 6G networks. Beijing is expected to maintain its emphasis on self-reliance, innovation, and high-quality technological advancements to drive progress in these emerging technologies going forward.





## U.S.-China Relations Outlook and Business Implications

President Xi's focus on advancing key industries through industrial policy will continue to shape U.S.-China policy dynamics. The Trump Administration plans to continue to target MIC25's strategic sectors through a range of trade, investment, and tech policies.

- **The United States and China are now entrenched in a trade war, as the Trump Administration imposes tariffs exceeding 145 percent to pressure Beijing to address longstanding trade imbalances.** Key upcoming U.S. actions toward MIC25-related sectors include planned tariffs on China's shipbuilding industry and potential universal sectoral tariffs on the pharmaceutical and semiconductor industries following Section 232 national security investigations. While these measures are designed to limit China's industrial dominance, future tariffs could also increase costs and disrupt global supply chains for both Chinese and multinational companies reliant on Chinese production.
- **The Trump Administration is expected to introduce stricter controls to target China's semiconductor and AI industries.** These moves could involve targeting key players like DeepSeek and chip giant Changxin Memory Technologies (CXMT) which have been accused of bypassing U.S. export controls to make notable progress in chips and AI. These measures align with broader U.S. efforts to slow China's technological progress for the foreseeable future.
- **A key watchpoint will be how the Trump Administration approaches upcoming technology denial policy deadlines,** including amendments to the AI diffusion framework on May 15, the Administration's attitude toward the CHIPS and Science Act, as well as the introduction of new semiconductor equipment controls. Uncertainty remains on how the Trump Administration will balance industry input with national security priorities when crafting new technology restriction policies.
- **Bipartisan consensus in Washington suggests a continued hardline stance on China in the long term.** Both Republicans and Democrats aim to safeguard U.S. technology and intellectual property to avoid supporting China's military and economic development. China will double down on strategic sectors to drive growth, with firms seeking to replicate the 'DeepSeek effect' or pioneer new competitive advantages. This evolving competition will fuel prolonged U.S.-China tensions, shaping the geopolitical and economic landscape for years to come.



## Appendix

Please find summarized below China's MIC25 goals. These are the original goals outlined in 2015 and listed in China's technical roadmap for key areas of MIC25 ([link in Chinese](#)).

### High-Level National Goals

**By 2025**, China plans to boost manufacturing quality, innovation capability, and labor productivity; obtain an advanced level of technology integration; reduce energy and resource consumption; and develop globally competitive firms and industrial centers with strong international competitiveness.

**By 2035**, China's manufacturing industry should reach a level of development that is on par with global industry at "an intermediate level," improve innovation capabilities, make major technology breakthroughs, enhance overall competitiveness, lead innovation in specific industries, and set global standards.

**By 2049**, the year of the 100<sup>th</sup> anniversary of the founding of the People's Republic of China, China expects to lead global manufacturing and innovation with a competitive position in advanced technology and industrial systems.

### Sector-Specific Goals

#### New Energy Vehicles + Batteries:

- By 2025, annual sales of new energy vehicles will reach 3 million, accounting for more than 80 percent of the domestic market.
- By 2025, sales of two vehicle manufacturers will enter the top 10 in the world, with overseas sales accounting for 10 percent of total sales.
- By 2025, key systems such as power batteries and drive motors will be exported in batches.
- By 2025, we will master the overall technology and key technologies of autonomous driving, establish a relatively complete independent R&D system, production supporting system, and industrial cluster for intelligent networked vehicles, and basically complete the transformation and upgrading of the automobile industry.

#### Shipbuilding:



- By 2025, China will become a powerful country in the manufacturing of marine engineering equipment and high-tech ships and achieve a qualitative leap from large to strong in the shipbuilding industry.
- China will have more than five internationally renowned manufacturing companies, and its design and manufacturing technologies in some fields will be internationally leading.
- The international market share of indigenously developed, designed, and built marine engineering equipment and high-tech ships will reach 40 percent and 50 percent respectively.
- Also, the proportion of indigenous maritime engineering equipment and high-technology ship critical systems and equipment will reach 50 percent and 80 percent, respectively.

**New Materials:**

- By 2025, the industrial structure will be significantly adjusted, the basic materials product structure will be upgraded, and the domestic market share will exceed 90 percent. Targets include advanced steel, advanced non-ferrous metal materials, advanced petrochemical materials, advanced building materials.
- Also, by 2025, strategic materials required in key areas of high-end manufacturing will have a domestic market share exceeding 85 percent.

**New Generation Information Technology:**

- By 2025, China's next-generation information technology sector will achieve 80 percent domestic market share in wireless mobile communication equipment, with mobile chips reaching 40 percent and international market shares of 40 percent, 45 percent, and 20 percent for system equipment, terminals, and chips, respectively.
- Optical communication equipment will secure 60 percent global market share, while routers and switches will achieve 25 percent international market share.
- High-performance computers and servers will dominate 80 percent of the domestic market and 40 percent internationally, with high-end servers exceeding 50 percent domestic market share and branded servers for CPUs surpassing 30 percent.



- Indigenous operating systems and industrial software will surpass 50 percent domestic adoption, and “Internet Plus” smart industrial cloud usage will exceed 60 percent in key industries.
- China will also ensure full domestic production of critical IT infrastructure, including high-performance computing, software, and hardware for financial services, telecommunications, and smart cities.

**Automated machine tools and robotics:**

- By 2025, China aims to secure over 80 percent domestic market share for high-end advanced computer numerical control (CNC) machine tools and basic manufacturing equipment.
- CNC system standards and intelligence will cover 80 percent and 30 percent of the domestic market, respectively, while spindles, screws, rails, and other medium- to high-grade components will achieve 80 percent domestic market share.
- In robotics, China plans to form a complete industrial ecosystem, with indigenous industrial robotic brands capturing over 70 percent of the domestic market and core components reaching the same share.
- Technical indicators will meet international standards, with mean time between failures (MTBF) reaching globally advanced levels.
- Service robots will enter high-level production and have widespread use across daily life, social services, and national defense, with products available for export.
- China will also target the development of next-generation robotic prototypes, scaled demonstration projects, and aims to position 1 to 2 domestic companies among the global top five.

**Agricultural Equipment:**

- By 2025, the total output value of the agricultural machinery industry will have reached RMB 800 billion (USD 109.52 billion) and domestically manufactured agricultural equipment will have met 95 percent or more of domestic market demand.
- High-end products such as large tractors with over 200 horsepower and cotton harvesters will achieve a market share of 60 percent.



- Intelligent machinery for seeding, fertilization, plant protection, and harvesting will be widely deployed, with the effective utilization rates of fertilizers and pesticides exceeding 50 percent.

**Biopharmaceuticals and Medical Devices:**

- By 2025, China aims to expand its manufacturing scale to RMB 1.2 trillion (USD 166 billion) and supply 70 percent of its medical device market with domestically manufactured mid- and high-level equipment, including MRI, CT scanners, surgical robots, and implants.
- The country also plans to target 80 percent domestic production of core components alongside significantly reducing reliance on imported Active Pharmaceutical Ingredients (APIs).
- Additionally, China seeks to form six province-level industrial clusters, each with an output value of hundreds of billions of yuan, alongside 30 demonstration and application bases. The goal is to develop five or more internationally recognized brands across major product areas.
- The country plans to industrialize 20 to 30 innovative new drugs, with 5 to 10 indigenous drugs securing international certification for global market entry,
- China also aims to align its drug quality standards with international benchmarks, advancing the development of chemical drugs, traditional Chinese medicine, and biotech treatments for 10 major diseases. The country will focus on establishing a stronger national drug innovation system while promoting drug internationalization.

**Modern Rail Transport Equipment:**

- By 2025, China's rail transit equipment manufacturing industry will establish a comprehensive and continuously innovative system.
- Intelligent manufacturing models will be widely adopted in key areas, and major products will reach internationally leading standards.
- Overseas business will account for 40 percent of total operations.
- Service business will exceed 20 percent of total revenue.
- China will lead the revision of international standards and build a world-class modern rail transit equipment industry, securing a high-end position in the global industrial chain.

**Power Generation Equipment:**

- By 2025, China plans to establish three internationally competitive enterprise groups with strong capital, scale, technology, quality, brand advantages, and core competitiveness.
- Additionally, the country aims for continuous innovation in the areas of large-scale thermal, hydro, and nuclear power equipment in efforts to reach world-leading standards.
- Chinese domestic firms are also expected to achieve over 80 percent market share for new energy and renewable energy equipment as well as energy storage devices with independent intellectual property rights.

**Aviation & Aerospace Equipment:**

- By 2025, the annual revenue of the civil aviation industry is expected to exceed RMB 200 billion (USD 27.6 billion).
- The development, production, and delivery of 280-seat twin-aisle mainline aircraft will be completed.
- Mainline aircraft deliveries will account for over 10 percent of the domestic market share.
- Turboprop regional aircraft deliveries will make up 10 to 20 percent of the global market share.
- General aviation aircraft and helicopter deliveries will account for 40 percent and 15 percent of the global market share, respectively.