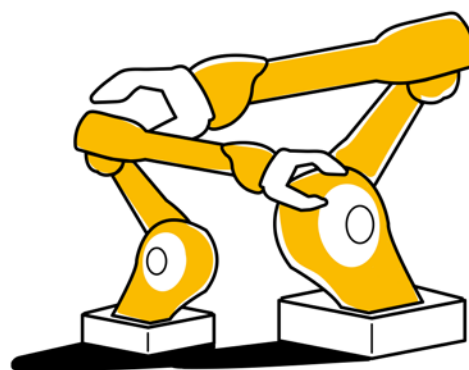


OCTOBER 5, 2022 (REPORTING PERIOD: AUGUST 31 - SEPTEMBER 27)

MERICS

China Industries



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MERICS TOP 5

1. Basic industrial materials to propel China's move into emerging industries

At a glance: Four government agencies led by the Ministry of Industry and Information Technology (MIIT) published a plan to upgrade the supply of basic industrial materials by enhancing product diversity, quality and branding. The document distinguishes between: (1) traditional materials such as steel and cement; (2) new materials including high-temperature alloys and fiber optic materials; and (3) low carbon products such as insulating and bio-based materials. Key targets outlined in the plan include:

- Draft or revise 500 new product quality and reliability standards to cover the whole life cycle of key basic materials by 2025
- Actively cultivate cutting-edge new materials such as graphene, quantum and superconducting materials
- Strengthen research and development and the application of high-quality green materials such as degradable plastics as well as carbon capture technologies
- Support business to coordinate on trademark logos, quality standards, etc., to improve international branding

MERICS comment: The plan reflects Beijing's ambition to modernize its traditional industries. It builds on China's [carbon peaking by 2030 plan](#), which underlines the need to decarbonize the steel, metal, building materials and petrochemical sectors. These measures will help to modernize the production of basic industrial materials, cut down on overcapacity and increase the efficiency of related industries. Foreign firms will be welcome as suppliers of related technology and R&D partners in this effort.

But the main emphasis of the implementation plan is on developing and applying high-performance, new material products to spur the growth of this strategic emerging industry, which has broad potential applications in areas like aerospace and marine equipment. Here again, China will seek to leverage international exchanges to advance its local industry. But foreign governments are increasingly cautious of the dual use applications of new material technologies. The takeover of a graphene manufacturer in the UK by a firm linked to Chinese academic Dr. Zhou Zhongfu is currently undergoing a [second security review](#). The United States has also blocked the export of quantum computer technologies to Chinese companies and labs, in part due to their potential to achieve [breakthroughs](#) in materials science. In many areas, new materials are likely to be an area for competition rather than collaboration between Chinese and foreign firms.

Article: Implementation Plan to Improve the Diversity, Quality and Branding of Basic Industrial Materials (关于印发原材料工业“三品”实施方案的通知) ([Link](#))

Issuing bodies: MIIT, SASAC, SAMR, CNIPA

Date: September 14, 2022

2. Beijing releases measures to promote specialized SME clusters

At a glance: The MIIT released measures to cultivate specialized clusters of industrial small and medium-sized enterprises (SMEs). The regulations outline concrete measures to deliver on a goal to foster 200 such clusters by 2025, as previously mentioned in the [14th Five-Year Plan for SME Development](#). Key measures in the instructions to local officials include:

- Strengthen policy support for SME clusters related to financing, innovation, land and talent; push industry investment funds to increase funding for SME clusters
- Promote existing clusters with at least one industry leader in a specific subsector or ‘[little giant](#)’ enterprise, and no less than ten specialized SMEs, innovative SMEs or national high-tech enterprises
- Stimulate the innovative outputs of clusters, promote cooperation between clusters and large enterprises, universities and research institutes
- Deepen international cooperation, support clusters to actively participate in the Belt and Road Initiative, and participate in international exchange activities

MERICS comment: Specialized industrial SME clusters are an extension of the government’s support for high-tech SMEs in strategic industries. They seek to leverage the benefits of clustering to promote broader growth. To avoid overreager local governments from wasting resources on unproductive clusters, policymakers have limited the number of recognized clusters to 200 and are focusing on promoting existing clusters, rather than building new ones. In addition, recognition of specialized clusters is only valid for three years, after which they can be renominated.

The effectiveness of the program will be dampened by the [equal distribution of nominated clusters](#). Provinces are only allowed to recommend five clusters each, and cities no more than three each. Given the disparity in the level of industrialization between China’s coastal and inland regions, this approach will leave some more competitive clusters out of the program.

The policy will give preference to clusters with strong international connections, such as firms that cooperate on technology or have branches overseas. Targeted support for indigenous firms that use foreign technology or that are active overseas poses the danger of accelerating their development at the expense of foreign firms. Ultimately, they could replace foreign firms within China and compete more effectively abroad.

Article: Notice on Interim Measures for Promoting the Development of Specialized Industrial Clusters of Small and Medium-sized Enterprises (工业和信息化部关于印发《促进中小企业特色产业集群发展暂行办法》的通知) ([Link](#))

Issuing body: MIIT

Date: September 13, 2022

3. AI Captain! China advances autonomous shipping development

At a glance: The Ministry of Transport (MOT) issued a list of 18 pilot projects aiming to test autonomous driving solutions. Most of the projects are concerned with land-based autonomous vehicles, but three aim to advance China's autonomous shipping capabilities. The pilot projects detail participating companies, ports, research institutes and government authorities. Successful pilots will be highlighted on the MOT's science and technology innovation platform. Autonomous shipping pilots include:

- Piloting a container carrier (50,000 teu) with automatic and remote control for at least 150 hours near Qingdao
- Operating at least 13 large coastal bulk carriers with electronic lookout, perception enhancement and long-distance diagnosis systems on the Huanghua-Shanghai/Zhuhai route
- Testing maritime sensor technology in foggy areas of Guanyang Dam

MERICS comment: China is already a dominant player in shipbuilding: In 2021, [48 percent](#) of non-military ship orders (measured in metric tons) went to the country. Now, China has its eyes set on moving into the emerging industry of autonomous shipping. This also means challenging Europe, increasingly a niche player focused on high-tech vessels. Through these pilot programs, the MOT intends to fast track the development of new business models, set standards, and accelerate the development of new technologies.

Europe and Japan remain ahead in autonomous shipping technology, but Chinese researchers believe that China can catch up. They think that by 2035, China will be able to control all [key autonomous shipping technologies](#). The incentives for China to catch up are very high. Autonomous shipping presents not only an economic but also a military opportunity. A Chinese drone ship has recently finished its [autonomous sea trial](#).

For foreign companies these pilot projects are most likely bad news. In the state-controlled maritime sector, foreign companies [struggle to participate](#) in pilot projects and none of the listed shipping pilots include a foreign firm. In addition, due to the dual-use nature of maritime equipment, they will most likely be limited by export controls back home. In the long-run, Beijing's orchestrated efforts could mean that Chinese competitors catch-up in key technologies and benefit from their already massive ship-building industry.

Article: Announcement of the First Batch of Pilot Projects for Intelligent Transportation (Autonomous Driving and Intelligent Shipping) (交通运输部办公厅关于公布第一批智能交通先导应用试点项目（自动驾驶和智能航运方向）的通知) ([Link](#))

Issuing body: MOT

Date: September 14, 2022

4. Shanghai plans five-fold increase in autonomous driving sector by 2025

At a glance: Shanghai's Municipal Government issued a plan to advance the local autonomous driving sector. The plan is part of the implementation process of national and local policies aimed at making China a powerhouse in autonomous driving technologies and applications. Key targets for 2025 include:

- Reach CNY 500 billion revenue annually in the autonomous driving sector (up from an [estimated](#) CNY 100 billion)
- Achieve at least 70 percent market share for cars with conditional automated driving (L2-L3), and initial deployment of highly automated cars (L4) — including for commercial activities
- Make significant progress in the R&D and application of core technologies and components — including automotive-grade chips and AI algorithms
- Establish a domestically leading and internationally competitive standard-setting autonomous car brand

Explainer: China's Taxonomy of Autonomous Vehicles

In March 2022, China's first national standard for grading autonomous driving came into force, providing a benchmark for carmakers. The six-level standard provides official definitions for self-driving cars from level zero (L0), relying almost entirely on human drivers, to L5's "fully automated driving". Levels 0–2 are considered "assisted driving", where the system supports humans to perform certain tasks, while levels 3–5 are considered autonomous driving where the system replaces humans under specific operating conditions.

MERICs comment: Shanghai ranks only behind Guangdong as China's second biggest automotive production hub and hosts several foreign carmakers including Volkswagen, General Motors and Tesla. The plan makes abundantly clear that city officials regard autonomous driving as crucial to further entrench Shanghai's position in automotive value chains, both within China and globally.

Indeed, despite its global focus, this latest plan is equally concerned with local competition. Shanghainese officials see themselves competing not only with foreign car producers but also with other Chinese cities, some of which have recently pulled off major feats. This summer, [Chongqing and Wuhan](#) received China's first-ever permits for driverless autonomous vehicles and Shenzhen issued a potentially [groundbreaking regulation on autonomous vehicles](#), streamlining the permit system and clarifying liability in case of an accident. In this dynamic and competitive environment, Shanghai cannot afford to fall behind.

For foreign firms, Shanghai will become an even more attractive R&D destination for autonomous vehicle solutions. The city already offers [subsidies for foreign R&D centers](#) in strategic industries. However, as part of China's self-reliance push, foreign companies will be expected to localize key production and development processes. The plan includes clear language on creating *independent* innovation and technologies. European governments should take note of Chinese cities like Shanghai making headway in autonomous vehicle technologies. Rather than in Europe, these could increasingly be developed in China with implications not only for carmakers, but also suppliers and third market competition.

Article: Implementation Plan for Accelerating Innovation and Development of Shanghai's Intelligent Connected Vehicle Sector (上海市加快智能网联汽车创新发展实施方案) ([Link](#))

Issuing body: Shanghai's Municipal Government (via CAAM)

Date: September 6, 2022

5. New regulations cement Shanghai's status as AI innovation hub

At a glance: The Shanghai Municipal People's Congress issued a regulation to promote the development of the Artificial Intelligence (AI) industry. This is China's first provincial-level regulation of its kind. The Shanghai government will, among other things:

- Guide industry to formulate a recommended catalogue of algorithmic models and promote their circulation
- Expand computing power infrastructure, promote the construction and circulation of high-quality datasets, and build large-scale data resource libraries for AI
- Support AI research, industry development and applications through a variety of mechanisms — such as new financing vehicles and state-sponsored research projects, focusing on segments like AI chips and AI medical devices
- Explore the establishment of a “negative list” for AI research and applications, which indicates the government's intention to define prohibited, high-risk areas

MERICs comment: The move is meant to confirm Shanghai's position as a national frontrunner in AI innovation, industrial development, and governance. Shanghai hosts one of China's most vibrant AI industry ecosystems, with a combined output of over [CNY 300 billion](#) in 2021. The regulation, effective as of October 1, 2022, follows noteworthy initiatives in Shanghai regarding AI development planning, technical standardization, and support for algorithm innovation and real-world applications like intelligent vehicles.

Local governments across China are beginning to roll out regulatory guidance to spur on AI innovation and industry development. Shenzhen [published](#) similar rules on September 5. In keeping with central-level strategies and [regulatory developments](#), both Shanghai and Shenzhen aim to encourage experimentation, while simultaneously setting safety and ethical guardrails. To facilitate experimentation and unleash AI R&D, Shanghai's regulation says the government may draw up lists of “minor violations” to be exempted

from administrative punishment. Other practices, however, such as certain uses of deep synthesis technology, are off-limits.

Beijing encourages foreign investment in this strategic technology sector. Foreign companies could benefit from schemes to grow the industry in Shanghai and elsewhere, across sectors ranging from intelligent and networked vehicles to AI medical devices. But they will need to carefully navigate increased government scrutiny over the handling of personal data, as well as over potentially harmful impacts of AI systems on society or national security.

Article: Shanghai Municipal Regulation on Promoting the Development of the AI Industry (上海市促进人工智能产业发展条例) ([Link](#))

Issuing body: Shanghai Municipal People's Congress

Date: September 22, 2022

NOTEWORTHY

Policy news

- *August 31:* The Cyberspace Administration of China (CAC) released guidelines that detail steps companies need to undertake before transferring data across borders ([CAC guidelines](#))
- *September 7:* At the 27th meeting of the Central Committee for Comprehensively Deepening Reforms, President Xi Jinping highlighted the importance of the efficient use of resources such as minerals and raw materials ([People's Daily Online article](#))
- *September 14:* Several ministries and government agencies led by the Ministry of Science and Technology issued a circular aiming to improve China's research environment and reduce harmful activities such as academic fraud ([MOST notice](#))
- *September 14:* The Ministry of Human Resources and Social Security, and the Ministry of Finance (MOF) released a plan to increase China's supply of skilled labor and establish 400 high-skilled training bases by 2025 ([MOHRSS and MOF notice](#))
- *September 14:* The CAC proposed a series of draft amendments to the cybersecurity law, including raising penalties as well as an employment ban on internet operators who violated the law ([CAC notice](#))
- *September 19:* The state-owned enterprise (SOE) watchdog, SASAC, issued measures calling on SOEs to step up their compliance efforts domestically and abroad ([SASAC notice](#))
- *September 19:* The MIIT requested local governments to source advanced technologies and equipment that can be used to reduce industrial waste and recycle renewable resources ([MIIT notice](#))

- *September 26:* The MOF and the State Taxation Administration announced they will continue to exempt electric vehicles from a purchase tax (originally 10 percent, currently down to 5 percent) until the end of 2023 ([MOF notice](#))

Corporate news

- *September 1:* British engine maker Rolls-Royce and Chinese airline Air China announced a new joint venture in Beijing focused on maintenance, repair and overhaul of engines used in Air China's fleet ([Rolls-Royce press release](#))
- *September 8:* Electric vehicle maker BYD announced plans to build a passenger car factory in Thailand that could produce up to 150,000 units from 2024 ([Reuters article](#))
- *September 20:* E-commerce platform operator Pinduoduo revealed plans to invest USD 1.4 billion to provide infrastructure and legal support to assist 10,000 manufacturers in their overseas business ([Yicai article](#))
- *September 22:* European aircraft producer Airbus secured a USD 4.8 billion order to supply 40 jets to Xiamen Air, a unit of China Southern Airlines, which has so far only used Boeing planes ([Bloomberg article](#))
- *September 22:* Carmaker Geely and autonomous driving firm Pony.ai announced they are collaborating to build a fleet of autonomous taxis in Suzhou that will be operated through Geely's Cao Cao ride-hailing platform ([Pony.ai Wechat post](#))
- *September 23:* Daimler Truck's China joint venture with Beijing Foton celebrated the first locally produced Mercedes-Benz truck ([Daimler press release](#))

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