

Key Fields of International Cooperation in the New Vehicle Industry

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This article summarizes the direction of international cooperation promoted by global major vehicle producing countries, including the EU, the US, Japan, South Korea, and ASEAN countries, and explores the possible strategies for Taiwan to participate in international cooperation in the new vehicle industry based on the advantages and development status of Taiwan's vehicle industry.

The EU and the US are actively seeking international partners and establishing multiple cooperation platforms such as the "Mineral Security Partnership" and the "Critical Raw Materials Club" to ensure the source of raw materials and energy for EV battery production. They have also strengthened cooperation in battery technology and standard setting to accelerate the development of lithium-ion and next-generation battery supply chains. The Trade and Technology Council established through this cooperation will also formulate unified standards for EV charging and power grids to allow the manufacturers and suppliers from EU and the US to shorten development time, reduce costs, and decrease trade barriers.

Japan, through international cooperation, ensures the supply of mineral resources for the battery industry, accelerates the development of solid-state battery technology, and assists companies in expanding overseas markets to regain industry leadership. The Japanese government has also established a Sustainable Battery Research Group to discuss and promote carbon footprint identification methods, supply chain risk assessment, and promote the internationalization of Japanese domestic standards. The Cabinet Office has promoted the "Strategic Innovation Promotion Program" since 2018 and actively seeks international cooperation in the development and empirical application of autonomous driving technology.

The Korean government is cooperating with Australia and India to stabilize the supply of raw materials for the EV and rechargeable battery industry chains; and continues to negotiate with the US to ensure that the requirements for final assembly of vehicles and batteries in North America are beneficial to Korean companies. It has strengthened cooperation regarding the international standards with countries which have developed hydrogen technology and established a hydrogen economy standards forum to formulate more than 15

global standards and revitalize the hydrogen economy. In addition, it promotes technical cooperation between small and medium-sized enterprises by public-private joint platforms.

ASEAN countries and India are actively developing the new type of vehicle industry as well. Thailand, Indonesia, and Vietnam attract foreign investment with market opportunities and policy guidance, while the Philippines, with its rich nickel ore, strives to develop the EV battery supply chain and actively participates in ASEAN electric vehicle development. The Indian government promotes the localization of the EV supply chain and collaborates with the United States, launching a \$10 billion budget for semiconductor projects.

China actively participates in the international technical standards system to promote its automobile industry to the international market. It has jointly developed the first international standard ISO 34501 in the field of autonomous driving test scenarios with more than 20 countries and established an Automotive Standardization Research Institute to strengthen basic research on forward-looking technology and standardization and participate in the coordination and formulation of international automotive standards in United Nations.

In addition to promoting incentives for the purchase of EV, the Taiwanese government has also gradually raised average fuel consumption standards for automobile manufacturers and provided various projects to assist automakers in accelerating the development of EV. If the existing advantages of Taiwan's automotive components and ICT industries can be further integrated, Taiwan can become the best partner in the transformation of the international vehicle industry supply chain. It is suggested that the government can use the international dialogue platforms to promote cooperation with vehicle-related industries in Europe, the US, Japan, and ASEAN countries, and establish a public-private sector platform to formulate international cooperation strategies tailored to different partners, assist manufacturers to diversify market and participate in the global new vehicle supply chain.

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