



PRESS RELEASE

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SMF-KAMA, co-host SG industry's first seminar for vision & strategy for future mobility in Singapore & Korea (October 12, 2023)

- ✓ In the seminar, experiences, visions, and strategies for future mobility were exchanged to develop ideas on future mobility through series of presentations and relevant panel discussions.
- ✓ Various leaders and experts from public, academic and private sectors in Singapore and Korea participated and presented insights & trends at a panel discussion for the future vision & industry for eco-friendly mobility and case studies
- ✓ The future mobility sector creates diverse business opportunities in relevant areas. EV financing, battery recycling, IoT as well as electric vehicle, hydrogen vehicle, and autonomous vehicles have emerged as new business models and new growth engines to ensure a sustainable economy.
- ✓ Korea is a leader in terms of future mobility and innovation in smart manufacturing, making it one of the most ideal potential partners for Singapore to accomplish its national strategic initiatives

- The Korea Automobile & Mobility Association (President Nam Hoon Kang) in cooperation with the Singapore Manufacturing Federation (President Lennon Tan) hosted the Seminar on the Vision & Strategy for Future Mobility: Korea & Singapore, in Singapore on October 12, 2023.

- In the seminar, experiences, visions, and strategies for future mobility were shared and discussed with particular focus on policy directions for Singapore in consideration to the specificity of the Singaporean automotive industry's environment.

Outline of the Seminar on the Vision & Strategy for Future Mobility: Korea & Singapore

- ① Date/Venue: October 12, 2023 / St. Regis Hotel, Singapore
- ② Distinguished Participants
 - Korea: KAMA (Korea Automobile & Mobility Association) President, the Korean Ambassador to Singapore, H2 KOREA Chairman, KATECH (Korea Automotive Technology Institute) President, KAMOS (Korea Association of Mobility Studies) President, Hyundai Motor Company, etc.
 - Singapore: SMF (Singapore Manufacturing Federation) Chairman, EDB (Singapore Economic Development Board) Manager Director, Vice Chairman of SBF (Singapore Business Federation) China and North Asia Business Group, etc.
- ③ Supporters: MOTIE (Ministry of Trade Industry and Energy) of Korea, Singapore EDB, ESG (Enterprise Singapore), UOB (United Overseas Bank), Embassy of Korea to Singapore, KORCHAM (Korea Chamber of Commerce and Industry, Singapore), H2 Korea (Hydrogen Convergence Alliance), KATECH
- ④ Agenda
 - Future vision for eco-friendly mobility for both countries
 - Future Industries in the era of eco-friendly mobility: battery reuse and auto finance/fintech
 - Case review of supportive policies on future mobility in major countries and its implications for Singapore

- The Korea Automobile & Mobility Association (KAMA) President Nam Hoon Kang mentioned in his opening remarks that "finding sustainable and efficient solutions for future mobility is more crucial than ever before and that the day's seminar on Vision and Strategy for Future Mobility could not come at a more appropriate time."
- He also emphasized that Mobility sector presents many exciting opportunities as well as

challenges, and the mobility sector creates diverse business opportunities in relevant areas. EV financing, battery recycling, IoT and electric vehicles, hydrogen vehicles, and autonomous vehicles have emerged as new business models and new growth engines to ensure a sustainable economy.

- Lastly, he mentioned that Korea has strengths in areas that the Singapore government is focusing on, such as future mobility and smart manufacturing innovation capabilities, making it the optimal partner for Singapore to accomplish its national strategic initiatives.
- He also hopes that stakeholders from governments, industries, and academia of both countries collaborate to seek better solutions for sustainable future mobility and strengthen cooperation to overcome challenges together.
- The Singapore Manufacturing Federation (SMF) President Lennon Tan said, “We are thankful to KAMA for choosing to partner with the SMF for this pivotal event. Since our establishment in 1932 with founding members like Ford Motor Company, we have been at the forefront of Singapore's manufacturing landscape. As we welcome Hyundai Innovation Centre as our member, we are reigniting the flame of the automotive industry in Singapore. The path ahead is exciting, as we explore the evolving relevance of automotive production in our nation.”
- During his presentation titled "Singapore's Mobility Landscape," Mr. Law Chung Ming, Executive Director of Transport & Logistics at Enterprise Singapore, emphasised that innovation has always been at the heart of Singapore’s mobility journey over the years. In line with Singapore’s 2050 net zero ambition, Enterprise Singapore will collaborate with other government agencies and industry players to advance Singapore’s electrification efforts, including working with companies to build new capabilities in standards and mobility technologies.
- In EDB’s presentation titled “Twinning opportunities in Southeast Asia (SEA) for manufacturing”, Mr. Herman Loh, Senior Vice President, EDB, shared about how South Korean mobility and automotive companies can access Southeast Asia’s manufacturing and market opportunities from Singapore, through ‘twinned’ operations in Singapore and

the SEA region that taps on the synergies of both locations, as part of a holistic and integrated SEA strategy.

- Mr. Jae-do Moon, Chairman of H2 Korea and the World Hydrogen Industry Association, mentioned in his presentation titled, “The Status of Global Hydrogen Economy and Strategies”, that “in order to achieve decarbonization in Singapore, a long-term partnership with enterprises that provide active participation, thorough investment plans, and leading technology for the environment are essential.”
- The Singapore government announced the National Hydrogen Strategy and plans to supply 50% of total electricity production with hydrogen by 2050. National hydrogen initiatives can be achieved only when a circulative hydrogen economy is established.
- Mr. Moon added that, “when sewage sludge is converted into hydrogen, mobility hydrogen demands in Singapore will be met” as 502 tons of hydrogen can be produced a year from the utilization of domestic waste collected.
- Fuel cell systems can be adopted in service equipment and vehicles at Changi Airport and Tuas Port for decarbonization, which will further strengthen the Singapore government’s position as a leading transport and logistics hub.
- Ms. Stephanie Tan, National EV Center director stated in her presentation titled, “Update on Singapore’s Vehicle Electrification Journey”, that “vehicle electrification is a key mover to reduce emissions in the land transport sector in Singapore.”
- The Land Transport Sector is the 3rd largest emitter, accounting for 15% of Singapore’s emissions and had reached its peak in 2016. EV halves carbon emissions (compared with Internal Combustion Engines (ICE)), coupled with decarbonization of the grid, and is the only viable option in the foreseeable future.
- NEVC was set up to drive EV-related efforts that span multiple agencies and EVs to drive implementation of chargers effectively and efficiently.

- Together with agencies, the NEVC has been and will continue to work on 3 key areas to drive EV adoption and grow the EV ecosystem: 1) Charging Infrastructure, 2) Cost of Ownership & Model Availability, and 3) Technology Advancement & Capability Development.
- The Singapore government will deploy a comprehensive network of charging infrastructure across Singapore to address perceived range anxiety; currently there are 2,000 Publicly Accessible Charging Points in Singapore.
- To enhance affordability of EVs through incentives to encourage early adoption of EVs, the Singapore government provides up to \$45,000 in incentives to lower upfront costs of electric cars
- NEVC also supports industry efforts to innovate and introduce new technologies in a safe manner by implementing Sandbox Trials to facilitate demonstration of novel technologies in a safe and controlled environment and setting up battery units to develop a holistic plan to tackle battery-related issues.
- Mr. Sung-jin Choi, CEO of POEN mentioned in his presentation titled, “Recycling and Repurposing Technologies of EV Battery and Industry Outlook”, that “we expect the continuing of elevated elemental material prices due to battery supply imbalance.”
- In the US, there have been focused efforts to secure domestic battery material technology and enhancing competitiveness through government investments in recycling infrastructure since 2019 to establish supply chain strategies for key materials to alleviate dependence on China.
- In the EU, there are regulations for waste collection, processing, recycling and disposal mandating the use of recycled materials and expanding collection rates for waste batteries.
- In China, there are existing legislations governing the collection, use, and disposal of waste

batteries at the national level.

- There are efforts by the South Korean government for the industrialization of used batteries such as the operation of central collection centers, commercialization of the world's largest after-use battery control tower, implementation of a high-speed mass evaluation inline automatic evaluation system, and training battery experts in diagnostics, repurposing, and recycling technologies.

- According to Element Energy, if 125,000 EV battery packs are repurposed and recycled in Europe by 2030, almost 350,000 EV batteries will have been converted to second life applications.

- Ms. Wong Ju Li, a vice president in UOB's Sector Solutions Group, mentioned in her presentation titled, "Understanding the role of ecosystem financing and the importance it brings to new businesses and market", that UOB has announced commitments to reach net zero by 2050 covering six sectors. Automotive is one of the sectors and the aim is to reduce emissions intensity by 58% in 2030 (based on 2021 baseline) and to reach net zero by 2050.

- To encourage the adoption of EV, UOB has launched U-Drive in Asia – a comprehensive electric vehicle financing solution for the entire ecosystem, from automotive component suppliers, automotive brand owners, dealers, charging infrastructure players to end users. Ms. Wong explained the importance of ecosystem financing in the era of electric vehicles where new players are looking into ASEAN as a potential market and manufacturing hub.

- She added that U-Drive recognises the importance of educating consumers, a crucial before even considering financing. As an example of U-Drive solutions, UOB hosted an e-Mobility workshop event to impart information on how an EV can be more efficient operationally and economically, as well as co-sponsored charging credits for end-users in Singapore.

- Mr. Seung-sik Na of KATECH remarked in his presentation titled, "Technology Status & Policy of Korean Automotive Industry", that "Korea ranks fifth in global automotive production and third in sales by company. The automotive industry accounts for 11.5 percent of manufacturing, which is a large portion of South Korea's economy."

- Korea has more than 10,000 auto-related parts companies with an associated employment effect of 1.9 million, accounting for 7.1 percent of total employment.
- Korea's future automotive industry development strategy aims to achieve carbon neutrality by proactively developing core future automotive technologies such as batteries and fuel cells and expanding the supply of eco-friendly vehicles such as electric vehicles and hydrogen electric vehicles.
- Korean auto industry aims to achieve global top 3 ranking by strengthening automotive semiconductor/software technology, converting internal combustion engine parts suppliers, and expanding new opportunities for continuous growth in the future automobile market.
- Active support from the government is needed to foster the future car industry. In particular, major countries are expanding their eco-friendly car market through government subsidies.
- Hyundai Motor's IONIQ production plant in Singapore's Zhurong Innovation Complex is also expected to contribute to the spread of eco-friendly vehicles in Singapore.
- Mr. Lo Kien Foh, CEO of Continental Automotive Singapore, mentioned in his presentation titled, “Green Mobility: Innovation & Industrialization Opportunities in Singapore”, that “they are driving innovation by operating the Continental-NTU Corporate Lab which focuses on 3 areas including Smart Mobility & Delivery, AI & Software Engineering, and Material & Communication Technologies.”
- In the lab, there have been 16 industry-focused cross-disciplinary projects (2019 – 2024) by 100+ top-level researchers and technical experts.
- Continental Automotive Singapore drives innovation by strengthening collaboration with the open ecosystem at universities and trade associations, government organizations, and startups.

About Korea Automobile & Mobility Association (KAMA)

Korea Automobile & Mobility Association (KAMA) is a non-profit organization representing the interests of automakers in Korea. KAMA is dedicated to the sound growth of the automobile industry and the development of the national economy. Its member base are top Korean automobile companies namely Hyundai, KIA, GM Korea, Renault Korea and KG Mobility. For more information, visit <https://www.kama.or.kr/MainController>

About the Singapore Manufacturing Federation

Established since 1932, the Singapore Manufacturing Federation (SMF) represents the interest of the manufacturing community in Singapore, driving its competitiveness and sustainable growth through serving industry-specific needs. Supported by 10 industry groups and its Associated Services, the SMF enhances the competitiveness of the manufacturing community by encouraging capacity development and capability building, innovation and productivity. The SMF provides opportunities for companies to collaborate, network and to grow and expand both locally and internationally. Current membership stands at about 5,000 corporate members, comprising SMEs, MNCs and Affiliate Members. For more information, please visit www.smfederation.org.sg.

Seminar on the Vision & Strategy for Future Mobility: Korea and Singapore

(Oct. 12th, 2023)

I. Background/Objective

- o Singapore is implementing Economy 2030, Green Plan 2030 and its National Hydrogen Strategy to gain mid/long term growth momentum and to respond to climate change
 - To increase manufacturing and export, which are mid/long term growth momentum for Singapore, bringing in cutting edge manufacturing facilities and R&D centers from overseas is essential. Also, for Net-Zero strategy, fostering hydrogen industry as an alternative energy source is necessary.
- o Korea is a leading country in terms of future mobility (hydrogen/electric vehicles, etc.) and innovation in smart manufacturing, making it one of the best potential partners for Singapore to accomplish its national strategic initiatives
- o In this seminar, experience, vision and strategy for future mobility, especially policy directions for Singapore in consideration of specificity of Singaporean automotive industry's environment will be shared and discussed.

II. Overview

- o Organizers: KAMA(Korea Automobile & Mobility Association), SMF(Singapore Manufacturing Federation)
- o Supporter: MOTIE(Ministry of Trade Industry and Energy) of Korea, Singapore EDB(Economic Development Board), ESG(Enterprise Singapore) and UOB(United Overseas Bank), Embassy of Korea to Singapore, KORCHAM(Korea Chamber of Commerce and Industry, Singapore), H2 Korea(Hydrogen Convergence Alliance), KATECH(Korea Automotive Technology Institute)
- o Date/Venue: Oct. 12th, 2023 / St. Regis Hotel, Singapore
 - * Approximately 100 people (online participation also available)

II. Schedule (tentative)

Time	Contents
09:00-09:20	<ul style="list-style-type: none"> o Opening Remarks: KAMA President (Nam-hoon Kang), SMF President (Lennon Tan) o Congratulatory Remarks: EDB Managing Director (Jacqueline Poh) Korean Ambassador to Singapore (Hoon Choi) Vice Chairman, SBF China and North Asia Business Group (Sam Cheong)
09:20-10:30 (Session 1)	<p>< Future vision for eco-friendly mobility for both countries ></p> <ul style="list-style-type: none"> o Topic presentation (45 min.) <ul style="list-style-type: none"> - Singapore's Mobility Ecosystem (Law Chung Ming, Executive Director, ESG) - The Twinning Opportunities in SEA for Manufacturing (Herman Loh, Senior Vice President, EDB) - Global hydrogen economy status and strategy (Jae-do Moon, Chairman of H2 KOREA / World Hydrogen Industry Association) o Panel discussion (25 min.): (Moderator: Tessa Teng, Executive Director, HFCAS) <ul style="list-style-type: none"> - Korea (2 experts): <ul style="list-style-type: none"> i) Chuel Cho, KIET ii) Geun-je Lee, Hyundai Motor Company - Singapore (3 experts): <ul style="list-style-type: none"> i) Yiran Guo, Head of New Energies Office, MTI ii) Gian Yihsen, CSO of Nanofilm iii) Su Pei-Chen, Associate Professor, NTU
10:30-10:40	o Coffee break

<p>10:40-11:50 (Session 2)</p>	<p>< Future Industries in the era of eco-friendly mobility: battery reuse and auto finance/fintech ></p> <p>o Topic presentation (45 min.)</p> <ul style="list-style-type: none"> - Status and strategy for battery recycling in Singapore (Stephanie Tan, Director, National EV Center / LTA) - EV Battery Usage Case study: used battery reuse, BSS and etc. (Sung-jin Choi, CEO of POEN) - Understanding the role of ecosystem financing and the importance it brings to new businesses and markets (Ju Li Wong, Vice President, UOB) <p>o Panel discussion (25 min.): (Moderator: Chaim Singyang, Singapore Battery Consortium)</p> <ul style="list-style-type: none"> - Korea (2 experts): <ul style="list-style-type: none"> i) Sung-jin Choi, CEO of POEN (Presenter) ii) Jong-Seo Choi, Korea Battery Industry Association - Singapore (2 experts) <ul style="list-style-type: none"> i) Kelvin Chan, ASTAR ii) Stephanie Tan, LTA (Presenter)
<p>11:50-13:00 (Session 3)</p>	<p>< Case review of supportive policies on future mobility in major countries and its implications for Singapore ></p> <p>o Topic presentation (45 min.)</p> <ul style="list-style-type: none"> - Sharing supportive policies and experiences of Korea auto industry (Seung-sik Na, KATECH President) - Green Mobility: Innovation & Industrialization Opportunities in Singapore (Lo Kien Foh, CEO, Continental Automotive Singapore) - Suggestions on supportive policy for Singapore automobile industry (Prof. Stephen, NUS) <p>o Panel discussion (25 min.): (Moderator: Vincent Wong, Director of R&D at Continental Automotive Singapore)</p> <ul style="list-style-type: none"> - Korea (2 experts): <ul style="list-style-type: none"> i) Chong-Ook Rhee, KAMOS President

	<ul style="list-style-type: none">ii) Prof. Gu-min Jeong, Kookmin University <p>- Singapore (2 experts):</p> <ul style="list-style-type: none">i) Prof. Stephen, NUS (Presenter)ii) Dennis Mark, CEO, SMF
13:00-14:00	o Luncheon