

News Release

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New Hyundai Motor Group Innovation Center Singapore Set to Transform Production, R&D and Customer Experience

- Hyundai Motor Group Innovation Center Singapore (HMGICS) opens to progress onwards, redefining future mobility production and customer experience
- Cell-based production and digital twin technology bring unprecedented humancentric manufacturing, with integration between humans, robotics, and AI tech
- Transformative and immersive brand experience through flexible vehicle customization, VR factory tour, test rides on Skytrack and sustainable Smart Farm
- Smart urban mobility hub aims for shared growth with Singapore's local businesses and academics, creating an open innovation ecosystem
- HMGICS Grand Opening marks the next phase in Hyundai Motor Group's development of mobility and innovation alongside Ulsan EV factory construction

SEOUL/SINGAPORE, November 21, 2023 – Hyundai Motor Group (the Group) today officially opens the Hyundai Motor Group Innovation Center Singapore (HMGICS) to accelerate the delivery of the Group's human-centric future mobility vision.

The facility introduces a new 'smart urban mobility hub' concept, which includes a highly automated flexible production system and provides unprecedented ways for electric vehicle (EV) buyers to interact with their vehicles and the Hyundai brand. HMGICS symbolizes the Group's determination to progress onwards with its global leadership in the creation of sustainable, innovative mobility solutions and progressive customer experience.

Following the Group's groundbreaking ceremony at its new Ulsan EV factory, HMGICS will establish itself as one of two Hyundai Motor Group innovation pillars that will lead the company's future in the electrification era over the next 50 years as part of its challenge to become a 100-year company.

Given its worldwide reputation for innovation and diversity, Hyundai Motor Group chose Singapore as the ideal home for its first industry-changing smart urban mobility hub. Delivering a human-centric manufacturing approach, HMGICS elevates collaboration between people, robotics, and Artificial



Intelligence (AI) technology to new levels of synchronization. Further to this, digital twin Meta-Factory technology will ensure ultra-rapid responses to changing customer demands and production requirements.

Seamlessly integrated into the Jurong Innovation District urban landscape and the broader Singapore smart city ecosystem, the seven-story, 86,900 m² HMGICS facility has the capability to manufacture up to 30,000 EVs per annum. Operational since early 2023, HMGICS already produces IONIQ 5 and the fully autonomous IONIQ 5 robotaxi and will add IONIQ 6 to its portfolio of models built on-site next year. The facility will serve as a testbed for developing future mobility solutions — including Purpose Built Vehicles (PBVs) — thanks to its advanced manufacturing capability.

"HMGICS is an open and connected urban innovation hub that encourages and embraces creativity and collaboration. It seeks to completely redefine the very concept of manufacturing," said Euisun Chung, Hyundai Motor Group Executive Chair at the HMGICS Grand Opening Ceremony.

"We thought hard about how to meet the diverse needs of our many customers," he added. "By combining our manufacturing expertise and the latest cutting-edge technologies, the result is this Innovation Center — a new paradigm of manufacturing."

As part of its ongoing collaboration with Singapore, HMGICS will partner with the National Museum of Singapore by donating the first IONIQ 5 manufactured at the facility. This proposed donation is intended for accession into the National Heritage Board's National Collection.

Highly automated, flexible cell-based production

HMGICS has been designed to revolutionize how EVs and other forms of smart mobility solutions — including robotaxi and PBVs — are delivered. Key to this is a cell-based production system that leaves behind the traditional conveyor-belt manufacturing approach to achieve unsurpassed standards of flexibility and automation.

Approximately 50 percent of all tasks are carried out by 200 robots, with humans, robotics and Al systems achieving unprecedented levels of collaboration thanks to integration made possible by the digital twin platform.

Operating as a digital twin Meta-Factory, HMGICS synchronizes the virtual and physical worlds in real time. This enables humans and robots to cooperate in ways not seen before. Employees can simulate tasks in the digital virtual space — or metaverse — while robots physically move components on the production line.



Robots perform assembly, inspection, and production facility organization, and take care of more than 60 percent of component process management, ordering and transportation. This frees humans from repetitive and laborious tasks to focus on more creative and productive duties.

"The more compact nature of facilities such as HMGICS makes it easier to integrate them into local communities, particularly in urban areas with limited space," said Alpesh Patel, Vice President and Head of Technology Innovation Group, HMGICS. "With the help of robotics, AI, and the Internet of Things (IoT), we've built a human-centric manufacturing innovation system that can respond to changes in mobility, processes and products with agility and flexibility. These innovations are setting new benchmarks for efficiency and customization," he added.

Transformative and immersive customer experience

HMGICS delivers new standards of customer experience through the all-encompassing smart urban mobility solutions it develops, redefining the customer journey from the first interaction with the brand, to the sales process, delivery, and ownership. With enhanced flexibility thanks to the hub's cell-based production system, HMGICS offers an even greater level of customization.

The convenient order-from-home service allows customers to tailor the specification of their vehicle, choosing their exterior color and interior trim configuration, applying this to their car instantly before completing initial deposit and balance payment processes through secure online payment methods to confirm their purchase.

Ahead of their first visit to HMGICS, customers can book a virtual reality (VR) tour of the facility (subject to availability) while personal 'Gurus' will be available on-site for visitors looking to learn more about Hyundai and the brand's mobility offerings.

HMGICS' Gurus will accompany customers on their guided tour of the facility, as well as providing insight into their chosen vehicle, offering test drives around the Jurong Innovation District. For an additional thrill, customers can enjoy an immersive test ride experience on the facility's stunning 618-meter rooftop Skytrack. A unique handover zone, created to make the moment of customers taking ownership of their new vehicle as special and as memorable as possible, is also a key feature of the HMGICS hub.

To complete the customer experience, a new Smart Farm presents a futuristic solution to enhance Singapore's food production capabilities, exemplifying the Group's vision for sustainable urban growth.

With only one percent of land given over to agriculture due to its rocky geology, Singapore imports 90 percent of food consumed in the region. To increase food self-sufficiency the Singapore government has introduced its 30 by 30 policy, promoting alternative agricultural technologies, including smart farms. The HMGICS Smart Farm focuses not just on productivity in a compact



environment, but also enhancing customer awareness by allowing visitors to interactively experience the entire farming process.

Through the synchronization of human efforts and an automated conveyor system utilizing sophisticated robotics, the Smart Farm produces up to nine different crops within the facility. Harvested produce is given to customers as a memento of their visit, as well as donated to local communities in Singapore. The crops will also feature on the menu of the tasting lounge and the upcoming farm-to-table restaurant — scheduled to open in Q2 2024 — for customers to enjoy sustainable dishes.

"The ideas and products created here are innovated in Singapore, not just made in Singapore," said Jay Chang, President and CEO Hyundai Motor Company. "Most importantly, HMGICS is an innovation facility centered on R&D. Grounded on Singapore's future-oriented policies and infrastructure, we will act as a global incubator for Singapore's talents and businesses through our Corporate Lab Program."

Shared growth with Singapore

Bolstered by Singapore's supportive policies, HMGICS will nurture local talent in the mobility sector, incubate future businesses in Singapore and foster relationships with research institutions and universities through an open innovation ecosystem. This knowledge-sharing will boost HMGICS' role as an R&D facility for developing diverse future-oriented business models and sustainable production solutions for EVs and smart mobility.

As part of the Group's commitment to grow with Singapore, the opening of HMGICS saw the signing of multiple MOUs. In collaboration with Nanyang Technological University, Singapore (NTU Singapore) and the Agency of Science, Technology and Research (A*STAR) — a statutory board under Singapore's Ministry of Trade and Industry — HMGICS will create the first tripartite 'Corporate Lab' in Singapore. The Lab will accelerate innovations in and the adoption of new technologies to create a collaborative future mobility ecosystem in Singapore.

An MOU signed with the Singapore Business Federation (SBF) and Singapore Manufacturing Federation (SMF) will enable Singaporean small and medium-sized enterprises (SMEs) to codevelop advanced manufacturing solutions, giving Singapore's mobility industry a unique outlook to set it apart from the traditional automotive landscape.

The Group also signed an MOU with PTC Logistics, Singapore's largest logistics service provider, to establish a renewable hydrogen energy ecosystem in Singapore. Based on this agreement, HMGICS will serve as an innovation hub to support Singapore in accomplishing hydrogen initiatives, such as the National Hydrogen Strategy, to achieve 50 percent hydrogen usage in nationwide power supply by 2050.



"Hyundai Motor Group is leading the mobility paradigm shift, but we are determined to deliver even greater levels of innovation. HMGICS will enable us to shape the future of mobility production, and indeed, the manufacturing industry, in collaboration with the culture of open innovation and forward-looking policies that Singapore is renowned for globally," said Hong-Bum Jung, Senior Vice President and CEO of HMGICS.

The ability of HMGICS to transform manufacturing and customer experience reinforces Hyundai Motor Group's strategic vision, which it shares with Singapore, to progress onwards at pace with the creation of world-leading, innovative, sustainable mobility solutions for the benefit of all.

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About Hyundai Motor Group Innovation Center Singapore (HMGICS)

HMGICS, the Hyundai Motor Group's test bed and a global open innovation hub, aims to develop new EV business models, forge innovative partnerships, produce mobility products, and develop the Group's intelligent manufacturing platform to revolutionize the overall sustainable mobility value chain. Established with the aim of revolutionizing the future mobility value chain, the Center utilizes the latest Industry 4.0 smart technologies, such as artificial intelligence (AI), Internet of Things (IoT) and robotics with deep expertise in smart mobility solutions and smart automotive manufacturing solutions.

More information about HMGICS can be found at: <u>https://www.hyundai.com/sg/home</u>

About Hyundai Motor Group

Hyundai Motor Group is a global enterprise that has created a value chain based on mobility, steel, and construction, as well as logistics, finance, IT and service. With about 250,000 employees worldwide, the Group's mobility brands include Hyundai, Kia and Genesis. Armed with creative thinking, cooperative communication and the will to take on any challenges, we strive to create a better future for all.

More information about Hyundai Motor Group can be found at:

http://www.hyundaimotorgroup.com or Newsroom: Media Hub by Hyundai, Kia Global Media Center (kianewscenter.com), Genesis Media Center.

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