

Hanwha Newsletter

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These articles are selected based on the level of interest and number of views by corporate customers.

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These articles are selected based on the level of interest and number of views by Hanwha employees.

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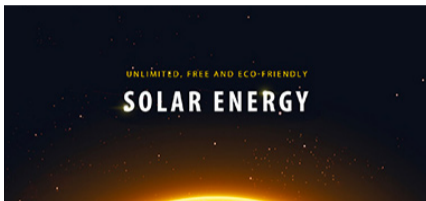


Top 10 Roundup News

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Full texts of below articles are available at hanwha.com



Solar Energy: A Reality for All



Hanwha Chemical Produces Next-generation Eco-friendly Plasticizers



Hanwha Total Petrochemical's HDPE Resins for Bottle Caps Win a World-class Product Award



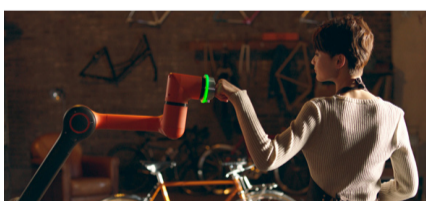
Hanwha Techwin to Build Aircraft Engine Parts Factory in Vietnam



Hanwha Q CELLS Becomes International Partner of RB Leipzig



Hanwha Q CELLS Receives "Top Brand PV Seal 2017" from EuPD Research in Europe and Australia



Meet the Cobot HCR-5 : A Reliable Robotic Co-worker



Hanwha Techwin Invests \$100M in Its New Subsidiary in Vietnam



Hanwha Techwin Gains Reputation for Its CCTV Technology in UK



What's Behind All the Buzz on Solar Energy?

Top 10 Roundup News

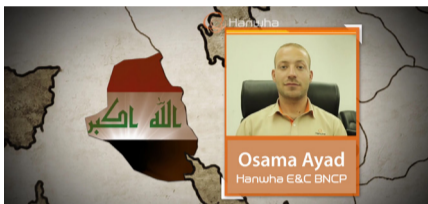
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Hanwha's Business Growth: Behind the Number



Award Winners Discuss Hanwha Core Values



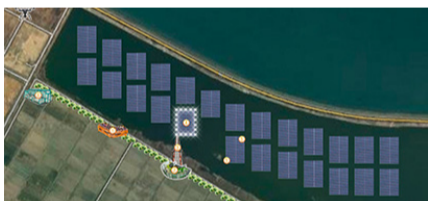
Hanwha's M&As and Chairman Seung Youn Kim's Leadership



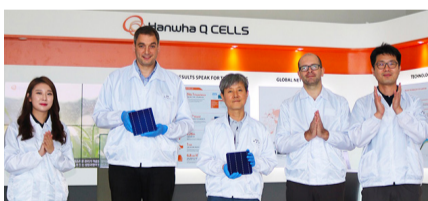
Chairman's Message Commemorating Hanwha Group's 65th Anniversary



2017 New Year's Message from Chairman Seung Youn Kim



Hanwha to Build World's Largest Floating Solar Farm



Hanwha Q CELLS Celebrates One Billion Q.ANTUM Solar Cells



Engaging the Future : Why Community Involvement is a True Win-Win



New Year's Greetings from Hanwha Global Offices



Hanwha Q CELLS Becomes International Partner of RB Leipzig

Explore This Month's News of Hanwha and Its Affiliates, Taking the Initiative in All Corners of the World



China

Hanwha Advanced Materials

Hanwha Advanced Materials Beijing

Hanwha Advanced Materials Beijing is set to begin production of NO-OVEN SuperLite (Lightweight Reinforced Thermoplastics) after having successfully tested the material within its molding facility between late August and early November. The company's molding production line is dedicated to using the material to manufacture the underbodies of automobiles including the Hyundai Tucson and Sonata.

By automating the molding production line that integrates both veneer and raw material heating to produce high-quality SuperLite, significantly higher efficiency was achieved. The success of the new production line now drives the plan for Hanwha Advanced Materials Beijing to expand its SuperLite projects.



Hanwha Hotels & Resorts

Foodist Food Culture (Shanghai) Co., Ltd.

In early November, Foodist Food Culture Shanghai held an award ceremony for its employees. The awards ceremony was designed to honor outstanding employees, particularly those who made significant contributions to the performance of offices. This year's best employee award was given to team leader Hyung Tae Kim as he set an example for his colleagues by serving as a success team leader while boosting company performance.



Germany

Hanwha Q CELLS

Hanwha Q CELLS GmbH

Hanwha Q CELLS and RB Leipzig FC: Partners on the Way to the Top

In July 2017 Hanwha Q CELLS kicked off a new partnership with the rapidly rising football club RB Leipzig. Since then, the alliance has helped RB Leipzig rise to the top of the German "Bundesliga" and for Hanwha Q CELLS to improve its standing in the global solar industry.

During every home game of the 2017/2018 season, product branding for




Hanwha Q CELLS is displayed in the stadium and on the TV screens of millions of Bundesliga viewers in Germany and nearly 200 countries around the world. Featured next to the prominent cam carpets besides the goals, the stadium also boasts Q CELLS branded coaching benches and LED advertisement on the 360° boards around the pitch to guarantee high visibility. The LED ads call viewers to "Make a switch to the sun", the guests and partners in the sky-box have already done so thanks to solar modules and systems powered by Q CELLS.

Hanwha Q CELLS aims to gain market leadership over the European solar markets in 2018 and the partnership with RB Leipzig is an important part of its strategy to increase awareness of the Q CELLS brand and its solar solutions around the world. RB Leipzig also benefits from the partnership, with Hanwha Q CELLS opening the door to new audiences in important Asian markets.



Saipan



Hanwha Hotels & Resorts

Saipan World Resort

Halloween is a time for pumpkin carving, costumes and candies from trick or treating. Originally from European harvest festivals and festivals of the dead, the holiday is celebrated by children and adults around the world; and this year, Saipan was no exception.

Saipan World Resort's began this annual Trick or Treat event last year to give children to experience the fun of Halloween. Guests and employees all participated in the Halloween celebration with candies and even special seasonal desserts table, courtesy of the hotel restaurant.




Vietnam



Hanwha Life

Hanwha Life Vietnam

Hanwha Life Vietnam celebrates Mid-Autumn Festival in HCM City

Hanwha Life Vietnam and the Cu Chi Youth Union of Ho Chi Minh City co-hosted the Mid-Autumn Festival for the children of the Nhuan Duc Commune district on October 4th. The event was called Celebrating Mid-Autumn Festival with Kids in Cu Chi. Its purpose is to bring joy and happiness to disadvantaged children in who lived in the outskirts of the City.

The children enjoyed the culinary fair, receiving gifts, participated in lantern-making competitions, played folk games and viewed performances by clowns. Hanwha's management board and employees joined in on the celebration with the children.

Mr. Back Jong Kook, chairman and general director of Hanwha Life Vietnam, said: "I hope these activities today will help create happy Mid-Autumn Festival memories for these children. It is our sincere desire that our activities help them love, understand and preserve their country's rich cultural traditions." Earlier,



in August, Hanwha Life donated bicycles to 145 poor children in the district of Hau Loc of Thanh Hoa. Bicycles were also donated to other districts including: Hoang Hoa, Quang Xuong, Nga Son, and Trieu Son. ■

Year-end Customs Across the World

As we approach the end of the year, people around the world are busy wrapping up 2017 and preparing for the year to come. Let's take this opportunity to discover how different cultures celebrate the dawn of a new year.

New Year's Eve Ball Drop in New York City

New York City has long been one of the most popular places to celebrate the new year. The holiday spirit of New York City reaches its peak on December 31st.

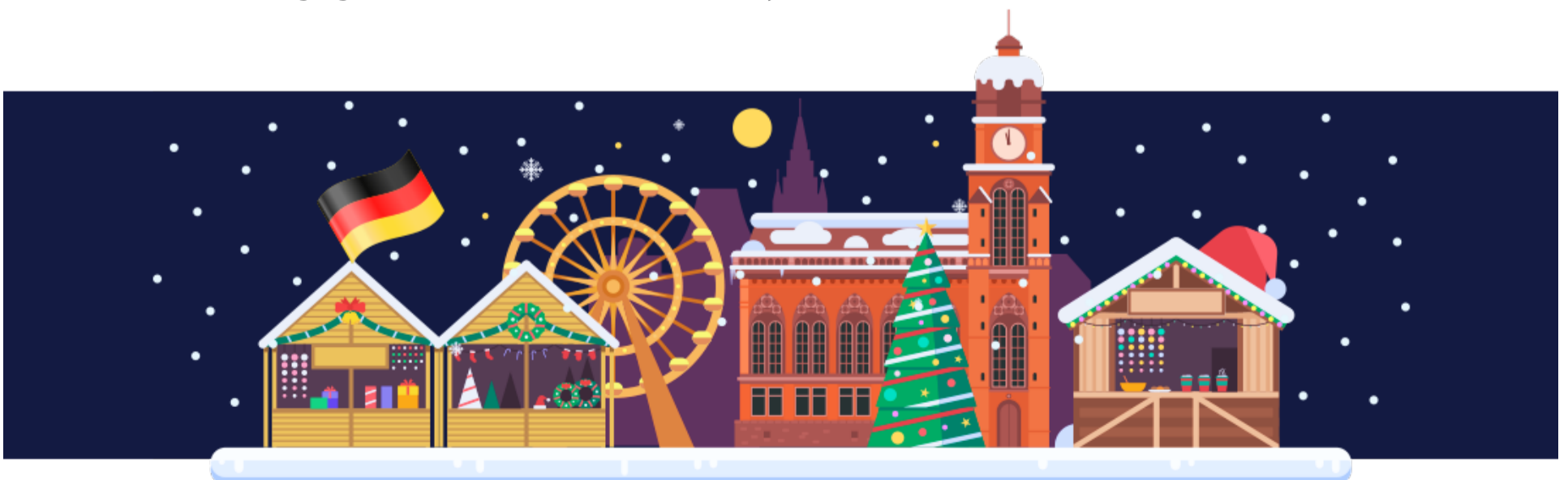
The annual Ball Drop held in Times Square dates all the way back to 1907. This is the largest New Year's observation in the US with millions of visitors joining in the festivities every year. During the last 60 seconds of the year, a massive crystal ball slowly descends from 43 meters in the air while confetti falls and fireworks paint the night sky.



A 700-Year Tradition of Christmas Markets in Germany

Christmas markets originated in the 14th Century when German merchants sold Christmas goods in front of cathedrals or city halls.

All starting in late November, the top 3 German Christmas markets are held in Munich, Nuremberg and Rothen ob der Tauber market. During Christmas season, nearly 150 kiosks are set up in Munich's Marienplatz square to sell handcrafted decorations and souvenirs. Christmas markets also offer the opportunity to enjoy seasonal foods such as Gluhwein (a mulled wine boiled with fruits), Lebkuchen (gingerbread made with nuts and honey) and chocolate fountains.



Mexico Celebrates the Spirit of the Pilgrims with 'Las Posadas'

Mexico celebrates the Las Posadas Festival for 9 days from December 16 to 24 in commemoration of Christmas Day. The Spanish word 'Posadas' means 'accommodation' and the festival is also known as the 'Festival of Pilgrims'. It commemorates in the memory of the Virgin Mary and Joseph who looked for a holy place to prepare for the birth of Jesus.

At the festival, a man and woman dressed up as Joseph and Mary reenact the Bethlehem pilgrimage while a crowd follows them to form a long parade. During this time each family decorates a corner of their home as a manger, and everyone celebrates Christmas by sharing candy and fruit.



Have a Warm Winter with a Bowl of Dumpling Soup: 'Yuan Dan' in China

Although China culturally values the lunar calendar more than the Gregorian calendar, they also have a New Year's Day called 'Yuan Dan (元旦)' that marks the new year according to Gregorian calendar.

The word 'Yuan Dan' is formed using the Chinese character 'yuan(元)' that stands for 'beginning' and 'dan(旦)' that means 'day'. Chinese people hold a memorial service for their ancestors, post couplets called 'chun lian(春聯)' on the door, view fireworks and have family meals on this day. In the morning, many visit Tiananmen Square in Beijing to see the first flag raising ceremony of the year.

During Yuan Dan, people in the Northern part of China eat a dumpling called jiaozi(餃子) - whereas people from Southern part eat tangyuan(湯圓) - a ball-shaped sweet rice cake filled with sesame powder. Chinese people eat dumplings during the winter holidays and share them with family members to wish each other's good health and fortune.



Ring in the New Year With Bosingak in South Korea

In Korea, the 'Bosingak Bell-Ringing Ceremony' is a major event every New Year's Eve. During this event, the Bosingak bell is rung 33 times.

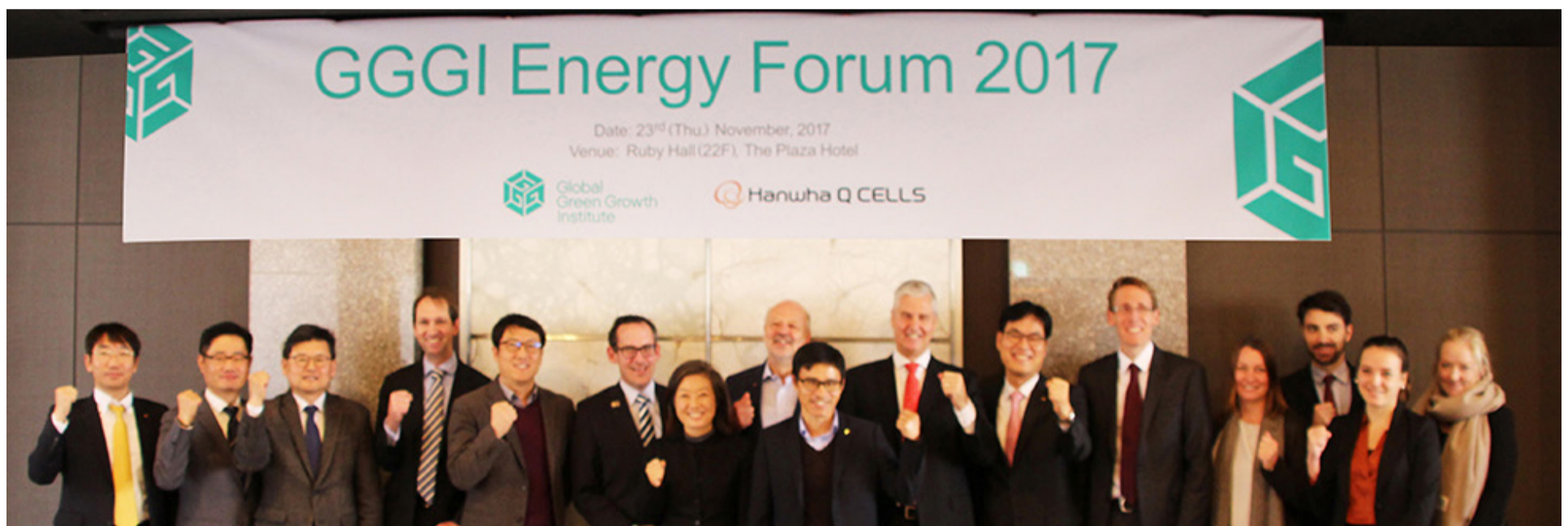
Originally, the bell was used to signal the opening and closing of the castle gates of Seoul, but now is rung on special occasions like New Year's Eve and national holidays. The number 33 originates in Buddhist myths which state that there is a huge mountain called 'Sumeru' which houses a paradise (Tushita) on top where everyone can live a long and healthy life. "Tushita" can be translated as the number '33'.

Many people gather at Bosingak to watch the bell ring, count-down together and make new year's wishes. The ceremony is broadcasted live, so the start of the new year is heard across Korea. ■



GGGI Energy Forum 2017 Organized by GGGI and Hanwha Q CELLS Held in Seoul to Promote Accelerated Green Energy Adoption Globally

- GGGI serves as a platform for energy experts, politicians and companies for global energy transition discussions
- 100% renewable electricity supply is not only viable but makes more economic sense than the current energy model



On November 24, 2017, the Global Green Growth Institute (GGGI) and Hanwha Q CELLS held the GGGI Energy Forum 2017 in Seoul. With the theme "Green Energy – Energizing a Sustainable World," the GGGI Energy Forum serves as a platform for energy experts, politicians and companies from various nations to discuss the global transition to 100% renewable energy. The aim is to share knowledge, expertise and experiences in green energy, renewables, and finance.

With renewable prices continuing to fall, the global energy transition is progressing at a faster rate than previously expected. Wind and solar are already the cheapest sources of electricity, with storage technology soon to follow. Disruptive technology improvements in the renewable energy sector and the search for practical solutions to climate change, air pollution, poverty, and the refugee crises are further accelerating the transition.

The GGGI Energy Forum started with keynote speeches, followed by an interactive discussion among the participants who shared how their countries are making the transition to low-carbon and renewable economies.

One highlight was a presentation by the South Korean government on the policy shift towards alternative sources of energy. Currently, renewable energy

– such as solar and wind power – accounts for just two percent of South Korea's electricity production. Conversely, coal-fired power plants and nuclear reactors generate about 40 and 30 percent respectively. The administration of current President Moon Jae-in is making a strong push to significantly increase the share of renewable energy.

Hans-Josef Fell, President of the Energy Watch Group and member of the German Parliament from 1998 to 2013, gave an inspiring speech covering his work on the Renewable Energy Sources Act or Erneuerbare-Energien-Gesetz (EEG). Fell also shared his views on how South Korea can phase out nuclear energy and make the transition to renewables. He commented that "Effective climate protection needs a global transition to a zero-emission economy in just a few decades. A global transition to 100% renewable electricity is feasible at every hour throughout the year and is also more cost effective than the existing fossil and nuclear system. This is the result of a study by Energy Watch Group that was presented recently at COP-23 in Bonn, Germany." ■

Hanwha Asset Management, Hyundai Motor Company, and SK Telecom to Create AI Alliance Fund

- Hanwha's investments in AI and future technologies move into high gear
- US 45 million dollar fund is established to support promising startups worldwide
- Element AI to provide expertise and investment advice



(from left) CEO of Hanwha Asset Management Yong Hyun Kim, Executive Vice President at SK Telecom James Ryu, Chief Innovation Officer and EVP of the Strategy & Technology Division of Hyundai Motor Youngcho Chi, and Chief Executive Officer of Element AI Jean-François Gagné at the "AI Alliance Fund" signing ceremony held at The Plaza, Seoul, South Korea, on November 16

Hanwha Asset Management, Hyundai Motor Company, and SK Telecom have set up a joint fund to be launched in the first quarter of 2018. The fund will be called the AI Alliance Fund, understandably as its goal is to invest in artificial intelligence (AI) by supporting startups around the globe who are eager to innovate and are full of creative ideas.

Each of the three companies have so far committed US \$15 million to the US \$45 million fund. Element AI, a world-leading AI solution provider based in Canada, participates as an investment advisor.

The three investors will take advantage of Element AI's pool of experts and extensive global network to evaluate technical capabilities, market trends, and growth potentials of the startups.

Building next-generation technologies by investing in AI, smart mobility, and fin-tech

Disparate technologies are converging and being integrated to generate a wave of technological innovations that is changing the future. These next-generation technologies can be easily found in AI, smart mobility and fin-tech. Hence, the AI Fund is both a strategic investment and a way to take advantage of changes that is dramatically affecting both the domestic and international markets.

The AI Alliance Fund will be used to discover and invest in startups across the United States, Europe, and Israel – in startups that can harness these technologies. However, what makes the AI Alliance Fund more unique is that it is a partnership of three major conglomerates who each already drive the Korean economy and

lead the world in various businesses. It is with certainty that each partner will seek to internalize future technologies for their own gain and to this end, operate its own system to support startup with incubators and corporate venture capital (CVC). However, at the same time, the combined strengths of all three industry giants will be applied to achieve the common goal of creating new growth engines. And by working together, they'll form a cooperation-driven ecosystem of open innovations. They will be able to secure leadership in the market and establish a competitive edge with which to navigate the rapidly changing business horizons filled with disruptive technologies and fierce competition.

AI-pioneer Element AI to provide analysis of technology, growth potential, and future value

The investment advisor to the fund, Element AI, was co-founded in 2016 by global AI guru Yoshua Benjio and entrepreneur Jean-François Gagné. The company provides consulting and has more than 160 researchers for AI research and solution development.

Element AI is using its extensive global corporate network and leveraging its partnership knowhow on a diverse collection of collaborative projects. The company's network of AI experts include world-leading institutions in artificial intelligence academia such as the University of Montreal and McGill University. The company is also funded by leading ICT investors worldwide, including Microsoft Ventures, Intel Capital, and NVIDIA GPU Ventures.

Combination of the companies' expertise will create synergy for enhanced competitiveness

Hanwha Asset Management currently manages USD 85 billion in net assets (as of October). By investing in tech startups, the company is seeking to invest in high potential markets driven by industrial technologies and AI. To ensure success, Hanwha Asset Management plans to guide tech startups with its asset management experience, work with co-investors make available technical capabilities, and allow the startups to gain learnings from the experts of Element AI.

The partnerships will benefit all parties involved, creating synergies among them and increasing their footprint. Hyundai Motor Company, SK Telecom, and Hanwha Asset Management will leverage their expertise in their respective areas – mobility, ICT, and financial services. The synergy created from their combined capabilities is expected to further solidify their leadership and competitiveness in their respective businesses. Startups will have the opportunities to build their capabilities and launch their products in asset markets overseas. And Hanwha Asset Management will be able to strengthen its skills in assessing technological innovations while gaining new ones – as they foster the latest fin-tech innovations – the new engine for growth.

To celebrate the creation of the AI Alliance Fund, a signing ceremony was held at The Plaza hotel in Seoul, South Korea, on November 16. "Hanwha Asset Management, Hyundai Motor, and SK Telecom share our passion for investment and building the future. I'm excited we can now work together to create a new global, industrial reality," said Element AI CEO Jean-François Gagné, during his visit to Korea for the signing ceremony. ■