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Hanwha Techwin Gains Reputation for Its CCTV Technology in UK

· Hanwha Techwin's Wisenet X takes the prize for Video Surveillance at the Benchmark Innovation Awards 2017



Hanwha Techwin won the Benchmark Innovation Awards in the Video Surveillance Hardware category with the Wisenet X camera series it has launched this year. The award is hosted annually by the British security magazine Benchmark.

Hanwha Techwin's Wisenet X camera series has been selected as this year's winner of the Video Surveillance Hardware category in the Benchmark Innovation Awards hosted annually by the Benchmark magazine, a publication specializing in security solutions, on August 1st.

The monthly magazine Benchmark is considered a very influential publication in Europe's security industry, offering reviews on diverse products, systems, and solutions as well as up-to-date security information. The Benchmark Innovation Awards which the magazine organizes select security products that offer innovative values to customers across nine technology areas, including video surveillance hardware and software.

The prize-winning Wisenet X series of Hanwha Techwin is equipped with Wisenet 5, a chipset independently developed by the company. The product boasts the world's best 150dB wide dynamic range (WDR) technology which ensures clear, sharp images without blurring. The improved low light lens, in addition, allows clear images to be monitored even in dark places or at night. Furthermore, the gyro sensor built into the camera ensures image stabilization, When the camera is disturbed by vibrations in buildings or wind, the sensor comes into effect, resulting in more stable images.

"Wisenet X series is our strategic product we have launched this year. The award, which we won outdistancing market leaders, like Axis, Hikvision, and Milestone Systems, is recognition for Hanwha Techwin's technologies in the field of security," said a spokesperson of Hanwha Techwin. "We are absolutely proud of receiving this high-profile award. We will stay committed to becoming a global company leading the industry with superb products and innovative technologies." ■

Hanwha Commercial Video

*What if the answer to powering a purer world,
our world, was shining down on us this whole time?*



To watch Hanwha's commercial video about solar energy, please go to: www.hanwha.com/en/commercialvideo-solarenergy

Hanwha Commercial Video

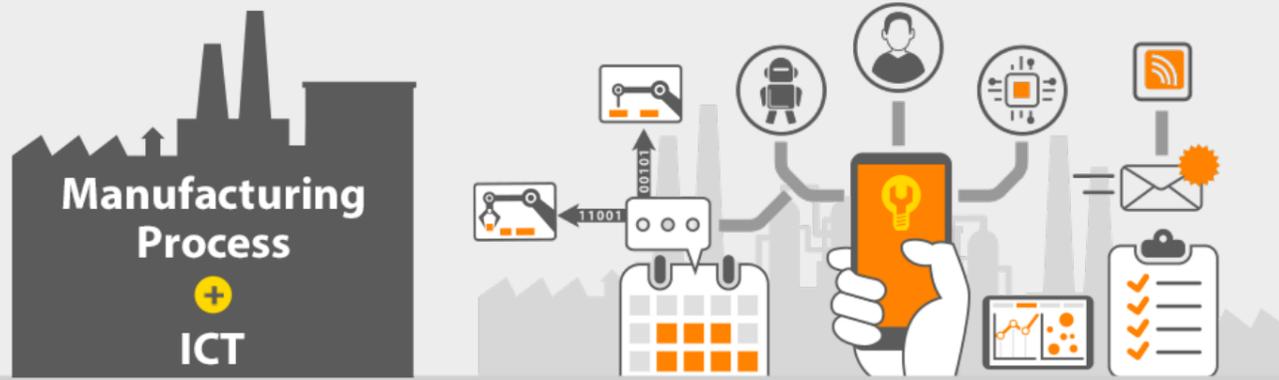
*What if to propel life on earth,
we need to drive change and look to the skies above?*



You may also watch Hanwha's commercial video about aircraft engine at www.hanwha.com/en/commercialvideo-aircraftengine

Smart Factories Transition from “Automation” to “Intelligence”

 **SMART FACTORY** Key Manufacturing Innovation of the 4th Industrial Revolution



- * **Smart factory :**
A next-generation production plant capable of collecting and analyzing real-time data, based on which it autonomously performs tasks
- * **ICT (Information and Communications Technologies)** = Internet of Things (IoT) + Artificial Intelligence (AI) + Robot + Big Data

At the dawn of the 4th industrial revolution, information and communication technologies (ICT), such as the Internet of Things (IoT), robots, and big data, are inspiring a new wave of smart production. Companies in the manufacturing industry have set their eyes on smart factory solutions to respond to these changes, with Hanwha Techwin leading the way.

Hanwha Techwin, a Trusted Partner of the World’s Top 3 Aircraft Engine Manufacturers General Electric · Pratt & Whitney · Rolls-Royce

As a key strategic partner for the world’s top three aircraft engine manufacturers – General Electric, Pratt & Whitney, and Rolls-Royce – Hanwha Techwin is a vital industry player recognized for its superb technological capabilities. Because aircraft engine plants requires a high level of precision across all of its production lines, the company is turning its plant based in Changwon, South Korea into a smart factory in order to further boost quality and efficiency.

Hanwha Techwin’s Plan to Adopt Smart Factory Solutions

2017



Build Intelligence Platform

- Establish a smart factory platform
- Connect facilities to IoT sensors
- Create environment for data collection

2018



Apply Analysis & Prediction Technologies

- Extract meaningful data
- Analyze the root cause of defects, process malfunction and facility inefficiencies
- Prevent accidents

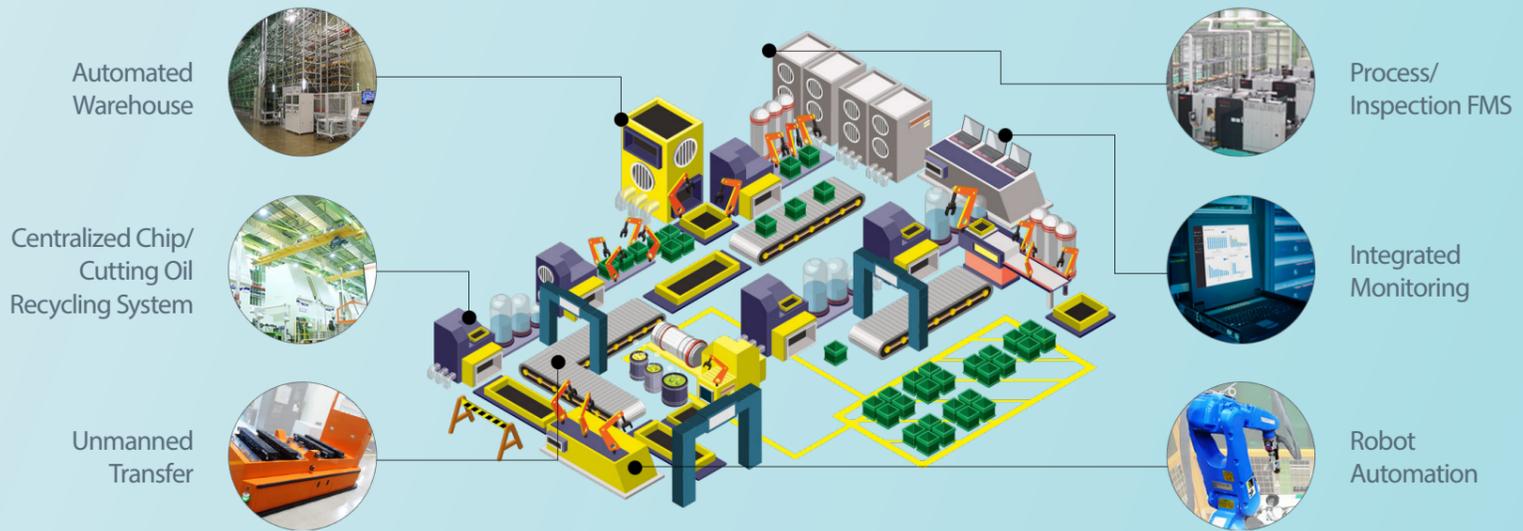
2019 to 2020



Complete Smart Factory Integration

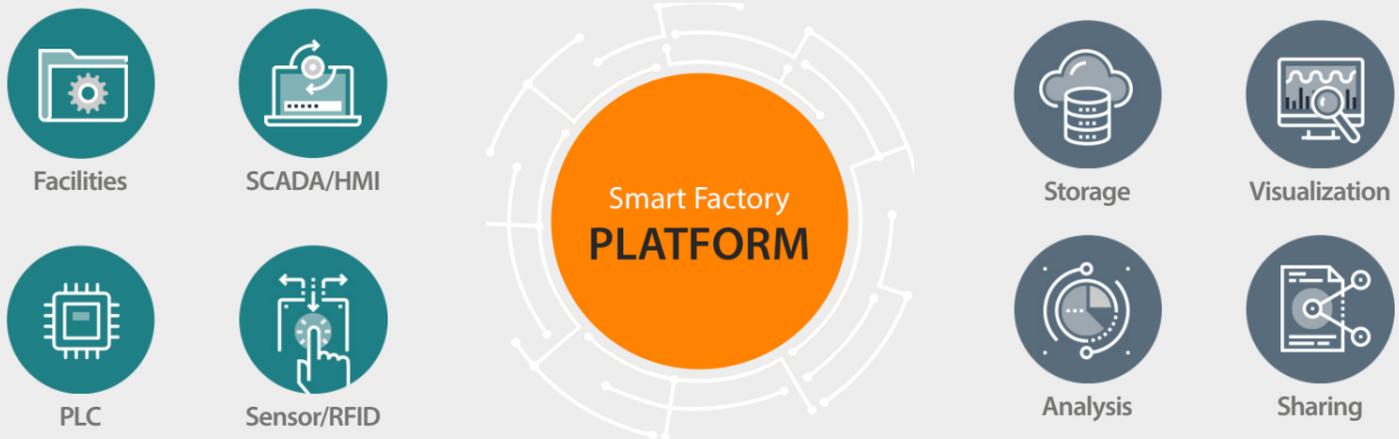
- Stabilize smart factory environment
- Take complementary follow-up measures
- Make smart factories fully operational by 2020

The Structure of the Hanwha Techwin Smart Factory Production Line



Hanwha Techwin plans to complete a smart factory capable of automating 75 percent of the entire process and perform unmanned tasks by 2020 through the application of ICT solutions.

What Is a Smart Factory Platform



- * **PLC (Programmable Logic Control)** : A computer unit adapted for the control of manufacturing processes which eases programming
- * **SCADA (Supervisory Control and Data Acquisition)** : A centralized remote supervisory control system
- * **HMI (Human Machine Interface)** : An interface connecting the analog human perception with the digital processing system of a computer
- * **RFID (Radio Frequency Identification)** : Technology that enables the identification of an object or a person by using

Similar to Apple's iOS or Google's Android, establishing a smart platform is key element to the success of a smart factory. In October 2016, Hanwha Techwin signed an MOU with GE – the industry leader in this field – to forge a partnership in digital technology and industrial internet systems. This allowed Hanwha to adopt GE's industrial internet platform solutions. The solutions will serve as a stepping stone as Hanwha Techwin works to develop and implement a platform with its own knowhow and technology.

Changes That Smart Factory Will Bring to Hanwha Techwin's Production Plant

<p>Integrated Monitoring Integrated monitoring of the production, facilities, logistics, and infrastructure</p>	<p>Logistics Innovation Unmanned transfer system and automated warehouse system</p>	<p>Process Automation Automated robots for nontraditional processes and unmanned operation of production lines</p>

What Makes a Smart Factory “Smart”

Improved Product Quality

Efficient Delivery Management



- **Improved Product Quality**

At a smart factory, every aspect of the work processes can be identified in detail through a rigorous product tracking system. By analyzing big data through process technologies, the causes of defects are identified and remedial measures are applied in real time, lowering the defect rate and putting out products of uniform quality.

- **Efficient Delivery Management**

The analysis of big data allows a smart factory to predict the production schedule by each process and adjust it according to the delivery schedule for improved on-time delivery. In addition, Hanwha Techwin installs a Bluetooth sensor on every product that leaves its engine parts factory. These sensors, which track products via the IoT network, improve the efficiency of delivery management.

Hanwha Techwin’s Smart Factory, a Convergence of Manufacturing Skill and Digital Technology



Hanwha Techwin’s smart factory is not a pie-in-the-sky idea but a promise that is unfolding before every eyes. The new smart factory combines the company’s proprietary manufacturing technology and the latest smart software, and is equipping Hanwha Techwin to lead the world market.

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

In August, Hanwha Advanced Materials Beijing held its first annual event called March of Unity to commemorate one of Hanwha's biggest CSR activities. In the event, employees participated in a parade to support those in need and walked a 5km course around the Ming tombs, one of China's most famous UNESCO-designated cultural assets. This event was an invaluable opportunity for the employees to serve the community while coming together and building their team spirit.



Hanwha

Hanwha China

On July 28th, Hanwha China held its 2017 Chinese Regional Workshop at its Shanghai office. The executives of twelve Hanwha regional affiliates attended the event. The workshop featured keynote speeches delivered by Tae Koo Kang, chairman of Hanwha China and Sung Wook Kim, a lawyer from Pacific Law firm. Attendees discussed a range of topics including Chinese security environment, internet policies and office & personnel management.

Affiliate representatives also shared their experiences in business and management in China and agreed to strengthen cooperation with local Hanwha affiliates, especially on more effective CSR activities.

The Chinese regional workshop has been held annually since 2011 with the aim of allowing each subsidiary to share work experiences and enhance synergy among affiliates in China.



Hanwha Life

Sino-Korea Life Insurance Co. Ltd.

CIRC Approves 500-million-yuan Capital Increase for Sino-Korea Life Insurance

The China Insurance Regulatory Commission (CIRC) recently approved the capital increase for Sino-Korea Life Insurance, allowing the company's capital to double to one billion yuan from its previous 500 million yuan. Since the company first began operations in 2012, Sino-Korea Life Insurance has been at the forefront of its market.

In 2016 Sino-Korea Life Insurance ranked third in terms of new contract premiums and personal insurance planners in the Zhejiang province. This is

an impressive achievement for a foreign company. Since then, the company has become an industry leader doubling its bancassurance sales for 3 years straight and successfully securing 90 percent 13-month persistency in private insurance retention. Sino-Korea Life Insurance's success can be attributed to its level of quality – it has achieved the highest level of quality in both business administration and customer satisfaction according to the CIRC, receiving zero complaints from its customers. The company is next expecting to secure stable cash flow and profits and add more brand value after reallocating its current capital.



Germany



Hanwha Q CELLS GmbH

In July, a dragon boat competition was held at the Goitzsche Lake in Bitterfeld, Germany near the Hanwha Q CELLS Global Center for Technology, Innovation & Quality. The Q Dragons team, consisting of 21 German solar specialists from Hanwha Q CELLS, competed in the event against teams from other local companies and the Bitterfeld-Wolfen's local clubs. Q Dragons qualified in the "Fun-sport" category and after three races, the Q Dragons won second place in their division.



United States of America



Hanwha Q CELLS USA

Hanwha Q CELLS USA began installation of solar panels in April for the Beacon Solar Energy Project – the company's largest project to date. The project is expected to complete in late September. The project is in eastern Kern County, California near the Mojave Desert. Boasting a nominal power output of 107.76 MW, the facility will produce enough clean energy to power over 14,000 households with approximately 321,692 Q.PLUS L-G4.2 335 W modules. Once complete, the solar power generated by the plant will service the Los Angeles Department of Water and Power(LADWP), the nation's second largest utility off-taker according to GTM Research.



The project is noteworthy not just for its size, but for the kind of awareness it will create. It will raise the profile of Hanwha Q CELLS USA as an experienced Engineering, Procurement, Construction (EPC) partner. Since the plant was to be built in an environmentally sensitive area for wildlife, the company understood and was especially careful during the design process to ensure the protection of multiple species like the Desert Tortoise and the American Badger that inhabited the region. In addition, the project was located on the Garlock Fault Zone where extensive fault mitigation and civil work was required.

Once complete, this power station will generate over 250 GWh per year in the world's key utility-scale solar market – the U.S. Success here will help us build momentum as we position ourselves to become the leading EPC player in the U.S. market. This project will also be instrumental in establishing relationships with major equipment suppliers. Additionally, our work on projects of this magnitude makes it possible for us to hire and retain the most talented and experienced workforce." He also expressed appreciation for "the commitment and hard work put forth by all those involved", and added that Hanwha Q CELLS USA looks forward to engaging in more such prominent projects in the future.

Tae Hong Kim, President of Hanwha Q CELLS USA, praised the employees for their fine achievement, "It is quite a feat to successfully deliver this EPC project.



Vietnam



Hanwha Life Vietnam

Hanwha Life Vietnam Donates Bikes in Thanh Hoa Province

On August 12, 2017, Hanwha Life Vietnam donated 145 bikes to underprivileged children from Hoang Hoa, Quang Xuong, Nga Son, Trieu Son and Hau Loc in Thanh Hóa Province. With the donation, the company hopes to increase their access to education by making it easier for them to attend school.

Ahn Yong Nam, Head of Strategic Planning for Hanwha Life Vietnam, made a



speech at the event, underscoring the reasons behind the company's emphasis on corporate social responsibility in Vietnam. "I hope these bikes will make it easier for the children to get to school" Ahn added: "Education is key to building a brighter future."

Thanh Hoa Province is one of the key markets for Hanwha Life Vietnam. The company has already built a comprehensive distribution network with 5 offices and 5,431 consultants, creating favorable conditions for residents to access advanced financial solutions and life insurance products. The total insurance compensation paid by Hanwha Life Vietnam in Thanh Hoa province is nearly 4.9 billion VND.

Dedicated to helping the Vietnamese people in life planning and making their dreams come true, Hanwha Life Vietnam has made numerous contributions to

the community over the past 8 years. The General Agent's offices in Thanh Hoa have conducted a number of CSR activities such as presenting scholarships to poor students and offering health insurance cards and charity houses. Since 2014, Hanwha Life Vietnam has been cooperating with the Ho Chi Minh City-based Sponsoring Association for the Poor Patient to offer free health insurance cards to the poor valuing over 6.3 billion VND. So far in 2017, Hanwha Life Vietnam has presented over 9,500 health insurance cards in the Ho Chi Minh, Thanh Hoa, Nghe An, Ha Tinh, Dak Nong, Kon Tum, Quang Tri and Ca Mau provinces. Furthermore, Hanwha Life Vietnam also built charity houses, schools, medical centers adding up to nearly 22 billion VND between 2013 and 2016, demonstrating the company's long term commitment to Vietnam and its people.

Hanwha Life Hanwha Life Vietnam

Hanwha Life Vietnam Opens its 100th Customer Service Center

On August 17, 2017, Hanwha Life Vietnam opened its 100th customer service center, located in Duc Pho in the Quang Ngai Province. This is a milestone in Hanwha's quest to provide better customer service and increase the company's presence in the local life insurance market.

Today, Hanwha Life Vietnam's customer service system spans across the nation. At the opening ceremony, Jong-Guk Baek, Chairman and General Director of Hanwha Life Vietnam, stated "Our expanded network will help local customers to access the advanced life insurance products and services offered by Hanwha Life Vietnam. It will also strengthen the firm's visibility and move its business forward." Baek also explained that this expansion has come earlier than expected, thanks to the company's comprehensive preparation and business performance. He added that "Hanwha Life Vietnam's ultimate goal is to become one of the top life insurance firms. We will not stop with these 100 service centers but will continue to go forward by expanding new customer transactions and upgrading our existing facilities"

Hanwha Life Vietnam has achieved a marvelous business success in Vietnam. According to the latest financial report, the company gained 301 billion VND in



new policy premium revenue in the first two quarters of 2017, a 59% increase compared to the same period last year. Moreover, having approximately 28,000 financial consultants serving for over 200,000 clients, Hanwha Life Vietnam has diversified its distribution system. Since the start of the year, Hanwha Life has partnered with two major Korean banks—Woori Bank and Shinhan Bank—in Vietnam to deliver bancassurance products.

In 2016, Hanwha Life Vietnam celebrated its first profitable year in Vietnam, earning 12 billion VND before taxes. By the end of the same year, the company's total assets reached 2,997 billion VND, a 32% increase compared to the previous year. These overwhelming achievements will build the foundation for Hanwha Life Vietnam to push further in the future. ■