

# Hanwha Newsletter

## 01 The Engine Driving Hanwha's Global Growth

- Hanwha Aircraft Engine Business Flies High in the Global Market

## 02 Hanwha Column

- Hanwha Global Reporters Keep Honing Their Craft
- Hanwha: Lighting Up the Night Sky

## 03 Hanwha Worldwide News

Explore this month's news of Hanwha and its affiliates, taking the initiative in all corners of the world.



The Engine Driving Hanwha's Global Growth

# Hanwha Aircraft Engine Business Flies High in the Global Market

- Hanwha Aerospace signs a USD 1 billion contract with Rolls-Royce for engine parts
- Hanwha Aerospace is a new powerhouse in the aircraft engine industry, boasting world-class technology and quality
- Rolls-Royce recognizes Hanwha Aerospace with 2018 Best Supplier Award



Hanwha Aerospace signed a USD 1 billion contract with Rolls-Royce for engine parts

Hanwha Aerospace secured a 25-year contract worth USD 1 billion to supply Rolls-Royce with engine components.

The contract will provide 10 key parts which will be used in Rolls-Royce's most advanced aircraft engines: the Trent series. Hanwha Aerospace will be participating in the Life of Engine Program (LOP) from 2021 to 2045 and produce the parts from its Vietnam site. Under this LOP and depending on the circumstances, the size of the contract could increase.

Hanwha Aerospace explains that, to date, it has been supplying mostly engine cases and related parts. However, under the new contract, Hanwha Aerospace will be supplying turbine parts, which are core components of the engine. In effect, the company will be entering a new business from which it can further diversify into other turbine products.

The deal represents the recognition of Hanwha's manufacturing know-how and high quality of its aircraft engine parts. It also speaks to Hanwha's strong position as a strategic partner of Rolls-Royce in the aircraft engine manufacturing market, a market known to have a very high barrier to entry.

The business relationship with Rolls-Royce began more than 35 years ago in 1984 when Hanwha Aerospace began providing Rolls-Royce with military engine-repair and depot-maintenance services. Hanwha Aerospace, along with its relationship with Rolls-Royce, has grown dramatically since then. Today, it's in charge of manufacturing key engine parts for Rolls-Royce engines. Among the most important engines, Hanwha Aerospace manufactures the cases used for the Trent series, the most advanced civil aircraft engines built by Rolls-Royce. Both the volume and value of the business has grown exponentially.



Example of an aircraft image with Trent engine (Airbus A330) \* Source – Airbus Homepage

Rolls-Royce has been around for more than century with its aircraft engine manufacturing business having been largely independent from its automobile business for more than three decades.

From its manufacturing facility in Derby in England, Rolls-Royce assembles its aircraft engines on tightly controlled production lines that meet the stringent standards of the aircraft engine industry. These engines are then delivered to aircraft manufacturers like Boeing and Airbus.

Rolls-Royce Executive Vice President of Procurement and Installations Supply Chain Warrick Matthews stated, "Our Derby production factory is the largest engine assembly factory of Rolls-Royce, where the company's newest and most advanced Trent engines are designed, assembled, and tested." He added, "Combustion rear inlet cases, aircraft engine intercases and the A-Frame produced and manufactured by Korea's Hanwha Aerospace, are all key parts used in the engine assembly."

The Rolls-Royce Derby factory also assembles the Trent 700 engine for Airbus

A330, the Trent 1000 engine for Boeing's 787 Dreamliner, and the Trent 7000 engine, the heart of the most up-to-date Airbus A330 Neo.

Norbert Arndt, Executive Vice President - Structures & Transmissions at Rolls-Royce, said, "Hanwha Aerospace, the new up-and-coming star in the global aircraft engine industry, is our future partner for Rolls-Royce." With a smile and a two thumbs-up, he added, "Hanwha Aerospace is indeed the world's best in both quality and technology, supported by the fact that they were selected out of several hundred Rolls-Royce partner companies to receive the 2018 Best Supplier Award." Arndt continued, "this is what happens when there's trust for a company's manufacturing technology capability over the course of thirty years in close cooperation."

Hanwha Aerospace plans to set up an exclusive production line for Rolls-Royce at its Vietnam site, which began operations in late 2018. And more recently, the company broke ground to construct its second plant at another Vietnam site this past October, with completion expected by the first half of 2020.

The recent acquisition of EDAC; a US aircraft engine parts manufacturer, now operating as Hanwha Aerospace USA, also boosted Hanwha Aerospace's global manufacturing competitiveness. This acquisition enables the company to perform concurrent development, whereby product design and development occur at the same time. Concurrent development makes it possible for Hanwha Aerospace to supply parts for Rolls-Royce's next generation aircraft engines and secure more opportunities for Hanwha Aerospace for decades to come.

In the last five years, Hanwha Aerospace has successfully signed long-term aircraft engine parts supply contracts totaling USD 19.8 billion with the world's top 3 aircraft engine manufacturers: Rolls-Royce of the United Kingdom,

Industry experts have taken notice of Hanwha Aerospace's rapid growth since 2015 when it began moving from a simple engine parts supplier to a revenue sharing program (RSP) business partner with P&W.

The RSP business provides secure revenue and long-term profitability over decades, and thus, having it as part of the company's business model is an important enabler for Hanwha Aerospace to leap forward and become a specialized global engine parts manufacturer.

Hyun-woo Shin, President and CEO of Hanwha Aerospace, confidently said, "The recent increase in air travel passengers and air freight has led the continued growth in the civil aircraft market. This resulted in the global aircraft engine parts market to also record an annual growth rate of 6%, estimated to reach a market size of USD 54.2 billion by 2025." He added, "Building on our 30 years of cooperation with Rolls-Royce, we will strengthen our partnership with the world's top 3 engine makers including GE and P&W so that we can become a top-tier manufacturer in the global aircraft engine market."

Hanwha Group is infusing USD 3.4 billion by 2022 to assist its aerospace business in global aircraft parts and defense markets to become more competitive globally. It is part of Hanwha Aerospace's larger effort to further develop its overall aircraft business. Hanwha's strong support of its aerospace business should give rise to solid growth in the global aircraft engine market.

In 1979, Hanwha Aerospace began providing gas turbine engine maintenance. As of 2018, it has assembled more than 8,600 aircraft engines. Hanwha Aerospace is the only gas turbine engine manufacturer in Korea. ■



Image of an engine produced by Hanwha Aerospace

# Hanwha Global Reporters Keep Honing Their Craft



Wherever you are, the Hanwha Newsletter is your best source for Hanwha News. Behind each month's issue, Hanwha Global Reporters are hard at work collecting stories from every corner of the world.

In October of 2019, Hanwha Global Reporters from 23 locations across 10 countries gathered in Seoul for their annual Hanwha Global Communications Workshop.

The Global Reporters were able to deepen their understanding about Hanwha, as well as how to further support the global communications initiatives and direction. They attended lectures on "purpose leadership" and workshopped together on how to conduct more effective interviews. They also began preparations for the launch of the Hanwha PROUD Campaign 2019.

This workshop was a great opportunity for everyone to network and meet in person. It was also a chance for the Global Reporters to learn more about Hanwha by touring various Hanwha facilities in Korea.

Check out the video above to see how they keep their skills sharp as they help build and maintain Hanwha's global reputation. ■

# Hanwha : Lighting Up the Night Sky



Each autumn, Hanwha hosts the Seoul International Fireworks Festival, bringing together companies from all over the world to light up the sky over the Han River in Seoul.

Since debuting in 2000, the festival has become a flagship cultural event and wowed over a million spectators. With the slogan "Sharing Hope through Fireworks," it provides thrilling moments that can be shared with families and friends.

The 2019 Seoul International Fireworks Festival featured teams from Korea, China, and Sweden. The show's climax came courtesy of Hanwha with a 40-minute musical extravaganza titled "Life is Colorful." Hanwha's performance filled the night sky with a colorful symphony of sparkling charges.

This year's festival took fireworks to a new level, as Hanwha specifically designed the show to reflect the brilliant light off the 63 Building, wowing the gathered crowds below. ■

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## China



### Sino-Korea Life Insurance

#### Sino-Korea Life Insurance Helps Autistic Children Through Art

In October of 2019, Sino-Korea Life Insurance helped organize "Road to Dunhuang: Art and the Sun," an art-themed public service event in Dunhuang, Gansu Province, China. The co-sponsored event brought world-renowned artists to Dunhuang to explore the convergence of art and public service in the city.

"Road to Dunhuang" was held to draw attention to autistic children and how they should be accepted and celebrated. As part of the event, Sino-Korea Life Insurance announced that it would raise awareness of this issue by freely distributing "Ten Thousand Suns," a 2020 calendar created in collaboration with Lu Yifei, a well-regarded calligrapher and cultural scholar.

"Autistic children don't just shine like stars," said Chung-guen Song, COO of Sino-Korea Life Insurance, as he unveiled the 2020 calendar. "They give off heat like the sun to warm the hearts of those who work with them and help them."

Celebrated traditional Korean artist Min Kyung Chan was invited to exhibit his work at the Chun Tian Museum of Art as part of the "Road to Dunhuang." He also held an art salon to encourage discussion among the general public about how art



contributes to public service.

Sino-Korea Life Insurance has supported intellectually disabled children for the past five years through various public service activities. As an artistic patron of these children, the company requests and purchases their artworks, which are then put into calendar-form to shine a light on their needs. It also organizes the annual "Tree to the Nth Power" tree-planting campaign that brings together the general public and intellectually disabled students from the Yang Ling Zi School to encourage interaction, promote understanding, and create a more harmonious social environment.



## Korea



#### Hanwha TOTAL Petrochemical Delivers Love Through Side Dishes

Hanwha TOTAL Petrochemical teamed up with Hanwha Hotels & Resorts for the "Hanwha Healthy Sharing Event" on October 15, 2019. Coming together, the two companies created care packages that were distributed among 250 households who live on the backstreets of Seoul's Namdaemun district.

The packages included pickled garlic made by employees of Hanwha TOTAL Petrochemical. The employees used special garlic knobs purchased from a farm near Hanwha TOTAL Petrochemical's Daesan plant. Meanwhile, Hanwha Hotels & Resorts, donated seaweed from the coastal city of Daecheon.

"October is when we celebrate Hanwha's founding," said a person who participated in the pickling. "To honor our company's spirit of serving something greater than oneself, we came together to find ways to help those less fortunate."





## China



### Hanwha Chemical (Ningbo)

#### Hanwha Chemical (Ningbo) Volunteer Corps Cleans Up Jiufeng Mountain

On October 29, 2019, volunteers from Hanwha Chemical (Ningbo) promoted environmental conservation by picking up garbage along the trails of Jiufeng Mountain in Zhejiang province, China.

Led by Hanwha Chemical (Ningbo) President Dong Seok Kim and Director Dong Soo Koh, the group diligently picked up plastic, paper, cigarette butts, and other waste and placed them all in bags, leaving behind a pristine mountain. The group's activities attracted the attention of many passers-by and received much positive feedback.

Hanwha Chemical (Ningbo)'s actions were a vital contribution to help the environment. They helped raise public awareness of the need to keep nature



clear of rubbish. The volunteers also saw the afternoon as a chance to clear their minds and get some physical exercise as well.

With the clean-up activity being so well-accepted by both employees and nearby residents, Hanwha Chemical (Ningbo) will continue engaging in similar activities. The company intends to continue helping the environment and promoting positive interaction between itself and the people of Ningbo. ■