

Hanwha Advanced Materials
Corporate Profile

MATERIALIZING

01

**MATERIALIZING
TOMORROW**

- 06 Business Overview
- 08 History & Vision
- 10 Business Portfolio

12

**MATERIALIZING
NETWORKS**

- 14 Network in America
- 17 Network in Europe
- 18 Network in China
- 20 Network in Korea
- 22 Research & Development

24

**MATERIALIZING
SOLUTIONS**

- 26 Automotive Materials
- 30 Electronics Materials
- 34 Solar Materials

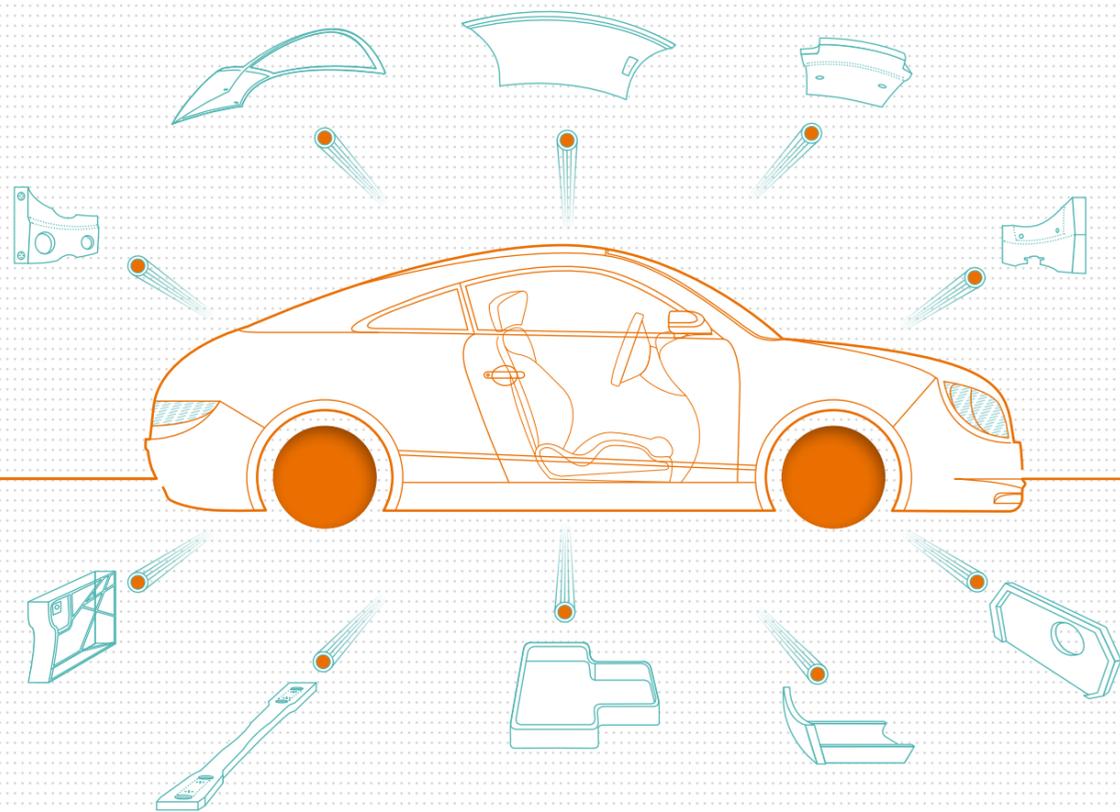
36

**MATERIALIZING
RESPONSIBILITY**

- 38 Health, Environment, Safety
- 39 Social Contributions
- 40 Ethics & Shared Growth
- 41 Personnel Development
- 42 Hanwha Group
- 44 Global Network

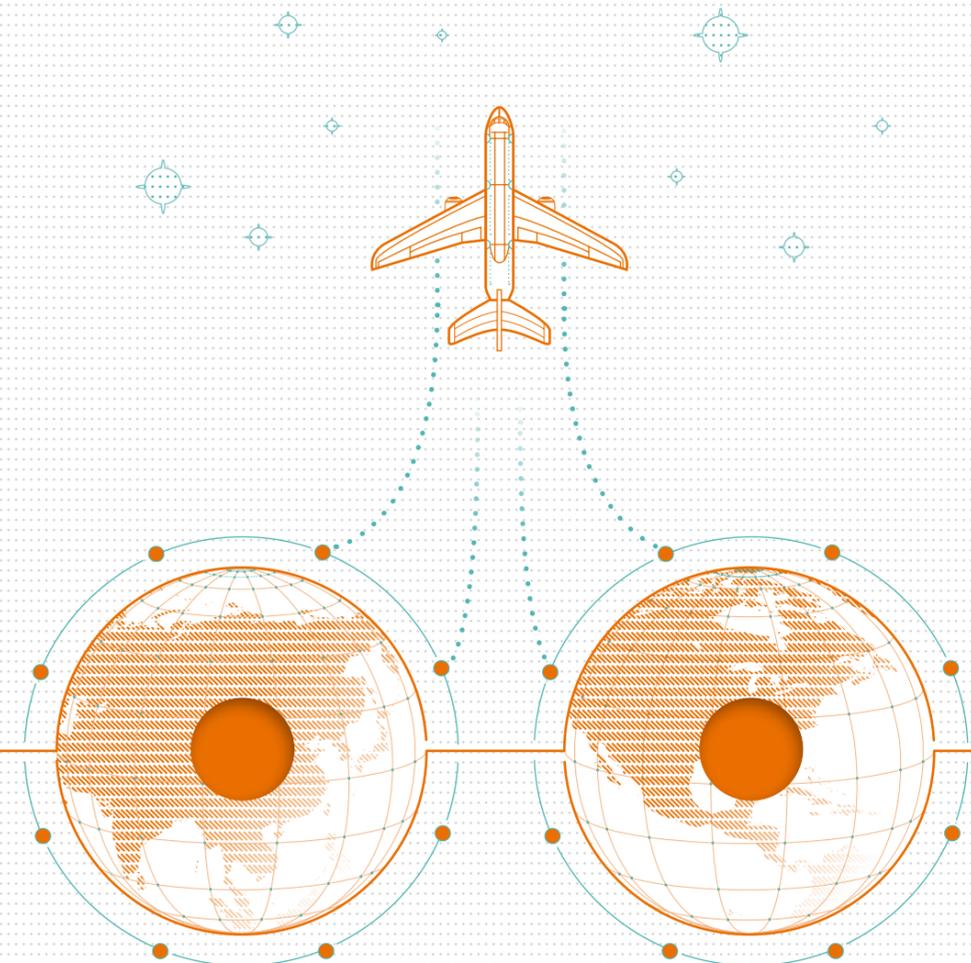
TOMORROW

Hanwha Advanced Materials is a leading innovator in the global materials industry.
We are constantly evolving, pushing the boundaries with modern ingenuity and pioneering technology.
We are building a brighter future for our customers, our employees, and our community.



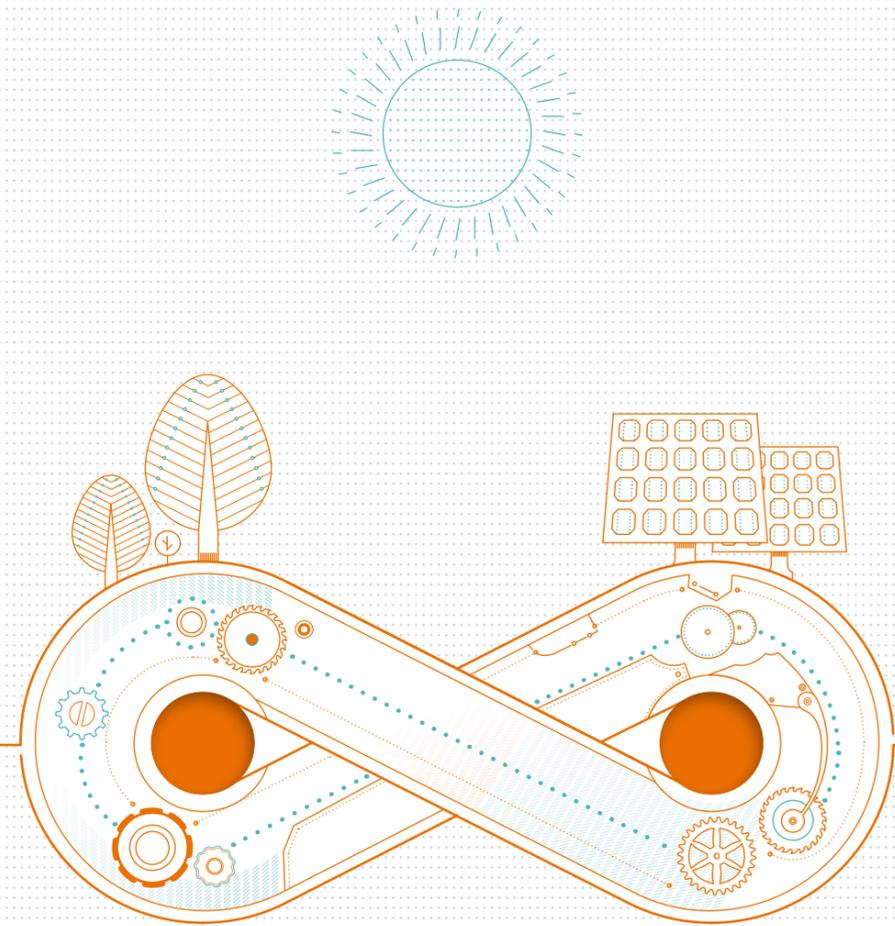
LIGHTER

Manufacturing high functioning advanced materials that are light and strong, and conform to the highest environmental standards, requires cutting-edge technology and continuous innovation. That is our foundation for industry leadership and sustainable growth.



CLOSER

Our customers demand partners who can deliver advanced materials on a truly global scale. With top-tier manufacturing, groundbreaking R&D, and seamless distribution, we will never stop exceeding their expectations.



SMARTER

We are deeply committed to ethical growth and social responsibility, particularly towards the environment and our partners. That commitment runs throughout our organization as we seek ways to make a positive impact on society.

With creative ideas and industry leading technology, Hanwha Advanced Materials is at the forefront of developing the future materials needed in the automotive, electronics, and solar energy industries.

We will continue to endeavor to achieve the impossible and maintain our unrivaled position atop the market. We are sowing the seeds of innovation to nurture a better future, and to materialize this very future into a valuable source of sustainable development.

**We Are
Materializing
Tomorrow**

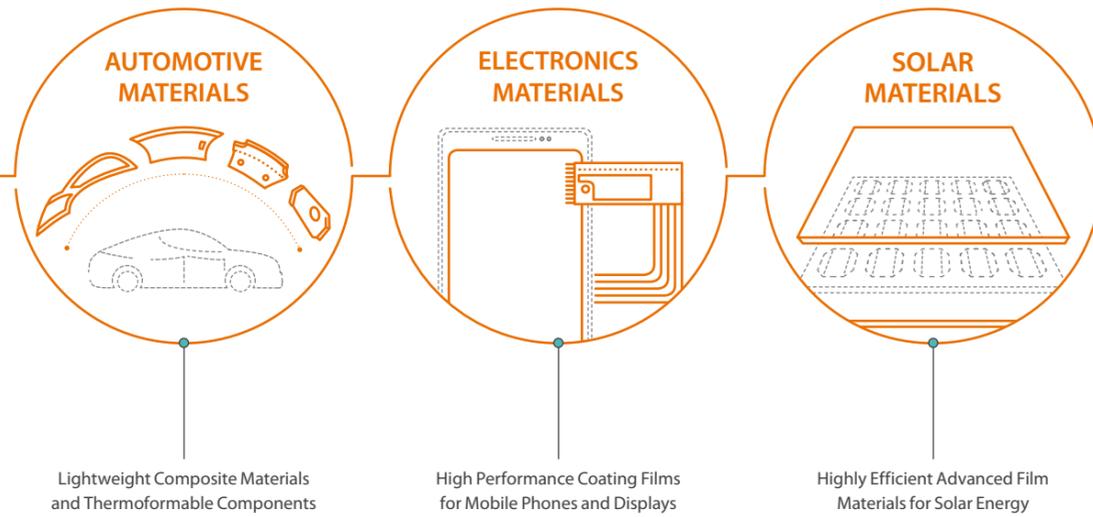
BUSINESS OVERVIEW

Growing with Our Customers

Hanwha Advanced Materials has the breakthrough technology required to produce truly cutting edge advanced materials for the automotive, electronics, and solar energy industries. We are a global firm with manufacturing to R&D operations located strategically in North America, China, and Europe, and we have a proven record of success as a trusted partner to customers around the world.

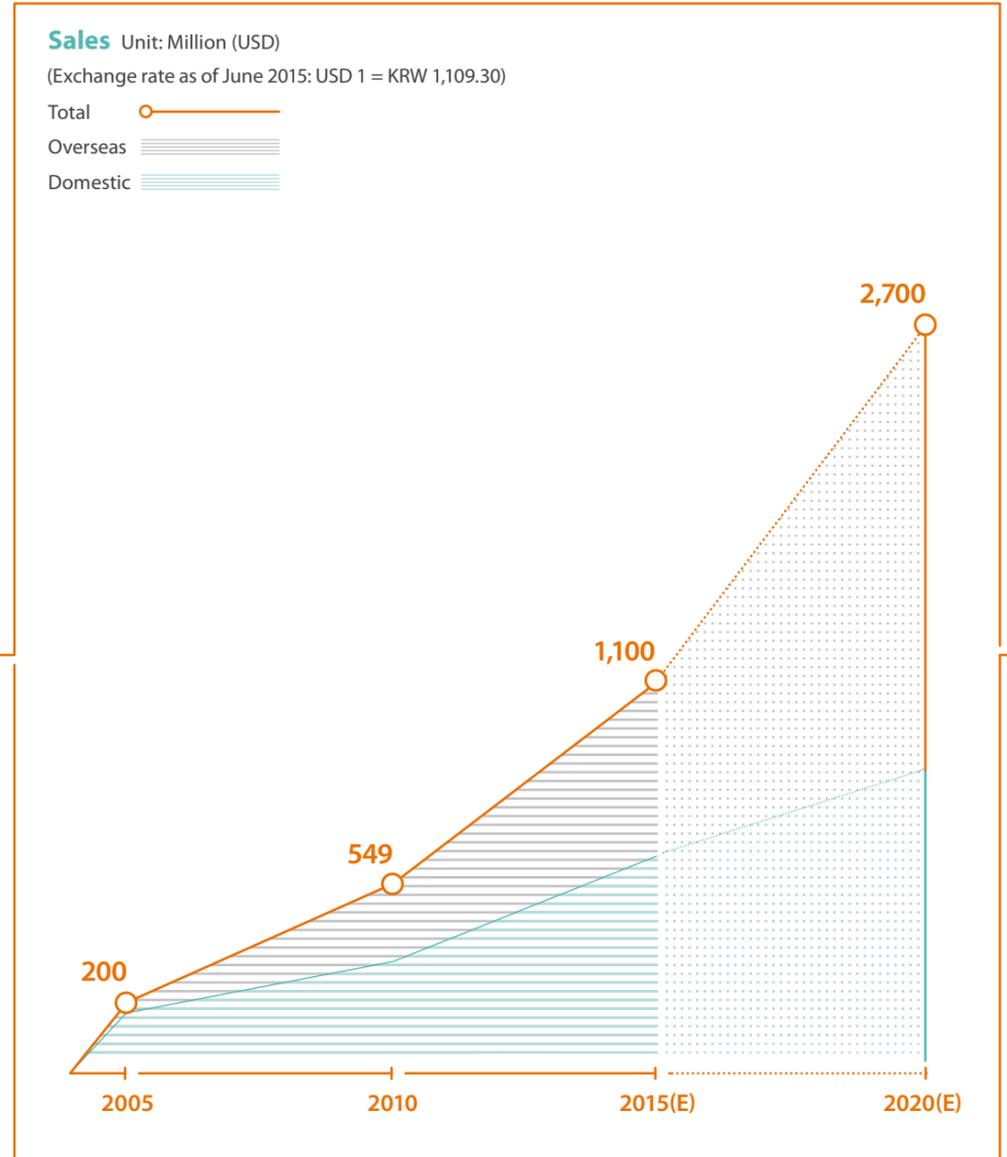
BUSINESS AREAS

Hanwha Advanced Materials is building a better and more sustainable tomorrow.



PHILOSOPHY AND CORE VALUES

Our corporate philosophy revolves around trust and loyalty, and is supported by our three core values: Challenge, Dedication, and Integrity. We trust our employees to execute our corporate vision to the best of their abilities. Our faith in them is the foundation of our competitiveness as we create a sustainable future together as a team.



Our business goal is to reach USD 2.7 billion in annual sales by 2020. We are actively expanding overseas production capacity in North America, Europe, and China to achieve this. We are also working to increase sales outside our domestic market of Korea to 60% of our total.

HISTORY & VISION

A Bold and Innovative Global Leader

Our achievements as a globally renowned advanced materials company reflect bold investments into cutting-edge materials development, backed by strategic, long-term decision making that constantly sharpens our focus and solidifies our expertise. Our overseas production facilities and networks in Europe, China, and North America are critical in our efforts to increase sales and help Hanwha Group achieve its Quality Growth 2020 vision.

BEGINNINGS AND ESTABLISHMENT

1960s-1970s

- 1965**
Founded as Korea Hwasung Plant, predecessor of Hanwha Advanced Materials and Hanwha Chemical
- 1972**
Established Korea Plastics Industry Corp.
- 1974**
Established Hanyang Chemical Holding Co., Ltd.

GROWTH AND ADVANCEMENT

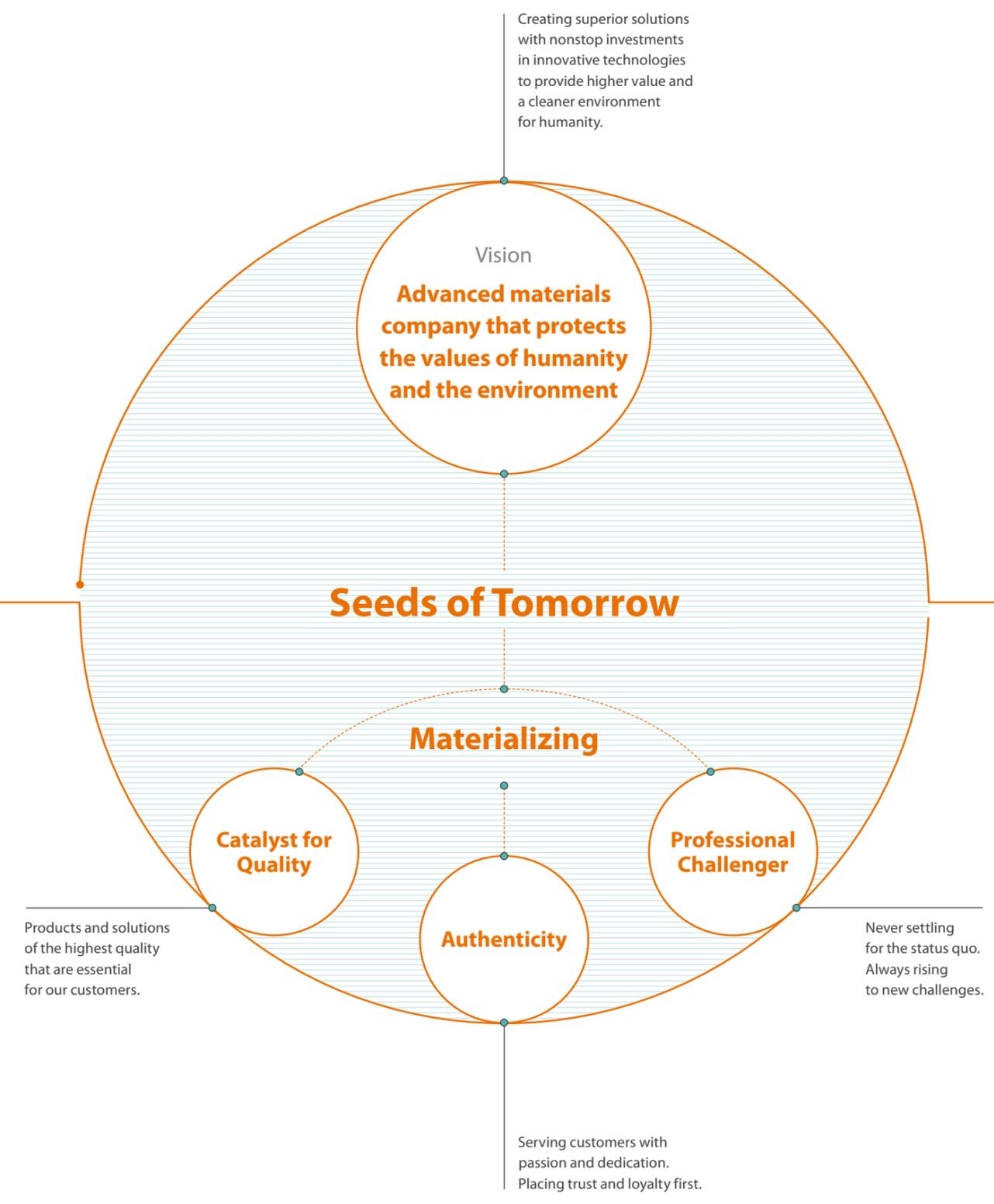
1980s-1990s

- 1988**
Merged Hanyang Chemical Holding Co., Ltd. and Korea Plastics Industry Corp.
- 1994**
Changed corporate name to Hanwha L&C Corp.
- 1999**
Divided operations at Hanwha L&C Corp., creating a new division for raw materials (Hanwha Chemical Corp.) and delegating manufacturing operations (Hanwha L&C Corp.)

CHANGE AND INNOVATION

2000s

- 2004**
Built automotive materials plant in Beijing, China
- 2006**
Built automotive parts and materials production facilities in Alabama, U.S.
- 2006**
Built automotive parts and materials plant in Shanghai, China
- 2007**
Acquired U.S.-based Azdel
- 2009**
Built automotive parts and materials plant in Ostrava, Czech Republic
- 2010**
Began solar materials business
- 2013**
Began commercial production of ITO film, a core material for touch screen panels
- 2014**
Changed corporate name to Hanwha Advanced Materials Co., Ltd. after selling the construction materials business
- 2015**
Acquired German automotive parts company Heycooustics



BUSINESS PORTFOLIO

Top-tier Quality, Top-tier Solutions

Staying a step ahead means preparing new technology capable of setting future trends. We always anticipate demand for new products and services, and pride ourselves on going beyond what customers are looking for today. This is the bedrock of our ability to provide top-tier products and solutions that serve customer needs.

1 AUTOMOTIVE MATERIALS BUSINESS

LIGHTWEIGHT COMPOSITE MATERIALS AND THERMOFORMABLE COMPONENTS

Hanwha Advanced Materials began making automotive materials in 1986, producing a variety of lightweight products for both interior and exterior finishings. In the three decades since, we have developed specialized technologies in the strong and lightweight auto parts segment, manufacturing various lightweight materials such as Glass Fiber Mat Reinforced Thermoplastics (GMT), Lightweight Reinforced Thermoplastics (LWRT), Expanded Polypropylene (EPP), Sheet Molding Compound (SMC), and Long Fiber Reinforced Thermoplastics (LFT). Our StrongLite (GMT) and SuperLite (LWRT) products are the leading lightweight automotive composite materials worldwide with the largest market share.

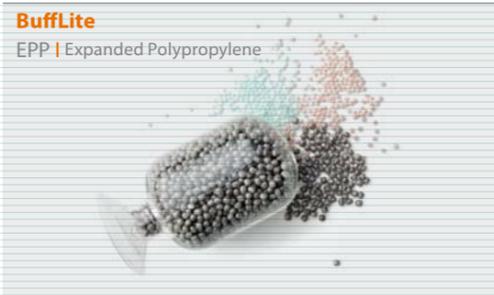
StrongLite
GMT | Glass Fiber Mat Reinforced Thermoplastics



SuperLite
LWRT | Lightweight Reinforced Thermoplastics



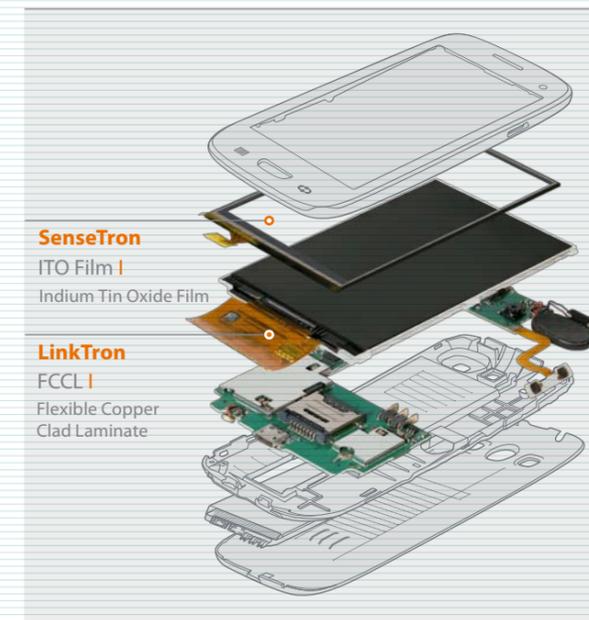
BuffLite
EPP | Expanded Polypropylene



2 ELECTRONICS MATERIALS BUSINESS

HIGH PERFORMANCE COATING FILMS FOR MOBILE PHONES AND DISPLAYS

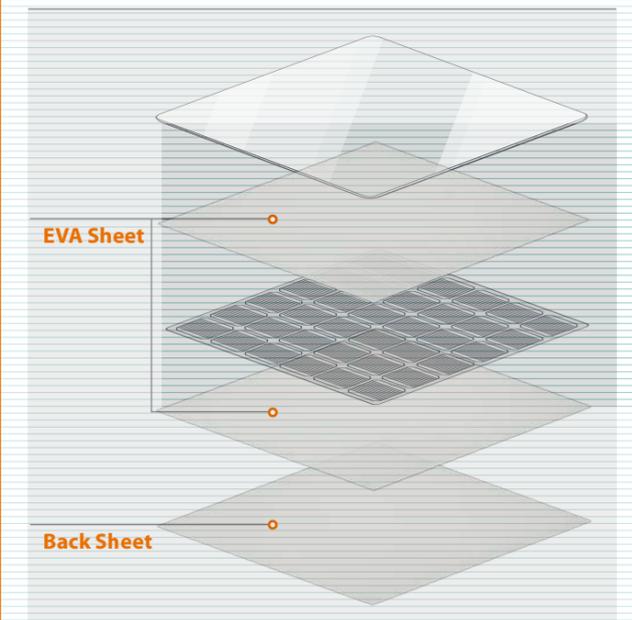
We took our first steps in the electronics materials segment with LinkTron (Flexible Copper Clad Laminate) in 2003. Making FCCL materials in the country played a significant role in strengthening Korea's electronics industry. We also manufacture SenseTron (Indium Tin Oxide Film), the world's preeminent coating technology for touch screen panel producers.



3 SOLAR MATERIALS BUSINESS

HIGHLY EFFICIENT ADVANCED SOLAR ENERGY FILMS

We have 30 plus years' experience with sheet technology, manufacturing and distributing EVA sheets and back sheets for solar modules. Back sheets are critical for extending the lifespan of solar modules and enhancing their output. We have a diverse lineup of strong and highly functional products that have been received well by major solar module companies around the world.



We Are Materializing Networks

13

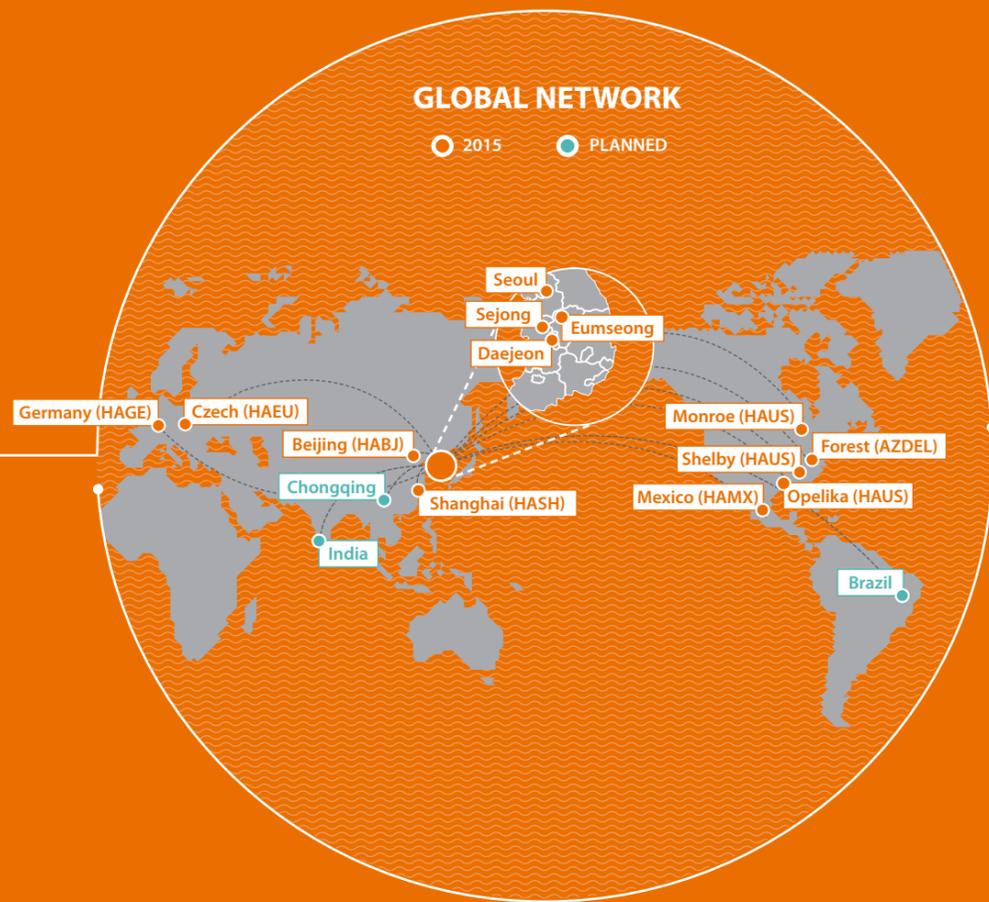
As a global automotive parts and materials manufacturer, we continue to expand our network and enhance our ability to respond to customer demand for parts standardization and worldwide sourcing. We currently operate manufacturing facilities in Alabama and Virginia in the United States, Mexico, the Czech Republic and Germany in Europe, and Beijing and Shanghai in China.

go global

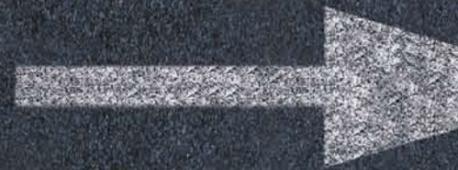
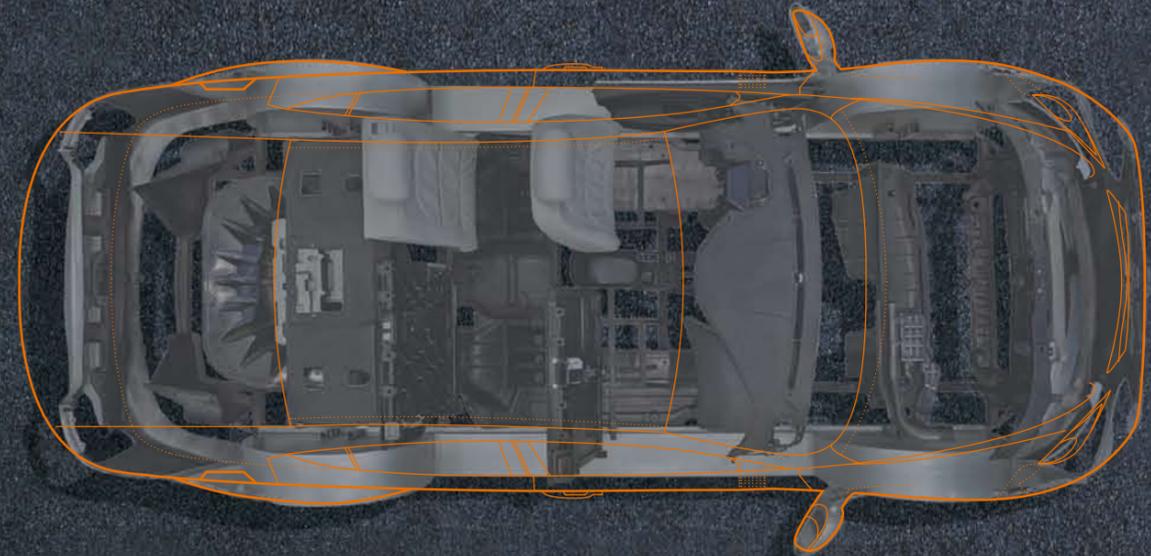


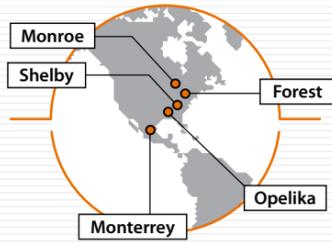
We Are Materializing Networks

Wider, Closer



As a global automotive parts and materials manufacturer, we continue to expand our network and enhance our ability to respond to customer demand for parts standardization and worldwide sourcing. We currently operate manufacturing facilities in Alabama and Virginia in the United States, Mexico, the Czech Republic and Germany in Europe, and Beijing and Shanghai in China.





NETWORK IN AMERICA

We opened our first automotive component materials plant in the United States in Alabama in 2006, and acquired Azdel, a global leader of LWRT materials, in 2007. In 2014, we built an EPP manufacturing facility in Michigan. We also established a subsidiary in Mexico in 2015 to tap into their quickly growing auto market, and expand our reach into South America. We see long-term growth potential for automotive materials with strong environmental credentials in American markets, and we will grow market share with enhanced lightweight composite materials and component thermoforming technology.

Hanwha Advanced Materials America

ESTABLISHED 2006

LOCATIONS Opelika, Alabama /
Shelby, North Carolina / Monroe, Michigan

MATERIALS MANUFACTURED StrongLite (GMT),
BuffLite (EPP)

PARTS MANUFACTURED Bumper beams,
seat back rests, undercovers, battery trays,
seat cushion panels

Hanwha AZDEL

ESTABLISHED 1972 (Acquired in 2007)

LOCATION Forest, Virginia

MATERIALS MANUFACTURED SuperLite (LWRT)

APPLICATIONS Headliners, door trims,
seat back covers, engine covers, trunk side trims,
pillar trims

Hanwha Advanced Materials Mexico

ESTABLISHED 2015

LOCATION Monterrey, Mexico

MATERIALS MANUFACTURED StrongLite (GMT),
SuperLite (LWRT), BuffLite (EPP)

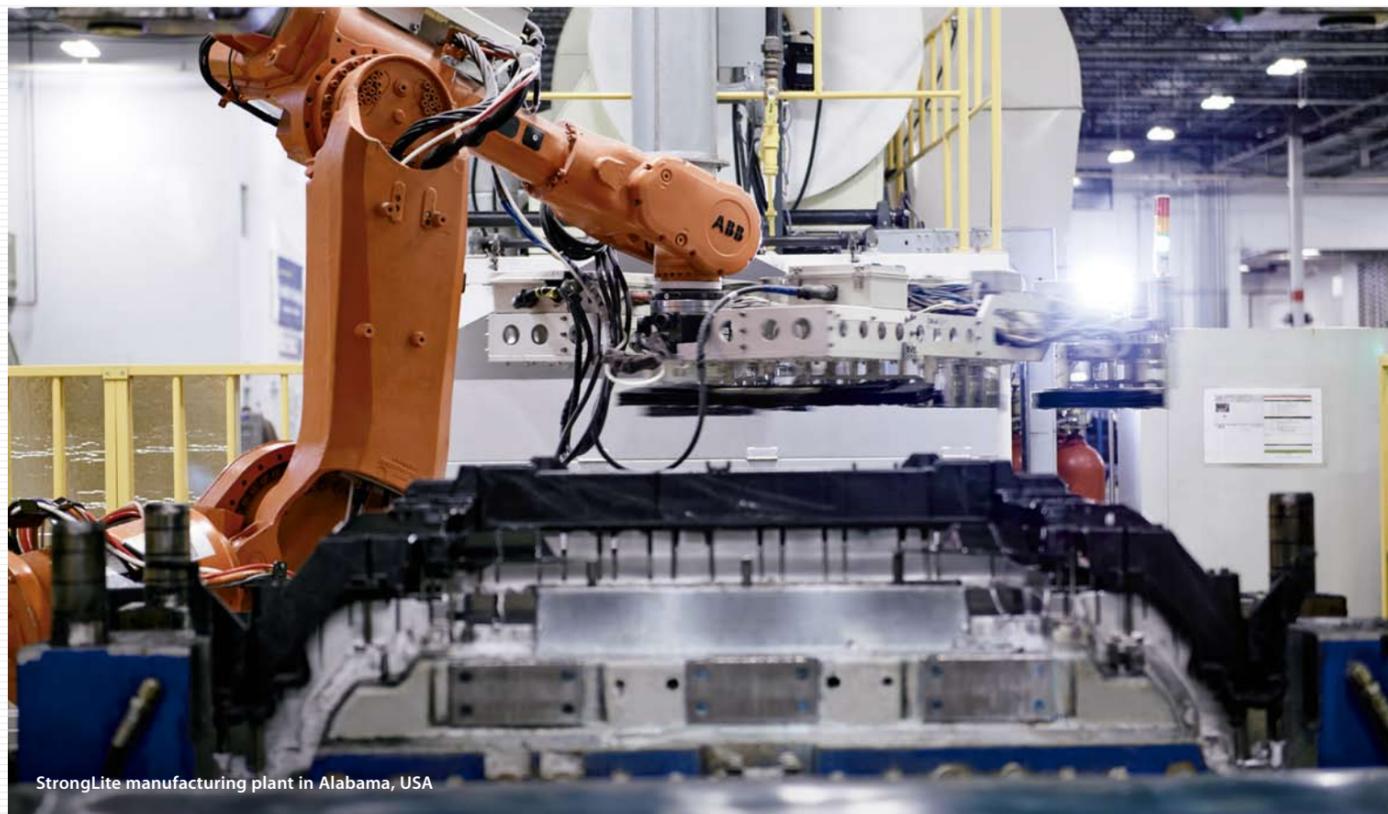
PARTS MANUFACTURED Bumper beams,
package trays, headliners, tool cases



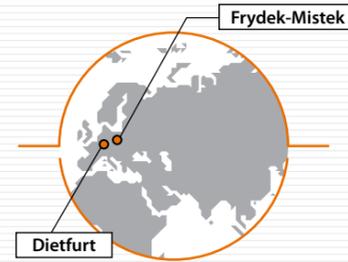
StrongLite production plant in Alabama, USA



SuperLite manufacturing plant in Alabama, USA



StrongLite manufacturing plant in Alabama, USA

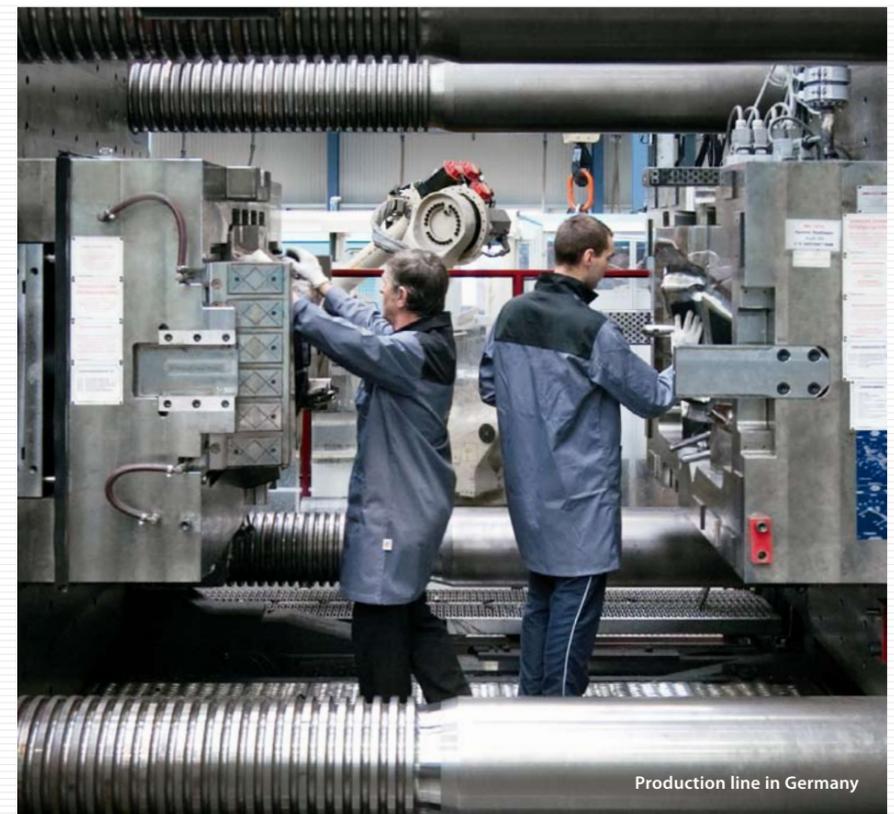


NETWORK IN EUROPE

Hanwha Advanced Materials made its first foray into Europe with the construction of an automotive materials plant in the Czech Republic in 2009. We continue to maintain close partnerships with automakers in Europe and, in 2015, we acquired Heycoustics, a German automotive component manufacturer specializing in thermoforming. We renamed it Hanwha Advanced Materials Germany, and it has already bolstered our European operations in terms of production, research and development, and overall sales.



View of Plant in Frydek-Mistek, Czech Republic



Production line in Germany

Hanwha Advanced Materials Europe

ESTABLISHED 2009

LOCATION Frydek-Mistek, Czech Republic

MATERIALS MANUFACTURED StrongLite (GMT), BuffLite (EPP)

PARTS MANUFACTURED Bumper beams, seat back rests, undercovers, bumper impact resistance cores

Hanwha Advanced Materials Germany

ESTABLISHED 1992 (Acquired in 2015)

LOCATION Dietfurt, Germany

PARTS MANUFACTURED Wheel arch liners, underbody shields



NETWORK IN CHINA

Hanwha Advanced Materials began to tap into the growth potential of China's automobile market with the establishment of automotive component plants in Beijing (2004) and Shanghai (2006). Our Chinese subsidiaries manufacture various lightweight composite materials and components, including GMT, EPP, LWRT, and LFT, and count both major Chinese and global automakers as clientele. We also maintain sales offices for solar and electronics materials in Shanghai and Shenzhen.

We are putting our top-tier, innovative technologies to use to expand client partnerships, and we continue to anticipate and meet customer needs by strengthening our manufacturing capacity.

Hanwha Advanced Materials Beijing Plant

ESTABLISHED 2004

LOCATION Beijing

MATERIALS MANUFACTURED StrongLite (GMT),
BuffLite (EPP)

PARTS MANUFACTURED Bumper beams,
undercovers, bumper impact resistant cores

Hanwha Advanced Materials Shanghai Plant

ESTABLISHED 2006

LOCATION Shanghai

MATERIALS MANUFACTURED StrongLite (GMT),
BuffLite (EPP)

PARTS MANUFACTURED Bumper beams,
undercovers, bumper impact resistant cores



View of plant in Shanghai, China



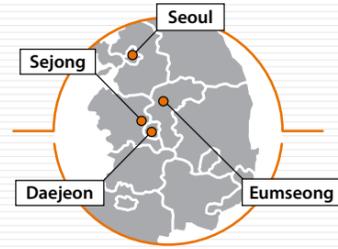
StrongLite production line in Shanghai, China



BuffLite manufacturing facility in Shanghai, China



StrongLite manufacturing facility in Shanghai, China



NETWORK IN KOREA

Our Korean headquarters is our primary production base, playing a crucial role in technology development and expanding contact points with customers. Our Sejong plant manufactures lightweight composites for automotive and electronics materials, while our Eumseong plant manufactures electronics materials and solar materials. We also maintain an R&D-based lightweight materials development center in Korea, giving us a strong foundation on which to expand our business and focus on our strengths as we continue to grow as a global and cutting edge advanced materials company.

Sejong Plant

ESTABLISHED 1966
(Moved headquarters to Sejong in 2014)

LOCATION Sejong City, South Korea

MATERIALS MANUFACTURED StrongLite (GMT, LFT), SuperLite (LWRT), BuffLite (EPP), LinkTron (FCCL), SMC

PARTS MANUFACTURED Bumper beams, seat frames, underbody shields, headliners, tool boxes, energy absorbers, battery cases, flexible printed circuit board

Eumseong Plant

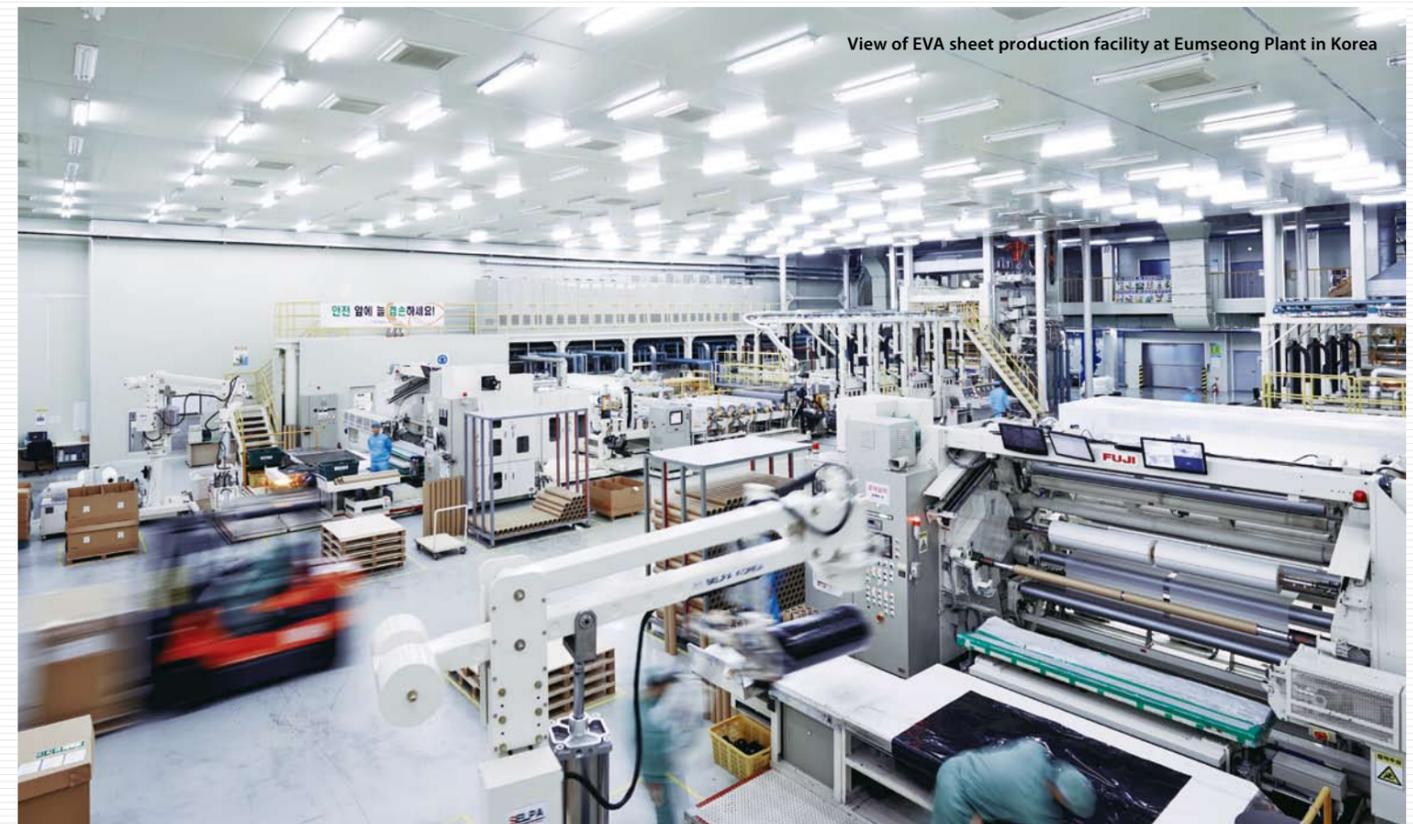
ESTABLISHED 2010
LOCATION Eumseong County, South Korea
MATERIALS MANUFACTURED EVA sheets, back sheets, SenseTron (ITO Film)



StrongLite production line at Sejong Plant in Korea



SenseTron production facility at Eumseong Plant in Korea



View of EVA sheet production facility at Eumseong Plant in Korea

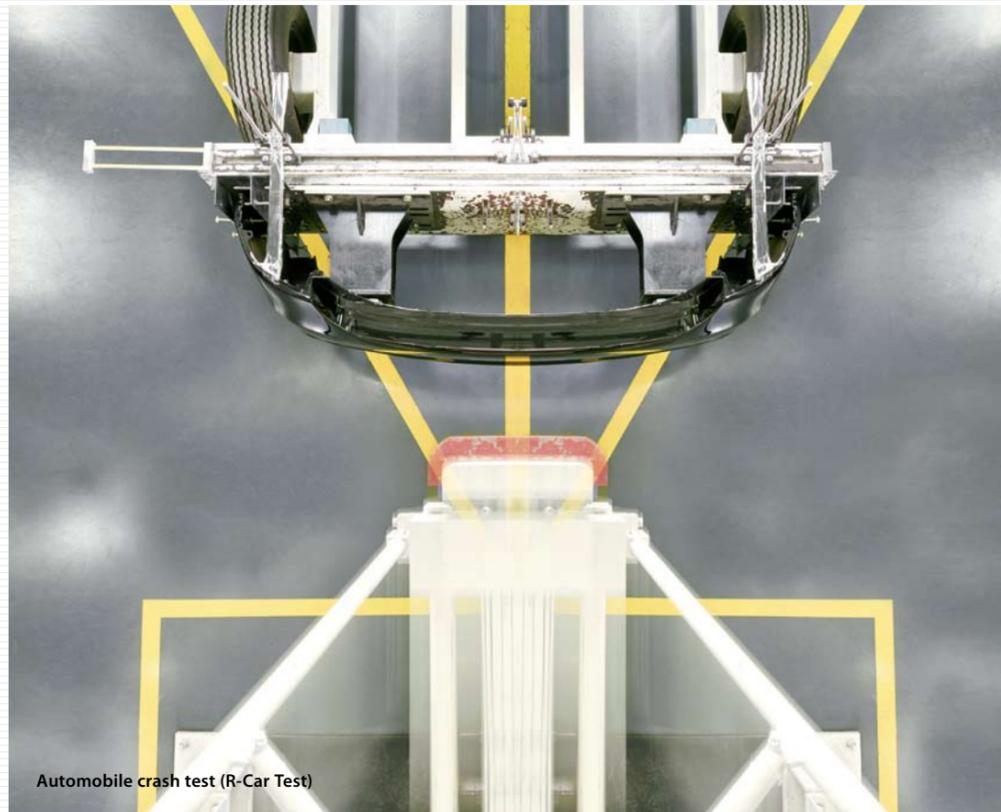
RESEARCH & DEVELOPMENT

Innovation for a Brighter Tomorrow

Many of the leading advanced materials technologies we have developed over the past three decades can be found all around us, from lighter cars and ever more convenient digital devices, to highly efficient solar energy sources. We are constantly developing and acquiring unique and innovative technologies that can strengthen the competitiveness of the three key industry segments we focus on, automotive, electronics, and solar. We are expanding our business lines by diversifying into lightweight composite materials and developing more advanced thermo-forming technologies. We are also developing more sophisticated coating technologies that will move the market forward.

WINNING PERFORMANCE_ WORLD RENOWNED CUTTING-EDGE TECHNOLOGY

Hanwha Advanced Materials has specialized technology for strong and lightweight automotive component materials. We prioritize new product development and quality enhancement, and many of our products have received industry recognition for outstanding quality. For example, our Automotive Hybrid Type Front Bumper Beam Development Technology (2014) and our Manufacturing Technology of Thermoplastic Aramid Prepreg for Lightweight Car Bumper Beams (2014), which were co-developed with Hyundai Motors Company, have both received the New Excellent Technology award from the Korean Ministry of Trade, Industry and Energy. We also received a 2014 Society of Plastics Engineers Automotive Innovation Award for our seat backs.



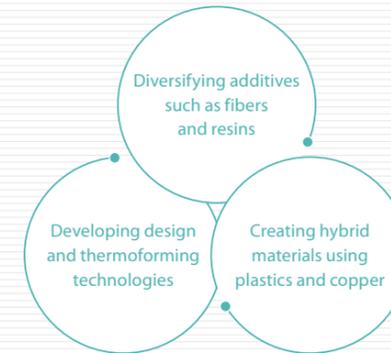
Automobile crash test (R-Car Test)

PRIMARY LIGHTWEIGHT COMPOSITE MATERIALS RESEARCH

Our Lightweight Composite Materials Development Center is securing new technologies and helping to maintain our leadership for industrial thermoplastics and thermosetting composite materials.

Vision

We are developing game-changing advanced materials for lightweight auto parts and electronics. Our researchers are working on three areas:



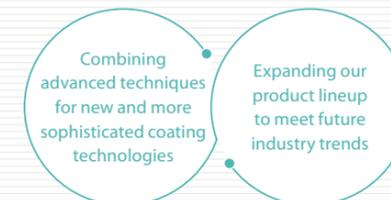
Research on high performance films for mobiles and displays

PRIMARY COATING AND FILM MATERIALS RESEARCH

Our High Performance Film Center and Printed Electronics Technology Center are developing advanced materials for our solar and electronics product lineups. We are also researching materials with potential downstream utilization in the recent IoT trend, as well as for fifth generation mobile communications devices and solar energy.

Vision

We are securing a platform of core technologies, identifying and developing functional products that can be commercialized to lead new trends in their respective market segments. Researchers at the center are working on two key areas:



EVA sheet quality control test

We Are Materializing Solutions

25

New innovations push the frontiers, helping us make lighter and safer automobiles, smarter and more convenient electronics, and more intelligent and efficient energy solutions. We are committed to protect the values of humanity and the environment, and we seek to provide products of utmost quality and state-of-the-art R&D solutions.

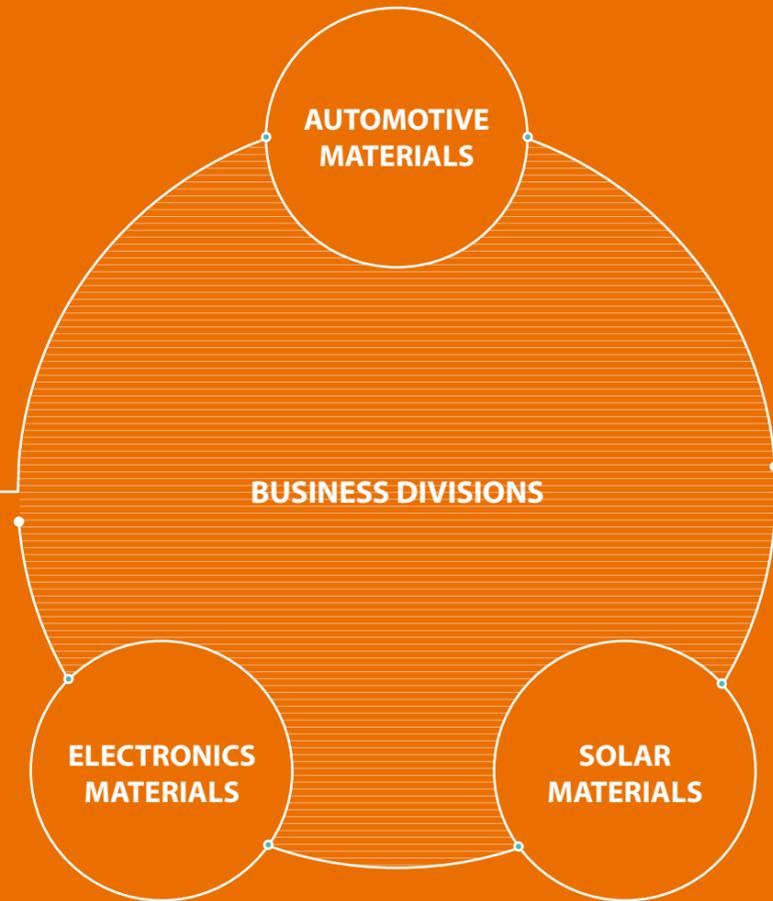


AUTOMOTIVE
MATERIALS



We Are Materializing Solutions

Lighter, Stronger



25

New innovations push the frontiers, helping us make lighter and safer automobiles, smarter and more convenient electronics, and more intelligent and efficient energy solutions. We are committed to protect the values of humanity and the environment, and we seek to provide products of utmost quality and state-of-the-art R&D solutions.



ELECTRONICS
MATERIALS

AUTOMOTIVE MATERIALS

StrongLite

GMT | Glass Fiber Mat Reinforced Thermoplastics
LFT | Long Fiber Reinforced Thermoplastics
CFRTPC | Continuous Fiber Reinforced Thermoplastics

SuperLite

LWRT | Lightweight Reinforced Thermoplastics

BuffLite

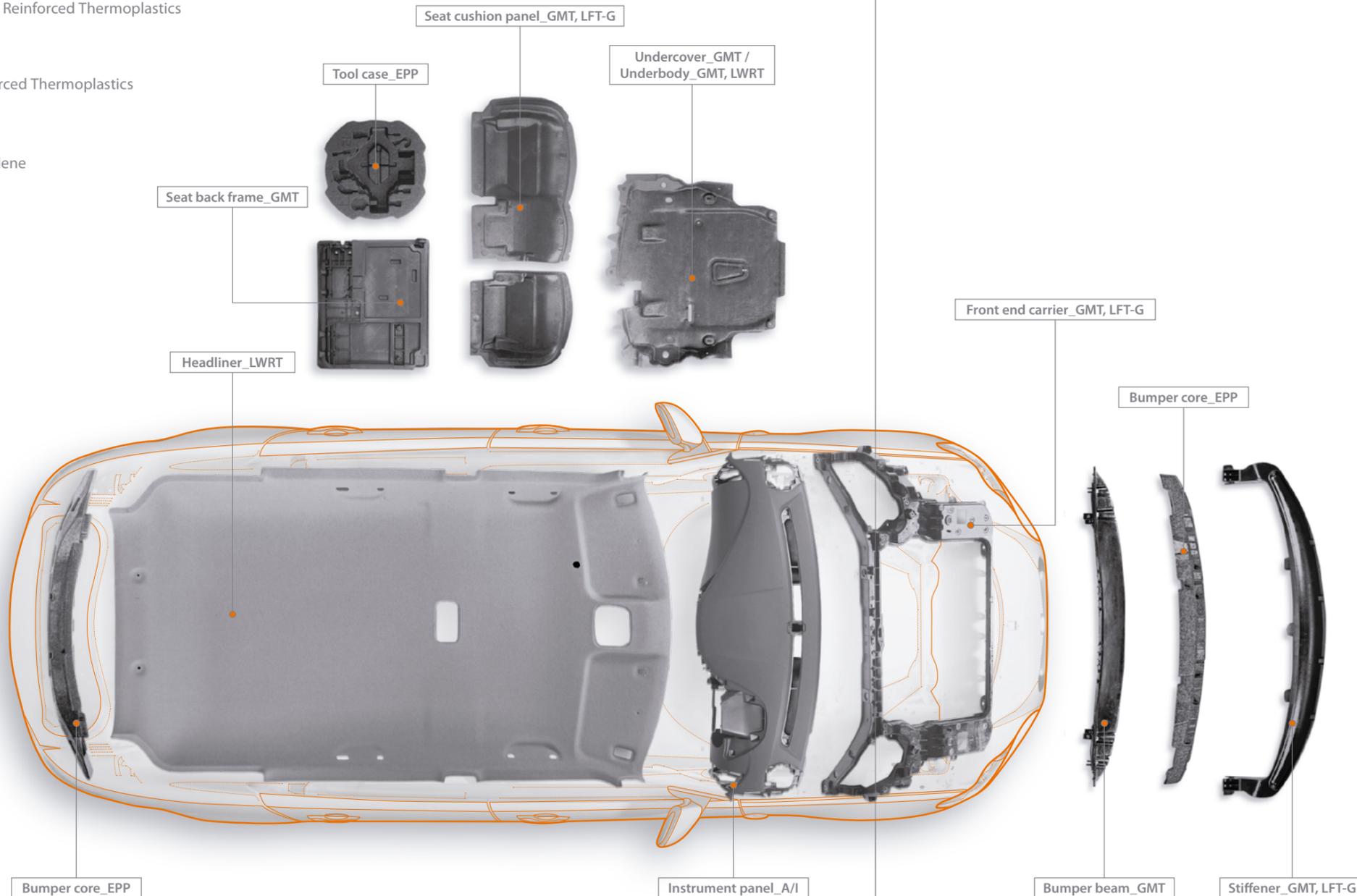
EPP | Expanded Polypropylene

IntermLite

Auto Interior

SMC

Sheet Molding Compound



Bumper beam

We have collaborated with a major Korean automaker over the past three years to co-develop the world's first hybrid bumper beam, which has since become highly regarded for its lightness and safety.



Wheel arch liner

The wheel arch liners manufactured at our operations in Germany reduce noise superbly.



The global automobile industry moves quickly, and we are working just as fast to stay a step ahead of current trends. New fuel-efficiency regulations have pushed the industry towards lighter cars, and that is driving stronger competition in the advanced materials industry. There has also been increased demand for ever more sophisticated automotive electronics, and we are working tirelessly to achieve our vision of being the number one lightweight automotive composite materials company in the world.

We have introduced an array of lightweight composite parts and materials since entering the automotive parts and materials business in 1986, and we are leading the fast-paced industry's trends with our specialized technology in the strong and lightweight parts and materials segments. Our product lineup includes: GMT, LWRT, EPP, SMC, and LFT. In particular, our StrongLite (GMT) and SuperLite (LWRT) products are recognized throughout the industry for their advanced technology and high quality. We are the current market share leader.

Our work is distinguished by our ability to design and analyze parts. We collaborate closely with major automakers worldwide to make cars lighter with better designs for thermoforming components. Two examples include the Automotive Hybrid Type Front Bumper Beam Development Technology, and Manufacturing Technology of Thermoplastic Aramid Prepreg for Lightweight Car Bumper Beams, both of which were developed in concert with Hyundai Motor Company and later certified by the Korean Ministry of Trade, Industry and Energy. In addition, Hanwha Advanced Materials has built production bases in major markets around the world, with a strong network of subsidiaries linking the United States, China, Europe, and Mexico. This global production system gives us the scale and localization needed to grow while also affording us the capacity to respond to the diverse requirements of our customers for standardization and localized sourcing.

1

Hanwha Advanced Materials America StrongLite Manufacturing Facility

Hanwha Advanced Materials has four production bases in the United States to leverage the country's significance in the global automotive supply chain. Utilizing automated manufacturing equipment, we manufacture high quality lightweight composite materials and auto parts to meet global demand.

2

Sejong Plant in Korea SuperLite Manufacturing Facility

Our Sejong Plant in Korea handles every aspect of the production process, from manufacturing raw materials, to product development, and thermal formation. It is a key export platform to reach markets around Asia and expand sales of our industry-leading SuperLite product.



Hanwha Advanced Materials Germany

Hanwha Advanced Materials Germany was established in 2015. Our operations there provide industry leadership with noise absorbing wheel arch liners and lightweight underbody shields that enhance fuel efficiency.

StrongLite

StrongLite currently holds 70% of the global market share for GMTs. Utilizing composite materials in sheet form, it bonds well and has strength levels comparable to steel but with 20-25% less mass.

70%
of Global Market Share

SuperLite

SuperLite is a strong and lightweight composite material with excellent noise reduction and impact absorption. It holds the top market share globally among LWRT products.

No.1
in Global Market Share

BuffLite

BuffLite has excellent impact resilience, flexibility, and a high resistance to chemical solvents. It is used primarily for automotive parts and packaging, and is prized for its low environmental impact.

No.3
in Global Market Share

StrongLite | GMT | Glass Fiber Mat Reinforced Thermoplastics

Mass production of StrongLite began in 1995, and it has become highly regarded for its advanced technological properties and quality. Since 2009, StrongLite has held 70% of the global market share for GMTs. It comprises sheet form lightweight composites, and is produced using a polypropylene matrix reinforced by glass fiber mat. It binds exceptionally well and is comparable in strength to steel, but with 20-25% less mass. Our GMTs accommodate complex design features while providing significant impact resistance. They are easy to assemble and reprocess, and are prized for their strength and lightweight nature, making them the perfect structural component to replace steel and reduce mass. Common end products include: undercovers protecting the bottom of the automobile, tough plastic bumpers, and seat back frames. GMT undercovers are also effective in reducing road noise.

SuperLite | LWRT | Lightweight Reinforced Thermoplastics

SuperLite is a composite sheet material thermoformed at low pressure. It also leads its market segment with cutting-edge quality. LWRT has outstanding strength relative to its mass, and also possesses noise absorbing and trimming qualities that allow it to be widely applied in various products. It can also be used for headliners, sun visors, and underbodies for convertibles and RVs, and is a common underbody component for sedans and SUVs, adding both protection and exterior design finesse while also utilizing smoother aerodynamics to enhance fuel efficiency.

BuffLite | EPP | Expanded Polypropylene

BuffLite is a lightweight material made by creating foam out of polypropylene. One of its strongest virtues is that it is environmentally friendly. It also possesses excellent flexibility and chemical resistance, and is often used in bumpers and tool cases. It is increasingly being used as an alternative for Expandable Polystyrene. Hanwha Advanced Materials entered the EPP market in 1990, manufacturing products in the United States, Europe, China and Korea. The foam has significant stiffness and is suitable for creating lightweight products. It is also perfect for digital device packages that require antistatic agents.

IntermLite | Auto Interior

Hanwha Advanced Materials was the first company in Korea to manufacture PVC, and we are the only Korean manufacturer of Powder Slush Molding Compound used for auto interiors. We are also diversifying into high quality sheet-form materials to satisfy modern requirements for contemporary car designs, and environmentally friendly Thermoplastic Polyolefin and Thermoplastic Polyurethane for intricate designs.

ELECTRONICS MATERIALS

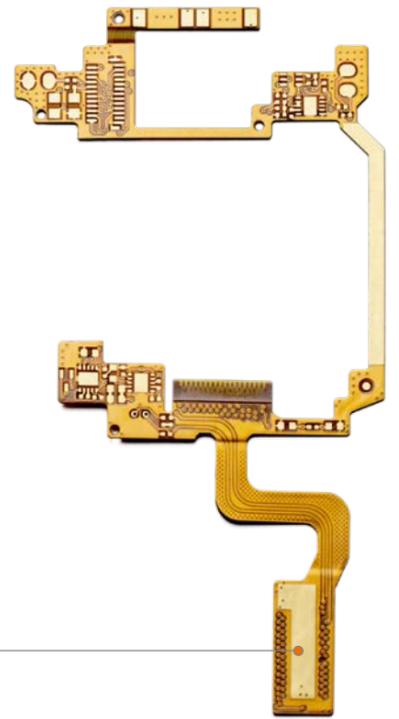
LinkTron

FCCL | Flexible Copper Clad Laminate

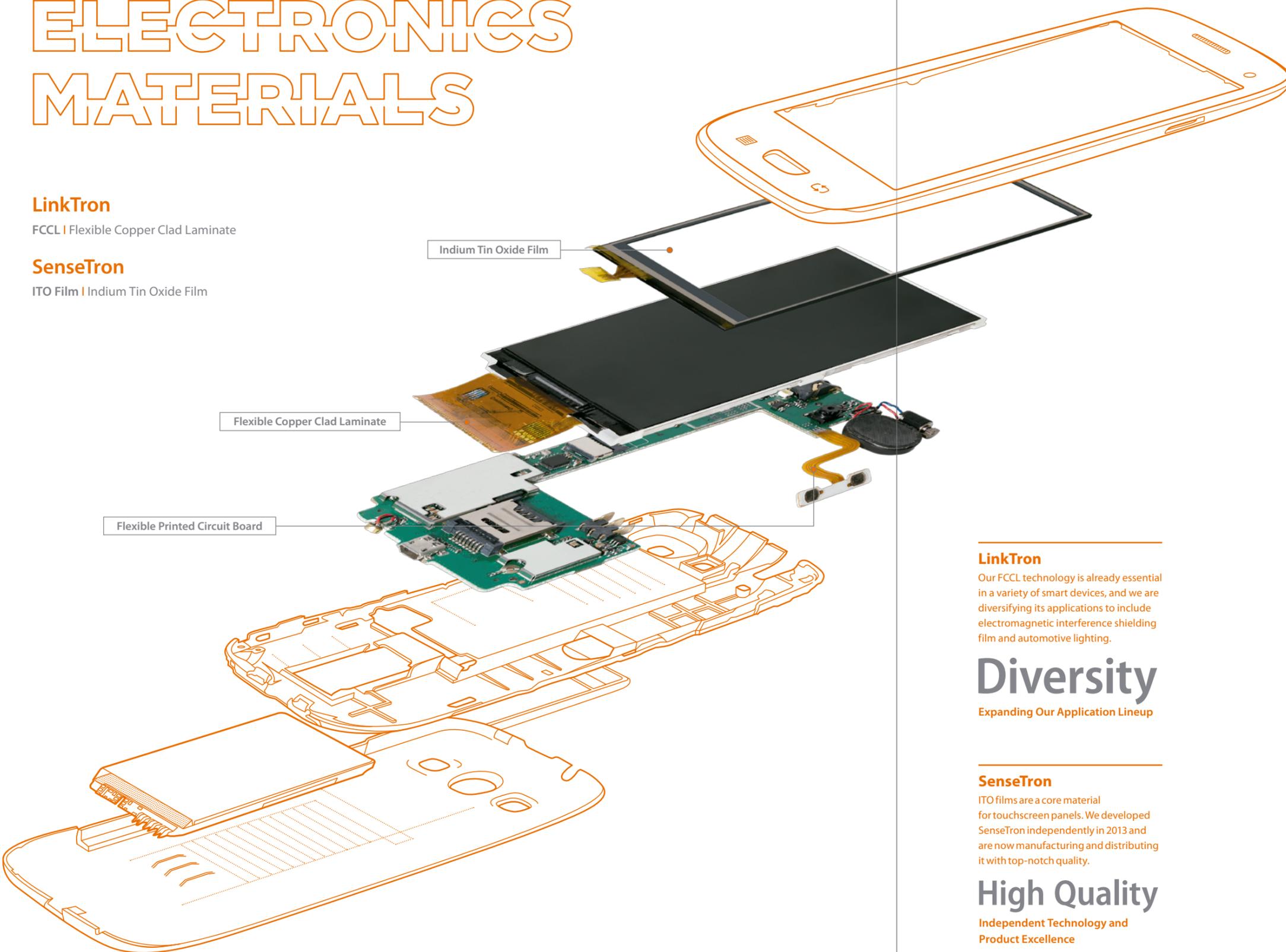
SenseTron

ITO Film | Indium Tin Oxide Film

31



LinkTron



LinkTron

Our FCCL technology is already essential in a variety of smart devices, and we are diversifying its applications to include electromagnetic interference shielding film and automotive lighting.

Diversity

Expanding Our Application Lineup

SenseTron

ITO films are a core material for touchscreen panels. We developed SenseTron independently in 2013 and are now manufacturing and distributing it with top-notch quality.

High Quality

Independent Technology and Product Excellence

Hanwha Advanced Materials began making advanced materials for electronic circuits in 2003. A decade later, we began manufacturing FCCL and ITO films for touch screen panels. There is synergy between these business lines and our auto parts business, and we are working to leverage that as the demand for highly advanced automotive electronics increases.

We have a competitive edge in the market for high-performance films and coatings and are manufacturing advanced materials for ITO film used in touch screens and circuitry. Products include coverlay film, FCCL, bonding sheet, and EMI shield film.

Our LinkTron (FCCL) product is widely used for circuit materials and is a core component in complex electronic devices such as smartphones and tablet PCs. Its use is also being expanded to other advanced applications, including Flexible Printed Circuit Boards (FPCBs), sub PBA, camera modules and touch screen panels. FPCBs in particular comprise the primary components in the latest smartphones, such as the liquid crystal display. We are working to strengthen our high-performance product range with ion resistance, low permittivity coverlay films, and electromagnetic interference shielding films, and will expand our business further into the global electronics market by targeting the increasingly advanced electronics used in autos and lighting. SenseTron (ITO Film) was our first product in the touch screen materials market, and was developed using the world's leading dry coating technology.

1

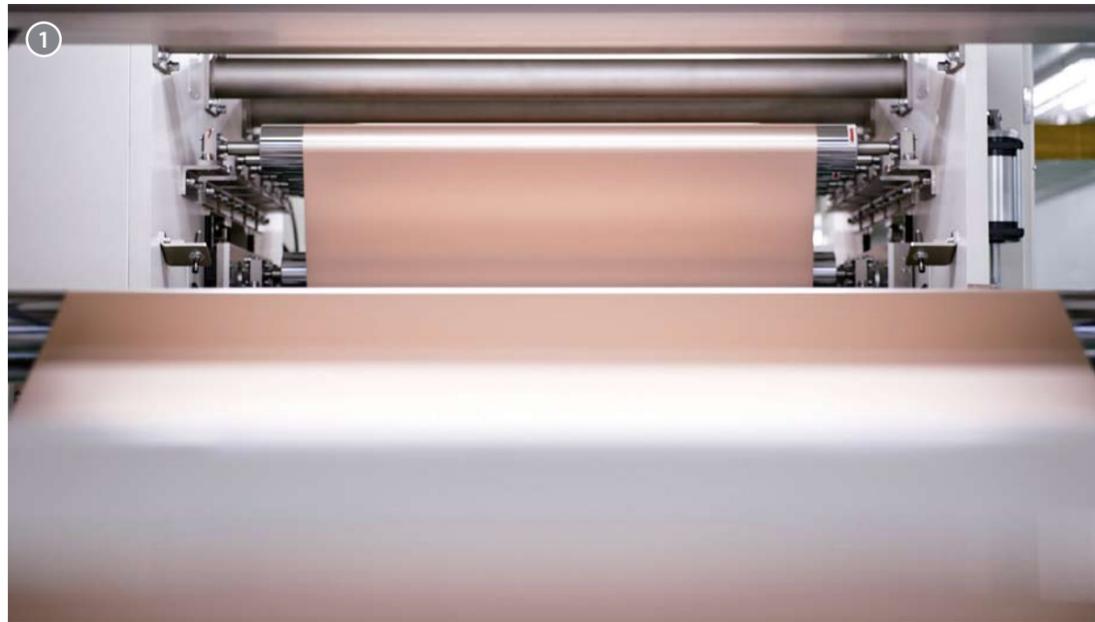
Sejong Plant in Korea LinkTron Manufacturing Facility

LinkTron products manufactured in our Sejong Plant are used in highly sophisticated electronics, IT devices, and in circuit materials used in automotive electronics.

2

Eumseong Plant in Korea SenseTron Manufacturing Facility

We manufacture SenseTron (ITO Film) products in a highly sterile cleanroom environment.



Quality Management with Global Standards

We employ only the highest global standards throughout our carefully managed manufacturing processes.

LinkTron | FCCL | Flexible Copper Clad Laminate

Hanwha Advanced Materials independently developed its LinkTron products in 2003. As a core component material used in intricate electronic devices such as smartphones and tablet PCs, LinkTron (FCCL) is also a main material used in FPCB, which is crucial for digital devices that require advanced materials that boast a range of hard-to-produce qualities, such as lightness, high density, flexibility, and repeatability. LinkTron boasts superb workability, with unparalleled heat and chemical resistance, and flexibility. LinkTron products are competitively priced and lead their respective market segments.

SenseTron | ITO Film | Indium Tin Oxide Film

Since we began producing ITO film in 2013, we have continued to expand our market share with SenseTron (ITO Film), matching current digital device trends with new technologies and positioning ourselves as a reliable partner for digital innovation.

EMI Shield Film | Electromagnetic Interference Shielding Film

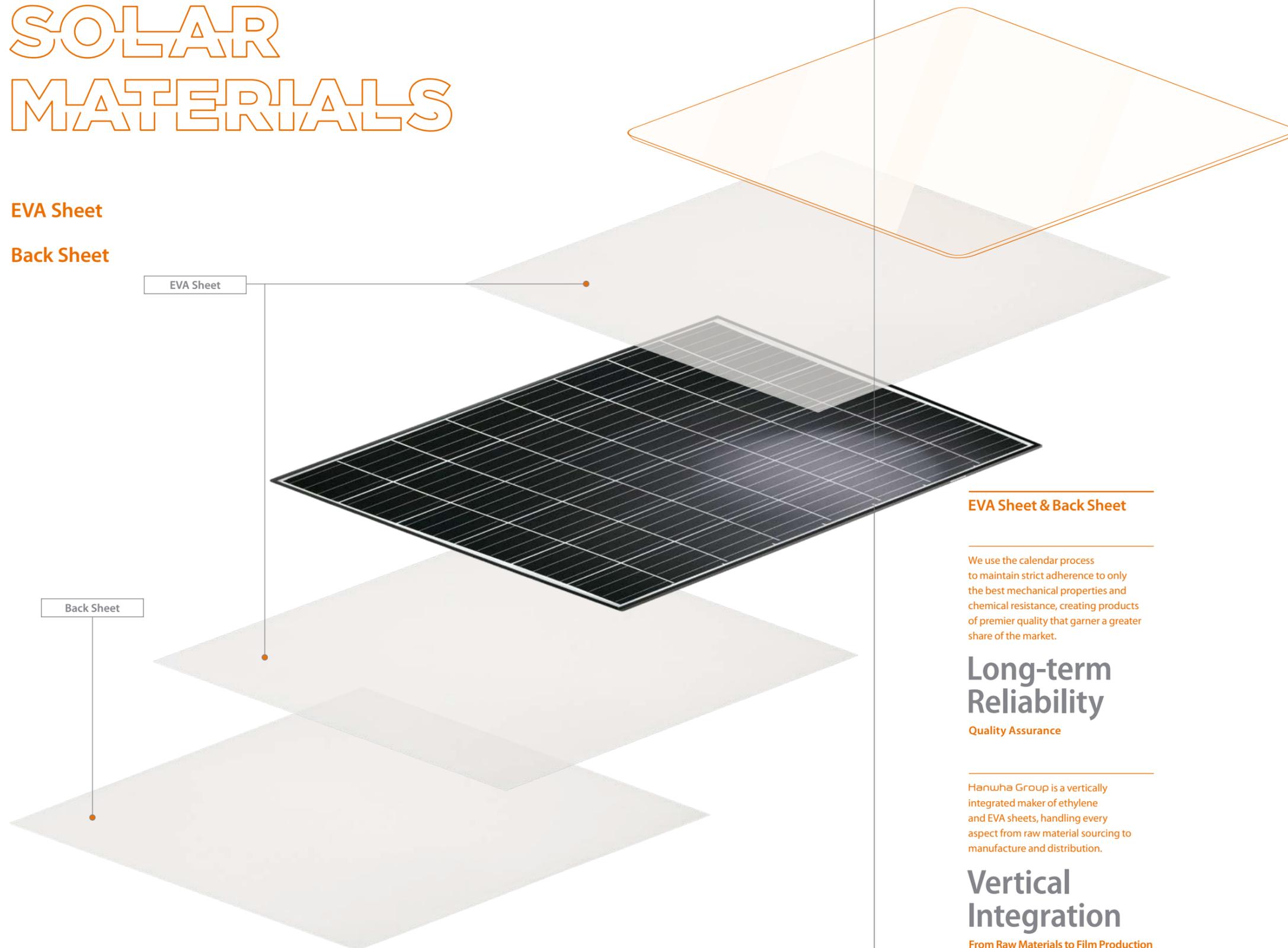
EMI shield film secures signal delivery throughout the component and prevents errors by blocking electromagnetic waves from signals in camera modules or micro pattern sections. We are the only mass producer of EMI shield films in Korea.



SOLAR MATERIALS

EVA Sheet

Back Sheet



EVA Sheet

Back Sheet

EVA Sheet & Back Sheet

We use the calendar process to maintain strict adherence to only the best mechanical properties and chemical resistance, creating products of premier quality that garner a greater share of the market.

Long-term Reliability

Quality Assurance

Hanwha Group is a vertically integrated maker of ethylene and EVA sheets, handling every aspect from raw material sourcing to manufacture and distribution.

Vertical Integration

From Raw Materials to Film Production

EVA Sheet

Back Sheet



Leveraging more than three decades of sheet manufacturing experience, Hanwha Advanced Materials independently developed and now manufactures EVA sheets and back sheets used for solar modules.

Solar energy is the world's leading source of renewable energy. In 2010, we successfully produced and commercialized our PV encapsulants and developed a production base at our Eumseong Plant. We are in the process of building a facility with a PV encapsulant manufacturing capacity of 3.5GW, and will expand our solar business in China, Europe, the United States, and Japan.

EVA Sheet

To ensure a high degree of durability, with a lifespan of 25 years or more, EVA sheets require high quality raw material inputs matched by the most advanced manufacturing technology available. Our EVA sheets are made with a stable supply of top quality raw materials using the highly regarded calendar process. They are recognized worldwide for their operational excellence.

Back Sheet

Back sheets are critical for protecting the rear of the solar module from harsh weather conditions and external impacts. Maintaining a well-functioning solar battery requires insulation and damp roofing to prevent energy loss from unnecessary resistance. Our back sheets are manufactured to the highest standards, providing excellent electric insulation and durability to maintain the solar module at peak efficiency.

We Are Materializing Responsibility



37

Hanwha Advanced Materials is fully committed to the Hanwha Group philosophy: "Going Further Together." We take that mission to heart, and are a devoted member of our community.

We Are Materializing Responsibility

More Trusted, Sustainable

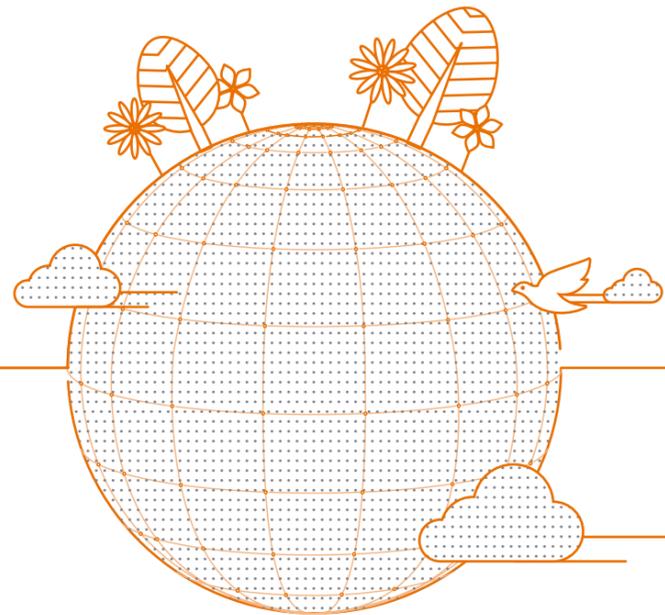


Hanwha Advanced Materials is fully committed to the Hanwha Group philosophy: "Going Further Together." We take that mission to heart, and are a devoted member of our community.



HEALTH, ENVIRONMENT, SAFETY

We are designing our facilities to be both zero hazard and environmentally friendly, following strict corporate standards and prevention systems.



Business Principles

Hanwha Advanced Materials is devoted to building and maintaining environmentally friendly facilities that can also be labeled zero hazard. We have been operating under the ECO-2000 environmental protection movement since 1991, and have developed the vision further by introducing the ECO-YHES strategy, which extends to both health and safety issues. We believe that corporate value goes beyond corporate profits, giving full consideration to health, environment, and safety as equally important factors.

Environmental Management

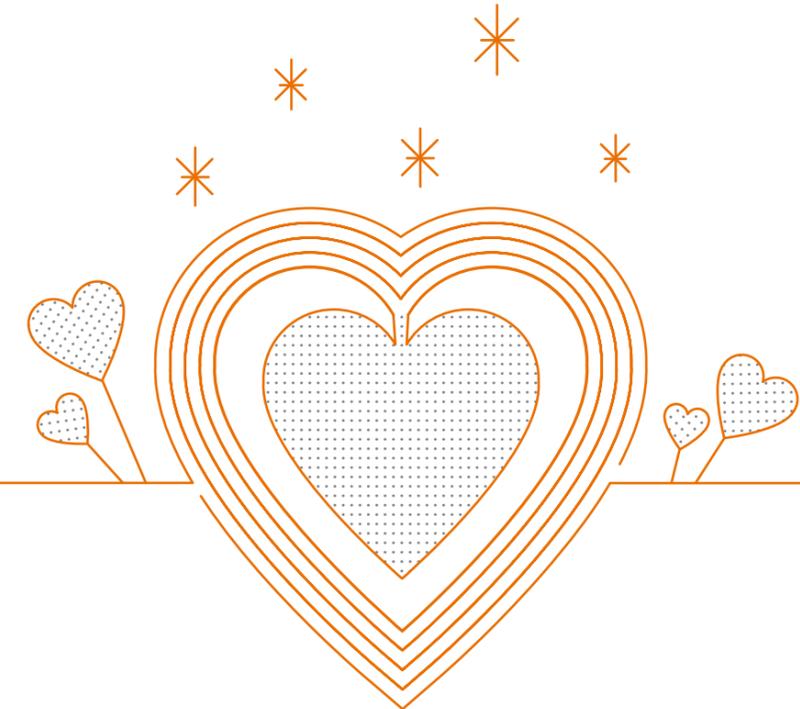
All our facilities are certified ISO 14001 for environmental management, and we were recognized by the Ministry of Environment for Excellence in Environmental Management in 2012. We were also recognized for our efforts to reduce greenhouse gases in 2013, and awarded the Minister of Environment Award at the Environment Information Awards. Additionally, we engage with local organizations through our 'One Company, One River' and 'One Company, One Mountain' campaigns, working in concert with communities to clean up the environment. We also open our facilities to students and local residents to advance public awareness about the importance of environmental conservation.

Safety and Health Management

Hanwha Advanced Materials has worked tremendously hard to ensure that the highest standards of safety are applied at all of our facilities. We implemented the Safe Environment Work Permit System and Safety Level-Up Operation Strategy as key initiatives, and engage experts to conduct regular inspections on a company-wide basis each year. These inspections are critical in our efforts to identify and solve problems before they cause accidents. As a result, our Sejong plant was certified as a zero hazard facility in 2014, and our operations have been recognized by the Korean government for workplace safety on multiple occasions.

SOCIAL CONTRIBUTIONS

Hanwha Advanced Materials is a committed and active member of society, making concerted efforts to contribute to our community through a variety of activities.



Philosophy and Operating Principles

Our support for Hanwha Group's corporate philosophy of "Going Further Together" is unwavering. We actively take part in a variety of interactions with our community. Internally, this effort to give back is promoted by our Hanwha Advanced Materials Volunteer Groups that are formed in each business unit, with all employees participating in community activities at least twice a year. We also started the Better Future Fund in 2002, making matching employee donations to worthy causes. We will continue to promote this within our corporate family, bringing employees and the company together for the common good.

Volunteer Work

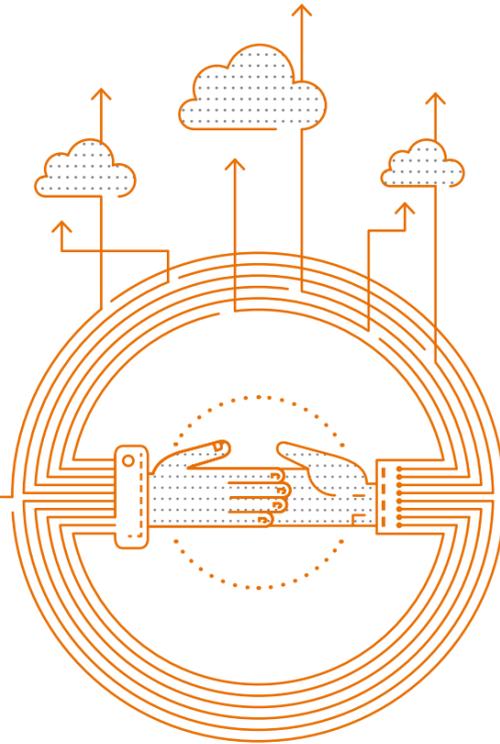
The volunteer group at the Sejong headquarters has been promoting various activities since 2002 to improve the quality of life for local citizens. Each member devotes an average of 16 hours per year, regularly visiting and volunteering at the facility they support. We have signed business agreements with local government offices and welfare organizations to provide financial and volunteer support, and we have developed shared growth programs to support small and medium sized businesses. Our efforts to regularly give back to society and promote local social welfare were recognized in 2013 with an award from Korea's Ministry of Health and Welfare.

Sharing Knowledge and Family Participation Program

Our Environmentally Friendly Energy Camp invites children from low-income families in Sejong and nearby the Eumseong Plant to experience various science programs. We use the camp to share knowledge, and have received significantly positive feedback from university student volunteers and participants who welcome the opportunity to better understand the importance of the environment and increase awareness of next generation energy solutions that help preserve it.

ETHICS & SHARED GROWTH

Hanwha Advanced Materials is dedicated to ensuring fairness and transparency throughout all our operations as we grow together with our partners.



Business Ethics

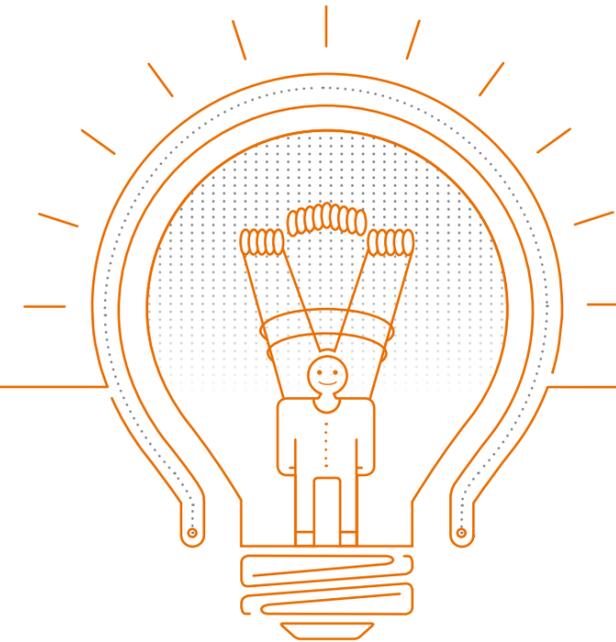
We know that ethics can positively impact stakeholder value, and we hold our employees to a high standard with a strict code of conduct. In 2003, we enacted an ethics charter and action guidelines and promoted strict compliance. The charter focuses on creating value for our clients and partners and protecting employee rights, with a complete set of guidelines designed to steer employees away from using their work and position to commit unlawful acts.

Mutual Growth

We are also committed to the shared growth of all our partners. Since 2009, we have been signing special mutual growth contracts with all our long-term partners. Internally, we have also created a special mutual growth committee to promote this principle through a variety of support programs that help our partners thrive. For example, we provide various funding support programs to help them with financial stability. We also help companies optimize their systems with technological and workplace safety support. We regularly share management knowledge that helps them improve their operations and product quality.

PERSONNEL DEVELOPMENT

Providing our employees with opportunities to learn and grow within the company is mission critical for our future.



The People of Hanwha Advanced Materials

We nurture people who look to the future and can help us foster innovation, particularly at the early stage of our employees' careers. We encourage them to challenge themselves and stay dedicated to the key goals they set. And, we ask our senior employees to mentor their juniors, passing along their expertise and helping to develop specialists.

Employee and Materials Specialist Training

We have established more than 20 training programs and we are actively supporting employees to continue their self-development. Training programs are broken down by position, offering specialist programs, online training, and even support for advanced degree programs such as MBAs and other post-graduate programs in leading universities around the world. We also provide leadership and global specialist training programs, and often dispatch employees to operations around the world to further their development so they can help drive our future global growth.

Creating a Great Place to Work

Employee motivation is driven with a fair and equitable evaluation and incentives program, and we strongly promote work-life balance with various support systems. For women in particular, we run a special program called the WITH Work-Life Balance System. It plays an important role in helping mothers who work to maintain stable employment while raising children.

Hanwha Group

Enhancing Quality of Life through Continuous Innovation

Founded in 1952, Hanwha Group has steadily grown its worldwide operations with businesses in manufacturing, construction, finance, and services & leisure industries. We are South Korea's 9th largest business group, boasting 52 domestic affiliates and 146 global networks. We have narrowed our focus to aerospace & mechatronics, chemicals, and advanced materials, and have top-tier affiliates that will continue to develop these business areas into future growth engines.

BUSINESS AREAS

As of June 2015

Manufacturing & Construction

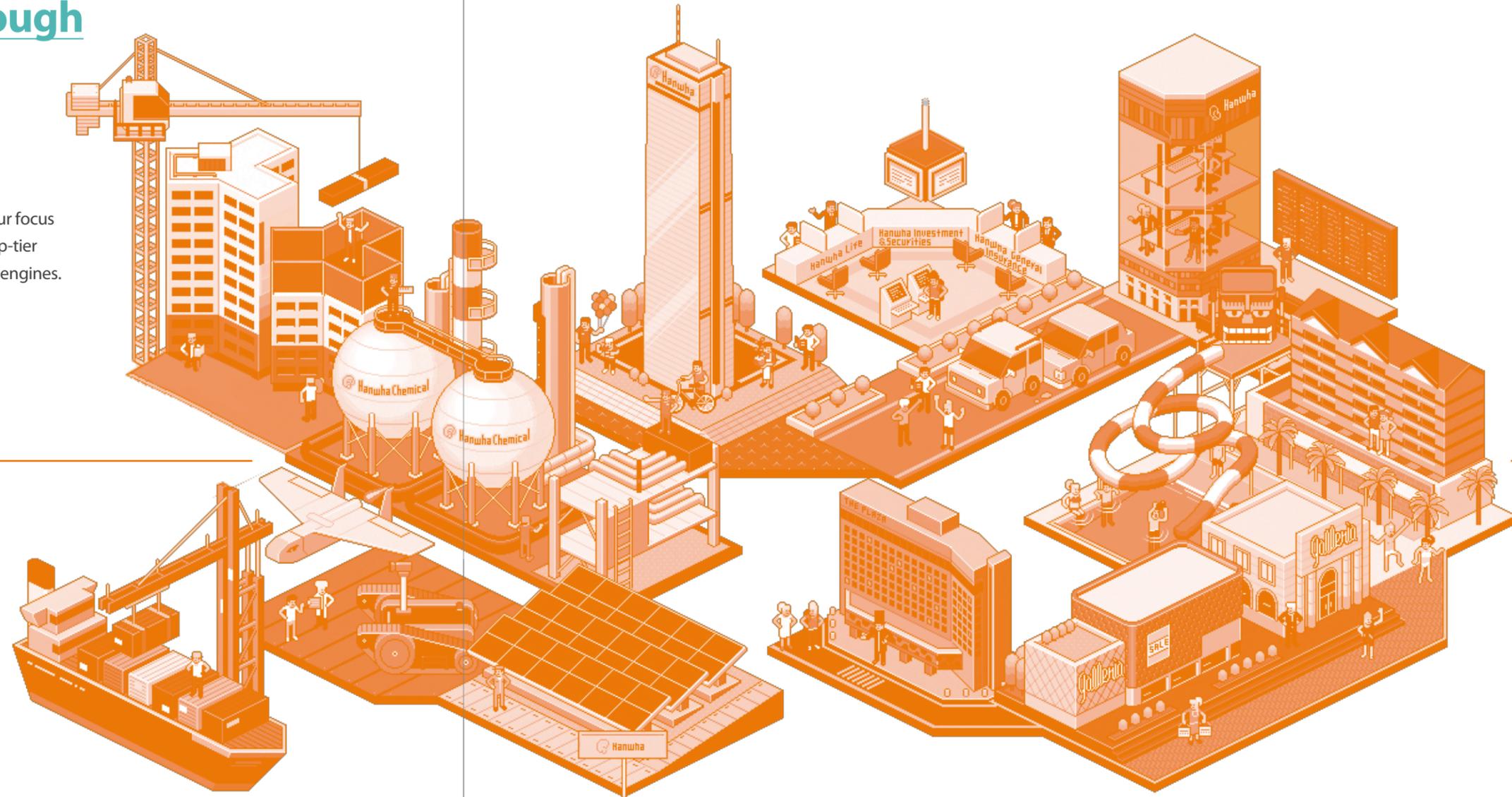
- Hanwha Corporation
- Hanwha Techwin
- Hanwha Thales
- Hanwha Chemical
- Hanwha General Chemical
- Hanwha Total Petrochemical
- Hanwha Fine Chemical
- Hanwha Engineering & Construction
- Hanwha Q CELLS
- Hanwha Q CELLS Korea
- Hanwha Advanced Materials
- Hanwha Energy
- Yeochun NCC
- Hanwha City Development

Finance

- Hanwha Life
- Hanwha General Insurance
- Hanwha Investment & Securities
- Hanwha Asset Management
- Hanwha Investment
- Hanwha Saving Bank

Services & Leisure

- Hanwha Hotels & Resorts
- Hanwha Galleria
- Hanwha Galleria Timeworld
- Hanwha 63 City
- Hanwha S&C
- Hanwha Station Development
- Hancomm



STRENGTH IN NUMBERS

As of March 2015

62 Years

Hanwha Group was established in 1952 as a manufacturer of explosives. Throughout our existence, we have always placed a strong priority on contributing to Korea's economic growth and enhancing quality of life.

52 Domestic Affiliates

Hanwha Group has 52 affiliates in Korea and continues to invest strategically in advanced businesses to create the growth engines of the future.

146 Global Networks

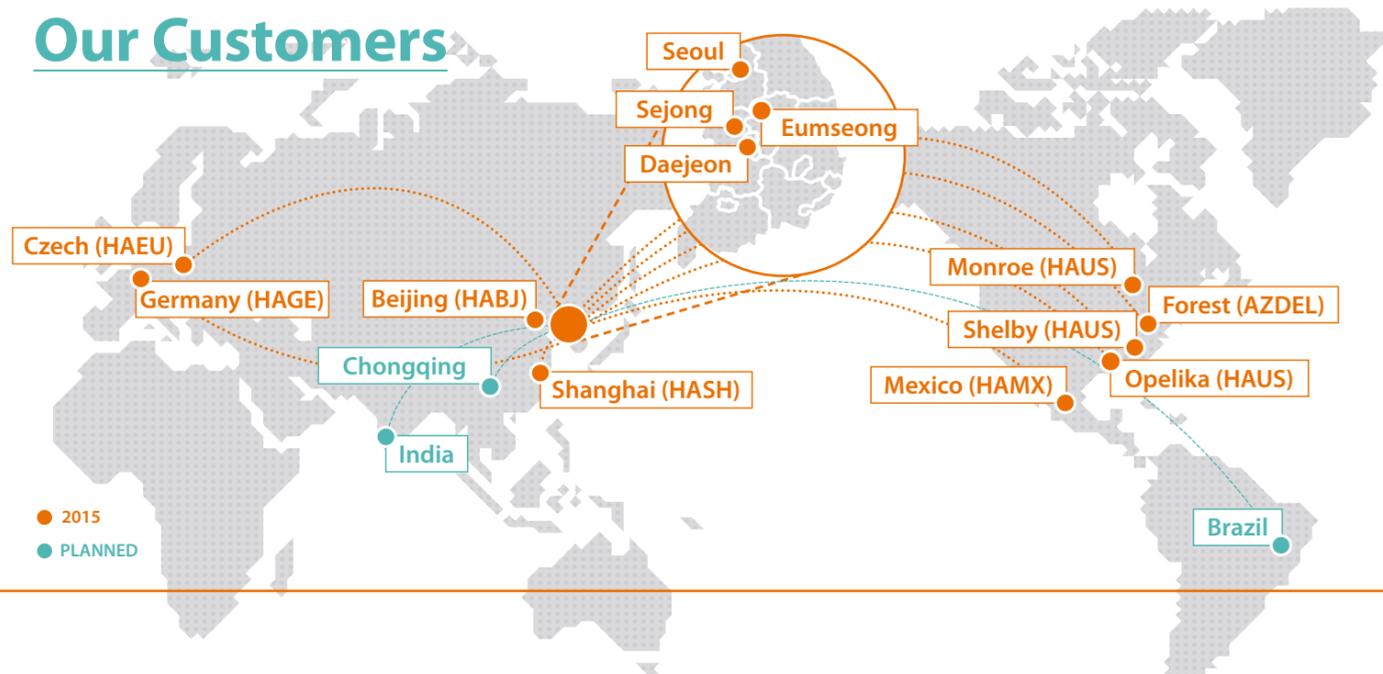
Hanwha operates solar, finance, chemical, and advanced materials businesses worldwide, and continues to expand by localizing strategically and entering emerging markets.

9TH Largest Group in Korea

Hanwha Group has USD 124 billion in assets, ranking as the 9th largest business group in South Korea.

GLOBAL NETWORK

A Global Network to Meet Our Customers



KOREA

Hanwha Advanced Materials

Sejong Head Office

79-20, Geumhoangol-gil,
Bugang-myeon, Sejong, Korea
Tel: 82-44-279-8400
Fax: 82-44-279-8809

Hanwha Advanced Materials

Seoul Office

86, Cheonggyecheon-ro,
Jung-gu, Seoul, Korea
Tel: 82-2-729-5700
Fax: 82-2-729-1461

Hanwha Advanced Materials

Eumseong Plant

1329, Daegeum-ro, Geumwang-eup,
Eumseong-gun, Chungbuk, Korea
Tel: 82-43-880-2000
Fax: 82-43-880-2109

Hanwha Advanced Materials

R&D Center

76, Gajeong-ro, Yuseong-gu,
Daejeon, Korea
Tel: 82-42-865-6908
Fax: 82-42-865-6530

Lightweight Composite Materials

Development Center

155, Gongdan-ro,
Yeonseo-myeon, Sejong, Korea
Tel: 82-44-410-3000

AMERICAS

Hanwha Advanced Materials

America LLC (HAUS)

4400 Northpark Drive,
Opelika, AL 36801, USA
Tel: 1-334-741-7725
Fax: 1-334-741-7796

Shelby Plant (HAUS)

925 Washburn Switch Rd,
Shelby, NC 28150, USA
Tel: 1-704-434-2271
Fax: 1-704-434-7465

Monroe Plant (HAUS)

1530 E Front St, Monroe,
MI 48161, USA
Tel: 1-734-457-5600
Fax: 1-734-457-9894

Hanwha AZDEL, Inc. (AZDEL)

2000 Enterprise Drive,
Forest, VA 24551, USA
Tel: 1-434-386-4081
Fax: 1-434-386-6532

Hanwha Advanced Materials

Mexico S. De R.L. De C.V. (HAMX)

Prolongación Avenida Tecnológico
#1345 Fraccionamiento Monterrey
Technology Park Ciénega de Flores,
NL. 65550 Mexico
Tel: 52-81-5000-9243

CHINA

Hanwha Advanced Materials

Beijing Co., Ltd. (HABJ)

Zhongguancun Science Park
(East Sector), Changping Zone
4 Lixiang Road,
Beijing 102200, China
Tel: 86-10-6073-5435
Fax: 86-10-6073-5459

Hanwha Advanced Materials

Shanghai Co., Ltd. (HASH)

Jiading Industrial Zone,
1201 Xingrong Road,
Shanghai 201807, China
Tel: 86-21-3996-3996
Fax: 86-21-3996-3911, 3922

EUROPE

Hanwha Advanced Materials

Europe, s.r.o. (HAEU)

Priborska 208, 739 42 Frydek Mistek
Chlebovice, Czech Republic
Tel: 420-552-304-608
Fax: 420-552-304-619

Hanwha Advanced Materials

Germany GmbH (HAGE)

Industriestraße 27,
92345 Dietfurt, Germany
Tel: 49-8464-6423-0
Fax: 49-8464-6423-44

TOMORROW

Hanwha Advanced Materials will continue to embrace change and push ourselves higher, nurturing passion and fostering a culture of innovation that will drive our development as a leading provider of advanced materials and a company that sincerely protects the values of humanity and our shared environment.

www.hwam.co.kr

