

2021
HYOSUNG PROFILE



HYOSUNG

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2021 HYOSUNG PROFILE



HYOSUNG's
(**FOCUS**)

Hyosung is focused on the development of innovative materials, parts and equipment.

From safer and more powerful vehicles
to the production and supply of environmentally friendly
and stable electricity and functional clothes
that lead to better lives for customers are not possible
without the innovation of materials, parts and equipment.

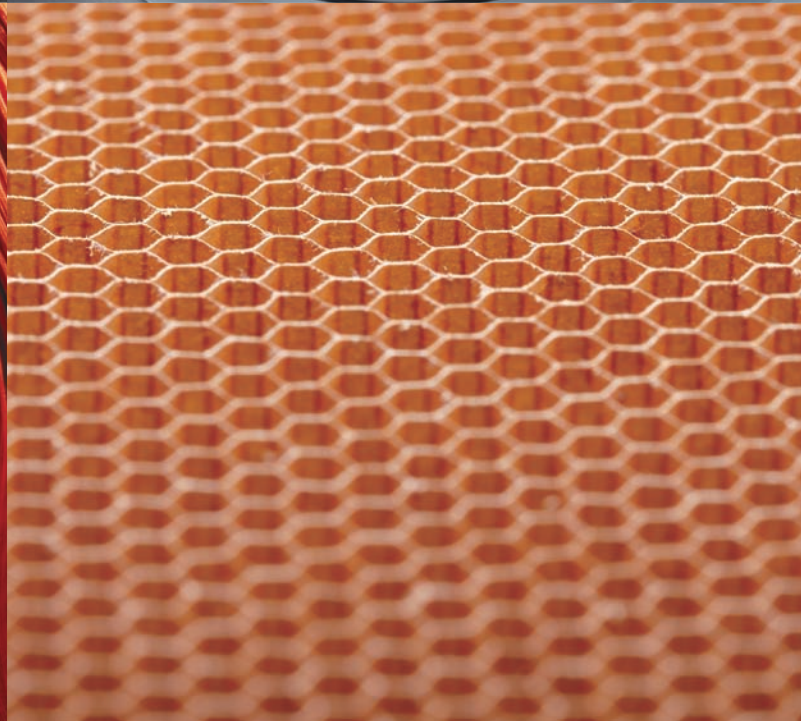
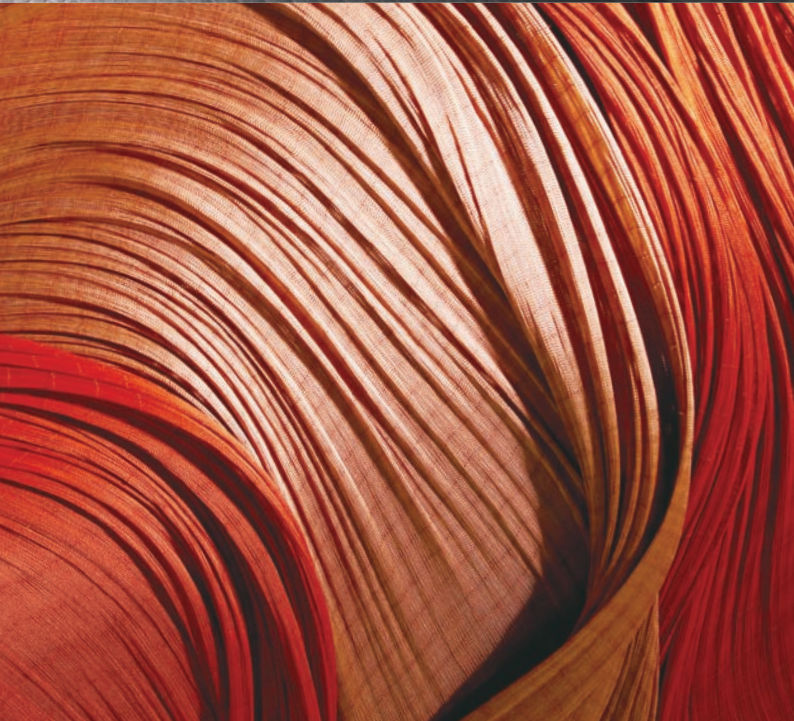
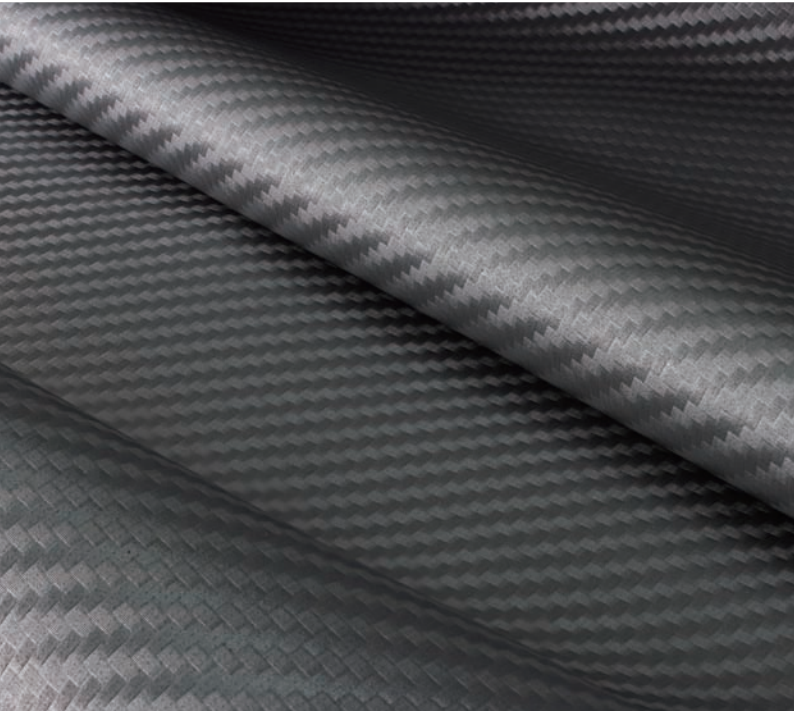
The process of developing innovative materials, parts and equipment
is a tough road involving ceaseless challenge without the fear of failure
as technologies in various fields must be combined at the highest level.

Although this is not the path for everyone,
it is like a task that someone must complete successfully.

This is why we concentrate on materials, parts and equipment.

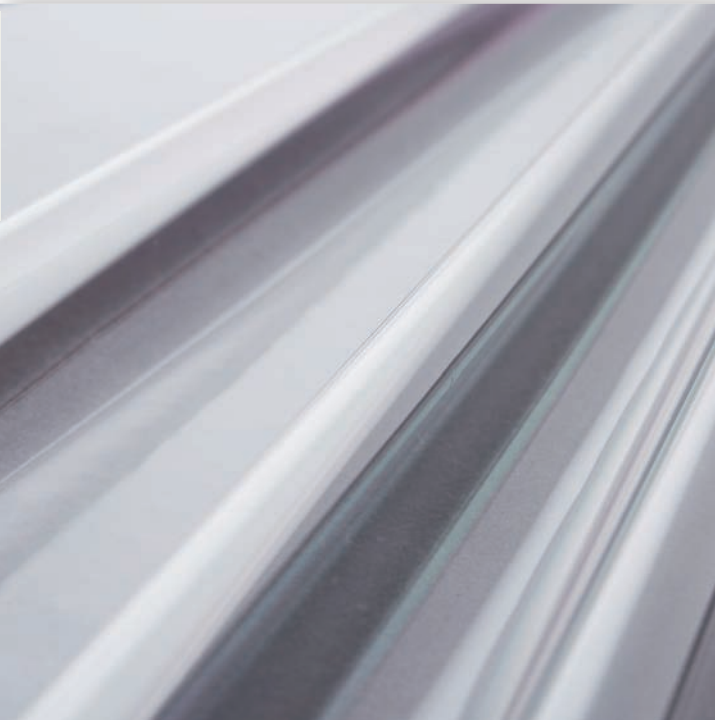
HYOSUNG

GLOBAL TECHNOLOGY LEADING NEW CHANGES



New challenges bring future changes

As the first Korean company to establish a corporate affiliate research institute, Hyosung has been dedicating itself to writing a new history of numerous first technological developments. Based on this, Hyosung has created a new lifestyle culture throughout the world in textiles, industrial materials, chemicals, heavy industry and information and communication.



GLOBAL TECHNOLOGY LEADING NEW CHANGES

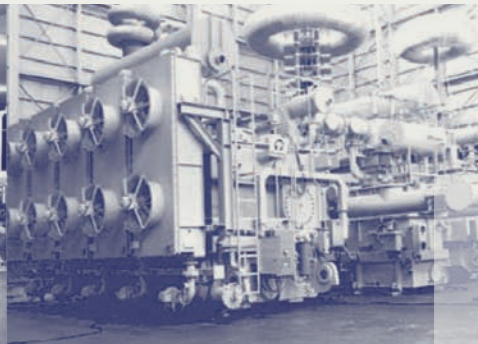
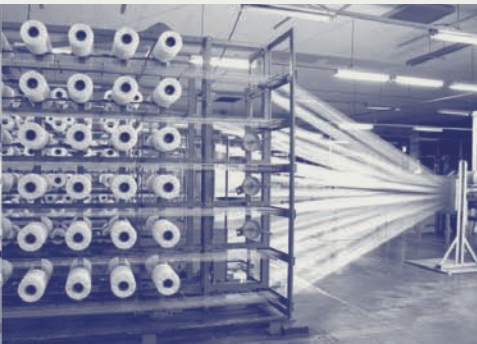
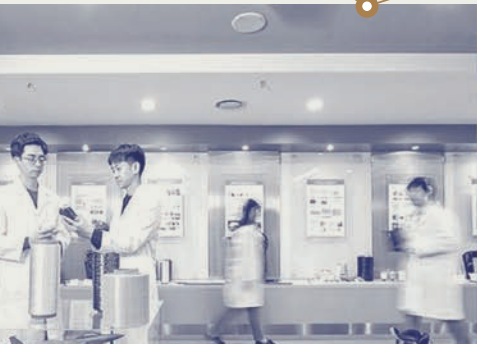
HISTORY OF 'THE FIRST'

The history of Hyosung, a leader in key industries of Korea as well as the world for the past 50 years, is the history of technological breakthroughs achieved through an indomitable spirit overcoming countless ordeals and difficulties.

1971 Establishment of Korea's first
corporate-affiliated research institute

1978 Development of Korea's first
PET Tire Cords

1998 Development of the world's first
800kV GIS



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History of New Challenges and Advancements



GLOBAL TECHNOLOGY LEADING NEW CHANGES

GLOBAL TECHNOLOGY

With its global production system of core products spreading across over 113 locations in more than 28 countries around the world, Hyosung continues to provide differentiated products and services to satisfy the demands of customers.



TEXTILE



No. 1 Brand in Global Spandex
Market, creora®
Hyosung TNC



ENERGY



World's Top Tier Product,
GIS (Gas Insulated Switchgear)
Hyosung Heavy Industries



TIRE CORD



Tire Cords Used in 50% of
Cars Around the World
Hyosung Advanced Materials

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Technology Leading Future Changes



INDUSTRIAL FIBER



Global No. 1 in Seatbelt Yarn and
Airbag Textiles
Hyosung Advanced Materials



NEW MATERIALS



World's First Commercialized
Polyketone Material, POKETONE™
Hyosung Chemical



ATM



No.1 in the United States and
Russian, Nigerian ATM markets
Hyosung TNS

GLOBAL TECHNOLOGY LEADING NEW CHANGES

ESG MANAGEMENT

The holding company Hyosung is leading sustainable management that enhances corporate social value and responsibility with the establishment of the ESG Management Committee under the board of directors with the vision of “Hyosung, a company that can last a century.”

Highest
Grade in
ESG
Evaluation

A⁺/A

In the 2020 ESG evaluation by the Korea Corporate Governance Service (KCGS), Hyosung received a favorable evaluation in recognition of improvements in governance, such as the transformation into a holding company and efforts to expand green management and win-win management companywide. Hyosung TNC, Hyosung Advanced Materials, and Hyosung Chemical received the highest grade, A⁺, while holding company Hyosung and Hyosung Heavy Industries received an A grade.

Highest
Grade for
Global Climate
Change
Response

A

In the category of “Climate Change Response” in the 2020 carbon management evaluation performed by the Carbon Disclosure Project (CDP), a UK-based global climate change organization, Hyosung Advanced Materials received the highest grade, A, in recognition of its aggressive efforts to reduce carbon emissions, putting it in the top 3% of 9,600 participants worldwide.

ESG



ENVIRONMENTAL



SOCIAL



GOVERNANCE

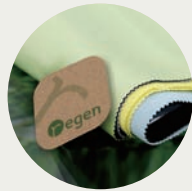


Reduction of
Carbon Emissions

New challenges bring future changes

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Sustainable Management that Enhances Future Social Value



Spread of the Recycling Project Using the Eco-friendly Fiber “REGEN”

Hyosung's eco-friendly fiber, “REGEN”, which is produced by recycling waste PET bottles and other waste materials, has been manufactured into bags and clothes through the “Regen Jeju (regen®jeju)” and “Regen Seoul (regen®seoul)” projects in cooperation with local governments. Also, REGEN was supplied for the manufacture of clothes and shoes through the “Restoration To Be Reborn” project in collaboration with The North Face, a world-famous outdoor brand.



Construction of the world's largest liquid hydrogen plant is scheduled for completion in early 2023

Hyosung decided to construct a value chain that encompasses the production and transportation of liquid hydrogen, and the installation and operation of charging facilities by investing KRW 300 billion by 2022 together with the Linde Group, a global leading chemical company in the industrial gas market. The annual capacity of the plant will be 13,000 tons (enough for 100,000 automobiles), making it the world's largest single facility. Through this, Hyosung will play a leading role in converting the carbon-centered economic structure to a hydrogen ecosystem.

GLOBAL TECHNOLOGY LEADING NEW CHANGES

VALUE IN HYOSUNG

“Building a Better Life for the People based on the Best Technology and Management Capabilities”

HYOSUNG WAY is a value system that turns dreams into reality by bringing together the will and capabilities of all Hyosung members throughout the world.



EXPERTISE

Hyosung enhances its competitiveness by concentrating on building a business system suitable for business characteristics and market conditions.



EFFICIENCY

Hyosung maximizes management efficiency by defining ideal management objectives and making prompt decisions according to the circumstances of the subdivided markets.



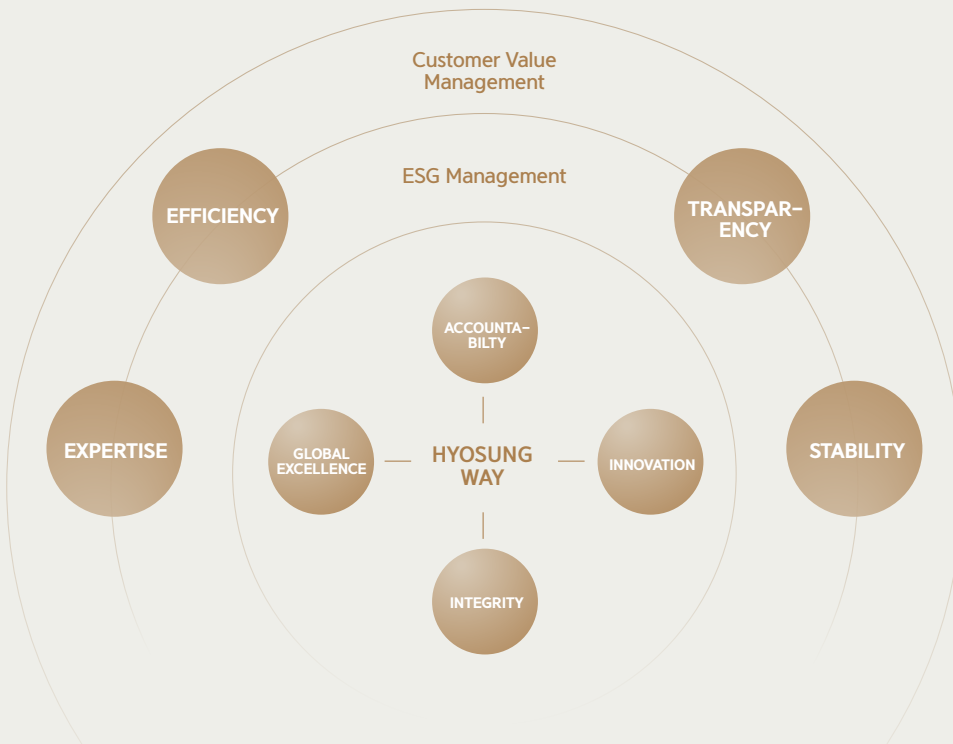
TRANSPARENCY

Hyosung evaluates its management performance fairly and justly, and improves management transparency by granting autonomy and responsibility to mid and long-term business plans.



STABILITY

Hyosung is improving its corporate governance and managing business and investment risks more effectively to ensure business stability.



New challenges bring future changes

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MANAGEMENT SYSTEM

Hyosung has completed its conversion into a holding company system, and restructured its departments into the affiliated companies of Hyosung TNC, Hyosung Heavy Industries, Hyosung Advanced Materials and Hyosung Chemical, which are overseen by Hyosung Corporation.

The new system will increase management transparency and reinforce business expertise.



Holding Company
 · Hyosung

Textile / Trading
 · Hyosung TNC Corporation

Power & Industrial Systems / Construction
 · Hyosung Heavy Industries Corporation
 · HYOSUNG GOODSPRINGS Inc.
 · Chinhung International, Inc.

Industrial Materials
 · Hyosung Advanced Materials Corporation
 · Global Safety Textiles (GST)

Chemicals
 · Hyosung Chemical Corporation

Information & Communication
 · Hyosung TNS Inc.
 · Hyosung Information Systems Co., Ltd.
 · Hyosung ITX Co., Ltd.
 · Galaxia Electronics Co., Ltd.
 · Galaxia Moneytree Co., Ltd.
 · Galaxia Device Co., Ltd.

Other Affiliated Companies
 · The Class Hyosung Corporation
 · Hyosung Toyota Corporation
 · The Premium Hyosung Co., Ltd.
 · Forza Motors Korea Corporation
 · Hyosung Premier Motors Corporation
 · A-seung Automotive Group Co., Ltd.
 · Shinwha Intertek Corporation

(FOCUS) on the Automotive Materials

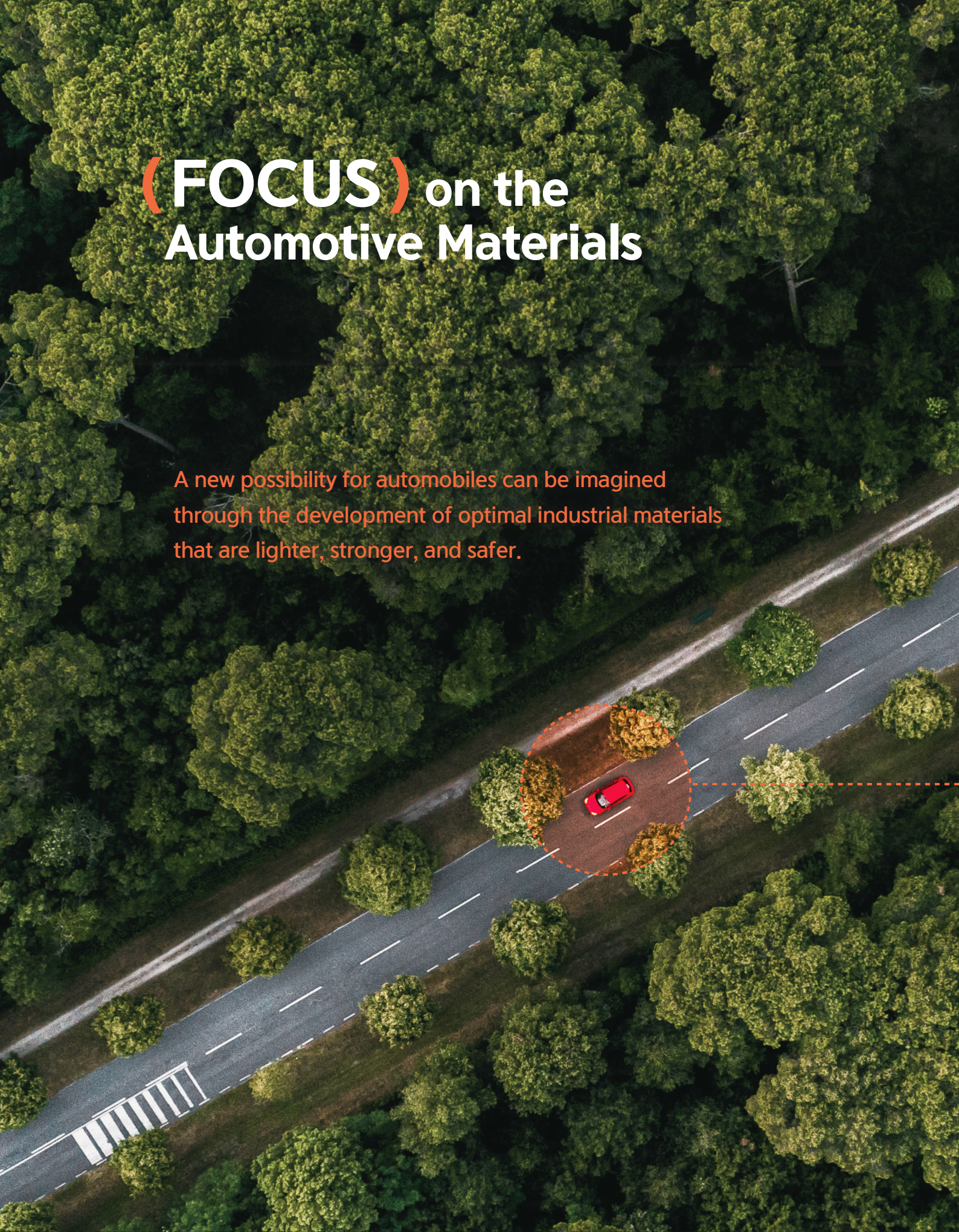


Hyosung is leading technological innovation in the automotive parts industry with optimal materials that are responsible for the performance and safety of automobiles. In particular, “tire cords”, which we have largest share of the global market, “polyketone”, an eco-friendly polymeric material, and “carbon fibers”, which are called dream fibers, are opening up a new era of industrial materials.

**INNOVATIVE
MATERIALS**

(FOCUS) on the Automotive Materials

A new possibility for automobiles can be imagined through the development of optimal industrial materials that are lighter, stronger, and safer.

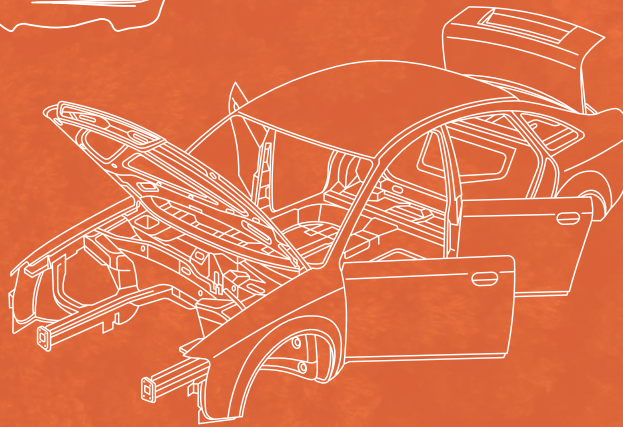


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POKETONE

The next generation engineering plastic



TANSOME

The carbon fiber, a dream fiber stronger than steel

TECHNICAL YARN

Yarn for seatbelts, air bag fabric, and car mats, with the largest market share globally

TIRE CORD

Selected for 50% of all passenger cars in the world



(FOCUS) on the Functional Textile



Creora of Hyosung TNC has maintained the number one world market share for spandex with the highest quality and the largest production, and maximized customer value by innovatively enhancing fiber functionality along with nylon and polyester yarns, for which Hyosung TNC has grown into one of the world's top five producers.

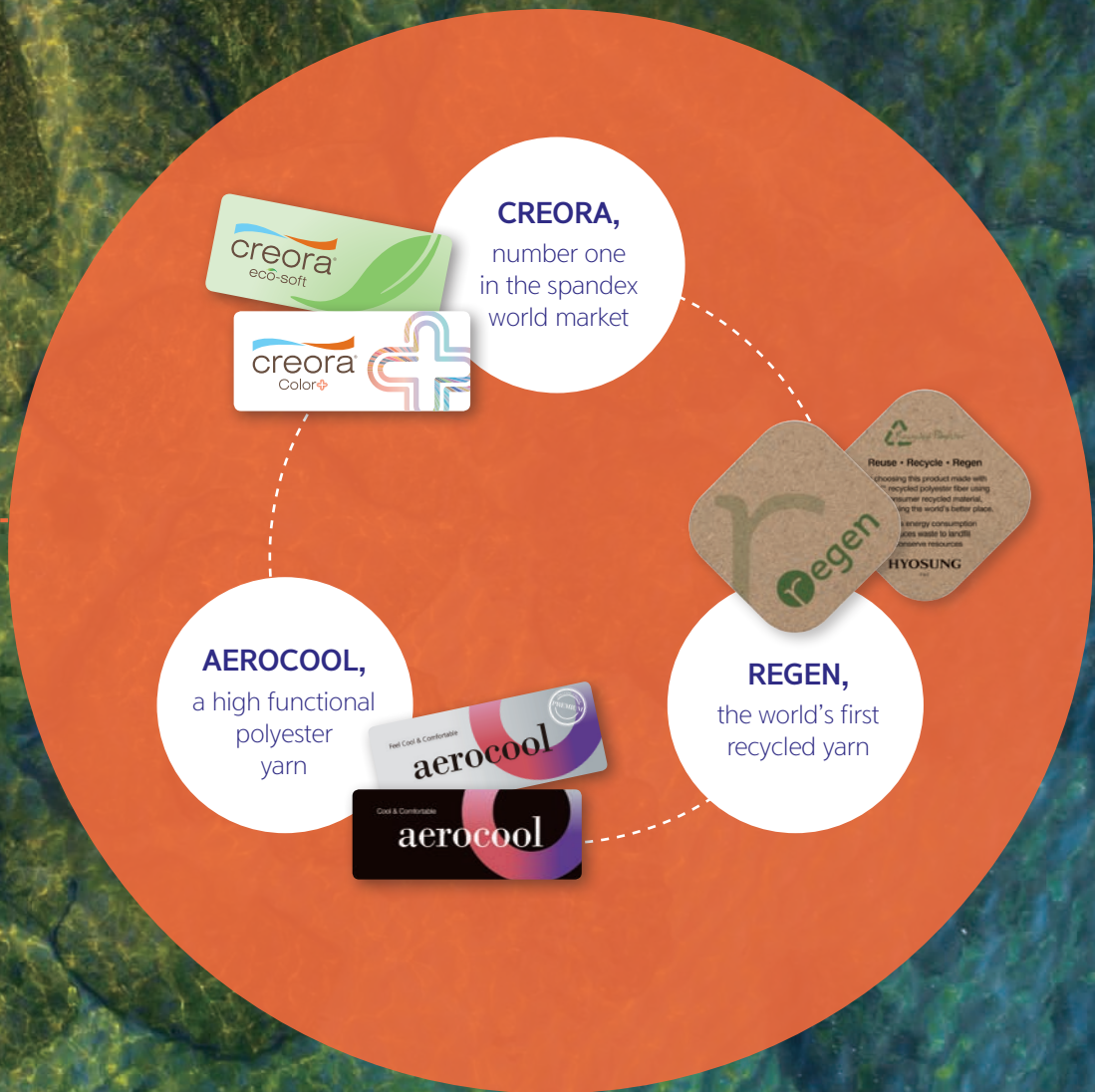
**GLOBAL
TEXTILE**

(FOCUS) on the Functional Textile

Hyosung is growing into a leading global company in the fiber material industry based on spandex, its number one global product.



Creora of Hyosung TNC has maintained the number one world market share for spandex with the highest quality and the largest production, and maximized customer value by innovatively enhancing fiber functionality along with nylon and polyester yarns, for which Hyosung TNC has grown into one of the world's top five producers.



(FOCUS) on the Future Energy



Hyosung Heavy Industries, the first company to develop 800 kV GIS in the world, is working on core technologies necessary for constructing a future power grid system.

These include STATCOM, Energy Storage Systems (ESS), wind power generation, photovoltaic power generation, and smart grids. The heavy electrical equipment technology of Hyosung, which is one step ahead in the preparation for low-carbon green living, will lead the era of green growth.

ENERGY NETWORKS

(FOCUS) on the Future Energy

Hyosung is opening up an era of low-carbon green living with a future power grid system that reduces pollution and makes energy sustainable.



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With Customers, With the World Hyosung is your trusted partner

With its excellent technologies and services, Hyosung is growing as a global leader in different business sectors such as textile, industrial materials, chemicals, power & industrial systems, construction, trading, and information & communication. Guided by our management philosophy of 'Global Excellence', we endeavor to provide better values for our customers all over the world. We will continue challenging ourselves and innovating while winning and maintaining customer loyalty and trust.

BUSINESS AREAS

- Textile / Trading
- Power & Industrial Systems / Construction
- Industrial Materials
- Chemicals
- Information & Communication
- Other Affiliated Companies

TEXTILE / TRADING

· Hyosung TNC Corporation



GLOBAL PRODUCTION LINE

By establishing and expanding spandex production lines in Turkey, China, Vietnam, Brazil, and India, Hyosung is becoming more responsive to customer demand as well as enhancing product quality and production reliability.



ECO-FRIENDLY CERTIFICATE

Hyosung acquired GRS from Control Union (Netherland) for its eco-friendly yarn that will help save energy cost, and consume less petrochemical raw materials.



GLOBAL TRADING SERVICE

The mutual benefits of exporting and importing partners are maximized by diversifying the trade structure that explores new markets such as Central and South America, Africa, and the Commonwealth of Independent States (CIS), and promoting three-party exchanges.

Hyosung TNC Corporation

- Spandex PU
- Nylon Polyester Fiber PU
- Fabric Dyeing PU
- Steel & Metal Products PU I, II
- Chemical Products PU
- LED Business Division
- Sebitseom Business Division

Maximizing customer value with innovative textile technology and a global trade network

Textile business of Hyosung TNC is leading the global chemical fiber industry by supplying fiber, textiles and dye products such as spandex, nylon, and polyester while offering excellent technology, quality and customer service. Furthermore, trading business, based on a network of more than 50 overseas branches around the world, is offering the highest level of marketing services in various fields centered on steel and chemicals, as well as a wide variety of fields including distribution and logistics, and is continuing to grow at the center of global trading by introducing new products and exploring new markets based on the strength of its rich experience.



Spandex PU

creora®

- creora® Color+
- creora® Black
- creora® Power Fit
- creora® highclo™
- creora® eco-soft
- creora® STEAMSET+
- creora® Soft Fit
- creora® LUMINOUS
- creora® comfort
- creora® Fit²
- creora® Fresh
- creora® ActiFit
- creora® 3D Max
- creora® EasyFlex
- creora® regen

No. 1 global market share, the world's No. 1 spandex brand creora®

Selected as a 'World-class Product of Korea' by the Korean government

Powered by its proprietary production technologies, R&D and global marketing activities, Hyosung TNC has grown to become the largest spandex manufacturer in the world, and its spandex brand creora® is ranked No. 1 in global market share. With its best quality and value, creora® continuously develops new product lines that meet customers' needs and creates new prospects in the textile industry. creora® introduces its consumer fabrics to major brands through the creora® Fabric Library located in Seoul, Hong Kong and Shanghai. The creora® workshop is held regularly to provide consulting services to help customers enhance their competitiveness through customized one-on-one consultation. It is a part of the competitive marketing activities under Hyosung's win-win management, whose goal is to grow with customers. Having built local production facilities in China, Turkey, Vietnam, Brazil, and India to establish a production network that spans the continents, Hyosung provides the best services based on responsive support and stable supply of the products. creora® is striving constantly to develop and supply an innovative product. It offers a wide range of differentiated products such as creora® Color+ to be dyed in blends with nylon and natural fibers, which can reduce grin-through on textile products, and makes the color of fabrics deeper and more vivid; black dope dyed spandex creora® Black, which brings out deeper, more sophisticated colors that conventional spandex is unable to give; the eco-friendly yarn creora® eco-soft, whose soft-touch fabric can be produced at a lower temperature than conventional spandex to save energy; creora® highclo™, which has the highest level of chlorine resistance to offer excellent elasticity in swimsuits. creora® Fresh, which helps neutralize causes of body odor to keep you feel fresh and comfortable; creora® ActiFit, which sustains its resilience under both the external environment like UV, acid rain and chemical elements including seawater, PH, and sunscreen for both indoor and outdoor sports; creora® 3D Max, which allows for high fabric stretch with good recovery in denim; creora® EasyFlex, which is more soft-stretch than regular spandex and has a superior recovery. In particular, we developed creora® regen to make an effort for sustainability, our 100% recycled spandex which was recognized by the Global Recycled Standard (GRS) of the Control Union in the Netherlands. This is the reason why global business brands have consistently chosen creora®, and why it is the No. 1 market leader globally.

Nylon Polyester Fiber PU

- MIPAN regen®
- MIPAN fine & soft
- MIPAN robic
- MIPAN robic-air
- MIPAN aqua-X
- MIPAN fit
- MIPAN rexy
- MIPAN glurex

Hyosung TNC is a global chemical fiber manufacturer continuously developing multi-function, high quality nylon and polyester yarns to help customers create more value. Its products are strongly preferred by customers around the world.

Nylon Fiber Business Division

Korea's best nylon fibers / Development of the world's first microfibers

As the undisputed market leader in Korea, the Nylon Fiber Business Division produces a wide variety of highly functional fibers which is our major product line used to manufacture premium lingerie, outdoor sportswear and industrial materials, MIPAN fine & soft, MIPAN aqua-X (Cool-touch, wicking nylon), MIPAN fit (far-infrared radiation yarn), MIPAN rexy (flat surfaced yarn with a shiny, metallic luster), MIPAN glurex (bonding yarn), MIPAN robic (high-robust yarn), and MIPAN robic-air (hollow yarn). We also focus on developing cutting-edge materials that include the world's first microfibers. In particular, MIPAN regen®, our recycled nylon for clothes, helps reduce the consumption of fossil fuel, preserve natural resources and cut down energy and greenhouse gas emissions. This product was recognized by the Global Recycled Standard (GRS) of the Control Union in the Netherlands for its many ecological benefits.



- regen®
- regen® Seoul
- aerocool
- prizma
- xanadu
- cotna
- freshgear
- aerolight
- regen® Jeju
- askin
- aerosilver
- firex
- m2
- aerogear
- aeroheat ex

Polyester Fiber Business Division

Development of regen®, Korea's first yarn recycled from PET bottles m2, aerocool, and askin, selected as the world's best products

With its own superior technologies in high-performing product lines, the Polyester Fiber Business Division develops and supplies a wide variety of new materials required for the development of hightech functional products through continuous R&D. The division is contributing to high value creation for customers by constantly developing various top-quality products, such as m2, a microfiber which was recognized by the government of Korea as one of the world's best products; aerocool, a leading cool-touch wicking yarn; askin, a cool-feeling, UV-blocking, non-see-through yarn; freshgear, which has deodorization function for sweat odor; aeroheat, which is heat-generating fiber; aerosilver, an antibacterial yarn with silver elements; aerolight, hollow-core light concept yarn, sweat-absorbing, quick-drying functions; aerocool prizma, which is a multifunctional, sweat-absorbing, quick-drying yarn with an excellent dyeing function and colorfastness; and xanadu, a latent and potential crimped yarn which is highly elastic with a stable shape and durability compared to spandex. In particular, the Polyester Fiber Business Division has made special efforts to develop ecological fiber materials and launched regen®, a recycled polyester yarn made from waste PET bottles, for the first time in Korea. regen® has been GRS-certified by the Control Union, an environmental certification organization. Recently, regen® Jeju and regen® Seoul, recycled polyester made from post-consumer PET bottles from Jeju Island and Seoul City in Korea respectively, are taking the lead in sustainable fiber industry.

Fabric Dyeing PU

- Garment fabric
- Workwear fabric
- Non-Garment fabric

Fabric Unit

Supplying multiple fabrics, including functional and protective wear, and cleaners Finestar® — a comprehensive brand of cleaning products using microfiber

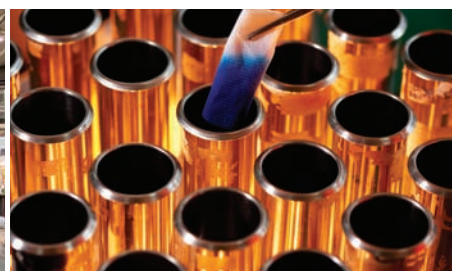
The Fabric Unit is equipped with an integrated production system that covers yarn production, fabric weaving, dyeing and post-processing, and focuses on developing highly functional high-tech products. The unit's main products include garment fabric, workwear fabric and non-garment fabric. The garment fabric uses a functional fiber to produce waterproof and water-permeable, ultra light, sweat-absorbing and fast-drying, ecological, cooling, light and thermal, elastic tricoat, and fireretardant materials. The workwear fabric includes highly durable and functional work suits, fireretardant products such as aramid and modacrylic, highly durable dust-free garments worn in clean rooms, highly robust nylon and protective wear and military fabrics made of para-aramid. The fabrics for non-apparel products include Finestar®, a comprehensive lineup of cleaner fabric using microfiber. The unit manufactures and sells lens and display cleaners, clean room wipers for semiconductor and other electronics manufacturing and household cleaners. In addition, the unit develops and supplies its highly robust fabrics using the nylon high-tenacity fiber Robic™ and highly durable and protective case fabrics Hyskin™.

- Spandex fabric
- Mixed fabric
- Polyester fabric

Dyeing Unit

Monthly capacity of 700K yards of nylon 2-Way spandex and 2.5 million yards of dyeing

Hyosung's Dyeing Unit leads the Korean dyeing and processing industry and has the best integrated dyeing plant in Korea, which dyes 2.5 million yards of fabrics annually. In particular it can also process 700K yards of nylon 2-Way spandex monthly, which is a highly difficult process. In addition to its dyeing process for nylon 2-Way spandex, polyester 2-Way spandex, cotton union cloth, and polyester fabrics, it provides a variety of additional processing steps including buffing, sanforizing, and singeing.



Steel & Metal Products PU I, II

- Steel & Metal I : Hot-rolled coils, Wire rods, Cold-rolled coils, Galvanized steel coils, Steel plate, Electrical steel, Tin plate, PPGI, Steel raw and subsidiary material, Steel processing machinery / Equipment, etc.
- Steel & Metal II : Stainless hot-rolled coils, Stainless cold-rolled coils, Stainless wire rods, Steel plate, Bar steel, Section shaped steel

Chemical Products PU

- Raw Materials for Synthetic Fibers : TPA, PET Chip, Recycled PET, PSF, Recycled PSF
- Synthetic Resins: PP, PE, ABS, PS, PVC, etc.
- Fine Chemicals: MDI, TDI, PTMG, ECH, BPA, Epoxy Resin, PIA, NPG, Nitric Acid, Ammonium Nitrate, etc.
- Mining Chemicals and Concentrates : Concentrates (Au / Ag / Pb / Zn / Cu / Sb), NaCN, Zinc Dust, etc.
- Others : TiO₂, Palm Oil, UCO, Adipic Acid, etc

LED Business Division

- LED applications and new renewable energy solutions

Sebitseom Business Division

Leading the steel & metal products trading field by reinforcing export and import partnerships with global customers

As the exporter of the products manufactured by major Korean steel & metal makers including POSCO, Hyundai Steel, Dongbu Steel, SeAH Steel, SeAH Besteel, SeAH CSS, Dongkuk Steel, the Steel & Metal Products PU is cementing its export and import partnerships with customers worldwide with services provided by steel & metal professionals and enhancing mutual profitability and prosperity. The Steel & Metal Products PU handles iron and steel products such as hot rolled coils, wire rods, cold rolled coils, galvanized steel sheets, medium / thick plates, electrical sheets, stainless hot rolled / cold rolled coils, stainless wire rods, bar steel, shape steel, and special steel, iron-and steel-related raw materials and sub materials, and iron & steel material processing facilities. The skilled workers in the Steel & Metal Products PU will make sincere efforts for increases in mutual benefits and prosperity by strengthening export / import partner relationships with customers in various countries around the world through the provision of expert technical information on products and best services.

International Chemical Trader Providing Ultimate Customer Service

With more than 50 years' experience, Chemical PU has grown as a chemical specialized international trader, based on Hyosung group's global network and business experience.

From upstream to downstream, we have diversified our product portfolio to create value by providing total solution to customers' businesses.

We also focus on human resources development to foster industry expertise, from petrochemical to mining chemical industry.

We also pursue diversifying our business structure from bilateral trade to multi-lateral trade to create wider value chain, which can lead to ultimate customer satisfaction.

Next-Generation, New Growth Engine : Leading the LED Industry Providing LED lighting-based energy solutions

The LED Business Division exports LED lighting and application products of high quality and with differentiated design for household, industrial and commercial purposes all over the world and provides total solutions that are optimized for a wide range of user environments and needs. It is also contributing Hyosung's future value in its transformation into an eco-friendly, low-carbon growth partner for customers through the promotion of various LED lighting-based energy solutions and its new renewable energy business.

Sebitseom is Cultural Complex of Hangang River

We are striving to develop the world's first waterborne architecture, Sebitseom, as a landmark in Seoul and the Hangang River. Floating Island is composed of buildings on floating bodies that can float on the water and comprises three islands, 'gavit', 'chavit', and 'solvit', along with 'yevit', which is a waterborne stage space. 'gavit' is occupied by a convention hall optimized for the hosting of MICE industry events such as international conferences, corporate events, parties, and wedding ceremonies, cafés where people can enjoy drinks while viewing the Hangang River, Italian restaurants and pub restaurants. 'chavit' is occupied by chavit cuisine, a buffet restaurant, and various facilities such as a coffee shop, 'solvit' as a space for various exhibition performances and events.

It also has facilities for water-related leisure activities that people can enjoy while viewing the river, such as yachts and Tubesters, offering additional entertainments for tourists who visit Sebitseom. The Sebitseom Business Division is making efforts to make the island a landmark that represents Seoul.



POWER & INDUSTRIAL SYSTEMS / CONSTRUCTION

- Hyosung Heavy Industries Corporation
- HYOSUNG GOODSPRINGS Inc.
- Chinhung International, Inc.



ENERGY SOLUTION PROVIDER

In addition to the power transmission and distribution equipment business, Hyosung is focusing on and expanding the IT-based power automation business (such as condition monitoring and preventive diagnosis systems) and the smart grid business.



GREEN ENERGY TECHNOLOGY

Hyosung is a leading green technology provider that supplies power systems and premium efficiency motors for the new, environmentally-friendly energy production systems, including Hydrogen gas Filling Station.



GREEN CONSTRUCTION

Hyosung has developed a ternary system composite by mixing cement with blast furnace slag (a byproduct from steelworks) and fly ash (a byproduct from thermal power plants) to reduce the consumption of the raw material-cement. In addition, Hyosung is striving constantly to develop more eco-friendly materials.

Hyosung Heavy Industries Corporation

- Power Systems PU
- Industrial Machinery PU
- Wind Energy Business Division
- Construction PU

Future electrical grid system and eco-friendly construction to lead green growth

Hyosung Heavy Industries processes the world's best technology in heavy electric equipment, the core of industrial energy. Its electric equipment such as transformers and circuit breakers, motors, generators and gears receive high regard in the industry, and the company is developing the core technologies necessary for establishing future electrical grids such as energy storage system (ESS), STATCOM and asset management. Furthermore, the company is actively participating in various construction projects such as housing, business and commercial, civil, SOC projects and data center based on its long history and high trust from customers.



Power Systems PU

- Transformers (HV Power Transformer, Oil-immersed Distribution Transformer, Cast Resin Transformer, Shunt Reactor, Special Transformer)
- Switchgears (Gas Insulated Switchgear, MV/LV Switchgear, Motor Control Center)
- IT Solutions (Distributed Control Systems, Substation Automation System, Electrical Equipment Control & Monitoring System)
- Preventive Diagnostic System (PDS)
- Energy Storage System (ESS)
- STATCOM / SVC
- EPC Turn-key Solution (AIS / GIS Substation, Photovoltaic Power Plant)

Supplier of 70% of the core products required in power supply in Korea

Korea's first, world's sixth in developing 765kV-class ultra-high voltage transformers in 1992

World's first developer of 800kV class double-break gas-insulated switchgear (GIS) in 1999

Hyosung Heavy Industries has been leading the power transmission and distribution industry in Korea for the past 50 years with its main products of ultra-high voltage transformers, switchgears, middle and low voltage transformers and substation solutions. Based on years of know-how in the local market, it has successfully expanded its business to markets across Europe, the Americas, and Central and East Asia, gaining recognition for its high standards of quality and technology. With its industry-leading technologies, the Power Systems Performance Unit provides comprehensive engineering and solutions in power transmission, distribution and generation with its expertise in power systems, i.e., engineering, design, manufacturing, installation, testing, and maintenance service. Hyosung Heavy Industries is also reinforcing its new business such as energy storage system (ESS), STATCOM, HVDC and IT-based Asset Management to respond to environment changes in the power industry with the trends of the Fourth Industrial Revolution. To meet the global demand, the Power Systems Performance Unit is also strengthening global operations via Nantong Hyosung Transformer Co., Ltd. (established in China, 2006), Hyosung T&D India Pvt. Ltd. (established in India, 2015) and Hyosung HICO Ltd. (established in USA, 2019). We will provide the highest quality products and services to realize customer satisfaction and innovate in sales and management to gain a competitiveness in the local and global markets.

Industrial Machinery PU

- Motors
- Gear units
- Generators
- Chemical process equipment
- Gas Filling Station

Korea's No.1 electric motor manufacturer

Provides optimal solution through a wide range of industrial product lineups

The Industrial Machinery Performance Unit is a professional manufacturer specializing in rotating equipment such as motors, generators, and gear unit as well as industrial machinery such as chemical equipment, gas filling station. The electric motor division succeeded in localizing the propulsion motors for defense, BLDC motors and Q-Class motors for nuclear power plants with the accumulated technology and know-how for a long time. We have developed a series of motors that satisfy all KS, IEC, NEMA and GOST standards with the world as its stage. It has manufacturing facilities to produce more than 40 thousand units of electric motors per month, such as small and low-voltage motors, high-voltage motors, super-premium efficient motors, military motors, explosion-proof motors, and permanent magnet motors, which are optimized for various purposes and places. Generators are fulfilling customer satisfaction in various domestic and overseas market through various products such as ship, steam turbine, a water turbine, wind turbine, and MG-Set. In particular, we succeeded in localizing the 'MG-Set for control of fuel rods', the core facility of nuclear power plants, and expanded its supply to overseas nuclear power plants. We also manufacture gear units, which are power transmission devices, to produce products that require high reliability in various industries such as general industrial, power generation, marine, and defense industries. In this field, we succeeded in localization of ship gear box, gear box for power coal grinder, and high speed gear. The industrial machinery division produces tower, column, reactor, pressure vessel, and heat exchanger, which are core equipment used in petrochemical, oil and gas plant processes. We have been recognized for its technology, quality and production capability. Based on this, we are expanding our business scope to high end medical device such as proton therapy devices.



The Gas filling station business has been supplying Hydrogen / CNG filling stations and systems based on CNG compression system technology, which has participated in the government's eco-friendly vehicle supply project since 2000. We are committed to becoming a world-class comprehensive machinery and plant engineering company that not only supplies equipment but also provides a solution optimized for customers' operating plants. We are always with our customers' goals, strictly adhere to international and industry standards. We are doing our best for that purpose.

Wind Energy Business Division

- Wind turbine (5.5MW / 2MW / 750kW)

For a national project, Hyosung developed a 5MW & 5.5MW offshore wind power generation system Acquired international certification in 2015 & 2019

Korea's first developer of 750kW and 2MW-class wind power generation systems

As a leader of Korea's wind power industry, the Wind Energy Business Division succeeded in the development and commercialization of the geared-type 750kW wind power turbine. For the first time in Korea, the group was internationally certified by DEWI-OCC, the German wind power generator certifier, for the 750kW and 2MW-class geared-type wind generation systems. Since 2011, Hyosung has started commercial sales of 2MW models and has signed contracts to supply total 35MW of onshore wind turbine to Jeju Island, Gangwon Province (Taebaek and Pyeongchang), and successfully performed EPC service as well. We are targeting to supply our 5.5MW turbines to offshore windfarm project which will contribute to localization of offshore wind power equipment and strengthening national competitiveness.

Construction PU

- Housing (Apartments, Residential and commercial buildings, Villas, Terrace houses)
- Building (Business, Commercial facilities, Leisure facilities)
- Civil Engineering (Roads, Railways, Site development, Golf courses)
- Industrial (Plant facilities, Power generation facilities, Electric power facilities, Data center)

The first company in Korea to introduce villa-type residences

As the first Company that developed a new concept of housing culture by introducing villa type residential buildings in Korea in the 1970s, it is working hard to give customers full customer satisfaction with its differentiated technical competence and construction capability in the residential, construction and industrial sectors. It is creating spaces where nature and technology are in harmony while strictly following all applicable regulations and requirements for the sustainable coexistence of the environment and technology. Construction PU's representative brand 'Harrington' has presented a combined BI with Chinhung International, Inc. (an affiliated company) since 2013.



HYOSUNG GOODSPRINGS Inc.

- Pump Business (Pumps for Oil & Gas, Power, Seawater RO, Water Transmission Plants and Buildings & General Industrial uses)

Global Pump Solutions Provider

Since commencing pump business in 1962, HYOSUNG GOODSPRINGS has manufactured and provided various pumps which meet clients' diverse needs, from oil & gas plants, power plants, general industrial plant pumps to those for high-rise and general buildings, and led global market trends.

Based on extensive knowhow and expertise accumulated over a long period of time, we have provided efficient solutions and trustworthy services as a pump industry leader.

As the Republic of Korea's leading pump manufacturer, HYOSUNG GOODSPRINGS has made a big contribution to the growth and development of domestic and overseas industries through continued R&D.

With highly reliable high-pressure pumps up to 400bar and advanced technologies which enable 450°C high-temperature and -195°C cryogenic services, we have met the strict requirements of global clients including ExxonMobil (USA) and ARAMCO (Saudi Arabia).

In 1998, we obtained the Korea Electric Power Industry Code in nuclear safety-graded pumps for the first time in the Republic of Korea. Since then, we have manufactured and distributed core hard-to-make pumps to nuclear power plants.

HYOSUNG GOODSPRINGS Testing Center is capable of testing high-capacity and high-pressure pumps (up to 110,000m³/h, 400bar, 200°C). All products must pass stringent quality tests before they are actually delivered to our clients to ensure they are perfectly safe and completely reliable.



Chinhung International, Inc.

- Civil engineering business (Roads, Railways, Site developments, Landscape architectures, Bridges and tunnels, Environments and ports)
- Construction business (Gym, Facilities for plant, Knowledge industrial, Buildings for business, Barracks / Education / Cultural facilities)
- Housing business (Apartments, Rebuilding· Redevelopment Apartments, Efficiency apartments, Villas, Complex facilities)

Becoming the most reliable construction company on the strength of 60 years of know-how in building and construction A comprehensive construction company focusing on civil engineering, construction, and residential development

Chinhung International participated in development projects in Saudi Arabia, Kuwait, and Guam in the 1970s and won the Steel Tower Industrial Medal and the Construction Tower Award in recognition of its 1 billion dollars' export revenues. The company has been part of various civil engineering projects for building national infrastructure such as roads and bridges as well as construction projects that bring life to urban areas and residential development that enhances the quality of life. With its specialized residential products, Chinhung International is providing the best residential conditions for customers. As the leader in changing the construction industry's culture, it has proclaimed 'Quality Management' and 'Environmental Management' as its business slogans.



INDUSTRIAL MATERIALS

- Hyosung Advanced Materials Corporation
- Global Safety Textiles (GST)



WORLD'S LEADING SOLUTION PROVIDER

Hyosung Advanced Materials Corporation provides optimized customer value based on a system that can collectively produce and supply tire cord, steel cord, and bead wire, which are core materials for reinforcing tires.



GLOBAL PRODUCTION SYSTEM

Having established an optimized global production system in various places, including China, Vietnam, US, Mexico and the EU, Hyosung Advanced Materials Corporation is able to provide stable supply of products and timely customer services.



EXTREME STRENGTH

Hyosung Advanced Materials Corporation has successfully developed and commercialized ALKEX[®], a dream fiber which is stronger than steel, and carbon fiber TANSOME[®], which is a cutting edge material having only one-fourth the density but 10 times the strength of steel.

Hyosung Advanced Materials Corporation

- Tire & Industrial Reinforcements PU
- Technical Yarn PU
- Interior PU
- Carbon & Aramid PU

We guarantee customer safety and satisfaction through optimal cutting-edge materials

Hyosung Advanced Materials produces high-strength industrial yarn, textiles and cord materials used in automobiles, civil engineering and construction, agriculture, military, etc. It continues to strengthen its capabilities and competitiveness by developing and commercializing key products such as tire cords, seatbelt yarn and airbag fabric which are already ranked No. 1 in the global market, and new materials that can lead to sustainable growth.



Tire & Industrial Reinforcements PU

- Tire cord
- Steel cord
- Bead wire

Global No. 1 maker for polyester tire cords / Supplying 50% of the world's passenger car tires

Tire & Industrial Reinforcements PU is the world's best tire reinforcements player providing both textile and steel reinforcements to all global major tire makers. In particular, Hyosung Advanced Materials Corporation's polyester tire cords represent the largest market share in the world. Through long-term supply agreements with Michelin and Goodyear, it has gained recognition from global tire manufacturers for its excellence in quality. Moreover, in addition to the Ulsan Plant in Korea, It has established local production sites in many countries, including China, Vietnam, USA, and Luxembourg, which enables a stable product supply and prompt customer services. Hyosung Advanced Materials Corporation signed a long-term supply agreement on steel cords with Michelin and Goodyear, successfully building a stable sales platform. And it expanded its overseas production facilities in China and Vietnam. In addition, as the world's no. 1 ultra tensile steel cord supplier, we are developing products to meet customer needs, such as lightweight and eco-friendly products.

Technical Yarn PU

- PET yarn for broad woven coated fabric
- PET yarn for seat belts
- PET yarn for conveyor belts, rubber hoses, power transmission belts
- PET yarn for sling belt and strap
- NY 66 and PET yarn for airbag
- NY 66 and PET yarn for sewing thread

No. 1 global market share for seatbelt yarn / No. 1 market share for technical yarn in Korea

Technical Yarn PU, which enjoys the biggest share in the world's automotive seatbelt yarn market and in Korea's technical yarn market, supplies a variety of optimized yarns used in various industrial fields such as automotive, sewing and other industrial applications. Technical Yarn PU focuses on product R&D, constantly introducing new products such as Korea's first polyester airbag yarn with a high market growth potential, which is now supplied to world-famous airbag fabric manufacturers. We have developed recycled polyester yarns supplied to sewing thread manufacturers in order to provide new value and growth engines to customers. We reviewed overseas expansion from our business initiation, and established yarn production plants in China and Vietnam, and we are continuously expanding the production capacity of our factories in Vietnam, through which we are striving to provide differentiated services to our customers.

Interior PU

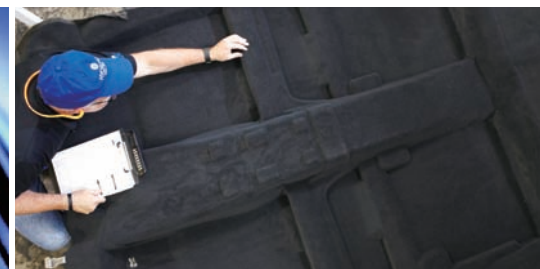
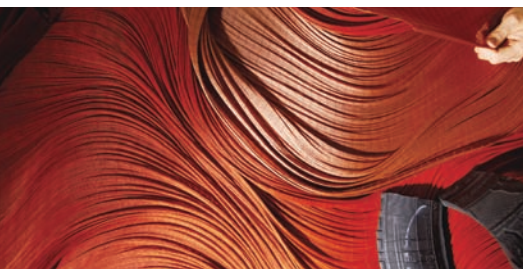
- Automotive carpets : Floor carpet, Option mat
- Commercial carpets : Swan roll carpet, Swan tile carpet, Swan mat
- BCF yarn for carpet : Nylon, PET, PP

No. 1 market share in the Korean roll and tile carpet market

Asia's only carpet maker with its own production facilities ranging from yarn to finished products

Interior PU has maintained its prominent market position in both the commercial and automotive carpet in Korea. It is also Asia's only carpet maker with its own fully integrated facilities ranging from yarn to finished products. Among others, Swan Tile Carpet—one of our major products—is leading the commercial market with its unparalleled quality, which has been proven by eco-label certifications (Korea and United States) and the Korea Industrial Standards (KS) certification. Furthermore, Interior PU meets customer needs promptly, as in the case of R&D for square hollow nylon yarn that is highly contaminant-resistant and wear-resistant. As for the automotive carpet, it has offered differentiated, high-end products with a continuous product upgrade and the enhancement of noise, vibration and harshness (NVH) quality, and has acquired ISO 9001, ISO 14001, and IATF 16949 certifications, based on its complete quality control system. In particular, we produced the world's first automotive polyester tufted carpets, which is supplied to US automobile companies such as GM and Chrysler based on its excellent quality.

In line with increased awareness for green economy, we are leading the automotive carpet market by developing eco-friendly automotive carpets (i.e. recycled, antibacterial products) produced with GRS (Global Recycled Standard)-certified yarn.



Carbon & Aramid PU

ALKEX®

- Aramid yarn / fabric for bulletproof helmets
- Aramid yarn for optical cables and ropes
- Aramid yarn for MRG (Hose & belt reinforcements and tire reinforcements)
- Aramid yarn for civil construction reinforcements
- Aramid yarn for staple (Protective clothing and gloves)
- Aramid yarn for composite

TANSOME®

- Industrial applications : Pressure vessels, Construction, Automotive parts, Wind blades
- Aerospace applications : Primary & Secondary structures, Interiors, Brake discs
- Sports · Leisure applications : Golf shaft, Fishing rods, Premium bikes, Rackets, Premium boats

The aramid and carbon fibers developed by Hyosung Advanced Materials using its proprietary technology demonstrate high tenacity and have the potential to be used in many industrial fields.

Aramid Business

Successful commercialization of Aramid fibers, aiming to become a solution provider

The stronger-than-steel dream fiber ALKEX®, developed by Hyosung Advanced Materials Corporation with its proprietary technologies, helps customers grow their business and enhance their competitiveness. Boasting five times the strength of steel and fire-retardant quality without the use of flame retardants, the high-functional super fiber ALKEX® is used as the core material for bulletproof vests, helmets, vehicles, and is applied for automobile and industrial purposes. Recently, the product has been enjoying the ever-increasing demand as an effective alternative to asbestos previously used to manufacture auto brake pads and linings. To meet such an increase in demand, the division has increased its production capacity to 3,700 tons per year as of 2021. The Aramid Business Division is committed to satisfying the needs of its customers with a wide range of products (high tenacity yarn, high modulus yarn and staple fiber) as well as differentiated products (fine denier yarn, adhesion activated yarn and hybrid tire cord yarn).

Carbon Materials Business

Korea's first commercial manufacturer of high performance grade carbon fibers

Carbon fiber is getting more attention as a core material for weight reduction due to growing interest in energy efficiency around the world. Consisting of more than 92% of carbon, carbon fiber is a cutting-edge material which is 10 times stronger than steel, while its density is only a quarter that of steel. Korea's first high-performance grade carbon fiber, TANSOME®, is available in standard modulus grade (tensile strength of 5.5 GPa and tensile modulus above 250 GPa) and intermediate modulus grade (tensile strength of 5.5 GPa and tensile modulus above 290 GPa).

These fiber types account for over 70% of the total worldwide market demand, and are widely used as the core grade product lines in various industries, including aerospace, high performance industry and sports / leisure. To satisfy the rapid worldwide growth in demand for carbon fiber, which is more than 12% annually, the current annual production capacity of 4,000 tons will be increased to 24,000 tons by 2028. We plan to continuously expand our capacity further becoming a global top carbon fiber player by 2025.



Global Safety Textiles (GST)

- Airbag flat fabric
(Coated / Uncoated / High-con)
- Airbag cushion
- Airbag OPW (Coated, Laminated, X-tether)

Global No. 1 airbag fabric maker

Global Safety Textiles (GST), which produces flat fabric, cushion and one piece woven (OPW) products, is the world's largest airbag fabric maker in the global flat fabric market.

It achieved this through close relationships with major automotive parts companies such as Autoliv, ZF and JSS. GST delivers the world's best quality supported by its technical advantages in hi-tech weaving and cutting processes, and patents in the OPW process. In addition, GST covers the total production process of airbag and cushion manufacturing--warping, weaving, coating, cutting, sewing, and folding, and is able to meet customers' needs with a full lineup of products. With its head office in Murg, Germany, GST has 8 production plants in Germany, Romania, China, USA, Mexico, and South Africa. In addition, GST Germany also has R&D centers in order to develop high value-added products constantly. Through this efficient global network and R&D activities, GST is able to maximize customer satisfaction.



CHEMICALS

• Hyosung Chemical Corporation



HIGH-QUALITY POLYPROPYLENE

Hyosung Chemical operates propane dehydrogenation (DH) process to steadily supply the main ingredient, high-purity propylene. And this allows high-quality polypropylene (PP) to be supplied globally.



FILM MARKET EXPANSION

TAC film is an electronic material that Hyosung has developed in-house, the first of its kind in Korea. It is widely used in LCD panels for TVs, computer monitors, laptops, cell phones and other electronic products. Hyosung has kept pace with changing market conditions by additionally developing Acryl film, which is resistant to water and based on TAC film technology.



THE NEW MATERIAL THAT WILL LEAD THE PARTS INDUSTRY

POKETONE™ (Hyosung Polyketone) is a next-generation engineering plastic successfully commercialized by Hyosung Chemical for the first time in the world, and it is an eco-friendly polymer material produced by using CO and Olefin as a raw material.

Hyosung Chemical Corporation

- PP/DH PU
- TPA PU
- POK Business Division
- Neochem PU
- Film PU
- Optical Film PU

The chemical material technology of Hyosung always supports convenient daily lives

Along with TPA, which is exported to Asia, Europe, the Middle East, etc., and polypropylenes (PP) including R200P, which has the world's largest market share, Hyosung produces various other chemical products such as films and fluorine gas. In particular, polyketone, which Hyosung successfully commercialized for the first time in the world, is a key material that will lead the global components industry due to its outstanding physical properties and competitiveness as a high-molecular, new material.



PP/DH PU

· PP (Polypropylene)

Globally competitive polypropylene resin TOPILENE®

Global No.1 - PP-R pipe grade

TOPILENE® is manufactured and sold by Hyosung Chemical it represents PP, which is the most widely used among the five major general-use resins. TOPILENE® is manufactured through Mitsui Chemical Hypol Process, Grace Unipol Process, and LyondellBasell Spheripol Process. TOPILENE® has gained recognition for its high quality in a range of products for special purposes as well as general-use. The random copolymer products for pipes are exported widely as one of the world's best products. To secure a stable supply of the main material for polypropylene production, Hyosung supplies itself with high purity propylene from the propane dehydrogenation (DH) process where it has adopted cutting edge technology methods. From raw materials to the finished products, it has successfully established vertical integration of its supply chain.

TPA PU

· TPA (Purified Terephthalic Acid)

The unit produces the highest-quality, purified TPA with advanced chemical technologies and experience

The TPA PU produces and sells 420K M/T of high-purity TPA as an element of highly functional polyester textile, tire cords, PET bottles, polyester films, and other industrial materials for daily use. Based on its chemical expertise and experience, Hyosung produces the highest-quality and stable TPA through advanced methods and equipment that enhances the competitiveness of polyester-related manufacturers throughout Asia and Europe.

POK Business Division

· POKETONE™

The only eco-friendly engineering plastic with all polymer main chains consisting of carbon Excellent impact resistance, abrasion resistance, chemical resistance, fuel resistance and gas barrier properties

POKETONE, developed and successfully commercialized by Hyosung Chemical for the first time in the world, is an eco-friendly new engineering plastic material composed of CO and olefin (ethylene, propylene), which is a petrochemical raw material. It has two times the impact strength of nylon, with a chemical resistance 30% higher than nylon; its abrasion resistance is also 10 times higher than polyacetal (POM) with the highest level, and its level of gas barrier properties is also excellent. Hyosung completed the construction of a commercial production plant in 2015 and it is aggressively expanding into the engineering plastic market, which is continuously achieving more than 5% annual growth.



Neochem PU

- NF₃ (Nitrogen Trifluoride)
- 20% F₂ / N₂ mixture gas
- Cl₂, HCl Gas

Producer of NF₃ used to manufacture semiconductor, display, solar products and other advanced products

Having developed high-quality Nitrogen Trifluoride (NF₃ gas) used in semiconductor, display and solar industry, the Neochem PU manufactures and sells it by using professional knowhow and technical competence. The unit has consistently expanded production lines to keep pace with the growth of the semiconductor and display markets to ensure stable supply chain. The unit has promoted production of a variety of products as a special gas professional.

Film PU

- BOPA Film (For Food / Medicine Packaging, Lithium ion Battery)
- Polyester Film (Packaging, Display and Industrial Use)

One of Global TOP 3 Suppliers of BOPA Film / Goal to be a Global Leader

Strengthens basis for growth in polyester film by expanding into specialty product

As the material of outstanding features such as impact strength, anti-pinhole, printability and oxygen barrier, BOPA Film is widely used in packaging industry. Film PU produces and supplies BOPA Film with stable qualities by its accumulated technological know-how, at the same time has a wide variety of types applied in Retort, Medicine and Lithium ion Battery. To be a global leader of BOPA Film, Film PU has expanded manufacturing capacity as a Global Top 3 BOPA makers based on its new installation in Jiaxing, China in 2018.

As the material of outstanding features such as mechanical property, heat resistance and printability, polyester Film is widely used in diverse industries ranging from packaging to electric / electronic. Film PU strengthens its basis for growth with technological innovation and R&D, entering in high value-added film industry like electric & electronic component, display and super-clear window film.

Optical Film PU

- TAC film and Acryl film

Self development and production of TAC films for polarizing plates

Current annual production capacity : a total of 110 million m², with 50 million m² for the 1st TAC Plant, and 60 million m² for the 2nd TAC Plant

Hyosung has developed and produces tri-acetyl cellulose (TAC), which protects the PVA polarizing film in LCD polarizing plates for TV sets, monitors, laptops, and cell phones. In 2009, a plant producing TAC film for LCD panels was established in Ulsan, the first factory in Korea to mass-produce TAC film. A 2nd machine began operating in Oksan in 2013 and has been operating since, having an annual production capacity of 110 million m². These films are being applied to products for coating and OLED that require high quality standard. Hyosung has advanced into the Chinese market, which is emerging as the world's largest display market, and its sales are increasing. Hyosung has kept pace with the changing market by developing an Acryl film that is resistant to water in 2018.



INFORMATION & COMMUNICATION

- Hyosung TNS Inc.
- Hyosung Information Systems Co., Ltd.
- Hyosung ITX Co., Ltd.
- Galaxia Electronics Co., Ltd.
- Galaxia Moneytree Co., Ltd.
- Galaxia Device Co., Ltd.



FINANCIAL AUTOMATION SOLUTION

Based on its advanced technologies, Hyosung is consolidating its position as a global leader across financial automation solution sectors, including development, manufacturing, maintenance, financial VAN and outsourcing services.



CLOUD COMPUTING

Only Hyosung has built a full lineup of cloud computing services in Korea that provides virtual servers, storage, and the network.



NGCN SOLUTION

We provide enterprise network solutions (Wi-Fi AP) that can be applied to various areas, such as smart city and smart tourism business, based on the differentiated functions of the smart zone platform that offers wireless infrastructure management and flexible expandability.

Hyosung TNS Inc.

- Branch transformation solution
- Banknote Recycling Machine
- Cash dispenser
- Video Banking Solution
- Omni-channel Solution
- ATM total outsourcing
- SmileEDI
- Digital Desk Solution
- Automated teller machines
- Teller cash recycler
- Multi function kiosks
- Realtime ATM Monitoring & Management Software
- Multi-vendor ATM operation Software
- MyCashZone
- Self-Check-out

Korea's No. 1 ATM market leader, exporting to more than 35countries No.1 in the United States, Russia and Nigeria ATM markets

Hyosung TNS, established in 1979, is aiming to be an innovative financial service automation total solution provider, and is becoming to a global financial solution leader by providing convenience and trust for users and profitability and competitiveness for clients. Having established Korea's first computer factory in 1980 and Korea's largest financial automation device laboratory in 1983, the company has contributed to the progress of the financial industry with its diverse solutions and advanced financial automation systems through continuous R&D. Hyosung TNS has been an undisputed No. 1 in the Korean ATM market. The company began exporting products in 1998 and now has the biggest share of the ATM market in the United States, Russia and Nigeria. This achievement has positioned us as a global player in over 35countries where we export self-developed ATMs.



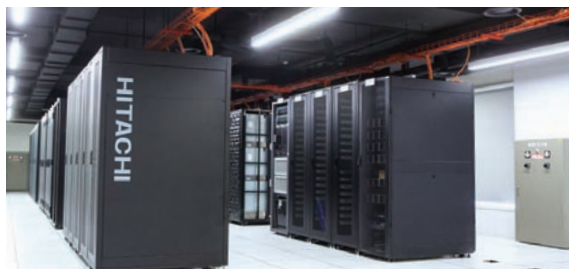
Hyosung Information Systems Co., Ltd.

- Construction and consulting services for IT Infra and data center modernization
- Private / Hybrid Cloud Solution
- Data Analytics and DataOps Portfolio
- Big Data & IoT Platform
- Smart Video Surveillance and Analytics Solution

Construction and Consulting Services for Integrated ICT environment Supporting business innovation for customers by building an efficient ICT environment

Hyosung Information Systems was established in 1985 as Korea's first IT Company, offering mainframes and discs to public and financial organizations. Since then, HIS has provided IT solutions and services to over 1,700 SI companies and many corporations across diverse industries including financial, manufacturing, public service and communication.

HIS provides high level of technology across IT infra and customized services, accumulated over 30 years. Also, HIS proposes portfolios to modernize customer's data center, strengthening Cloud business. Recently, HIS started to support customers' digital transformation journey by expanding solutions including AI/Machine Learning, Big Data and IoT.



Hyosung ITX Co., Ltd.

- Contact center
- CDN (Content Delivery Network)
- SI (System Integration)
- SM (System Management)
- Display solution
- Smart Factory Solution

Having Big Data technology and large-scale IT Infrastructure Provides total business solution from IT Service to Contact Center

Hyosung ITX is an IT service company that provides customer-optimized business environments. With a contact center business that strategically manages communication channels, IT service business that provides a variety of network infrastructures by designing and establishing IT systems, and display solution business that provides image equipment sales and installation services, Hyosung ITX offers the comprehensive services needed by corporate businesses. The company is combining artificial intelligence (AI), big data and IoT technologies to establish efficient, intelligent services in accordance with the trends of the Fourth Industrial Revolution and making contributions to the strengthening of customer competitiveness and creating new added value.

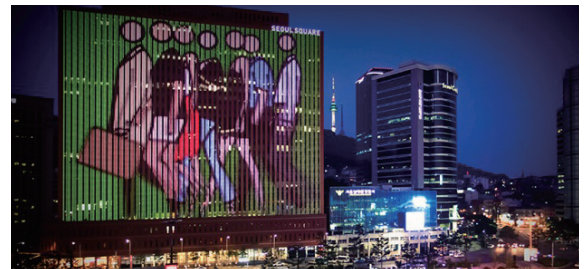


Galaxia Electronics Co., Ltd.

Professional manufacturer of LED display systems, construction landscape lighting and LED lighting equipment

Galaxia Electronics Co., Ltd. is a professional manufacturer of LED applications that develops and manufactures LED displays and LED lighting systems.

The company's main business activities involve the production of LED displays used as imaging devices, the design and installation of lighting for building landscapes and media façades, and household LED lighting. Its LED displays are earning raves in the global entertainment market for their clear, deep color implementation, first-in-history super-large 3D screen through new technology and reliable products. The company boasts unrivaled technical prowess, particularly in media façade design, a new area of visual and spatial art that transforms buildings into huge works of art after sunset, producing spectacular images. In addition, Galaxia Electronics produces a highly reliable full lineup of white LED lighting systems based on its strict quality control and development competence, and provides customized lighting solutions best suited to the needs of various customers through control solutions that can maximize energy reduction.



Galaxia Moneytree Co., Ltd.

A leading company in the comprehensive financial platform service sector of the FinTech market

As the only Korean company with its original technology for integrated electronic payment solutions, Galaxia Moneytree Co., Ltd. leads both the online and offline payment markets with electronic payment service, Convenience store Payment & Pre-paid service, mobile commerce and daily financial service platform services “Moneytree”, based on its advanced technology and service competitiveness. The company has built its expertise by issuing and distributing mobile department store gift cards for the first time in Korea. It has also maintained its global competitiveness by securing the largest domestic market share in the convenience store pre-payment service sectors. Based on these competitive edges, Galaxia Moneytree is currently offering the Money Tree service—Korea’s only mobile platform through which unused points, gift cards and coupons can be freely exchanged—and growing as a comprehensive financial platform service company.

Also, Galaxia Moneytree has recently expanded the service to enable the exchange of all digital values within “Moneytree” by adding blockchain-based virtual assets, and starting with this, Galaxia Moneytree is focusing more on the virtual asset business.

‘Zopssal (XTL)’ is a blockchain based reward cryptocurrency service that allows users to collect it as a reward by various activities such as Cash top up, purchase coupons and participate events, and use it as cash.



Galaxia Device Co., Ltd.

Development and manufacturing of mobile device components, ATM rollers and units, optical sensors, motors, etc.

Galaxia Device is an IT component company supplying buttons, keypads and rubber parts for mobile phones, roller and units for ATMs, etc. Galaxia Device Co., Ltd. is an IT parts and materials supplier of mobile phone keypads, ATM rollers and units, and special rubber for TV sets and touch screen panels. The company manufactures key components required in various OA devices and terminals such as mobile phones, PDAs, key phones and remote controls. In particular, for design, development, mold manufacture (internalization of core processes) and quality assurance, the company is gaining international competitiveness and has also partnered with Samsung Electronics in the wireless, printer and imaging businesses for more than 30 years. In addition, it focuses its capacity on developing competitive products, including the localization of the cash sorting and guiding unit in ATMs, the pick up roller, and the production of core ATM parts F-roller and G-roller. It also has the capacity of manufacturing competitive products, and is developing and manufacturing units and modules for various automated systems including ATM machines and check processors. In addition, the company is establishing the growth foundation to become a top-tier components company by preparing to enter new parts markets, such as sensors and motors, based on its achievements in mobile phone and ATM parts endeavors, and it is continuing research and develop core parts to lead the IoT field, which is regarded as the center of future industries.



OTHER AFFILIATED COMPANIES

- The Class Hyosung Corporation
- Hyosung Toyota Corporation
- The Premium Hyosung Co., Ltd.
- Forza Motors Korea Corporation
- Hyosung Premier Motors Corporation
- A-seung Automotive Group Co., Ltd.
- Shinwha Intertek Corporation



TOTAL SERVICE FOR GLOBAL AUTOMOBILE

Providing total services from initial consultation, purchasing, financing, after-sales service, to used car sales for customers purchasing prestige cars such as Mercedes-Benz, Toyota, Lexus, Maserati, Ferrari, Jaguar, and Land Rover.

The Class Hyosung Corporation

As an authorized Mercedes-Benz dealer, The Class Hyosung Corporation is guided by its philosophy of being 'The best or nothing' ('Das best oder nicht'). The Class Hyosung Corporation provides stable, unique services that can only come from a large company that has the trust of and investment by Mercedes-Benz. The Class Hyosung proudly presents its dedicated automobile showroom on Gangnam-daero. With additional showrooms in Bundang Jeongja, Songpa, Pyeongchon, Cheonan, Cheongju, Guri, Yongin Suji, Dongtan and Starfield Hanam the company sells the prestigious Mercedes-Benz brand from Germany. Its service centers in Gangnam-daero, Dogok, Seocho, Songpa, Jukjeon, Pyeongchon, Cheonan, Cheongju, Yongin Suji, Guri and Dongtan provide differentiated premium services that 'Make Mercedes-Benz more classy.' It also operates a showroom for Mercedes-Benz certified preowned cars, in Jukjeon and Cheonan. A Premium Lifestyle Provider that offers total service from initial consultation to purchasing, financing, and after-sales service - that's The Class Hyosung.



Hyosung Toyota Corporation

Hyosung Toyota, founded in October 2009, is the official Toyota dealer in South Korea.

The company is not just selling cars, it is striving to be customers' partner who can design a new lifestyle and experience the excitement. It manages showrooms in Seocho, Gangseo and Anyang Pyeongchon areas. It also runs service centers in Gangseo and Seocho area. And, it will continue to expand its business network. The company acquired the first 'kodawari' certification for Toyota dealers and has been operating CRM programs. Hyosung Toyota Corporation provides full customer satisfaction, thereby growing into a company that continues to be chosen by customers.



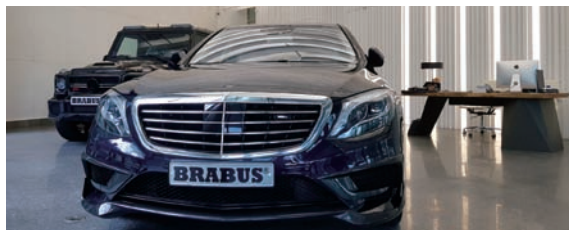
Hyosung Premier Motors Corporation

Hyosung Premier Motors Corporation has been founded in 2016, and is the official retailer for Jaguar Land Rover Korea. The company is currently operating the brand's largest service center, new and used car showroom in Busan and Ulsan area. It is to faithfully deliver the core values of Jaguar Land Rover, the 'British Luxury' brand, to customers. Under the principle of 'Customer First' Hyosung Premier Motors Corporation is offering differentiated premium services to Jaguar Land Rover customers.



A-seung Automotive Group Co., Ltd.

A-seung Automotive Group Co., Ltd. is the sole importer in Korea for world renowned tuning brands such as Brabus, ABT and AC Schnitzer delivering both complete cars and tuning parts to the Korean market. A-seung is pioneering the tuning culture in Korea through the "one-stop" showroom and service center established in Banpo, Seoul where customers can directly experience world-class high performance vehicles.



The Premium Hyosung

The Premium Hyosung Co., Ltd. is an official dealer of Toyota Motor Korea, selling Lexus and Toyota cars in the southwestern region of Korea. Lexus provides 'the pleasure of ownership' following its mission 'to make premium cars comparable only to the best in the world' Guided by the slogan 'Experience Amazing' it is taking the lead in continuous brand value improvement and customer satisfaction. Toyota, a world-class automobile providing optimized value based on the motto of Customer First, is helping customers enjoy pleasant, rich lives. The Premium Hyosung Co., Ltd. runs Gwangju, Jeonju and Suncheon showrooms, general repair (GR) centers, and Gwangsan (BP) service center, the largest in the Honam region, to deliver high-class, differentiated services to its customers through its one-stop total service.



Forza Motors Korea Corporation

FMK is the official importer of Ferrari and Maserati vehicles in Korea. Since its foundation in June 2007, FMK has achieved continuous growth through its endeavors to lead the Korean automotive industry based on its deep understanding of and experience with high-end brands. FMK is engaged in a wide range of activities, including the establishment of infrastructure for various high quality services, differentiated VVIP marketing activities and customer service programs. By implementing culture marketing activities that embody history of these luxury car brands, the craftsmanship, the cutting-edge technologies accumulated based on racing DNA, and Italian sensitivity, FMK promises to offer true Italian luxury brand value and experiences to Korean customers.



Shinwha Intertek Corporation

A company that produces optical film for LCD TV BLU and tape materials for mobile OLED devices

Shinwha Intertek entered the display material business in earnest in 1983 by mass-producing tape for cathode-ray tube TVs and has grown into a display material company by starting an optical film business for LCD TV BLUs (back light units) in 2004.

Shinwha Intertek, a leading company in optical film for LCD BLU that carries out transactions with major TV and LCD panel manufacturers all around the world with the development of independent technologies, has established customer-oriented SCM by expanding global supply capability and localization with two overseas branches (in Suzhou and Dongguan, China) to overcome its customers' regional limitations, and has been developing high-functional film and tape for OLED applied to smartphones as well as optical film for LCD BLU and providing them to customer companies since February 2014.

Shinwha Intertek has been growing its business of tape for mobile OLED to diversify its business structure in earnest. To discover

future products, it will grow into a global material company that pushes the limits of displays and leads the future industry by developing next-generation display materials such as OLED and micro-LED, display material for vehicles, and eco-friendly furniture deco film for use in everyday life, and by advancing into special film areas that are currently monopolized by Japanese companies.





**Technology makes dreams come true,
Hyosung's technology opens up a new world**

Since Hyosung established Korea's first private R&D center affiliated with a corporation in 1971, the company has developed five world's best products and many other world-class products and brands in textiles, industrial materials, chemicals, power & industrial systems, and information & communication fields, profoundly affecting the lives of people. Globally competitive technical competence, experience in and passion for R&D, and an unquenchable thirst for challenges will enable Hyosung to open up a new world of technology with the spirit of a pioneer.

RESEARCH & DEVELOPMENT

- R&DB Labs
- Power & Industrial Systems R&D Center
- Steel Wire Technical Center
- Technology R&D Center

R&DB LABS

Established as Korea's first R&D Center affiliated with a corporation in 1971, Hyosung R&DB Labs has expanded its research scope to raw materials and products of chemical, based on R&D capacities in synthetic fiber research, the driving force behind Korea's industrialization. Hyosung's 'Central Laboratory' and 'Production Technology Center' have been integrated into 'Hyosung R&DB Labs' for a greater synergy in September 2006. Hyosung reorganized its structure into five major research groups based on 10 core basic technologies, in order to create new business opportunities in 2011. In addition to research technologies for future business areas, which are going to provide the basis for future growth, Hyosung R&DB Labs are developing new products and processes and help them to be widely utilized as rapidly as possible.



Research Areas

- Textile research group (New industrial textile, Functional apparel textile)
- Polymerism research group (Engineering plastics, Polymers, and catalysts)
- Film research group (Optical films and industrial films)
- Functional materials research group (Carbon fiber and compound materials, Membranes)
- Electronics materials research group (Nano materials)

Research Results

2020	Developed cotton dyeable spandex, Developed bio-based spandex, Recycled NY Robic luster specialty, Developed CD Recycle PET, Developed high impact resistance HPPB materials for sewage pipes, High performance antistatic film, Intermediate modulus carbon fiber, Ultra high strength carbon fiber	2010	Developed highly chlorine-resistant spandex, highly functional nylon shaped yarns (Aqua-X), highly sensitive nylon shaped yarns (Rexy), high value-added electronic material with PP grade, and laptop thin films.
2019	Developed PET CD continuous polymerization process, Quality improved NY bonding fiber, Developed soft spandex, Developed differentiated tire cord with high tensile strength and high modulus, Developed tire cord clip-recipe for improved thermal resistance and adhesive force, Developed crosslinked forming PP	2009	Developed highly colorful sportswear PET yarns (Prizma), transparent PP grade for LCD protective films, high-density catalysts for propane dehydration, anisotropic conductive films (ACF), normal grade for small LCDs and heat-resistant BOPA film and chemically treated BOPA film for adhesion.
2018	Developed R-TPO (Reactor made Thermoplastic Olefin) grade	2008	Developed thermo-keeping polyester fiber (Aerowarm), recycled polyester long fibers (Regen), para-aramid fibers, solution-dyed yarns for ARS, 300ml vending machine water bottles, and 200ml 43g light spring water bottles.
2017	Developed recycled flame retardant PET fiber, dope dyed PET fiber for automotive application, high impact strength & transparent PP grade, acquired certification of a new environmental technology for pressurized-type hollow fiber membrane, Developed green dope dyed NY fiber with high tenacity, POK membrane module manufacturing technique, NY/PET conjugated fiber with mélange effect, PK Grade for pipe fitting parts, PK wear-resistant gear grade, PET film for LCD multi-layer sheet	2007	Developed anisotropic conductive films (ACF), flame-retardant Prizma yarns, ultra-high-strength PET yarns for ARS, and PET films for windows.
2016	PET White dope dyed fiber, Developed highest LTHS (long term hydrostatic strength) PPR material, Developed CD (corrugated conduit) grade for cold weather application, Developed high elongational spandex, Developed POK grade for industrial pneumatic tube, Acquired KWWA F106 certification for AMC hollow fiber membrane	2006	Developed polyester Askin yarns, polyester low-shrinkage yarns, polyester conductive yarns, water-repellent yarns for C&L fabric, and nylon bonding yarns.
2015	Developed deodorant PET fiber, 3H normal anti-glare film, anti-ballistic aramid solution, high flexibility & high impact strength Polyketone compound, large tow carbon fiber, YAG and LuAG LED phosphors, heat generating fiber, high tenacity PET hollow fiber	2005	Developed high-purity fluorine gas, polyester latent and potential crimped yarns (Xanadu 55), industrial polyester inflammable yarns, alkali-resistant spandex, and solution-dyed spandex.
2014	Developed specialty conjugated yarn (dope dyed, CD PCP), Developed dope dyed Robic, Medical PP grade for high speed ISBM process, Developed high strength flame retardant Polyketone compound, Developed carbon fiber for pressure vessel, Development of high temperature filtration process using POK membrane	2004	Developed 'MipanNano Magic Silver', a silver nano fiber, PVA fiber, highest spandex, micro-polyester process yarns, and polypropylene polymer catalysts.
2013	Developed solvent-free spandex, PET water repellent yarns, NY66 air-textured yarn (ATY), GF-PPR, grade for extrusion coating, the world's first successfully developed and commercialized new material polyketone (POK), retardation film for VA mode, ultra-wide TAC film, PET film development for LCD light diffusers, transparent conductive film for touch screen panels, high-tenacity intermediate modulus carbon fiber, and acquired certification for pressurized-type hollow fiber membrane module.	2003	Developed PEN tire cords, Lycocell tire cords, Zn-free Spandex, medical PP chips, and multi-layer PET beer bottles
2012	Developed heavy-denier spandex yarn for diaper OETO, health-care / far-infrared emitting fiber, rayon-like PET for UHPT, seat belt yarn for high-quality dyeing, aramid fine denier yarn, high gloss & high stiffness PP, TAC films for 3D FPR, nylon films for secondary-cell pouches, low-haze anti-glare film for TVs, high heat resistant prepreg, intermediate-diameter CNT, and acquired certification for a new environmental technology process for submerged-type hollow fiber membrane.	2002	Developed fluorescent spandex, heat-resistant spandex, chlorine resistant spandex, antibacterial nylon textile, polyester films, and nano compound films.
2011	Developed protective film technology for eco-friendly polarizing plates, antireflective films for TV sets, high modulus carbon fibers, high heat resistance and high elongation spandex, highly functional PET multi-lobal yarns, and ultra-low shrinkage yarns for broad woven.	2001	Developed polyester ultrathin fibers (0.2 Denier), PTT BCF carpets, and nylon film resins.
		2000	Developed sheath-core nylon luminous yarns, DH catalysts, HIPP, and butene random PP.
		1999	Developed polyester ultra-fine fiber, ultraviolet nylon yarns
		1998	Developed HTS special yarns, bottle CoPEN resins, and water-soluble Chitosan
		1996	Developed airbag yarns and synthetic yarns
		1994	Developed antibacterial, anti-odor carpets, hollow yarn film filter water Purifiers
		1993	Developed nylon hollow yarns, wastewater treating microorganisms 'PREMO'
		1992	Developed nylon ultra-fine yarns, dry Spandex
		1989	Developed Full-Dull polyester fiber
		1987	Developed nylon 66 resins
		1986	Developed polyester hollow yarns
		1984	Developed PP resins and epoxy resins
		1983	Developed nylon / polyester microfiber, nylon conductive yarns, artificial suede, artificial grass
		1980	Developed nylon 6 resins
		1978	Developed BCF yarns for carpets

POWER & INDUSTRIAL SYSTEMS R&D CENTER

Hyosung has been recognized for its world-class technology in the field of high-voltage power systems, having developed Korea's first 765kV high-voltage transformer and 800kV gas insulated switchgear. Since its establishment in 1978, Power & Industrial Systems R&D Center has taken the initiatives in technical development in the field of heavy electric machine. More recently, to respond to the new paradigm of the power industry represented by DC grid, it is spurring the development of new technologies, including ESS, STATCOM and voltage HVDC. In addition, the company strives to build and develop asset management solutions that provide systematic management services of facility assets combined with the fourth industrial technology-based products and service systems.



Research Areas

- Development of Interpretation Programs for Electric Power Systems
- STATCOM (STATic synchronous COMPensator)
- ESS (Energy Storage System)
- AHMS (Asset Health Management Solution)
- Voltage Type HVDC

Research Results

2020	200MW BTB MMC HVDC prototype development (converter sub-module, sub module controller), Development of 98.7% 2.5MW Modular PCS for PV-linked large capacity ESS market response, Development and construction of AMS (Asset Management System) for Mozambique Power Authority, Development of LPIT (Low power Instrument Transformer) for 145kV GIS, environment-friendly R&D	2011	20kW-800kW PCS for Li-B Energy Storage System, Navy's Next-Generation mid-sized torpedo propulsion motor, 50kW class EV motors (Commercially applied in HMC's EV Model 'RAY'), Dissolved Gas Analysis and Diagnostic System for Power Transformer, IEC 61850 based 154kV M.Tr IED / 170kV GIS IED
2019	200MW BTB MMC HVDC core part development (converter sub-module, sub module controller), Development of 98.5% 700kW DC-DC PCS for railroad vehicles in Osong DC Substation, 125 KW ESS PCS UL (Underwriters Laboratories) Certification, Development of 97% 2MWh ESS for low-voltage DC distribution in Gochang Power Test Center of KEPCO, 7MWh ESS development for DC Grid and energy cost reduction Construction of demonstration complex in Chosun University Campus, Digital substation and environment-friendly R&D	2010	60kW class EV motors (applied HMC's EV test Model 'Blue-On'), Submarine Large-sized Propulsion Motor, 750kW-class DFIG type Wind Turbine PCS
2018	20MW BTB MMC HVDC pilot site commissioning / 400MW class MMC STATCOM installation and commercial operation (KEPCO Shin-youngju S/S, Shin-Choongju S/S) / Development of Asset Management Solution for 154kV Substation, (AHMS First in Korea), Received AM system orders for SK Airgas (154kV S/S), POSCO (154kV S/S), and Mozambique Utilities (EDM_Over 114kV 64 S/S), Received AM Solution orders for KEPCO and KRRI	2009	100MVA STATCOM
2017	Development of integrated ESS Control Solution, Gimje Substation 48MW ESS Station for Indoor FR Commercial Operation, PV Connection type ESS (Yeongheung 7MW / 18MWh, Haenam Green 8MW / 33MWh, Samcheonpo 12.5kW / 32MWh, Totally 50.3MW / 160MWh installed)	2008	System-connected solar inverters (3kW, 50kW, 250kW), 1kW class PEMFC home generation systems, ecological 25.8kV 25kA Dry Air-Insulated Switchgear (DAIS) (first in Korea), 245kV 40kA Motor Direct Drive Mechanism (MDDM) GIS
2016	2MW ES PCS for KEPCO Frequency Regulation (KEPCO 3rd Project, Gimje Substation 48MW), Independent Island MG System (Gapado Island 3.25MW / 3MWh, Geochado Island 250kW / 500kWh), Outdoor Type 1MW PV PCS (UL Certification Achieved, CEC Efficiency 98%), 154kV Transformer / GIS Asset Management Solution (First in Korea), 315~400Fr, Induction motor (315Fr, 4P IE3 certificate), IE4 LS-SynRM 3.7kW	2007	154kV gas transformers, 2MW-class wind power system
2015	Energy Storage System for Wind Farm Integration (First in Korea, Yeongheung, 4MW PCS & 16MWh Battery), Energy Storage System for Energy Savings (Gyeongju, 1MW PCS & 2MWh Battery), 150MW class MMC STATCOM (KEMA type test certificate), IE4 Super Premium Synchronous Reluctance Motor Line up (less than 45kW)	2006	10MVA STATCOM, GIS partial discharge diagnosis system, Power transmitter class FACTS device core parts domesticized (first in Korea)
2014	Renewable energy Integrated MW-class Li-Battery Energy Storage System, 20MW class Voltage Source Converter HVDC system, 150MW class Multi-Modular type STATCOM	2005	750kW class wind power generation systems, 100kW class fuel cell PCS, 36kV 31.5kA GIS
2013	Battery Energy Storage System and Micro Grid for Off-Grid island IE 4 Super Premium Synchronous Reluctance Motor	2004	245kV 50kA class GIS (first in Korea), 25.8kV 25kA GIS (applicable size changed, first in Korea), 24kV 40kA 3000A GIS (first in Korea)
2012	1MW Li-Battery Energy Storage System, 250kW / 500kW PV PCS, 80kW Permanent Magnetics Synchronous Motor and Drive for Electric Vehicles (EV), EV Charging System, Power transformer Partial Discharge detection Diagnostic System	2003	362kV 50kA GIS (first in Korea), 154kV 80MVA UPFC (FACTS) pilot plant (first in Korea)
		2002	Substation automation system, 300kV 40kA GIS
		2001	154kV 40MVA FACTS transformers, Interpolar condenser without capacitor, 170kV gas circuit breaker
		2000	Distribution digital protection meters
		1999	800kV ultra-high voltage circuit breakers, 765kV transformer device preventive and diagnosis system, 200kW gas engine heat combination systems, Package-type CNG filling systems, Nuclear power plant Q-class large-capacity motors, 362kV 63kA 8000A GIS (first in the world)
		1995	Gas turbine co-generator, railcar towing motors
		1992	765kV transformers (first in Korea)
		1987	170kV 31.5kA 1200A GIS
		1986	Amorphous transformer (first in Korea)
		1984	154kV phase-separation transformers (3ph 154kV 386MVA)
		1982	Nuclear power plant 345kV transformers (1ph 345kV 1187MVA / Bank)

STEEL WIRE TECHNICAL CENTER

The Steel Wire Technical Center was established in 1986 to develop leading-edge production technologies for tire reinforcement materials (steel cord, bead wire) and related products. Using the research technology it has accumulated over the years, it is leading tire weight reduction research with the application of ultra-high tensile strength steel cords and is endeavoring to develop new environmentally friendly products to reduce the use of tire materials that are harmful to the environment. The Steel Wire Technical Center underwent a large expansion of its advanced analysis equipment, pilot facilities, and researchers to enhance basic research and research capabilities in 2007. It has been operating technical centers in China and Vietnam for the timely application of new technologies as well as quick response to global customer requirements. Through industry-university cooperation and external research network, it is making continuous effort to secure the world's best technology providing competitive advantages to customers and new business technologies that will become a future growth engine.



Research Areas

Steel wire processing technology development

- Steel wire heat treatment technology
- Plating and surface treatment technology
- Wire Drawing Technology
- Mega high-tensile strength product manufacturing technology
- Cabling mechanism research

Tire-specialized research

- Ultra high performance tire (UHPT) reinforcements
- Low fuel consumption tire reinforcements
- Eco-friendly tire reinforcements
- Tire analysis and performance prediction technology
- Research on the characteristics of future vehicles and next generation tires

Steel wire application research

- Ultra-fine wire development
- Hose wire development
- Steel wire reinforcing communication cable development
- Special function wire development

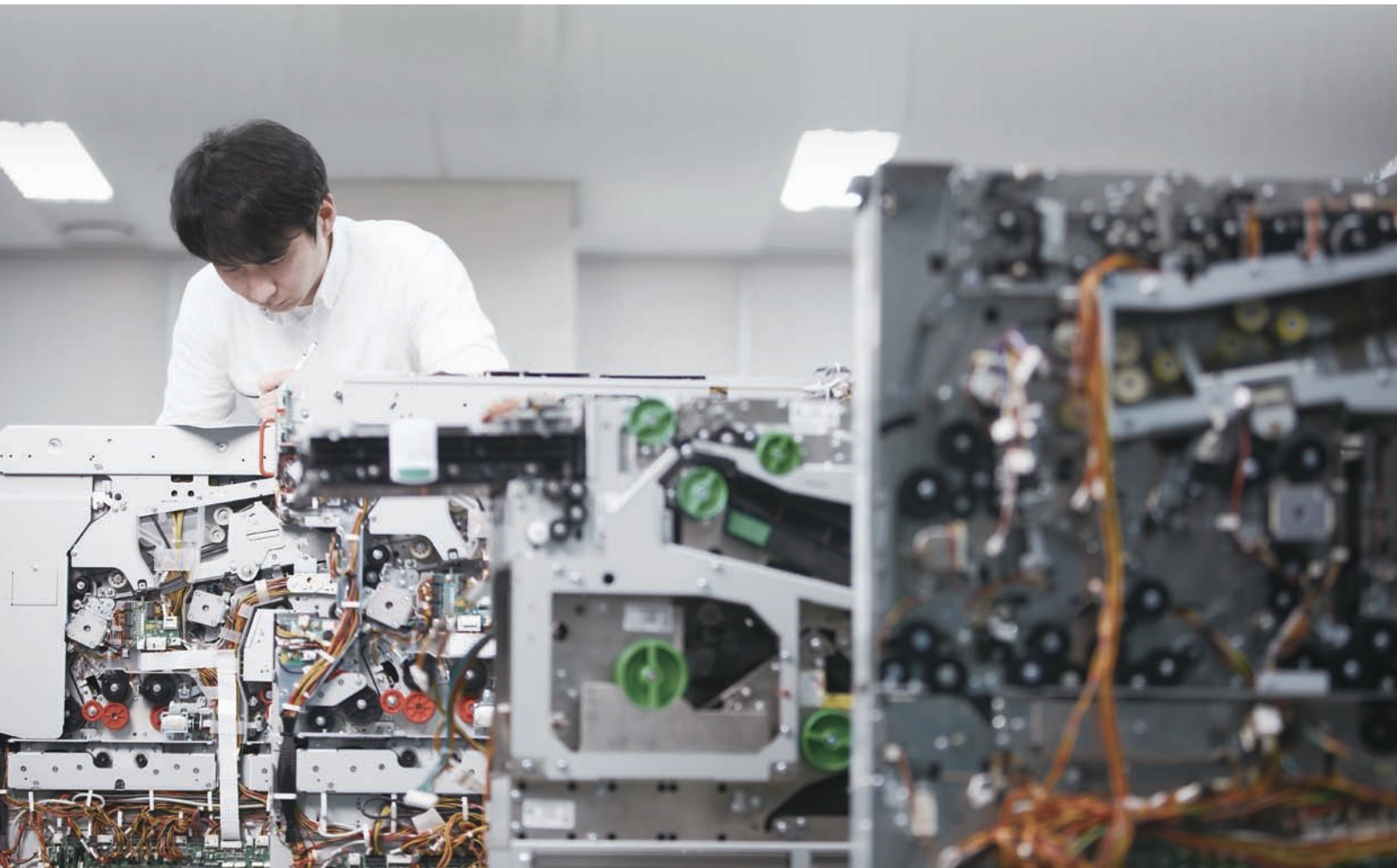
Research Results

2020	Developed design technology for optimized condition of steel wire drawing process	2009	Developed mono wire for ultra-light tires
2019	Developed precision-control heat treatment technology through a metal microstructure prediction program	2008	Optimization & designing of the steel cord production process in Nanjing (China) plant
2018	Developed steel communication cable center tensile wire / supporting wire	2007	Designed and optimized the saw wire production process
2017	Developed the Zinc coated Steel cord for eco-friendly tire, ultra-fine steel wire for diamond coated wire, and fine-diameter hose wire	2006	Developed UT (Ultra Tensile, 4000 Mpa) steel cord
2016	Developed the ultra-fine filament steel cord for LTR carcass	2005	Developed recycling process of lubricants used in wet drawer of wire to reduce waste
2015	Developed hybrid cord, a new concept tire reinforcements	2004	Optimization & designing of the steel cord production process in Qingdao (China) plant
2013	Established Chinese Steel Wire Technical Center, Developed high performance stranding machine	2003	Developed a new steel cord production process improved brass plating
2012	Developed fine-diameter saw wire, and diamond wire, Designed and optimized bead wire manufacturing process in Vietnam plant	1999	Developed NT (normal tensile, 2850 Mpa), HT (high tensile, 3300Mpa), ST (super tensile, 3650 Mpa) steel cord
2011	Established Vietnam Steel Wire Technical Center, Designed and optimized the saw wire manufacturing process in Qingdao (China) plant	1998	Developed a new bead wire production process
2010	Designed and optimized the steel cord production process in Vietnam	1996	Developed technology that enhances the plating efficiency of brass
		1987	Designed and optimized the tire reinforcement production process



TECHNOLOGY R&D CENTER

As Korea's largest financial automation device R&D Center, the Center boasts independent hardware and software development technologies to produce the best automated devices, terminals, and core modules. Since its establishment in 1983, the Center has succeeded in implementing different countries' currency-identifying technologies and acquired standard certifications required by EMV, EPP, CEN, and UL in the international market, thereby contributing to the advancement of financial IT technology. The goal of the Center is to contribute to the safety and development of the financial service industry with the world's best financial automation device technology.



Research Areas

- ATM development (Mechanism / Electronics / Software)
- Independent core innovative module development
- Element technical development (Control technology, Device technology, Circuit technique, Security technology)
- Mechatronics, New robotics technology development

Research Results

2020	Developed and Operated Digital Desk's H/W and S/W for Teller's convenience, Developed New Teller's Banking Machine's H/W and S/W for Teller's convenience, Developed New BRM Module for Domestic and Global Market, Developed New CSM Module Developed Managed Service for BRI bank in Indonesia, Developed Next AP Solution for Fintech and currency exchange service, Developed MV100 for Nigerian Market.	2012	Developed New Branch Solution (Self Service Banking, Video Banking), teller ATM (TCR), cash / check mixed media recycling module (BRM11), passbook issue module, banknote fitness sorting technology, OCR technology for banknote serial numbers, CEN safe series (Grade L, I, III, IV), ATM Software 'MoniPlus' - global security standard certification
2019	Developed Drive-Through ATM to reflect customer's needs for the U.S. Bank market, Developed Self Order Kiosk device and S/W for the Kiosk, Developed SCO (Self-Check-out) device for the large sized market, Developed EPP (Encryption Pin Pad) for global security standard PCI 5.0 certification, Developed ATM S/W for Windows 10 for customer certification, Developed and operated Moni-Manager S/W for MVS project for India, Developed Self Bank Kiosk (Digital Kiosk) S/W for Kook-min and Hana bank, Developed TCR MS500 S/W for Western Europe.	2011	Developed export-type check / cash deposit integrated module (CCIM), circulating ATM with Global BRM (8000A, 8000TA)
2018	Developed present BRM with differentiated functions to reflect customer's needs for the U.S. Bank market, Developed transit BRM that allows cash replenishment / retract without opening the safe for enhancing the cash management of branches, Developed CDU that miniaturized cash dispenser cassette of the U.S retail market and improved customer convenience, Developed CCIM that increases the capacity of cash storage to increase the actual operation time of the device, Developed the SW solution (WARP) improving ATM UI of banks and reflecting multi-vendor SW needs.	2010	New-generation High-End CDU, I-PBM (inkjet bankbook printer)
2017	Developed a new middle and high priced ATM 'MX2800SE' to expand the retail market, Developed Kbank Multi-ATM for the domestic market, Developed WARP UX / UI of the next generation ATM S/W platform based on Omni-channel, Developed an algorithm to detect soiled banknotes, Developed Dual CPU control technology, Developed Linux OS-based Linux ATM S/W supporting C/XFS specification	2009	Developed the new-generation circulating ATM with Korea's first BRM (Ubitus 8100), currency identification certification by Europe Central Bank
2016	Developed standard ATM "MX8600S, MX5600S" with improved security and performance, Developed an optimized branch solution "Mini-NBS", Developed "Micro ATM" to reduce customers TCO, Developed new high end ATM "MX7800 Series", Development of "MoniMobile" Retail ATM management mobile solution	2008	Developed the export-type cash deposit module (BNA), export-type check deposit module (BCA)
2015	Developed Full Function New Branch Solution (ShinHan Bank Digital Kiosk) for domestic market, new ATM line up for global market (MX7800 Series), New Branch Solution with Teller Cash Recycler (MS500SE), Mobile ATM Solution (MARS)	2007	Developed a new type of cash and check ATM (SCDP2), export-type, financially high-performing ATM (MX 7600 series), cash scanner sensing deposit machine (CSM)
2014	Developed Cash & Check Recycler Machine (CCRM), Teller ATM (TCR) Line of Products (Under / High Counter Types), New ATM for Retail Banking (NH2600SE, MX5200), Bitcoin ATM, Banknote Validation Using Multispectral Imagery, Metal Detection Mechanism, Video Banking Solution.	2006	Developed high-performing drive-up ATM for the US financial industry, new banknote multifunctional ATM (T2 ATM)
2013	Developed Standard Hybrid ATM, Full Function New Branch Solution (Self Service Banking, Video Banking), Halo ATM, ATM with Global BRM (MX8200CL, MX8600), ATM specified for blind people, ATM software 'MoniPlus 2S' for ATM Multi-vendor usage	2005	Developed bill payment systems for export to Mexico
		2004	Developed bank statement printer (A4 Size) and wall-mountable type ATM
		2003	Developed wall-mountable-type and drive-up automatic cash dispenser and giro bill payer
		2002	Developed high-performing automatic teller machine (T1 ATM) and automatic cash dispenser for export to the US (MB 1500)
		2001	Developed desk-type automatic cash dispenser (NanoCash-3000)
		2000	Developed desk automatic cash dispenser (NanoCash-2000), VAN CD
		1999	Developed automatic cash dispenser for export to the US (MB-3000)
		1998	Developed automatic cash dispenser for export to the US (Mini Bank)
		1997	Developed export-type cash dispensing unit (CDU-M)
		1996	Developed circulating automatic cash deposit and dispensing machine (RATM) and branch server (Branch Processor)
		1995	Developed non-circulating automatic cash deposit and dispensing machine (ATM)
		1994	Developed cash and check dispenser (CD) and bankbook printer



Establishing and leading new Corporate Social Responsibility

Hyosung's sustainability management is to fulfill its economic, social, and environmental responsibilities based on its mission to create better lives for people by way of the best technology and management capability. Through communication and cooperation with various stakeholders such as customers, employees, suppliers, and local communities, we will continue to pursue corporate management that addresses to domestic and overseas issues, and we will take the lead in creating a sound ecosystem that enables both companies and society to grow together.

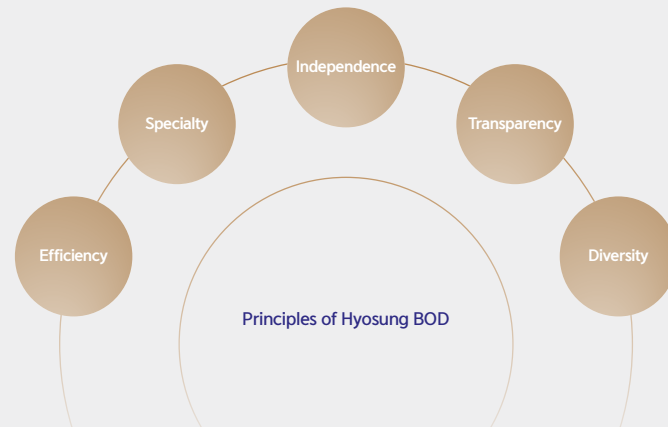
SUSTAINABILITY MANAGEMENT

- Governance
- Customer Satisfaction And Product Responsibility
- Green Management
- Sharing Based Management
- Shared Growth Management
- Ethical Management

GOVERNANCE

Based on the philosophy, “leading a better life for mankind based on the best technology and management capabilities”, Hyosung is aspiring to be the top global company that cares people and society, and operating its governance system according to robust principles and policies. Our governance is based on checks and balances guaranteeing transparent and independent decision-making and effective business operation.





Principles of the Board of Directors (BOD)

As the highest decision-making body, the Board of Directors reviews and decides on matters prescribed by law or corporate articles of association, delegated matters by the general meeting of shareholders, or high-priority matters related to basic company policy and business operation. It is also aimed to improve interests of the stakeholders including shareholders.



Board Independence and Transparency

In order to strengthen its independence and transparency, Hyosung appoints the majority of its BOD outside directors. The outside directors whose independence is verified implement checks and balances on the executive management. The agenda are reviewed and decisions are made in accordance with the articles of association and the Board regulations, and the voting rights of any director who has a special interest or conflict of interests regarding a certain agenda is limited pursuant to the BOD regulations.

Board Specialty and Diversity

In the fast-changing business environment where strategic decision-making of the Board is constantly required, the specialty and diversity is considered as a prerequisite for a director. The top in-house business specialists are in charge of overall operation of business and participate in the BOD as the representative directors, fulfilling responsibility management. In order to represent various stakeholders, the BOD is composed of outside directors with profound experience and specialty in a variety of fields such as finance, economy, law, and industry so that the BOD is not biased against a specific background.



Board Efficiency

For efficient operation of the BOD, we have established committees in the BOD to take specific roles and functions. The Audit Committee and the Outside Director Candidate Nominating Committee are mandated to be established according to the relevant law. The Management Committee was set up to respond flexibly to the rapidly changing global business environment and to operate business efficiently. The Management Committee reviews and decides on matters delegated by the BOD such as management policy and investment.

Board Evaluation and Reward

Each year, directors are evaluated based on their specialty in corporate business and technology as well as performance of the Board activities, and the evaluation result is discussed in the BOD. Compensation for the Board is paid fairly and transparently based on the evaluation result with an approval of the general shareholders' meeting. The remuneration of the Board is provided within the remuneration limit approved at the general meeting of shareholders.

Protection of Shareholder Value

Hyosung announces a general meeting of shareholders 17 to 22 days before the meeting date, which is longer than the minimum standard of two weeks, to protect shareholders' interests and rights, and to allow them to spend enough time deliberating on agenda items. In addition, we try to avoid peak dates during the proxy season to hold a general meeting in order to reach the necessary quorum and secure shareholders' votes. Shareholders may exercise their rights by proposing schedules in writing or electronically up to six weeks before the general meeting of shareholders. Meanwhile, dividends have been continuously paid to enhance shareholder value, and they are determined in consideration of investment, business performance and cash flow conditions of the company. All shareholder uphold equal voting rights based on the number of shares held. In addition to regular performance announcements every year, the NDR (Non-Deal Roadshow) is held regularly for investors in Korea and Asia. We provide various in-depth IR (Investor Relations) materials to meet the increasing shareholders' demand for information and enhance their understanding and trust. Moreover, a policy regarding internal control has been established to prevent insider trading or self-transactions for personal interest.

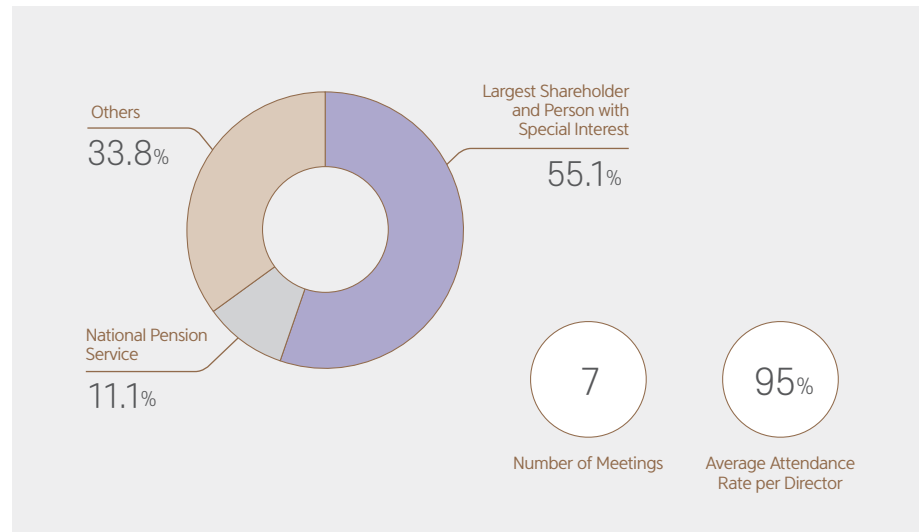
Board Members

The Board of Directors (BOD) consists of directors who are appointed in the Shareholder’s meeting, and is comprised 3 inside directors and 7 outside directors. Standing directors are nominated by recommendation of the BOD. For a closer and more objective review, candidates are recommended through a separate resolution process from the Outside Director Candidate Nominating Committee. Relevant information is provided to shareholders through reference materials disclosed prior to the shareholders’ meeting and announcement of convening the shareholders’ meeting. The resolution is approved by shareholders on the day of the shareholders’ meeting.

Board Operation

Regular meeting is held once in each quarter in principle, while temporary meetings are convened occasionally when necessary. In 2019, a total of 6 meetings were held, and 29 agenda were covered for report and decision-making including compliance support activities, transactions between directors and company as well as major business status.

Shareholders Status & Status of the BOD Meetings



※ As of December 2020



CUSTOMER SATISFACTION AND PRODUCT RESPONSIBILITY

In an effort to realize customer-centric management, we are trying to increase and internalize our C-Cube capacity by establishing guidelines of C-Cube activities and implementing group-wide training. We do not only listen to VOC (Voice of Customer) but also VOCC (Voice of Customer's Customer) and VOCO (Voice of Competitor) so that we can identify customers' real needs and reflect them on our business strategies.





Customer-centric Management

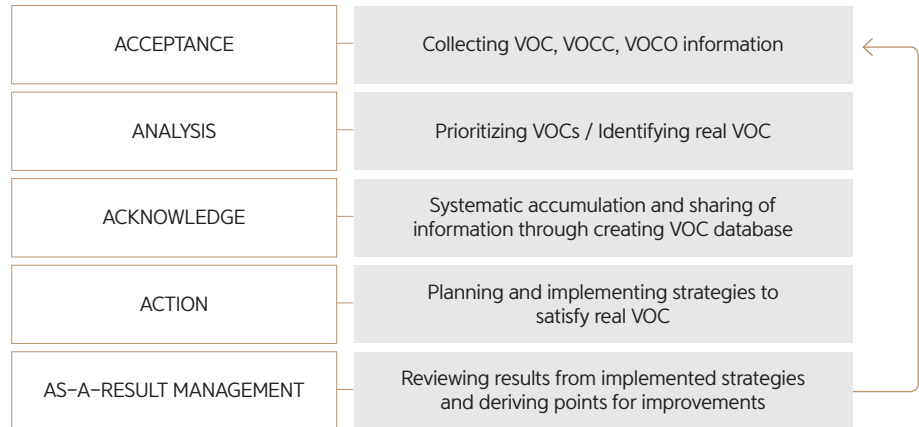
Carrying on C-Cube Activities

We carry out customer-centric management in which we identify customers' real needs to meet and implement business strategies. In this sense, C-Cube activities are implemented so that all employees apply customer centric strategies in their day-to-day tasks. C-Cube activity follows a 5-step-process including 'Acceptance', 'Analysis', 'Acknowledge', 'Action' and 'As-a-result Management.' In particular, the 'As-a-result' step is a process that analyzes the success and failure factors of the past activities to derive strategies that increase the success rate next time, thus contributing to employees' continuous capacity development in the related activities.

Internalizing C-Cube Capacity

Hyosung carries out C-Cube activities based on documented manuals and conducts group-wide training so that C-Cube can be successfully incorporated in the organization. A dedicated team for promoting C-Cube activity was established, and pre-training was conducted on person in charge appointed by each department. We conduct group-wide training and supervisor training for persons in charge. Monthly information exchange meeting is also held to share the performance of C-Cube activities.

C-Cube Activities Flow Chart





Customer-centric Management

Joint Participation at Global Trade Fairs with Client Companies

Hyosung TNC operates a joint exhibition booth with client companies every year in international and domestic trade fairs. Through this, we can help our clients to expand their sales channels and identify customers' needs and market trends, as well as consolidate our global leading position by promoting excellence of our products to potential customers. We also continue to support domestic SMEs (small and medium enterprises) clients, that have relatively limited opportunities for international-scale exhibitions, by joint-participation in international trade fairs.



OEKO-TEX® STANDARD 100

Hyosung TNC operates OEKO-TEX® STANDARD 100 certification system which is approved by International Association for Research and Testing in the Field of Textile and Leather Ecology. OEKO-TEX® STANDARD 100 assures products safety with its testing method across 100 stages of simulation tests, taking into account all the possible situations where harmful substances can contact the human body. The certification is renewed every year to constantly secure the product safety.

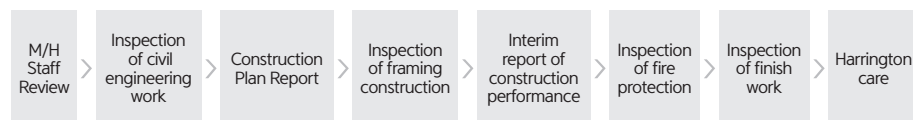
Quality Management Together with Customers

G-VOC (Global Voice Of Customer) Management System

Hyosung Heavy Industries is practicing customer-oriented quality management using a customer management system, G-VOC (Global Voice of Customer), and the portal system which enable comprehensive management of VOC information.

8 Steps of Quality Inspection of Construction Project

The Construction PU of Hyosung Heavy Industries carries out 8-step quality inspection for a construction project, which starts from model house inspection by staffs and ends with final confirmation before tenant review. In particular, we establish a thorough management plan (construction execution plan, interim performance report) before execution and keep reflecting improvements in the entire process. Moreover, we constantly check our performance against the plan to strengthen the process without any problem.



Strengthening Quality Competitiveness upon the Focus on Customers

Customized VOC Management System

Hyosung Advanced Materials has a customized Voice of Customer (VOC) management system to provide optimal products and services. Hyosung Advanced Materials listened to more than 3,000 VOCs in 2020, and now uses various channels such as one or two visits to each customer per year, exhibitions, technology exchange meetings, and academic conferences. Accordingly, it is making efforts to provide optimal solutions. In particular, it has constructed a feedback process for VOC and is implementing education and other activities to enhance the awareness of executives and employees. Through this process of managing and listening to VOC, products reflecting VOC, such as recycled thread, are being developed.

Global Quality Management System

Hyosung Advanced Materials regards product quality as a prerequisite for 'customer value' and operates its business based on global quality management system to ensure consistent quality required by customers in all manufacturing sites around the world. The new quality policy has been established and distributed to all manufacturing plants, emphasizing the importance of product quality consistency. Production quality standards for each process are established and managed, and production activities are carried out in accordance with the quality control process from the input of raw and subsidiary materials to the shipment of final products.



Listening to Voice of Customers

Technical Guidebook Based on Customer Needs

The customers of Hyosung Chemical often would like to check whether our product is of desired performance in advance of actual performance evaluation, because basic material information such as density and molecular weight is not sufficient to meet such needs. In this sense, Hyosung Chemical publishes the Technical Guidebook that combines data and explanations required by potential customers such as tensile strength, shock strength, UV exposure impact, electrical resistance, and refractory.

Environment Safety Certifications and Product Responsibility

EU REACH, FDA, RoHS Certifications

Hyosung Chemical PP / DH PU acquired chemical safety certifications approved by FDA of the United States (2009), EU RoHS (2007) and REACH (2010).

Automotive Quality Management System Certification

The POK business division of Hyosung Chemical developed an engineering plastic material used in automotive fuel line, automotive exterior and interior parts, POKETONE™, which is certified by IATF 16949, an ISO-approved automotive quality management system certification.

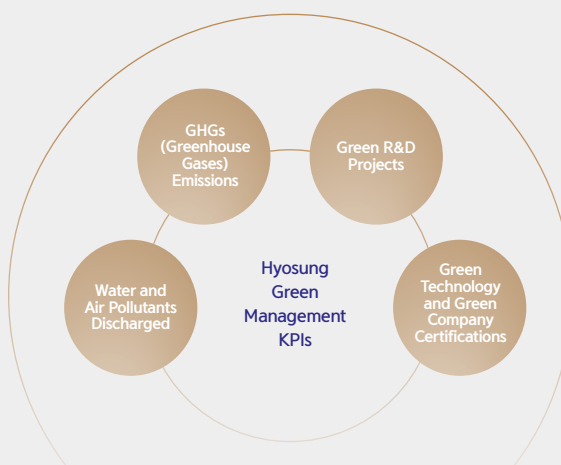
Food Safety Management System Certification

In February 2020, the Film PU of Hyosung Chemical earned food safety management system certification to keep up with request from international food companies which are our end customers buying our packaging materials. We produce safe and hygienic products and prevent quality degradation or contamination by establishing management standards in accordance with the food safety rules.

GREEN MANAGEMENT

As stakeholders' interest in the environment increases, industries are facing changes in accordance with international environmental agreements and initiatives. Along with the green energy policy that has been emphasized since the Paris Agreement took effect, global leading companies are expanding the use of renewable energy, and financial organizations are evaluating environmental issues of companies when making important investment decisions. Therefore a company's environmental management capabilities are emphasized more than ever nowadays. From the planning stage of business, Hyosung proactively seeks for countermeasures against environmental risk by identifying environmental issues from various stakeholders.





Green Management System

Green Management Strategies

To realize our green management vision, "Becoming an Eco-friendly Company Leading the Better Life of Humanity", Hyosung has established four strategies : 20.5% emissions reduction (compared to BAU), business expansion through green technologies, environmental corporate culture through green infrastructure within the company, and enhancement of stakeholder trust through information transparently.

Organization and Activities of the EHS Committee

Hyosung and its operating companies operate the EHS (Environment, Health, Safety) Committee, the highest decision-making body, to effectively review and decide on green management strategies. It is chaired by the CEO, and consists of the heads of each business sites including plants, technical centers, and research centers. Professional personnel in the sector of EHS such as the leader of Environment Safety Team and the head of Quality Safety Department also take part as professionals for each sector. Hyosung Advanced Materials operates the Green Management Committee headed by a C-Suite executive under the Sustainability Management Committee instead of the EHS Committee in other operating companies.

Roles and Responsibilities of the Departments in Charge

The Green Management Team monitors enactment and revision of environment-related laws and regulations, such as the Act on the Allocation and Trading of Greenhouse Gas Emission Permits.

Environmental Performance Evaluation System

Hyosung has established a system to evaluate and manage environmental performance, such as greenhouse gas emissions, discharge of water and air pollutants compared to permissible standards, and cases of legal violation.

Green Management Strategies System





20.5% Emissions Reductions by 2030 Compared to BAU

Upgrading Greenhouse Gas Management System

Hyosung has established a greenhouse gas (GHGs) management program to systematically manage emissions target and performance by each business site, and has upgraded the existing system in 2019, based on the changed guidelines after spin-off.

Building Awareness for GHGs Reduction

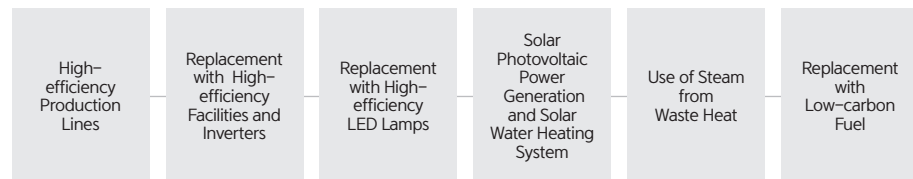
Hyosung shares best practices related to energy saving in each business site to encourage all employees to be committed to reducing greenhouse gas emissions.

GHGs Emissions Quality Control & Quality Assurance

The Green Management Team, which is in charge of calculation and reporting of emissions of Hyosung, operates quality assurance of greenhouse gas emissions such as monitoring energy consumption and greenhouse gas emission activities and internal verification of data errors for calculating emissions.

Greenhouse Gas Emissions Reduction

Hyosung manages all energy usage data at its business sites to derive optimal measures to reduce emissions and increase energy efficiency, and actively conducts activities to mitigate emissions such as enhancing efficiency of production lines, replacing old facilities to high-efficiency ones, use of renewable energy, and shift to low-carbon fuels.



Facilitating Eco-friendly Corporate Culture by Establishing Green Infrastructure

Air Quality Improvement

Hyosung converted B-C oil, a high-sulfur fuel used in factory machinery, power generation, and boilers, into low-sulfur fuels such as LNG and by-product gas (Off-gas, biogas). In addition, we reduce not only air pollutants emitted but also energy consumption by introducing high-efficiency and low-NOx burners and replacing outdated boilers.

Water Management

Hyosung minimizes the discharge of water pollutants by establishing its own internal standards that are much stricter than the legal standards. Hyosung has established and operated water reuse facilities and processes to expand the use of recycled water.

Waste Management

The Green Management Team minimizes legal risks related to waste matter that may occur at the business sites by disseminating the waste-related regulatory information such as Waste Charge System and Extended Producer Responsibility to employees at all business sites of Hyosung.

Hazardous Chemical Substance Management

Hyosung manages all chemical substances used in the workplace through an ERP-based computer system. All purchased materials are investigated to confirm whether they contain chemical substances through the system, and purchases are blocked if they contain chemicals without approval by the chemical manager at each business site.



Increase stakeholder trust through transparent information disclosure

Environment Management System Certification

Hyosung establishes mid- to long-term environmental goals and detailed annual implementation plans, and conducts internal and external audits every year to check their performance against their goals and derive improvements. We introduced ISO 14001 to systematically identify, evaluate, manage, environmental impacts and to efficiently manage environmental risks.

Green Technology and Green Enterprise Certifications

Hyosung has developed a number of products which have been approved by green technology certification and environmental labeling, and is striving to obtain the specialized green enterprise certification for each business site.

Environment Cleanup Campaigns in Each Business Site

Hyosung actively participates in protecting the natural environment near each business site through the 'One Company-One Mountain', 'One Company-One River', and 'One Company-One Walking Trail' campaigns.



Eco-Products and Technology Development

Hyosung makes an effort to minimize its impact on the environment through extensive eco-friendly R&D, such as the development of eco-friendly materials, investment in eco-friendly facilities and equipment, and eco-friendly processes and techniques in industrial areas that have a large impact on the environment, such as fibers, chemicals, and industrial materials. Hyosung is also planning long-term investment in connection with the vitalization of the hydrogen economy, and hopes to play a pivotal role in new foundational national industries such as hydrogen production, hydrogen stations, and the manufacture of hydrogen fuel tanks that can use the strengths of Hyosung.

Hyosung TNC

Recycled Products

'regen®' – Recycled polyester yarn made of waste PET bottles

Hyosung TNC's 'regen' is Korea's first eco-friendly polyester yarn which was made of substances extracted from waste PET bottles. Made of 100% recycled material, regen dramatically reduces landfill wastes and CO₂ emissions. In recognition of its outstanding environmental performance, regen has acquired the world's first GRS (Global Recycle Standard) certification in the sector of polyester recycle textile from Control Union, a global certification organization based in the Netherlands.

'MIPAN regen®' – Recycled nylon yarn

'MIPAN regen' is a nylon yarn recycled from waste petrochemical materials, contributing to saving petrochemical resources in chemical textile production. Although being recycled from pre-consumer wastes, MIPAN regen maintains the same quality as normal nylons. Unlike conventional partially-recycled nylons, MIPAN regen is made of 100% process wastes, and is widely recognized for its excellence in environmental performance.

'creora® regen' – Recycled spandex yarn

Hyosung TNC is producing creora® regen, a recycled spandex yarn which is made of 100% reclaimed waste generated from spandex production process. In addition, creora® regen is certified by GRS from Control Union based in the Netherlands for its excellence in emissions reduction (25%).

Low-carbon Products

'creora® eco-soft' – Low-heat settable spandex

Hyosung TNC's creora® eco-soft, whose soft-touch fabric can be produced at approximately 15-20°C lower temperature than conventional spandex, enables textile manufacturers to reduce emissions as well as to save costs through less energy consumption.

Bio-based Spandex

Along with the growing interest in eco-friendly materials as part of the sustainability trend, Hyosung TNC is developing spandex that is made of ingredients from nature.



Hyosung Heavy Industries

Increasing Eco-friendly Products

Developing Green Power Facilities

Hyosung Heavy Industries is a business leader in power facilities and equipment including transformers and circuit breakers, which are used mainly in power transmission and distribution network. We are especially working on developing and supplying eco-friendly products that replace conventional insulating materials to green materials. We have developed an eco-friendly transformer by using ester oil as an alternative insulation material instead of mineral oil, which not only minimized environmental risk but also secured safety against fire.

New Orders of Smart Power Grid, STATCOM

Hyosung Heavy Industries is the third company in the world to develop Modular Multilevel Converter (MMC) STATCOM. We are delivering and operating STATCOM in Korea after successful commercialization for the first time in the country.

Expanding Hydrogen Charging Stations and Developing Supply Technology

Hyosung Heavy Industries developed and delivered the hydrogen car charging system to Hyundai Motor Namyang Research Institute for the first time in Korea in 2008. We managed to achieve the biggest market share (24%) in Korea, by supplying a total of 26 hydrogen charging stations, including 11 under construction as of June 2020.

ESS (Energy Storage System)

ESS is a device which enables excess energy to be stored when power demand is low to use it afterwards. In this way, ESS increases reliability of power supply and generates additional values through flexible power management system. Hyosung Heavy Industries, as a leading company of ESS in Korea, provides suitable devices in a variety of purposes such as integrating renewable energy sources, frequency regulation, peak cut and installing independent microgrid.

Hyosung Advanced Materials

Mitigating Environmental Impact in Production

Eco-friendly Products Made of Plant-based 'Bio-PET'

To mitigate resource depletion and environmental problems which are caused by polyester (PET) made from existing petrochemical materials, Hyosung Advanced Materials is making use of Bio-PET from Bio-EG extracted from vegetable-based raw materials to produce car carpet products and is conducting research to extend the scope of application.

Waste Sulfur Treatment for Low Environmental Impact

The production process of aramid fiber, a high-strength and incombustible fiber, generates waste sulfuric acid. From June 2018, we applied a special eco-friendly technology for waste sulfuric acid treatment, which had previously been treated by an external sewage treatment company reducing 19,000 tons of waste sulfuric acid treatment. In this way, we manage to achieve both cost reduction of treatment process and prevention of water pollution.

'Lyocell Tire Cord' – Made of Wood Extract Material

Rayon tire cord used as a reinforcement for high-speed tires, has a risk of hazardous substances being released due to the use of sulfuric acid in the manufacturing process. On the other hand, our 'Lyocell Tire Cord', developed as a substitute for rayon tire cord, is made of cellulose extracted from wood and release very little harmful substances such as carbon disulfide and hydrogen sulfide during rayon manufacturing, effectively preventing air and water pollution caused by release and treatment of harmful substances.

Eco-friendly Dip to Improve Fatigue Resistance in Tires

Hyosung Advanced Materials developed eco-friendly dip recipe after ceaseless research to achieve environmental manufacturing process. The eco-friendly dip is now close to commercialization stage, and with this, we expect to reduce hazardous substances in the process without using rezosynol and formalin, and contribute to generating less waste tires by extending product lifetime with higher fatigue resistance.

Expansion of Low-carbon Products

TANSOME® – the key to automotive fuel efficiency improvements

TANSOME® is the first high-performance carbon fiber developed in Korea through our independent technology, featuring only one-fourth the density but 10 times the strength of steel. Featuring its ultra-lightness and high-intensity, TANSOME® is used as a key material for improving fuel efficiency of automobiles through vehicle weight reduction, ultimately contributing to reducing carbon emissions. In addition, with its excellence in stability and functionality, TANSOME® is used in a variety of products, especially in high-pressure CNG containers as well as in environmental energy industries.

High-strength Tire Cord

Tire cord is a major reinforcement material which determines the form and performance of tires, and is used in a rubber-rolling process in tire production. High-strength tire cords has its intensity 10-20% higher than regular tire cords, and lowering cord thickness contributing to less rubber usage during calendaring. The lightweight of tires results from weight saving of cord and rubber, which improves fuel efficiency and reduces GHGs emission through rolling resistance reduction of tires.

Steel Cords Made of the Process By-products

The production process of wire rod generates steel scraps as by-products and releases greenhouse gases. Hyosung Advanced Materials produces eco-friendly products that can save raw materials and reduce emissions at the same time using steel scraps generated as by-products.

Increasing Recycled Products

Recycled Polyester Yarn

Global fabric consuming manufacturers (i.e. apparel and shoes) are actively promoting the use of recycled polyester yarn, an eco-friendly product, as environmental pollution caused by excessive use of plastic products has emerged as a social problem. In line with the global efforts to reduce environmental pollution and respond to environmental demands in the apparel markets, Hyosung Advanced Materials developed high-strength recycled polyester yarn using raw materials extracted from waste plastics and obtained Global Recycle Standard (GRS) certification from an international authority.

Recycled Floormat by polyester recycled chips

Global automobile manufacturers are proactively developing and introducing automotive parts recycled from waste plastics. Hyosung Advanced Materials started to develop automotive carpet and mat using BCF (Bulk Continuous Filament) based on the needs from development teams in the client companies.



Hyosung Chemical

Development and Application of Eco-friendly Materials

POKETONE™ – Eco-friendly Material

Poketone is the future industrial new material commercialized solely by Hyosung Chemical. It is a new type of polymeric material which is made of carbon monoxide, an air pollutant, and was certified by the Korea Institute of Industrial Technology Promotion as a green product (classification code T071101-5). It is produced and sold at Yongyeon Plant in Ulsan, and has expanded its market worldwide with annual growth of more than 150% since 2017. Hyosung Chemical continues to develop new markets for polyketone, an environmentally-friendly new material, and in 2019, we entered five countries including Indonesia and Argentina and sold polyketone pellet products for the use in cosmetics containers, toys, and helmet parts.

Water Treatment Membrane

The demand for water purification technology is increasing due to the depletion and pollution of water resources from population growth, urbanization, and global warming. Membrane filtration technology associated with water treatment, is a next-generation technology that replaces traditional filtration methods and is recognized for its high efficiency and cost-effectiveness. Hyosung Chemical has acquired three certifications of new type of environmental technology by developing its own pressure membrane and submerged membrane, the backbone of membrane filtration technology. We endeavor to apply them to water treatment facilities in water treatment, sewage treatment, and seawater desalination.

SHARING-BASED MANAGEMENT

The effect of CSR (corporate social responsibility) activities are maximized when core competency of a company matches with the actual needs from a local community. Corporate social contribution is becoming more competency-oriented and market-oriented. Hyosung operates a communication channel and consultative body to gather a wide range of opinions from local citizens and expert groups in order to accurately understand the needs of the community. We are also forming partnerships with NGOs and civic organizations to propel our social contribution more effectively. By expanding the scope of social contribution, we aim to help all underprivileged people in the community, strengthen strategic social contribution by closely combining it with our core competencies and business area, and enhance the sustainability of Hyosung.





Supporting Vulnerable Groups

Smile Expedition in Vietnam

To support the vulnerable group overseas, Hyosung dispatched the 'Smile Expedition', the medical group to the Dongnai province near Ho Chi Minh City, Vietnam. The Smile Expedition, a social contribution program with 9 years of history in Hyosung, consisted of 30 members including staffs of the international relief organization, Korean Food for the Hungry International (KFHI), medical team of the Gangnam Severance Hospital and staffs of Hyosung. It has provided free medical treatment and health education for 2,400 local residents. The medical service covered a variety of sections including heart surgery, gynecology, ophthalmology, dentistry as well as health training. In addition, about 150 people including expectant mother in Hyosung business sites and college students in nearby areas were provided with basic gynecological training covering safe contraception methods and knowledge about pregnancy. Elementary school students received anti-cavity treatment and eye examination. A total of 15,000 local residents who were placed in a medical blind spot received high-quality free medical treatment since 2011.



Overseas Child Sponsorship

Through monthly donation by the employees, Hyosung is supporting children residing in underprivileged areas in Vietnam and developing their region. In addition, Hyosung also provides a clean and safe education environment for the children and help children from minority ethnic group learn Vietnamese language by building a library. The fund raised through voluntary donation from our employees is used for the health and education of Vietnamese children, and the company's grant amount is used for development projects for the areas where children live, for classroom expansion, drinking water quality, and awareness activities for parents and teachers.



Culture and Art Sponsorship

Sponsorship for Theater Company and Producers

Since 2015, we have been donating to Yeonwoo theater company, contributing to the revitalizing creative theater plays in Korea. The funds are used for activities to produce creative plays such as finding and casting new actors and playwriting.

Cultural Heritage Conservation Activities in Changdeokgung Palace

Since 2006, employees of Hyosung have regularly participated in the cultural heritage protection activities of Changdeokgung Palace. In 2019, we organized an event in Changdeokgung Palace with 40 employees and their family members in which we all cleaned a pavilion, Juhabru, in the palace together while strengthening the employee bond as well as contributing to cultural heritage conservation.

Appointment of Cultural Heritage Guardian Company

In October 2018, Hyosung was appointed as a Cultural Heritage Guardian Company through activities such as preservation and maintenance work of national palaces and sponsorship for restoration of traditional interior space.

Sponsorship for the Orchestra of Youth with Disabilities

We continue to support the Onnuri Love Chamber, a youth orchestra group with physical and intellectual disabilities. In 2019, KRW 50 million was supported to purchase instruments and provide scholarship. We have assisted growth of the orchestra since 2014 with the continued support and performance opportunities provided. We also invite the members of the Onnuri Love Chamber to a special music class through which they could get direct lesson from orchestra members of the 'Silk Road Ensemble' led by world-renowned cellist Yo-Yo Ma.

Certification of Exemplary Institution Supporting Culture and Arts

Since 2015, Hyosung has been certified as an excellent institution supporting culture and arts by the Ministry of Culture, Sports and Tourism of Korea. This certification system has been designed to certify organizations and companies which have set a good example for sponsorship activities in the related fields under the Act on Revitalization of Support for Culture and Arts. Hyosung has been recognized of continued support for culture and arts including funding Yeonwoo theater, sponsoring musical education for children with disabilities and funding the musical show which is aimed to prevent youth violence.



Supporting Patriots and Veterans

Housing Support Project for Veterans

We are trying to improve living condition of veterans of the Korean War and the Vietnam War who are experiencing financial difficulties, by providing repair work for their outdated houses.

History Field Trips for Senior Veterans

In cooperation with the Southern Seoul Office of Patriots and Veterans Affairs, we supported the elderly veterans to explore historical sites, providing them with opportunities to go out with their family which is usually difficult otherwise.

Creating Job Opportunities for Vulnerable Groups

Support for Employment Promotion Program for Women from Vulnerable Group

In lined with the government's initiative of creating more jobs, we are supporting employment for women in career break and middle-aged women. We support the programs which can be practically effective in the long run, not shortsighted lowskill-based programs.

Support for the Social Enterprise, 'Goodwill Store'

Goodwill Store is a representative social enterprise business model which started in the US and currently operates more than 2,400 stores in 13 countries, including Canada, providing over 100,000 jobs. Goodwill Store sells items donated by companies and individuals at low prices and contributes the subsequent profits to job creation and vocational training for people with disabilities. It also contributes to economic independence of disadvantaged and vulnerable people in the society by hiring them to operate the store.

Sponsorship for Eden Welfare Foundation

Since 2014, as part of commitment to creating jobs for people with disabilities, we have supported the Eden Social Welfare Foundation, a social company working on employment for the disabled. We donated unused or malfunctioning computers for their up-cycling project and financed the cost of replacing the machine producing bin bags, for their facility improvement. We also pay attention to the quality of jobs by supporting lamp replacement in plants to create healthier and safer working environment.

Social Activities in Our Business Sites

Anyang

- ✓ Azalea Festival in the Anyang Plant
- ✓ 'One Company, One River' Environmental Cleanup

Gumi, Daegu

- ✓ 'One Company, One Cemetery' Cleanup Activities
- ✓ Kimchi-Making (Gimjang) Event in Gumi

Changwon

- ✓ 'Junior Engineering Class' in Naedong-Yoomok Elementary Schools
- ✓ Hyosung Mini Library in Shinwol-Pungho Elementary School

Oksan, Sejong, Daejeon (Chungcheong Province)

- ✓ Volunteer Activities in Local Orphanages
- ✓ National Cemetery Cleanup

Ulsan, Yongyeon, Gyeongju

- ✓ Industry-Academia Collaboration Scholarship Ceremony
- ✓ 'One Company, One Village' Farming Volunteer

Jeonju

- ✓ Volunteer Activities in 'Hyosung Orphanage'
- ✓ Scholarship for Jeonbuk Girls' High School
- ✓ 'One Company, One Trail' Cleanup Activities



SHARED GROWTH MANAGEMENT

Hyosung is striving to build a sustainable business ecosystem based on winwin cooperation and fair trading with its business partners. We support our suppliers to establish a management system that meets global standards and further fulfills environmental and social responsibilities.





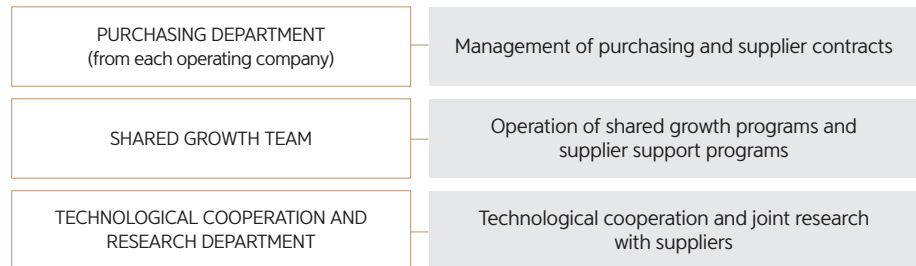
Shared Growth System

Shared Growth Implementation System

Hyosung is working with its partners with a common goal of sharing a common destiny and future. Hyosung has established a shared growth system based on the belief that the competitiveness of suppliers directly contributes to our growth.

Organizational System of Supplier Management

In order to promote shared growth, each operating company has a person in charge at purchasing team to deal with related tasks. Hyosung Heavy Industries, in particular, which has relatively large supply chain, has established and operates a dedicated department for shared growth, Shared Growth Promotion Team. Moreover, we are strengthening technological competence of partner companies through technology cooperation and joint research with participation of R&DB Labs and Power & Industrial Systems R&D Center.



Shared Growth Activities

Shared Growth Programs

Financial Support

- ✓ Payment in cash to suppliers under shared growth agreement
- ✓ Financial support for joint overseas expansion
- ✓ Network loan
- ✓ Shared growth funding

Management Support

- ✓ 'Business Doctor'
- ✓ Support for overseas training
- ✓ Support for training of suppliers
- ✓ Support for training venues

Productivity Improvement

- ✓ Consulting for productivity improvement
- ✓ On-site plant visit program
- ✓ Support for ICT-QC (smart plant)
- ✓ Energy Companion Project

Business Expansion

- ✓ Support for international trade fair
- ✓ Joint participation in overseas projects
- ✓ Support for overseas expansion channel

Technology Support

- ✓ Performance Exchange
- ✓ Joint R&D and patent application
- ✓ Tech-ESCROW
- ✓ Contribution of Hyosung's R&D capacity for joint research

Secondary Suppliers

- ✓ Shared growth agreement between first and secondary suppliers
- ✓ Shared growth payment system
- ✓ Industry innovation movement
- ✓ Cash payment monitoring

Compliance Program

Promoting Fair Business Practices

In order to establish a fair business trade culture together with suppliers, we have established fair trade guidelines, which are recommended by the Korea Fair Trade Commission, in our corporate regulations. Four basic practices are included in our corporate regulations, including making contracts, selection and operation of partners, setup and operation of internal deliberation committee and written proof of subcontracting. We also announced the guidelines for prohibiting retaliatory acts such as unilateral restriction or suspension of transactions to suppliers in order to establish a healthy and transparent business relationship with suppliers which enables fair partnership.

(Established in 2012, revised in 2014 in Hyosung / established in 2018 in operating companies)

Practices for Making Contracts

Hyosung and its operating companies have built rational and transparent business relationships with suppliers by ensuring that the interests of suppliers are properly reflected in contracts. To this end, we prepare a checklist for preemptive inspections, which we use to prevent unfair behaviors before a contract is signed.

Practices for Partner Selection

Hyosung and its operating companies are working to establish fair and transparent criteria for selecting suppliers. We clearly announce the application criteria and recommendation requirements in our shared growth website, and any interested company can freely apply for registration as a supplier through e-procurement system. In addition, in order to manage supply chain risks, we conduct registration screening for all new suppliers before they get approval to participate in bidding process.

Practices for Internal Deliberation Committee

For the purpose of deliberation on fairness and legality of trading contract between suppliers and subcontractors, Hyosung and the operating companies operate the Deliberation Committee. We monitor and detect unfair practice after (or during) a transaction has taken place. Any unfair activities are corrected immediately so that future transactions are made properly so that a fair trading culture is established

Practices for Written Proof of Subcontracting

Hyosung and its operating companies have clearly designated the types of documents required in order to facilitate a clear transaction and protect suppliers' rights when signing contracts with suppliers.

Fair Business Trade Education

We regularly provide case study training of the Subcontracting Act and breach of contract to the departments considered to have high risk related to unfair business trade with suppliers such as Purchasing Team, Outsourcing Management Team and Shared Growth Team. We also implement training about fair business trade to the sales departments, covering the Fair Trade Act and the Fair Agency Transactions Act, and providing information on legitimate process and standards in the sales environment.

Non-retaliation Guidelines

Hyosung is compliant with non-retaliation guidelines which prohibits the company from rejecting or ceasing the trade or significantly limit the quantity or content of products or services of the suppliers in business trade due to certain reasons. The employees perceived with the relevant misconduct are summoned to disciplinary committee and are treated accordingly.

Supplier Ethical Management

Code of Ethics for Shared Growth Management

“Suppliers are a source of competitive edge for the company, and we aim for shared growth based on transparent and fair trading with suppliers.”

1. When selecting suppliers, it is considered whether they comply with Hyosung’s human rights, environmental and social values.
2. Business transactions with a supplier should be made in an equal position, and we do not engage in unfair trade practices, abusing our superior position.
3. We create a foundation for shared growth with suppliers by enhancing their sustainability through multi-faceted support activities.

Guidelines to the Code of Ethics for Shared Growth Management

1. When selecting suppliers, starting and continuing contracts with them, we consider whether they comply with human rights, environmental, and social values which the company pursues.
2. We ensure that business transactions with a supplier is carried out fairly in an equal position, and we thoroughly discuss trade conditions and process with suppliers and do not commit unfair trade practices, abusing our superior position.
3. We create a foundation for shared growth with suppliers by enhancing their sustainability through multi-faceted support activities.
4. We protect the physical and intellectual property rights of suppliers and all information of sub-contractors.



Supporting Supplier Ethical Management

Hyosung and its operating companies reflect suppliers’ performance in human rights and ethical management in the annual suppliers evaluation, and based on this, we encourage their improvement in such matters. In addition, we monitor overdue wages at partner companies and support them to improve working environment and securing rest facilities and the resorts.

ETHICAL MANAGEMENT

As the social demand for ethical management increases, many domestic and international companies are starting to declare their commitment to ethical management and are making efforts to practice it. In addition, many regulatory agencies monitor the companies, focusing on legal compliance and transparency, and the social demands in corporate ethics are also increasing. We are emphasizing the importance of ethical management under the company's first business principle, 'Honesty and Trust.' In addition to basic legal compliance, we carry out various ethical management activities in order to promote fair and transparent business operation and to ensure the company's sound growth and stakeholders' trust. Ethical management forms the foundation of basic principles of behavior for all employees at Hyosung, and we believe that competitiveness and actual economic outcomes can only be achieved through ethical management.





Ethical Management System

Ethical Management Principles

In an effort to facilitate clean corporate ethics, Hyosung continuously strives to internalize ethical management in the company. 'Honesty and Trust' is the core philosophy of our ethical management, and in order to realize it in practice, the 'Code of Ethics' and 'Guidelines to the Code of Ethics' were established.

Code of Ethics

Guidelines to the Code of Ethics

COMPLIANCE WITH LAWS AND REGULATIONS	<ul style="list-style-type: none"> • Compliance with national policies and regulations • Compliance with corporate policies and basic corporate ethics
CUSTOMER-RESPECTING MANAGEMENT	<ul style="list-style-type: none"> • Transactions with customers • Partnership with suppliers
SHAREHOLDER-ORIENTED MANAGEMENT	<ul style="list-style-type: none"> • Protect profits of shareholders and investors • Protect shareholders' right-to-know
EMPLOYEE-RESPECTING MANAGEMENT	<ul style="list-style-type: none"> • Respect for executives and employees • Facilitation of a sound company culture
EMPLOYEES COMPLIANCE MANAGEMENT	<ul style="list-style-type: none"> • Transparent and fair task performance
SHARED GROWTH MANAGEMENT FOR SUPPLIERS	<ul style="list-style-type: none"> • Aim for mutual growth with business partners
SOCIAL RESPONSIBILITY MANAGEMENT	<ul style="list-style-type: none"> • Contribution to social development • Sound and healthy social life

Organizational Structure of Ethical Management

Hyosung has formed a strong organizational structure for ethical management, centered on the CEO. The CEO is striving to ensure that the ethical management philosophy can be naturally reflected in management activities. Major ethical management activities are operated under the supervision of the Compliance Support Team. We make sure that members of the Compliance Support Team have strong understanding of the company for smooth execution of ethical management activities. In addition, we have designated personnels within each department to assist the Compliance Team in effectively managing ethical management activities. Also, independent internal auditors who have been appointed so that thorough supervision is carried out throughout the entire management from field work to headquarter office.



Ethical Management Enhancement Process

Prevention

- Employee training
- Provide Code of Ethics to employees
- Self-inspection using checklist
- Monitoring and managing legal changes

Monitoring

- Regular·non-regular audit by the department in charge (Audit Team)
- Technology and quality audit
- Monitoring on reported cases

Follow-up Management

- Improvement activities
- Developing case-based training
- Immediate improvement and re-inspection of audit subjects
- Report to CEO on audit results

Ethical Management Communication Channel

Hyosung is operating 'HR Counseling Center' and 'Grievances Procedure' so that employees can receive counseling on unethical behavior and grievances, and counseling on ethical standards.

Awareness Building for Ethical Management

Ethical Management Pledge

All new employees in Hyosung sign 'Pledge of Practicing Ethical Management' and 'Pledge of Prohibiting Solicitation and Bribery' so that they understand the code of ethics and their guidelines and declare their commitment.

Ethical Management Training

In order to promote employees' voluntary practice and awareness of ethical management, we are conducting mandatory annual training not only to all employees in general but also to newly recruits or promoted employees.

Ethical Management Campaigns

For effective promotion of employees' awareness of ethical management, we produced promotional videos and magazines which are later distributed within the company groupware. In addition, we continuously deliver the importance of ethical management through messages from management executives.

Ethical Management Risk Management

Internal Monitoring

Hyosung conducts an audit on all aspects of management, from on-site management to job diagnosis for production management. We have established and operated internal audit regulations since 1984, and it has been inherited also to each business companies after spin-off in 2018.

Internal Audit System

We conduct regular audits according to internal audit regulations, and special audits are conducted when certain topics or issues arise. The material cases detected from the audit results are dealt with different measures such as caution, punishment and reimbursement depending on seriousness of the cases.

Follow-up Monitoring after Audit

The audit results are reported to the CEO, and those who are notified of the results are required to make immediate improvements to the indicated matters. At the same time, the audit team regularly reviews the issues to prevent recurrence.

Compliance Program

Hyosung established a compliance program in September 2006 to voluntarily reinforce its compliance with regulations and spread sound business practice in the company. Each operating company inherited it and introduced it to their management system upon the spin-off on June 1, 2018.

Pre & Post-contract Deliberation System

In the process of making a contract with suppliers, we are operating a system to fundamentally block illegal matters and unfair practices through deliberation both before and after signing a contract. The internal deliberation committee, which consists of purchasing executives and purchasing team leaders, confirms compliance with fair trade through the legality review check sheet, and make efforts not only to comply with commercial laws but also to promote win-win cooperation with suppliers.

Ethical Management Awareness Building for Suppliers

When we make a contract with new suppliers, we ask them to voluntarily submit the statement of declaration for ethical management. Furthermore, we have established the code of conduct for suppliers to facilitate the awareness of ethical management within the supply chain. In order to raise awareness of ethical management not only for employee but also for our suppliers, we plan to provide ethical training materials and venues for employees of supplier companies.





HYOSUNG

Companies committed to enhancing customer value stand out in global competition

Hyosung exports over 70% of its products overseas and boasts a global manufacturing system consisting of 33 production entities in 12 countries worldwide.

The company will continue to strengthen its global management abilities in marketing, production technology, and service across all business areas to stay ahead in the fierce global competition.

ABOUT HYOSUNG

· [Brief History](#)

· [Business Results](#)

· [Global Network](#)

BRIEF HISTORY

We are marching with the spirit of a pioneer

Hyosung has played the role of a dynamic locomotive behind the Korean economy. As an important part of the Korean infrastructure industry, Hyosung has overcome numerous trials and difficulties and has always served as Korea's partner during the country's economic growth.



Corporate History

2021	Hyosung launched its ESG Management Committee, Hyosung acquired Hyosung Transworld	2007	Yongyeon NF ₃ Plant completed, Vietnam Spandex/tire cord plant completed, PET sterilized filling facility newly constructed, solar plant #1 completed, Hyosung recorded revenues of 5 trillion won
2020	Sold off Hyosung Capital / Obtained the highest grade for its global climate change response / Constructed a next-generation smart factory solution with SAP / Re-certified as an excellent institution sponsoring culture & art / Established Korea's first liquid hydrogen fueling station / Signed an MOU for investing in expanding the aramid production factory in Ulsan / Signed an MOU for a liquid hydrogen project with The Linde Group	2006	Concluded contract with Goodyear for long-term tire cord supply and acquisition of four global plants, acquired Agfa photo production facility in Germany, acquired Nantong Youfang Transformers Ltd. and Dongkuk Trading's China Spandex plant
2019	Completion of Conversion to Holding Company System, expansion of Jeonju Carbon Fiber Plant, establishment of Production Technology Center, Hyosung TNC began operations at a spandex plant in India, Hyosung Heavy Industries acquired an ultra-high voltage transformer plant in Tennessee, U.S.A.	2005	Concluded a long-term steel cord supply contract with Michelin and acquired a plant in the United States, and completed a Nylon film plant in Jiaying, China
2018	Commencement of Construction for the India Spandex Plant and Vietnam Bà Rịa-Vũng Tàu PP/DH Plant, establishment of Vietnam Quảng Ninh Tire Cord Plant, Hyosung is restructured into a holding company and four operating subsidiaries	2004	Spandex plant completed in Zhuhai, China, distribution transformer plant completed in Baoqing, China, tire cord plant completed in Jiaying, China, concluded contract with Northwest Power Network Corporation of China for ultra-high voltage circuit breakers and added nylon film plant to Gumi Plant 1
2017	Built an additional tire cord plant in Vietnam, signed MOU with Vietnam to build a propane dehydrogenation plant, a PP plant, and a LPG storage facility	2003	The Class Hyosung Corporation established, Hyosung Spandex (Guangdong) Co., Ltd., established, Hyosung Thin Film (Jiaying) Co., Ltd., established
2016	Completed GIS plant construction in India began Quzhou NF ₃ plant construction in China, and completed the construction of an automotive floor carpet factory in Qingdao, China	2002	Concluded a long-term tire cord supply contract with Michelin and acquired a plant in the United States, Aerocool selected as one of the world's best products
2015	Completed Yongyeon Polyketone and DH-2 plant construction, established Jeonju Carbon Specialized Venture Training Center, established Hyosung Dong Nai Corporation, obtained Korea's first STATCOM orders from India and Panama	2001	Adopted ERP, an advanced management system, China Spandex plant completed, Signed long-term PET bottle supply contract with Beijing Coca-Cola
2014	Supplied carbon fibers for Hyundai Motor's future concept cars, received a \$100 million order for a substation from Algeria, and opened Jeonbuk Creative Economy Center and Sebitseom.	2000	Gumi Spandex plant completed
2013	Won a project for a PV power plant in Mozambique, hosted the GWP declaration, initiated the Hyosung Volunteer Group for Sharing, commercialized carbon fiber and completed a carbon fiber plant in Jeonju, and succeeded in the world's first commercialization of an advanced material, polyketone	1999	Hyosung Computer received KT Mark for ultra-high pressure gas insulating switch and polyester yarns (Aerocool)
2012	Concluded a contract for a power network in Qatar, added TAC film operations, and nominated as national project developer for offshore wind power 20M electric voltage-type HVDC	1998	T&C, Trading, Living, and Heavy Industry Units merged into Hyosung Co., Ltd.; developed 800kV 2 Pole GIS for the first time in the world
2011	Brazil Spandex plant completed, concluded a long-term steel cord supply contract with Goodyear and acquired two global plants, and acquired Global Safety Textiles (GST), a world-renowned airbag textile supplier	1996	Daejeon nylon film plant completed
2010	Completed a steel cord plant in Vietnam, concluded a Spandex plant construction MOU in Brazil, concluded a business contract to set up a power network in Qatar, and developed Korea's first high-performance carbon fiber	1995	China PET bottle plant and Daejeon tile carpet plant completed
2009	Announced Hyosung Way, completed the aramid fiber plant, TAC film plant and merged with Star Lease, Inc., to establish Hyosung Capital, set up 2MW / 750kW wind power generation systems, acquired international certification by DEWI-OCC, launched Hyosung Toyota, acquired GRS certification for ecological recycled yarns	1992	Anyang Plant started manufacturing Spandex
2008	Turkey Spandex plant completed, acquired China Nantong Youfang Transformers Ltd., and acquired Chin Hung International Inc.	1990	Started Spandex business
		1989	Started PP and propylene business, Hyosung Ebara established
		1986	Developed a new computer model for offices, POWER-5800
		1983	Developed microfiber yarns that combined nylon and polyester
		1979	Eonyang Plant started manufacturing PET bottles
		1977	Hyosung Heavy Industry Changwon Plant completed
		1975	Acquired Hanyoung Industry (predecessor of Hyosung Heavy Industry)
		1973	Dongyang Polyester and Dongyang Textile established
		1972	Started exporting tire cord fabric to Southeast Asia
		1971	R&D Center established
		1968	Ulsan Plant completed
		1966	Dongyang Nylon established
		1957	Hyosung Industry established



BUSINESS RESULTS

Our innovation and thirst for challenge ensure our sustainable growth

We are committed to expanding our profitability by strengthening our existing business capacity based on 'Value Management through Global Excellence' and solidifying our market position through global network enhancement in the core business areas for a continuous growth. We promise to continue our creative innovation and meet new challenges to strengthen our global business competitiveness and make consistent changes and progress to maintain our image as the best global corporation.



Business Results

Since its establishment, Hyosung had to overcome many difficulties but grew steadily. Gaining the capacity to raise its quality, technology, cost competitiveness, and marketing levels to global standards and exploring global markets, it is growing as one of the world's best corporations. Moreover, we continue our growth through innovation and triumphs in new challenges.

Group management performance

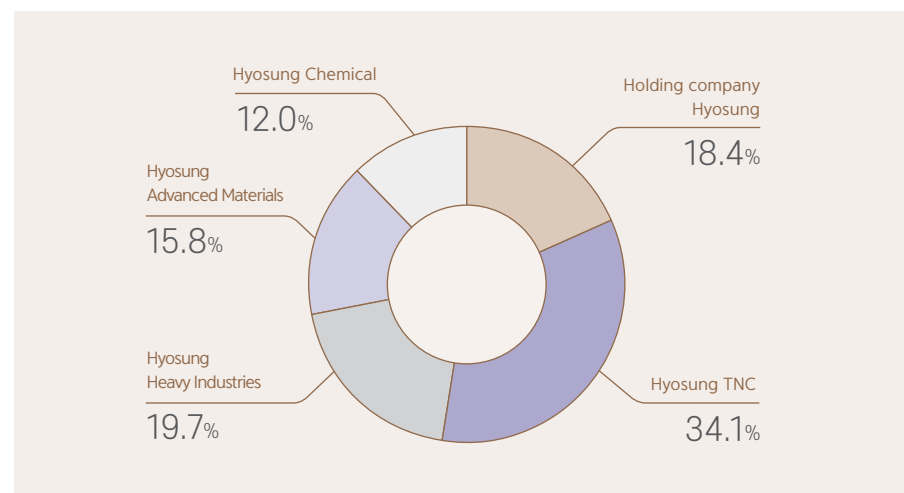


Management performance of holding company and major subsidiaries

	Holding company Hyosung	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical
Total Sales	2,782,555	5,161,617	2,983,971	2,394,423	1,817,190
Operating Profit	138,793	266,560	44,075	34,208	60,928
Total Assets	4,429,750	2,824,128	3,703,454	2,376,594	2,417,365

(In millions of KRW)

Group sales proportion



※ End of December 2020

※ This financial data is a simple sum of the 2020 consolidated financial statement, total sales amount, operating profit, and total assets of the holding company and major subsidiaries of Hyosung Group.

GLOBAL NETWORK

Hyosung is building a localized strategic global network

With nearly 20,000 people working at 100 business sites in the world, Hyosung has been building a global network based on localization strategies, and this has been the growth engine that has allowed Hyosung to become a global company where 70% of its profit are made from overseas businesses. Even today, Hyosung's global network continues to march vigorously forward for a better tomorrow.



World wide Connection

The global competitiveness of Hyosung has been achieved by a localized strategic global network that allows the high-quality products clients demand to be supplied promptly and stably, along with excellent technologies. Since the early stages of the company's history, Hyosung has been concentrating its efforts on establishing global production bases, and such efforts have allowed Hyosung to accurately reflect the tastes and lifestyle of local clients in its products.

Total 113 business site in 28 countries

Asia	Europe & Africa	America																														
79 business site in 15 countries	15 business site in 9 countries	19 business site in 4 countries																														
<table border="0"> <tr><td>KOREA</td><td>CHINA</td></tr> <tr><td>INDIA</td><td>INDONESIA</td></tr> <tr><td>JAPAN</td><td>MALAYSIA</td></tr> <tr><td>MYANMAR</td><td>PHILIPPINES</td></tr> <tr><td>SINGAPORE</td><td>TAIWAN</td></tr> <tr><td>THAILAND</td><td>U.A.E.</td></tr> <tr><td>VIETNAM</td><td>QATAR</td></tr> <tr><td>SAUDI ARABIA</td><td></td></tr> </table>	KOREA	CHINA	INDIA	INDONESIA	JAPAN	MALAYSIA	MYANMAR	PHILIPPINES	SINGAPORE	TAIWAN	THAILAND	U.A.E.	VIETNAM	QATAR	SAUDI ARABIA		<table border="0"> <tr><td>GERMANY</td><td>ITALY</td></tr> <tr><td>LUXEMBOURG</td><td>ROMANIA</td></tr> <tr><td>RUSSIA</td><td>SPAIN</td></tr> <tr><td>TURKEY</td><td>UK</td></tr> <tr><td>SOUTH AFRICA</td><td></td></tr> </table>	GERMANY	ITALY	LUXEMBOURG	ROMANIA	RUSSIA	SPAIN	TURKEY	UK	SOUTH AFRICA		<table border="0"> <tr><td>USA</td><td>BRAZIL</td></tr> <tr><td>MEXICO</td><td>PANAMA</td></tr> </table>	USA	BRAZIL	MEXICO	PANAMA
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Production Network

Domestic	Overseas																
15 Plants	Asia 20 Manufacturing Entities in 3 countries <table border="0"> <tr><td>CHINA</td><td>INDIA</td></tr> <tr><td>VIETNAM</td><td></td></tr> </table>	CHINA	INDIA	VIETNAM		Europe & Africa 5 Manufacturing Entities in 5 countries <table border="0"> <tr><td>GERMANY</td><td>LUXEMBOURG</td></tr> <tr><td>ROMANIA</td><td>TURKEY</td></tr> <tr><td>SOUTH AFRICA</td><td></td></tr> </table>	GERMANY	LUXEMBOURG	ROMANIA	TURKEY	SOUTH AFRICA		America 8 Manufacturing Entities in 3 countries <table border="0"> <tr><td>U.S.A</td><td>BRAZIL</td></tr> <tr><td>MEXICO</td><td></td></tr> </table>	U.S.A	BRAZIL	MEXICO	
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GERMANY	LUXEMBOURG																
ROMANIA	TURKEY																
SOUTH AFRICA																	
U.S.A	BRAZIL																
MEXICO																	

Marketing / R&D Network

Domestic	Overseas			
5 R&D Centers	20 Trading Entities	8 Trading Entities Branches	15 Trading Offices	17 Sales Offices



WORLD WIDE HYOSUNG MAP

AMERICA_



PITTSBURGH (USA)
HICO America Sales and Technology, Inc.



IRVING (USA)
Nautilus Hyosung America, Inc.



SOUTH HILL (USA)
GST LLC - South Hill



DECATUR (USA)
Hyosung USA, Inc. (Decatur Plant)



ENSENADA (MEXICO)
GST Automotive Safety Components International S.A. de C.V.



TORREON (MEXICO)
GST Safety Textiles Mexico S. de R.L. de C.V.



SANTA CATARINA (BRAZIL)
Hyosung Brasil Industria E Comercio De Fibras Ltda.

AFRICA_



HAMMARSDALE (SOUTH AFRICA)
GST Automotive Safety South Africa (Proprietary) Limited

EUROPE_



COLMAR-BERG (LUXEMBOURG)
Hyosung Luxembourg S.A.



MILANO (ITALY)
Hyosung Europe S.R.L.



ISTANBUL (TURKEY)
Hyosung Istanbul Tekstil Ltd Sti



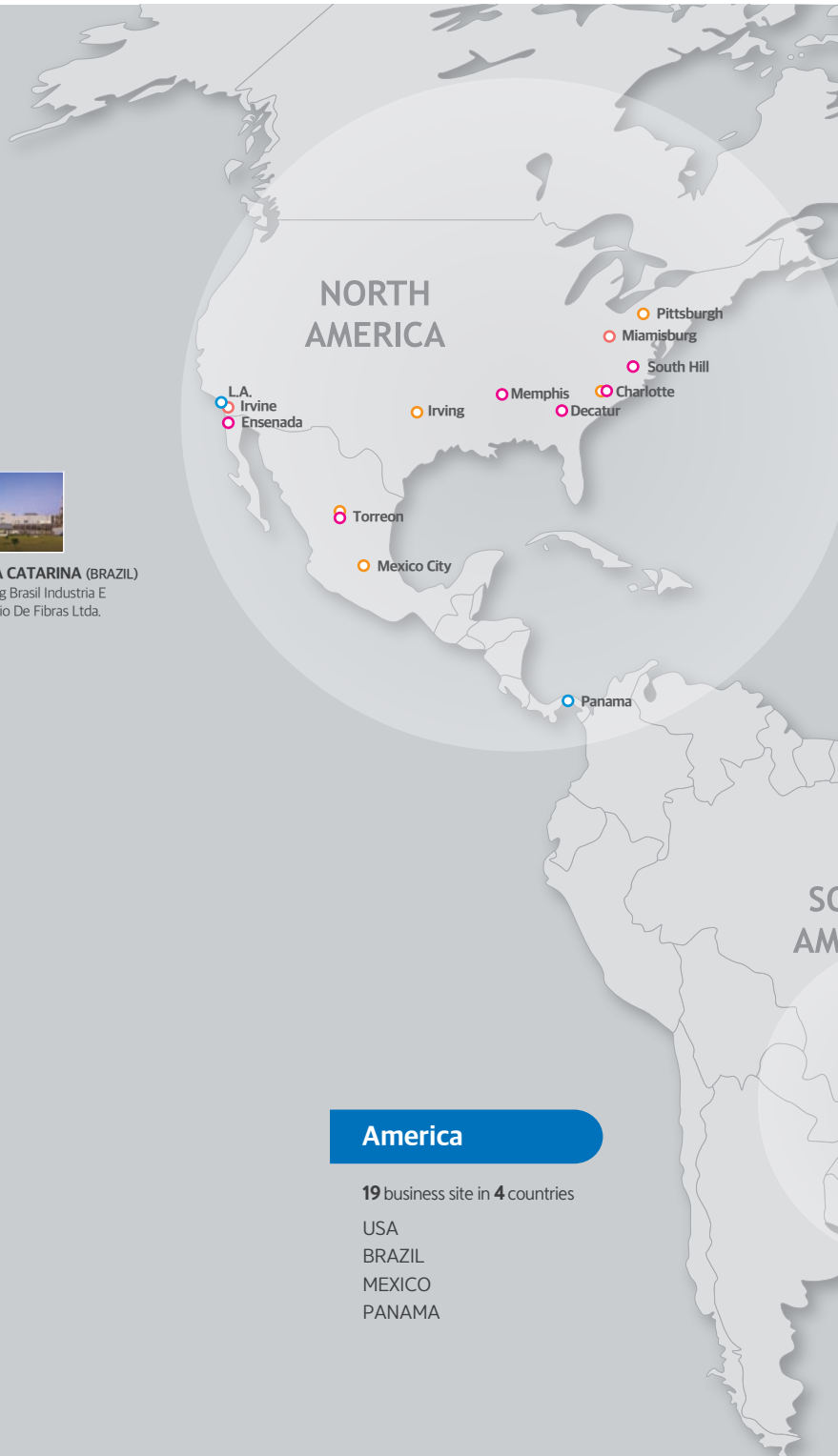
MAULBURG (GERMANY)
GST GmbH - Maulburg



MURG (GERMANY)
GST GmbH - Murg



SIGHISOARA (ROMANIA)
GST Automotive Safety RO S.R.L.
GST Safety Textiles RO S.R.L.



America

19 business site in 4 countries

USA
BRAZIL
MEXICO
PANAMA



Europe & Africa

15 business site in 9 countries

- | | |
|--------------|---------|
| GERMANY | ITALY |
| LUXEMBOURG | ROMANIA |
| RUSSIA | SPAIN |
| TURKEY | UK |
| SOUTH AFRICA | |

SOUTH AMERICA

- Sao Paulo
- Santa Catarina

EUROPE

ASIA

AFRICA

Johannesburg ●

Hammersdale ●

Riyadh ●

Doha ●

Abu Dhabi ●

Dubai ●

Gurgaon ●

Aurangabad ●

Mumbai ●

Pune ●

Chennai ●

Manchester ●

Frankfurt ●

Colmar-berg ●

Bad Saeckingen ●

Murg ●

Milano ●

Sighisoara ●

Albesti ●

Barcelona ●

Madrid ●

Tekirdag ●

Istanbul ●

Moscow ●

Overseas

33

● Manufacturing Entities

20

● Trading Entities

8

● Trading Entities Branches

15

● Trading Offices

17

● Sales Offices



ASIA_



JIAXING (CHINA)
 Hyosung Spandex (Jiaxing) Co., Ltd.
 Hyosung Chemical Fiber (Jiaxing) Co., Ltd.
 Hyosung Chemicals (Jiaxing) Co., Ltd.
 Hyosung International Trade (Jiaxing) Co., Ltd.



GUANGDONG (CHINA)
 Hyosung Spandex (Guangdong) Co., Ltd.



ZHUHAI (CHINA)
 Hyosung Spandex (Zhuhai) Co., Ltd.



QINGDAO (CHINA)
 Hyosung Steelcord (Qingdao) Co., Ltd.



ZHANGJIAGANG (CHINA)
 Zhangjiagang Xiao-sha Coil Service Co., Ltd.



NANTONG (CHINA)
 Nantong Hyosung Transformer Co., Ltd.



CHANGSHU (CHINA)
 GST Automotive Safety (Changshu) Co., Ltd.



PUNE (INDIA)
 Hyosung T&D India Pvt. Ltd.



DONG NAI (VIETNAM)
 Hyosung Vietnam Co., Ltd.
 Hyosung Dong Nai Co., Ltd.

Asia

79 business site in 15 countries

- | | |
|--------------|-------------|
| KOREA | CHINA |
| INDIA | INDONESIA |
| JAPAN | MALAYSIA |
| MYANMAR | PHILIPPINES |
| SINGAPORE | TAIWAN |
| THAILAND | U.A.E. |
| VIETNAM | QATAR |
| SAUDI ARABIA | |

Domestic

15
● Plants

5
◎ R&D Centers



TEXTILE_



ULSAN PLANT
Nylon/Polyester chips,
Nylon fibers



GUMI PLANT
Spandex, Polyester fibers,
Polyester chips



DAEGU PLANT
Dyeing

POWER & INDUSTRIAL SYSTEMS_



CHANGWON PLANT
Transformers, Switchgears,
Motors



SEJONG PLANT
Welding machine,
PV inverter



HGS CHANGWON PLANT
Pumps

INDUSTRIAL MATERIALS_



ULSAN PLANT
Tire cords, Technical yarn,
Aramid, PET BCF



ANYANG PLANT
Rolled carpets, Car mat,
Nylon BCF



DAEJEON PLANT
Tile carpets, Mat, PP BCF



JEONJU PLANT
Carbon fibers

CHEMICALS_



YONGYEON PLANT
PP/DH, TPA, Polyketone, NF₃
TAC films, PET films



DAEJEON PLANT
BOPA films



GUMI PLANT
PET films, BOPA films



OKSAN PLANT
Tac films, Acryl

INFORMATION & COMMUNICATION_



HYOSUNG TNS GUMI PLANT
ATM

BUSINESS DIRECTORY

Domestic

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Hyosung TNC Corporation
www.hyosungtnc.com

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(04144) 119 Mapodaero, Mapo-gu, Seoul
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Ulsan Plant

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T. 82-52-278-7000 F. 82-52-261-6180

Anyang Plant

(14080) 74 Simindaero, Dongan-gu, Anyang-si,
Gyeonggi-do (Hogye-dong)
T. 82-31-428-1000 F. 82-31-452-4175

Gumi Plant

(39404) 108 3 Gongdan2-ro, Gumi-si, Gyeongbuk
(Simi-dong)
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Daegu Plant

(42701) 45 55-gil, Seongseogongdan-ro, Dalseo-gu,
Daegu-si (Jang-dong)
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(Banpo-dong)
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(Sam-dong)
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Sebitseom

www.somesevit.co.kr
(06500) 2085-14, Olympic-daero, Seocho-gu, Seoul
T. 82-1566-3433 F. 82-2-3477-5809

POWER & INDUSTRIAL SYSTEMS / CONSTRUCTION

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Power & Industrial Systems HQ

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Gyeongnam (Nae-dong)
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Changwon Plant 3

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Gyeongsangnam-do, 51559 (Ungnam-dong)
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(Yeongi-ri)
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Construction HQ

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Changwon Plant

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Daejeon Plant

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