

KUMHO POLYCHEM



beyond the best KUMHO POLYCHEM

www.polychem.co.kr



EP(D)M Industry Pioneer

Kumho Polychem Co., Ltd., established in 1985 through a joint venture between Kumho Petrochemical Co., Ltd, and Japan Synthetic Rubber Co., Ltd. with the support of the Korean government's policy to foster the growth of the heavy chemical industry and localization of materials, began commercial production in 1987 with an annual capacity of 10,000 tons, and has grown into an Global Top Class EP(D)M Supplier in terms of production capacity, boasting an annual capacity of 240,000 tons per year, as of 2022, through the 3rd round of capacity expansion, the application of the indigenously developed 'Ultra-low temperature polymerization technology', the construction of Plant 2 in 2013, and continuous process improvements.

Global Leading Elastomer Solution Partner

In addition, we are taking extensive measures to contribute towards the development of the automotive industry, meet the various requirements of our customers, and supply the highest-quality products to the global elastomer market through continuous R&D activities for the development of eco-friendly materials and next-generation parts, coupled with a TPE production capacity of 12,000 tons under the objective of becoming a 'Global Leading Elastomer Solution Partner'.

Building Tomorrow with nature, people, and technology coming together













Core Management Management Performance

Creating Our Common Future With Value Beyond Chemistry

Company Information



CREATIVE INOVATION

'Creative Innovation' for a better tomorrow

Company Name KUMHO POLYCHEM

Company Information (As of 2023)

Executive Board



245

Production Capacity(MT/year)



EP(D)M **240,000** TPV/KEPA 12,000

Turnover (Hundred million KRW)

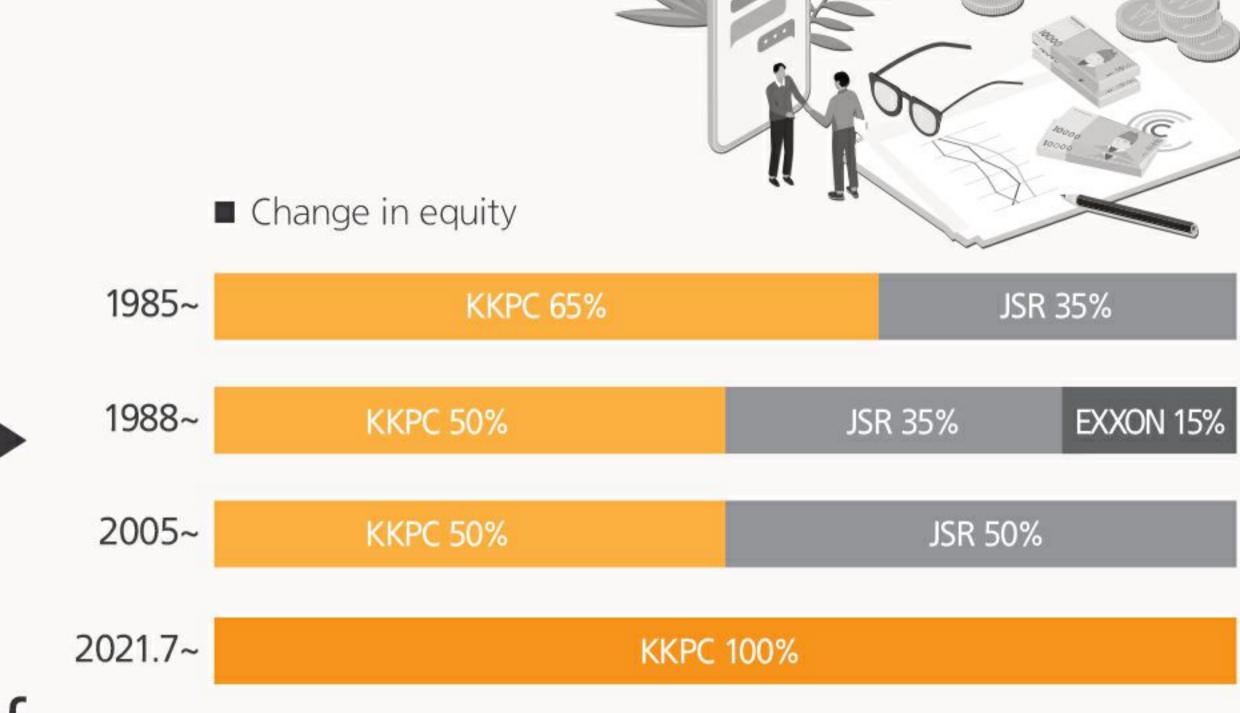


6,468

CRÉATIVE INNOVATION



100% subsidiary of Kumho Petrochemical Co., Ltd.



KKPC: Korea Kumho Petrochemical Company

History

Footprint of Kumho Polychem Co., Ltd.

Establishment of 252,000 ton capacity EP(D)M + TPE Production System



Since initiating full-scale production of EP(D)M, widely used in automotive parts and industrial materials, in 1988, Kumho Polychem has continuously expanded its supply capacity and fostered technological innovation. Presently, we produce and sell 252,000 tons of EP(D)M and TPE products worldwide. Furthermore, we are committed to not becoming complacent and pledge to supply products of the highest quality desired by our customers, striving to grow together with them.









1985 Founded Kumho EP Rubber Co., Ltd through the establishment of a joint venture between Kumho Petrochemical Co., Ltd. and Japan Synthetic Rubber Co., Ltd. 1987 Completed Line 1 of Plant 1 (10,000MT/year) 1988 Concluded stock trading and entered into amended joint venture agreement (Kumho Petrochemical Co., Ltd.,

Japan Synthetic Rubber Co., Ltd., Exxon Chemical Co., Ltd.)

1989 Completed 1st expansion construction (+10,000MT/year, EPDM: 20,000MT/year)

1990

1993 Acquired ISO9002 certificate

1994 Acquired ISO9001 certificate / Acquired BS7750 certificate

1996 Acquired ISO14001 certificate

1997 Changed company name to Kumho Polychem Co., Ltd. /

Completed Line 2 of Plant 1 (+20,000MT/year, EPDM: 40,000MT/year)

1998 Designated as an environment-friendly company

2000

2000 Acquired OHSAS 18001 certificate / Acquired KOSHA 2000 certificate

2005 Concluded stock trading and entered into amended joint venture agreement (Kumho Petrochemical Co., Ltd. and JSR Co., Ltd.) /

Change in shareholder's equity (Kumho Petrochemical Co., Ltd.: JSR Co., Ltd. = 50:50)

2006 Acquired technical patent related to the EP(D)M manufacturing process <Patent Name> A method of manufacturing high yield EP(D)M and a method of controlling the yield, and a method of recovering EP(D)M

2007 Completed 3rd expansion construction (+27,000MT/year, EPDM: 80,000MT/year) / Completed TPV Line 1 (5,000MT/year)

2009 Awarded Grand Prix in Safety Management Award (Minister of Labor Award)

2010

2011 Awarded Product Award of Korea Green Management Award (Minister of Environment Award) /

Selected as an Excellent Company in Quality Competitiveness for twelve consecutive years and inducted to the Hall of Fame / Acquired ISO/TS16949:2009 Quality Management System certificate /

Re-designated as 4th Green Enterprise (Minister of Environment Award) /

Certified as a World-class Product (EPDM) and a World-class Product Manufacturing Enterprise /

Completed KEPA Line (2,000MT/year, TPE: 7,000MT/year)

2012 Awarded Green Management Award (Minister of Knowledge and Economy Award) /

Awarded USD 300 Million Pagoda at 49th Trade Day

2013 Completed Line 3 of Plant 2 (+60,000MT/year, EPDM: 160,000MT/year)

2015 Completed Line 4 of Plant 2 (+60,000MT/year, EPDM: 220,000MT/year)

2016 Awarded Prime Minister Award of Korea Energy Efficiency Award

Achieved 'Zero Casualties' Record for the 15th Consecutive Year 16.01.07 (5,300 days)

2018 Commenced commercial production at TPV Line 2 (+5,000MT/year, TPE: 12,000MT/year)

Completed construction of Daejeon R&D Center

2020

2020 Acquired ISO45001 certificate

2021 Completed debottlenecking of Line 4 of Plant 2 (+10,000MT/year, EPDM: 230,000MT/year)

Incorporated as 100% subsidiary of Kumho Petrochemical Co., Ltd.

(Kumho Petrochemical Co., Ltd. Acquired remaining 50% of shares held by JSR Co., Ltd.)

Maintained 28-year record of 'Zero Environmental Accidents'

Maintained conflict and dispute-free business site record (Thirty two consecutive years)

2022 Completed debottlenecking of Line 3 of Plant 2 (+10,000MT/year, EPDM: 240,000MT/year)

Honored with the Export USD 500 Million Tower and the Silver Tower Industrial Medal at the 59th Trade Day

2024 Plant 2, Line 5 scheduled to be completed (+70,000MT/year, EPDM: 310,000MT/year)

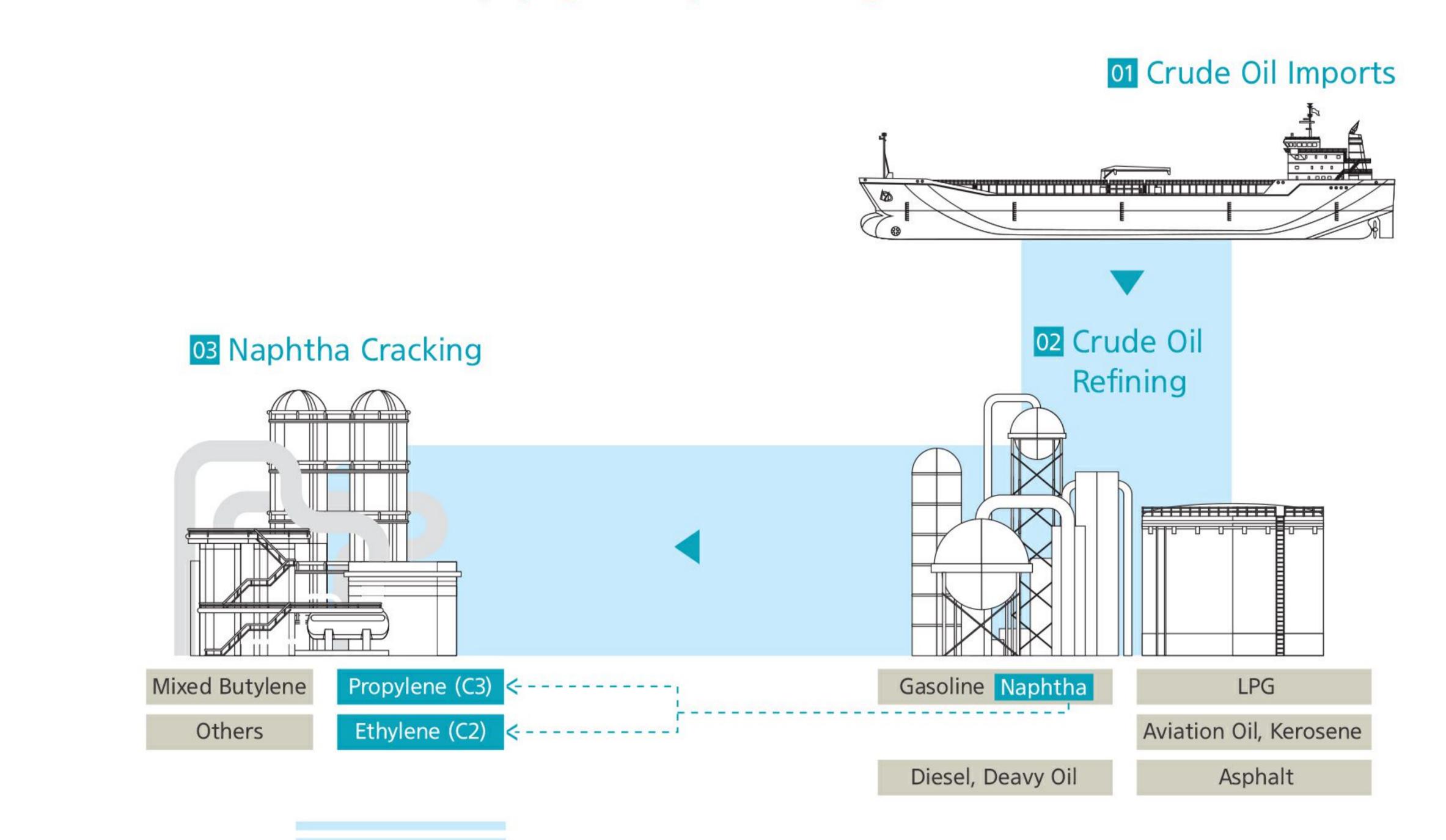


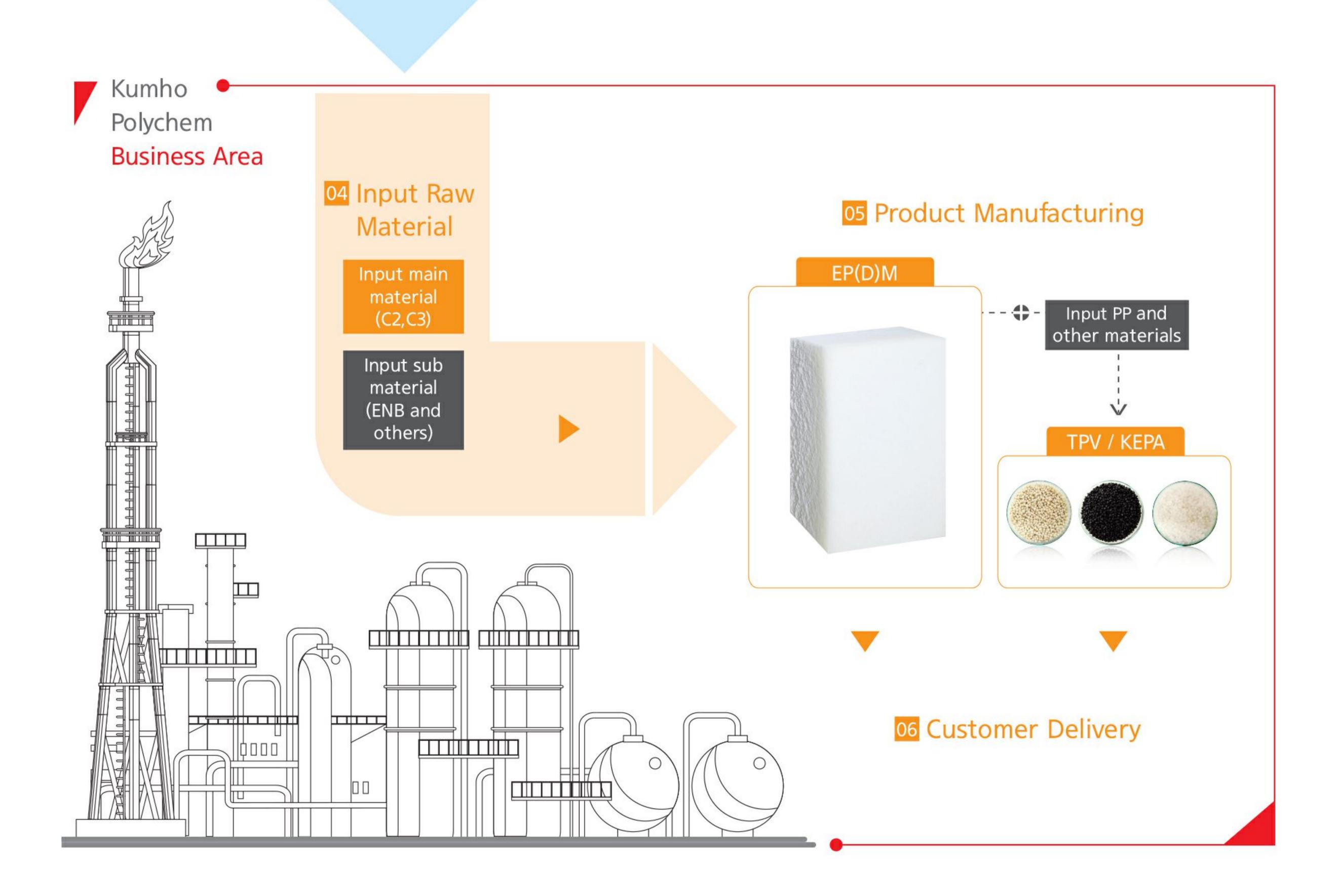


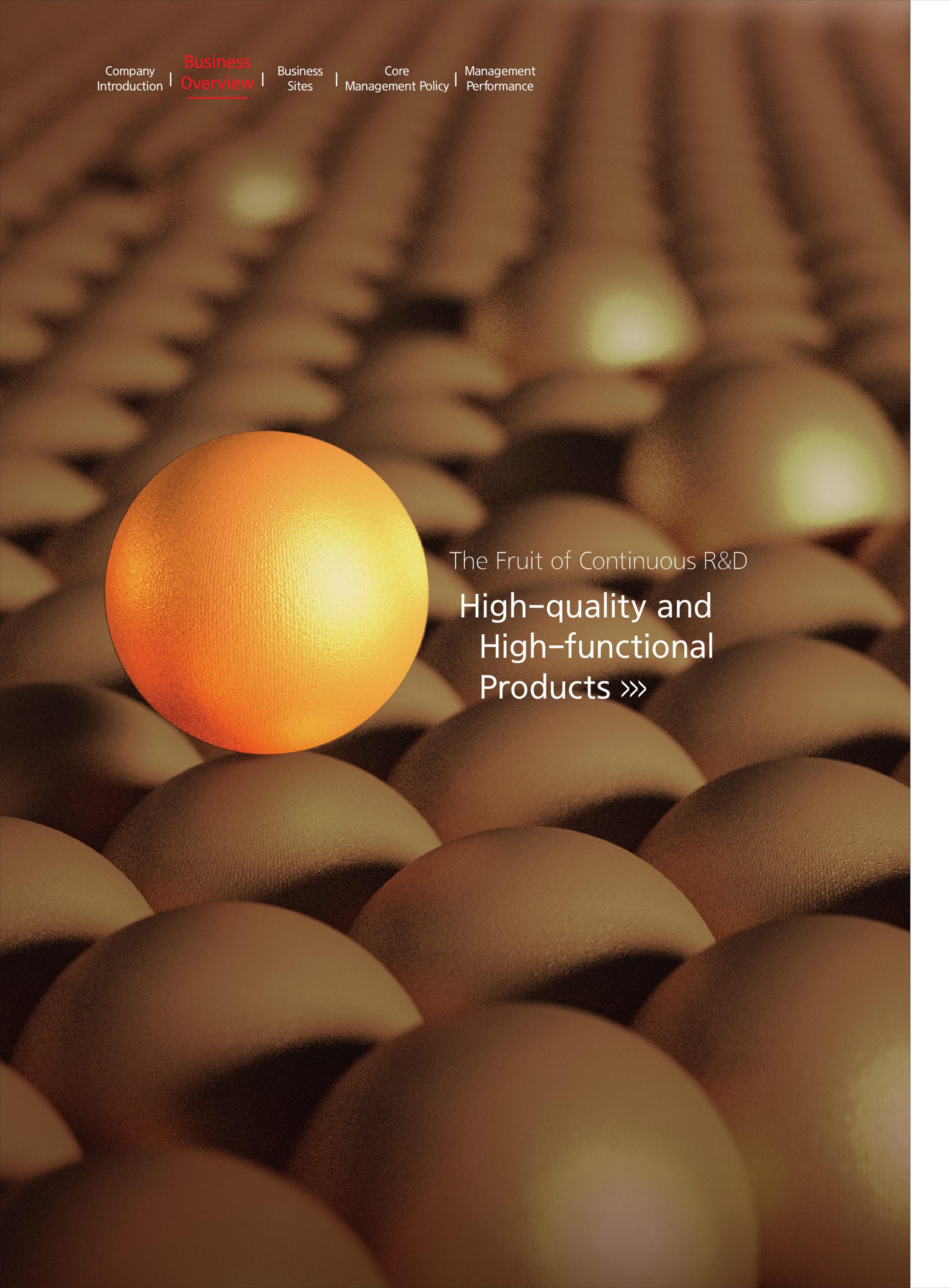
Business Area

Establishment of Market Leadership through Creative Innovation

World's Best Technology and Stable Product Supply Capability









Products

Meeting the Needs of Our Customers

Diverse Product Line-Up



EP(D)M

EP(D)M is a high-functional type of specific synthetic rubber mainly used in automobile parts with properties including excellent heat resistance, ozone resistance, and chemical resistance. EPDM is widely used in our everyday lives such as in the form of automotive body sealing solutions, tire tubes, hoses, electric wires, and construction material given its high level of economics stemming from its low specific gravity compared to other synthetic rubbers and possibility for high filling formulations.

TPV

We develop and produce TPV products, a thermoplastic elastomer which contains the elastic traits of thermosetting rubber and the formability of thermoplastics based on proven EP(D)M manufacturing technology. TPV can replace existing thermosetting vulcanized rubbers and PVC material which are currently yielding environmental problems. In addition, TPV, as an eco–friendly material which can be expected to produce the effect of carbon reduction, owing to its low specific gravity and reusability, is experiencing a continuous increase in demand from around the world.

KEPA

KEPA is a product with enhanced affinity toward polar polymer products developed through the partial modification of EP(D)M properties by grafting functional compounds such as Maleic Anhydride (MAH), and is being used as shock-reinforcing and commercializing agents for polar resins such as Nylon, ABS, PET, PBT, etc.



Application

Cutting-Edge Technology of Polychem in Daily Life

Extensive Utilization across all Industries including Automobile, Electrical and Electronics, Architectural Applications, etc.







Core Management Management Performance

Creating Our Common Future
With Value Beyond Chemistry

Plant

Plant 1

The Origin of EP(D)M in Korea, and the Realization of Technological Independence

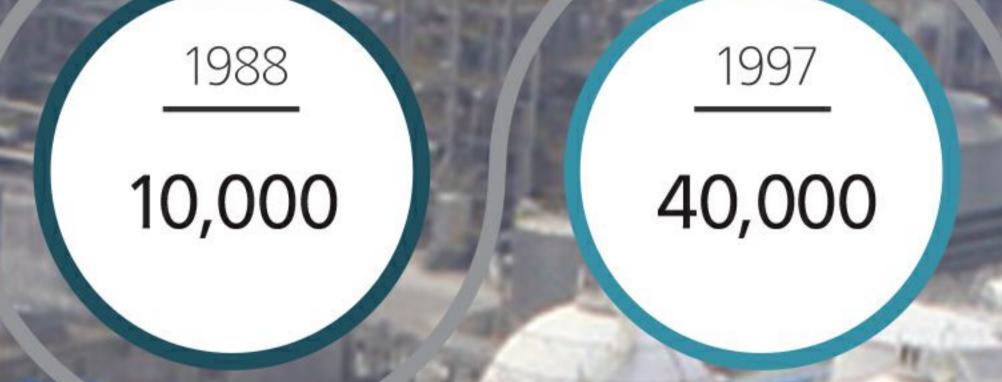
Kumho Polychem's Plant 1, which was established and commenced production based on Japan Synthetic Rubber Co., Ltd. technology, reached an annual production capacity of 20,000 tons after the 1st expansion project which took place in 1989 through the adoption of Exxon Chemical technology. In the years that followed, Kumho Polychem succeeded in achieving Technological Independence through a technological breakthrough known as 'Ultra-low temperature Polymerization Technology' in 2006 as the collective result of process operation experience and technology accumulation, in addition to continuous process improvements and expansions, and is now currently operating a manufacturing plant equipped with an annual production capacity of 100,000 tons of EP(D)M and 12,000 tons of TPE.

Production of Customized High-Quality EP(D)M and TPE











112,000



Plant

Yeosu

Plant 2

Proprietary development of Kumho Polychem: the culmination of "Ultra-Low Temperature Polymerization Technology".

Plant 2 (Line 3) was newly constructed in 2013 based on know-hows procured through operating Plant 1 and the advancement of the 'Ultra-low Temperature Polymerization Technology', an indigenous technology of Kumho Polychem Co., Ltd. Following the expansionary construction project of line 4 in 2015 and continuous process improvements, Plant 2 currently boasts an annual production capacity of 140,000 tons. We, Kumho Polychem Co., Ltd. are now leading the EP(D)M market with a combined total EP(D)M annual supply capacity of 240,000 tons coupled with the world's best quality and cost competiveness as well as accumulated sales expertise.

The Optimal Plant Equipped with Years of Unrivaled Technical Know-Hows



Annual Production Capacity(MT)





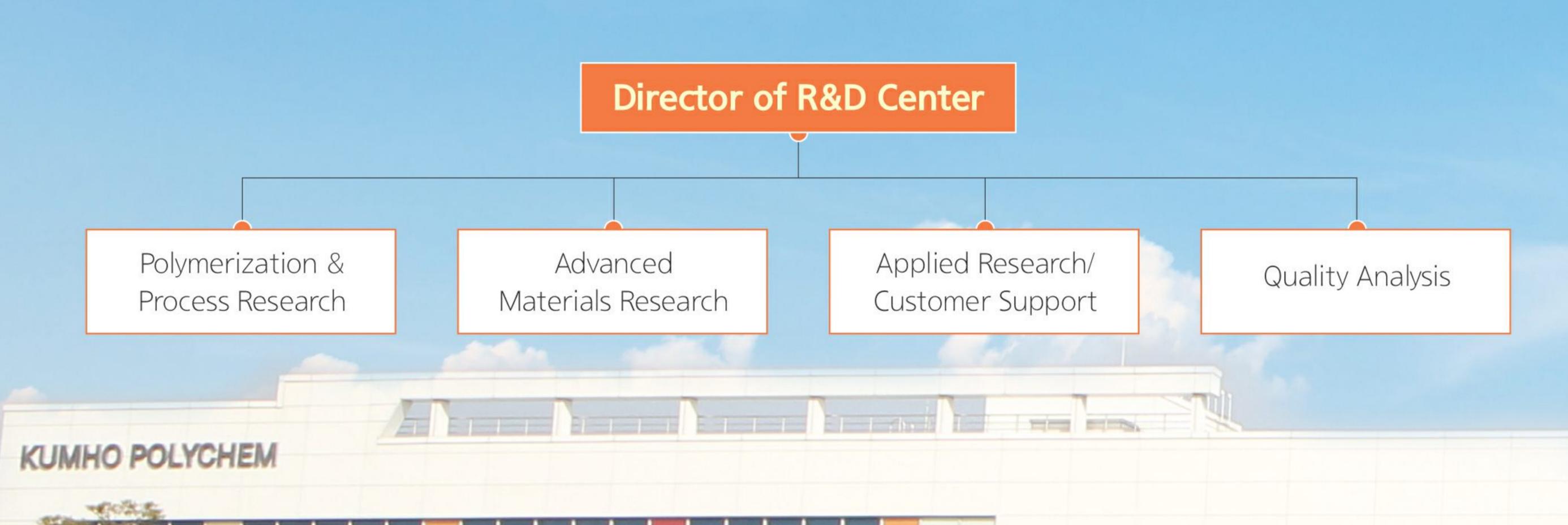


R&D center



The Kumho Polychem R&D Center was established in November 1995 to actively respond to the rapidly changing global market and technology prompted by the emergence of new technologies such as Metallocene Catalyst, Gas Phase Polymerization, the De-vol Process, etc.

Daejeon Metropolitan City and Kumho Polychem Co., Ltd. signed an agreement in 2012 to relocate the R&D Center to Daedeok Research Complex with the aim of strengthening R&D capabilities, and following the completion of the expansionary relocation in January 2018, through strenuous efforts and research, our company developed new EPM and EPDM products to supply high-performance, high-quality products to our customers on a stable basis. Kumho Polychem Co., Ltd. is committed to engaging in untiring research to develop new cutting-edge, value-added materials and an eco-friendly production process to become a first-class leading company.



Global Leading Elastomer Solution Partner



What is R&BD?

R&BD stands for Research & Business Development activity



To realize the potential needs of our customers

A 4th generation R&D system which combines product development, application, marketing, service and commercialization



Through the integration of technology, the market, and value innovation

Operating a next-generation R&D system that can enhance market dominance in the form of market dominant product development, low-cost process development, marketing, product application and technological service, commercialization development, etc.



R&D which can connect technology to sustainability

Is the goal of the Kumho Polychem R&D Center isiness Sites

Core
Management Policy Management
Performance

Solution Partner Creating Our Common Future With Value Beyond Chemistry

Quality Management



Win-Win 'Technology' and stringent 'Quality Management'

Our company established a quality management system and achieved quantitative growth after laying the foundation for international competitiveness by adopting advanced technologies, in addition to procuring the ISO 9001 quality system certificate from DNV-QA at UK in 1993 to pave the path for qualitative growth.

In addition, by acquiring the ISO/ TS16949 (current IATF16949) quality management system, we have secured global quality competitiveness upgraded to the next level, and are striving towards maintaining quality stability and uniformity.

Quality Policy of Kumho Polychem Co., Ltd.

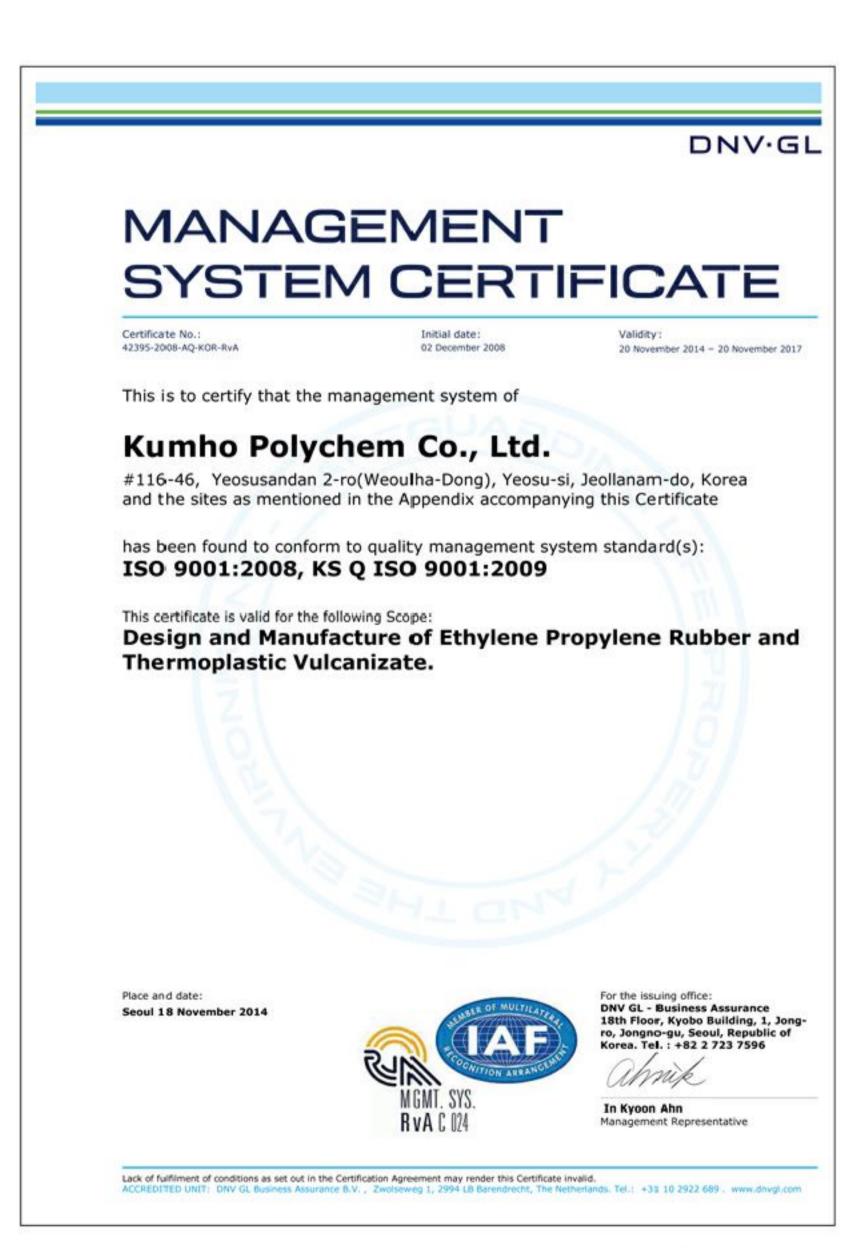
Pursue Continuous Innovation



Maximize Customer Satisfaction



Continuous Improvement of Quality Management System



Acquired ISO 9001 Quality Management (2008)

Value Management centered on Customer Satisfaction

From companies tied to automobile parts and construction to those from various fields of basic industrial goods, our customer base is very diverse and broad. We provide a quick one–stop customer support service where our R&D Center and Sales Team personnel directly visit the site jointly in order to meet and resolve the diverse range of requirements and complaints of our various customers in an expedited manner.

We help our customers create value through the reduction of product development time and costs by supporting joint analysis and co-development utilizing our high-end research equipment.











ESG Management





MISSION

We are shaping a sustainable future centered on creative innovation, balancing both nature and human-centered values.

VISION

Sustainable Challenge 2030

Kumho Polychem, a company committed to constant challenges for sustainability.

Strategic Direction and Strategic Tasks



Entrepreneurial spirit

Entrepreneurship

- of creating new value
- Strengthening global competitiveness Sustainable product and technological
- Strengthening customer satisfaction and communication

innovation







Proactive Approach

Proactive response to climate change

- Addressing climate changes Creating environmentally sustainable workplaces
- Participating in sustainable resource cycling

















Delightful Workplace

Creating a human-centric work environment

- Creating a culture within the organization that prioritizes and honors
- human dignity Enhancing compliance and fostering ethical Building a secure workplace environment management practices Creating a sustainable Building a healthy decision-making system ecosystem







Mutual Trust

Establishing a culture

of trust through

transparent

decision-making

internalizing a sustainable

Establishing and

business foundation

Eco-Friendly Management

- Continuous investment in facilities to prevent air pollutants and odors
- Reduction of greenhouse gas emissions by reducing utility usage through the adoption of a heat waste recovery system
- Promoting process efficiency through the development of an eco-friendly low carbonization system



- Enhancing the stability of process operations through the incorporation of a classification system and the continuous safety management of hazardous facilities
- Operating a consultative body and establishing a communication channel at the enterprise level to eliminate potential risk factors (Industrial Safety and Health Committee, Subcontractor Environmental Safety Council)
- Activities to inspect the safety management status and safety equipment in the form of environmental and safety inspection day events (Safety cross-checks among departments and joint environmental and safety inspection activities)
- Enhancing crisis-response capabilities through emergency response training



Social Contribution Activities

Responsible Care

One mountain, one river, one coast cultivation activity, plus an event to release fish into the sea with the purpose of protecting fish species

 Support for cultural and artistic activities Donating books to middle and high schools in the local community and supporting science and culture experience activities for underprivileged children

Community Service Activities

Hope food truck of love for the elderly living alone, relationship-building and sponsoring of broken families and child breadwinners



Human Resources Management

Kumho Traits

"Solution Mate"



Core Values

People of Kumho who do our best to promote our expertise with passion and respect various opinions in order to create a valuable life which encompasses everyone and take pride in continuously growing and developing with sincerity based on the right principles

Passion

Maximize "indigenous expertise" with enthusiasm and sincerity

Respect

Respect the opinions of the "various persons concerned" and form positive relationships founded on reliability

ntegrity

Create the value of "living together" by pursuing the essence in a fair and transparent manner based on established principles

Development

Achieve the steady growth of "everyone" by incorporating new perspectives and approaches



Group New Vision

"The Values pursued together by Kumho Petrochemical Group and Kumho Polychem"



Our 6 Core Agenda

1 DX

Successful initiation of digital transformation

2 NBD

Discover and establish the foundation for new growth engines of the future

3 ESG

Establish an eco-friendly activity and sustainable management system

4 R&D

Establish a mid-to long-term R&D advancement strategy and system

5 BM

Innovate a mid-to long-term business model and bolster competitiveness

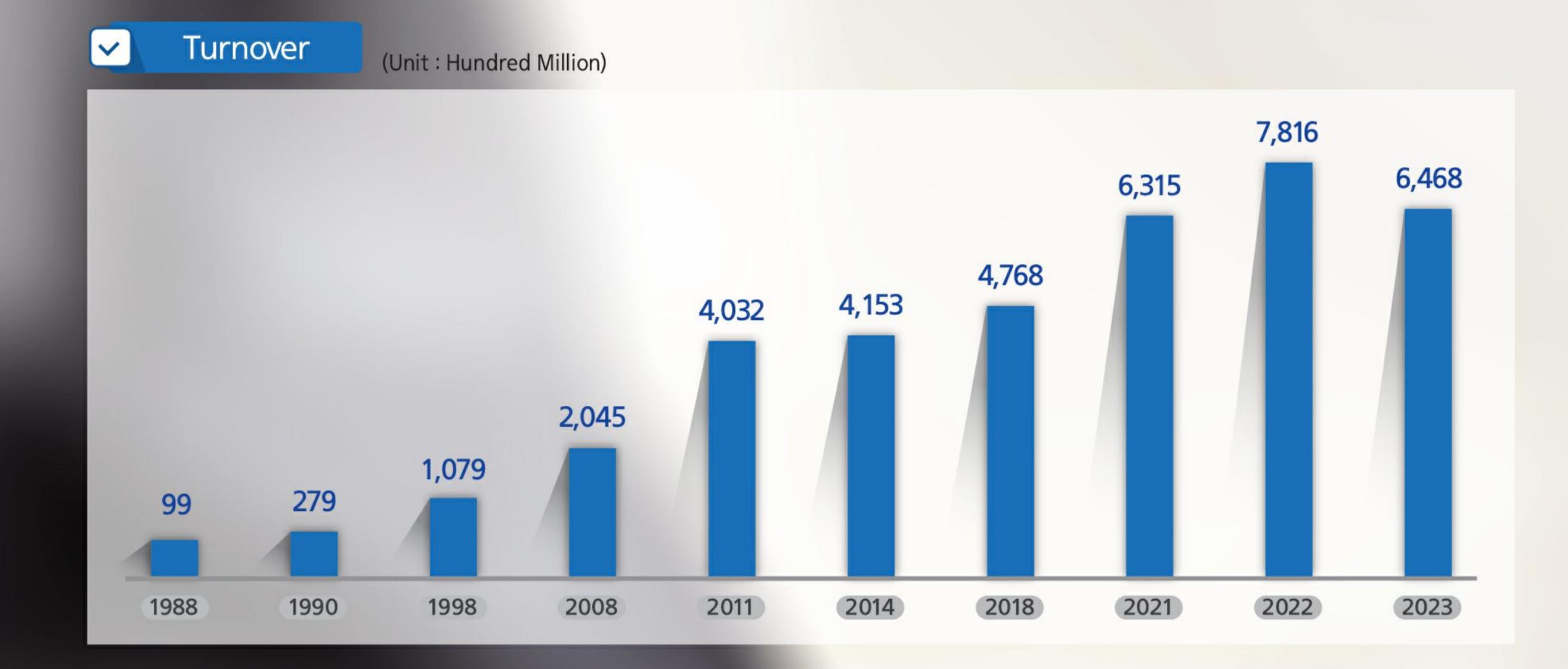
6 Way of Work

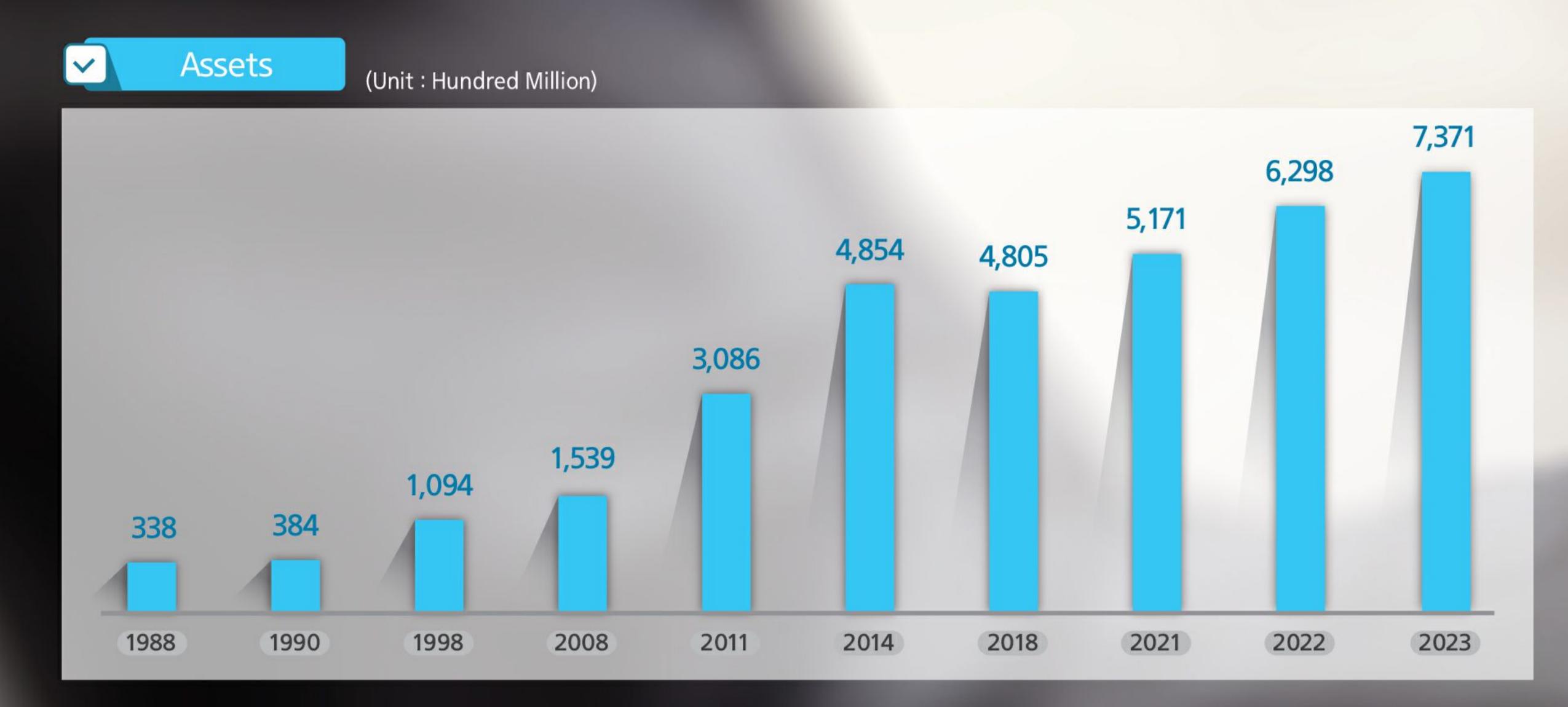
Innovate a group culture in line with the new normal era

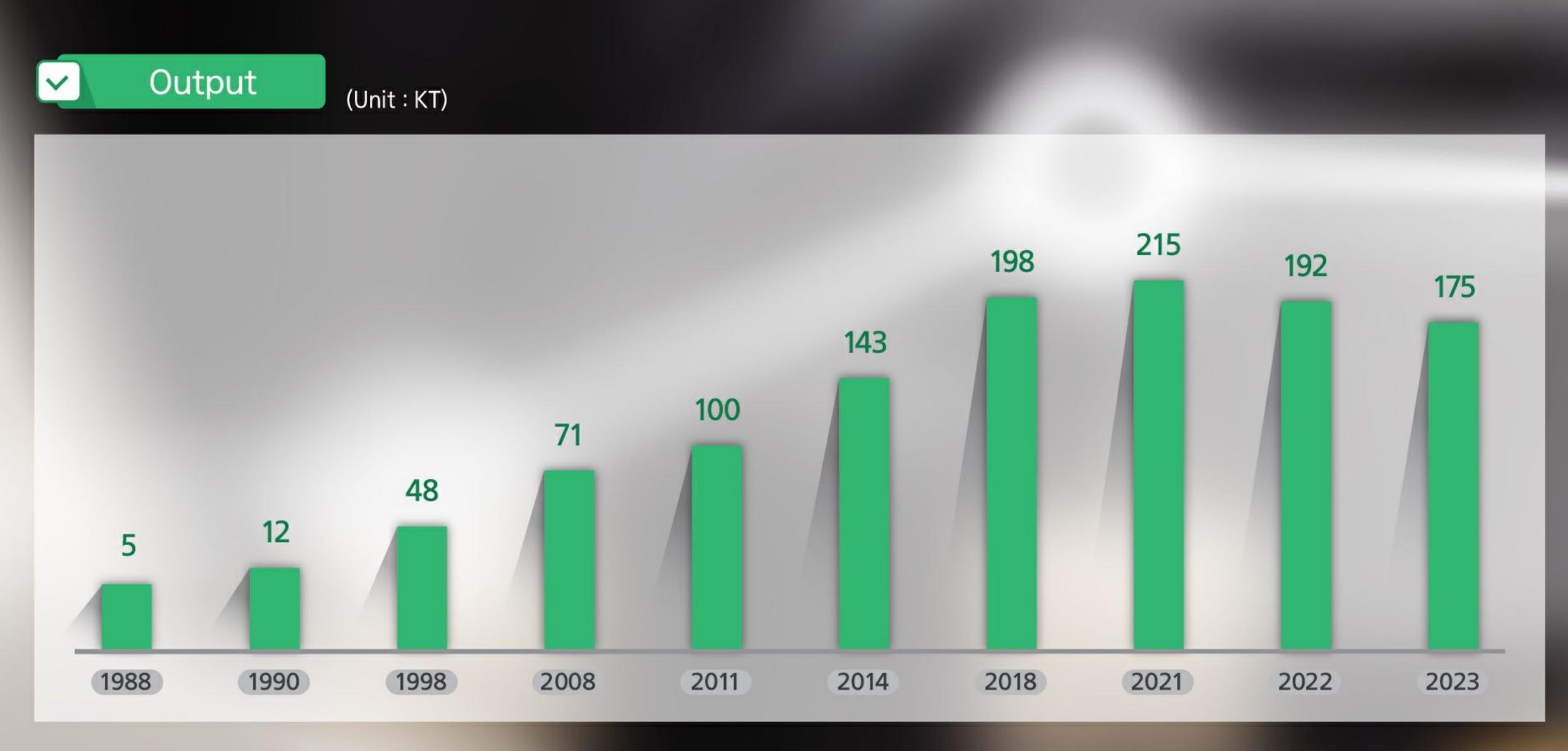


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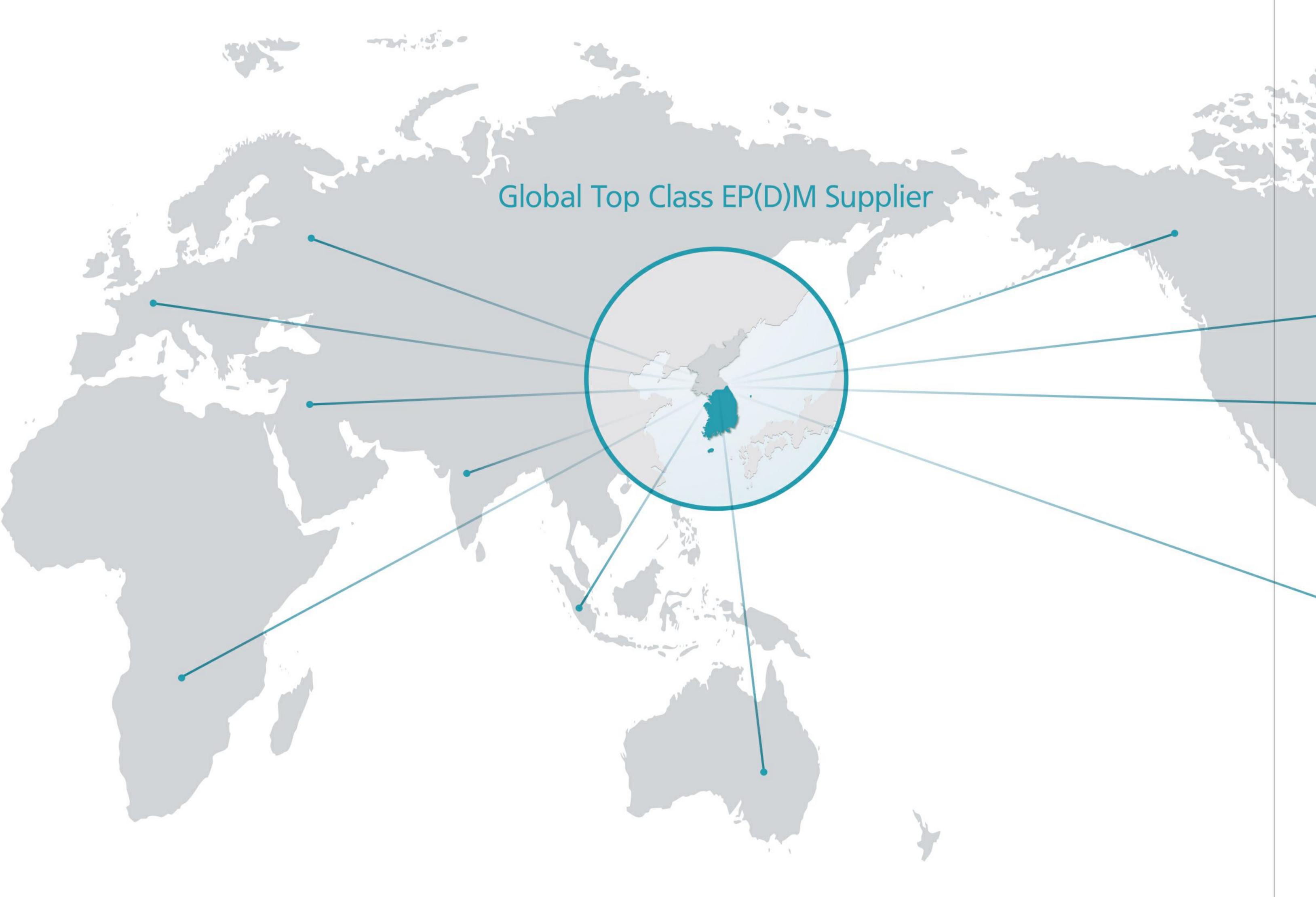
Achievement















Headquater

9F, East Wing, Signature Tower #100, Cheonggyecheon-ro, Jung-gu, Seoul, Korea TEL_ **82.2.6961-1114** FAX_ **82.2.6961.3811**



Yeosu Plant I

116-46, Yeosusandan2-ro, Yeosu-si, Jeonnam, Korea TEL_ 82.61.688.2700



Yeosu Plant II

2nd plant, 613, Sandanjungang-ro, Yeosu, Jeonnam, Korea TEL_82.61.808.2300



Daejeon R&D center

40, Yuseong-daero 1184beon-gil, Yuseong-gu, Daejeon, Korea TEL_ 82.42.712.2200



Busan Sales Office

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