

LOTTE CHEMICAL CORPORATION

COMPANY PROFILE





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LOTTE GROUP

LOTTE, a Lifetime Value Creator that enriches the lives of all.

LOTTE continues to challenge beyond and pursue innovation across the diverse areas of food, retail, tourism and chemicals to offer the most up-to-date lifestyle.

LOTTE aims to create a flourishing future of shared growth for all, paired with a life of greater convenience and delight.





New Today, Better Tomorrow

VISION

Lifetime
Value Creator

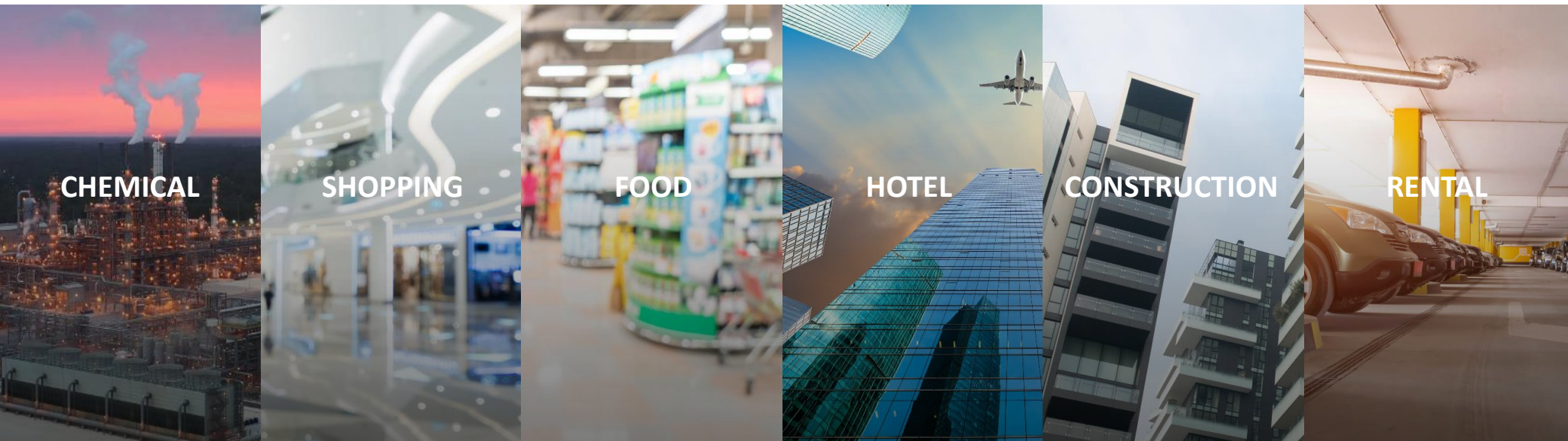
MISSION

We enrich people's lives by providing superior products and services that our customers love and trust.

LOTTE possesses a stable financial structure that lays the foundation for continuous sustainable growth.
Committed in a diversified business portfolio of chemical, shopping, food, hotel, construction, rental, and more.

Total revenue **64.9** trillion KRW (2020)

* Since 2017, total revenue has been reported in financial accounting standards instead of management accounting standards.



Subsidiaries

86 (2021)



Business ranking in Korea

5th



Asset ⁽¹⁾

125.7 trillion



Sales ⁽²⁾

56.4 trillion

* Source : May 2021 announcement by the Korea Fair Trade Commission

* Note : Excluding public corporations and asset-based

(1) Fair assets (2) Fair sales (based on domestic market sales, excluding internal transactions)

LOTTE GROUP's Chemical Head Quarter

LOTTE Group Chemical Division leads the chemical industry in Korea built upon a history of challenges and innovation

LOTTE Group's Chemical Division, consisted of LOTTE CHEMICAL, LOTTE FINE CHEMICAL, LOTTE ALUMINIUM, LC TITAN, LC USA, offers products that enhance the value of life ranging from basic materials to high value-added & specialty products, headed to become the world's best chemical company.



LOTTE Group's chemical unit has expanded to 22 countries across the globe, including Asia and Europe. Its business portfolio ranges from chemical raw materials to polymers, monomers, aromatics, synthetic rubbers, interior/construction materials, and even high-value businesses such as engineering plastics and fine chemicals.

LOTTE GROUP's Chemical Head Quarter

- **LOTTE CHEMICAL**
- **LOTTE FINE CHEMICAL**
- **LOTTE ALUMINIUM**
- **LOTTE CHEMICAL TITAN**
- **LC USA**
- **LOTTE MCC**
[JV with Mitsubishi Chemical (JPN)]
- **LOTTE MITSUI CHEMICALS**
[JV with Mitsui Chemicals (JPN)]
- **LOTTE INEOS CHEMICAL**
[JV with INEOS (UK)]
- **LOTTE Versalis Elastomers**
[JV with Versalis (ITA)]
- **LOTTE GS Chemical**
[JV with GS Energy (KOR)]



[LOTTE CHEMICAL]



[LOTTE ALUMINIUM]



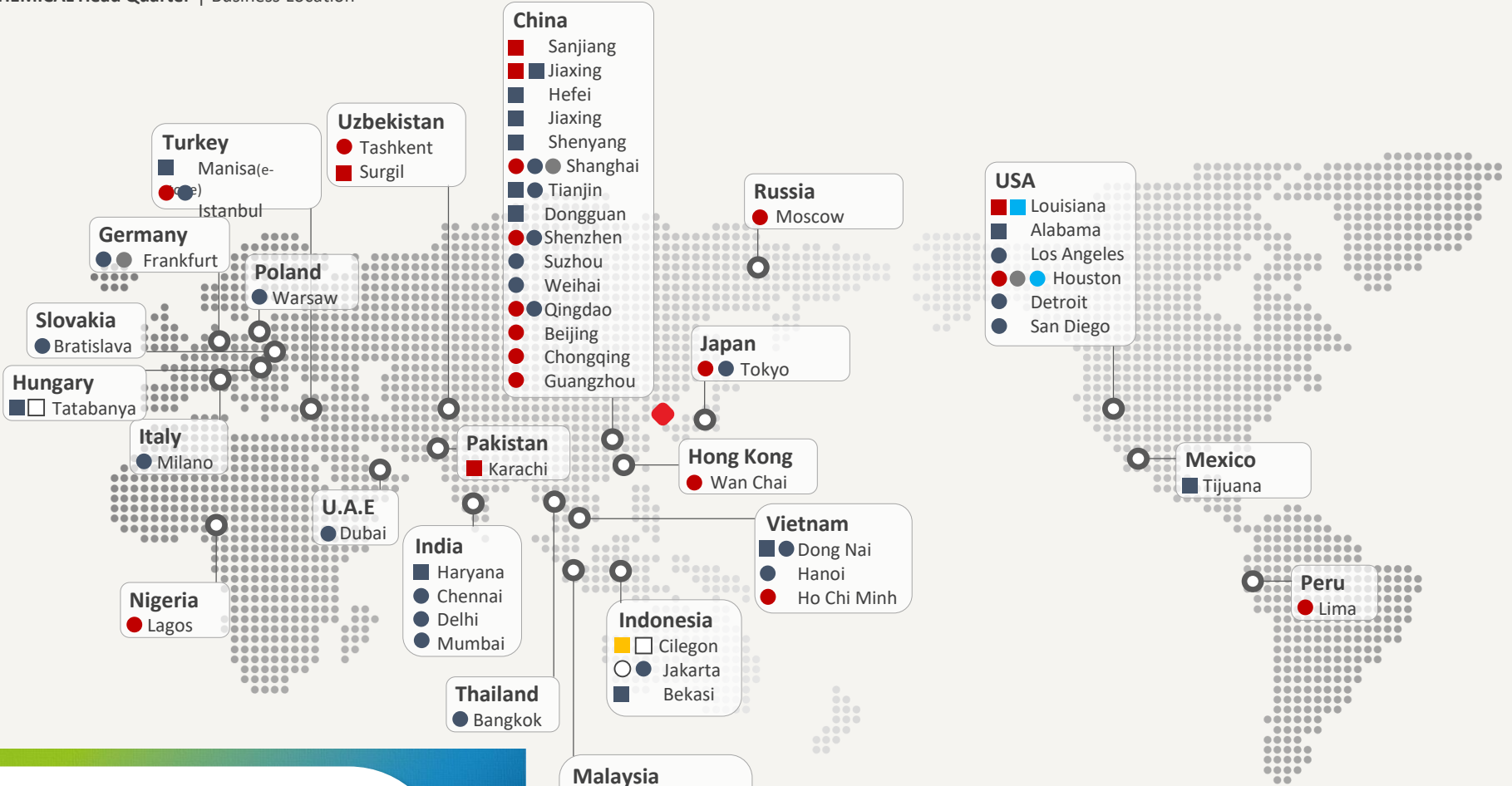
[LOTTE FINE CHEMICAL]



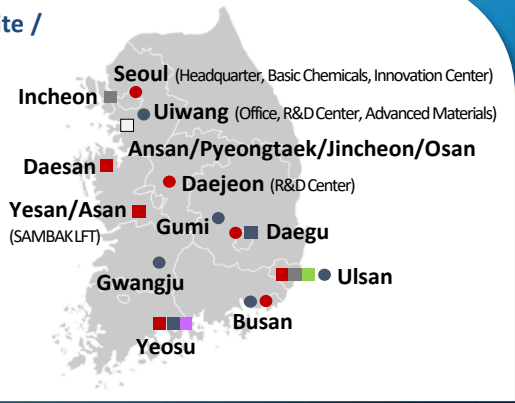
[LOTTE CHEMICAL TITAN]



[LC USA]



/ Domestic Site /



Company	Plant	Sales Office
LOTTE CHEMICAL (Basic Chemicals)	■	●
LOTTE CHEMICAL (Advanced Materials)	■	●
LOTTE FINE CHEMICAL	■	●
LOTTE CHEMICAL TITAN	■	●
LC USA	■	●
LOTTE MCC	■	●
LOTTE ALUMINIUM	□	○
LOTTE GS Chemical	■	●



LOTTE CHEMICAL

**With leading technologies,
LOTTE CHEMICAL creates an 'Enriched green world'**

We create a more convenient lifestyle for people, a better environment for nature, and create a tomorrow that is mutually beneficial for people and nature.

Global leading chemical company

that creates a healthier humanity and enriches lifestyle through creative challenges and innovations



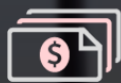
(2021)



Employees

10,765

Domestic 4,981, Overseas 5,784
(Including major domestic & foreign subsidiaries)



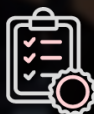
Sales Status

18,120 billion KRW



Total Equity

15,451 billion KRW

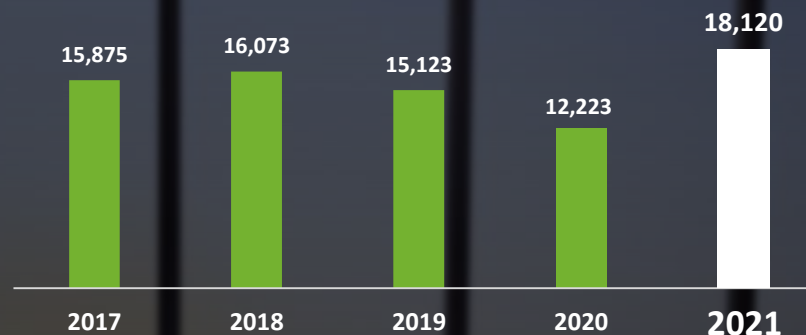


Operation Income

1,536 billion KRW

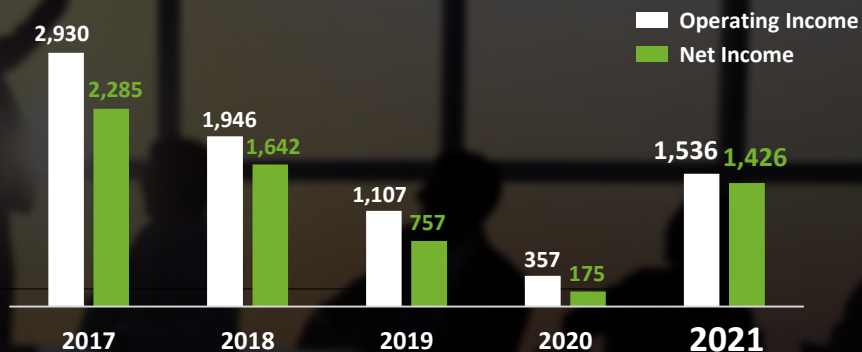
Sales Status

(Unit : KRW 1 Billion)



Operating Income/Net Income Status

(Unit : KRW 1 Billion)



STOCK INFORMATION

As of February 25, 2022 (%)

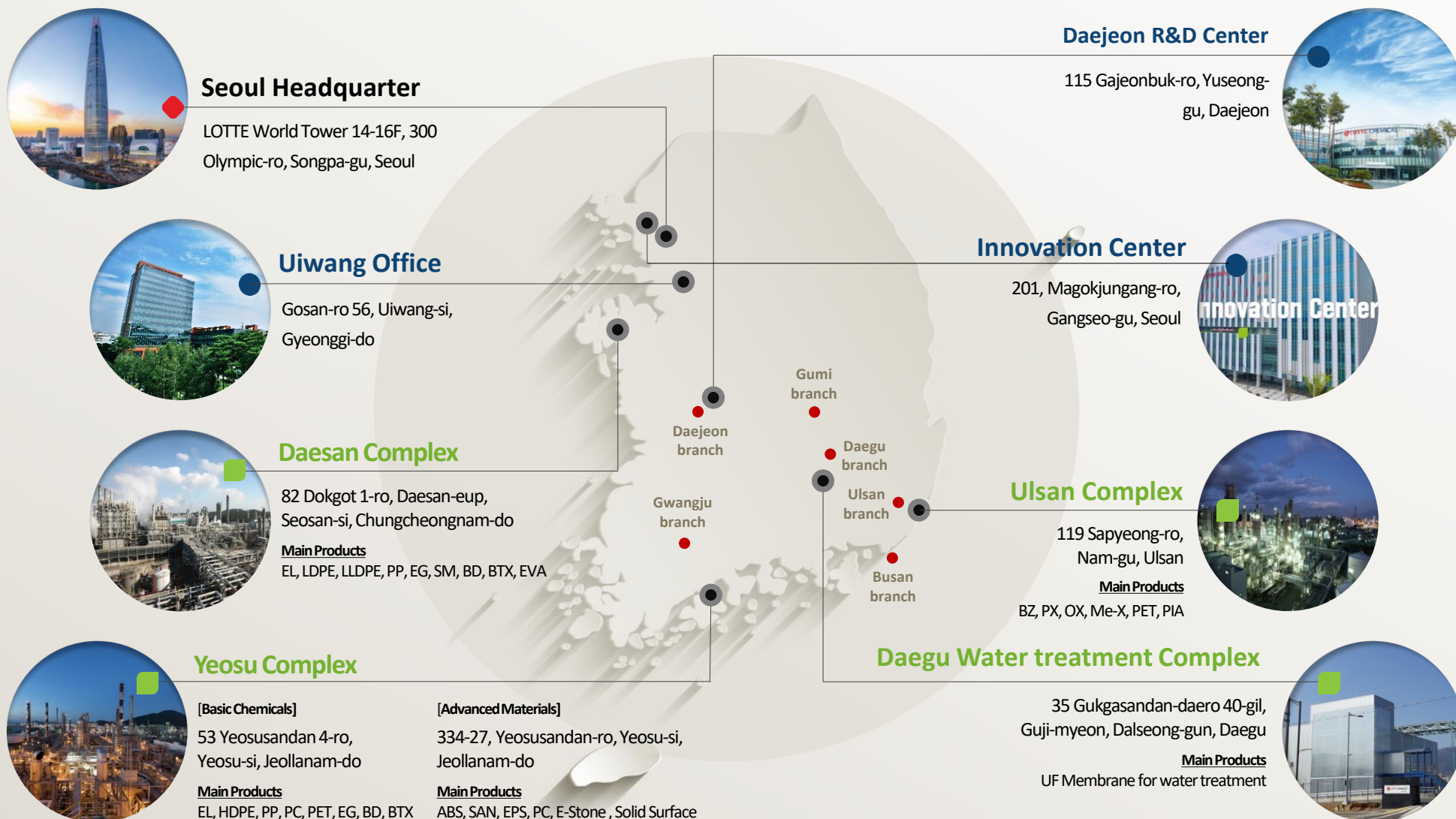
Other Stockholders
46.69%

LOTTE Corporation
(The largest shareholder)
25.59%

LOTTE Property
& Development
20.00%

National
Pension
Service
7.72%

LOTTE CHEMICAL is located in Seoul HQ, Uiwang Business Office, Magok/Daejeon Research Centers. And operates three major petrochemical complexes in Korea – Yeosu, Daesan and Ulsan.





[As of December 2020]



22
countries



26
Production
Base



Exported to
120
countries

Manufacturing/sales
Corporation

18

Basic Chemicals : 7
Advanced Materials : 11

Manufacturing
Corporation

3

Basic Chemicals : 2
Advanced Materials : 1

Sales
Corporation

9

Basic Chemicals : 3
Advanced Materials : 6

Branch

7

Basic Chemicals : 7

Branch / Office

22

Basic Chemicals : 4
Advanced Materials : 18

Overseas Business Site

LOTTE CHEMICAL is leading Korea's chemical industry through active changes and challenges, and will build the history of creation to become the world's top chemical company.

1970-2000

1976.3
Established Honam Petrochemical

1979.6
LOTTE Groups, Acquired Honam Petrochemical
(Privatization completed)

1979.12
Started commercial production at all plants

1982.11
Achieved USD 100 Million Export

1991.5
Initial public offering

1991.6
Completed construction of the Daejeon R&D Center



2000-2010

2003.6
Acquired Hyundai Petrochemical
(LOTTE CHEMICAL Daesan Plant)

2004.7
Acquired KP Chemical
(LOTTE CHEMICAL Ulsan Plant)

2006.7.
Established Honam Petrochemical Trading in Shanghai (The first subsidiary in China)

2006.8.
Established LOTTE MCC
(JV with Mitsubishi Chemical)

2010-2019

2010.11.
Acquired TITAN Chemicals (LOTTE CHEMICAL TITAN)

2011.11.
Established LOTTE MITSUI CHEMICALS

2012.12
Merged KP Chemical and changed the corporation name to "LOTTE CHEMICAL"

2014.4
Established Hyundai Chemical (JV with Hyundai Oil Bank)



2015.10
Completed the Uzbekistan gas project (UZ-Kor)

2016.5
Acquired LOTTE ADVANCED MATERIALS, LOTTE FINE CHEMICAL from SAMSUNG Group

2019.5
Completed construction of the Ethane Cracking Center and Ethylene Glycol Plant in U.S.



2020 - Present

2020.1
Merged LOTTE Advanced Materials

2020.2
Established LOTTE-GS CHEMICAL (JV with GS Energy)

2021.2
Announcement of Eco initiative 'Green Promise 2030'

2021.7
Announced the '2030 Hydrogen Growth Roadmap'

2022.1
Investment in the Indonesia LINE project (3.9 billion USD)

2022.4
Establishment of the 'Hydrogen energy business division' and 'Battery materials business division'



VISION/SLOGAN

We Lead Every Step for a Greener and Better Tomorrow

Every Step for **GREEN.J**

BRAND VALUE



People Oriented

Value toward people –
stability and harmony



Forward Thinking

Start of innovation –
products and technology



Life Enriching

Abundant life
and sustainable future

ESG VISION/STRATEGY

GREEN PROMISE 2030



Net - Zero

Carbon neutral and
eco-management



Circulation and Coexistence

creation of circulating/coexisting
social values



Green Innovation

Leading sustainable
future industries

LOTTE CHEMICAL's research center is constructing an assorted product portfolio through ceaseless platform technology procurement and development of high-value products, while continuously strengthening its R&D infrastructure.

Furthermore, it is creating new value for the future by leading eco-friendly technology development.

/ 연구분야 /

Basic Chemicals

Polyolefin

PE, PP

Aromatic

PET, PIA, PTA

Monomer

EO(A), EG, PIA

Catalyst & process

Metallocene · Z-N Catalyst,
Computational Chemistry,
New Process Development

Eco-friendly

Recycled/Bio
plastic

Energy

Battery Material
Hydrogen storage

Advanced Materials

Engineering plastics

PC, PP/PC Compounds

Functional materials

ABS, ASA, EPP
HMSPP, TPV, etc

Construction & Interior Materials

UF Membrane for water treatment

Innovation Center

Future business exploration

Future trend analysis

Provision of environmental solutions

Waste-to-energy,
carbon collection &
utilization



[Daejeon R&D Center]



[Ulsan R&D Center]



[Yeosu R&D Center]



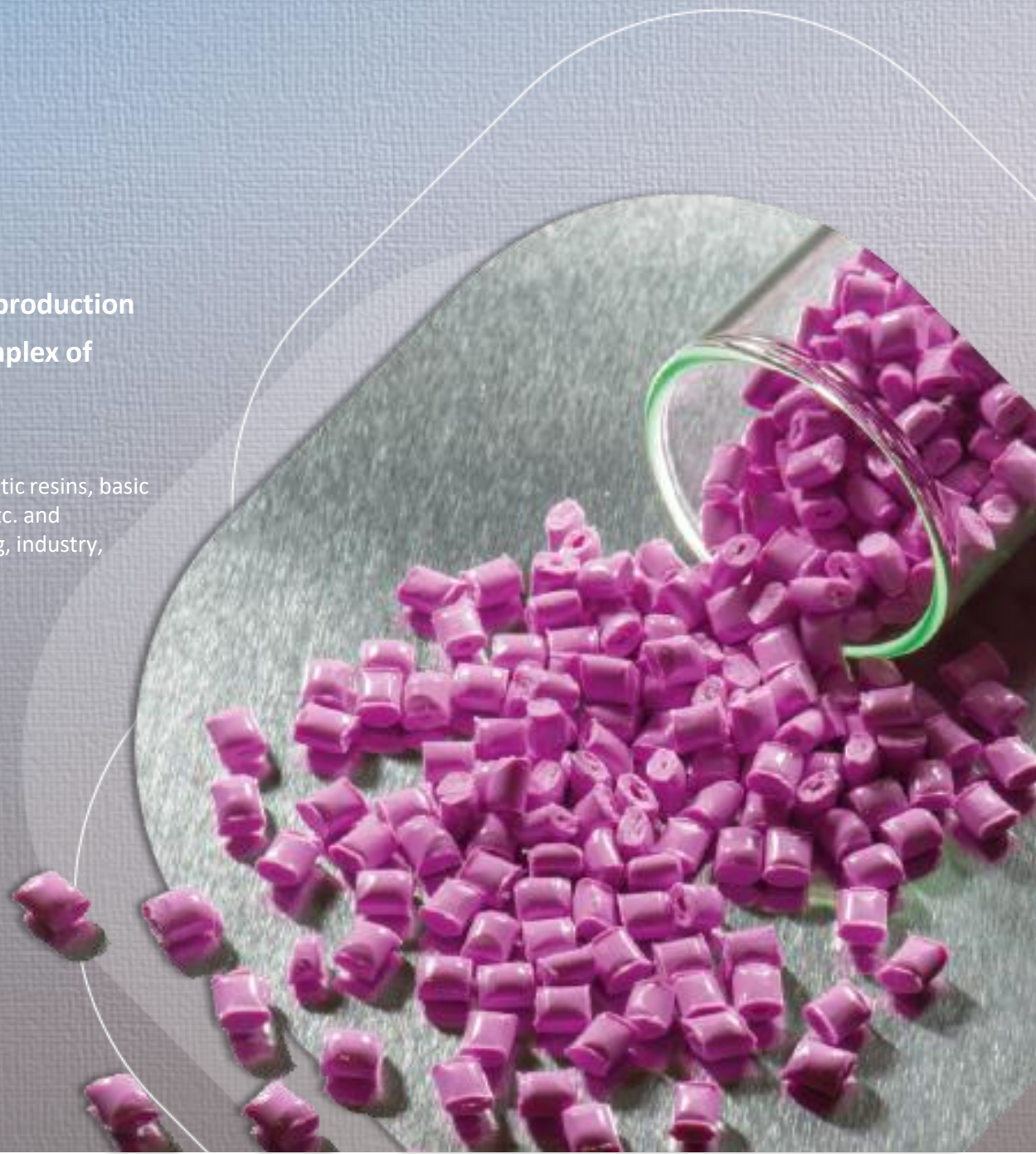
[Innovation Center]

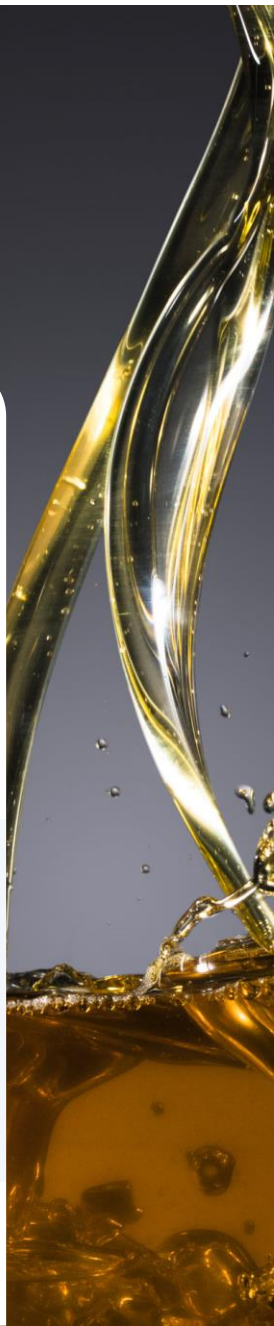
OUR BUSINESS

LOTTE CHEMICAL possesses international-scale production facilities in the major Korean petrochemical complex of Yeosu, Daesan and Ulsan

The diverse product lineup of LOTTE CHEMICAL such as synthetic resins, basic petrochemicals, monomers, construction/interior materials, etc. and they are being applied in everyday goods as well as for farming, industry, medical products, automobiles, and advanced new materials.

Basic Chemicals	<ul style="list-style-type: none">• Basic/Intermediate Petrochemicals• Polymers, Monomers, Aromatics
Advanced Materials	<ul style="list-style-type: none">• High Performed Plastics• Construction Materials• Water Treatment Membrane
Hydrogen energy business	<ul style="list-style-type: none">• By-product / reformed hydrogen• Clean hydrogen and ammonia• Hydrogen energy utilization business
Battery material business	<ul style="list-style-type: none">• LiB battery materials• Solid-state battery materials• Vanadium battery materials





Basic Chemicals

LOTTE CHEMICAL's basic materials business possesses a wide-ranging product portfolio spanning across intermediate materials for petrochemical products, synthetic resins, and monomers based on the top ethylene production volume among Korean chemical companies at 4.5 million tons per year.



Field of Business

Basic/Intermediate
Petrochemicals,
Polymers, Monomers,
Aromatics



Production Site

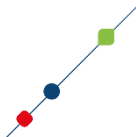
Korea, China,
Malaysia, Indonesia,
USA, Uzbekistan,
Pakistan



Employees

7,426
Domestic 3,475
Overseas 3,951

As of Dec. 31, 2021



Basic / Intermediate Petrochemicals

LOTTE CHEMICAL has global petrochemical production bases in the US, Malaysia, Indonesia, Uzbekistan, as well as in Yeosu, Daesan and Ulsan, and it is producing a variety of chemical product materials using diversified petrochemical raw materials such as naphtha, LPG and ethane.

Basic	<ul style="list-style-type: none">• Ethylene• Mixed C4	<ul style="list-style-type: none">• Propylene• BD• BTX
Intermediate	<ul style="list-style-type: none">• Me-X• PX	<ul style="list-style-type: none">• OX• SM

/ LOTTE CHEMICAL workplace ethylene production volume /

(Unit : Thousand tonnes)



Polymer / Monomer

Applied broadly in not only construction, textile and industrial products, but also everyday goods and even high-tech new materials to enhance the value of life.

Polymer	<ul style="list-style-type: none">• HDPE• PP	<ul style="list-style-type: none">• LDPE• PET	<ul style="list-style-type: none">• LLDPE / EVA
Monomer	<ul style="list-style-type: none">• EO• PIA	<ul style="list-style-type: none">• EG/GE• MMA/PMMA (LOTTEMCC)	<ul style="list-style-type: none">• EOA
Synthetic Rubber/ Other Products	<ul style="list-style-type: none">• SSBR/EPDM (LOTTEVersalis Elastomers)• MTBE• IPM/DCPD/PIP		



Advanced Materials

LOTTE CHEMICAL's Advanced materials offer specialized material solutions for innovating customer products throughout various businesses ranging from materials for household appliances and internal/external materials of IT devices, and high-tech materials for construction, medical devices, and automobiles.



Field of Business

Plastics,
Construction Materials,
Water Treatment Membrane



Production Site

Korea, China, Mexico,
Hungary, Vietnam,
India, Turkey



Employees

3,339
Domestic 1,506
Overseas 1,833

As of Dec. 31, 2021

High Performanced Plastics

LOTTE CHEMICAL's Advanced material business offers specialized material solutions for innovating customer products throughout various businesses ranging from materials for household appliances and internal/external materials of IT devices, and high-tech materials for construction, medical devices, and automobiles.

storex®

Styrene & General Product

ABS, ABS Alloy, ASA, PP

INFINO®

Engineering plastics

PC, PC Alloy, PBT, mPPE,
PA, PPA, PPS, PCT

**Popelen. Supran. Howpol.
Lottmer. Adpoly.**

Olefin-based resin & functional compound

LFT, PP Compound, EPP, LOTTMER, ADPOLY

Applications



Construction / Interior Materials & Water Treatment Membrane

The construction/interior materials of LOTTE CHEMICAL supplements the weaknesses of native rocks and it is applied in various spaces by enhancing aesthetics and functionality to create a beautiful and pleasant living space.

Furthermore, LOTTE CHEMICAL offers clean and safe water based on the world's best water-treating separation membrane technologies..

Construction / Interior Materials

staron®

Acrylic solid surface

Radianz®

Natural quartz engineered stone

Locelain®

Engineered porcelain surface

Water Treatment Membrane

MEMBRIO

UF Membrane for water treatment

Product

Membrane, Module, Cassette

Every Step for



Hydrogen energy division

LOTTE CHEMICAL is pursuing the hydrogen business for supplying global clean energy and for carbon-reduced growth.

We will continue to procure sovereignty for the Korean hydrogen industry through mid- to long-term investments such as constructing infrastructure for the production, distribution and utilization of domestic and foreign clean hydrogen, and by building partnerships with relevant companies.

Strengths of LOTTE CHEMICAL's hydrogen business

Expand hydrogen infrastructure based on experience in hydrogen business

1

Networks with major strategic partner companies

2

Competency for carrying out global hydrogen project

3

Sufficient investment capabilities

4

LOTTE CHEMICAL's hydrogen/ammonia business goals for 2030



Production volume

Hydrogen
1.2 million tons



Revenue

5 trillion KRW



Total investments

6 trillion KRW

Every Step for Batteries

Battery materials division

LOTTE CHEMICAL is expanding its battery materials business to keep pace with the growing demand for batteries and eco-friendly mobility. We will grow into a global supplier specializing in battery materials by collaborating with subsidiaries in the LOTTE Group's Chemical Unit and companies possessing core technologies, and through the multifaceted development of battery

Strengths of LOTTE CHEMICAL's Battery materials business

Global business capacities

1

Networks with major strategic partners

2

Sufficient investment funds

3

Assertive will to invest

4

LOTTE CHEMICAL's Battery materials business goals for 2030



Business

- **Lithium-ion battery materials**
(anodes, cathodes, separation membranes, electrolyte organic solvents)
- **Next-generation solutions**
(lithium metal cathodes, vanadium liquid electrodes, ESS battery business)



Revenue

5 trillion KRW

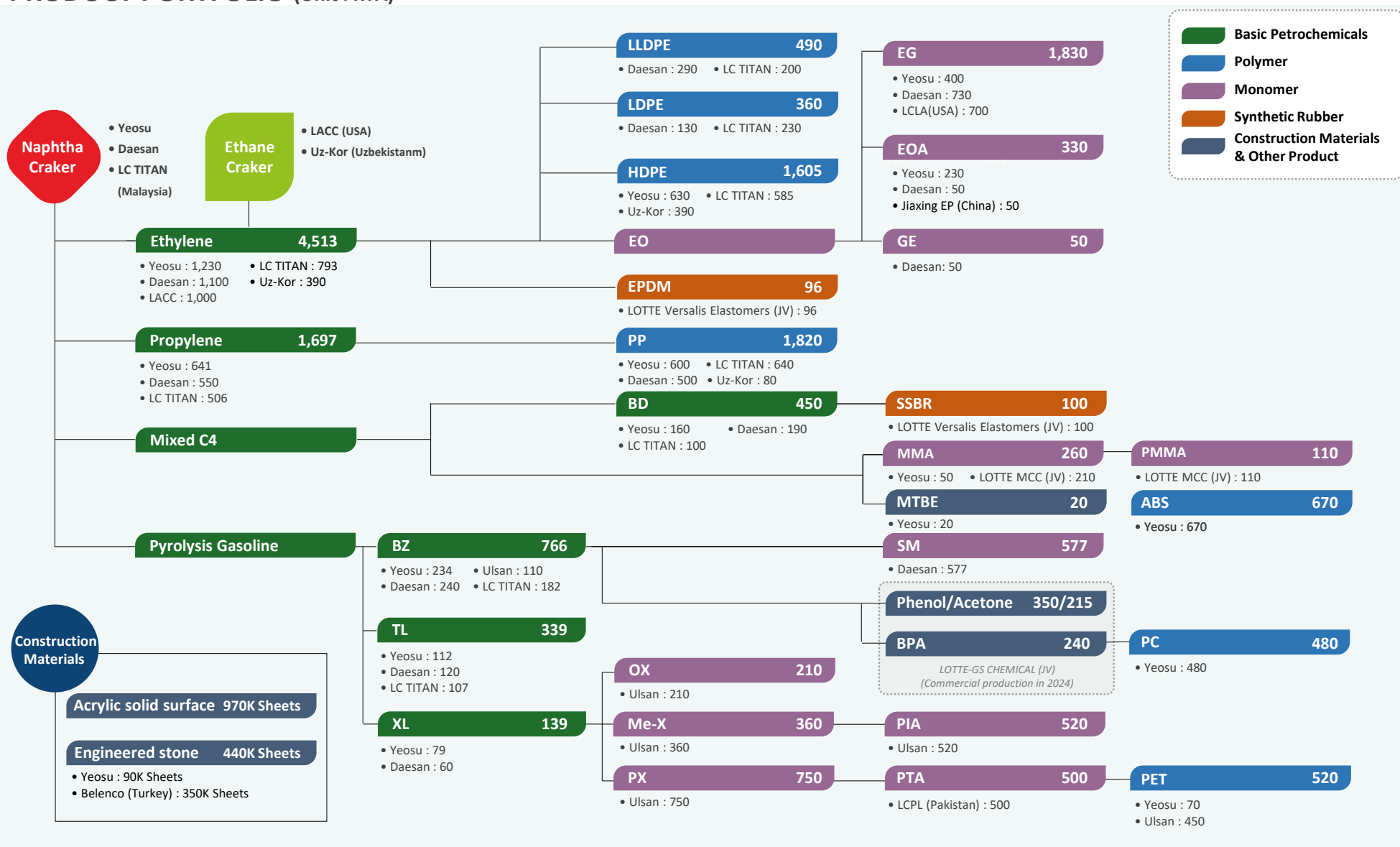


Total investments

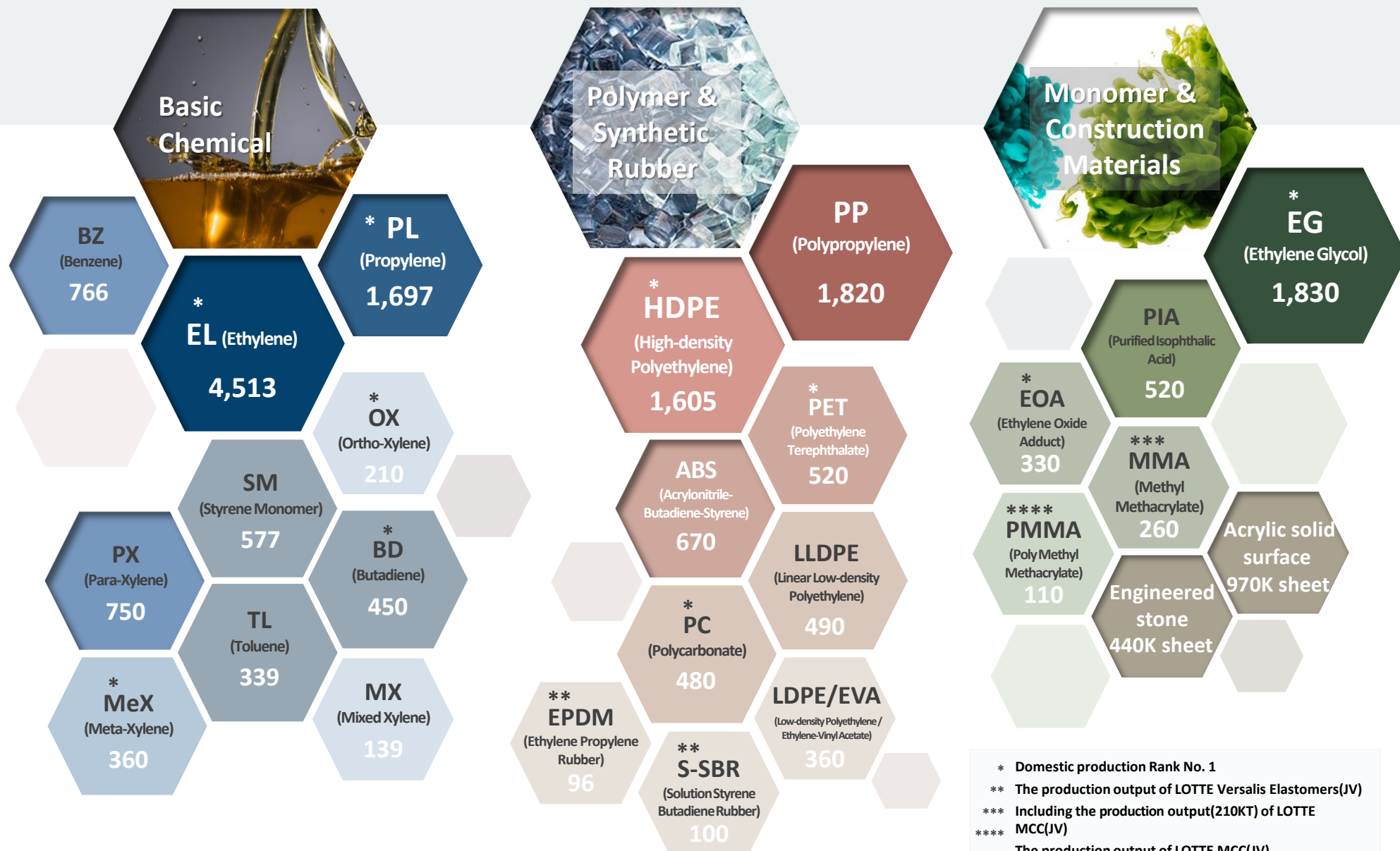
4 trillion KRW



PRODUCT PORTFOLIO (Unit : KTA)



CAPACITY (Unit : KTA)



New Business / Joint Venture

Joint venture with Hyundai Oilbank in the HPC Project

Business Contents	Investment in construction of ethylene plant and petrochemical complex based on petroleum residuum
Total Investment cost	3,364 billion KRW
Products	Ethylene 950KTA, Propylene(PL) 510KTA PE 850KTA, PP 500KTA, BD 185KTA
Commercial Production	In trial production

* HPC : Heavy Feed Petrochemical Complex

Investment in production facilities of Battery electrolyte organic solvent

Business Contents	Implementation of eco-friendly EV battery electrolyte organic solvent production facility
Total Investment cost	EC/DMC 210 billion KRW EMC/DEC 140 billion KRW
Products	EC/DMC 48KTA EMC/DEC 68KTA
Commercial Production	EC/DMC 2023 EMC/DEC 2024

* EC : Ethylene Carbonate / DMC : Dimethyl Carbonate
EMC : Ethyl Methyl Carbonate / DEC : Di Ethyl Carbonate

D-EOA Expansion Project

Business Contents	High-value specialty material EOA for construction and expansion of raw material HPEO production line
Total Investment cost	250 billion KRW
Products	HPEO 250KTA, EOA 150KTA
Commercial Production	2023

* HPEO : High Purified Ethylene Oxide / EOA : Ethylene Oxide Adduct

GS Energy joint venture 'LOTTE-GS Chemical'

Business Contents	New joint venture business for stable procurement of PC product raw material(C3 product) and to increase C4 petrochemical products
Total Investment cost	950 billion KRW
Products	[C3] Phenol 350KTA, Acetone 215KTA, BPA 240KTA [C4] BD 90KTA, TBA 70KTA, BN-1 40KTA, MTBE 15KTA
Commercial Production	[C3] 2024 / [C4] In trial production

Implementation of CCU Equipment

Business Contents	Construction of carbon dioxide collection and liquefaction facilities for reducing carbon emissions
Products	High purity Carbon Dioxide 100KTA
Total Investment cost	60 billion KRW
Commercial Production	2023

* CCU : Carbon Capture Utilization

Chemical Recycling PET Project

Business Contents	Waste PET chemical recycling plant for plastic Circular economy
Total Investment cost	
Products	BHET 45KTA, C-rPET 110KTA
Commercial Production	2024

* BHET : bis-hydroxyethyl terephthalate
(process for converting polymers to raw materials)

* C-rPET : Chemical recycling PET

Indonesia LINE Project

Business Contents	Construction of first naphtha cracking center(NCC) in Indonesia and vertical integration with existing Polyethylene (PE) plant
Total Investment cost	4,877 billion KRW (3.9 billion USD)
Products	Ethylene 1,000KTA, PL 520KTA, PP 250KTA, etc
Commercial Production	2025

* LINE Project : LOTTE Indonesia New Ethylene Project

Cilegon
(Banten, Indonesia)

 New Business
 Joint Venture

AWARD & CERTIFICATION



OK

SPE Award



[2014]

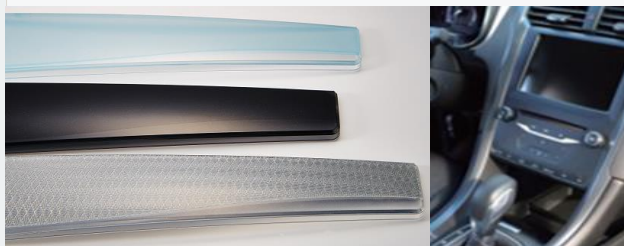
Non-stamped metallic materials Luminous PC/ABS

Application in the 2015 Ford Mondeo

[2017]

Dual injection dimensional patterns Luminous ABS+PC

Application in the 2018 Ford Fiesta



IR52 Jang Young Sil Award



[2013]

Interior

LFT rear seat cushion frame

[2018]

Engine room

thermal aging blocking PPA

[2017, 2020, 2021]

PC alloys for TVs

thin film/highly-durable materials

NET new technology certification



[2013]

strengthening long-fiber compound material

Development of carbon fiber

[2015]

Automobile interior

dual injection dimensional patterns technology

Automobile interior

non-stamping foaming injection technology

[2016]

Engine room

thermal aging blocking PPA technology

[2017]

Automobile injection stiffener

3D-tow insert technology

[2020]

Floating eco-friendly foaming polypropylene technology



iF Design



[2015, 2016]

- Touch, paper texture, emotional materials
- Starex® extrusion ABS, thin film vacuum molding resin
- Resin with colors changed by LED



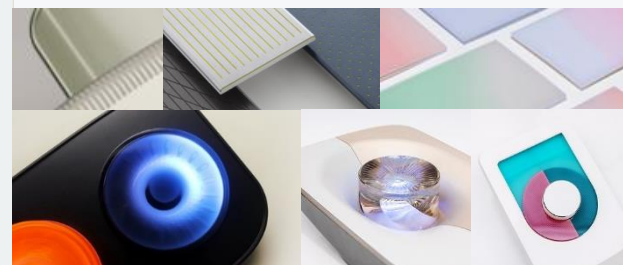
reddot Award



reddot design award

[2016, 2017, 2018, 2020, 2021]

- starex® Luminous XM
- Metal contact plastic PBT/GF
- Color Blending Effect in Plastics
- Meeting space that applied anti-bacterial Staron®
- Natural lighting and plastic for peace of mind



Desired Qualities of Employees

Vision 2030



Challenger

Top talents driving execution

Top talents in their fields who take on New opportunities and tough challenges with high energy and enthusiasm

- Attracts Top Talent
- Action Oriented

Harmonizer

Harmonious talents respecting diversity

Talents who recognize values of different perspective and culture to organization therefore collaborate for shared objectives

- Collaborates
- Values Differences

Expert

Talents with business Insight and Strategic Mindset

Talents who anticipates future possibilities and build strategies within knowledge of business and the marketplace to reach organizational goal

- Strategic Mindset
- Business Insight

Motivator

Talents who are self-developer under responsibility

Talents who do their best to achieve organizational goal based on sense of ownership and accountability

- Drives Engagement
- Ensure Accountability



MISSION

We enrich people's lives by providing
superior products and services that
our customers love and trust



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