kotra
Korea Trade-Investment Promotion Agency

Overview of Korea's Industries 2013

PROMISING INVESTMENT OPPORTUNITIES

Fine Chemicals

Fine Chemicals

Invest Korea

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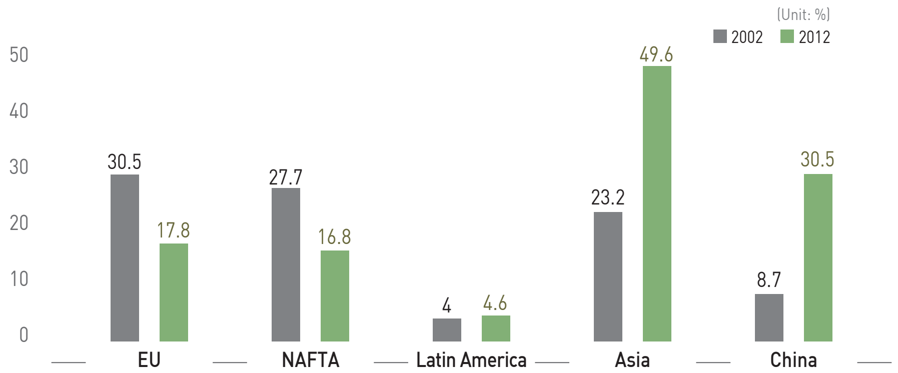
Invest Korea

1. Industry Status

- Asia has the largest chemical products market in the world, based on sales and market size in 2013. Asia, including China, accounts for a whopping 50.4 percent of the world's market share. Twelve of the industry's top 30 countries are from Asia. The chemical industry of Asia is expected to account for 54.2 percent of the global market in 2017, which is significantly more than that of Europe (17.6 percent) and North America (15.8 percent).

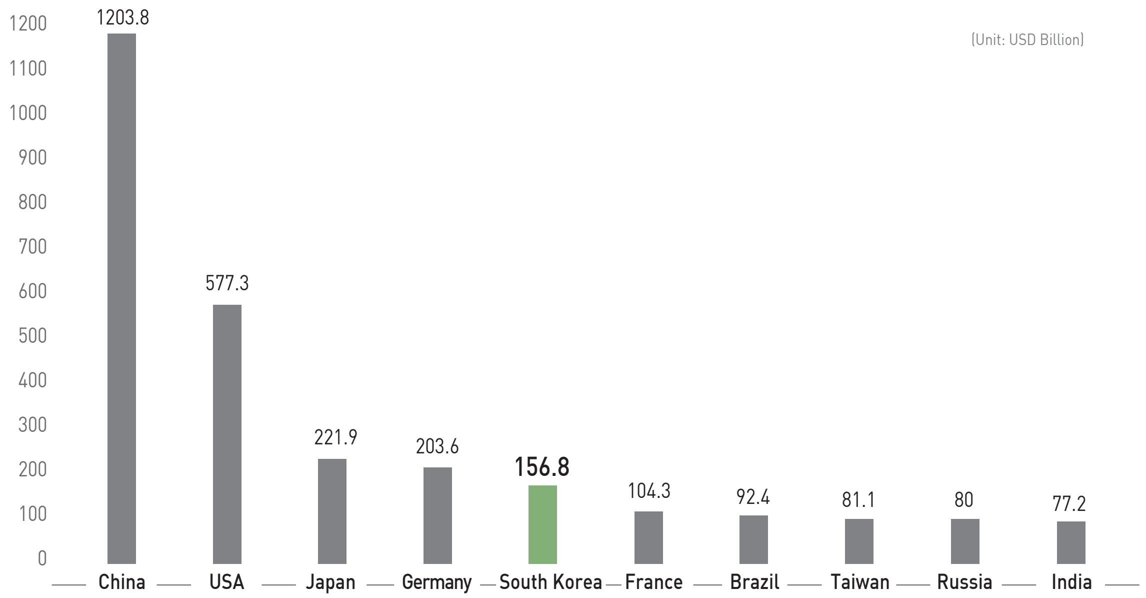
- In 2013, Korea ranked 5th for production.

Global Sales of Chemical Products



Source: European Chemical Industry Council (Dec. 2013), Cefic Chemdata International (2013)

Production of Chemical Industry by Country

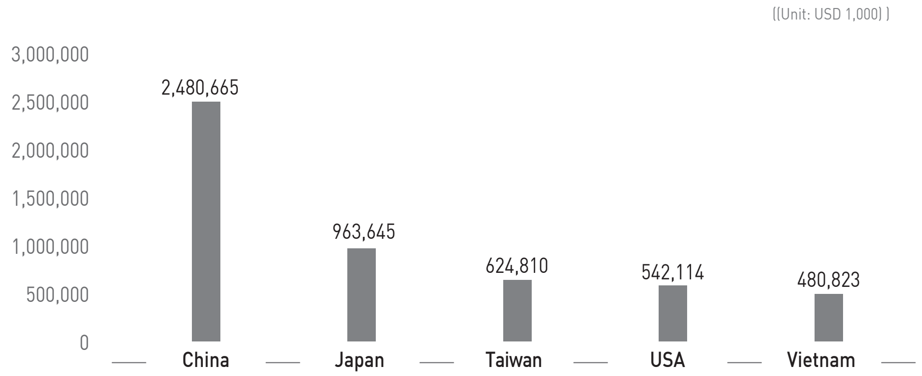


Source: Cefic Chemdata International (2013)

- The largest export market for the chemicals produced in Korea is China, followed by Japan, Taiwan the United States and Vietnam. The largest source of chemical imports is Japan, followed by the United States, China, Germany and France.

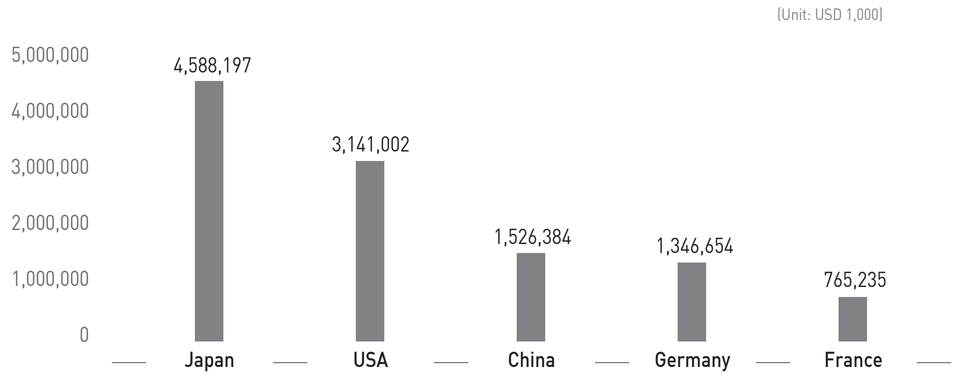
- Exports to and imports from the United States and EU are expected to grow because the effectuation of the Korea-U.S. FTA and the Korea-EU FTA secure price competitiveness as production bases in Korea benefit from the duty-free provisions for exports of end products and imports of equipment and raw materials. Construction of production bases in Korea will generate various benefits including easier access to neighboring China, the largest market for chemical products, and duty-free exports to the EU and U.S.

Korea's Major Trading Partners: Export to 5 major markets (2013)



Source: Korea Specialty Chemical Industry Association

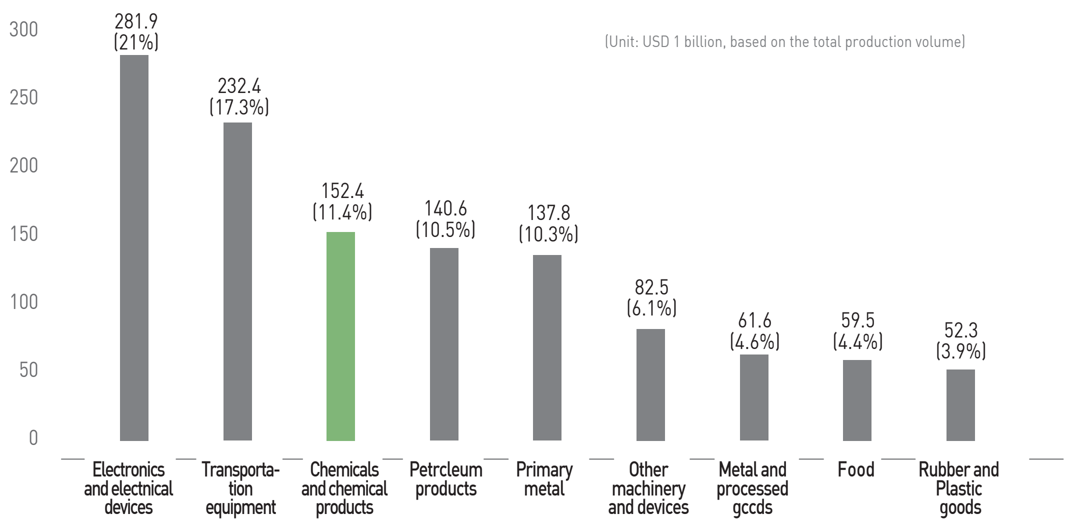
Korea's Major Trading Partners: Import from 5 major sources (2013)



Source: Korea Specialty Chemical Industry Association

· The chemical industry is a major industry of Korea and the third-largest industry in the manufacturing sector. The total production of Korea's manufacturing industry is worth USD 1.416 trillion; the chemical industry accounts for 11.4 percent (USD 152.4 billion) of this.

The Chemical industry in the Manufacturing Sector (2012)



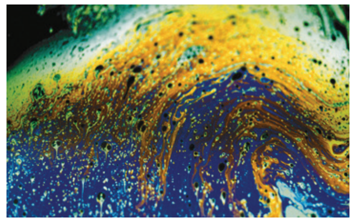
Source: Statistics Korea

Korea's Major Fine Chemicals Suppliers (petrochemical products)

Source: Korea Industrial Technology Foundation, Industrial Technology Roadmap.

	Basic Petrochemicals					
	ethylene	propylene	butadiene	benzene	toluene	xylene
LG CHEM	O	O	O	O	O	O
LG Petrochemical (current LG CHEM)	O	O	O	O	O	O
GS Caltex		O		O	O	O
HPC	O	O		O	O	O
Hanwha Chemical						
Samsung Total	O	O	O	O		
Samsung Petrochemical						
LotteDaesan Petrochemical Corporation (current HPC)	O	O	O	O		
Hyundai Oilbank				O		
Daelim Industrial Co., Ltd						
YEOCHUN NCC	O	O	O	O	O	O
SK Chemical	O	O	O	O	O	O
SK Petrochemical						
HYOSUNG		O				
KKPC			O			
BASF Korea						
DongbuHannong						
CHEIL Industries						
KPIC	O	O				
Poly Mirae						
TongsuhPetrochemical						
Taekwang Industrial		O				
Capro						
Samnam Petrochemical						
KP Chemical				O		
Dow Chemical Korea						
Hansol Chemical						
S-Oil		O		O	O	O
SK Energy				O	O	O
OCI				O	O	
SH Energy&Chemical						
Number of companies	8	12	7	13	9	8

	Synthetic resins							Synthetic fibers raw materials				Synthetic rubber		
	LDPE	LLDPE	HDPE	PVC	PP	PS	ABS	AN	EG	CPLM	TPA	SBR	SB latex	BR
LG CHEM	○	○	○	○	○	○	○					○	○	○
LG Petrochemical (current LG CHEM)			○											
GS Caltex					○									
HPC			○		○				○					
Hanwha Chemical	○	○		○										
Samsung Total	○		○		○				○					
Samsung Petrochemical		○									○			
LotteDaesan Petrochemical Corporation (current HPC)	○	○	○		○				○					
Hyundai Oilbank														
Daelim Industrial Co., Ltd			○											
YEOCHUN NCC														
SK Chemical		○	○		○									
SK Petrochemical											○			
HYOSUNG					○						○			
KKPC						○	○					○	○	○
BASF Korea						○	○							
DongbuHannong						○								
CHEIL Industries						○	○							
KPIC			○		○									
Poly Mirae					○									
TongsuhPetrochemical								○						
Taekwang Industrial								○			○			
Capro										○				
Samnam Petrochemical											○			
KP Chemical											○			
Dow Chemical Korea													○	
Hansol Chemical													○	
S-Oil														
SK Energy														
OCI														
SH Energy&Chemical						○								
Number of companies	4	5	7	2	9	6	4	2	3	1	6	2	4	2

2. Success Cases

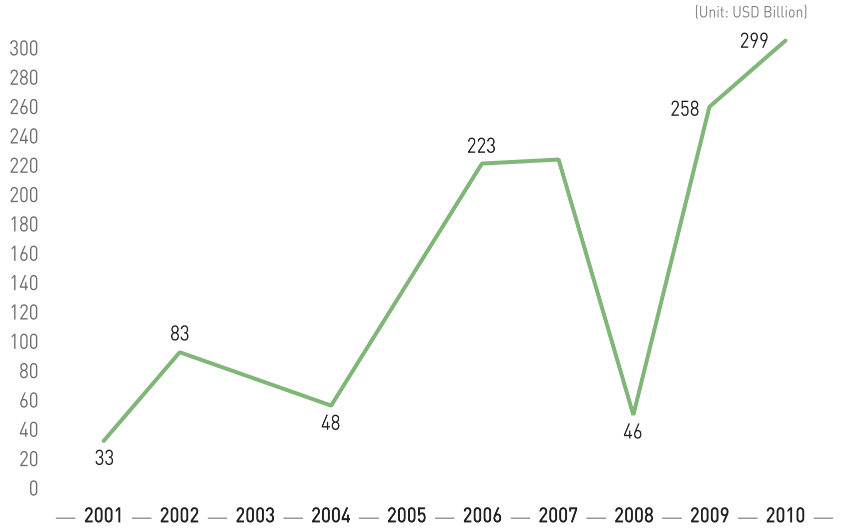
Investment promotion for high value-added advanced materials

Investor	Country	Time of Investment Notification	Investment Content
BASF	Germany	2011	• Production facility for super-engineering plastics in Yeosu, Jeollanam-do • Technology to manufacture super-engineering plastics is so advanced that it has been monopolized by three major companies (BASF, Solvay, Sumitomo), and all of the plastics produced have been imported from the three companies. • The use of the technology has been strategically limited to the headquarters in Germany; technology transfer and export/import substitution are made possible through investment in Korea.
Albemarle	USA	2010 2011	• Production facilities in Yeosu, Jeollanam-do for polyolefin promoters and metallocene catalysts. • Polyolefin promoters and metallocene catalysts are core raw materials to produce high-performance petrochemical products including PE and PP. • Korean companies that have high demand for PE and PP can benefit from domestic production of polyolefin promoters, which had been entirely imported so far, by securing price competitiveness and differentiating themselves from rivals in China and the Middle East.
Dow Chemical	USA	2010 2011	• Production facility for trimethyl gallium (TMG), electronic material for LED, in Cheonan, Chungcheongnam-do. • TMG is the key chemical material for LED, which is produced only by Dow Chemical and Sigma Aldrich of the United States and Akzo Noble of the Netherlands. • At the time of investment notification in 2010, no Korean company had technologies to produce TMG, so the foundation of TMG production facilities in Korea contributed to securing the price competitiveness of Korea's LED industry and substituting exports and imports.
Solvay	Belgium / Germany	2011	• Transfer of Solvay Group's regional headquarters for special chemistry from Germany to Seoul, and the construction of R&D center. • This is the first transfer of headquarters of a foreign company into Korea, showing Korea is the strategic market for Solvay. • The R&D center contributes to the transfer of chemical materials technologies (materials for secondary cells, display, organic solar cells) that have hardly been localized.
Mitsubishi Chemical	Japan	2012	• Production facilities for needle cokes through JV projects with POSCO-Chemtech and Gwangyang-si, Jeollanam-do. • Needle cokes are key materials in cutting-edge carbon products including graphene, electrode, isotropic graphite and secondary cell anode materials. • Great impacts from technology transfer and import substitution are expected with the construction of factories using the advanced technologies that had been used only in the home countries of the six major companies.

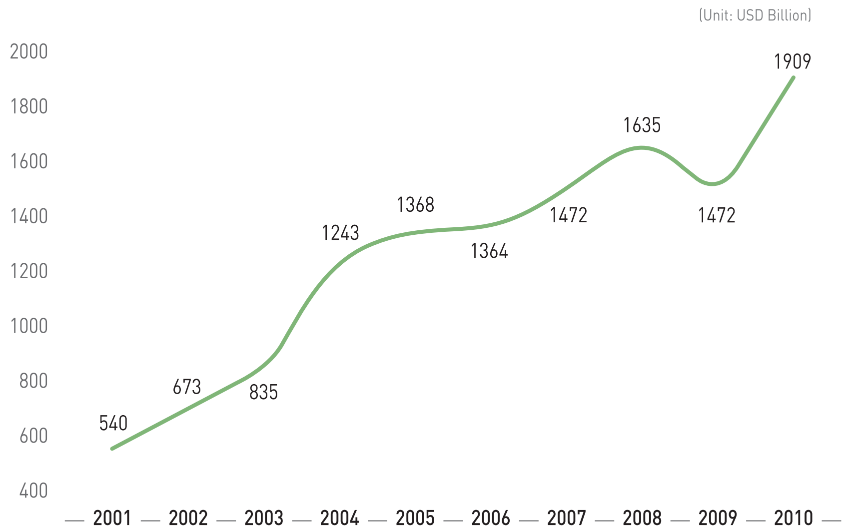
Investment Promotion for BASF

- The world's largest chemicals company (the largest number of patents for chemical technologies) with five fine chemistry factories in Korea.
- Decided in December 2011 to invest in Korea by constructing factories for high-performance plastic resins (polyarylsulfone plastic resins, PES, PSU), which had been strategically produced only in Germany.

Operating Profit of BASF Korea



Export of BASF Korea



Source: BASF Korea

3. Investment Environment of Korea's Chemical Industry

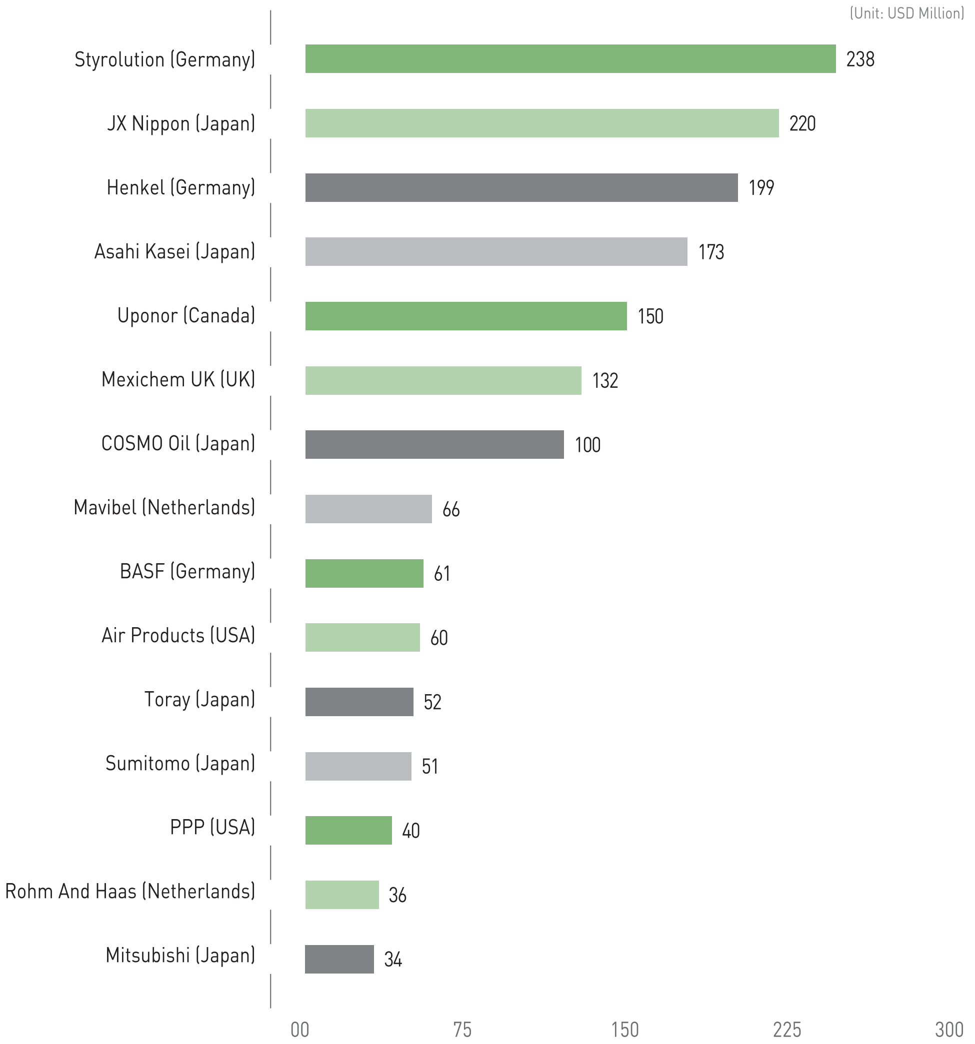
Investment by Major Global Chemicals Companies

Production bases of top 25 global chemicals companies in Korea (May 2012)

	Company	Country	Investment in Korea	Form of investment
01	BASF	Germany	O	Sales office, factory, R&D
02	Dow Chemical	USA	O	Sales office, factory, R&D
03	Exxon Mobil	USA	O	Sales office, factory
04	Sinopec	China	O	Sales office
05	Lyondell Basell	Netherlands	O	Sales office, factory
06	Sabic	Saudi Arabia	O	Sales office, factory
07	Shell	Netherlands	O	Sales office, factory
08	Mitsubishi Chemical	Japan	O	Sales office, factory
09	INEOS	Switzerland	X	-
10	Dupont	USA	O	Sales office, factory, R&D
11	Total	France	O	Sales office, factory
12	Bayer	Germany	O	Sales office, factory
13	Sumitomo Chemical	Japan	O	Sales office, factory
14	AKZO Nobel	Netherlands	O	Sales office, factory, R&D
15	Braskem	Brazil	X	-
16	Toray	Japan	O	Sales office, factory, R&D
17	Air Liquide	France	O	Sales office, factory, R&D
18	Linde	Germany	O	Sales office, factory
19	Evonik	Germany	O	Sales office, factory
20	Mitsui Chemicals	Japan	O	Sales office, factory
21	Johnson Matthey	UK	O	Sales office, factory
22	LG Chem	Korea	-	Korean company
23	SK Energy	Korea	-	Korean company
24	Reliance Industries	India	X	-
25	Asahi Kasei	Japan	o	Sales office, factory

* Rankings are based on sales revenues released by ICIS Top 100 in 2010.

Top 15 Investors in Chemical Engineering (2011-March 2012), Notification Basis



Source: Invest Korea

474 Foreign-Invested Chemical Engineering Companies in Korea (as of 2011)

Source: Invest Korea

01 | BASF	02 | Dow Chemical	05 | LyondellBasell	07 | Shell	10 | DuPont
13 | Sumitomo	14 | AKZO	16 | Toray	17 | Air Liquide	19 | Evonik
25 | Asahi Kasei	27 | Merck	28 | DSM	43 | Solvay	

Chemical Industry Clusters

Daesan, Chungcheongnam-do; Ulsan; Yeosu, Jeollanam-do

Seosan (Daesan) Industrial Complex

Samsung Total Petrochemicals,
LG Chemical, KCC
Hyundai Oil Bank

Yeosu National Industrial Complex

Dow Chemical, Lotte Holdings,
GS-Caltex, BASF, Honam Petro-
Chemical, Kolon Chemical

Ulsan National Industrial Complex

Advanced Research Support Center
BP, Du Pont, Basf, Odjfell, S-Oil, Degussa,
Rhodia, Ciba, LS-Nikko, Visteon, Houghton,
Ashland, Fuchs, Ordeg, Mechema, Vopak,
Clariant, Dow

- Yeosu National Industrial Complex
- Ulsan National Industrial Complex
- Seosan (Daesan) Industrial Complex

4. Relevant Organizations

	Organization	URL
01	Korea Specialty Chemical Industry Association	www.kscia.or.kr
02	Information Center for Chemical Technology	www.chempolicy.or.kr
03	Korea Petrochemical Industry Association	www.kpia.or.kr
04	Center for Nanostructured Materials Technology	cnmt.kist.re.kr
05	Korea Research Institute of Chemical Technology (R&D)	www.krict.re.kr
06	Korea Chemicals Management Association (import declaration of chemical materials)	www.kcma.or.kr
07	Chemical Market Research Inc (chemical market information)	www.chemlocus.com

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