

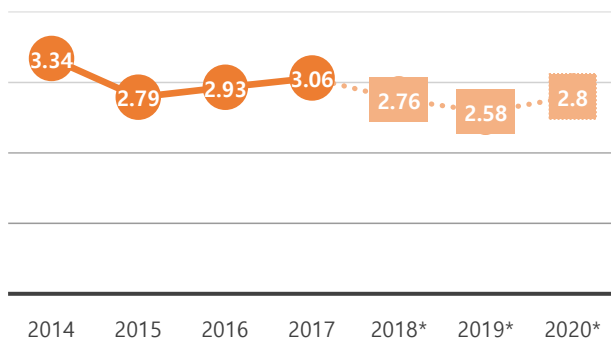
## South Korea Economic Factsheets

The economy of South Korea is the 4<sup>th</sup> largest in Asia (followed by China, Japan and India) and the 11<sup>th</sup> largest in the world by both GDP Nominal and PPP in the world.

Economic Overview	
Nominal GDP (USD Bn)	1,538.0
Real annual GDP Growth (%)	3.1
GDP per capita (USD)	29,891.3
Annual inflation rate (%)	1.9
Unemployment rate (%)	3.7
Fiscal balance (% of GDP)	1.9
Current account balance (% of GDP)	5.1

\*Note: All data externally sourced from the IMF World Economic Outlook and World Bank (2018)

### Growth of the real GDP from 2014 to 2020



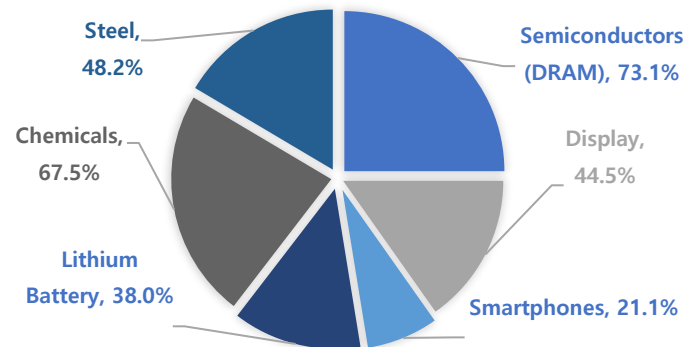
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### Doing Business In Korea

South Korea's strategic location between China and Japan, two of the world's largest markets, Korea is located within an average air travel time of three hours to over 81 cities with a population of one million or more.

There are numerous global leaders in a wide range of industrial sectors in Korea. So far 223 Fortune 500 companies have its own entity or business relationship Korea, and are working with local business to increase their global market share.

## Korea's No.1 Industries



Source: Invest Korea, Korea's Industrial Competitiveness ([www.investkorea.org](http://www.investkorea.org))

## Petrochemical Market

According to the Korea Petrochemical Industry Association (KPIA), South Korea ranked 4<sup>th</sup> highest product level (5.3%) of Ethylene follow by US (177%), China (13.6%), and Saudi Arabia (10.1%) in respectively.

(Unit: Thousand Ton)

	PRODUCTION/ SHIPMENT	Domestic	Export	Import
<b>2017</b>	21,987	11,629	11,391	1,046
<b>2016</b>	21,175	11,320	10,772	919
<b>2015</b>	21,227	10,758	11,441	973
<b>2014</b>	21,240	10,519	11,744	1,025
<b>2013</b>	21,749	10,705	12,032	990

Source: Korea Petrochemical Industry Association ([www.kpia.or.kr](http://www.kpia.or.kr)), Korea International Trade Association ([www.kita.net](http://www.kita.net))

Total production amount includes Synthetic resin, Synthetic rubber, and synthetic materials

South Korean petrochemical industry is seeing increased petrochemical expansion. In the recent past, this has focused on paraxylene, principally to serve the Chinese polyester market. In near future expansion is focused on both basic chemical and growing high-value added downstream production. In addition to that the industry is also witnessing increased merge and acquisition activity, which should improve vertical integration and competitiveness, as well as boosting revenues.

Market diversification and an expanded product slate will be

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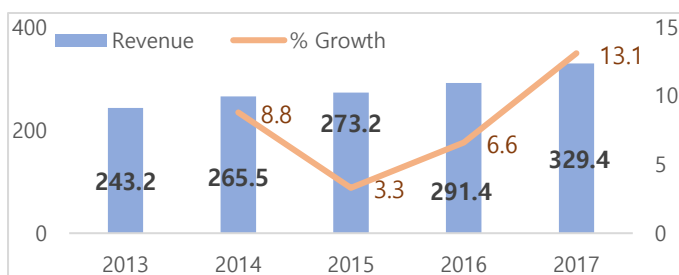
crucial to South Korea's petrochemicals industry's ability to overcome the challenged posed by an oversupplied Chinese market and falling product prices.

### Top 5 Korean Chemical Companies and Products

Company	Revenue	Business Segments
<b>LG Chemical</b>	\$21.3 Bn	LDPE, PVC, ABS, EPC, Synthetic Rubber
<b>Lotte Chemical</b>	\$13.2 Bn	Resin (PE, PP, PET, PC) Petrochemicals (EO/EG, EOA,GE) Basic Chemicals (BZ, TL, MX etc)
<b>Hanwha Chemical</b>	\$7.8 Bn	Synthetic Resin & materials Chlor-Alkali (Chlorine, EDC, etc) Basic Petrochemicals Oil Refining
<b>SK Chemicals</b>	\$5.6 Bn	Copolyester 3D Printing Matedrials Coating & Adhesive material Engineering Plastic

### Semiconductor Market

The APAC semiconductors market generated revenues \$329.4Bn in 2017, representing a compound annual growth rate (CAGR) of 7.9% during 2013-2017. The APAC Semiconductor market has been boosted by strong domestic demand causing the market to become the largest in the world.



South Korea accounts for about 20% of global semiconductor production and 60% of memory chips manufacturing. Both segments recorded high growth over the past 12 months.

### APAC Semiconductors market segment and share

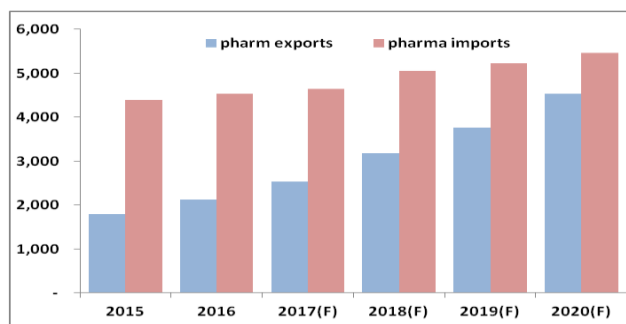
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Geography	2017 (USD Bn)	%
China	137.8	41.8
Japan	36.1	11.0
<b>South Korea</b>	<b>31.5</b>	<b>9.6</b>
India	9.6	2.9
Rest of APAC	114.4	34.7

Samsung's memory business grew slightly over 60% in 2017, with DRAM outperforming the NAND business. Samsung's NAND business was buoyed by a record-setting price environment, in which Samsung's price per bit outperformed



the industry's 16% increase and fueled the company's NAND revenue growth of 56.8%.

### Global Top 5 Semiconductor Vendors by Revenue, 2017

2016 Rank	2017 Rank	Vendor	2016 Revenue (\$ Bn)	2017 Revenue (\$ Bn)	16-17 Growth	2017 Market Share
2	1	Samsung	40,104	59,875	49.3%	14.2%
1	2	Intel	54,091	58,725	8.6%	14.0%
4	3	SK Hynix	14,681	26,370	79.6%	6.3%
5	4	Micron Tech	13,381	22,895	71.1%	5.4%
3	5	Qualcomm	15,415	16,099	4.4%	3.8%

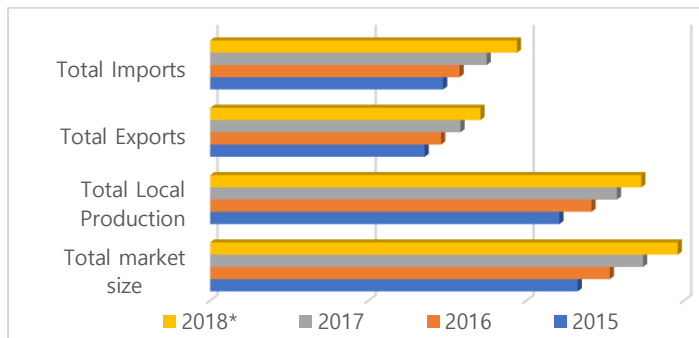
\*Note: All semiconductor market data externally sourced from MARKETLINE (2018)

SK Hynix's revenue soared due to the memory boom caused by the undersupply in both DRAM and NAND flash. This allowed the company to recapture the No. 3 position that it lost in 2016.

DRAM revenue, which accounted for around 73% of sales in 2016, increased 90.7% as the companies' product mix, which

favors PC and server DRAM, saw significant ASP increases.

### Medical Devices Market



According to Korea Medical Devices Industry Association (KMDIA), the South Korean medical device market is projected to reach \$5.9 Bn in 2018. For the past 4 years, the total medical device market size, production, import and export has been increased because of increasing demand of medical devices. Korean depends on high-end medical devices from the U.S, Germany, and Japan to supply about 64% of total market demand.

### Pharmaceutical Market

According to Global Data, the South Korean pharmaceutical market will observe a CAGR of 2.4%. The annual average growth rate for the Korean pharmaceutical for the past five years was 3.5% because of continuous growth of aging population and growing interest in health.

*Source: United Nations Comtrade Database DESA/UNSD, BMI*

The South Korean government pro promotes continuous innovative Research & Development (R&D) environment. Expenditure of pharmaceuticals in 2017 had slightly grown up to US \$15.3billion from US \$15.2billion in 2016. A growth of expenditure of healthcare in 2017 was 6.4% (US \$113.5billion from US \$106.5billion) which is much bigger than a growth of pharmaceutical market.

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