Policies and Incentives for R&D (Apr. 24, 2014)

Government support is granted to foreign-invested R&D centers in line with individual-type foreign investment zones, but with a greater focus on attracting highly skilled talent.

Incentives include income tax cuts, site support, closer cooperation between industry and universities, more opportunities to take part in state-financed projects, investment promotion activities and the use of global joint R&D.

The 4th Master Plan for Parts & Materials Development (Dec. 27, 2016)

With the participation of 15 parts & materials research institutes and 18 project directors from different industries, a Roadmap for the Development of High-Tech New Parts & Materials Technology will be established by 2025.

Top 100 technologies selected by Korea Evaluation Institute of Industrial Technology (KEIT).

A Blueprint for Korea’s Transformation from a General-Purpose Material Powerhouse into a Global High-Tech, Value-Added Material Leader (Sep. 30, 2016)

The government provides tax benefits and industrialization support to assist large-scale technological development in the private sector.

A ‘New Industry Development Fund’ (KRW 300 billion) is offered for R&D investments related to corporate restructuring and reshuffling.

Functional materials and value-added products (e.g., agricultural chemistry and cosmetics) have been added to the list of “target industries for extensive support” to facilitate support from Korea Technology Finance Corporation.

Success Case

Solvay

The Ewha-Solvay Research & Innovation (R&I) Center at Ewha Womans University is Solvay’s first research center in Korea and the fourth in Asia. The R&D center houses research labs for the development of OLED display technologies, on which Solvay has placed an extra focus.

Solvay’s specialty chemicals business at the R&I Center is responsible for the management and sales of specialty chemicals products produced by Solvay in four continents and serves as a regional center in Asia.
Korea’s Specialty Chemicals Industry

Global Status
Korea boasts the fifth largest chemicals industry in the world as of 2015 (KICA, 2016). Korea’s specialty chemicals industry has grown dramatically since the 2000s, thanks to the rapid growth and surging exports of electronic devices and parts such as semiconductors, LCDs and secondary cells.

Korea’s specialty chemicals industry has strong growth potential, with its large-scale, highly competitive electronic device and automobile markets. The global trend of enhancing technologies of final materials is also a positive factor for the industry’s growth.

Four Korean firms were included in the Global Top 50 Chemical Companies 2015 (C&EN, July 25, 2016).

Global Status of Korean Chemical Companies (2015)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Country</th>
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<tbody>
<tr>
<td>11th</td>
<td>SK Telecom</td>
<td>Korea</td>
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<tr>
<td>25th</td>
<td>LG Chem</td>
<td>Korea</td>
</tr>
<tr>
<td>41st</td>
<td>Hyundai Chemical</td>
<td>Korea</td>
</tr>
<tr>
<td>45th</td>
<td>Lotte Chemical</td>
<td>Korea</td>
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Source: Chemical & Engineering News, Jul 27, 2016

Export of Korean Chemical Industry
Korean chemical industry exports are rapidly increasing by 6.7% annually (2005–2016), mainly to China and other countries in East Asia. Specialty chemical exports are expected to rise as well.

Korean Chemical Industry Exports

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<tbody>
<tr>
<td>Value</td>
<td>28,672</td>
<td>31,583</td>
<td>57,706</td>
<td>57,218</td>
<td>60,890</td>
<td>67,421</td>
<td>71,809</td>
<td>73,962</td>
</tr>
</tbody>
</table>

Source: Korea International Trade Association (KITA)

Competitiveness

Manufacturing Powerhouse
A manufacturing powerhouse, Korea has a broad range of industries, including automotive, electronics and electronics, construction, textile, and plastics, forming an extensive market for the chemicals industry. In particular, demand is surging for value-added and high-tech specialty chemicals in the automotive and electronics industries.

- Global No. 5 automobile manufacturer (KIA, 2015)
- Green smart cars and electric vehicles are increasingly being developed, raising demands for lightweight chemical materials such as carbon fibers and PPS.
- No. 1 global market share in the first half of 2016 (72%)
- Samsung and SK Innovation are constantly on the rise in the market shares.
- Samsung and LG Electronics are leading the global market.
- In 2015, Samsung SDI and LG Chem respectively ranked 1st and 2nd in the compact secondary battery field.
- SK Innovation is a third company in the world to develop a separator material for secondary batteries.
- Samsung and LG are the biggest and the sixth biggest mobile phone manufacturers in the world, respectively.
- Korea is the second largest mobile phone manufacturer as of 2016.

Human Resources
In Korea, about 120 colleges, universities and graduate schools including Seoul National University, Yonsei University, Korea Advanced Institute of Science & Technology (KAIST) and Pohang University of Science and Technology (POSTECH) are producing over 80,000 professionals with bachelor’s, master’s, and doctoral degrees every year.

Infrastructure
Korea has multiple public research institutes in the chemicals industry, such as Korea Institute of Science and Technology (KIST), Korea Research Institute of Chemical Technology (KRICT), Korea Institute of Materials Science (KIMS) and the Fine Chemicals Technology Research Institute in Ulsan Techno Park.

Korea has a solid R&D foundation for high-tech chemical materials. Many R&D centers of private chemical businesses including LG, SK and Hanwha are located in the Daedeok Research Complex, and focus on the development of specialty chemicals.