

Our Strategy - Structural Innovation

With the global market’s stagnant growth, every industry is seeking changes to survive. This is especially true for the petroleum and energy industry. SK innovation is also faced with the necessity to evolve in light of the growing push for a transition into electric vehicles and eco-friendly energy. Facing such rapid changes, SK innovation is making utmost efforts to live up to its reputation as the leading global energy and chemical company with a strategic approach.

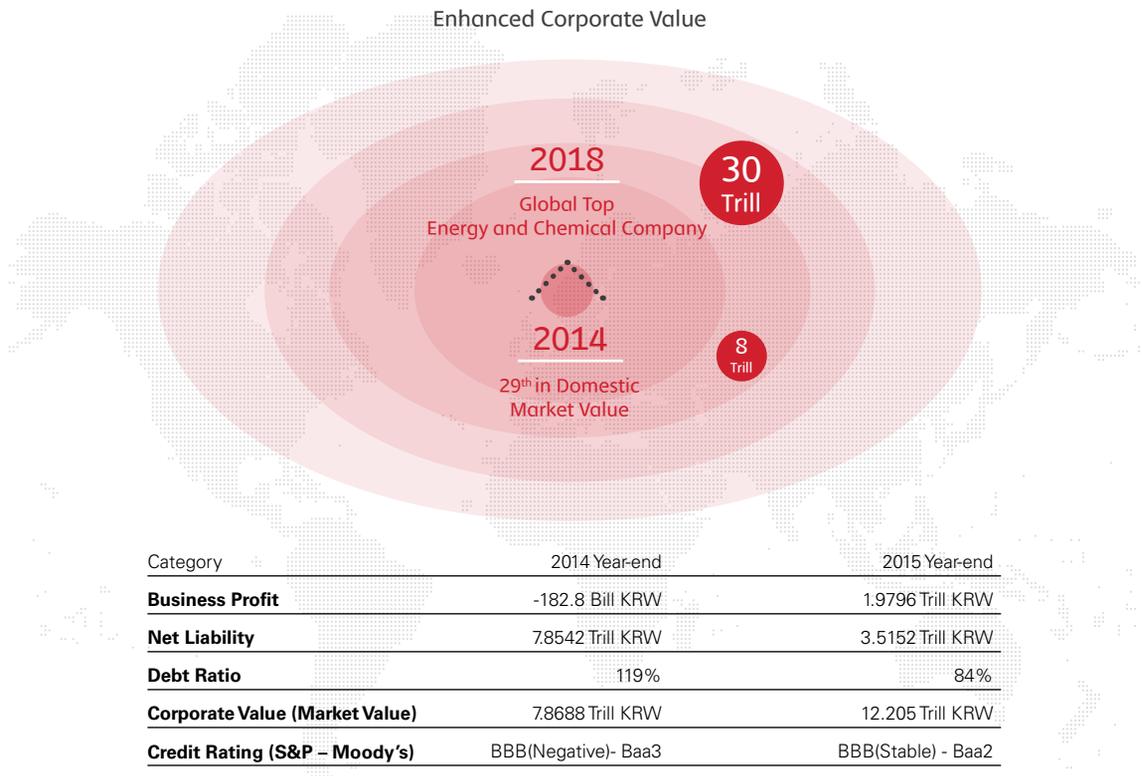
SK innovation’s Strategic Goal

Reach 30 Trillion KRW in Corporate Value by 2018

SK innovation has established the goal of recording 30 trillion KRW in corporate value by 2018. To achieve this goal, we will accelerate our global growth by initiating fundamental changes in our business methods and structure. We will also pursue ‘growth through stability’ by securing a stable financial structure while maintaining investments to spur growth along with our business innovations.

We have founded a Portfolio Innovation (PI) Department responsible for exploring new growth engines, innovations in the business portfolio, and researching synergies amongst our subsidiaries, in order to effectively initiate and accomplish our goals. On top of this, we appointed a Chief Tech Officer (CTO) for each subsidiary to enhance technological competitiveness in its respective industries.

Enhanced Corporate Value



Business Structure

(1) **Unconventional Energy Source:** sources hard to drill using conventional method such as shale gas, oil sand and extra-heavy oil.

Revolutionize Profit Structure

Expand Portfolio of Value-Added Products

Nexlene (high performance polyethylene) is SK global chemical's prime high value-added product and the first chemical product in Korea to be independently developed across all processes from catalyst to end-product manufacturing. As it is stronger, more transparent and easier to process, Nexlene has numerous applications, including plastic and vinyl, toys, pipe and vehicular compounds. SK lubricants' premium base oil, YUBASE is also one of our major high value-added products. SK innovation is actively scaling up production volume and also continuously conducting research to increase our lineup of high value-added products.



High performance polyethylene, Nexlene

Targeting Unconventional Resources and Emerging Markets

Our E&P sector is securing necessary core technology and human resources for the development of unconventional energy sources⁽¹⁾ such as shale gas. As part of our effort, we are currently producing 3,750 barrels of crude oil and gas per day using horizontal drilling and hydraulic fracturing at our Oklahoma block. We have established a strategy to develop into a North American resource expert based on our shale oil blocks in Oklahoma and Texas.

Strategic Investment in Infrastructure

To secure a stable business foundation, we are making strategic investments in infrastructure by expanding the battery section of our Seosan plant. Following our first expansion in July 2015, we have begun a second round of expansion in March 2016. Through this, we can scale up production capacity for electric vehicle batteries by 30% to produce 40 thousand electric vehicles annually. With this expansion, SK innovation is looking to augment its battery business, targeting foreign EV battery markets.



Production Line at the Seosan Plant

Implement Optimized Management

Our distinctive optimization capability is the most prominent factor in our strategy to innovate our structure. SK innovation is also applying big data-driven optimal operation to petroleum/chemical products to arrive at the best solution for enhancing product quality and price competitiveness. This optimization is applied not only to manufacturing but also to various work processes in general management, directly improving our profit structure and contributing to improved staff work efficiency.

Improve Profit Structure by Reducing Costs

We are improving our profit structure in the petroleum sector by diversifying sources of crude oil to cut costs. In 2015, we were able to improve the refining margin by diversifying crude oil sources from Middle East crudes to include North American condensates and African crudes.

We are working hard to maintain system and organization structure to respond swiftly and flexibly in a highly volatile environment in order to maximize profit as well as to secure operational excellence and structural price competitiveness across the whole value chain from production to marketing.

Our Strategy - Optimization

SK innovation outperforms our domestic competitors by using Advanced Optimization to improve our decision-making. SK innovation is working to expand our Optimization activities to all areas of our operations from the procurement of raw materials, to production, blending, sales and general management in order to further maximize value.

Key Optimization Activities

Optimization in the Petroleum Business

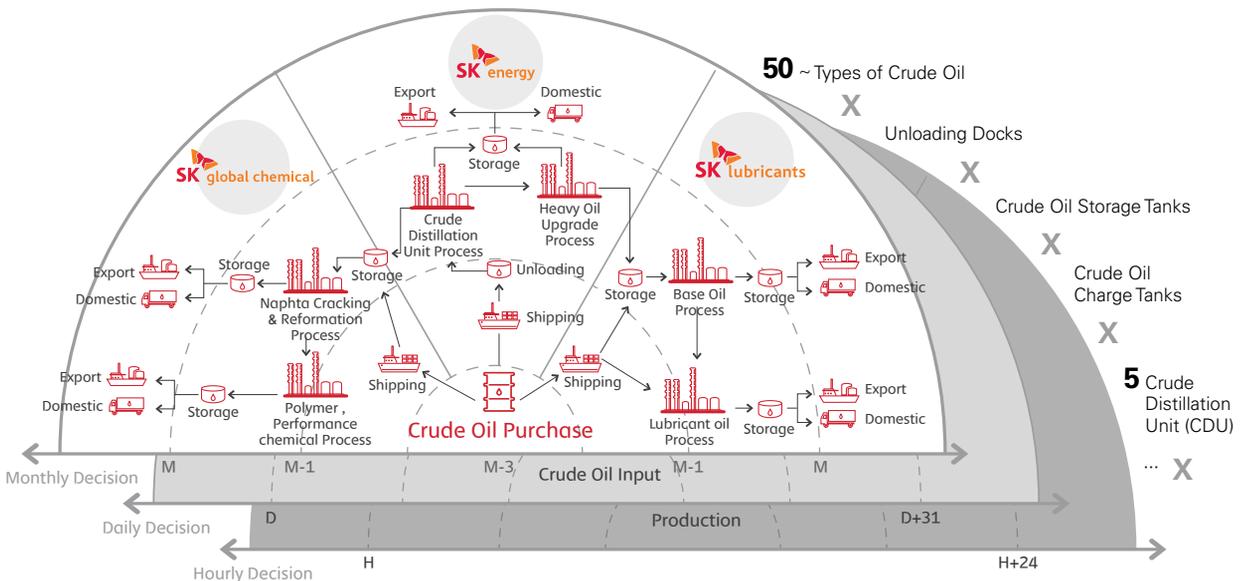
1) Crude Oil Procurement Optimization

SK innovation has established a process to evaluate the intrinsic value of individual crude oils in relation to the configuration of our facilities by analyzing the composition of various batches of crude oils and compiling productivity differences between these batches. This capability allows us to make crude oil procurement decisions that can secure the highest intrinsic value within a volatile crude oil market.

2) Crude Oil Input Optimization

Roughly 50 types of crude oil transported by about 20 vessels arrive at our Ulsan Complex every month. During this process, we must make several decisions related to the assignment of the arriving cargo to tanks, and the crude compositions to feed our units. Since the number of crudes is much larger than the number of available tanks, and since the performance of each unit depends on the crude composition, there are countless alternatives for these decisions. Finding the best decision from the available alternatives is highly complex and difficult. Through SK innovation's opti-

The increased complexity and difficulty in decision-making



mization technology, we optimally allocate crude cargoes to tanks and determine the composition of crude oil feed with the most economic value that fully maximizes the utilization and productivity of our facilities.

3) Petroleum Product Production and Sales Optimization

SK innovation utilizes optimization technology to optimize the blending recipes used for manufacturing petroleum products. These recipes are optimized for reducing costs while ensuring product specifications and stock levels are satisfied. Furthermore, the optimization simultaneously determines an export schedule for petroleum products that maximizes revenue.

Distinctive Optimization Competitiveness

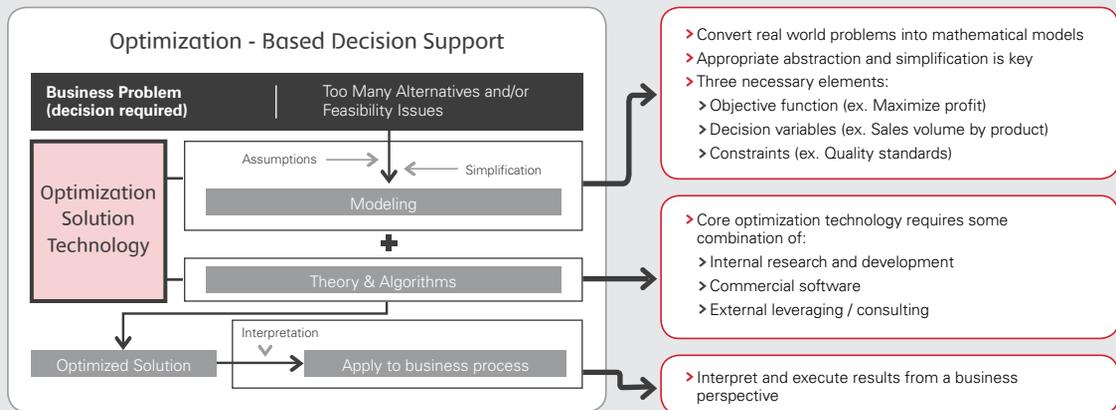
Though SK innovation had always tried to make the best decision in all situations, the complexity and uncertainty of the business environment naturally limited the quality of the decisions. However, since 2012, we have been successfully making better decisions within various business domains with the support of leading optimization experts who are developing and utilizing the most advanced optimization technology with better computing power and technology.

Systematic Management of Big Data

Our unique information system, which includes our crude oil database, product properties, yields and operation data, has been built using data archived from business, operations, and process over decades. We continuously update and analyze this information and use it in our decision-making.

Mathematical Algorithms and Modeling

Our leading global optimization experts develop mathematical models and algorithms tailored to SK innovation's decision-making.



Decision Process Innovation

Various optimization and analytics-based Decision Support Tools allows SK innovation to maximize the value of its supply chain and further enable it to respond quickly and appropriately within a dynamic market and business environment.

Pursuing Continuous Performance through Optimization

Our efforts to make better decisions based on our distinctive optimization capability enables us to sustain continuous performance without large-scale investments in facilities. Moreover, we have been expanding the application of our optimization beyond our petroleum and chemicals businesses to lubricants, trading, and information & electronic materials to facilitate scientific and systematic decision-making in all of our businesses. We strive to maximize business value through optimization by not only strengthening our decision-making capabilities, but by also analyzing and forecasting a wide range of information based on big data management.

Our Strategy - Global Partnering

SK innovation is pivoting into the global market through global partnerships with leading international companies. By launching joint businesses with global leaders in each industry, we are learning best business practices while also securing stable foreign revenue which will advance us become a top global energy and chemicals company.

Entering New Investment Areas Through Global Partnering

SK global chemical

Starting in 2006, SK global chemical has worked for seven years to build a partnership with China's national petrochemical corporation, SINOPEC, and Chinese government officials, and successfully launched a joint venture company. The Wuhan plant produces around 2.5 million tons of petrochemical products annually. SK global chemical has also built production facilities in Ulsan to proactively address the growing demand for high-end chemical products such as polyester through a joint venture with Japan's JX Nippon Oil & Energy.

SK global chemical x SINOPEC, China's National Petrochemical Corporation

- > **Joint-venture company** : Sinopec-SK (Wuhan)Petrochemical Co.,Ltd.
- > **Completed** : 2014, currently operating commercially
- > **Investment** : Approximately 3.3 trillion KRW
- > **Production Capacity** : Approximately 2.5 million tons/year of petrochemical products
- > **Features** : Largest joint petrochemical plant project in the history of Chinese-Korean ties



SK global chemical x JX Nippon Oil & Energy, Japan's #1 Energy Corporation

- > **Joint-venture company** : Ulsan Aromatics Co., Ltd. (UAC)
- > **Completed** : 2014, currently operating commercially
- > **Investment** : Approximately 940 billion KRW
- > **Production Capacity** : Approximately 1.6 million tons/year of petrochemical products
- > **Features** : Strategic partnership with Japan's largest energy corporation



SPAIN

SK global chemical x SABIC (Saudi Arabia), World's #2 Chemical Corporation

- > **Joint-venture company** : SABIC SK Nexlene Company Pte. Ltd (SSNC)
- > **Completed** : 2014, currently operating commercially
- > **Investment** : Approximately 710 billion KRW
- > **Production Capacity** : 230 thousand tons/annual of high-performance polyethylene products
- > **Features** : First case of a global joint venture based on SK's original technology



*Production plant is located in Ulsan.

The 2015 partnership with Saudi Arabia's national petrochemical company, SABIC, was a strategic move to increase global recognition of SK global chemical's unique high-performance polyethylene brand, Nexlene. Based on SABIC's marketing network and competitive raw materials, we aggressively target global markets while focusing on increasing Nexlene production capacity through our Ulsan Plant 1 and by establishing Plant 2 in Saudi Arabia.

SK lubricants

In 2008, SK lubricants launched a base oil plant joint venture with Indonesia's national oil company, Pertamina, in Dumai, as part of its first global partnering project. SK lubricants' Group III base oil production technology and Pertamina's ability to supply low-cost materials synergistically produce roughly 9,000 barrels of lubricants a day.

In addition, a plant producing 13,300 barrels a day of base oil was jointly launched with Spain's largest oil company, Repsol, to target the European market. Repsol provides local procurement and infrastructure while SK lubricants brings base oil production technology and a global marketing network, making SK lubricants one of the top 3 global base oil producers, and solidifying its leading market position.

SK innovation

SK innovation established the joint venture Beijing BESK Technology with Beijing Electronics Holding Co., Ltd. (BEHC) and Beijing Automotive Industry Holding Co., Ltd. (BAIC) to target the Chinese EV market, which is quickly growing into the world's largest market. Through the EV Battery Pack plant in Beijing, BESK has supplied BAIC EV models ES210 and EV200 EV with EV batteries starting the second half of 2014. We continue to work to become China's top EV battery producer through BESK.



SK lubricants x Pertamina, Indonesia's National Oil Company

- > **Joint-venture company** : PatraSK
- > **Completed** : 2008, currently operating commercially
- > **Investment** : Approximately 250 billion KRW
- > **Production Capacity** : Approximately 9,000 barrels/day of base oil
- > **Features** : SK innovation's first global partnering project



SK lubricants x Repsol, Spain's #1 Energy Corporation

- > **Joint-venture company** : Iberian Lube Base Oils Company (ILBOC)
- > **Completed** : 2014, in operation
- > **Investment** : Approximately 470 billion KRW
- > **Production Capacity** : 13,300 barrels/day of base oil
- > **Features** : Partnership expanded into #1 Group III lube base oil producer



SK innovation x Beijing Electronics x Beijing Automotive Industry

- > **Joint-venture company** : Beijing BESK Technology
- > **Completed** : 2014, currently operating commercially
- > **Features** : Strategic entry point into China's EV market