

Research & Development

Innovation through R&D is a key to gaining a competitive advantage. At SK innovation, we are strengthening our competitive edge based on our technological expertise acquired in the energy and petrochemical sectors. In addition, we are focusing on developing new technology through open innovation as a growth engine for our sustainable future.

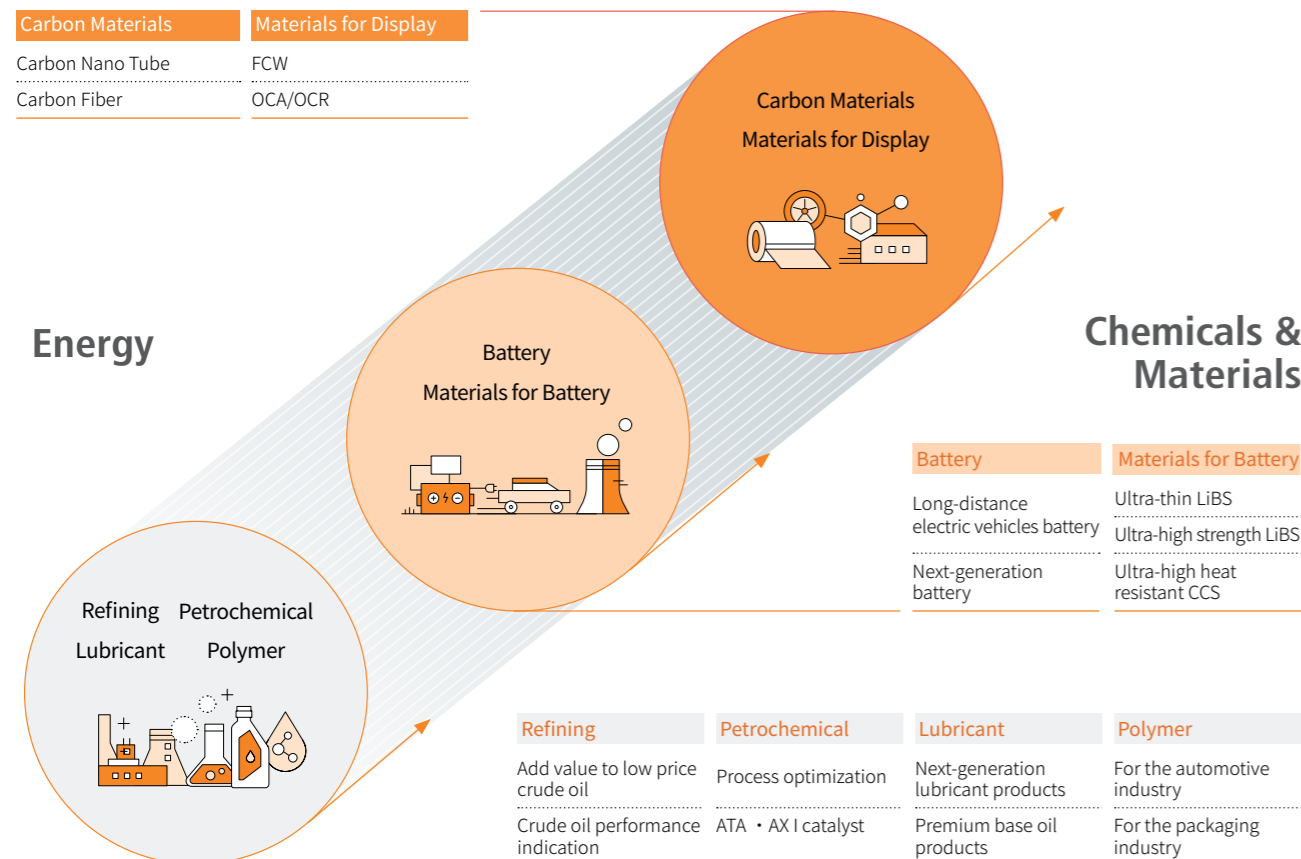
— Institute of Technology Innovation

Since the establishment of SK Daedeok R&D Park as a foundation for technological leadership in 1995, we have been committed to technological innovation. Inside the facilities, there are Institute of Technology Innovation¹⁾, which is in charge of our R&D projects, and the Battery R&D Center, which supports the battery business. The Institute of Technology Innovation consists of the Energy R&D Center, the Chemicals R&D Center, and the Platform Tech. R&D Center and

has established an R&D cooperation ecosystem through integration with external infrastructure based on its technological expertise and resources. Through this, we are strengthening our competitive advantages in petroleum, chemical and lubricant sectors and securing next-generation technologies for a sustainable future.

Note 1) Global Technology was renamed to Institute of Technology Innovation in 2017.

● R&D Growth Plan



— Key Research Activities

Flexible Cover Window (FCW)

“Flexible Display”, which is expected to create new value in the stagnant display market, is in the process of commercialization. We developed a technology to fold or bend a flat display by replacing the glass used for the outermost window cover materials of the display with transparent PI film. Currently, we are working on the development of coating technology to create the best solution to meet the target properties and managed to achieve a superior level of bending, strength, and anti-scratch quality by applying our own hard coating technology to the transparent PI. Because of these efforts, the quality of our products has been recognized by panel makers for its excellent properties and now, we are focusing on the development of this technology for commercialization.



Flexible Cover Window (FCW)

Technology to Increase Gasoline Production through Adsorption Separation Process

As a company with series of production processes for refining, petrochemical products, and solvents, it is important for us to offer competitive prices as well as increase productivity. To this end, we have expanded the application of our own adsorption separation process (SK-SIV) to low-cost naphtha and developed technology to increase gasoline production that is commercially viable. By using the byproducts of this technology, we expect to secure competitive advantages in our prices while working on complementary research for technical perfection, such as long-term performance assessment.



Pilot plant for adsorption separation process

— Core Mid- and Long-Term Projects

Project	Goals	Deadline
Developing a total solution to relieve crude oil constraints	Reduce crude oil import costs	2019
Expanding the product portfolio in the automotive and packaging sectors	Improve product properties and expand the product portfolio	2020
Developing materials for display	Provide total solutions tailored to the needs of customers	2020
Developing base oil feedstock conversion and assessment technology	Secure Group III base oil feedstock Expand Group III plus base oil feedstock	2021
Developing next-generation technology	Secure prospective technologies in the chemical, materials and battery sectors	2023

— Future Plans

The Institute of Technology Innovation provides technological solutions taking advantage of its expertise in a timely manner, while also strengthening its alignment to the strategies of our affiliates. We are working to identify the mechanism of crude oil constraint factor and ensure mitigation measures while conducting research on the expansion of chemical products for new applications, as well as the development of raw materials for advanced premium base oils and yield prediction models. Furthermore, we are continuing to explore new growth engines and carry out R&D projects to improve our business performance, based on open innovation, mergers, and development processes.