Message from the President

Tasking the Current Management Team with Taking Action Focused on the Next 10 Years

Executive Director and President **Hiroshi Okubo**

Our Aims

- **“60-point principle” and “subordinated priorities”**
- **Achievement of our Stage II operating income target**
- **Organizational improvements aimed at making all businesses profitable**
- **Returning profits to stakeholders**

Our Priority

Pursuing “Acceleration” via the “60-point Principle” and “Subordinated Priorities”

I get up early in the morning to have some extra time before work. As I live away from my family, my daily routine involves cooking and doing the laundry, and, while I do these tasks, I like to watch economic news videos online at double speed. I'm naturally an impatient person, so this sort of time-saving lifestyle suits me. However, I watch movies and dramas at standard speed. In our Vision 2030, we emphasize “Originality, Acceleration, Global Reach,” and, of those, the one that we are most conscious of is “acceleration” which is in line with the changing times.

This is why I remind everyone in the company about the importance of the "60-point principle" and "subordinated priorities." 60 points is the bare minimum score required to pass a qualification exam. Whether you get 100 points or 60 points, passing is passing. Rather than allocating all resources towards achieving a perfect result, determine what your priorities are and redirect resources as needed.

I am also particularly focused on time usage and communication methods. Even in meetings, I tell people to be concise and to use visually engaging materials. My career began out in the field, so I am a straight-talker. The world is rapidly changing, and our management team needs to fully understand it and then instill a greater sense of

urgency in our employees. I want to think and act at twice the speed not only when it comes to watching the news but with various other tasks as well.

Looking Back

Outperforming Initial Forecasts and Delivering Substantial Shareholder Returns

In the past year and a half since becoming president, I have focused simply on working hard together with our employees, affiliates, customers, and other stakeholders. We are steadily seeing the results of these efforts. Consolidated results for fiscal 2024 exceeded initial forecasts in both sales and profits, and we also achieved wage increases and increased bonuses for employees. In February 2025, the company changed its shareholder return policy, announcing a new policy of setting a minimum DOE (Dividend on Equity) of 3%. Since then, the stock price has remained strong, recovering to the 2,000 yen range at the end of June for the first time since December 2017, and market capitalization is approaching 100 billion yen.

The atmosphere across the entire ISK group is also improving. In May, we held a two-day event, the “ISK 70-50 Festa in Yokkaichi,” at the Yokkaichi Plant to commemorate the 70th anniversary of the sulfate process titanium dioxide plant's operation and the 50th anniversary of the chloride process plant's operation. On both days, attendance by employees, their families, and local residents’ association members greatly exceeded our initial expectations. My passion and enthusiasm for what we do is as boundless as the Sun, and I intend to keep taking the lead and working to spread my energy to those around me.

Stage II Progress and Outlook

Flexibly Adapting to Changing Market Conditions to Get Off to a Good Start

The past year and a half has also been a time of significant progress toward achieving our Vision 2030 Stage II medium-term business plan (FY2024 - FY2026).

In our bioscience business, which aims to achieve the world's lowest cost manufacturing, we have been focused on organizing our base in India. We have established a new “India Base Promotion Division” in order to facilitate our entrance into the expanding Indian market and, thereby, reduce the manufacturing costs of active ingredients and intermediates and respond flexibly to fluctuations in demand. Securing a registered active ingredient manufacturing site from the early stages of development will help speed up the launch of new products.

On a related note, the Technology Research Center, Hyogo-Ono (Ono City, Hyogo Prefecture), a production technology research facility currently under construction, will begin full-scale operation in December 2025. In collaboration with the Central Research Institute (Kusatsu City, Shiga Prefecture) and the Yokkaichi Plant, we plan to utilize Ono's bench and pilot plant to establish production technologies that will achieve higher efficiency and lower costs and, then, expand to commercial production in India and around the world.

Additionally, sales of the herbicide Tolpyralate, one of our growth strategy agents, are booming in the Americas due to its expanded application to wheat. Its launch in India is also progressing as planned, and Tolpyralate has become the key source of income in Stage II.

Furthermore, we would like to focus on expanding sales in Asian countries such as Taiwan, Thailand, and the Philippines, as well as Australia.

In our healthcare business, we are working to obtain approval in various countries for the animal health product PANOQUELL™, with the aim of achieving operating profitability during Stage II. We are currently applying for approval in Europe, Australia, and Latin America, with plans to progressively obtain approval thereafter from 2026. In the United States, where commercialization is further along, sales partners are becoming more active, and future developments are expected. By the end of fiscal 2025, we plan to establish a business foundation that will begin making a solid contribution to profits from the final year of Stage II. Further, we aim to make this one of our profitable business pillars by around 2030.

The restructuring of our inorganic chemicals business has also progressed steadily. Since introducing a divisional system in June 2024, we have been accelerating our business development by dividing our business into three domains. Among these, electronic component materials are our key source of income, with ISK securing a high market share for products such as barium titanate for MLCCs (multilayer ceramic capacitors). Electronic component materials are a stronghold for Japanese companies; so, in order to fulfill our supply responsibilities, we are considering increasing production of high-purity titanium dioxide, which provides high added value.

At the same time, however, the field of fine chemicals (titanium dioxide), such as those used in paints, is facing a tough situation due to a low-price offensive from China, but we will continue to produce titanium dioxide in sulfate process over the next year and a half before switching to titanium dioxide in chloride process, which has a lower environmental impact.

In addition, we are also working on a planned renewal of the Central Research Institute in preparation for Stage III. My dream of creating a foundation that encourages the success of young researchers by providing an excellent research environment is steadily becoming a reality. It is incumbent upon the current management team to take action that is focused on the next 10 to 20 years as an important investment for the future.

Overall, we have been able to more flexibly adapt to changes in market conditions than we initially feared, and I think we have gotten off to a good start. The second year operating income target set at the time that the Stage II medium-term business plan was formulated was 16.7 billion yen, but the budget for fiscal 2025 is only 15 billion yen. Nevertheless, we have been able to achieve steady results overall, including increased dividends, a rise in the stock price, and a 6% wage increase. I would say this puts us in 60-point territory, although just barely.

Although the US tariff policy has been much talked about recently, we believe that it has not had a major impact on our group so far. The United States essentially relies on imports for large volumes of agrochemicals, and tariffs are imposed regardless of where these agrochemicals are exported from. There is a risk that this will have an indirect impact on automotive-related products, such as raw materials for paints, but, conversely, it may become more difficult for American titanium dioxide manufacturers to export to China, which could result in that demand being passed on to

our group. An overall bad outcome is not guaranteed; it will depend on the impact of exchange rates. For now, we are expecting the dollar to trade at 140 yen and the euro to trade at 160 yen, so things are moving in a positive direction.

Measures Implemented Since Taking Office
Putting People First, and Taking Time to Cultivate a Corporate Culture

Since becoming president, I have made people a particular focus as one of the three things that managers need to control: people, goods, and money. Because there has been little contact with research laboratories, last year I made information sharing with management at the Central Research Institute, in the form of roundtable meetings, a priority. At the Yokkaichi Plant, a session was also held with the relief employees. We place particular importance on listening to the voices of our employees as a foundation for improving engagement.
We have also been focusing on mid-career hires. We have had some very talented people join us, and it is my hope that they will bring a breath of fresh air to our 105-year history. I want them to keep trying new things. Blending corporate cultures is not easy, but we need new strength to achieve our vision. I want to increase the number of people who are willing to take bold risks, launch new projects, and take initiative. I believe we need to change our personnel system so that such people will be rewarded. Linking bonus payments to operating income should help convey this sentiment to employees. Ultimately, it is people who create new products, operate equipment in factories, and make money by selling products. Although changing the mindset of the entire group is a daunting task, we will continue to pursue this goal with unwavering determination and persistence.

Expectations for Executives
Still Lacking a Sense of Speed; Need a Greater Sense of Urgency

Just as I expect our employees to work hard, I also expect more from our directors, executive officers, and advisors. My refrain is, “Prove your value within one year.” Our executives are trusted colleagues who share ISK’s vision and work every day to improve our corporate value. In order to achieve the goals of this vision, our executives must be serious communicators who ensure that it gets disseminated to all managers and then to every employee and workplace.
To reflect these expectations, we changed our compensation system in June 2025 and introduced a new performance-linked stock compensation system utilizing a trust (RS Trust). The link between directors' remuneration and corporate performance and stock value has been made clearer, with the stock portion of the remuneration being subject to transfer restrictions until immediately after retirement, as well as being rewarded once directors have completed their duties as executives and become shareholders. It is also linked to ESG-related evaluations, such as the degree of improvement in employee engagement and the degree to which materiality has been achieved. This applies not only to directors but also executive officers and advisors.
The other day, I received an email from a former outside director who served for many years. His message was that although there had been a lot of progress during his tenure, the sense of speed had been lacking, and as time change, executives need to feel a greater sense of urgency. He is quite right. Simply prioritizing work will not allow limited resources to be allocated for truly effective measures. What is required of managers is “subordinated priorities.” They need to be able to determine what not to do. In order to speed up our transformation, this is the mindset being shared among all executives.

Organizational Transformation
A Digital Strategy Group Functioning as a Full-fledged Organization

We have also transformed our organization to serve as a foundation for making the most of our human resources. As I mentioned earlier, we have introduced a divisional system into our inorganic chemicals business, and we have also moved the sales organization for our healthcare business to Tokyo. Even in the administrative department, we have recently consolidated accounting and human resources functions that were previously scattered across various locations, at the Head Office. We are also working to strengthen collaboration between our research and development and intellectual property departments.
With regard to digital transformation (DX), the Digital Strategy Group, which was previously under the Office of Sustainability Promotion, has been transferred to the Corporate Planning Division. The number of promotion members selected from each department has increased to about 60, and the promotion system is steadily being put in place. I was in charge of revamping our core business systems five years ago, and I have been a driving force behind DX ever since. By capitalizing on the in-house generative AI already in place, my hope is that employees can shift to more creative work.

ROIC and Shareholder Returns
Linking Improved Capital Efficiency to Stock Price and Shareholder Returns

We are currently introducing Return on Invested Capital (ROIC) to manage our organizational efficiency and profitability. The ROIC tree (visual representations of ROIC components) has already been created, and training for line managers has also begun. When we begin full-scale, segment-specific implementation, we will expand it to all employees and have them set their own personal goals in line with the items in the tree. Going forward, we will use ROIC as a management indicator to appropriately manage and improve capital efficiency, aiming for sustainable growth in corporate value.

The results will lead to increased returns for shareholders. Since announcing a new return policy in February 2025 that sets a minimum DOE of 3%, the stock price has remained strong. If we can achieve sustainable growth, I believe we can expect further improvements in Price-to-Book Ratio (PBR).
We will also enhance dialogue with shareholders and investors. In addition to the IR briefings held twice a year, with the director of the Finance & Accounting Headquarters taking a leading role, we have recently been speaking with investors and analysts from around 30 companies each quarter to explain the current situation and outlook for the Group and also to ask them how they view us. Going forward, under the leadership of the new director of the Finance & Accounting Headquarters, we will strive for even better Investor Relations (IR).

Environment, Society and Governance
Making People the Most Important Part of ESG Initiatives

Our ESG initiatives are also being implemented in line with the policies set out in Stage II and Vision 2030.
With regard to the environment, once production of titanium dioxide in sulfate process ends in 2027, CO_2 emissions and waste are expected to decrease as a result. However, in order to aim for carbon neutrality by 2050, fuel conversion and improvements to the production process for titanium dioxide in chloride process will be necessary, primarily at the Yokkaichi Plant; thus, we will continue to consider what measures to implement while also keeping an eye on additional costs.
Even when it comes to ESG promotion, people are what matters. Improving human capital, especially developing the next generation of employees, is important. Therefore, by introducing a talent management system that will facilitate visualization of skills and experience, we will be able to systematically develop and allocate future leaders and specialists. We also respect work-life balance by encouraging employees to take childcare leave and paid vacation, and we are working to create a workplace where everyone feels accepted, regardless of lifestyle or thinking. Through such efforts, we aim to maintain a high level of engagement. We have also begun to place more emphasis on mid-career hires and seeking out external specialist talent. We are now able to recruit the best talent. It is my hope that this talent we bring in will help catalyze mutual inspiration and growth together with our regular employees.
The aforementioned revision of executive compensation was discussed by the Compensation Committee, which is comprised of independent outside directors and independent outside Audit & Supervisory Board members, and it was ultimately approved at the ordinary General Shareholders' Meeting. We are proud to have created a system in which directors share the benefits and risks of stock price fluctuations with shareholders in a way which is acceptable to shareholders.

In Conclusion
Improving Openness and Gaining More Trusted Colleagues

Within ISK, we gave each employee two tickets to Expo 2025 Osaka, Kansai, Japan. These were included as part of our employee benefits. I, myself, used one of these tickets to go to the Expo in May. While I was there, I was approached by someone who worked under me over 20 years ago when I was in charge of the titanium dioxide in chloride process production line at the Yokkaichi Plant. He was there with several family members, and he expressed his gratitude to me for the tickets. I replied, "I'm sorry that we only gave you two," but I was happy that he felt so comfortable chatting with me.
I feel that there has been somewhat of an improvement in the atmosphere within ISK. Over the course of many conversations with ISK executives, they started to speak more frankly with me as a trusted colleague, and, through the in-depth, small-group discussions I have had with researchers at the Central Research Institute, I am able to see their enthusiasm for research and development and learning. This may just be my own perception, but it seems to me that the number of people who are trying as trusted colleagues, not just as co-workers, to make our group better is steadily increasing.
I want to speak with everyone daily and improve openness for the sake of fostering an atmosphere where managers and subordinates can talk in a close and caring manner.
We are now more than halfway through the second year of Stage II. As mentioned earlier, our initial forecast for operating income is lower than the initial target set when Stage II was formulated, but we have not yet given up on our initial target. Furthermore, we will pursue even greater "acceleration" in 2026 to ensure we definitely achieve the final target for Stage II. At the same time, I want to begin developing a new vision for 2040 and 2050. It is my hope that our shareholders and all other stakeholders will continue to support us over the long term.

Change is imperative
Driving Progress through Originality, Acceleration, and Global Reach

Under Vision 2030 Stage II, the Group has set the principal objective of pursuing the initiatives to combine business activities with sustainability, along with the four goals of strengthening R&D capabilities and improving efficiency for greater originality, accelerating globalization, pursuing ROIC management, and continuing stable returns for shareholders. Specifically, in our organic chemicals business, we will seek to develop and commercialize new agrochemical products and to roll out animal health products overseas while launching a new research center. In our inorganic chemicals business, we will pursue a program of selection and consolidation as we aim to dramatically transition our product portfolio from general-purpose titanium dioxide to the functional material domain.

Principal KPIs

	Stage I – Final year	Stage II – Target for the final year
Operating income	11.4 billion yen	**Over 19.0 billion yen**
Operating margin	8%	**12% or more**
Net income	7.9 billion yen	**Over 13.0 billion yen**
ROE	8%	**10% or more**

	2021–2023 Results	2024–2026 Targets
Capital investment	20.7 billion yen	**32.7 billion yen**
R&D expenses	27.0 billion yen	**30.3 billion yen**

	Target
Dividend policy	Aiming for a consolidated dividend payout ratio of 40% toward FY2026

Medium-term Business Plan FY2024-2026: Vision 2030 Stage II

Strengthening R&D capabilities and improving efficiency for greater originality | **Accelerating globalization** | **Pursuing ROIC management** | **Continuing stable returns for shareholders**

Organic chemicals business

- Accelerating R&D and commercialization of new agrochemicals and animal health products
- Increasing our share of the global market by manufacturing agrochemicals at the lowest cost in the world and supplying them in a stable manner
- Acquiring and maintaining agrochemical registrations in various countries worldwide
- Expanding sales for the animal health product PANOQUELL™ in the U.S. and deploying the drug in other major countries as well
- Expanding the scale of our businesses by pursuing M&As and partnerships with other companies, and introducing agents from other companies
- Developing and commercializing biological products

Inorganic chemicals business

- Expanding sales and increasing production capacity of electronic component materials
- Expanding business by marketing newly developed products and creating new businesses
- Improving the capability of technical sales overseas
- Expanding business through collaboration with other companies
- Procuring main raw materials and fuels stably and on favorable terms
- Reforming our inorganic chemicals business structure

Overall management

Pursuing the initiatives to combine business activities with sustainability

- Contributing to the environment and society
- Promoting human capital management
- Promoting DX
- Continuing and improving corporate governance

Progress on Major Initiatives

Strengthening R&D capabilities and improving efficiency for greater originality

We are propelling greater efficiency by managing progress across departments and allocating resources according to current progress.
We are also strengthening development capabilities and competitiveness in line with DX implementation and intellectual property strategies.

Accelerating globalization

To reduce manufacturing costs for ingredients and intermediate materials and ensure stable supply, we are looking into strengthening the production system in India.

Pursuing ROIC management

We have calculated ROIC for each business. We will link this indicator to on-site execution by deploying KPIs and reviewing measures in each business.
This will further strengthen our ROIC management.

Continuing stable returns for shareholders

Revised shareholder return policy
- During the period of the Medium-Term Management Plan "Vision 2030 Stage II," dividends will be paid with a minimum DOE of 3%.
- Starting in fiscal 2025, interim dividends will be paid.

Progress of Key KPIs

	FY2023 results	FY2024 plan	FY2024 results	FY2024 differences	FY2025 plan	FY2025 forecast	FY2026 plan
Operating income	11.4 billion yen	10.0 billion yen	10.4 billion yen	0.4 billion yen	16.7 billion yen	15.0 billion yen	19.8 billion yen
Operating margin	8.3%	6.9%	7.2%	0.3%	11.1%	10.2%	12% or more
Net income	7.9 billion yen	6.0 billion yen	8.4 billion yen	2.4 billion yen	10.3 billion yen	9.2 billion yen	13.6 billion yen
ROE	7.9%	5.6%	7.6%	2.0%	9.1%	7.9%	10% or more

	FY2023 results	FY2024 plan	FY2024 results	FY2024 differences	FY2025 plan	FY2025 forecast	FY2026 plan
Capital investment	9.6 billion yen	13.0 billion yen	10.5 billion yen	-2.5 billion yen	15.7 billion yen	15.0 billion yen	4.0 billion yen
R&D expenses	9.7 billion yen	10.4 billion yen	10.7 billion yen	0.3 billion yen	9.8 billion yen	11.4 billion yen	10.1 billion yen

	FY2023 results	FY2024 plan	FY2024 results	FY2024 differences	FY2025 plan	FY2025 forecast	FY2026 plan
Dividends per share	70 yen	70 yen	85 yen	15yen	100 to 105 yen	100 yen	143 yen

FY2024 Progress

Organic chemicals business

- In Europe, sales of fungicides and insecticides are performing well compared with the medium-term business plan.
- In growth strategy products, revenue was lower than the medium-term business plan for the herbicide Tiafenacil. However, revenue was higher than the medium-term business plan for the herbicide Tolpyralate in the Americas and the insecticide Cyclaniliprole in Asia.
- Sales of the anti-inflammatory drug PANOQUELL™ for the acute phase of pancreatitis in dogs are growing both in Japan and overseas.

Inorganic chemicals business

- Although profitability fell short of medium-term business plan expectations, it improved significantly compared with the previous year.
- Electronic component materials remain solid both in Japan and overseas.
- In fine chemicals (titanium oxide), while sales declined due to progress in optimizing product inventories and a shift to profit-focused sales, profits improved thanks to lower raw material and fuel prices.

Message from the Director of Finance & Accounting Headquarters

Entering a Phase of Improved Profitability Following Structural Reform of ISK's Inorganic Chemicals Business

Director of Finance & Accounting Headquarters

Toichiro Shiomi

Basic Policy

Balancing Investment with Shareholder Returns

The former director of the Finance & Accounting Headquarters worked hard to increase corporate value through improvements in ISK's financial position and shareholder dialogue-driven efforts to increase shareholder returns. The company was previously forced to carry a large amount of debt but has gradually reduced it, raising its rating to "BBB+ Outlook Positive." The capital adequacy ratio was 50.8% at the end of fiscal 2024, which puts us in a position to potentially achieve an A rating. In addition to dialogue with shareholders, measures were implemented that sought, among other things, increased dividends and the setting of a minimum dividend on equity (DOE) to enhance shareholder returns.

I intend to carry on the policies of the former director of my predecessor. The immediate goal is achievement of our Stage II medium-term business plan.

In the Stage II medium-term business plan, we will enter a phase of improving profitability from this fiscal year in order to achieve Vision 2030. Appropriate investments are essential to improving profitability. Our financial condition has improved, and, going forward, rather than further improving our capital adequacy ratio, I believe it is necessary to allocate funds to investments to strengthen profitability, assuming that we maintain an appropriate capital adequacy ratio.

I will continue to place importance on dialogue with shareholders. I will focus on communicating the sentiments of shareholders to management in an appropriate manner, taking into consideration the balance with investment, and translating this into the best possible shareholder return policy.

Fiscal 2024 Performance

Steadily Reviewing ISK's Portfolio

We decided to end the production of titanium dioxide using the sulfate process in fiscal 2023, for which we recorded an impairment loss, and, in fiscal 2024, we disposed of excess inventory of titanium dioxide produced using the sulfate process. As a result, operating income for fiscal 2024 declined 8.8% year-on-year to 10.4 billion yen. However, given that we have decided to dispose of underutilized assets, I believe that fiscal 2023 and 2024 will be a major turning point for improving profitability. Our goal has also shifted from prioritizing sales to focusing on operating income, and the mindset within the group has also changed.

The titanium dioxide in sulfate process business has been a major factor in the unstable performance of ISK to date; so, I believe that once production ends in fiscal 2026, the volatility of our performance will improve and we will become more stable. If this happens, the β*1 of our stock will also decrease, which should have a positive impact on our stock price.

In fiscal 2024, ISK's bioscience business performed strongly, while the inorganic chemicals business incurred a loss due to inventory management measures for titanium dioxide in sulfate process. However, we were still able to secure operating income of over 10 billion yen, just like in fiscal 2023. Now that inventory management has been completed, I expect to see significant improvements and increased profits in fiscal 2025.

Furthermore, the capital adequacy ratio has improved to an appropriate level, and the remaining challenges to achieve an A rating are stabilizing business performance and strengthening profitability. I believe that the portfolio review of the inorganic chemicals business will have a positive impact on both ISK's stock price and credit rating by stabilizing our business performance.

*1 β: A measure of a stock's volatility in relation to the overall market.

Future Outlook

Towards Achievement of the Medium-term Business Plan, Stage II

Currently, our revenue driver is the biosciences business. This growth is supported by our research and development departments, which represent one of ISK's strengths. The environment surrounding agrochemicals is by no means smooth sailing. There are a variety of challenges, including price competition with generic agrochemicals from China and other countries, and stricter registration*2 requirements in Europe. Our R&D departments face these challenges and are the foundation that supports the growth of the biosciences business. I believe that investment in research and development is necessary to strengthen profitability in the future.

In addition to the organic growth*3 of the biosciences business, it is expected that animal health products in ISK's healthcare business will become a new source of revenue. After many years of investment, despite incurring a deficit of approximately 2 billion yen in fiscal 2024, we are expected to break even in fiscal 2025 and then see an upward trend in fiscal 2026. This will be essential to achieving Stage II's ultimate goal of operating income of over 19 billion yen.

In the inorganic chemicals business, we are changing our organizational structure to a divisional system from fiscal 2025, which will enable us to better clarify what we should sell and how much profit we should make. We will continue to secure stable revenue in the future.

With Stage II already underway, we are entering the profitability improvement phase in fiscal 2025. And with the growth of the biosciences business as a base, we would like to achieve our Stage II revenue target by moving the inorganic chemicals business into the black in fiscal 2025 and by having animal health products contribute to profits in fiscal 2026.

*2 Registration: The process by which agrochemicals are legally approved for production, import, sale, and use in each country.
*3 Growth achieved through internal operations and resources, as opposed to mergers and acquisitions.

Message from the Director of Finance & Accounting Headquarters

Capital Allocation

Pursuing Investment in Research and Production Capabilities

Regarding capital allocation, we have not changed the plan initially made in Stage II, which is to invest approximately 30 billion yen in capital expenditures, approximately 10 billion yen in other growth investments (M&A and the introduction of other companies' agents, etc.), and approximately 12 billion yen in dividends over three years.

In the bioscience business, which is a revenue driver, we will invest 4.4 billion yen in the Technology Research Center, Hyogo-Ono (Ono City, Hyogo Prefecture) in fiscal 2025. This is a base for research that will lead to reduced production costs, including production technologies that allow our products to compete on cost with low-priced generics.

As for the introduction of other companies' agents, no agreements have yet been concluded at this time. However, there are always a number of projects available; so, our hope is to find a way to implement them.

As agrochemical registrations in Europe become stricter, new test items are being added, resulting in increased research and development costs. However, this research is being conducted to maintain existing agrochemical registrations, and maintaining registrations is a source of competitiveness, so this cannot be cut.

Furthermore, for Stage III, which will begin in fiscal 2027, we are also considering investing in facilities at our Central Research Institute (Kusatsu City, Shiga Prefecture). This investment will strengthen our research capabilities. In the case of agrochemicals, India is attractive not only as a new sales market but also as a manufacturing base. From Stage III onward, we may also consider investing in India.

In the healthcare business, we have been investing in animal health products, but we anticipate a plateau in fiscal 2025 after which we will move into the recovery stage.

In the inorganic chemicals business, we have been investing in high-value-added products for some time. We began investing in MLCC (multilayer ceramic capacitors) manufacturing facilities at MF Material Co., Ltd., a joint venture with Murata Manufacturing Co., Ltd., in fiscal 2024.

ROIC and ROE

Fostering Balance Sheet Awareness

Regarding the introduction of ROIC, which began in fiscal 2024, we have completed the creation of balance sheets and ROIC trees by business segment. The preparations are complete, but how this will be utilized remains to be seen. We are currently working, through training and other means, to ensure that everyone in the Group understands the meaning of the trees, and we hope to empower each site in deciding how to go about increasing profitability.

As we move forward with the introduction of ROIC, I feel that awareness of inventory management has recently begun to take hold. By being conscious of inventory levels, we were able to turn our free cash flow from negative to positive in fiscal 2024, leading to improved capital efficiency.

As ROIC becomes more established in the future, I expect that methods for assessing risk and return when considering investment projects, and for monitoring after implementation, will also become more refined.

There is no change to our policy of using ROIC as an internal indicator, and we are not currently considering disclosing it to external parties. For external parties, we will continue to use ROE, which is easy to understand. One of the final goals of Stage II remains an ROE of 10% or more, and we are maintaining our previous approach of a shareholders' equity cost of 7% to 10%.

Shareholder Returns and IR

Thorough Discussion with Investors, Including Individuals

Our basic direction is to fully engage in dialogue with investors in order to increase our stock price and achieve a PBR of 1. Encouragingly, the stock price has been performing strongly since the company changed its shareholder return policy in February 2025. I feel the dividend forecast for fiscal 2025 (100 yen) and the lower limit of the DOE (Dividend on Equity) of 3% are reasonable levels from a market perspective as of the end of fiscal 2024. This was set based on dialogue with investors.

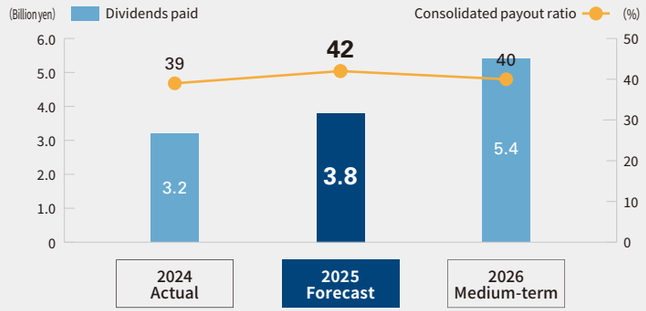
Going forward, we will, of course, aim to achieve the target of a consolidated dividend payout ratio of 40% or more set out in our Stage II medium-term business plan, but we also want to consider shareholder returns after thorough discussion with investors.

With the aim of expanding our dialogue, we will enhance our outreach to individual investors in addition to analysts and institutional investors, which have traditionally been our main focus. In addition to a planned IR briefing for individual investors in the fall of 2025, we will also make use of sponsored research.

Shareholder Return Policy

Fiscal 2026 Consolidated Dividend Payout Ratio 40%
・Dividend minimum of 3% DOE

- Our basic policy regarding dividends is to continue to pay stable dividends in line with business performance, taking into consideration factors such as business performance trends, financial situation, and the need to maintain internal reserves for future business development.
- We will also remain flexible about share buybacks.
- As part of the Vision 2030 Stage II medium-term business plan, we will aim for a consolidated dividend payout ratio of 40% by the final year (FY2026).
- During the period of the plan (FY2024-FY2026), dividends will be paid with a minimum DOE (Dividend on Equity) of 3%.



Value Creation Process

Purpose

To continue contributing to better living environments through chemical technologies

Our Vision Towards 2050

A global company that is cherished by people and society, achieving healthy and fulfilling lives

Vision 2030

Originality. Acceleration. Global Reach. Transforming Lives Through the Power of Chemistry.

Chemical technologies

- Organic Synthesis technologies
- Formulation Manufacturing technologies
- Environmental analysis technologies
- Genetic Modification technologies
- Crystal control
- Electronic Conductivity control
- Manufacturing technologies

Ability to develop proprietary technologies × Ability to accommodate quality and environmental requirements × Ability to collaborate globally

Management capability

Materiality P21-22

- Technological development capabilities
- Dealing with climate change, reducing environmental impacts
- Supply chain management
- Reforming workstyles by pursuing digital transformation (DX) and streamlining operations
- Diversity and inclusion
- BCP, risk management
- Occupational safety and health, operation safety and disaster prevention
- Corporate governance

Input

P18-19

- Financial Capital
- Human Capital
- Natural Capital
- Manufacturing Capital
- Intellectual Capital
- Social and Relationship Capital

Basic Philosophy

P02

- **Contribute to social development, protection of life and environmental preservation**
- **Respect shareholders, customers, suppliers, local communities and employees**
- **Abide by laws and regulations; maintain transparency in business activities**

Output

P18-19

Outcome

Agrochemicals Improving agricultural production stability and quality	**Animal health products** Attain a comfortable life with companion animals	**Pharmaceuticals** Contributing to medical care
Functional materials Creating a range of comfort	**Titanium dioxide** Providing a variety of colors and hues	**Environmental products** Achieving both innovation and environmental protection

Input and Output

Promote Value Creation through Continuous Input

ISK Group's definitions of the inputs and outputs of the six capitals of value creation are given below. We will realize Vision 2030 through ongoing enhancement of inputs.

	Input	Role in Value Creation	Output
Financial Capital	● Total assets (FY2024 consolidated) **225.0** billion yen ● Interest-bearing debt (FY2024 consolidated) **72.2** billion yen ● Shareholders' equity (FY2024 consolidated) **107.6** billion yen	The Group considers taking maximum advantage of the resources it owns to generate profit efficiently to be an important priority. Under Vision 2030 Stage II, we will introduce ROIC management and work to further improve capital efficiency. In addition, we will control the balance between equity and interest-bearing debt, both of which are sources of assets, as we work to lower capital costs.	● Forecast performance for FY2025 ・Consolidated net sales **147.0** billion yen ・Consolidated operating income **15.0** billion yen ・ROE **7.9** %
Manufacturing Capital	● Capital investment (FY2024 consolidated) **10.5** billion yen ● Contract manufacturers of agrochemicals **39** facilities (Japan) **19** facilities (Overseas) **20** facilities	Most products in our organic chemicals business are produced at contractors' facilities, rather than at our own plants. In this way, we've linked manufacturing directly to product sales and implemented supply structures that are resistant to geopolitical and ESG risk. In addition, we're working to lower the cost of manufacturing aggressively so that we can compete with generic products. Although products in our inorganic chemicals business are produced at our Yokkaichi Plant, we will halt production of titanium dioxide in sulfate process at the end of FY2026. We are aiming to transform our business into a sustainable profit-generating model, centered on our strength of being Japan's only producer of titanium dioxide using the chloride process.	● Organic chemicals business production volume(FY2024 consolidated) **48.2** billion yen ● Inorganic chemicals business production volume (FY2024 consolidated) **62.9** billion yen
Human Capital	● Employees (FY2024 consolidated) **1,807** people ● New graduate hires (FY2024 non-consolidated) **41**, including **6** women ● Mid-career hires (FY2024 non-consolidated) **33**, including **12** women ● Training cost per employee (FY2024 non-consolidated) **54,000** per employee per year	Securing and making the most of a diverse group of human resources are key priorities of the ISK Group. We strive to secure human resources with a challenging spirit and a global perspective, regardless of their gender or nationality, as newly hired graduates or mid-career hires. We also help newly hired employees develop their careers in order to strengthen their basic skills as working members of society, raise the awareness of employees at all levels of their roles, and offer a career development program designed to prepare promising candidates for executive roles. In this way, we're working to put in place an environment in which all employees can embrace the challenge of doing high-quality work and to enhance our training programs. Through these initiatives, we will maximize the value of our human resources.	● Female manager ratio (FY2024 non-consolidated) **5.5** % ● Employees who took childcare leave (FY2024 non-consolidated) **22** people ● Paid leave acquisition rate (FY2024 non-consolidated) **77.8** % ● Number of participants in the global human resource development program (FY2024 non-consolidated) **56** people
Intellectual Capital	R&D expenses (FY2024 consolidated) **10.7** billion yen Organic chemicals **9.8** billion yen Inorganic chemicals **0.7** billion yen ● Percentage of R&D employees (FY2024 non-consolidated) **21.0** %	Research and development have long been a priority for ISK Group. We ensure that a certain threshold for R&D expenses is met regardless of fluctuations in business performance. R&D activities at the Central Research Institute and Yokkaichi Plant account for the majority of R&D expenses, while some are used for the registration of agrochemicals in various countries. Through these efforts, we will support our business by applying for and obtaining patents both domestically and internationally for new agrochemicals and inorganic materials.	● Number of patents held (end of FY2024 non-consolidated) **2,571** (Japan) **219** (Overseas) **2,352** ● Products developed in-house as a percentage of organic chemicals business sales(FY2024 consolidated) **88.0** %

Input and Output

	Input	Role in Value Creation	Output
Natural Capital	Yokkaichi Plant FY2024 ● Energy (heavy fuel oil equivalent) **130,000** kiloliters ● Industrial water **14** million m³ ● Seawater **10** million m³ ● Titanium ore **120,000** tons	We treat energy, water, and titanium ore consumption at Yokkaichi Plant and our subsidiary, Fuji Titanium Industry, as key indicators so that we work to reduce the volume of our CO_2 emissions, water usage, and industrial waste disposal. By reducing coal-fired boiler CO_2 emissions as part of our efforts to address global warming, we aim to preserve a comfortable living environment. Through more thorough chemical substances management, we are reducing the amount of emissions and transfers, with the goal of reducing the impact on humans and the ecosystem to as close to zero as possible.	Yokkaichi Plant FY2024 ● CO_2 emissions **460,000** tons ● Wastewater emissions into public water areas **24** million m³ ● Industrial waste **83,000** tons PRTR-listed substances **1,400** tons
Social and Relationship Capital	Transparency in business activities abiding by laws and regulations ● Number of countries where we sell our products **75** countries	In keeping with the Group's corporate philosophy, we strive for the sustained growth of our business and growth in our corporate value through a commitment to compliance and management that is transparent, trustworthy, and sound. We promote two-way communication to earn the trust of local residents, for example through efforts to ensure safety and disaster prevention, environmental activities, and active communication of information. In addition to undertaking human rights initiatives, we observe the laws and regulations in every country and region in which we operate, and we ensure our purchasing activities are characterized by decency and adherence to social ethics.	● Coexistence with local communities ● Number of interviews with institutional investors (FY2024) **115** ● External honors: • Saitama Governor's Award Grand Prize for the Blue Phalaenopsis (Blue Gene) • 4th Nikkei Integrated Report Awards, Excellence Award for ISK Group's Integrated Report 2024 ● 30th Symposium on Soil and Groundwater Contamination and Remediation, Outstanding Presentation Award to ISK

Topics —— Outstanding Presentation Award for soil/groundwater contamination countermeasures using heavy metal adsorber sheet

ISK won an Outstanding Presentation Award at the 30th Symposium on Soil and Groundwater Contamination and Remediation, held June 25 to 26, 2025. The event was organized by the Japanese Geotechnical Society, the Japanese Association of Groundwater Hydrology, the Japan Society on Water Environment, the Geo-Environmental Protection Center, and the Japan Society of Material Cycles and Waste Management. Keita Yuasa of ISK's Technical Group, Production Division of Diversified Chemical Products gave a presentation titled "Study on embankment wastewater treatment with adsorption of heavy metals by iron oxide sheets." He was selected from the 33 young researchers for his outstanding content, presentation skills, and question responses. Mr. Yuasa proposed using ISK's Fix-All™ FB sheet, a heavy metal adsorber sheet, to solve the social issue of groundwater contamination in embankment material generated at construction sites.

Yokkaichi Plant
Production Division of
Diversified Chemical Products
Technical Group

Keita Yuasa

Message from the Executive Director of the Office of Sustainability Promotion

Making Sustainability the “Compass” of the ISK Group

Sustainability is not some special new initiative but, rather, a natural extension of our existing business activities. Protecting the environment. Contributing to society. Only when these are at the foundation of our business can we create corporate value. This belief is reflected in our group's purpose “To continue contributing to better living environments through chemical technologies,” as well as in our group vision for 2050 to be “A global company that is cherished by people and society, achieving healthy and fulfilling lives.”

Both the environment and society around us are changing at an ever-accelerating pace. Understanding these changes both in terms of “risks” and “opportunities,” and then carrying out sustainability activities in light of these, will directly lead to improvements in our business activities. Only by adopting a broad, sustainability-focused perspective to determine whether our business is in line with the changing trends, and by then disclosing this information, can we build relationships of trust with our various stakeholders. Corporate value is also improved through improved employee engagement. Sustainability can be thought of as a sort of compass that shows whether a company is heading in the right direction.

Our main business for many years has been inorganic chemicals, which is a process industry, so it places a significant burden on the environment. There have been times when we have negatively impacted the environment, and this realization is deeply ingrained within our company culture. With regard to agro-chemicals, as well, which are part of our biosciences business, the regulatory standards for product registration are becoming stricter in many countries around the world, particularly in Europe, meaning that only products with high safety standards and greater environmental compatibility will remain on the market. Furthermore, when it comes to maintaining global manufacturing operations, which includes our healthcare business, it is essential to consider human rights issues throughout the supply chain.

It is in this context that our group, as a longstanding member of the chemical industry, has been actively engaged in initiatives, such as Responsible Care activities. We began implementing ESG-focused activities in 2021, starting with identifying key materialities and creating an integrated report. Since then, we have worked on various initiatives, such as developing a Group Policy on Human Rights and providing disclosures based on the TCFD recommendations, while gradually strengthening our internal systems over a period of four years. We have put the Sustainability Promotion Committee under the direct supervision of the Board of Directors to enhance its oversight function and strengthen corporate governance, and we have also established a new Office of Sustainability Promotion to serve as an operational unit. Furthermore, the results of the survey we conducted after the group Purpose-related awareness-raising training provided to all employees within our domestic group show that awareness of environmental and social issues has been steadily increasing.

Through such activities, our goal is to maintain and improve the overall corporate value of our group in a stable and consistent manner. In this era of uncertainty, we seek to strengthen our resilience, maintain our core focus, adapt flexibly to changing circumstances, and enhance our two-way engagement with all stakeholders.

To that end, we are currently working on revising our key materialities. To ensure that these are reflected into our next medium-term business plan, "Vision 2030 Stage III," which will begin in 2027, we began discussions in May with a review team comprised of key personnel from across the company who are expected to play key roles in ISK’s future. We are working towards the adoption of a “double materiality” approach that considers both the impact society has on us and the impact our activities have on society, which will likely result in a different evaluation paradigm, including KPIs, compared to what we have done in the past. We hope that by ensuring our business operations are in alignment with key materialities, this can become the driving force behind the implementation of Stage III.

Going forward, we also plan to focus our efforts on biodiversity conservation. We will engage in community collaboration projects, starting with a corporate-sponsored forest development project in conjunction with Ono City that will be undertaken at the Technology Research Center, Hyogo-Ono (Ono City, Hyogo Prefecture), which is scheduled to open in December 2025. Irrespective of the scale or impact of our initiatives, we want our employees to be involved in various ways in making visible contributions to the community.

Sustainability cannot be achieved through unilateral effort. By utilizing both top-down and bottom-up approaches to implement a variety of different initiatives and activities, and by strengthening relationships with all stakeholders, the ISK Group will continue to make choices that build a future for everyone.

Executive Director of the Office of Sustainability Promotion

Makiko Sano

Accelerating Efforts to Connect Our Vision Towards 2050 with Materiality

Our group connects materiality factors with three initiatives—"Challenge and innovation," "Create society," and "Organizational and human evolution"—to realize our Vision for 2050 of becoming "A global company that is cherished by people and society, achieving healthy and fulfilling lives." Through efforts aligned with our "Vision 2030 Stage II," we strive to integrate business activities with sustainability and drive the realization of this vision.

Materiality Identification

The Group identified 16 materiality factors by resolution of the Board of Directors by compiling a list of themes (issues) by means of an employee questionnaire and workshops, ranking them on the basis of their importance for the Company and their importance for stakeholders, and having them reviewed by outside experts.

Initiatives to Achieve KPIs

We established KPIs for eight of the 16 identified materialities characterized by a particularly high level of importance, and we're managing progress by setting single- and multi-year targets and assigning a department with oversight responsibility for each.
Progress towards achieving KPIs is monitored by the Office of Sustainability Promotion, and results for each fiscal year are reported to the Sustainability Promotion Committee. KPIs are reviewed as appropriate based on progress in related initiatives, deliberated by the Sustainability Promotion Committee, and disclosed in the Integrated Report and on the website.
In addition, we plan to review the materiality factors during Vision 2030 Stage II to accommodate changes in the business environment and society. We're working to develop mechanisms for bringing information about business risks and opportunities to bear on our management from an ESG and SDGs perspective.

STEP 1 Issue identification

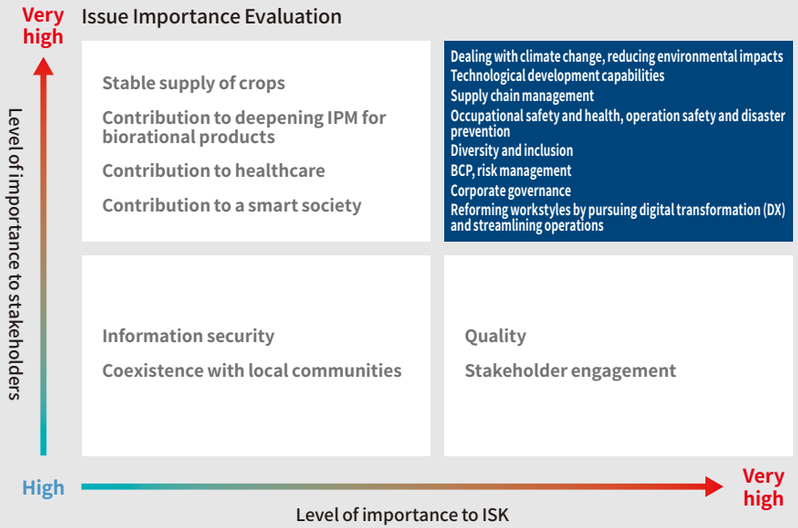
- In accordance with GRI, SASB, and other guidelines, as well as the ISK group's long-term vision and other resources, we identified issues that deserve to be emphasized.

STEP 2 Prioritization

- We carefully reviewed the importance of issues for ISK based on their alignment with our corporate purpose and other policies, and the importance of issues for stakeholders based on industry issues, key ESG themes, and other resources.

STEP 3 Materiality identification

- Outside experts reviewed the process and verified its suitability.
- Finalized following deliberation by the Executive Management Committee and approval by the Board of Directors.



STEP 4 Establishment of KPIs

- We reviewed materiality-related indicators highlighted by ESG evaluation organizations.
- We then established KPIs after conducting interviews with business departments and other entities as necessary.

STEP 5 Regular monitoring

- Progress is monitored by the Office of Sustainability Promotion.
- Results are reported to the Sustainability Promotion Committee.

STEP 6 Disclosure of results and review of KPIs

- KPIs are deliberated by the Sustainability Promotion Committee.
- KPIs are disclosed each year in the Integrated Report and on the website.

Eight Most Important Issues and KPIs

Materiality	KPI	Achievements		Target/FY	Scope
		2023	2024		
Dealing with climate change, reducing environmental impacts	CO_2 emission reduction rate (Scope 1+2, vs. FY2019)	2.7% increase (FY2019 levels)	8.1% decrease (FY2019 levels)	30% or more/2030	ISK Group
	Reduction in energy intensity	1.0% decrease (Year-on-year)	1.7% decrease (Year-on-year)	1% decrease (Year-on-year)	Japan, consolidated
	Industrial waste emission reduction rate (vs. FY2019)	20.2% reduction (FY2019 levels)	32.0% reduction (FY2019 levels)	50% or more/2030	ISK
	Adherence to voluntary control standard values that are stricter than environmental laws (wastewater, waste gas)	Achieved	Achieved	Continue/2025	Japan, consolidated
Technological development capabilities	Creation of new products and technologies in each business segment	4 new products launched (FY2022 to FY2023)	Average of most recent 3 years decreased by 3.3	Increase in number of new products created/Every year (average of most recent 3 years)	ISK Group
	R&D expenses	9.7 billion yen	10.7 billion yen (FY2024)	30.3 billion yen/Cumulative total, FY2024 to FY2026	ISK Group
	Percentage of employees in R&D positions	22.4%	21.0%	20% or more continuing/2030	ISK
Supply chain management	Establishment of ISK Group Policy on Procurement and guidelines governing procurement	ISK Group Policy on Procurement has announced and guidelines under review.	Completion of guidelines/2024	—	ISK Group
	Supplier CSR survey rate	56% (transaction value)	Selection of companies' subject of investigation completed (scheduled for implementation on FY2025)	70% or greater (transaction value)/2025	ISK
Occupational safety and health, operation safety and disaster prevention	Frequency rate of worktime injuries, severity rate*	Frequency rate: 0.93 Severity rate: 3.47	Frequency rate: 0.91 Severity rate: 0.00	0 accidents/2025	ISK, Fuji Titanium Industry, MF Material
	Percentage of employees undergoing health checkups and stress checks	100%	100%	100%, continuing/2030	ISK
	Paid leave acquisition rate	82.8%	77.8%	80% or more continuing/2030	ISK
Diversity and inclusion	Female manager ratio	4.3%	5.5%	10% or more/2026	ISK
	Mid-career hires as percentage of managers (average for last three years)	21.4%	23.8%	30% or more/2025	ISK
	Time spent in training and/or classes per employee	31 hours	35 hours	—	ISK
	Cost of training session and/or classes per employee	62,000 yen	54,000 yen	—	ISK
	Female ratio occupied by number hired	36.8%	24.3%	30% or more/2030	ISK
	Mid-career hires occupied by number hired	57.4%	44.6%	Stably 50% or more/continuing	ISK
BCP, risk management	Implementation of training envisioning a large-scale disaster and review of documented procedures in light of environmental changes	—	Held	1 per year/every year	ISK
	Revisions to the risk map and review of priority risks targeted by measures	—	Held	Held/every year	ISK Group
Corporate governance	Participation in at least 1 compliance training session	100%	100%	100%, continuing/2025	Japan, consolidated
Reforming workstyles by pursuing digital transformation (DX) and streamlining operations	Effective contribution to operational streamlining	3	2	3/2025	ISK
	DX certification	Acquired	Continuing (by the end of March 2026)	—	ISK

*Frequency rate of worktime injuries: Number of employees injured or killed in occupational accidents per 1 million total working hours; indicates the frequency of occupational accidents. Severity rate: Number of working days lost per 1 thousand total working hours; indicates the severity of occupational accidents.

Organic Chemicals Business (Biosciences)

Business Overview

In our biosciences business, we manufacture and distribute agrochemicals such as herbicides, fungicides, and insecticides. We sell our products not only domestically but also export a significant amount overseas, in fact we are one of the leading exporters by value in Japan. We relentlessly pursue research and development that will improve people's daily life in terms of their food, health, and lifestyle.

Stage II Goals and Progress

Priority measures

- Expanding sales of growth strategy agents
- Strengthening R&D capabilities and improving efficiency
- Accelerating R&D and commercialization of new chemical pesticides
- Expanding business operations in the Americas and India
- Expanding the scale of our business by pursuing M&As and partnerships with other companies, and introducing agents from other companies

Progress and issues

Global network-driven Initiatives

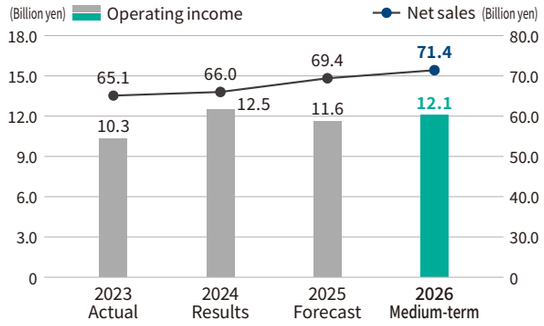
- Continuing efforts to ensure stable production and to improve production efficiency for existing products and growth strategy agents (including optimal production site selection, ingredients supplier selection, and manufacturing process improvement)
- Maintaining agrochemical registrations and acquiring new ones in various countries while strengthening local systems (increasing staff members)
- Promoting mixed formulations of growth strategy agents and expanding sales networks

■ Revenue Base and Future Development

We are currently constructing Technology Research Center, Hyogo-Ono as a new research and development base for agrochemical production technology, with the aim of ensuring our ability to stably supply agrochemicals while reducing manufacturing costs. In addition, we will strengthen our agrochemical distribution network and expand sales of both our existing products as well as growth strategy agents*. Through these efforts, we aim to expand our global market share and achieve growth in our sales and revenues.

*Tolpyralate (herbicide), Cyclaniliprole (insecticide), Tiafenacil (herbicide), Isofetamid (fungicide), Pyriofenone (fungicide)

Trends for Net Sales and Operating Income



Social Issues

The current world population is approximately 8.1 billion people. According to the United Nations, the population is expected to increase to 9.7 billion people by 2050, raising concerns about food shortages. Agrochemicals are needed to produce the crops that support the world's population. Such pesticides must not only be safe for humans but also have a low environmental impact in order to respond to environmental changes in crop production caused by climate change, to protect biodiversity, and to contribute to sustainable agriculture.

Empowering Indian Agriculture Through Innovation and Collaboration

ISK Biosciences India Pvt. Ltd.
Product Development & Marketing
General Manager

Rajul Edoliya

India's agrochemical market has been undergoing rapid transformation, driven by the twin forces of rising food demand and the need for sustainable farming practices. With agriculture continuing to play a central role in the country's economy, the demand for innovative and effective crop protection solutions is expected to increase significantly in the coming years. ISK's technologies not only support higher yields and improved crop quality but also promote more efficient and sustainable farming practices. By offering products that are both reliable and performance driven, ISK is strengthening its position as a trusted partner for farmers and the broader agricultural value chain in India.
Looking ahead, ISK is well positioned to leverage its global expertise, strong partnerships, and innovative pipeline to capture these opportunities. ISK is poised to play an increasingly important role in advancing Indian agriculture and supporting long-term food security and sustainability.
Personally, it is rewarding to be part of ISK's journey in India, working with committed colleagues and partners to introduce world class solutions tailored for local needs.

Market Environment

Global Agrochemical Market

The 2024 agrochemical market was negatively impacted by the continued effects of such factors as declining agrochemical prices, deteriorating agricultural economics due to lower crop prices and rising input costs, a decrease in the cultivated area of key crops in certain markets, and adverse weather conditions in some major regions. The agrochemical market in 2025 is expected to be characterized by stable pesticide prices, improved weather conditions, and normalized inventory levels. Against this backdrop, the global agrochemical market is expected to continue expanding, with an average annual growth rate of 2.1% between 2024 and 2029.

(Source: AgbioCrop 2024)

Europe

It is expected that weather conditions in major grain-growing regions will return to more normal and favorable levels for plants. In recent years, stricter agrochemical registration regulations and the development of disease resistance in crops have limited the available options for agrochemicals. We anticipate maintained sales of effective agrochemicals along with the introduction of new products.

Existing products

- Maintaining agrochemical registration in the highly regulated EU
- Developing mixed formulations for the fungicide Cyazofamid

India

Although the weather in 2024 was not at all favorable, there is expectation of some improvement. The agrochemical market in India is expected to continue growing.

Growth Strategy Agents/India

- Tolpyralate (herbicide) launched
- Expanding sales of Cyclaniliprole (insecticide)

North America

It is expected that the corn cultivation areas in the US and wheat cultivation areas in Canada will recover and increase.

Growth Strategy Agents

- Developing mixed formulations for Tolpyralate (herbicide)
- Developing mixed formulations for Tiafenacil (herbicide)
- Expanding distribution networks

South America

It is expected that the weather conditions will improve. Cultivated areas for major crops are increasing in Brazil and Argentina; Brazil's total crop cultivation area projected to rise by 2.2% in 2024 (Soybeans: +3.0%, Corn: +1.2%, Cotton: +6.9%).

Growth Strategy Agents

- Developing new preparations and mixed formulations for Tolpyralate (herbicide)
- Expanding Isofetamid (fungicide) into new fields

Existing products

- New preparation of the insecticide Flonicamid launched

Risks and Opportunities

Risks	Opportunities
Delay in, or failure to achieve, product approval or registration	Take proper approach to countries' registration agencies and authorities; assess other companies' agrochemicals registration and survey their registration status; secure personnel with expertise in highly specialized fields, ensure handover of registration know-how
Revised and stricter laws and regulations	Appropriately gather information relating to laws and regulations and registration requirements
New entries and intensifying competition	Lower production costs to strengthen competitiveness; develop new molecule and mixed formulations that will enable ISK to stand out in the agrochemicals market
Crop injury by agrochemical products	Strengthen safety confirmation by performing growing tests in fields. Promote and disseminate appropriate methods for using agrochemical products

Helping Resolve Societal Problems

In order to sell agrochemicals, they must be registered in accordance with the laws and regulations of each country. And in order to register an agrochemical, it must be proven, based on scientific data, that it is safe for people and the environment. Thus, agrochemicals must be highly selective in order to control targeted pests while avoiding causing adverse effects on non-target organisms such as honeybees.
In recent years, there has been a heightening of safety standards required for registration worldwide, especially in Europe, and it can be said that the agrochemical registration system is one that takes biodiversity into consideration.
We are committed to developing agrochemicals that are not only safe but also highly effective in controlling pests. Agrochemicals that are highly effective at controlling pests will help ensure abundant harvests of high-quality crops.
Through the development of agrochemicals, we will contribute to the creation of a society free from hunger while at the same time protecting biodiversity.

Specific Examples in Social Issues

Potato blight, a major disease affecting potato crops that caused the Great Famine in Ireland in the 1840s, remains a difficult disease to control even today. Our fungicide, Cyazofamid, has shown high efficacy against this disease even at low concentrations. Its high selectivity means it has minimal impact on crops and beneficial organisms, making it suitable for integrated pest management (IPM). Furthermore, our insecticide, Flonicamid, exhibits high insecticidal activity against sucking pests, such as aphids, while having minimal impact on beneficial insects and other natural predators, making it a suitable insecticide for IPM that can be used in combination with biopesticides.

Message from the Director

Towards Stable Growth Through Manufacturing Cost Improvements Aiming for Expansion in Untapped Markets, Particularly India

Director of Biosciences Business Headquarters

Mikiya Horie

Despite headwinds such as declining prices of agrochemicals and crops and rising fuel costs, the biosciences business achieved its target profit for the first fiscal year of Stage II. This positive performance was driven by cost reductions in manufacturing that exceeded our targets, as well as strong growth in herbicides in new markets in the Americas and increased demand for fungicides due to wet weather conditions in Europe.
In the global agrochemical market, the current situation, which is characterized by intense competition and regulatory challenges, including the aggressive price-cutting tactics of Chinese generic manufacturers and stricter registration requirements in the EU, is expected to continue for some time. Furthermore, the agrochemical market naturally fluctuates depending on weather conditions. Therefore, we are aiming for stable and consistent growth with minimal annual fluctuations by, among other things, ensuring and expanding sales and profits in the Japanese market, expanding into untapped markets (both in terms of countries and crops), developing new mixed formulations for broader application, and further improving manufacturing costs. Specifically, our focus is on exploring new markets in the Americas, developing herbicide mixed formulations, expanding our distribution network, maintaining product registrations in Europe, and developing new mixed formulations. We have high expectations for India, given its large arable land area, and we will focus on achieving our Stage II sales and profit targets for the insecticides and herbicides we recently launched in that country, ideally even ahead of schedule.
ISK will continue to maintain and expand its research-and-development-focused business model for agrochemicals and will make necessary investments towards that end. The Technology Research Center, Hyogo-Ono (TREC), which will begin operations in December of this year, will not only have the primary goal of reducing manufacturing costs but will also play a role in accelerating the evaluation of new drug candidates, thus improving the efficiency of new drug development. One of our strengths is that we have registration and development staff located in Europe and the Americas, enabling us to obtain and maintain product registrations ourselves in these regions. We will increase the number of employees assigned to overseas locations and leverage our network of both internal and external partners to further accelerate our globalization efforts.

Organic Chemicals Business (Healthcare)

Business Overview

Our healthcare business manufactures and sells animal health products and active pharmaceutical ingredients for human use, with the aim of protecting the health of people and animals and contributing to the realization of a fulfilling life both physically and mentally. We are currently pursuing global expansion, primarily in the United States and Europe.

Stage II Goals and Progress

Priority measures	Progress and issues
● Canine acute pancreatitis anti-inflammatory drug Acquiring a full approval for PANOQUELL™ in the U.S. and starting sales in other major countries ● Expanding the applications of Fuzapladib sodium, the active ingredient in PANOQUELL™, and expanding the business and disease-treatment areas	● Advancing with the aim of full U.S. approval and European approval within Stage II ● Building the supply chain infrastructure required for this ● Advancing market research and R&D towards expanding indications into new disease areas and introducing new agents

Review of FY2024

Overseas Sales

- Sales of "PANOQUELL™-CA1" in the United States steadily increased.
- Due to expansion of the US clinical trial program, development costs for fiscal 2024 went over budget; however, development costs are expected to decrease starting in fiscal 2025.
- Continued to pursue regulatory approval applications for "PANOQUELL™" in European countries and other major countries around the world.

Domestic Sales

- In addition to the canine acute pancreatitis anti-inflammatory drug “BRENDA™,” ISK launched its globally marketed product "PANOQUELL™" in the domestic market starting November 2024; however, sales fell short of projections due to delays in domestic regulatory approval.
- In fiscal 2025, the focus will be on strengthening efforts to promote "PANOQUELL™" as a product designed with ease of use for veterinarians in mind.

Market Environment

Companion animals (CAs) are increasingly seen as cherished members of the family and lifelong companions.
Due to the growing diversity of illnesses affecting them, and rising awareness of pet health, the global market for animal health products is projected to grow at an average annual rate of over 7% until 2030, particularly in Europe and North America.
We will leverage our accumulated expertise in developing new agrochemical products to help ensure we can continue to provide high-quality products that meet the needs of pet owners and veterinary professionals.

Overseas

Animal health products markets worldwide (2023)
About US$42 billion*1

Health products for CA markets worldwide (2023)
About US$20 billion*1

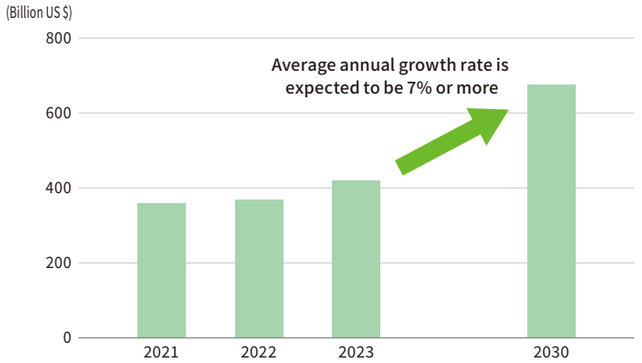
Japan

Animal health products markets in Japan (2023)
133.7 billion yen*2
[including production animals (PA) and CA]

Health products for CA markets in Japan (2023)
About 53 billion yen*1

*1 In-house research and forecasts based on publicly available materials
*2 The National Veterinary Assay Laboratory in Ministry of Agriculture, Forestry and Fisheries “Annual Report of Sales Amount and Sales Volume of Veterinary drugs, Quasi-drugs, Medical Devices and Regenerative Medicine Products”

Animal health products markets worldwide



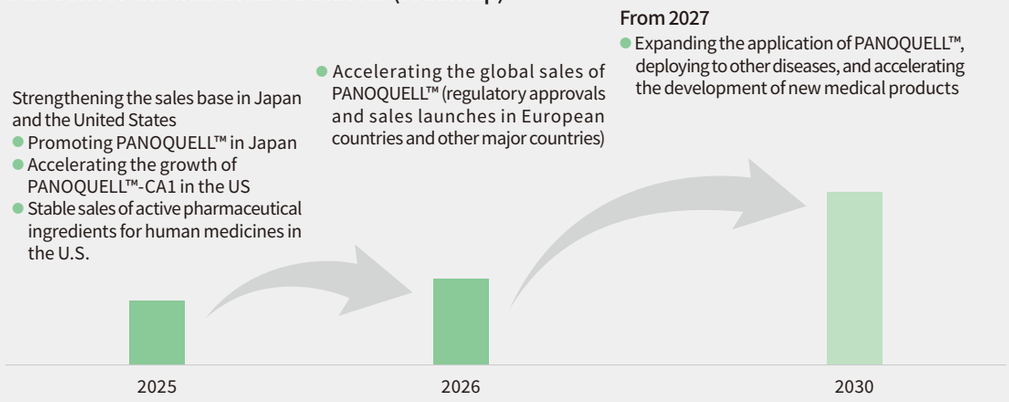
Risks and Opportunities

Risks	Opportunities
Delay in, or failure to achieve, product approval or registration	• Competing products are prevented from entering the market during the data protection period after approval • Efficacy and safety are confirmed and communicated through the data • The data from major countries can be used for applications in other countries
Delay in, or cancellation of product or technological development	While we strive to conduct thorough preliminary investigations, changes or cancellations of plans may occur in order to optimize the development portfolio. Even in such cases, we continue to accumulate knowledge, such as about markets and data, that can be applied to future initiatives.

Social Issues

With regard to animal health products, as the lifespans of companion animals (CAs) increase they experience a greater variety of diseases and have a wider range of medical needs; however, addressing these is complicated by the fact that there is a shortage of therapeutic drugs in the veterinary medical field. By helping companion animals lead healthier and happier lives, and thereby contributing to improving the quality of life of the people and families to whom they belong, we will further enhance our business value and drive our corporate growth strategy.

Outlook for the healthcare business (roadmap)



Message from the Director

Accelerating PANOQUELL™-focused Growth in Japanese and U.S. Markets

Director of Healthcare Business Headquarters

Hiroyuki Watanabe

In fiscal 2024, development costs for overseas expansion were higher than anticipated, and the approval process for the manufacturing and sales of our animal health product "PANOQUELL™" in Japan also fell behind schedule. As a result, performance in the first year of Stage II fell short of the projected target, but we anticipate that it will recover to the projected trajectory outlined in the medium-term business plan for fiscal 2025 and 2026.
We have positioned the second year of Stage II, fiscal 2025, as the phase for strengthening our sales infrastructure in both Japan and the United States.
In Japan, we will promote the efficacy and ease of use of "PANOQUELL™" to gain wider market acceptance, and, in the US, we will further accelerate the already steady sales growth of "PANOQUELL™-CA1." While our business thus far has been in a startup phase with initial investments focused on development, our aim is to achieve operating profitability in fiscal 2025. However, while keeping expenditures in mind, we will prioritize obtaining regulatory approvals for "PANOQUELL™" in key countries and scaling up its production. Furthermore, we will also work on developing new formulations for active pharmaceutical ingredients for human use, in collaboration with our sales partners, as a means of differentiating our products from generic drugs in the US market.
In the final year of Stage II, fiscal 2026, our healthcare business will finally embark on its full-fledged growth trajectory. With our top priorities being strengthening and improving the efficiency of our innovative technological development capabilities and enhancing our ability to respond to the global market, we will work to further enhance our business infrastructure, thus ensuring a smooth transition to Stage III and Vision 2030. In particular, in the animal health products sector, which is expected to grow significantly in the future, we will focus on developing products that address unmet medical needs for which there are no similar or competing products, thus laying the foundation for growth in Stage III and beyond.
To address unmet medical needs, we are actively pursuing the development and expansion of products that can be used for inflammatory diseases other than pancreatitis, leveraging the fact that fuzapladib sodium, the active ingredient in "PANOQUELL™," is a unique compound with a distinct mechanism of action. Furthermore, we also have ongoing research projects in our pipeline focused on developing novel compounds that exhibit new efficacy and mechanisms of action in animals and humans.
We will ascertain emerging needs, deliver value enabled by technological differentiation, generate growth opportunities ourselves, and expand into major regions around the world. This is our growth model.

Inorganic Chemicals Business

Business Overview

We provide environmentally friendly titanium dioxide produced by the chloride process for a wide range of applications, such as paints, plastics, inks, cosmetics, and synthetic fibers, thereby offering a “beautiful white” that enhances the quality of life. With the business philosophy of contributing to a sustainable society by supporting both the environment and an information-driven society, we manufacture and sell functional material products, including electronic component materials, conductive materials, and heat shield materials.

Stage II Goals and Progress

Priority measures

- Reforming the structure of the inorganic chemicals business
- Strengthening R&D capabilities and improving efficiency
- Accelerating globalization

Progress and issues

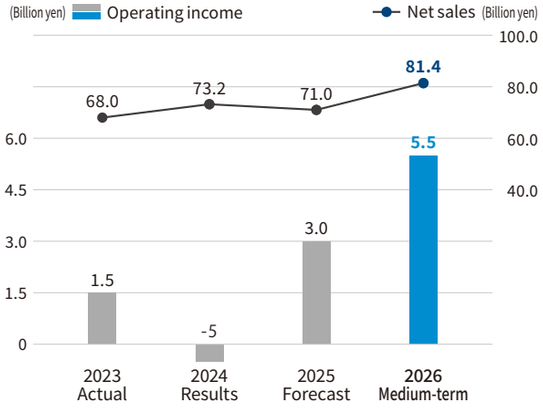
- Completion of structural reform: promotion of changes in mindset and sharing of information
- Research/technological development capabilities: adoption of technology platform
- Accelerating globalization: strengthening of functions at overseas bases and in Web marketing

■ Revenue Base and Future Development

Both electronic component materials and conductive materials showed strong growth, primarily driven by robust sales in overseas markets, which resulted in increased revenue. Meanwhile, although domestic demand for titanium dioxide remained sluggish, particularly for applications in the construction industry, revenue increased due to expanded sales to Asian markets. However, earnings declined due to the negative impact of increased competition from cheaper Chinese products in the Asian market, as well as the burden of fixed costs resulting from production adjustments.

- Transition to a sustainable, profit-generating business centered on titanium dioxide in chloride process.
- Aim to expand profitability by leveraging electronic materials and functional color materials as growth drivers, as well as by developing and supplying high-value-added products.

Trends for Net Sales and Operating Income

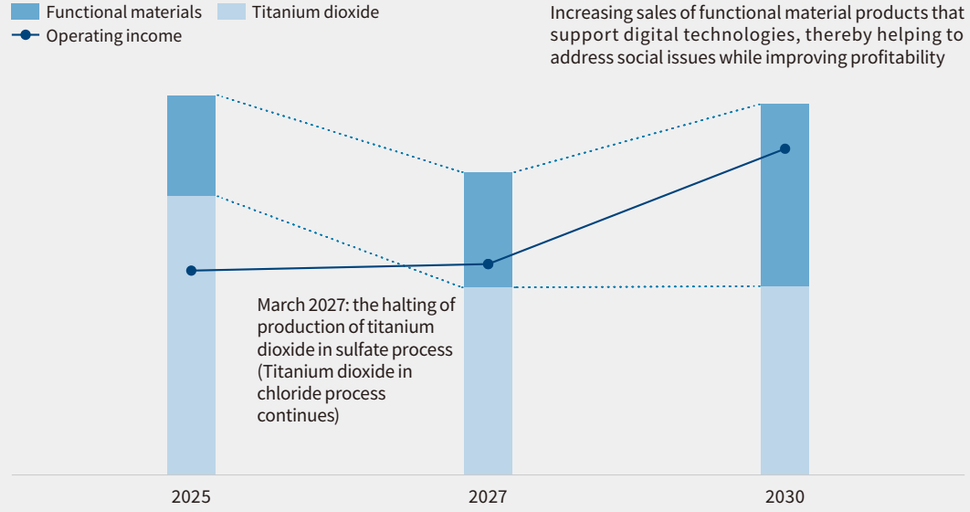


Social Issues

Digital technology is advancing rapidly, and its applications are not limited to the development of next-generation devices; it is also expected to serve as a key technology in supporting an aging society.
At ISK, we are helping to address social issues by providing electronic component materials, conductive materials, and other materials in rapidly growing fields such as digital technology and healthcare, while simultaneously aligning these activities with our own growth strategy.
Furthermore, we are committed to sustainable business practices which prioritize environmental considerations and focus on developing and improving manufacturing processes with minimal environmental impact.

Changes in the Sales Composition Ratio of the Inorganic Chemicals Business and Outlook for Operating Income

- We will strengthen our profitability by increasing the share of sales from high-margin functional materials. Also, with regard to titanium dioxide, we will reduce costs by utilizing lower-grade ores, thereby improving competitiveness and profitability.

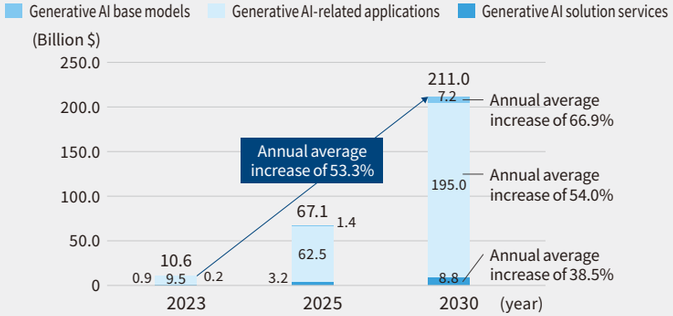


Market environment

Digital Technology

Outlook for Demand for Generative AI (global)

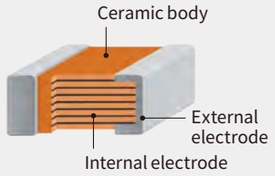
Opportunities for using generative AI are increasing year by year, and it is projected that demand will continue to grow at a rate of 50% annually until 2030.



*Japan Electronics and Information Technology Industries Association (JEITA), Survey and Statistics Guidebook 2024–2025

■ High-purity Titanium Dioxide, CR-EL, PT Series

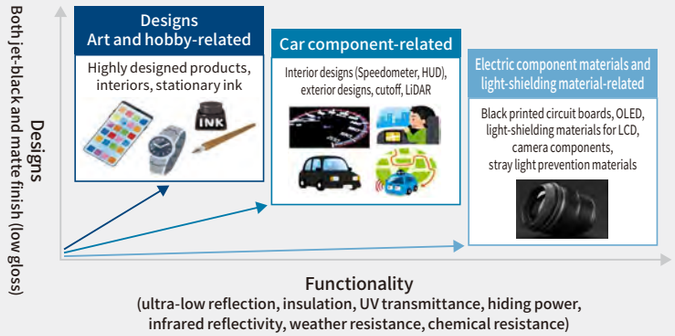
Multilayer ceramic capacitors (MLCCs) are electronic components that are widely used in data centers and automobiles.
Our Group offers a wide range of high-purity titanium dioxide materials for use as components in ceramic electronic devices, such as capacitors and filters.



- A wide range of purity levels and particle sizes to meet diverse needs
  Primary particle size: 1.0–1.5 µm
- Sharp particle size distribution achieved through pigment synthesis technology

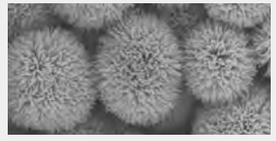
High Performance and Miniaturization of Electric Components

These components are used in self-driving systems and mobile phones, and there is demand for higher performance and smaller size.



■ Super-low-reflectivity Structural Jet-black Pigments (LUSHADE™ BLACK) (Currently in Trial Sale)

This bismuth sulfide black pigment, synthesized using our proprietary technology, features a unique urchin-spine-like structure and exhibits an extremely low reflectance of less than 1%. In the future, its use in optical devices, such as LiDAR technology used in self-driving systems, is expected to increase.

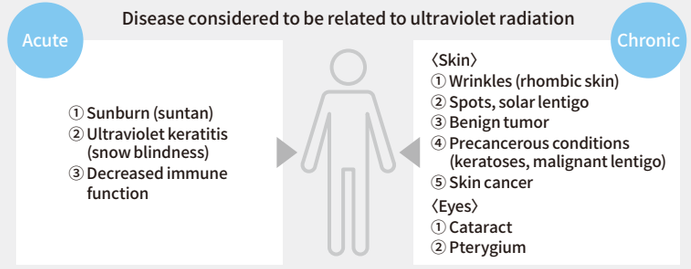


- Bismuth sulfide particles with sea urchin spine-like structure
- Primary particle size: 1.0–1.5 µm
- Uniform particle size
- Supplied as a pigment dispersion (easy to incorporate into coatings)

Health

Prevention of Health Hazards from Ultraviolet Radiation

Ultraviolet radiation levels are increasing. This is causing more attention to be paid to the importance of sun protection measures.



*Ultraviolet Radiation and Health Manual 2020, Ministry of the Environment

■ Ultrafine Titanium Dioxide TTO Series

We achieve superior ultraviolet protection and high transparency through the synthesis of titanium dioxide particles at the nanoscale.

Risks and Opportunities

Risks	Opportunities
Reduced earnings due to rising costs for energy and raw materials, such as titanium ore	While continuing to monitor market trends, pass costs on to product prices and increase the sales percentage for functional materials products. Also, including technological improvement, diversify raw materials used to expand the range of options
Accidents and other problems due to aging production facilities and equipment	Carry out preventative maintenance and study the appropriate timing for replacing equipment and facilities
Drop in market price and ISK market share as a result of growth among Chinese titanium dioxide manufacturers	Work towards increased and stable revenue by continuing to provide the market with functional materials products based on ISK's unique technology

Helping resolve societal problems

■ Reducing environmental impact through titanium dioxide in chloride process

Titanium dioxide in chloride process, which is the production focus of the inorganic chemicals business going forward, has the advantage of higher product purity, compared to conventional titanium dioxide in sulfate process, as well as lower heavy metal content and less waste generated during production. As a result, the environmental impact of the manufacturing process can be comparatively reduced.

■ Providing materials which improve the performance of IT devices

The ISK group, in a joint venture with Murata Manufacturing Co., Ltd., operates MF Material Co., Ltd. (based in Nobeoka City, Miyazaki Prefecture), which contributes to the development and widespread use of IT devices by producing and supplying barium titanate, a key raw material for multilayer ceramic capacitors, which are widely used in smartphones, PCs, electric vehicles, and other electronic devices.

Message from the Director

Pursuing Titanium Dioxide Business Reforms to Reduce Volatility: Shifting Focus to High-Value-Added Products and a Profit-Oriented Business Strategy

Director of Inorganic Chemicals Business Headquarters

Yoshiyuki Shimmyo

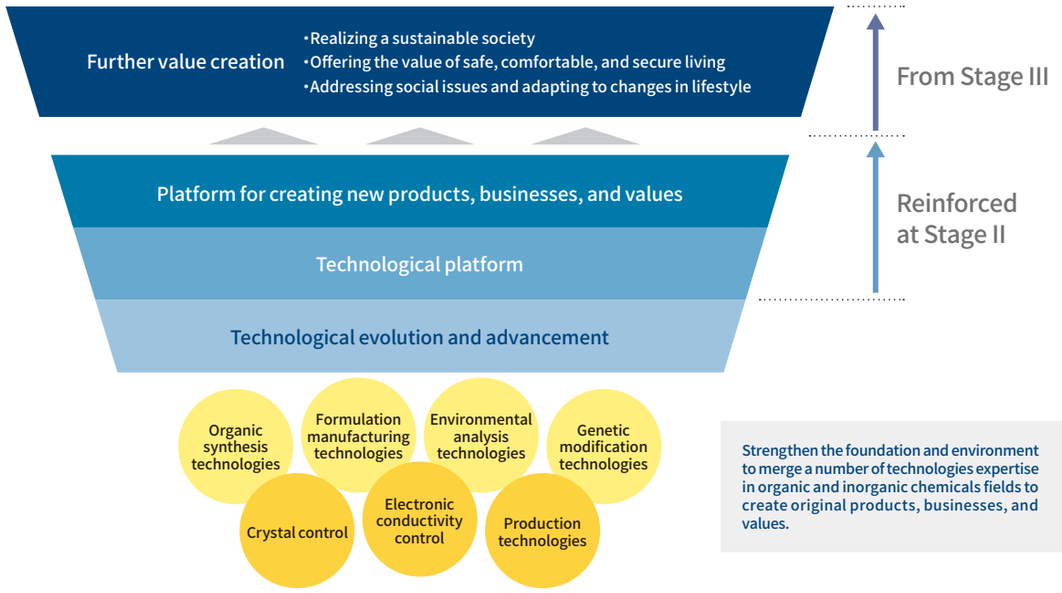
With the launch of "Vision 2030 Stage II" last April, we began structural reforms of our inorganic business operations with the aim of establishing a stable business revenue base.
In the previous fiscal year, we implemented various measures, including establishing a product portfolio-based divisional system, launching a development sales-based organization, reviewing our overseas operations, taking measures to mitigate rising raw material costs, and optimizing titanium dioxide inventory to improve profitability.
In particular, the decision to halt the production of titanium dioxide in sulfate process (scheduled for March 2027) is expected to significantly contribute to reducing the high volatility of titanium dioxide prices, which tend to fluctuate greatly depending on economic conditions. Going forward, we will shift our focus from emphasizing sales to emphasizing operating income. While ensuring continued supply to our customers until we cease production of titanium dioxide in sulfate process, we will work on transitioning to titanium dioxide in chloride process, strengthening collaboration with our subsidiary Fuji Titanium Industry Co., Ltd., which owns the sulfate process facilities, and forming alliances with other companies, all in order to protect our core markets in Japan and Asia.
Meanwhile, we are working to strengthen our competitiveness in titanium dioxide in chloride process production, which generates less waste and has a lower environmental impact.
During the "Stage II" period, we will work to reduce costs by optimizing the use of lower-grade ores, while simultaneously accelerating the development of high-value-added products using titanium dioxide in chloride process, such as the production of titanium dioxide for electronic component materials, titanium dioxide for cosmetics, and super-weather-resistant titanium dioxide.
Also, with a view to the medium- to long-term market, we will review our overseas marketing strategies for functional colorant materials, including our "LUSHADE™ BLACK" ultra-low reflectivity black pigment, in addition to the product groups mentioned above. Furthermore, based on the particle design technology we have cultivated in the course of manufacturing titanium dioxide, we aim to develop a new range of products that optimize optical and electronic properties to meet market needs, with the goal of achieving significant growth in "Stage III" starting from fiscal 2027.

Research and Development Activities

Basic Policy

Identify products and services that meet global needs, and continue to provide new value

Since the opening of our research institute in 1958, we have expanded our business into a wide range of fields as a research and development-oriented manufacturer. Each of our businesses conducts competitive research and development in its own field and shapes the market with its strong chemical technology and product appeal.
We are currently building a research and development data infrastructure using internal and external information and our own technological assets that will satisfy market needs, create value, and generate sustainable competitiveness, thereby promoting the development of new products in existing fields, the creation of new businesses, and the creation of new value.
Also, with regard to intellectual property activities that support research, we will always be mindful of the link with research and development and will work to update our intellectual property activities to contribute to our business, without being bound by conventional methods.



Strengthen the foundation and environment to merge a number of technologies expertise in organic and inorganic chemicals fields to create original products, businesses, and values.

Research and Development Policy

Based on this policy, we aim to contribute to the realization of a comfortable and sustainable society through innovative products and services and to enhance sustainable corporate value.

1 Needs-driven innovation

- Accurately identifying market and clinical needs and selecting research and development themes that will contribute to addressing social issues
- Using close dialogue with customers to understand their essential needs and reflect these in product development

2 Differentiation through the combination of technologies

- Combining various in-house technologies, including organic chemistry, inorganic chemistry, and biotechnology
- Actively promoting collaboration utilizing outside expertise and technologies and leveraging open innovation

3 Consistent R&D structure

- Pursuing efficient research and development through a consistent system in which all departments work together, from planning to sales
- Accelerating development and improving quality through a consistent system, from drug discovery to commercialization

4 Contributing to sustainability

- Developing the products and processes that reduce environmental impact and contribute to a sustainable society
- Fulfilling our social responsibility through product development that considers people and the environment

5 Global expansion and intellectual property strategy

- Deploying R&D results to global markets
- Achieving enhanced competitiveness and sustainable growth through collaboration with business strategy, R&D strategy, and intellectual property strategy

6 Developing new fields

- Building new business pillars by applying existing technologies and introducing new technologies
- Expanding R&D areas flexibly according to changes in social needs

Completion of the Technology Research Center, Hyogo-Ono (TREC)

The Technology Research Center, Hyogo-Ono (TREC), which began construction in May of last year, was finally completed on August 29, 2025. Following this, indoor experiment and testing equipment and office appliances and fixtures are being installed, and equipment operation tests will be conducted. Full operation will begin after the opening ceremony on December 15, 2025.
In addition to laboratory testing facilities, TREC has pilot facilities for the production of active compound for agrochemicals, and, by reviewing production routes and reaction conditions and conducting verification for actual production, we will work to develop more economically advantageous manufacturing processes.

Business-specific Research and Development Policies

【Biosciences】 Capitalize on Our Technological Strengths and Research System to Accelerate Development

■ We will capitalize on our unique technological strengths and integrated research system to accelerate development that will contribute to sustainable food production.

We aim to develop new agrochemicals that are both people and environmentally friendly, and to promote and expand their sales in a sustainable manner. We will also work to commercialize non-chemical pesticides, such as biological pesticides. By making the most of our knowledge and strengths, we will revitalize our research system, which handles everything from drug discovery to commercialization, and accelerate the development of new products. We are also actively introducing new drug discovery technologies with the aim of further improving efficiency. The results of this, when combined with our intellectual property strategy, will strengthen our competitiveness. In terms of new areas of research, one example we are exploring is the field of floriculture using biotechnology, and we will continue to challenge ourselves to build new businesses in various technological fields without limiting ourselves to specific fields.

Agrochemical Pipeline

Development pipeline	R&D stage	Phase 1	Phase 2	Phase 3	Registration stage
Insecticide A					
Fungicide B					
Insecticide C					

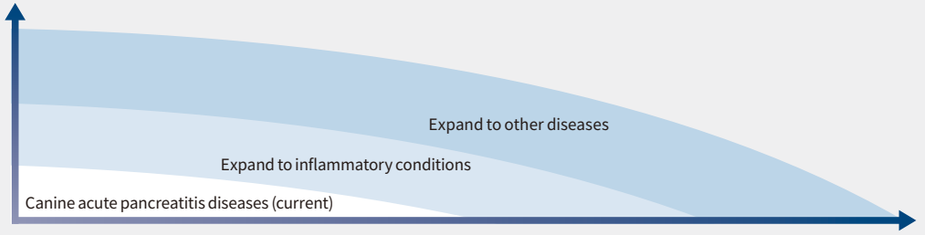
→ Planned for consideration during FY2025-FY2027

【Healthcare】 Combine Market Needs with ISK Technology to Create Value

■ By combining the needs of clinical practice with our elemental technologies, we create value in the field of healthcare, focusing in particular on animal health products.

We precisely ascertain the needs of clinical practice and other contexts and select research and development themes with high growth potential, but which can contribute broadly to society. We then choose themes that can be combined with our own technology and know-how, or outside expertise and thereby differentiate ourselves from our competitors. Those performing research and development ascertain the essence of what is needed at the field, as well as receive feedback from them during the development process, to improve the thoroughness of the results. Through these research and development efforts, we aim to create new value that we provide to our global customers in the form of medical products and services, including animal health products.

Animal Health Product Cases



【Inorganic Chemicals】 Attain Value Creation that Supports the Environment and a Digital Society

■ We pursue the development of products and processes that support both the environment and a digital society in ways which contribute to the realization of a society which is comfortable and sustainable.

We work to propose new solutions based on market needs that utilize not only titanium dioxide but also a variety of other materials and functional materials, thereby contributing to improving quality of life and addressing social issues.
In addition, the planning, sales, and research and development departments of each business division will work together to fundamentally ascertain customer needs. In addition to utilizing our internal technologies, which go beyond the inorganic division, we will also accelerate speedy technological development by incorporating external collaborations and open innovation.

Inorganic Pipeline (New Product Development)

Pre-sale Full-scale sales

Classification	Developed materials	Sales period (Unit: Fiscal year)			
		2024	2025	2026	2027
Continued expansion market	New high-purity titanium dioxide				
New expansion market	High refractive index material				
	High jet-black pigment (LUSHADE™ BLACK)				
	Heat storage material (HASClay™*)				
	Copper microparticles				

*This product was developed based on findings from our collaborative research with the National Institute of Advanced Industrial Science and Technology.

Special Feature

A Small Team Tackling the Rapidly Changing Needs of Cosmetic Raw Materials

The introduction of a divisional system is changing the business style of the Inorganic Chemicals Business Headquarters. Operations have become faster and more agile, and a system is now in place that enables rapid responsiveness to new needs. We sat down with three members of the Cosmetics Team, which is part of the newly established Functional Color Materials Business Division, to talk with them about their work on commercializing new cosmetic raw materials (positions are as of June 2025).

New Color Pigment Development in Response to Customer Needs

■ What is “PFC415” that is currently under development?

Nishii This is a color pigment for cosmetics, such as foundation, and it is made using titanium dioxide in chloride process. Our main product in this field, “CR-50”, also uses titanium dioxide, but the particle size is different. The particle size of CR-50 is 250 nanometers in diameter, but we made the particle size slightly smaller for PFC415. While smaller particle size does reduce coverage, it results in a softer and natural look.

Yoshioka Depending on your skin tone, using a foundation with strong coverage can cause a white cast or give it an unnatural-looking finish.

Left: PFC415
Right: Prototype powder foundation containing PFC415

■ Please tell us what prompted you to develop this product.

Yoshioka Probably the change to a divisional system? Previously, because sales representatives were assigned based on region and customer type, they handled a wide variety of products, and cosmetic raw materials tended to be given lower priority compared to other major products. The change in system has allowed us to focus more on cosmetics, and we also have more time to listen to customer feedback.

For example, when we hear that a customer is looking for an alternative to a competitor's product (made using the sulfate process), in the past we would simply recommend the closest product from our existing range. Now, however, we can consider various possibilities, such as why the competitor's product has that particular color and whether we can produce a similar product using our own process (chloride process). I also appreciated the fact that it is easy to consult with the development group.

Nishii After hearing from the sales group, we immediately conducted some preliminary experiments. As a result, we found that the coverage and the color of the product seems to correlate more with the particle size than with the manufacturing process, giving us a clearer vision of the quality we are aiming for.

Nakatani In parallel with our sales and product development-related discussions, we also conducted research on market size and manufacturing costs. We thought that, if we could sell it at the anticipated scale and price, it would become an attractive product.

Ryosuke Nakatani (left)
Inorganic Chemicals Business Headquarters
Functional Color Materials Business Division
Business Planning Group
Responsible for managing the development plan outlining the entire process from market analysis to product development and production, as well as for coordinating with various internal departments, such as the manufacturing plant, and managing the project schedule.

Shinya Yoshioka (center)
Inorganic Chemicals Business Headquarters
Functional Color Materials Business Division
Sales & Marketing Group
Serves as a customer service contact point. In addition to sales management, responsibilities include gathering customer needs, explaining products using technical data, and arranging sample shipments.

Izuka Nishii (right)
Inorganic Chemicals Business Headquarters
Functional Color Materials Business Division
R&D Group
Responsible for all aspects of product development, from researching and determining target quality standards to creating prototype samples, as well as preparing technical documentation.

From Titanium Dioxide Manufacturer to Cosmetic Raw Materials Manufacturer

■ How has the introduction of a divisional system affected new product development?

Nakatani Previously, since the Sales Division and Development Division were separate organizations, we had to clearly demonstrate the background, rationale, and future prospects to each before any development project could proceed. Because each organization had its own priorities, it was difficult to gain the understanding of superiors, and it placed a heavy burden on the people in charge.

With the implementation of the divisional system, sales, planning, and development have all been consolidated into the same Functional Color Materials Business Division, making it easy to simply pick up the phone and ask, “Could we try something like this?” Having separate business divisions for each domain, with a unified direction and focus, has had a positive impact on development.

Yoshioka Our work style has become more flexible and dynamic. I feel that we've moved towards a culture where we're more inclined to just try things out. Previously, there were too many hurdles to overcome before we could even conduct preliminary discussions or gather information from customers. Trends in the cosmetics industry change so rapidly that it's important to act quickly.

Nishii I definitely feel that the footwork involved has been lightened. Information sharing within the division has also been strengthened, allowing us to focus on cosmetics while simultaneously improving our knowledge level and staying up-to-date with the latest industry information.

■ What are the most difficult challenges you face during the development process? How do you solve them?

Yoshioka The most difficult challenge is ascertaining the true needs of our customers. For example, titanium dioxide has two crystal structures, A (anatase) and R (rutile), and the chloride process can only produce the R type. Many cosmetic manufacturers, however, still use type A out of habit, and they often ask us, “Don't you have type A?” However, their real need lies somewhere else entirely. After asking if type A is what they really need and then listening to their explanation in detail, we discover that they didn’t actually need type A itself but only the same color as their current product. So, we create a sample that reproduces the desired color using type R material and ask them to evaluate it, explaining that, even if we don't use type A material, we can still achieve the color they want. They were then satisfied with the result.

Nishii Regarding samples, a challenge is determining what kind of data we should provide to capture the customer's interest. Initially, we struggled because we didn't know what data we needed, but after much trial and error, we were able to systematize the differences between particle size and color. Now, Mr. Yoshioka uses this information in his sales activities.

Nakatani Minimizing the time gap between when a customer requests a sample for evaluation and when we can actually deliver the sample. It’s quite a difficult task. Since we use mass production equipment for titanium dioxide during the prototyping stage, the timing for production is limited.

We therefore keep a six-month production plan in mind at all times, while also closely coordinating with the sales representatives to stay informed about sample submission deadlines. We communicate our plans to the production team well in advance, letting them know that we want to conduct prototype testing during this period, and we coordinate things to minimize any impact on regular production.

Sometimes the production team has refused to incorporate a prototype into the production process, but they've relented after the tireless persistence of Mr. Yoshioka. His strong determination inspires us to remain undaunted in asking the production team to go above and beyond their usual duties to support the development and prototyping of new products.

■ How do you envision the future direction of this project?

Yoshioka We are in test production in preparation for a full-scale launch in two years. Considering the need to reduce production costs, investment in new equipment will also be necessary. It will take time, but this has the potential to become a large-scale business, so we definitely want to make it happen.

Nishii We also want to improve quality. Regulations vary slightly from country to country, and, when expanding sales globally, we cannot overlook the issue of impurities. During the test production phase, our priority will be to ensure that the product meets all regulatory requirements, in addition to focusing on its functionality, so that we can develop safe and reliable materials.

Nakatani PFC415 is the first product developed after ISK implemented a divisional system. To ensure a timely product launch, we intend to strengthen our collaboration with the sales and development teams for better project scheduling.

Yoshioka Also, although our company specializes in titanium dioxide, now that we have established a team focused on cosmetics, we would like to explore the possibility of handling other materials besides titanium dioxide. We can apply our technology to exploring other materials as well.

Nakatani I agree. With this team, we can definitely do it.

Intellectual Property Management

Basic Policy

Our Group treats business strategy, research and development strategy and intellectual property strategy to be one and the same, and we are mindful of intellectual property in all aspects of our activities, from research to commercialization.
We seek to increase our corporate value by steadily acquiring the rights to the results of our research and development and using these to secure a business advantage over other companies. We also actively invest in intellectual property and endeavor to protect and leverage it.

Aims of ISK Intellectual Property-related Activities

Ensure the safety of our business	● Reduce intellectual property risks ● Countermeasure against others' patents	Confirmation that implementation does not infringe on the patents of others
Secure an advantage for our business	● Strengthen competitiveness	Early and reliable patent filing for research and development results
Shape the market for our business	● Market influence ● Create and respond to the market entry barriers	Build our brand, build our patent portfolio

Increased corporate value

Intellectual Property Strategy

Through collaboration with research and development and sales/marketing departments, intellectual property departments will examine business from various angles and provide intellectual property strategies to connect inventions to business.

■ Construction and utilization of an IP portfolio

We build up our intellectual property portfolio (bundle of rights) through the timely and appropriate filing of patent and trademark applications in line with our business activities or business plans and strategies.

■ Improvement of the IP utilization rate

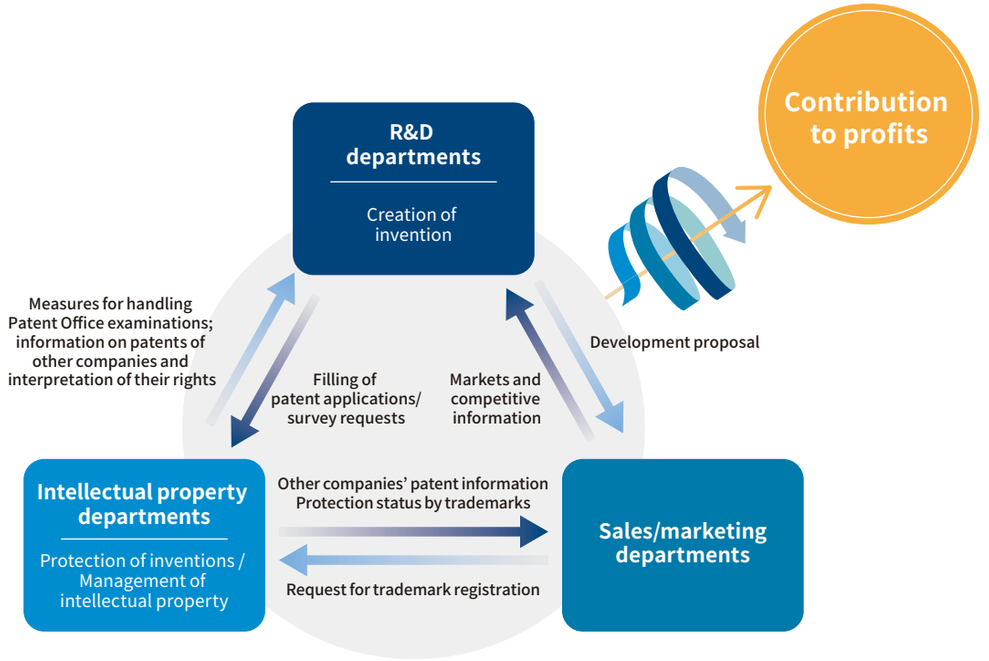
We will adopt an application strategy suited to market conditions, aiming to increase the number of applications filed according to the stage of business and to improve patent utilization rates.

■ Intellectual property and markets

We will research and analyze patents of other companies in the target market to determine whether they are at the "basic development stage/mass production development stage/additional function development stage/commoditization stage."
We will hold meetings to discuss and share the possible intellectual property directions (intellectual property strategies) that are appropriate for each stage with the R&D/sales/marketing departments, creating a clear focus and contributing to business growth.

Integration of Business Strategy, Research and Development Strategy, and Intellectual Property Strategy

Obtaining a strong patent is necessary for advancing one's business into an advantageous position.
This requires a deep understanding of inventions, and smooth communication between the research and development and intellectual property departments is essential.
At ISK, our intellectual property and research and development departments work cooperatively at each business location to ensure that no opportunity is missed to obtain the rights to inventions. In addition, we conduct intellectual property awareness-related activities, such as intellectual property-related training sessions, to raise awareness among our members about intellectual property protection.



Promoting DX

Basic Policy

Through digital technology-driven, company-wide digital transformation (DX) initiatives, we aim to further expand our existing business in response to changes in customer and societal needs and the business environment, create new business, and strengthen our management drive. Our DX initiatives, which began in fiscal 2022, are being undertaken through a process of phased development. In the initial phase, we focused on building the foundation for DX, focusing on improving business efficiency and employee DX literacy. In Stage II, which began in fiscal 2024, we are building on the successes we have achieved thus far and are beginning full-scale efforts toward more fundamental transformation and value creation.

DX Strategy Roadmap and Promotion Systems

In our activities to date, we have promoted measures centered on digitalization, such as going paperless, electronic applications, and introducing RPA, and have created a DX-Ready state. Going forward, we will further promote business process reform and accelerate digital innovation by strengthening our digital infrastructure to enable more advanced use of AI and data in order to create value.
We place great importance on each employee being a driving force for change. As part of our company-wide DX promotion system, we have placed DX promotion leaders in each department to promote on-site-led business reforms. In addition, under the Corporate Planning Division, we have established a Digital Strategy Group which is responsible for implementing company-wide priority projects, developing DX human resource development measures, and supporting on-site activities. In this way, we combine bottom-up activities with company-wide optimization activities to enhance our overall execution capabilities.

2022	2024	2027	2030
Stage I DX-Prep	Stage II DX-Ready	Stage III DX-Emerging	Goal DX-Excellent
Building a foundation for DX ● Developing company-wide DX promotion systems ● Workstyle reforming and operational streamlining ● Strengthening production capacities at the Yokkaichi Plant	**Innovation in business processes** ● Accelerating business innovation and digitalization ● Promoting interdepartmental collaboration	**Strengthening management capabilities** ● Realizing data-driven management ● Improving technology platforms ● Creating a new business model	**Creation of new value** ● Creating an innovation-focused organization ● Establishing a new business pillar

Initiatives Toward AI and Data Utilization

We are currently working on building a foundation for utilizing AI and data, including a dashboard for centralized control of management information and a platform for effectively utilizing technical information across departments. Regarding generative AI, we plan to first expand its use in everyday work and, in the future, develop it into an assistant-type AI that is deeply integrated into the actual work of each department. We aim to capitalize on the expertise of each employee as knowledge for the entire organization and to accelerate the creation of new value through knowledge sharing and collaboration.

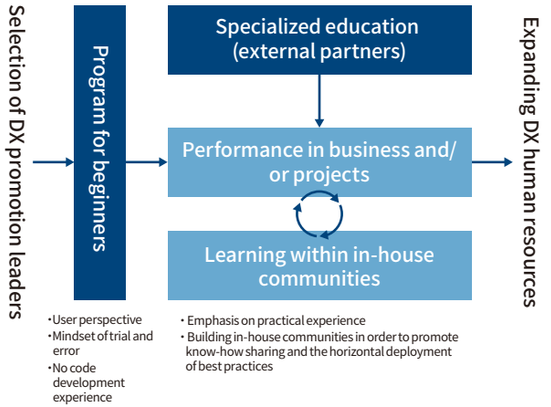
■ Expanding In-house Generative AI Service

We have developed and deployed a secure AI generation environment and guidelines so that all employees can use it in their daily work.
To ensure its widespread and proper use, we are promoting mutual learning within the company, such as by holding workshops to impart know-how that can be used in ISK business.

Screen for in-house generative AI service

DX Human Resources Development

We are focusing on developing core personnel who can take the lead in fostering digital-driven business improvement and planning and who will support on-site transformation. In particular, we are focused on “business architects,” as per the DX promotion skill standards defined by the IPA*, and are developing training programs that emphasize practical experience. In addition, in order to accelerate the promotion of DX throughout the organization, it is also essential to create a culture of embracing challenge. As part of this, we also provide training for executives and managers to foster the mindset necessary to promote digital transformation.



*IPA: Information-technology Promotion Agency, Japan