ISHIHARA SANGYO KAISHA, LTD.

Integrated Report 2024



Vision 2030
Stage III
FY2027–2029

Vision 2030
Stage II
FY2024–2026

Vision 2030
Stage I
FY2021–2023

The new medium-term business plan Vision 2030 Stage II begins.

Strengthening all of our business into primary sources of profit

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.







Purpose

To continue contributing
to better living environments
through chemical technologies

Stage I FY2021-2023

Stage II FY2024-2026

Stage III FY2027-2029

Vision 2030

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





Corporate Philosophy

Basic Philosophy

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

Code of Conduct

- At Ishihara Group, we will strictly observe laws, regulations, social norms and Company rules, while steadfastly adhering to high ethical standards, so as to gain social trust in our business.
- In manufacturing activities, we will place the utmost priority on global environmental protection, as well as on worker safety, and will work to prevent any workplace accident or disaster.
- On the basis of respect for human rights, we will promote mutual understanding and cooperation among employees, in order to create an open and friendly workplace.
- To maintain transparency in our business activities, we will promote communication with local communities and society, and will disclose corporate information in a timely and appropriate manner.

Our Vision Towards 2050

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

Three initiatives to realize our vision

- Challenges and innovation
- Create society
- Organizational and human evolution







Vision 2030

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

Vision 2030 Management targets

Operating income:
Greater than ¥24 billion

Estimated net sales:
Greater than ¥180 billion

ROE:
10% or more

Contining stable return for shareholders

Contributing to realization of a sustainable society together with improving our corporate value through such business activities.

Megatrends	Climate change　Resource shortages and food problems Urbanization　Rapid development of IT Growth and aging of the global population
Stakeholders	Shareholders and investors　Local communities Customers and business partners　Employees

Value Provided by ISK and Our Initiatives

Organic chemicals business

Supply unique products that directly enhance customer value across the world, and support people's nutrition, health and life to contribute to realizing a sustainable society.

Agrochemicals	Improving agricultural production stability and quality
Animal health products	Attain a comfortable life with companion animals
Pharmaceuticals	Contributing to medical care

- Pursuing development and commercialization in a way that's aware of the value chain
- Accelerating the creation of value and restoring our growth trajectory by improving and evolving in-house technologies
- Manufacturing flagship products at the lowest cost in the world and supplying them in a stable manner to customers

Inorganic chemicals business

Create new value based on the technologies developed for titanium dioxide products, to support the environment and digital society, and contribute to realizing a sustainable society.

Functional materials	Creating a range of comfort
Titanium dioxide	Providing a variety of colors and hues
Environmental products	Achieving both innovation and environmental protection

- Contributing to the resolution of social issues such as the adoption of information and communications technologies and the electrification of automobiles through functional materials
- Diversifying the optical properties of titanium dioxide to realize new value creation
- Reducing environmental impacts while streamlining production through a revolution in production structures

New businesses, others

- Building a new business portfolio
- Strengthening development of environmentally friendly products by investing resources (people and money) with an awareness of environmental, social, and corporate governance (ESG) considerations
- Establishing structures to pursue carbon neutrality by 2050

Business in Brief







Organic chemicals business

Underpinning food production worldwide and saving animal lives

Our organic chemicals business, whose flagship agrochemical products include herbicides, fungicides, and insecticides, is building a broad network that encompasses the Americas, Europe, and Asia. The value of its exports places it among the leading domestic businesses in its sector. Furthermore, we've identified animal health products created through the application of agrochemical development technologies as a new growth sector, and we're working to start sales in major countries worldwide.



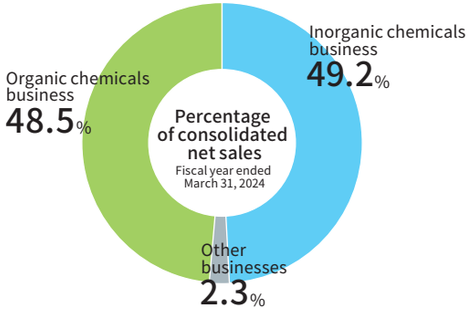


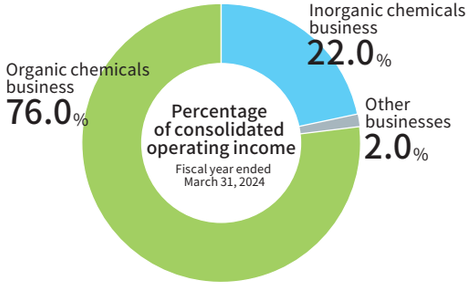
Agrochemicals

Since introducing the first agrochemical technologies to Japan about 70 years ago, we've supplied environmentally friendly agrochemicals to the global market by drawing on world-class development capability as a pioneer in the segment. In December 2025, we will open our Technology Research Center, Hyogo-Ono, a new research facility (located in the city of Ono in Hyogo Prefecture) dedicated to further improving our production technologies.

Animal health products

BRENDA™, the world's first canine anti-pancreatitis drug, is a flagship product in this segment. We're already manufacturing and selling it in Japan, and we expect to obtain full regulatory approval and transition to full-scale sales in the U.S. in the near future. We're also working to broaden the applications of the major ingredient fuzapladib sodium hydrate to include other conditions, including other inflammation diseases, in ways that take advantage of its unique action mechanism.







Inorganic chemicals business

Supplying products that help realize a comfortable, sustainable society

The flagship products of our inorganic chemicals business include functional materials like electronic component materials and thermal barrier materials. We're also the only domestic manufacturer to produce titanium dioxide in chloride process*, which has a lower environmental impact, and we supply the material as a white pigment to a broad range of fields, including for use in industrial products like paints, plastics, and inks as well as cosmetics and synthetic fibers.

*A manufacturing method that requires advanced technologies and that is characterized by low industrial waste emissions.

Functional materials, titanium dioxide, and other chemical products

Electronic materials

We offer newly developed materials needed to fuel progress in digital technologies, including high-purity titanium dioxide, a raw material used in laminated ceramic capacitors.

Functional color materials

We use proprietary material design technologies to develop functional materials (including high jet-black pigments, conductive materials, layered titanate, cosmetic-use pigments, and micro-granular titanium dioxide), and we work to lengthen the product life cycle.

Fine chemicals

We supply fine chemicals including titanium dioxide for use in pigments, which is our core business, as well as high-weather-resistant titanium dioxide, chemical products, and HASClay™.







Business in Brief

Key Figures

Fiscal year ended March 31, 2024

Net Sales 138.4 billion yen

Operating Income 11.4 billion yen

Operating Margin 8.3%

ROE 7.9%

Capital Adequacy Ratio 47.3%

R&D Expenses 9.7 billion yen

Number of ISK Group Employees 1,813

Europe

Net Sales 23.4 billion yen

Number of Group Bases 2

Sales Composition Ratio 17%

Products

Asia

Net Sales 27.7 billion yen

Number of Group Bases 8

Sales Composition Ratio 20%

Products

Japan

Net Sales 60.5 billion yen

Number of Group Bases 7

Sales Composition Ratio 44%

Products

Americas

Net Sales 25.8 billion yen

Number of Group Bases 10

Sales Composition Ratio 19%

Products

Others

Net Sales 0.8 billion yen

Products

Major countries and regions in each category

Asia	China, Taiwan, South Korea, Thailand, Indonesia, Singapore, India
Americas	U.S., Canada, Brazil, Argentina, Mexico
Europe	Germany, Netherlands, France, U.K., Belgium, Italy, Eastern Europe, Middle East
Others	Australia, New Zealand, Africa

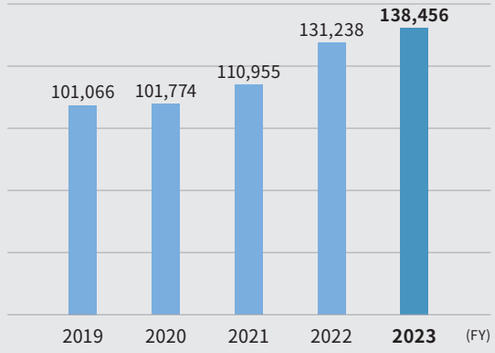
Pictograms representing major products (The product with the highest sales in each region is shown in a larger size.)

Agrochemicals | Animal health products | blue phalaenopsis | Functional materials | Titanium dioxide

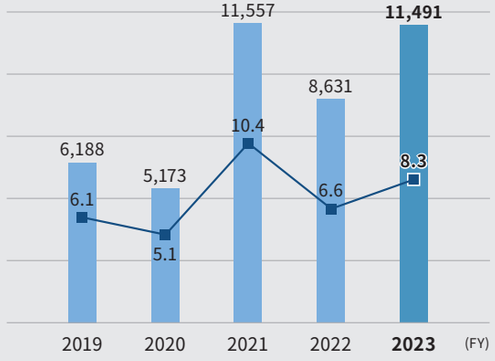
Financial and Non-Financial Highlights

Financial Highlights (Consolidated)

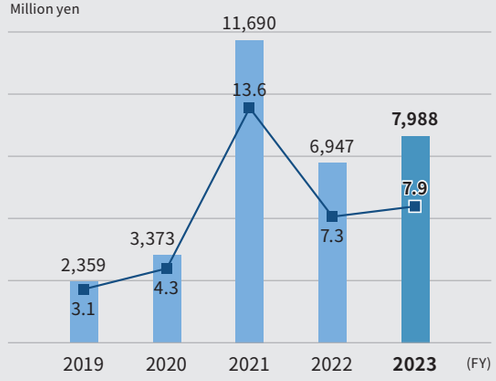
Net Sales
Million yen



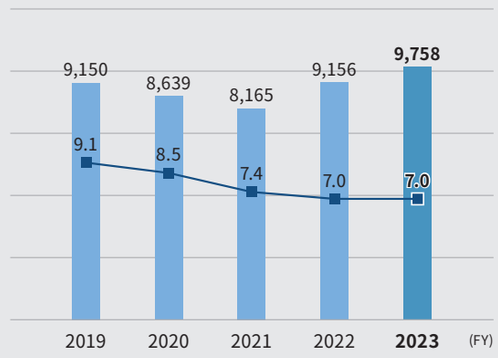
Operating Income / **Operating margin**
Million yen / %



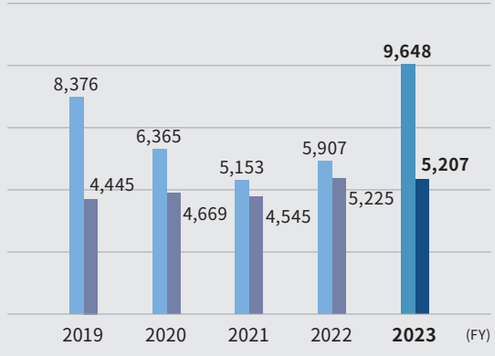
Net Income Attributable to Owners of Parent / **ROE**
Million yen / %



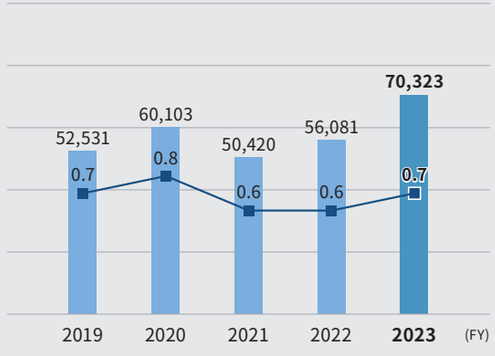
R&D Expenses / **Ratio of R&D Expenses to net sales**
Million yen / %



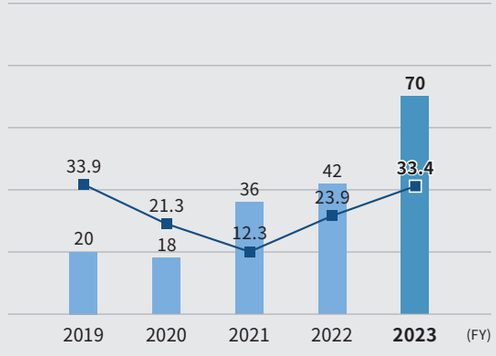
Capital Investment / **Depreciation expense**
Million yen / Million yen



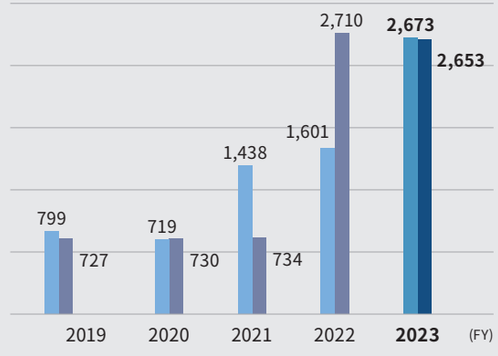
Interest-Bearing Debt / **D/E ratio**
Million yen / %



Dividends per Share / **Payout ratio**
Million yen / %



Total Dividends Amount / **Purchase of treasury share**
Million yen / Million yen

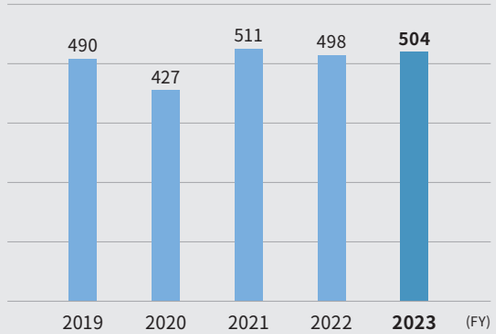


Non-Financial Highlights

Environmental

Greenhouse Gas (GHG) Emissions (ISK Group*1)

Thousand tons CO_2



Industrial Waste (Sludge) (Japan, consolidated*2)

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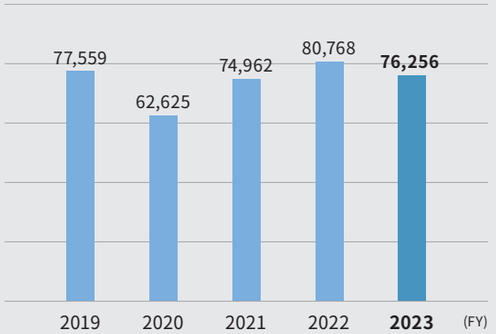

Energy Intensity (Japan, consolidated*2)

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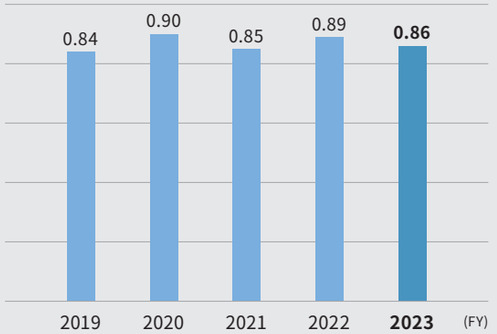
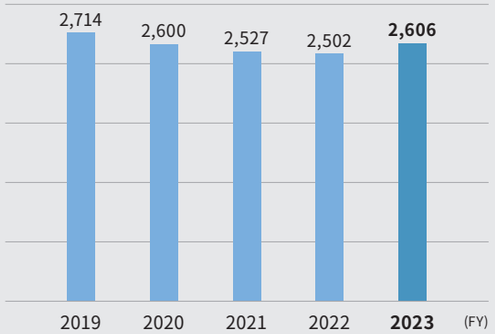


Others

Number of Patents Held (non-consolidated)

Cases

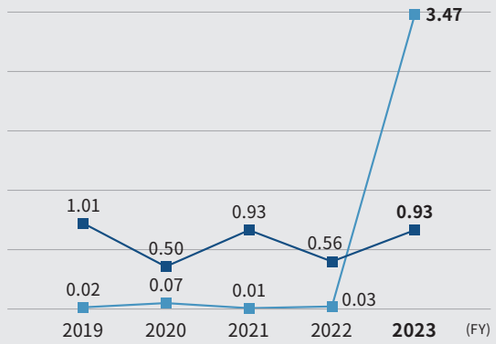


Social

Workplace Accidents (Japan, consolidated*2)

Frequency rate of lost-worktime injuries
%

Severity rate
%

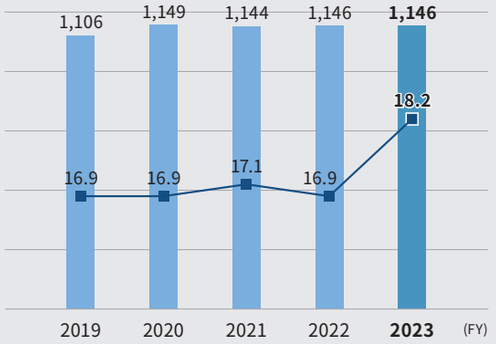


Number of Employees (non-consolidated)

Persons

Female employee ratio (non-consolidated)

%

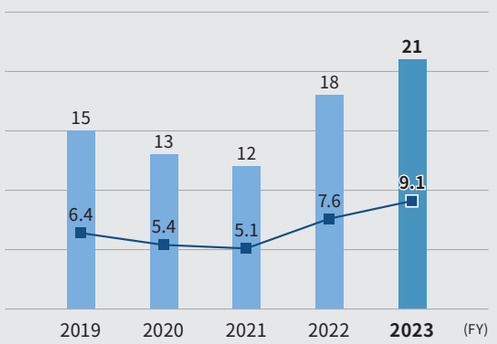


Number of Female Managers (non-consolidated)

Persons

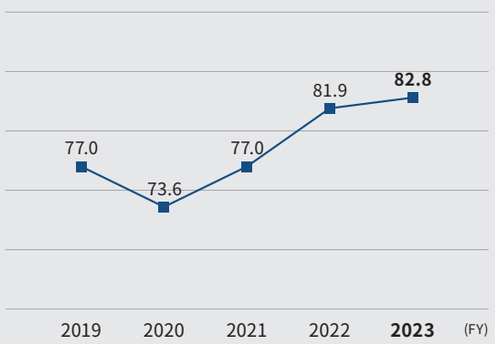
Female manager ratio (non-consolidated)

%



Paid Leave Acquisition Rate (non-consolidated)

%



*1 Entire ISK Group *2 Operated by ISK and Fuji Titanium Industry Co., Ltd. Production facilities only.

Vision 2030 Stage II

2026 Target

Operating income

Greater than 19 billion yen

(Estimated net sales: Greater than ¥160 billion)

ROE 10% or more



Medium-term business plan 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

- Strengthening and streamlining our research and technological development capabilities
- Accelerating R&D, commercialization, and promotion and increasing sales 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
- Expanding the scale of our businesses by pursuing M&As and partnerships with other companies, and introducing agents from other companies

Inorganic chemicals business

- Increasing sales of functional materials by strengthening and streamlining our research and technological development capabilities
- Expanding sales and increasing production capacity of electronic component materials
- Expanding business by marketing newly developed products and creating new businesses
- 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



Purpose and Contents

Purpose

To continue contributing to better living environments through chemical technologies

Our purpose captures the significance of our existence,
the spirit of challenge that the ISK Group has cultivated
over its long history.
We supply society with products
that play an essential role in consumer lifestyles.
Agrochemicals make a significant contribution
to our ability to feed the Earth's population,
which will continue to increase going forward.
Titanium dioxide is essential for rich and satisfying lifestyles
characterized by vivid color.
And barium titanate is an essential material in capacitors,
which will be used in an ever-broader range of fields in the future,
including computers, smartphones, self-driving systems, and electric vehicles.
Our strengths lie in proprietary chemical technology
and technological development.
We're proud to offer unique technologies that sparkle with potential.
Our mission is to use them to deliver value and products
sought by all in society and to create anew that which is lacking.
We will help resolve the world's problems
and realize better living environments through chemical technologies.
The Company's purpose lies in this mission,
and this purpose comprises the foundation
of all our business activities.



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Message from the President

Strengthening All of Our Business into Primary Sources of Profit to Achieve Vision 2030

Executive Director and President **Hiroshi Okubo**



Special Feature : Strategic Approach through "Formulation"

Provide Safe and Easy-to-use Agrochemicals Globally

ISK sells agrochemicals in 85 countries around the world.
In order to meet the diverse needs of different regions, which vary from one another in terms of climate, soil, farmland size and crops, the key is agrochemical "formulation" that means develop a range of products and imparts various functions and added value.
We asked Mitsuo Sano, General Manager of the Formulation Research Laboratory in Central Research Institute (Kusatsu City, Shiga Prefecture), to explain what "formulation" is.



Strengthening All of Our Business into Primary Sources of Profit to Achieve Vision 2030

Executive Director and President **Hiroshi Okubo**

Our Aims

- **Strengthening all of our business into primary sources of profit.**
- **Envision a bright future looking ahead to 2050.**
- **Cultivate the next generation of talented personnel.**
- **Thoroughly adhere to the "compliance as premise."**

Inaugural Message

Taking Initiative, Taking the Lead and Taking Risks

The role of President is not for the fainthearted. That is a fact of which I am acutely reminded every day. Previously, I was a Executive Director and Senior Managing Executive Officer, but the authority and responsibility demanded by my current position is on a different level altogether. The livelihoods of several thousand people, including employees and their families, rest on my shoulders. That is why I am resolved to take the initiative so that I take the lead. Even if it may seem that I am too passionate, I will show our employees that I am serious about management and willing to take risks.

When chairman Kenichi Tanaka was President in fiscal 2021, he created the ISK Group's "Purpose" and long-term vision, "Vision 2030," as well as the previous medium-term business plan, "Vision 2030 Stage I," all of which are now left to us successors. Former President Hideo Takahashi led us through Stage I, building up a revenue base, delivering increased dividends and wage increases, and achieving consolidated net sales targets. He developed the new business creation project to a level where it can be handed over to the New Business Development Laboratory, newly established in the Central Research Institute. Other notable achievements include a major structural reform of our inorganic chemicals business, which involved discounting titanium dioxide production in sulfate process, and the establishment of "Our Vision Towards 2050" that looks beyond 2030. All of these have put us on a journey which is reflected in our "Vision 2030 Stage II" medium-term business plan, which began in fiscal 2024.

Message from the President



Former President Takahashi (left) and President Okubo

Having inherited these assets, my mission now is to complete Stage II, which I created when I became president. By creating and executing a detailed action plan, we will Strengthen all of our businesses into pillars of profit that will lead to the achievement of our next medium-term business plan, “Vision 2030 Stage III,” followed by “Vision 2030.” This phrase, “Strengthening all of our businesses into pillars of profit,” is the key concept for Stage II.

We must also begin to chart a path beyond Vision 2030 and towards 2050. Less than six years remain until 2030; so, if we don't start thinking now, it will be too late. Of course, I won't be with the company when it is celebrating its 130th anniversary in 2050. However, I believe I have a responsibility to those who will come after me to pave the way for the future, just as those who came before did for me.

It is also my mission to cultivate the next generation of talented personnel. We will hold discussions within the Personnel Committee and elsewhere about improving our approach to executive development. Of course, you cannot cultivate talented personnel in a year. At a minimum it might take five to ten years, or, in fact, even longer. It is my hope that from such nurtured personnel our future leaders will emerge.

I joined the company in 1986 as an engineer. Almost immediately after joining, I was made part of the construction planning for a titanium dioxide in chloride process plant in Singapore, where I worked for four years, then, afterwards, I was involved with titanium dioxide in chloride process in Yokkaichi for over ten years. It was a time when working overtime until late at night was the norm. Together with a variety of different people, including from partner companies, we worked like mad to keep everything operating at full production.

The turning point for me came with the emergence of the “Ferosilt problem*” in 2005. I realized that this was a problem for the Yokkaichi Plant in terms of the environment, safety and quality that needed to be resolved, and, from a sense of great urgency, I appealed directly to the plant manager, who put me in charge of addressing the matter. For the next few years, we were criticized daily by the government, local community and the media, and we continued to humbly acknowledge the criticism. Those were some stormy days.

Nevertheless, it is by making a serious and sincere effort that you eventually gain people’s understanding. At the time, I was dealing with a series of problems at the Yokkaichi Plant, requiring me to report to and seek guidance from various government agencies, but I was fortunate to receive guidance on everything from preparing the documents to be submitted to improvement measures to be taken on site. No matter if it was day or night or even a holiday, there were people I could turn to, and their kind consideration moved me to tears. I will never forget the strict yet compassionate guidance these folks provided me. I also developed strong bonds with my colleagues at the time who worked with me on these matters.

In any case, it was a situation which must never happen again. I believe that it is also my mission to ensure thorough adherence to the " compliance as premise " and to pass on the lessons I have learned.

Some time after the situation had settled down, I was temporarily transferred to a subsidiary before joining to the Corporate Administration and Planning Headquarters at the Head Office four years ago. There are many aspects of the work at the Head Office, such as accounting, that I didn’t understand, as I came from engineer background . Even if I start studying from square one, it won't be enough. So, I changed my work style that I offer my excellent subordinates carte blanche while concentrating on their work while I focused myself on checking over that work. My style is to consult with my colleagues and get their help to get the job done. Now that I'm president, this is how I intend to continue doing things.

*The problem involved the detection of amounts of hexavalent chromium and other substances beyond what was allowed by environmental standards in Ferosilt, a soil filling material developed and sold by our company as a measure to reduce industrial waste.
We spent a total of 60 billion yen over a period of 10 years to collect and dispose of all Ferosilt.

From Stage I to Stage II

Building Strong Pillars on the Foundation of Stage I

During Stage I, we were unable to achieve some of our targets, partly due to the recording of impairment losses of approximately seven billion yen as part of the restructuring of our inorganic chemicals business. However, we did achieve our major targets, such as increasing dividends and reaching our consolidated net sales targets. Taking over the baton at this point in time, it now becomes my responsibility to paint an even brighter future.

However, there are still many issues that need to be resolved. In our organic chemicals business, generic pesticides made by Chinese manufacturers are gaining ground, and environmental regulations in Europe are also becoming stricter. Although we set a goal of achieving the world's lowest cost manufacturing, the launch of the Indian factory intended to achieve this has been delayed due to the impact of COVID-19. Also, we are faced with the pressing issue of increasing the supply capacity of our contract manufacturing partners for our animal health product PANOQUELL™-CA1.

In our inorganic chemicals business as well, the halting of production of titanium dioxide in sulfate process is now in the implementation stage. After 2028, sales of titanium dioxide in sulfate process will be zero. The point is whether we can develop and sell new replacement products. It is essential that we expand sales of functional materials in the large markets

of America and Europe.
It is against this backdrop that Stage II was formulated as the medium-term business plan for this next, most important phase in achieving Vision 2030. If Stage I is about building the foundation, Stage II is about erecting strong pillars that will steadily accumulate profits. To achieve this, we first changed the target of Vision 2030 itself from net sales to operating income. Furthermore, we have introduced a divisional system into our Inorganic Chemicals Business Headquarters, creating a mechanism for managing profits for each sub-segment of each division. We will pursue thorough organizational improvements over the three years of Stage II which will then bear fruit in Stage III. To this end, we have put forward the following priority measures.

Pursuing Originality with Stronger and Streamlined Research and Technological Development Capabilities

Our primary focus in Stage II will be on strengthening our research and development capabilities. In order to survive as a development-oriented manufacturer, we will invest in our Central Research Institute (Kusatsu City, Shiga Prefecture) and make fundamental changes.
For example, starting in fiscal 2024, the New Product Development Department for our inorganic chemicals business, which was previously at the Yokkaichi Plant, will be relocated to the Central Research Institute and, along with the biosciences field, will be placed under the direction of the head of the Central Research Institute, thus concentrating authority there. This will make our research and development more agile and will also enable research that transcends the boundaries between organic and inorganic chemistry, such as by incorporating inorganic chemistry technology into pesticide development.
There are also plans to relocate the Central Research Institute during the Stage III period starting in 2027. Next year will mark the 60th anniversary of the establishment of the Central Research Institute. Although the equipment is state-of-the-art, the building has become quite old and cramped. We therefore considered options, including relocation, and sought to create research and living environment that would attract talented researchers and enable them to realize their dreams. We will use the Central Research Institute as a foundation for developing products that can be priced independently to compete with price-competitive Chinese products, as well as for developing products that uncover new needs in the European, American and Asian markets.
Meanwhile, Technology Research Center, Hyogo-Ono, a production technology research facility (Ono City, Hyogo Prefecture), will also begin operations next year. Our goal is to reduce manufacturing costs and ensure stable production in overseas outsourced manufacturing and to achieve the world's lowest cost manufacturing of agrochemicals.
Of course, it will take time for these research and development investments to bear fruit. However, we have to put in the effort now if we want to see what developments we can pursue in the future that lies beyond 2030.
For many years, ISK has focused on the manufacture and sale of general-purpose titanium dioxide in the equipment industry. However, considering the future trend toward carbon neutrality, waste-related issues, and the risk of disaster from a Nankai Trough earthquake, we have concluded that we should not make large-scale investments to upgrade our titanium dioxide in sulfate process production at this time. We will invest that money into the future of research and development, i.e. into the future
At present, however, sulfate processing accounts for only about one-third of the titanium dioxide produced by our Group. The remaining two-thirds of our production facilities, which use chloride processing to manufacture titanium dioxide, have been equipped with robust earthquake-resistance measures, and we intend to continue to fulfill our supply responsibilities.

Accelerating Globalization

Improving our overseas sales ratio is also an important goal for Stage II. The key to achieving this will be whether we can deliver products to each country's market that meet the changing local needs. In particular, for all of our businesses it is important that we expand sales in the American market.
Our biosciences business is performing well, partly due to the weak yen, but the market environment is tough. The environmental standards for agrochemical approval in Europe have been elevated, resulting in a more rigorous registration process, and there is also the threat of generic agrochemicals from China. In order to respond to these issues, our directors and department heads are currently traveling overseas to find solutions. In our healthcare business, in addition to strengthening sales of our animal health product PANOQUELL™-CA1 in the United States, we are also aiming to expand our business in Europe and Asia.
For our inorganic chemicals business, we will review the current allocation of staff at our overseas subsidiaries in the United States, Taiwan and South Korea, and this includes increasing staff numbers. We would also like to have our engineers in Japan go along on overseas sales trips. The future of our inorganic chemicals business will depend in large part on functional materials, including materials other than titanium-based materials, and, in order to capitalize on new needs, the engineers developing the products will need to visit with customers directly to sell them on those products. It cannot all be left to trading companies. We will tackle overseas technical sales ourselves.

Maintaining Stable Returns for Shareholder and Pursuing ROIC Management

Over the past year, there has been a lot of discussion within ISK about PBR (price-to-book ratio) and how to return value to shareholders. As a result of this discussion, we have decided to aim for a PBR of 1.0, which is approximately double the current level, during the Stage II period, while, with regard to shareholder returns, the director of the Finance and Accounting Headquarters has, after consulting with institutional investors, decided to seek a dividend payout ratio of 40%.
In order to increase PBR, it is necessary to make the growth potential of our Group more visible. The litmus test for this will be to see whether we can increase dividends as planned in the fiscal 2024 financial statements. While this is difficult to say, in the past our Group has sometimes been unable to achieve its medium-term business plan targets. However, this time,

the details of the plan have been thoroughly finalized by each of our business headquarters. Our shareholders and investors have told us that they think well of the plan, but it all depends on how well it is realized in the future; so, I think the next one to two years will be crucial.
Furthermore, in order to Strengthening all of our business into primary sources of profit, we must change the perception, which is deeply rooted within the Group, that it is enough to just increase the top line (sales). That is why we have introduced a divisional system and have also begun considering the introduction of ROIC (return on invested capital) as an internal management indicator. The aim is to use the ROIC tree to break down the various indicators, identify bottlenecks, and make visible those points that need improvement.
For the time being, we will not disclose ROIC, or the ROIC tree itself, but will use it to build a stronger corporate structure.

Stage II and ESG

Making an Unprecedented Level of Investment in Human Resources

For Stage II we have also established four priorities for management overall: “Contributing to the environment and society,” “Promoting human capital management,” “Promoting DX,” and “Continuing and improving corporate governance.”
In terms of “contributing to the environment and society,” our emphasis is on reducing CO_2 emissions.
At our Yokkaichi Plant, we use coal boilers to manufacture titanium dioxide; so, we need to pay special attention to CO_2 emissions. One of the reasons for the decision to discontinue the production of titanium dioxide in sulfate process was to reduce the environmental impact of CO_2 emissions. Additionally, we will promote energy conservation in the chloride process titanium dioxide production by switching the fuel from coal to LNG and by optimizing boiler operating conditions.
Of the four priorities, “promoting human capital management” is the one I place the most importance on. Data shows that when people have a greater sense of happiness, they become three times more creative and 1.3 times more productive. In other words, happy organizations are able to be more profitable. To increase employee engagement, we will make an unprecedented level of investment in our human resources, and this includes improving training and employee benefits. We believe that highly engaged personnel generate higher profits and dividends, which in turn fosters a virtuous circle of increased engagement.
In terms of “promoting DX,” our aim is to further expand existing businesses in response to changes in the needs of customers and society, as well as in the business environment, and to undertake new business creation in order to strengthen our business foundations. By capitalizing on digital technology, we are able to free up time for employees to be creative. My hope is that they will use that time to apply generative AI to help in exploring novel ideas. Currently, we are still at the stage of project member-centered study sessions and building a safe environment in terms of security, but, once generative AI becomes a commonplace tool, it will encourage each employee to tackle challenges. I hope that the culture within our company will change in that way.
As for “continuing and improving corporate governance,” I want to put particular emphasis on compliance. As I mentioned earlier, I have been involved at the front lines on a variety of issues. I understand firsthand the importance of compliance. That is all the more reason why we will continue to adhere to the “compliance as premise.”

Looking Towards the Future

Fostering More “Comrades” to Create a Bold Corporate Culture

No one knows when their life will end. That's why I strive to work hard every moment to do what needs to be done. But no one can do it all on their own. Without comrades who are willing to tell you when you’re wrong, you’ll just end up like the emperor with no clothes.
I intend to convey this way of thinking in my own words to employees and other stakeholders. Nothing gets conveyed if you don’t put into words.
I hope that, by this, employees will increase the number of comrades they have among one another, thereby creating an open organizational culture in which each employee can work independently and with confidence. I want to foster a corporate culture which boldly takes on challenges. I believe that all of this is necessary in order to achieve the numerical targets of Stage II, to Strengthening all of our business into primary sources of profit, and to advance to Stage III.
And I would be happy for all of our shareholders and investors to join with us as comrades.



Review of Vision 2030 Stage I

Bioscience sales exceed target

Although global growth in the bioscience sector drove increased sales under the Group's Vision 2030 Stage I medium-term business plan (covering April 2021 through March 2024), a slowdown in the titanium dioxide market meant we failed to achieve the plan's targets for profit and return on equity (ROE).

Stage I results and evaluation

In our organic chemicals business, bioscience business sales exceeded the plan's target thanks to pricing revisions, yen weakness, increased sales of agrochemicals in Brazil, and sales of new herbicides in the U.S., while operating income grew in line with the plan's target. In the healthcare business, impacts associated with a delay in the start of U.S. sales of an animal health product caused performance to fail to achieve targets.
In the inorganic chemicals business, the functional materials business failed to meet the plan's targets as increases in sales of conductive materials, including overseas, fell short of what the plan envisioned, aggravating the impact of a slowdown in the electronic component market. The titanium dioxide business was impacted by a loss of market momentum during the second half of 2022, and we failed to recoup soaring raw material costs through pricing revisions.

Performance overview (consolidated)

Net sales (Billion yen)	Results	Stage I targets
Organic chemicals business	67.1	58.7
Inorganic chemicals business	68.0	63.5
Other	3.2	—

Operating income (Billion yen)	Results	Stage I targets
Biosciences business	10.3	10.6
Healthcare business	△0.7	0.6
Functional materials	2.6	3.8
Titanium dioxide and other inorganic chemicals	△1.1	1.5
Other	0.2	—

Other indicators	Results	Stage I targets
Operating margin (%)	8	13
Ordinary income (Billion yen)	14.8	15.8
Net income (Billion yen)	7.9	12.4
ROE (%)	8	13

Results and issues

	Results	Issues
Organic chemicals business	● "The use of multiple agrochemical distributor" and "the maintenance of agrochemical registrations" helped achieve the sales targets of agrochemicals. ● Finalized the construction plan for Technology Research Center, Hyogo-Ono to "refine and pass on chemical synthetic technologies."	● A new subcontractor plant in India has started operation to achieve "low-cost production of active agrochemical ingredients," but the introduction of the new production method is behind schedule. ● To achieve the "global roll-out of the anti-inflammatory drug for acute phase of pancreatitis in dogs," a sales partnership with Ceva Santé Animale S.A. was concluded. The sales plan was behind schedule.
Inorganic chemicals business	● To "expand sales of electronic component materials," we established a joint venture company with Murata Manufacturing Co., Ltd. and finalized the plant construction plan. ● We successfully achieved "waste reduction at the Yokkaichi Plant." "Creating a roadmap toward carbon neutrality."	● "Increasing the sales ratio for highly functional, high-value-added products" was not achieved. We are steadfastly implementing the structural reform of the inorganic chemicals business. ● "Accelerating development of new products that will serve as drivers of further growth" was behind schedule.
Groupwide	● To achieve "management from the perspective of ESG and the SDGs," we have implemented an organizational transformation under the leadership of the Sustainability Promotion Committee. ● We successfully achieved "strengthening shareholder return" with a payout ratio of 30% and a cumulative shareholder return of 7.7 billion yen. Further enhancement will be pursued in Stage II.	● "Strengthening of the ability to create new businesses and products" is still ongoing. We will pursue the enhancement of R&D organization. ● To achieve "exhaustive capital cost management," we will establish mechanisms and structures for ROIC-focused management.

Overview of Vision 2030 Stage II

Realizing “Originality. Acceleration. Global Reach.” through individual change

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.

The Group is currently facing a period of business transition as it prepares for the end of titanium dioxide using sulfate processing production at the Yokkaichi Plant, which was launched exactly 70 years ago, and the launch of its first new research center in 60 years. Times like this demand character, productivity, a willingness to embrace challenges, and passion. We will achieve change throughout the Group through individual employees’ changes as we realize “Originality. Acceleration. Global Reach.” as set forth in Vision 2030.

Vision 2030 Stage II, medium-term business plan covering FY2024 to FY2026

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 US 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

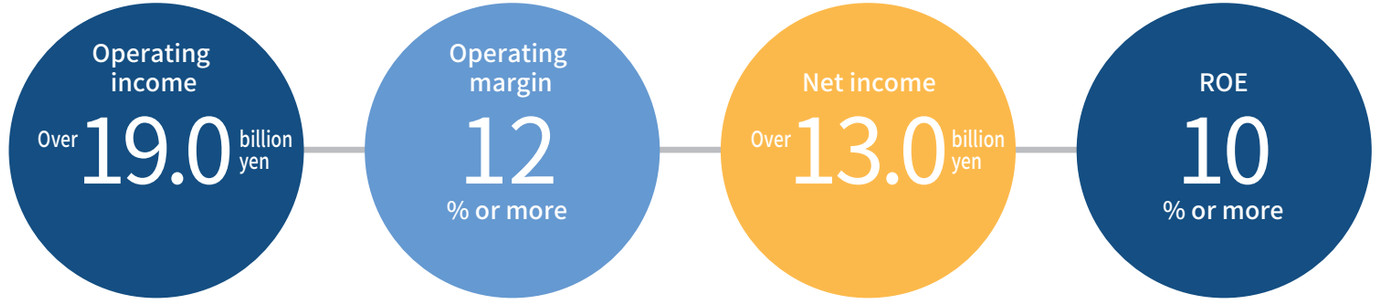
Overall management

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

Vision 2030 Stage II targets

Under Vision 2030 Stage II, the Group will transition from its direction during Stage I, when it pursued revenue growth, and implement structural reforms to seek profits. We will aim to achieve an operating margin of at least 12% and ROE of at least 10% by the end of FY2026, the plan's last year. We have set the ambitious target of generating operating income of at least 19.0 billion yen, which is almost twice FY2023's 11.4 billion yen, but consider that goal to be a viable one.



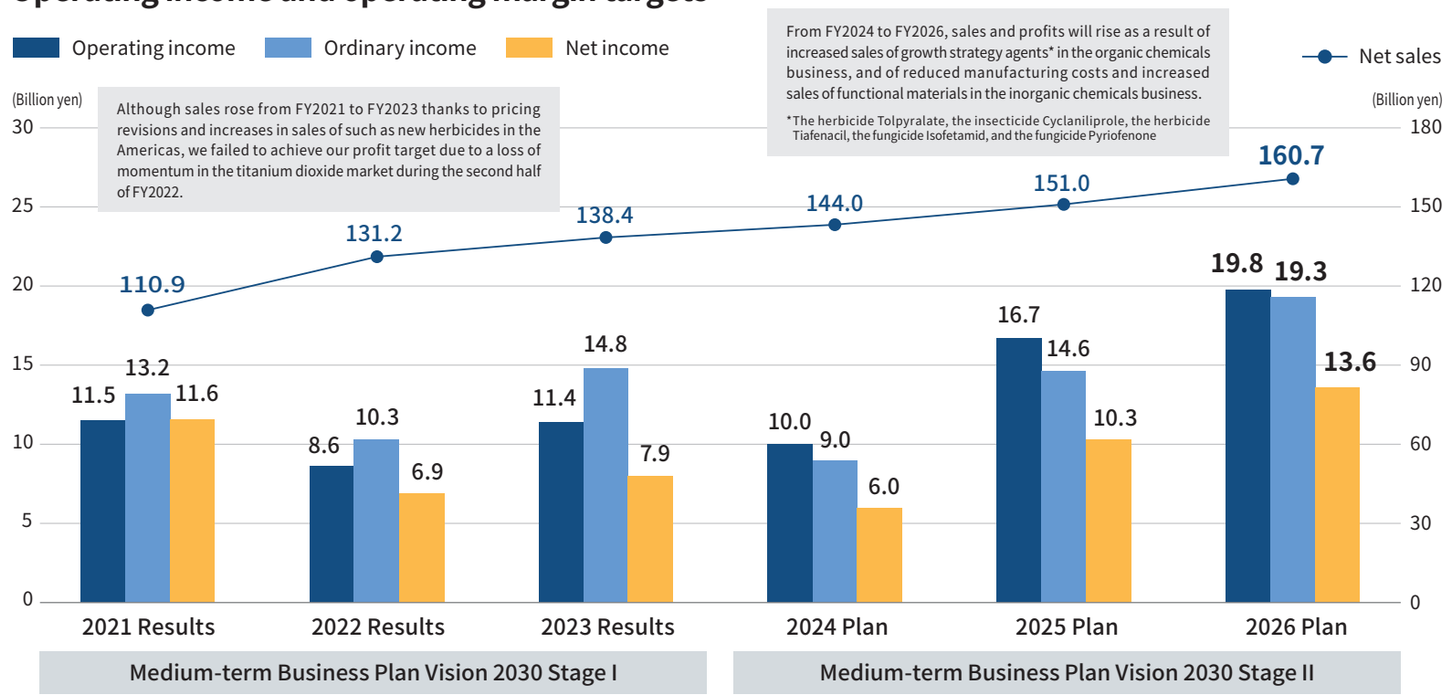
Principal KPIs

	2023 Results	2026 Target
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

Operating income and operating margin targets



Message from the Director of Finance & Accounting Headquarters

Monitoring Earnings Trends while Striking a Balance Between Investment and Shareholder Returns



Director of Finance & Accounting Headquarters **Yasunobu Kawazoe**

Market Conditions and Performance Results for Fiscal 2023

Groundwork Laid for Next Stage Despite Missed Targets in Stage I

Although our organic chemicals business was indirectly affected by other companies' excess inventory in Brazil, market conditions were otherwise adequate and overall performance in fiscal 2023 exceeded the previous year in both sales and profits. However, caution is called for as generic agrochemical active ingredients from Chinese manufacturers are beginning to penetrate the European market and elsewhere.

In our inorganic chemicals business, the downturn in the Chinese economy led to an influx of cheap titanium dioxide from local manufacturers into Southeast Asia, and titanium dioxide used in architectural paints domestically was affected by delays in construction work due to labor shortages. In addition, demand for functional materials for multilayer ceramic capacitors was also weaker due to a slowdown in EV production in China. Despite all of these factors, price revisions and a weaker yen contributed to results for fiscal 2023 which saw both sales and profits exceed the previous year.

As a result, the Group's consolidated operating income exceeded our forecast, reaching 11.4 billion yen, but fell short of the 16.6-billion-yen target set in our previous medium-term business plan, Vision 2030 Stage I. This was due to the fact that earnings from titanium dioxide in our inorganic chemicals business were in the red, while there have been delays in achieving profitability for our healthcare business.

Let us now look back at Stage I as a whole. Within our organic chemicals business, we achieved our targets for biosciences business to a certain extent, realizing a dividend payout ratio of 30%. On a positive note, we were able to lay the groundwork for the next stage, such as with the establishment of Technology Research Center, Hyogo-Ono, which will carry out production technology research, and with the establishment of MF Material Co., Ltd., which is a joint venture with Murata Manufacturing Co., Ltd. We also came to a decision about structural reforms for our inorganic chemicals business, including discontinuing production of titanium dioxide in sulfate process. On the other hand, however, we have not been able to achieve our goal of having the lowest cost manufacturing in the world for our biosciences business due to intensifying competition with Chinese-made generic active ingredients and delays in the start-up of our Indian factory.

When we look at the current market situation, we see that the overcapacity in China is continuing in both the organic and inorganic chemical markets in fiscal 2024 as well, meaning a continuation of these harsh market conditions.

Vision 2030 Stage II

Reducing Volatility Through Structural Reform of Our Inorganic Chemicals Business

It is amidst these conditions that we launched our current medium-term business plan, Vision 2030 Stage II, in April 2024. From a financial perspective, the main features include (1) a shift in policy from focusing on net sales to focusing on operating income, and (2) the introduction of a business headquarters system for our inorganic chemicals business, with all business divisions managing profits by subsegment. Of particular importance is that, with regard to (2), we have begun structural reforms to improve the profitability of our inorganic chemicals business. Over the next three years, we will be shutting down our titanium dioxide production lines which use sulfate processing and focusing on the chloride process, all while meeting our supply responsibilities to our users. We will communicate with our customers to ascertain the brands and quantities they need while carefully accommodating their requests so as not to cause them any inconvenience.

With regard to (1), as the chief financial officer, I will monitor whether we can achieve our intended operating income and, in line with the state of our progress, will seek an optimal solution that balances investment with shareholder returns. Our current operating income target of 19.8 billion yen is the result of a thorough review by the Corporate Administration & Planning Headquarters to ensure we do not repeat the mistakes of past plans that were not achieved. Each business division will be held responsible for achieving its targets.

In addition, in Stage II we will emphasize ROE, setting a target of 10% or more. We sought the same level for Stage I but, in the end, arrived at 7.9%. This was due to the high volatility of titanium dioxide. Now that we have decided to discontinue production of titanium dioxide in sulfate process, we expect there will be less fluctuation in our business performance, and we hope to clearly demonstrate over the next three years.

Also, what is key for achieving our targets is whether we can steadily implement the research and development strategy laid out in Stage II. This is entirely possible if, towards the end of the plan, we are able to introduce new functional materials products on schedule in our inorganic chemicals business. Another important point is whether titanium dioxide in chloride process can be made profitable through advantageous procurement of ore and innovation in manufacturing technology. It is by these efforts that we will turn all of our products into high-profit products.

Capital Allocation and Funding

Capital Investment of 30 Billion Yen and Cumulative Dividends of 12 Billion Yen

Stage II also includes the announcement of a new outline for capital allocation. We began working on this two years ago after investors asked about cash flow allo-

Message from the Director of Finance & Accounting Headquarters

cation following our first share buyback.
For the announced allocation, we have estimated that operating cash flow obtained over the three-year period of Stage II will be approximately 52 billion yen, which will be allocated first to necessary capital investments and then to dividends. Capital investment, including the construction costs of the MF Material Nobeoka No. 2 Plant, will be approximately 30 billion yen. Regarding dividends, after spending six months talking with institutional investors, we decided to set a target dividend payout ratio of 40%, which many felt was a level that would be well received. The cumulative total for the three years will be approximately 12 billion yen. Although there is a risk of a downward trend in current net income, dividends will be maintained.
The remaining approximately 10 billion yen will be allocated to other growth investments. If a larger amount is required, such as for expenses related to the introduction of other companies' agrochemicals, we will raise the funds through interest-bearing debt. Currently, working capital is increasing due to an increase in our inventory of titanium dioxide produced by sulfate processing; however, as inventory adjustments progress, interest-bearing debt will decrease, keeping the company's rating at "BBB+ Stable," which means there will be no problems with fundraising. Stage II has also been well-received by rating agencies an easy-to-understand plan.

Introduction of ROIC

ROIC as an Internal Investment Standard, and ROE as an External Indicator for the Time Being

Our Group is preparing to introduce ROIC (return on invested capital) from fiscal year 2024. It will be used as an internal investment standard. We are currently considering the basic framework, including whether the target organizational units should be the individual headquarters or the individual sub-segments. We have used, and will continue to use, the discounted cash flow method to evaluate investments, so what we do will remain essentially unchanged; however, our decision to switch to ROIC will make things easier to understand and allow them to be broken down into a tree in order to identify indicators directly related to our business operations.
First, we will spend a year analyzing and allocating accounts; in the next year, we will put in place a system which includes consolidation and then begin employee training.
Meanwhile, as an indicator for those outside the company, we will continue to use ROE for the time being, with one of our Stage II targets being an ROE of 10% or more. This is because it is easy to understand and is an important factor among institutional investors' voting criteria. Currently, the trend seems to be to perform evaluation using ROE, but that could very well change; hence, we will be keeping an eye out for any developments.
Regarding shareholder's equity cost, which is the capital cost corresponding to ROE, we are looking at a broad range of 7 to 10%. This is because the results can vary considerably depending on how the data is collected. Fundamentally, I do not see any problem as long as ROE exceeds shareholder's equity cost. We are reducing the volatility of our performance through the introduction of structural reforms to our inorganic chemicals business, and hope you will watch to see whether this can be reflected in ROE over the next three years.

Shareholder Returns

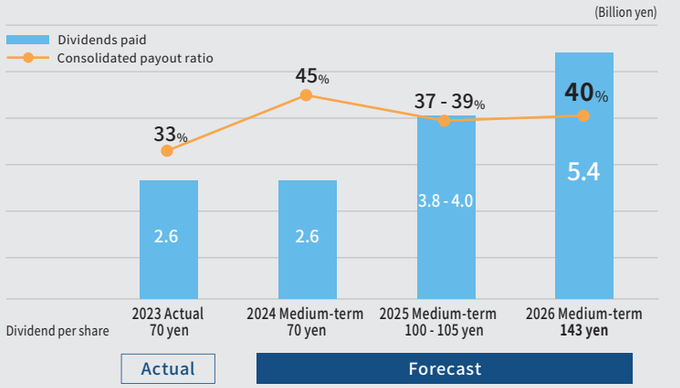
Aiming for a Dividend Payout Ratio of 40% and a PBR of 1

As mentioned in the explanation of allocation, the target shareholder return for Stage II is a dividend payout ratio of 40%. This was the most commonly heard figure based on discussions with a wide range of institutional investors. We will monitor our profit levels and consider share buybacks where appropriate, but our main focus remains dividends. We are not focused on the total return ratio.
Part of having a dividend payout ratio of 40% is that it helps in addressing PBR (price-to-book ratio). For many years, our PBR was below the liquidation value of 1, and, in order to resolve this situation during Stage II, we calculated backward from the dividend to arrive at the expected share price when PBR is 1 and found that the dividend payout ratio was 40%.
The most important factor for achieving a dividend payout ratio of 40% and a PBR of 1 is making sure that we achieve our operating income target. What is required to achieve this will be decided in Stage II. Execution is all the remains after that.
Institutional investors indicated to us that they will have no issue with the progression of Stage II if it results in a dividend payout of 143 yen in the final year as planned. However, there does seem to be some anxiety about what might happen if the market starts to move downwards. So, first things first, we need to show solid progress in the first year.
However, the views of the Tokyo Stock Exchange, from which the PBR request originated, as well as the opinions and expectations of investors, change from year to year. I believe it is essential that we face our challenges head-on while also being flexible with rolling our targets.

Shareholder Returns

Fiscal 2026 Consolidated Payout Ratio of 40%

- Continue paying stable dividends in line with business performance, comprehensively taking into account factors such as business performance trends, financial conditions, and the maintenance of sufficient internal reserves necessary for future business development.
- Aim for a consolidated dividend payout ratio of 40% toward the final year (FY2026).
- Flexibly acquiring treasury stock.



Value Creation Process

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 P22-23

- 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 P20-21

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

Vision 2030

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

Output P20-21

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

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 (FY2023 consolidated) **224.3** billion yen ● Interest-bearing debt (FY2023 consolidated) **70.3** billion yen ● Shareholders' equity (FY2023 consolidated) **101.9** 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 FY2024 ・Consolidated net sales **144.0** billion yen ・Consolidated operating income **10.0** billion yen ・ROE **5.6** %
Manufacturing Capital	● Capital investment (FY2023 consolidated) **9.6** billion yen ● Contract manufacturers of agrochemicals (FY2023 non-consolidated) **38** facilities (Japan) **19** facilities (Overseas) **19** 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. By continuing to be Japan's only producer of titanium dioxide in chloride process, we will improve our profitability.	● Organic chemicals business production volume (FY2023 consolidated) **49.1** billion yen ● Inorganic chemicals business production volume (FY2023 consolidated) **75.6** billion yen
Human Capital	● Employees (FY2023 consolidated) **1,813** people ● New graduate hires (FY2023 non-consolidated) **29**, including **10** women ● Mid-career hires (FY2023 non-consolidated) **39**, including **15** women	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.	● Training time per person (FY2023 non-consolidated) **31** hours per person/year ● Employees who took childcare leave (FY2023 non-consolidated) **18** people ● Female manager ratio (FY2023 non-consolidated) **9.1** % ● Paid leave acquisition rate (FY2023 non-consolidated) **82.8** %
Social and Relationship Capital	Transparency in business activities abiding by laws and regulations ● Number of countries where we sell our products **74** 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 (FY2023) **100** ● External honors: Shiga Prefectural Federation of Fire Safety Councils FY2024 Shiga Prefecture "Excellence in Fire Safety" Worksite Award

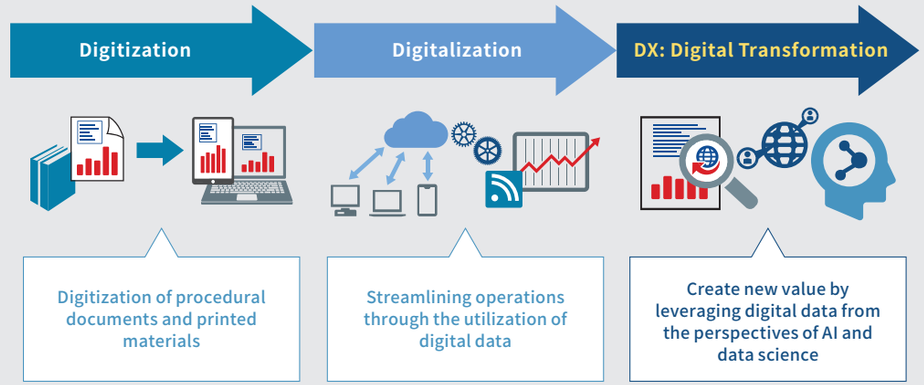
Input and Output

	Input	Role in Value Creation	Output
Natural Capital	Yokkaichi Plant FY2023 ● Energy (heavy fuel oil equivalent) **140,000** kiloliters ● Industrial water **16** million m³ ● Seawater **11** million m³ ● Titanium ore **160,000** 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 FY2023 ● CO_2 emissions **370,000** tons ● Wastewater emissions into public water areas **27** million m³ ● Industrial waste **97,000** tons PRTR-listed substances **1,500** tons
Intellectual Capital	R&D expenses (FY2023 consolidated) **9.7** billion yen Organic chemicals **8.2** billion yen Inorganic chemicals **1.3** billion yen ● Percentage of R&D employees (FY2023 non-consolidated) **22.4** %	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. Drive the development and patenting, both in Japan and overseas, of new agrochemicals, functional materials, and more, and facilitate the creation of new business associated with them.	● Number of patents held (end of FY2023 non-consolidated) **2,606** (Japan) **234** (Overseas) **2,372** ● Products developed in-house as a percentage of organic chemicals business sales (FY2023 consolidated) **88.0** %

Topics

Striving to spread a digital transformation (DX) mindset and a willingness to embrace challenges throughout the organization

In order to effectively utilize digital technologies, it's necessary to cultivate the proper mindset. To spread this mindset as we pursue a digital transformation (DX), we're offering in-house DX mindset training, generative AI workshops, and other programs for employees, including those in management positions.
In addition to building organizations and mechanisms that empower employees to take the initiative in proposing and implementing solutions based on digital technologies in this way, we're working to train human resources so that they can exhibit leadership in business process reform by connecting issues in site work with improvement measures based on a deep understanding of DX trends and technological expertise. Furthermore, by building an environment that facilitates safe, internal use of generative AI and other digital technologies, we're striving to utilize generative AI with highly sensitive data like research data accumulated by the company over many years and customer information so that we can streamline R&D and create new corporate value. At the same time, cybersecurity is becoming increasingly important as adoption of digital technologies accelerates. We're strengthening governance based on cybersecurity and computerization while pursuing the DX and building an environment that enables employees to actively embrace new digital technologies with peace of mind.



Materiality

Accelerating efforts to connect Our Vision Towards 2050 with materiality

Our group connects materiality factors with three initiatives to realize our Vision for 2050 of becoming “a global company that is cherished by people and society, achieving healthy and fulfilling lives.”

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

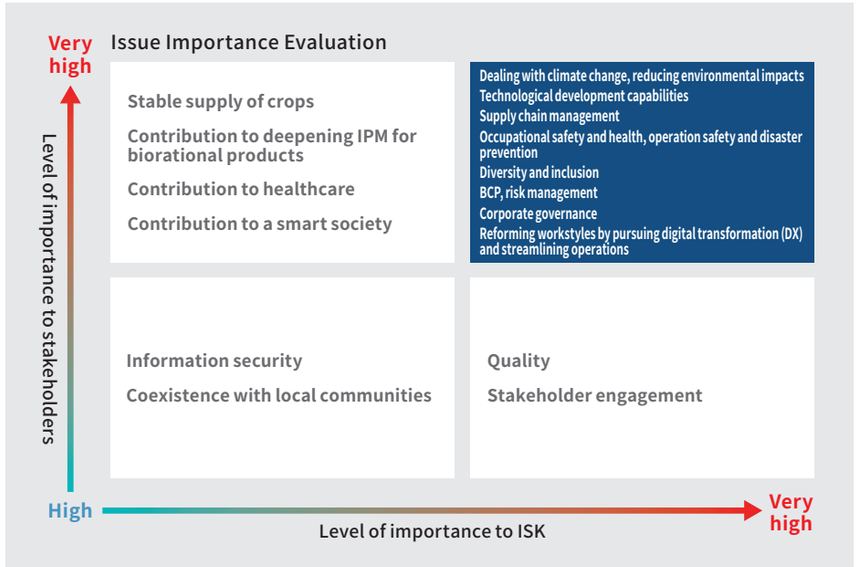
- In accordance with GRI, SASB, and other guidelines, as well as the ISK group’s long-term vision and other resources, we identified issues that deserve to be emphasized.

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
		2022	2023		
Dealing with climate change, reducing environmental impacts	CO_2 emission reduction rate (Scope 1+2, vs. FY2019)	1.5% increase (FY2019 levels)	2.7% increase (FY2019 levels)	30% or more/2030	ISK Group
	Reduction in energy intensity	3.9% increase (Year-on-year)	1.0% decrease (Year-on-year)	1% or more/Every year	Japan, consolidated
	Industrial waste emission reduction rate (vs. FY2019)	22.1% reduction (FY2019 levels)	20.2% 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/2024	Japan, consolidated
Technological development capabilities	Creation of new products and technologies in each business segment	Working according to the plans	4 new products launched (FY2022 to FY2023)	Increase in number of new products created/ Every year (average of most recent 3 years)	ISK Group
	R&D expenses	9.1 billion yen	9.7 billion yen	30.3 billion yen/Cumulative total, FY2024 to FY2026	ISK Group
	Percentage of employees in R&D positions	22.2%	22.4%	Maintenance of a level of 20% or greater/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.	Compilation of guidelines in progress	Completion of guidelines/2024	ISK Group
	Supplier CSR survey rate	—	56% (transaction value)	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: 0.56 Severity rate: 0.03	Frequency rate: 0.93 Severity rate: 3.47	0 accidents/2024	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	81.9%	82.8%	80% or more/2030	ISK
Diversity and inclusion	Female manager ratio	7.6%	9.1%	10% or more/2026	ISK
	Mid-career hires as percentage of managers (average for last three years)	29.3%	21.4%	30% or more/2024	ISK
	Time spent in training and/or classes per employee	24 hours	31 hours	30 hours or more/2024	ISK
	Cost of training sessions and/or classes per employee	50,000 yen	62,000 yen	60,000 yen or more/2024	ISK
BCP, risk management	Implemented through Corporate Risk Management Committee initiatives	Progressing according to the plans	Achieve plan	—	ISK Group
	Implementation of training envisioning a large-scale disaster and review of documented procedures in light of environmental changes	—	—	1 per year/2024	ISK
	Revisions to the risk map and review of priority risks targeted by measures	—	—	Held/2024	ISK Group
Corporate governance	Participation in at least 1 compliance training session	100%	100%	100%, continuing/2024	Japan, consolidated
Reforming workstyles by pursuing digital transformation (DX) and streamlining operations	Effective contribution to operational streamlining	3	3	3 /2024	ISK
	DX certification	Progressing according to the plans	Acquired	Continuing/2025	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)

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 I Review

Results

- "The use of multiple agrochemical distributors" and "the maintenance of agrochemical registrations" helped in achieving the sales targets for agrochemicals.
- Finalized the construction plan for Technology Research Center, Hyogo-Ono to "refine and pass on chemical synthesis technologies."

Issues

- A new subcontractor plant in India has started operation to achieve "low-cost production of active agrochemical ingredients," but the introduction of the new production method is behind schedule.

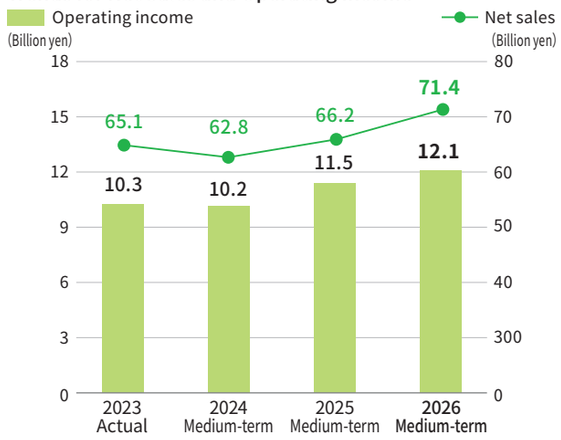
Sales and Revenues

We use multiple agrochemical distributors to expand sales of our flagship products as well as of growth strategy agents*. We are also currently constructing Technology Research Center, Hyogo-Ono as a new research and development base for agrochemical production technology in order to help ensure we are able to stably supply our agrochemicals while, at the same time, reduce our manufacturing costs. Through these efforts, we aim to expand our global market share, accelerate our globalization, and increase sales and revenues.

Growth Strategy Agents

- 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.

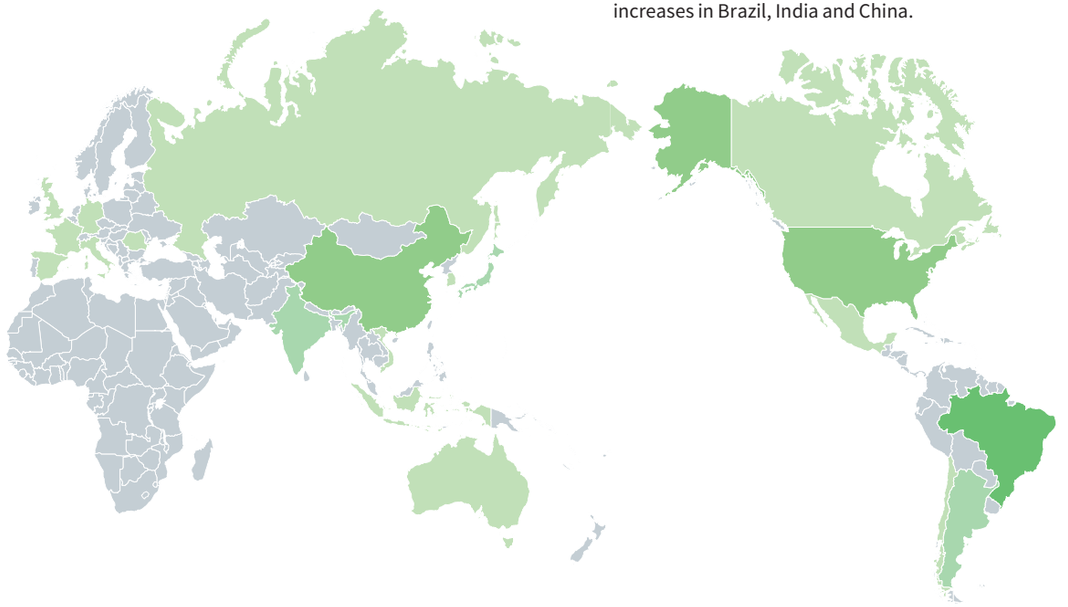
Market Environment

There are concerns about food shortages, and farmland is limited. Agrochemicals play an important role by controlling pests and diseases, thereby ensuring crop yields and quality and helping make it possible to supply needed food at reasonable prices to people around the world. Against this backdrop, the global agrochemical market is expected to continue expanding, with an average annual growth rate of 1.7% between 2023 and 2028 (source: Agbio Crop 2023).

Global Agrochemical Market (AgbioCrop 2023)

Billion US $ 16.3

Sales of agrochemicals have steadily increased over the past five years due to such factors as expanding acreage for crops like soybean, with particularly notable increases in Brazil, India and China.



Organic Chemicals Business (Biosciences)

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.

Message from the Director

Thorough Management and Pursuit of Profit



Director of Biosciences Business Headquarters
Mikiya Horie

Review of Stage I

Achievement of Profit Targets and Good Progress in Recruiting Local Distributors

Despite the overall sales volume falling short of our target, we were able to achieve our profit target for Stage I. The sluggish sales volume was due to an increase in market inventory of agrochemicals in general in North America and Brazil in fiscal 2022 due to distributors and users purchasing more agrochemicals than they needed because of supply concerns caused by COVID-19. In addition, while other efforts such as the recruitment of local sales distributors overseas progressed according to plan, the start of operations at a new production plant in India being outsourced to a subcontractor was delayed due to the impact of COVID-19.
Significantly, we have been able to maintain the registration of our agrochemicals with different governments. In particular, as competing agrochemicals lose their registrations in the EU, where regulations are becoming stricter every year, maintaining our registrations has led to increased product sales in the EU. Another positive result has been the expansion of our sales distributors and, as part of our efforts to reduce manufacturing costs, the start of construction on Technology Research Center, Hyogo-Ono (Ono City, Hyogo Prefecture).

Basic Strategy

Developing Mixed Formulations of Growth Strategy Agents and Expanding Sales Networks

The biosciences business strategy for Stage II is simple. In order to increase profits, we need to reduce costs, increase sale prices, and increase sales volume. We believe that maintaining the prices of existing products and expanding sales of five growth strategy agents* will be key to achieving our target of 12.1 billion yen in operating income.

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

Of the five, single formulation sales are growing for three; so, we will focus on developing mixed formulations of them. In addition to

Organic Chemicals Business (Biosciences)

Message from the Director

expanding the range of applications for our products, we will also work to differentiate our products from those of other companies, such as by taking measures against pesticide resistance to prevent fungus and other organisms from developing resistance to our products, so that we will be competitive against generic agrochemicals that are expected to be brought to market in the future. The aim is to develop mixed formulations as early as possible while the patent period remains, in order to gain first-mover advantage. We will introduce one to three products in each major region and will roughly double the number of local distributors that handle them.

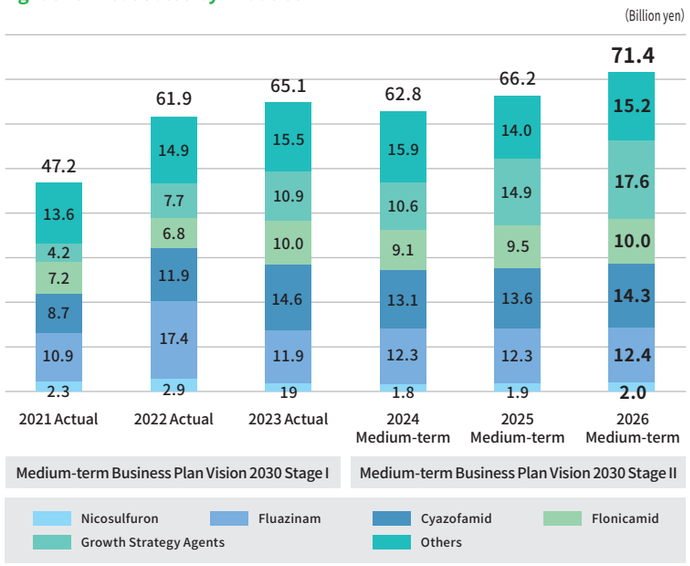
For the remaining two growth strategy agents, we will explore new application contexts while reducing manufacturing costs to increase their competitiveness.

The main target markets for our growth strategy agents are North and South America. In Asia, registration of the single formulations has been completed in India, so we are aiming to add two mixed formulations. The problem is in the EU, where new environmental requirements are being constantly introduced, making it difficult to maintain registrations. Even if we secured register now, it may be revoked when the regulations suddenly become stricter. At one point, the European Commission proposed a bill to halve the use of chemical pesticides by 2030, but it was withdrawn earlier this year due to opposition from local farmers. We will need to continue to closely monitor relevant trends. However, I believe there will continue to be opportunities in Eastern Europe and the CIS countries, even within Europe.

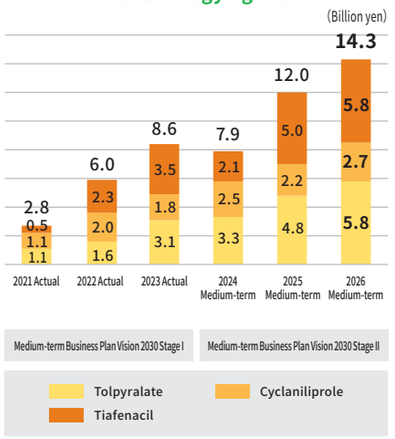
In terms of costs, we will focus on improving the manufacturing process of active ingredients. A pilot facility will be installed at Technology Research Center, Hyogo-Ono to enable verification for actual manufacturing, and, by among other things, reviewing the Synthetic pathway and reaction conditions to improve yields, reducing the number of steps and the amount of raw materials used, and switching to cheaper raw materials, a more economically advantageous manufacturing process will be developed. We will set a fixed target amount to be achieved by 2030 to reduce manufacturing costs.

For the Stage II period only, we will consider purchasing intermediates cheaply from Chinese manufacturers and turning them into final compounds, but our main focus will be on improving the process and scaling it up in-house so that we can have our production outsourced to other companies to produce active ingredients cheaply. The costs for Technology Research Center, Hyogo-Ono will be recovered through cost reductions in our business.

Agrochemical Sales by Product



Three Growth Strategy Agents



Features and Strengths

Unique Development Speed and Registration Capabilities

One of our strengths is that we are able to efficiently develop agrochemicals ourselves by providing feedback to our Central Research Institute (Kusatsu City, Shiga Prefecture) about market demand captured by our sales departments. Thanks to this the speed of development is already fast, but to further enhance this strength, we are looking at introducing AI drug discovery along with joint development with research companies and other companies in the same industry.

Another notable feature of our business is our ability to independently perform agrochemical registration. We have approximately 20 registration staff in Europe and 10 in North America, mostly locally hired staff, as well as staff in Brazil, India and China. We are also considering increasing our staff numbers in North America and India. Our plan is to have not only registration department staff but also sales, development and manufacturing department staff stationed locally to give them experience abroad and help improve the quality of their work at the Head Office. Eventually, we would like to increase the number of staff stationed overseas to two or three times the current level.

Future Development

Working Now to Lay the Foundations for Future Global Expansion

Once Technology Research Center, Hyogo-Ono begins full-scale operation, our strengths will be augmented by enhanced production technologies. In order to capitalize on this further, I would like for us to have a base overseas that can serve as a manufacturing base. I think this is something for after we enter Stage III, but the idea is to gradually consolidate production to specific contract manufacturers and then form joint ventures with them.

We are also considering options such as introducing products from other companies and pursuing M&A with companies that have promising one. The aim is to supplement the products that are lacking in our product lineup, and if we want to expand sales in the shrinking European, American, and domestic markets, it is more reliable to acquire existing products with a proven track record than to launch new ones. We are particularly keen to target products that be divested by multinational corporations, provided that we can recoup our investment within a certain period of time and maintain registration without difficulty.

Stage II is period for us to strengthen pillars of profit in each of our businesses. Of course, we aim to achieve our operating income targets, but we also think it important to reduce production costs and improve efficiency while establishing a system for global expansion. This is so that when new products are developed in the future, they can be quickly expanded into sales. And, by 2030, when Vision 2030 reaches its culmination, we will have given tangible expression to our philosophy of “supporting people’s nutrition, health, and life to contribute to realizing a sustainable society.”

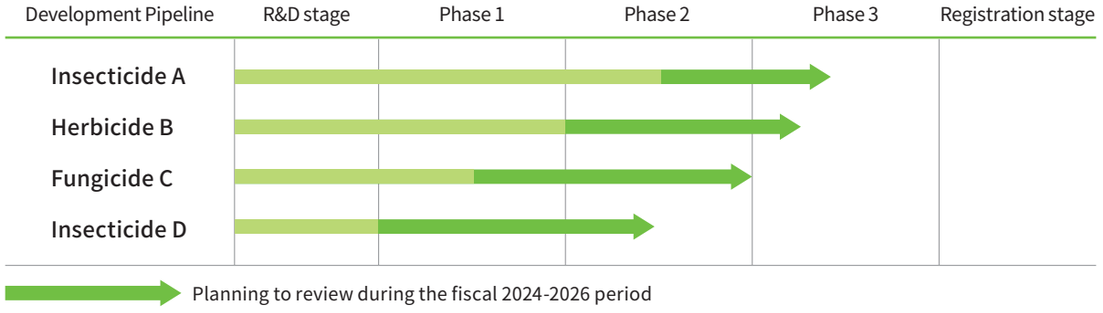
Organic Chemicals Business (Biosciences)

Research and Development Investment and Policies

We are strengthening our in-house research and technological development capabilities and utilizing them efficiently to promote the development and commercialization of new agrochemicals. We are also exploring various possibilities for expanding the scale of our business, such as through M&A with other companies, pursuing collaborations, and introducing products from other companies. We are also working on development and commercialization in the field of biologicals.

Development pipeline

From the standpoint of marketability and growth potential, we are concentrating our research on four focus areas. Based on an analysis of the target market size for each of these focus areas, we believe that each will be an attractive focus that will provide further growth opportunities for our agrochemicals business. It is generally said that agrochemical development takes more than 10 years. We undertake our research every day with an emphasis on speed and efficiency so as to complete it in as short a time as possible.



Contributing to Sustainable Agriculture

We have launched Riceful™, a biostimulant* for paddy rice made from ingredients extracted from plants that are also used in food. It is considered that spraying Riceful™ onto seedling trays before planting promotes the expression of heat shock proteins (HSPs), resulted in improving the high temperature tolerance of the rice and helping it to avoid the stress of hot summer.

*Biostimulants are materials that mitigate "abiotic stress," caused by such as high temperatures, dryness, cold damage, salt damage and physical damage.

Products under development	Marketing period
Biopesticides	In FY2026
Biostimulant	In FY2026

Construction of Technology Research Center, Hyogo-Ono

We will establish new Technology Research Center, Hyogo-Ono on our own site within the Hyogo-Ono Industrial Park in Ono City, Hyogo Prefecture where it will serve as a research and development base for agrochemical production technology in our organic chemicals business. Construction of the Center began on May 29, 2024.
The establishment of this R&D base is part of the priority measures presented in Vision 2030 Stage II, for our Organic Chemicals Business, is aimed at "accelerating R&D and the commercialization of new agrochemicals and animal health products" and "increasing our share of the global market by manufacturing agrochemicals at the lowest cost in the world and supplying them in a stable manner."

Intended Results

- Ongoing cost reduction through process review of new and existing products
- Establishment of highly efficient and inexpensive processes through in-house scale-up studies
- Cultivation of chemical engineers (human resources) and the passing on of plant engineering capabilities (manufacturing capabilities)



Construction work is scheduled to continue until September 2025, with operations scheduled to begin in December 2025. Approximately 30 to 40 people are expected to be employed at the facility initially. The main facility is being built during this first phase of construction, with about half of the land reserved for future growth as we look ahead to a second phase of expansion.



In parallel with the construction work, we are holding workshops to prepare the research facilities and equipment, select office furniture and fixtures, and to formulate rules for operating the Center. We are engaged in active discussion, not only with veterans but also the younger employees who will be the future of ISK, on ways that we can create a better workplace.

We will continue to strengthen our discovery and development of highly functional, safe and reliable agrochemicals, as well as our ability to supply them globally, to thereby contribute to stable agricultural production around the world.

Organic Chemicals Business (Healthcare)

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 I Review

Issues

- With regard to the introduction of an anti-pancreatitis drug for dogs to worldwide markets, although we released this drug in the United States as well as Japan, sales have lagged compared to what was planned. The issue we face is to strengthen the sales system.

Sales and Revenues — **Animal Health Products (Anti-pancreatitis Drug for Dogs)**

Overseas Sales

The drug received conditional approval from the FDA in November 2022 and went on sale in the United States in April 2023. Currently, sales of our anti-pancreatitis drug for dogs are strong, but due to a delay in its launch compared to what was anticipated in the Stage I previous medium-term business plan, sales did not reach their target for Stage I.
During the current Stage II medium-term business plan, sales are scheduled to begin in Europe and other major countries around the world.

Domestic Sales

In fiscal 2023, both sales and operating income increased compared to the previous fiscal year. Since its launch in fiscal 2018, sales have smoothly increased every year compared to the previous year.
In fiscal 2024, we will expand our sales staff and communicate technical information to clinical practices to further deepen our penetration into the market.

Social Issues

With regard to animal health products, as the lifespans of companion animals (CAs) increase they experience a greater variety of diseases; however, addressing this need is complicated by the fact that there is a shortage of therapeutic drugs in the veterinary medical field.

Market Environment

Overseas

Health products for CA markets worldwide (2022)
About 2 trillion yen*1

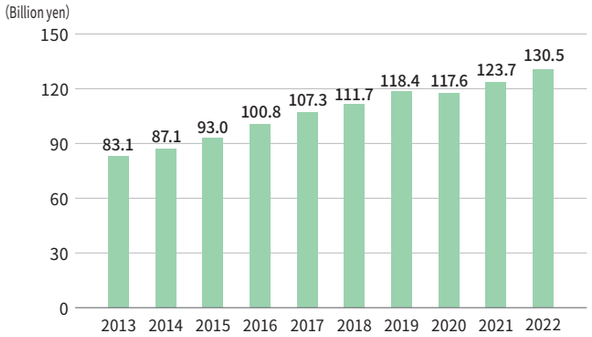
Japan

Animal health products markets in Japan (2022)
130.5 billion yen*2
[including production animals (PA) and CA]

Health products for CA markets in Japan (2022)
About 52 billion yen*1

*1 Based on in-house research
*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 2020-2022"

Animal health products markets in Japan



Risks and Opportunities

Risks	Opportunities
There is a limit to the regulatory data protection period (reexamination period) during which sales exclusivity is guaranteed.	The reinforcement of the intellectual property protection network and many sides of the use opportunity by the improvement of the formulation, dosage forms and the application expansion of the target disease
The high market growth rate may lead to competitors entering the market.	Create business opportunities by matching excellent existing seed ideas with the plethora of unmet needs in the veterinary medicine market

Message from the Director

Establishing Pillars of Business to Bring Prosperity in Stage III



Director of Healthcare Business Headquarters

Hiroyuki Watanabe

Review of Stage I

Developing Business Foundations in the Large US and European Markets

In terms of figures, we missed our targets for both net sales and operating income. This was due to a delay in the launch in the United States of an anti-pancreatitis drug for dogs, as well as to misjudgment in the anticipated in the speed of market penetration in Japan. However, we were able to establish a business foundation in the United States and Europe, which are both major markets for veterinary medicines. These foundations encompass the establishment of two local US subsidiaries, the recruitment and dispatch of personnel, the building of a network with partners who can help compensate where we are lacking, and more. This is a major achievement and provides us with a reliable business infrastructure that will enable us to quickly put our developed products on the market in the future.

Basic Strategy

Selling Animal Health Products in Brazil and Other Countries in Addition to the US and EU

We believe that by streamlining unprofitable businesses and changing our pricing structure, we can improve our bottom line, after which the key is seeing how much profit we can make. The most important thing is to expand sales of PANOQUELL™-CA1 in the United States. Meanwhile, our submission of approval to the EU for PANOQUELL™ was completed this May, and, if all goes well, approval is expected to be granted within fiscal 2025. That would expand our target market dramatically.
Our basic healthcare business strategy is to focus primarily on the United States and Europe while also getting this product on the market and expanding its sales in Brazil, Australia, and Mexico during Stage II, thereby helping to expand the growth of our business in the global market. The number of pet dogs in Europe and the United States alone is approximately 17 times that of Japan, so significant growth is expected. In this way, we aim to achieve profitability in fiscal 2025 followed by a significant increase in profits in fiscal 2026.

Features and Strengths

Capitalizing on Unmet Needs During Product Development

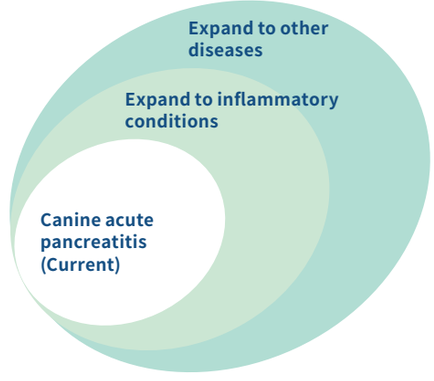
The strengths of our healthcare business lie in our research and development and marketing capabilities. The Central Research Institute (Kusatsu City, Shiga Prefecture) has developed a wide range of compounds which were synthesised for new agrochemical research and is able to convert these into animal health products by selecting only those with pharmacological effects. In addition, ISK possesses a range of technologies necessary for formulation, thus enabling it to develop a wide range of pharmaceutical products more quickly and efficiently than other companies.
Meanwhile, however, the role of the marketing team is to detect and accurately identify, in real time, unmet medical needs at clinical practices and to match these with the seeds held by the Central Research Institute. We have strong connections with influential experts and are able to obtain early information about their needs, which allows us to develop products that will have a high probability of success.
Our basic business model is to lead our business by taking the lead in areas where we can make the most of these two strengths, while forming partnerships with highly specialized companies to cover other aspects such as manufacturing and end sales. We are already deepening our ties with major partner companies, including a major French animal pharmaceutical manufacturer, and this is producing positive results. This networked business structure eliminates the need for large-scale capital investment, and one of our defining features is that we pursue high capital productivity.

Future Development

Expanding Investment in Response to a Global Shift

Fuzapladib sodium hydrate, the active ingredient in our anti-pancreatitis drug for dogs, may also be effective in treating other diseases, and we are in process of developing applications targeting these as well. We also have a number of other pharmacologically effective compounds which we will continue to capitalize upon. For human use, we are already working on active pharmaceutical ingredients and have found compounds that may be effective on the human body; however, finding a balance with development costs and with the associated risks means that we will need to focus our efforts on a targeted basis.
Another consideration is our healthcare business's dependence on overseas markets, which is expected to increase from 27-28% in fiscal 2023 to over 60% in fiscal 2026, indicating that we are currently in the midst of a rapid global shift. Under these circumstances, in order to expand our business and meet our Stage II targets, the first thing we need to do is increase our human resources in the United States and scale up our production bases. We intend to fully invest all of the necessary resources, and this includes human resources. It is in Stage II that we will develop the core of our business in order that it can truly prosper in Stage III. I believe that our mission in Stage II is to prepare the business infrastructure that we have in the US and Europe to enable us to commercialize the seeds that we have in hand whenever they are ready to bear fruit.

■ Expanding the application of fuzapladib sodium hydrate utilizing its unique mechanism of action, towards Stage III



Inorganic Chemicals Business

The flagship products of our inorganic chemicals business include functional materials like electronic component materials and heat shielding materials. We're also the only domestic manufacturer to produce titanium dioxide using chloride processing, which has a lower environmental impact than other methods, and we supply the material as a white pigment to a broad range of fields, including for use in industrial products like paints, plastics, and inks as well as cosmetics and synthetic fibers.

Stage I Review

Results

- To "expand sales of electronic component materials," we established a joint venture company with Murata Manufacturing Co., Ltd. and finalized the plant construction plan.
- We successfully achieved "waste reduction at the Yokkaichi Plant." "Creating a roadmap toward carbon neutrality."

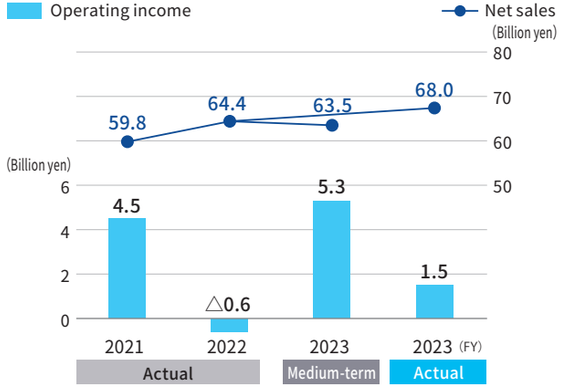
Issues

- "Increasing the sales ratio for highly functional, high-value-added products" was not achieved. We are steadfastly implementing the structural reform of the inorganic chemicals business.
- "Accelerating development of new products that will serve as drivers of further growth" was behind schedule.

Stage I sales and revenue

As a result of our efforts to shift soaring raw material and fuel prices into selling prices, sales rose relative to what we envisioned in the medium-term business plan. However, profits fell below the level in the plan as a result of increases in raw material and fuel costs beyond pricing revisions, a decrease in availability rate due to factors including a decrease in sales volume, a slowdown in the electronic components market, and a failure to increase sales of conductive materials, including overseas.

Profit trend in the inorganic chemicals business



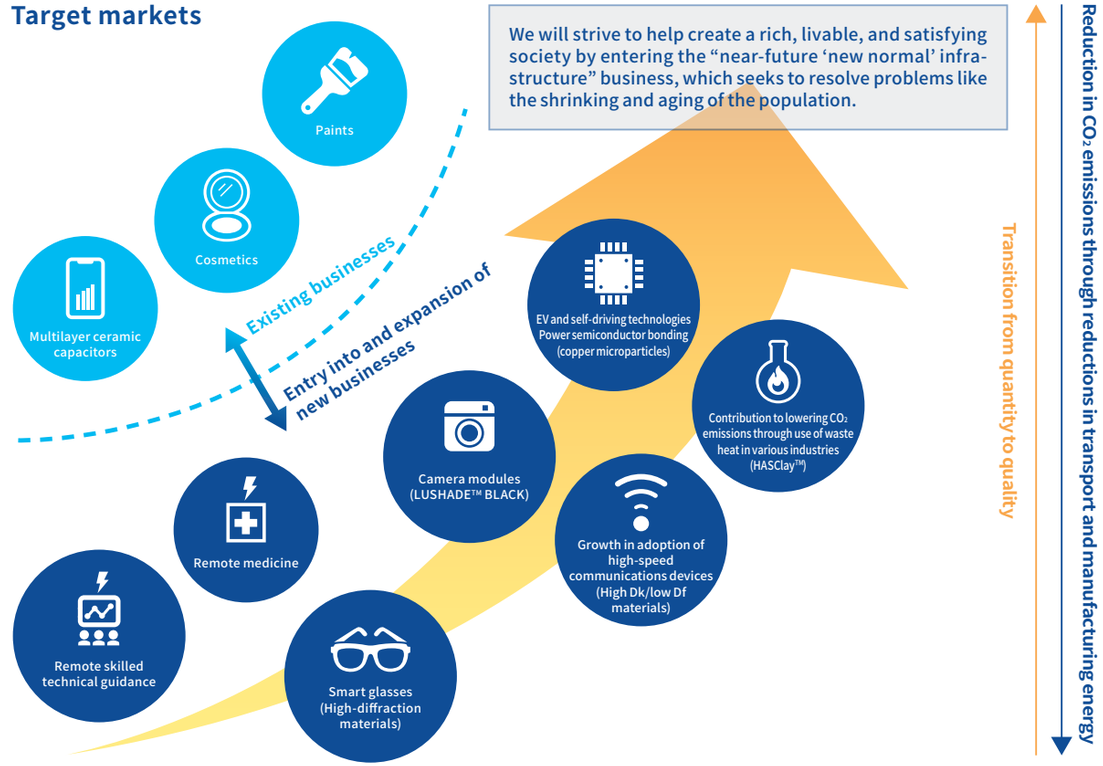
Social issues

Principal megatrends where our inorganic chemicals business can make a contribution include rising life span and the aging of the population worldwide and progress in the development of digital technologies. We will focus on devices that will underpin next-generation infrastructure with our functional materials products.
In addition, we will reduce the environmental impact of our operations by strengthening development of manufacturing processes.

Market environment

We expect camera demand to continue to grow as a result of progress in self-driving technologies and efforts to improve security, and our high jet-black pigment (LUSHADETM BLACK) is attracting attention for use in blocking stray light in optical devices. In addition, we expect demand for stylish, compact, low-speed mobility products for use by senior citizens to grow, and our low-temperature sintering copper microparticles, a power semiconductor bonding material, will make a contribution in this area.

Target markets



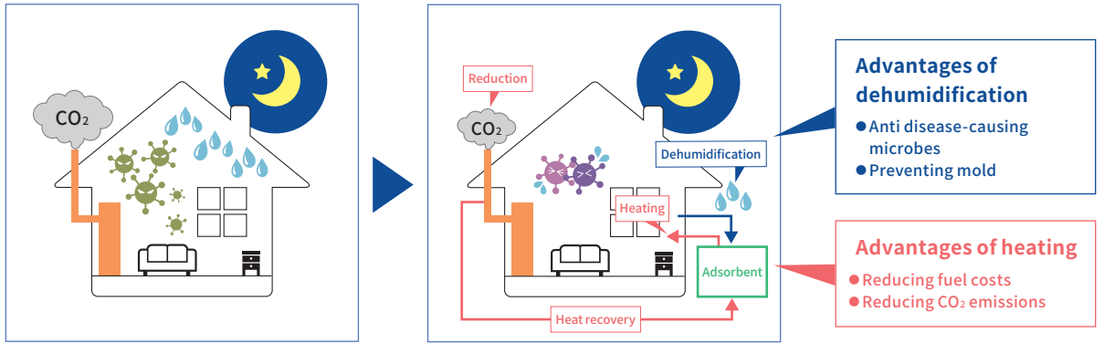
Inorganic Chemicals Business

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

HASClay™, a high-performance heat storage material, can store low-temperature waste heat around 100°C and improves more than twice the thermal storage capacity of conventional materials. In addition, it doesn't need to be kept warm when storing heat for extended periods of time. Since a heat storage tank can accumulate waste heat and then be transported to another location so that its heat can be used there, the material can be expected to serve as a "heat battery," contributing to effective use of energy and reduction of CO_2 emissions.
In addition, HASClay™ has dehumidifying effects and is likely to be able to help reduce disease damage in greenhouses by dehumidifying them.



Message from the Director

Reducing the cost of manufacturing titanium dioxide in chloride process while extending sales of functional material capabilities



Director of Inorganic Chemicals Business Headquarters
Yoshiyuki Shimmyo

Review of Stage I

Halting production of titanium dioxide in sulfate process after three years of deliberations

It was three years of enormous change. Despite robust sales of high-value-added products and overseas sales during the first fiscal year starting April 2021, titanium dioxide remains a product that's susceptible to the effects of market conditions. Starting in FY2022, we had to deal with an economic slowdown in both Japan and abroad as well as soaring raw material, fuel, and mineral prices after the start of the war in Ukraine.
Against that backdrop, I think it was fortunate that we were able to correct pricing several times, continue our business activities, and maintain a stable supply. As a result, the titanium dioxide business operated at a loss during FY2023, but it could have been worse had we not taken those actions.
In the midst of those developments, we launched the Sulfate Process Redevelopment Study Committee in 2021 and considered making structural reforms at the Yokkaichi Plant. Seventy years since we began producing titanium dioxide in sulfate process, repair costs each year, including to address safety issues, were exceeding depreciation expenses, and Chinese manufacturers were offering their product at low prices, making it difficult to continue operations. After two years of study, we had estimated the enormous capital expenditures that would be necessary to renew our production equipment and decided to reconsider production of titanium dioxide in chloride process and functional materials based on profitability and future potential considerations. Armed with the results of that study, the Committee for Inorganic Business Restructuring, which was established in May 2023, took another year to study far-reaching reforms and as a result decided to halt production of titanium dioxide in sulfate process effective March 31, 2027. It's an unfortunate but inevitable decision so that we can implement the Stage II policy of "Strengthening all of our business into primary sources of profit."

Inorganic Chemicals Business

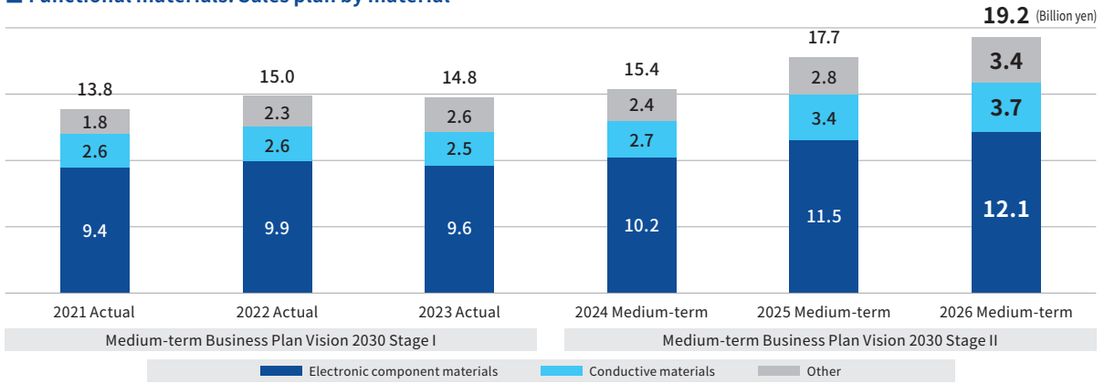
Message from the Director

Basic strategy

Accelerating development of the solutions business by introducing a business headquarters-based organization

During Stage II, which began with the conditions described above, we will consolidate production on titanium dioxide in chloride process to strengthen our competitiveness. Although the process uses high-quality, high-cost ore with titanium content of about 90%, it produces less waste and entails lower processing costs, making it advantageous overall from a cost perspective as well as imposing lower environmental impacts. Furthermore, we're working to develop technologies that will make it possible to use ore consisting of 80% titanium and will lower costs by shifting a large portion of production to that approach during Stage II.
In addition, consolidating operations on chloride processing will significantly lower environmental impacts. Our goal is to lower current annual industrial waste emissions (60,000 to 70,000 tons) to 30,000 tons by 2030. With regard to CO_2 emissions, we're aiming to achieve a 30% reduction by 2030 (compared to FY2019 levels) by introducing CO_2 collection technologies while transitioning to LNG as a boiler fuel.
At the same time, in order to realize sustainable growth, it will be essential to launch new products that take advantage of the technologies we've developed in connection with titanium dioxide pigments. To do so, we'll need a development sales-based organization that can take advantage of R&D to accommodate customer needs and market seeds. We launched a new headquarters-based organization in June 2024, combining inorganic chemical sales, R&D, and production, which were previously separated into different departments, to form the Inorganic Chemicals Business Headquarters, which consists of three divisions with planning, sales, and R&D functions for each business domain: the Functional Color Materials Business Division, the Electronic Materials Business Division, and the Fine Chemicals Business Division. We also established two departments with cross-cutting responsibilities: a Production Technology Division tasked with realizing cost reductions and mass-production processes, and an Analytical Solutions Division tasked with providing analytical support to the divisions and spearheading a transition to a solutions-oriented business. We brought together the divisions at the Yokkaichi Plant and accelerate business development founded on customer needs and business seeds driven by sales worksites in various cities. In doing so, we're inspired by Japanese athletes' baton-passing coordination as they won the silver medal in the 400-meter relay at the 2016 Rio Olympics. The faster we can orchestrate similar hand-offs within the Company, the faster we can work and ultimately realize profits. We will seek to realize development and production in a way that catches up to customers' needs through proposal-based sales, which involves more than just making products.
We will seek to strengthen our operations around electronic component materials and functional color materials through these structures. For the former, barium titanate, which is used to produce multilayer ceramic capacitors (MLCCs), and high-purity titanium dioxide, which is used to produce barium titanate, are representative products. Medium-to long-term demand are sure to rise, and we will put in place structures capable of catching up to needs in terms of quality, quantity, and lead time. For the latter, we will realize significant increases in sales of our super-low-reflectivity structural jet-black pigments (LUSHADETM BLACK), which absorb almost all visible light, starting in FY2026, with a focus on blocking stray light in optical devices.
Expanding our target markets to include overseas markets will also be essential in order to achieve our Stage II goals. However, we will pursue profits, rather than simply seeking to achieve high volume. As with our Bioscience Business Headquarters, which is one of the Company's core businesses, I believe one approach is to outsource some production to contractors. We will also review overseas facilities and work to realize optimal personnel assignments and education. In particular, we want to send young employees in R&D and sales overseas, and we're studying assigning employees to Taiwan, which has a strong semiconductor industry, and increasing business travel to the EU, where there's a high level of need for technologies.

■ Functional materials: Sales plan by material



Characteristics and strengths

A broad and diverse group of products

Our business's strength lies in its focus on titanium dioxide, a product with exceptional breadth. We have relationships with companies in numerous industries and also offer electronic component materials and functional products for use in applications like cosmetics, as well as deep relationships with trading companies. However, if we take these strengths to mean that we can simply keep doing what we've done until now and fall into a state of inertia, we will have put the cart before the horse. In light of our purpose of "to continue contributing to better living environments through chemical technologies," I believe that it's important to continue to think seriously about why we exist and to train human resources who combine planning and sales skills so that they can do so.

Future developments

Laying the groundwork in Stage II so that we can pursue even greater accomplishments during Stage III

Our most important goal during Stage II is to achieve 5.5 billion yen in operating income, and much remains to be done. We must realize cost reductions by using lower-quality ore to produce titanium dioxide in chloride process while extending sales of functional materials. At the same time, we must also optimize inventory assets, which have surged due to factors including soaring raw material and fuel prices and deteriorating economic conditions. Those conditions have not improved since the beginning of FY2024, but we've been steadily producing results under our plan to increase sales nevertheless.
Stage II is a time for laying the groundwork for future success. We will aim to realize even greater accomplishments during Stage III by training human resources, raising awareness, and creating new businesses to replace titanium dioxide produced using conventional sulfate processing.

Inorganic Chemicals Business

R&D investment and measures

We will work to orchestrate a major transition in our product portfolio from general-purpose titanium dioxide to the functional material domain. We will pursue new-product development, starting with products for the electronic component materials segment and form groups of specialists and develop strategies for each domain.

Development pipeline

We're focusing on developing high-purity titanium dioxide for use in next-generation multilayer ceramic capacitors (MLCCs), for which demand is expected to grow for use in electric vehicles and fifth-generation (5G) communications. By offering a line of products in various particle sizes, including developed products with fine particles excellent dispersibility, we will pursue improvements to accommodate customer requirements ranging from general-purpose to state-of-the-art applications.
In addition, we're working to develop markets by focusing on the exceptional reflective characteristics (visible light absorption and infrared reflection) as well as the jet-black color characteristics of bismuth sulfide black pigments sold under our LUSHADE-TM BLACK brand, and we're accelerating efforts to study commercialization, including industrialization.

New product R&D

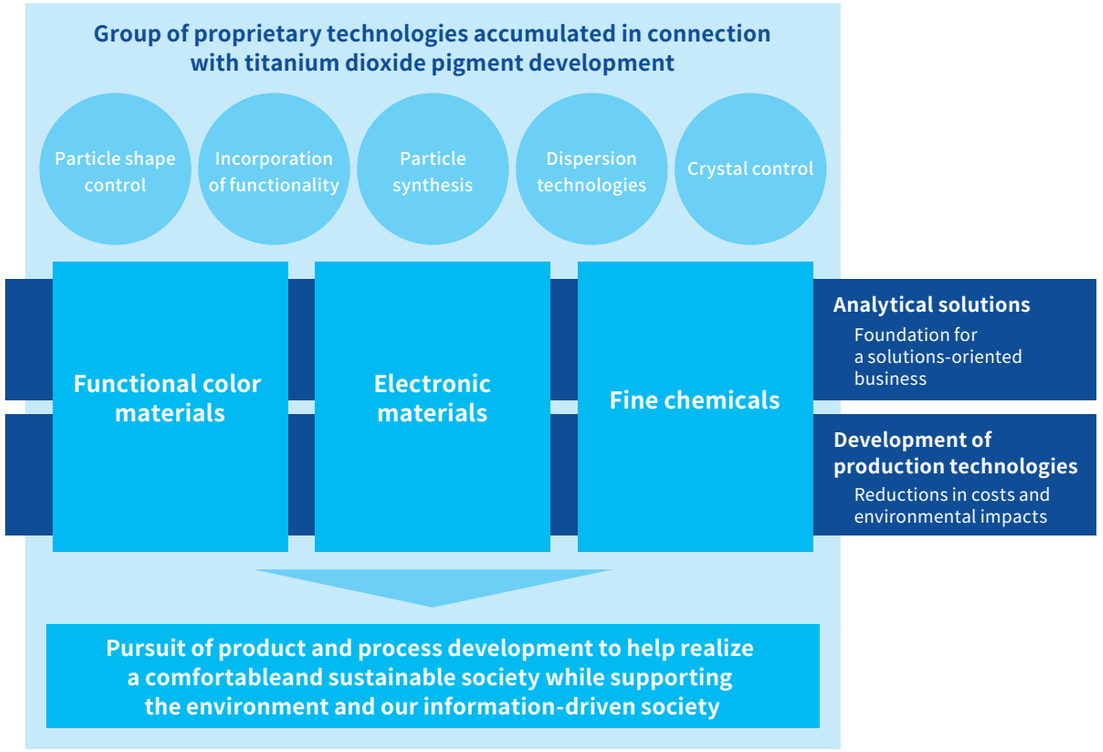
Pre-sale　Full-scale sales

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

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

Future R&D structures

Previously, our inorganic chemical business organization existed alongside the Sales Division, Development Division, and Production (Yokkaichi Plant). To strengthen sales, R&D, and production collaboration while increasing flexibility and efficiency across the organization, the recent structural reforms established the Inorganic Chemicals Business Headquarters to clarify results and responsibility for performance as well as the Functional Color Materials Business Division, Electronic Materials Business Division, and Fine Chemicals Business Division to oversee each business domain under the Headquarters. We also created the Analytical Solutions Division to provide analytical support to the divisions and the Production Technology Division to lower costs and environmental impacts. In this way, we will help realize a comfortable and sustainable society while supporting the environment and our information-driven society by pursuing product development that goes beyond titanium dioxide through each division while helping the group of proprietary technologies we've accumulated in connection with titanium dioxide pigment development take root.

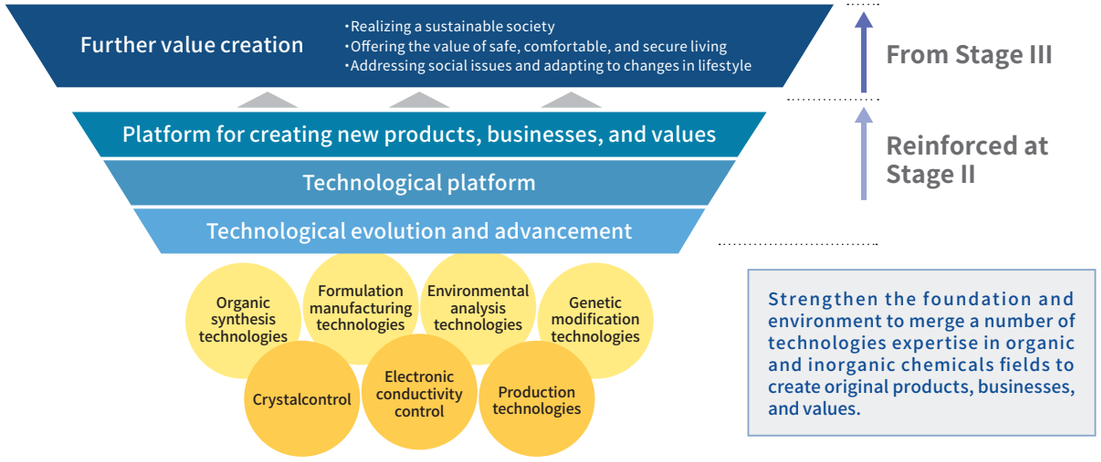


Research and Development Activities

Research and Development Policy

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

Since the opening 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.
Going forward, we will have marketing in mind as we establish research themes and will build and utilize a platform for researchers to share the unique technologies cultivated in each business department, thereby promoting the development of new products in existing fields, the creation of new business, and the creation of new value.
We are also looking for collaboration with industry, government and academia globally to accelerate innovation and bring value to people's daily lives as quickly as possible.



Organizational Strengthening of Research and Development

With the organizational restructuring of June 2024, the new business development departments for our organic and inorganic chemicals businesses have been consolidated into the Central Research Institute. This will lead to more active personnel and knowledge exchange between the two businesses, which will hopefully result in more synergistic effects in research and development.
In Stage II, we are working with members from across the entire company to build a technology platform that transcends the boundaries of specialization between organic and inorganic chemistry.

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 utilizing our integrated research system, which encompasses everything from drug discovery to commercialization, we are accelerating the development of new products and also verifying 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 business, we have developed the field of floriculture using biotechnology.
We will continue to build new pillars of business to combining organic and inorganic chemical technologies.

[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 involved in large unmet demand, but which can contribute broadly to society. We then choose themes that can be conbined 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.

[Inorganic Chemicals] Product development 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.

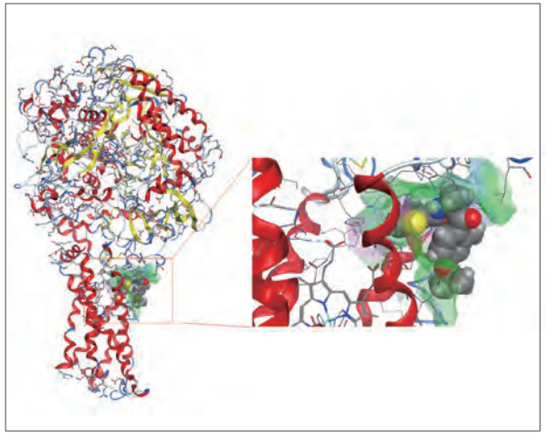
By responding to market needs by developing and offering materials that utilize various materials not limited to titanium dioxide, we aim to contribute to the realization of a society which is comfortable and sustainable.
We have established a structure in which each business division has planning, sales, and research and development functions, thereby enabling us to dig deeper into customer needs for each business domain and accelerate development, which includes utilizing our proprietary technologies and collaborating with external parties.

Key Technologies

[Biosciences]

Design, Exploration and Synthesis of New Compounds to Support Future Agriculture

In order to develop products adapted to the changing times and environment, and to meet customer needs, it is important that we promptly discover new candidate agrochemical compounds suited to the needs of the market, which includes future forecasts. Our aim is to discover innovative new agrochemicals more promptly by actively pursuing the synthesis of a wide variety of compounds using parallel synthesis equipment with our proprietary organic intermediates, achieving efficient molecular design using computational chemistry, and creating original, novel compounds using AI technology. Also, when developing agrochemicals, it is extremely important to consider not only their effectiveness in protecting crops, but also their safety for humans, animals and plants, their environmental friendliness, and their economic efficiency in agricultural production.
The Central Research Institute occupies a relatively compact site just four hectares in size, but it is home to researchers specializing in exploratory synthesis, biological activity evaluation, formulation, safety evaluation, and industrial process development. This research environment is one of our strengths as it allows for routine discussions that transcend the boundaries of specialization. We capitalize on this strength to design compounds for which agrochemical safety and economic viability are taken into consideration from the early stages of research, and we improve our synthesis research through repeated discussions with researchers from other departments. In addition to the know-how we have cultivated in developing agrochemicals, we are proactive about introducing new technologies and will continue to undertake research and development every day with the aim of developing high-added-value agrochemicals that will support future agriculture.



Computational chemistry docking simulation



Synthesis research to turn all ideas into reality

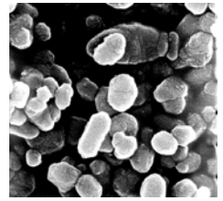
[Inorganic Chemicals]

Using Accumulated Crystal Structure and Particle Shape Control Technology for Materials Development

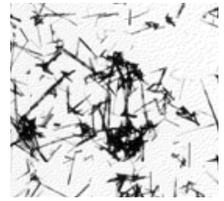
Approximately 70 years ago, our company began producing titanium dioxide for use in pigments to impart whiteness and opacity to paints, inks and other products. The key to improving the performance of titanium dioxide pigments is to control particle shape, particle size and crystallization, as well as to remove impurities and to use coating and doping technologies. We have been researching and improving 200 to 300 nm*-sized titanium dioxide pigment particles for many years and have systematically accumulated each elemental technology.
Furthermore, we apply these elemental technologies not only to titanium dioxide but also to many other inorganic compounds as we continue to design and develop a wide range of products.

*nm (nanometer) = 1/1 millionth of a mm [Comparison] Cedar pollen: 30,000 nm, PM2.5: 2,500 nm

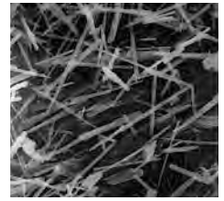
Product	Elemental Technology	Expression Performance
Titanium dioxide particles	Particle size control	Transparency, UV shielding, high refractive index
Acicular ATO (antimony-doped tin oxide)	Particle size and shape control, doping technology	Transparency, charge control
Acicular ATO-coated titanium dioxide	Particle shape control, coating technology	Adds whiteness and opacity; controls static electricity
High-purity titanium dioxide	Particle shape control, impurity removal	High dielectric constant when used with barium titanate
Calcium titanate manganate	Particle size, doping technology	Black infrared reflectiveness
Flake-like titanate	Particle size and shape control	Silky coloring
Sea urchin-shaped bismuth sulfide black pigment	Particle size and shape control	Ultra-low reflectivity, jet black, infrared reflective



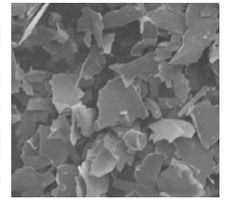
Titanium dioxide pigment
Particle size: 250 nm



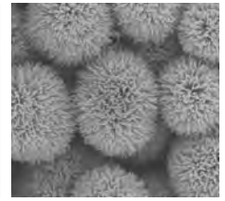
Acicular ATO
Particle diameter (minor axis): 10 - 20 nm



Acicular ATO-coated titanium dioxide
Particle diameter (minor axis): 200 - 300 nm



Flake-like titanate
Particle size (thickness: approx. 100 nm)



Sea urchin-shaped bismuth sulfide
Particle size: 1500 nm

Special Feature : Strategic Approach through “Formulation”

Provide Safe and Easy-to-use Agrochemicals Globally

ISK sells agrochemicals in 85 countries around the world.
In order to meet the diverse needs of different regions, which vary from one another in terms of climate, soil, farmland size and crops, the key is to develop a range of products and perform agrochemical “formulation” that imparts various functions and added value.
We asked Mitsuo Sano, General Manager of the Formulation Research Laboratory at our Central Research Institute (Kusatsu City, Shiga Prefecture), to explain what “formulation” is.



Going Through Hundreds of Rounds of Trial and Error to Unlock the Potential in Agrochemical Active Ingredients

—— What exactly does it mean to “formulate” an agrochemical?

It means using active ingredients to design and create agrochemical products that are easy for farmers to use. To make a product, it is of course necessary to maximize the effectiveness of the active ingredients, but it also needs to be safe, easy to use, and have a level of quality that can be guaranteed for years (storage stability). Typically, agrochemical products contain multiple additives in addition to the active ingredients, and the best recipe for the type and combination of additives is discovered through hundreds of rounds of trial and error. The final liquid or solid product is then created through pulverization, granulation or some other such process.
The key to unlocking the full potential of the active ingredients is in the choice of additives, especially surfactants (substances that mix water and oil, like soap). Surfactants have a variety of functions, such as spreading chemical solutions over plant leaves and making active ingredients more easily absorbed, thereby increasing effectiveness while reducing toxicity and decomposition. The real joy of formulation development is in deriving optimal solutions from a number of surfactant combinations and using them to their full potential, and our strength lies in our accumulated technology and know-how in this area. Formulation is a process of repeated trial and error. Therefore, there is nothing like the sense of accomplishment and satisfaction you feel when you finally create a recipe that performs and can be manufactured exactly as designed.

—— Give us some key examples of formulation.

All of the more than 50 types of agrochemical products that we sell have been developed by overcoming various challenges that arose during the development stage. For example, to develop the corn herbicide Tolpyralate, we screened more than 100 types of surfactants to ensure that the active ingredients perform at 100% of their intended potential, and we then tested over 300 combinations to find the optimal recipe that was then commercialized. Cyclaniliprole is an insecticide that is highly effective against a wide range of pests. Based on the idea of minimizing the particles of active ingredient as much as possible to improve its effectiveness, it was formulated using nanoparticle* technology so that, when diluted with water, the particles become 50 nanometers or less in size. It is extremely difficult to form nanoparticles at low cost, and it was also our first attempt at this, so I remember feeling particularly motivated in my research to bring this active ingredient worldwide, whatever it may take. These examples illustrate how we begin our research by drawing on our know-how, and by repeatedly solving problems through trial and error, to create each product.

* A particle one millionth of a millimeter in diameter.

A Large Number of Recipes and Formulation Techniques Accumulated Over More Than 50 Years of Research History

What are ISK's strengths in this field?

Formulation is a process of trial and error. Different active ingredients have different optimal recipes, so finding the additives to match with each active ingredient is important. Our greatest strength in formulation development is the large number of recipes and ideas we have accumulated over more than 50 years of formulation research. This original research has resulted in the launch of a number of world's-first agrochemical formulations. The representative is "OD formulation (oil-based suspension formulation)". OD formulation dispersed active ingredients that are easily decomposed by water in oil. Our company has a legacy of innovative manufacturing, and we take pride in the techniques and technology we have developed through our innovative thinking.
Our research organization is also unique. The Formulation Research Laboratory is responsible for everything from recipe research at the laboratory level to production development research and even production start-up (trial production at the factory). The researchers who create the recipes are themselves involved in production, allowing them to feed their experience back into their research. The researchers naturally develop a rational way of thinking that takes manufacturing into consideration, and, by experiencing success, they are inspired to take more initiative and feel an even greater level of motivation in their research. This aspect is also one of ISK's distinctive strengths.
In addition, experts in sales planning, registration, logistics, and production from the Biosciences Business Headquarters, which oversees our agrochemicals business, are also involved in formulation development from the research stage. Our strengths include our all-ISK team member product creation system and the sense of speed which they go about their work.



Agrochemical granulation process

What is most difficult about this business?

One thing is the amount of time it takes to bring a product to market. Agrochemicals require licenses and permits in each country, and the review process in each country takes years. For example, in Brazil, where the approval process drags on even after the formulation is completed, a drug cannot be released on the market for more than five years. In order not let any need or opportunity get away, it is necessary to keep research periods as short as possible while developing products that anticipate trends and will remain competitive for years after their introduction. Since this is research, there is no one "best" formulation, but, rather, the key is to find the optimal formulation as quickly and rationally as possible.
We also need to accommodate environments and needs that vary greatly from country to country and region to region. Storage stability is a particular problem in high temperature regions. For products launched in regions where temperatures exceed 40°C, such as India, we develop formulations tailored to the conditions of the region, including developing region-specific recipes as necessary.
Although there are times when requests and tasks seem impossible, we approach each as an opportunity to expand our thinking and hone our skills.



Formulations are adjusted to suit the application, such as powder, granules, or liquid

Reducing Environmental Impact and Increasing Our Corporate Value

What do you want to achieve in the future?

Formulation development that is focused on reducing environmental impact. When spraying agrochemicals in a natural environment, there is a high likelihood of spray loss due to the spray solution scattering or dripping off the leaves; thus, not all of the active ingredients sprayed are utilized. We are pursuing research to address this issue through new formulation techniques that will increase the utilization rate of active ingredients. If we can reduce spray loss, we can reduce the amount of active ingredients that need to be sprayed, which we expect would reduce environmental impact. In addition, by reducing product costs, we can expand sales in countries and regions where product prices are low, which will lead to a significant increase in the value of our company.
In addition, another important focus is increased efficiency through digital transformation (DX). As we are also a DX-certified business, we are looking ahead to the use of AI technology in future recipe development, thereby contributing to more abundant food production.
At the same time, however, we also need to strengthen collaboration with our inorganic chemicals business. The physical properties evaluation and unit operations of manufacturing (pulverization, mixing, coating, etc.) used in formulation are, in fact, similar to the methods used in inorganic materials development. We hope to take advantage of the strengths that come from having both organic and inorganic chemicals businesses in order to create new value with technology that is unique to ISK.

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.
Meanwhile, we have always respected the valid intellectual property of others.
At the same time, we take firm action against infringements by others.

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

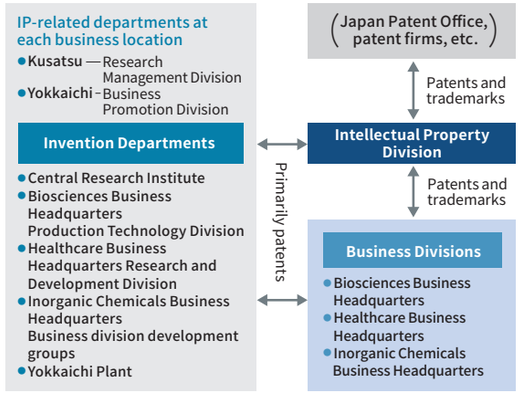
Management Structure

At ISK, the Legal & IP Headquarters handles the filing and management of industrial property rights, as well as intellectual property-related activities in the implementation of business strategies. In addition, we have patent officers stationed at each of our business sites in Yokkaichi and Kusatsu, where our production and research and development activities are carried out.

- Kusatsu : Intellectual Property Group, Research Management Division, Central Research Institute
- Yokkaichi: Promotion Group, Business Promotion Division, Inorganic Chemicals Business Headquarters

By adopting this type of activity structure, we are able to file patent applications for research and development results early and reliably, as well as be aware of other parties' patents from the early stages of research and development, thereby ensuring future business advantages and business safety and contributing to improvement in our corporate value.

Structure of ISK Intellectual Property-related Activities



Intellectual Property Strategy

We undertake the following activities with the aim of realizing our intellectual property basic policy.

Awareness-raising initiatives

- We provide our employees with intellectual property-related information, such as about patent and trademark systems.
- Through these activities, we work to raise awareness within the company about the link between R&D activities, business activities, and intellectual property.

Construction and utilization of an IP portfolio

- We build up our intellectual property portfolio through the timely and appropriate filing of patent and trademark applications in line with our business activities or business plans and strategies.
- We aim to increase the number of our patent applications.
- We utilize the intellectual property portfolio we have built up and take firm action against any infringements by third parties.

Improvement of the IP utilization rate

- We sort our intellectual property between the categories of "Currently being used in business," "Has future business potential," and "Restricting third parties," and treat this as an indicator of the link between our business and our intellectual property.
- We aim to increase the proportion of intellectual property that we utilize in our business activities.



Message from the Director of Legal & IP Headquarters

The Determination to Take Center Stage

Director of Legal & IP Headquarters
Akihiko Kikuchi

We are mindful of intellectual property in all aspects of our activities, from research to commercialization. Under Vision 2030, we will tackle the challenge of increasing patent applications (doubling them compared to fiscal 2022), which have been on a downward trend in recent years, improving our intellectual property portfolio, and increasing our patent utilization rate (to 50% or more). Based on the premise of investment in intellectual property creation (investment in R&D) and investment in intellectual property acquisition (investment in M&A), we will work with business divisions to swiftly promote an intellectual property mix that includes patents, trademarks, and contracts. By leveraging our intellectual property to give our business an advantage and maximize our corporate value, we will put into action the motto of Vision 2030, which is "Originality. Acceleration. Global Reach. Transforming lives through the power of chemistry." Since the revision of the CG Code, interest in intellectual property and intangible assets has increased. I believe that intellectual property professionals need to stop being unsung heroes and take their place at center stage.

Stakeholder Engagement

Ensuring We Continue to Earn Society's Trust

It is important that ISK Group continue to earn society's trust so that we can grow in a sustained manner. We established the Multi-Stakeholder Policy on February 1, 2023 to build an even better trust-based relationship with our stakeholders.
We place importance on giving back to our employees and giving consideration to our business partners from the perspective of both contributing to the realization of a sustainable society and increasing corporate value through our business. Therefore, we have put into place the following policies to achieve this.



Collaboration with Business Partners

We have endorsed the aims of the "the council on promoting partnership building for cultivating the future" promoted by the Government of Japan, The Small and Medium Enterprise Agency, and other organizations, and have released a Declaration on Building Partnerships.
We will strive to ensure all our suppliers and business partners related to our products and services understand and comply with our initiatives, and we aim to build new partnerships by promoting cooperation, coexistence, and co-prosperity with all business partners. Thus, we will fulfill our corporate philosophy of contributing to a better society, life, and environment through chemical technologies; respecting shareholders, customers, suppliers, local communities, and employees; and abiding by laws and regulations and maintaining transparency in business activities.

Declaration of Partnership Building (in Japanese)
https://www.biz-partnership.jp/declaration/55691-05-08-osaka.pdf

Communication with Shareholders and Investors

We will help realize a sustainable society through our business activities while building trust-based relationships with society by communicating with all stakeholders, not just customers, suppliers, and employees.
We've put in place structures to promote dialog with shareholders and investors, and we are dedicated to providing continued stable return for shareholders.

- We have a Public Relations Committee, which reports directly to the president, as an entity charged with formulating the policies and strategies that guide our IR activities, studying how information should be disclosed, and implementing associated measures.
- We've appointed a director in charge of public relations to oversee issues related to constructive dialog with shareholders and investors.
- We hold financial results briefings (twice a year) following the announcement of our full-year and second-quarter financial results, providing an opportunity for communication between top management and institutional investors. In addition, the director in charge of public relations handles individual interviews with institutional investors, either face-to-face or online, and engages in lively discussion on topics such as business growth strategies and shareholder returns.
  On May 10th, 2024, we announced our medium-term business plan, Vision 2030 Stage II along with the structural reforms we are making to our inorganic chemicals business, and institutional investors asked us a number of questions regarding these.

Trends in institutional investor IR coverage

	FY2020	FY2021	FY2022	FY2023	As of the end of June 2024
Domestic investors	39	71	51	61	18
Overseas investors	9	19	21	39	10
Total	48	90	72	100	28

No. of participants in financial results briefings (including online participants)

	FY2020	FY2021	FY2022	FY2023	FY2024
May	call off	35	35	39	54
November	22	38	34	41	—
Total	22	73	69	80	54

- For our General Shareholders' Meeting, we comply with the revised Companies Act which requires that materials for General Shareholders' Meeting be provided electronically, and we send out meeting documents physically and electronically earlier than is required by law. In addition, to improve convenience for shareholders and investors who do not speak Japanese, we translate the entire convocation notice, including the business report, into English.
- We host an annual roundtable with major shareholders with voting rights about topics such as our business performance and Corporate Governance initiatives. The views and information from those events are reported to the Board of Directors for the purposes of information sharing and for improving governance.



101st ordinary General Shareholders' Meeting (convened in June 2024)

Communication with the Local Community

Yokkaichi Plant

Plant Tour

On July 2nd, 2024, we held a plant tour for first-year students at the local Shiohama Junior High School. These tours were unavoidably suspended during the COVID-19 pandemic, so this was the first such plant tour that we have held in five years.
After boarding a bus for a tour of the entire plant, the students were told about the pollution prevention efforts at the Yokkaichi Plant, and, at the end of the tour, had the opportunity to observe experiments conducted using ISK products (titanium dioxide for MLCC, photocatalytic titanium dioxide, and HASClayTM). The students enthusiastically took part and asked many questions. Our hope is that this tour helped the students to better recognize the potential of chemical technology and fostered their interest in chemistry.
The teachers who came with the students were positive about the trip, commenting that “Ishihara Sangyo Kaisha's environmental initiatives and company policies were clearly communicated and understandable.”



A demonstration experiment using ISK products

Cleanup Activities

At the Yokkaichi Plant, we conduct cleanup activities twice a year along Ishihara Kaido, a municipal road that leads to the plant. These activities attract around 50 participants each time who want to contribute to the local community, such as by picking up trash.
In addition, the Yokkaichi Plant is a member of the Mie Prefecture Industrial Waste Management Promotion Council and takes part in annual beach cleanup activities organized by the council at Nasa Beach on Toshi Island, which is part of Toba City, Mie Prefecture.
We will continue to contribute to local communities through beautification efforts and other activities.



Clean-up activity at Nasa Beach on Toshi Island

Central Research Institute

Comprehensive Disaster Drills

Comprehensive disaster drills are held for all personnel every year in the fall with the aim of raising awareness of disaster preparedness. In fiscal 2023, we conducted evacuation drills simulating an earthquake, and, with the cooperation of the fire department, who brought an earthquake simulation vehicle that allowed employees to experience the strong shaking that accompanies a powerful earthquake, provided comprehensive instruction in earthquake-related physical and mental preparations.
Additionally, in March, firefighting training was held for our Self Disaster Team. This training was a review of all the actions that should be taken in the unlikely event of a fire and included training on calling 119 and how to spray water using outdoor fire hydrants.
As a result of these efforts, we were commended by the Shiga Prefectural Fire Prevention and Safety Association as a Shiga Prefecture Fire Prevention and Safety Outstanding Business for fiscal year 2024 and were honored with a Governor's Award. We will continue to work to raise awareness about disaster prevention so that we can serve as a role model for the local community.



Earthquake experience using an earthquake simulation vehicle

Cleanup Activities

Twice a year, employees volunteer to clean up the surrounding area. In addition, they take part in other efforts, such as cleanup activities organized by the community association where our dormitory is located, in order to promote an understanding for our business activities that leads to a stronger relationship of trust between our company and the local community.



Community association cleanup activity

Board of Directors and Executive Officers

Board of Directors (As of June 30, 2024)



Kenichi Tanaka
Director, Chairman

10 years
27,588
17/17 (100%)



Hiroshi Okubo
Executive Director
President & Chief Executive Officer
Chief Compliance Officer (CCO)

2 years
12,330
17/17 (100%)



Mikiya Horie
Executive Director
Senior Managing Executive Officer
Director of Biosciences Business Headquarters

2 years
7,046
—



Yasunobu Kawazoe
Director
Senior Managing Executive Officer
Director of Finance & Accounting Headquarters

5 years
21,465
17/17 (100%)



Yoshio Nishiyama
Director
Managing Executive Officer
Director of General Affairs & Human Resources Headquarters

—
5,690
—



Yoshiyuki Shimmyo
Director
Managing Executive Officer
Director of Inorganic Chemicals Business Headquarters

—
6,146
—



Tatsuo Hanazawa
Outside Director

5 years
4,000
17/17 (100%)



Satoshi Ando
Outside Director

4 years
2,000
17/17 (100%)



Akemi Uchida
Outside Director

1 year
200
17/17 (100%)

- Term of office as Director
- Number of shares held (as of March 31, 2024)
- Attendance at Board of Directors meetings (from June 28, 2023 to June 25, 2024)
- Attendance at Audit & Supervisory Board meetings (from June 28, 2023 to June 25, 2024)

Audit & Supervisory Board Members (As of June 30, 2024)



Yoshihito Akiyama
Audit & Supervisory Board Member

3 years
5,782
17/17 (100%)
12/12 (100%)



Yoichi Kobayashi
Audit & Supervisory Board Member

1 year
10,700
17/17 (100%)
12/12 (100%)



Norihisa Kusumi
Outside Audit & Supervisory Board Member

1 year
100
17/17 (100%)
12/12 (100%)



Yasuhiro Koike
Outside Audit & Supervisory Board Member

1 year
500
17/17 (100%)
12/12 (100%)

Board of Directors and Executive Officers

Skills Matrix, Reasons for Appointment (As of June 30, 2024)

	Name Position	Skills matrix							Reasons for appointment
		Vision		Business foundation		Management foundation			
		Corporate management, management strategy	Environment, society	R&D, production	Global business	Legal, risk management	Human resource strategy	Financial accounting	
Director	**Kenichi Tanaka** Director, Chairman	●	●		●	●	●		Mr. Tanaka has exhibited strong leadership since becoming executive director and president in 2015. In addition to formulating medium-term business plans twice and Vision 2030, our long-term vision for 2030 which serves as the basis for the current medium-term business plan, and managing the entire ISK Group in a precise and efficient manner, he is focused, as executive director and chairman, on increasing the effectiveness of the Board of Directors while overseeing the company's operations. He was appointed because of his knowledge in the external environment in which the ISK Group operates and in corporate governance.
Director	**Hiroshi Okubo** Executive Director President & Chief Executive Officer Chief Compliance Officer (CCO)	●	●	●		●		●	Mr. Okubo worked in various departments at ISK plants, including the production, environmental, and safety and health departments, and gained management experience at affiliated companies. He then served as the director of the Corporate Administration & Planning Headquarters before being appointed to the position of company director in June 2023, where, among other efforts aimed at increasing corporate value, he worked hard to accelerate the promotion of digital transformation. He was appointed to the position of executive director and president in April 2024, and as a central member of ISK management, is working to increase the corporate value of our Group in order to realize the medium-term business plan, Vision 2030 Stage II, which began around the same time as his appointment. He was selected because he has demonstrated strong leadership amidst a track record of experience and achievement.
Director	**Mikiya Horie** Executive Director Senior Managing Executive Officer Director of Biosciences Business Headquarters	●	●	●	●				After working mainly in organic chemistry sales and development departments, Mr. Horie was made an executive officer in 2018 and is currently responsible for running the Biosciences Business Headquarters as director, as well as for overseeing the development and commercialization of new agrochemicals and the promotion of greater cost competitiveness in agrochemicals production. He has extensive experience in global business and has been appointed because of his ability to apply his business knowledge and experience in the appropriate execution of his duties.
Director	**Yasunobu Kawazoe** Director Senior Managing Executive Officer Director of Finance & Accounting Headquarters		●			●		●	Mr. Kawazoe has carried out important operational responsibilities and demonstrated appropriate decision-making and supervision in the areas of finance, accounting, and governance based on expertise in finance and accounting that he accumulated over many years at financial institutions, along with his extensive experience and track record. He has also managed corporate communications activities. He has been appointed in order to leverage this experience and expertise in the planning of business strategy and other policies, deliberations, and operational oversight by the Board of Directors.
Director	**Yoshio Nishiyama** Director　Managing Executive Officer Director of General Affairs & Human Resources Headquarters		●	●	●		●		After working in various departments at ISK plants, including the environmental, general affairs and labor departments, Mr. Nishiyama worked in the human resources department at the Head Office. In 2021, he was appointed to the position of executive officer and is currently responsible for managing the General Affairs & Human Resources Headquarters as its director. He has been appointed because of his ability to apply his extensive business knowledge and experience in the appropriate execution of his duties.
Director	**Yoshiyuki Shimmyo** Director　Managing Executive Officer Director of Inorganic Chemicals Business Headquarters		●	●	●				After working in inorganic chemicals-related domestic and international sales, Mr. Shimmyo was appointed to the position of executive officer in 2022 and is currently responsible for the management of the entire Inorganic Chemicals Business Headquarters as its director. He has been appointed because of his ability to apply his extensive business knowledge and experience in the appropriate execution of his duties.
Director	**Tatsuo Hanazawa** Outside Director		●		●		●		Mr. Hanazawa offers appropriate advice and oversight, especially in the areas of domestic and international market expansion and the environment, based on his domestic and international experience, particularly in agricultural policy, and his experience in environmental matters. He also contributes actively as the chairperson of the Compensation Committee and as a member of the Personnel Committee and Evaluation Committee. He was appointed with the expectation that he would fulfill his role as an outside director from an independent perspective.
Director	**Satoshi Ando** Outside Director					●	●		Mr. Ando draws on his highly specialized knowledge as an attorney and on his extensive experience and expertise in corporate law to offer appropriate advice and oversight of the company's management from an objective and legal perspective in the areas of law, risk management, finance, and accounting. He also contributes actively as a member of the company's Compensation Committee, Personnel Committee, and Evaluation Committee. He was appointed with the expectation that he would fulfill his role as an outside director from an independent perspective.
Director	**Akemi Uchida** Outside Director	●	●			●	●	●	Ms. Uchida has a wealth of experience in corporate administration and planning, risk management, finance, and administrative accounting, and has worked as a director of global companies developing, manufacturing, and selling in fields such as pressed car components and refrigeration devices. She provides appropriate advice and supervision regarding our management from an outside perspective of objectivity and impartiality. Furthermore, she is proactive in sharing her opinions as a member of our Compensation Committee, Personnel Committee, and Evaluation Committee. She also provides us with valuable advice on issues such as diversity and inclusion, and she was appointed with the expectation that she would fulfill her role as an outside director from an independent perspective.
Audit & Supervisory Board Members	**Yoshihito Akiyama** Audit & Supervisory Board Member	●			●	●		●	Mr. Akiyama has worked in administration and sales at ISK and has served as a director and Audit & Supervisory Board member at affiliates in Japan and overseas. He was appointed with the expectation that he would use this experience and expertise in carrying out appropriate auditing and supervision of ISK's business in an objective manner.
Audit & Supervisory Board Members	**Yoichi Kobayashi** Audit & Supervisory Board Member				●	●			Mr. Kobayashi's experience includes working in organic chemicals and legal at ISK and acting as a director at an overseas affiliate. He was appointed with the expectation that he would use this experience and expertise in carrying out appropriate auditing and supervision of ISK's business in an objective manner.
Audit & Supervisory Board Members	**Norihisa Kusumi** Outside Audit & Supervisory Board Member	●				●	●	●	Mr. Kusumi is well versed in corporate management, having amassed a wealth of knowledge in his many years, including as a director, at financial institutions. He was appointed with the expectation that he would audit ISK's business operations from an independent, fair standpoint.
Audit & Supervisory Board Members	**Yasuhiro Koike** Outside Audit & Supervisory Board Member					●			Mr. Koike has amassed expertise and experience through his work as a lawyer, as well as significant knowledge about managing companies. He was appointed with the expectation that he would audit ISK's business operations from an independent, fair standpoint.

Outside Director Roundtable



Being Unconstrained in Boldly Taking Risks

With a new president and the launch of a new medium-term business plan, Vision 2030 Stage II, ISK is in a period of major change.
We asked our three outside directors about their expectations for ISK's new structure and their outlook for the future.

Expectations for the New President

High Expectations for the President to Take the Mound and Rally His Team

Hanazawa I have known the new president, Mr. Okubo, since his appointment as deputy director of Corporate Administration & Planning Headquarters four years ago, and I feel that he is someone with a strong sense of duty. He also has extensive experience in crisis management and external relations for ISK. The previous president, Mr. Takahashi, set ISK on a difficult path towards halting production of titanium dioxide in sulfate process, and Mr. Okubo was his right-hand man. He took over just as everything was about to be put into action, which I imagine would be a difficult position to be in, but he seems to be taking everything in stride recently. After all, like they say, it is the position that makes the man.
Ando He was someone we expected to be a candidate for president for some time now. With ISK embarking on a new stage in its medium-term business plan, now is the perfect time for him to take the mound. He is a bright, positive, and energetic person, and I believe he is the right person to lead everyone to expand ISK's business in the future.
Uchida I have only recently assumed my position as an outside director, so I do not know Mr. Okubo very well; however, I believe it is good that the person who becomes president is someone who has experience in running a company.
Mr. Okubo has been involved in the management of two subsidiaries, so I feel at ease in that regard.
Hanazawa My impression is that, ever since he became an executive at the Head Office, ISK has been preparing and developing Mr. Okubo, including as a successor. He often uses the word “acceleration,” but he seems to realize that if he emphasizes it too much, it puts pressure on his subordinates; hence, he has currently adopted a more watchful posture. Personally, I would like him to be more assertive about leading the company in the way he thinks best.
Ando Right now the company is in a time of change. There will likely be various disagreements, but I would like Mr. Okubo to not worry about minor conflicts and, instead, have confidence in his ideas about how to tackle the challenges ISK faces.
Uchida There is a lot that needs to be done to carry out Stage II. It will require both strong leadership and prudence. I see him as someone who is very capable of getting everyone on board and involved, so I have high hopes.

Stage I Assessment and Remaining Issues

Importance of Taking Seriously a Failure to Achieve Targets

Hanazawa During our previous medium-term business plan, Vision 2030 Stage I, the business environment changed significantly due to the spread of COVID-19 and the rise in raw material and fuel prices. It was a tough situation for Mr. Takahashi, I am sure, but the end result was a respectable ROE of 8%, and dividends have increased for three consecutive periods. ISK was also able to successfully increase base salaries for its employees. If we just look at target figures, consolidated net sales was the only target achieved, but I believe ISK demonstrated to its stakeholders a certain degree of success.
Ando I view the situation a little more critically. While I also recognize that there have been some positive results in terms of shareholder returns and progress in sustainability management, I think that, even though external factors played a large role, ISK still needs to take seriously the fact that it did not meet its targets. However, I think it was good that an unprecedentedly thorough review was carried out and that a detailed analysis of this was incorporated into Stage II.
Uchida Since targets are promises, we can also view they’re not being met as a leftover issue to be addressed. However, a lot of different things were implemented in Stage I that, I think, can be made use of in Stage II. The essential challenge is that ISK is a manufacturing company that engages in true manufacturing and, because making quality products properly is the defining characteristic of the manufacturing industry, some aspects of it make change difficult to implement. That is the biggest challenge. I believe that real change is required in Stage II, and it needs to happen quickly.
Ando It is also important to not forget the lessons of the past. Based on past experience, ISK has continued to work to raise awareness about compliance, and these efforts have brought the company to where it is today. On the other hand, the members of ISK that went through the difficult times of the past are reaching retirement age, and their numbers are ever shrinking. In order to pass this compliance-oriented mindset on to the next generation, I believe what is needed is not only awareness on the individual level but on a systemic level as a company.

Outside Director Roundtable

Hanazawa In terms of the environment, while ISK is sensitive to the burden that it itself places on the environment, I believe that its efforts to improve the environment through its products and other means are still lacking. I have been involved in the food industry for over a decade, and I have found that industry to be sensitive to society's expectations and to what consumers are thinking and, thus, has a strong desire to always be half a step ahead of consumers. ISK is weak in this regard.
Uchida The Inorganic Chemicals Business Headquarters has also adopted a divisional system to put more focus on customers; so, I am looking forward to seeing what changes this brings in the future.

How to Proceed with Stage II

A Change in Mindset to Strengthening All ISK Business into Primary Sources of Profit

Ando I think the Stage II content itself is good. The most important thing is to stick to the plan. It is important that ISK proceed with structural reform of its inorganic chemicals business and steadily develop its healthcare business into a pillar business.
Hanazawa Up until now, when it came to profitability, either the biosciences business would do well while the inorganic chemicals business would do poorly or vice versa. To improve this, ISK must make systemic changes that will enable each business to steadily generate profit without being affected by market conditions. What is important is, as Mr. Okubo says, changing the company's mindset in order to strengthen all ISK business into primary sources of profit.
Ando It is time to change ISK's policy of emphasizing sales. This is a good direction to go.
Hanazawa I have been an outside director for six years now, but when I first took up this position, the company was always talking about achieving 100 billion yen in sales, and I kept wondering if that was all that was needed. That has all changed fundamentally with Stage II.
Ando I understand that manufacturers in the equipment industry have to deal with operating costs, hence sales are very important, but it sometimes seemed like the crucial discussion of profit was getting lost somewhere.
Hanazawa Also, the initial plan for structural reform of the inorganic chemicals business was to reorganize the Yokkaichi Plant. A team of executives and mid-level employees was formed which came up with a number of proposals which were then submitted to us. Ultimately, though, no matter what was proposed, it wasn't going to make money. As we discussed this, everyone gradually came around to the fact that ISK should stop with those things that aren't making a profit. I think it was great that everyone was able to analyze the situation and come to this realization on their own.
Uchida I also think the development process for Stage II was appropriate. When the secretariat's draft was about 60% to 70% complete, we held several meetings to solidify the content. However, perhaps because ISK is a B2B company, we felt that there was somewhat of a lack of marketing-related analysis, which I think is an issue that needs to be addressed going forward.
Ando Compared to the development of past medium-term plans, we spent more time discussing this in meetings of the Executive Management Committee and Board of Directors, during which we were able to bring attention to ROE, shareholder returns, and capital costs. We also thoroughly analyzed the reasons why past plans could not be achieved. It seems that management at ISK is confident about achieving the current plan.
Hanazawa The source of their confidence is likely the thorough discussion that has taken place between all of the business headquarters and the Corporate Administration & Planning Headquarters regarding the selection of targets to be achieved and the creation of a schedule. It was Mr. Okubo, before he became president, in charge of developing this plan.
Uchida In any case, it's the execution that counts. Reaching these targets will require an aggressive management strategy, so I would like to see to what extent the management team is willing to take "positive risks," such as investment in new business. Naturally, because there is a possibility of failure, we will tend to hesitate, but I believe that companies that cannot take risks will not grow.
Ando There will be times when the company runs into various obstacles. Partly because of past experiences, ISK has long been reluctant to take risks, but, as outside directors, we want to support Mr. Okubo by providing advice that makes use of our respective expertise.
Hanazawa Finally, dividends have stabilized and the company's equity capital is solid. The director of the Finance & Accounting Headquarters has also stated at meetings of the Executive Management Committee and elsewhere that a sufficient amount of new funds has been secured, but there is still a difference in enthusiasm between him and the business headquarters. Now that ISK has the money to utilize, I want the business headquarters to take risks. I think that is what the Tokyo Stock Exchange means by "capital efficiency." And, of course, we are here to help.



Outside Director
Tatsuo Hanazawa

Mr. Hanazawa began his career in the Ministry of Agriculture and Forestry (now the Ministry of Agriculture, Forestry and Fisheries) and has served as an executive officer at independent administrative institutions and foundations, among others. He has extensive knowledge of both domestic and international agricultural policy. He serves as the Chairperson of ISK's Compensation Committee.



Outside Director
Satoshi Ando

Mr. Ando is a lawyer. He also serves as an outside director for Toho Co., Ltd. He has extensive knowledge of corporate law.



Outside Director
Akemi Uchida

Ms. Uchida was appointed to the position of director following a career from which she has accumulated a wide range of experience in such areas as corporate planning, risk management and human resources strategy at business corporations. She also currently serves as an outside director for Iriso Electronics Co., Ltd. and Stella Chemifa Corporation.

Corporate Governance

Basic Policy

In addition to making contributions to social development, protection of life and environmental preservation, ISK strives constantly to respect our shareholders, customers, suppliers, local communities, and employees while maintaining transparency in business activities abiding by laws and regulations.
In order to enhance corporate value by maintaining steady business growth and securing profitability, efforts to improve business transparency, reliability and corporate health are among management's most important concerns, and we have worked hard to strengthen Corporate Governance through business management and enhanced internal controls founded on compliance.

Corporate Governance Structure

Structurally, we operate as a company with an Audit & Supervisory Board. In addition, we set Executive Management Committee under the Board of Directors in order to speed up decision-making by the Board of Directors and efficiently monitor and assess progress in important activities and projects. We have also introduced Executive Officer system with the aim of speeding up decision-making related to business activities.
Furthermore, we have the committees listed on the following page in order to strengthen our Corporate Governance.
The Sustainability Promotion Committee, which is under the Board of Directors, is responsible for deliberations, decision-making and control over important management issues related to the sustainability of our Group.

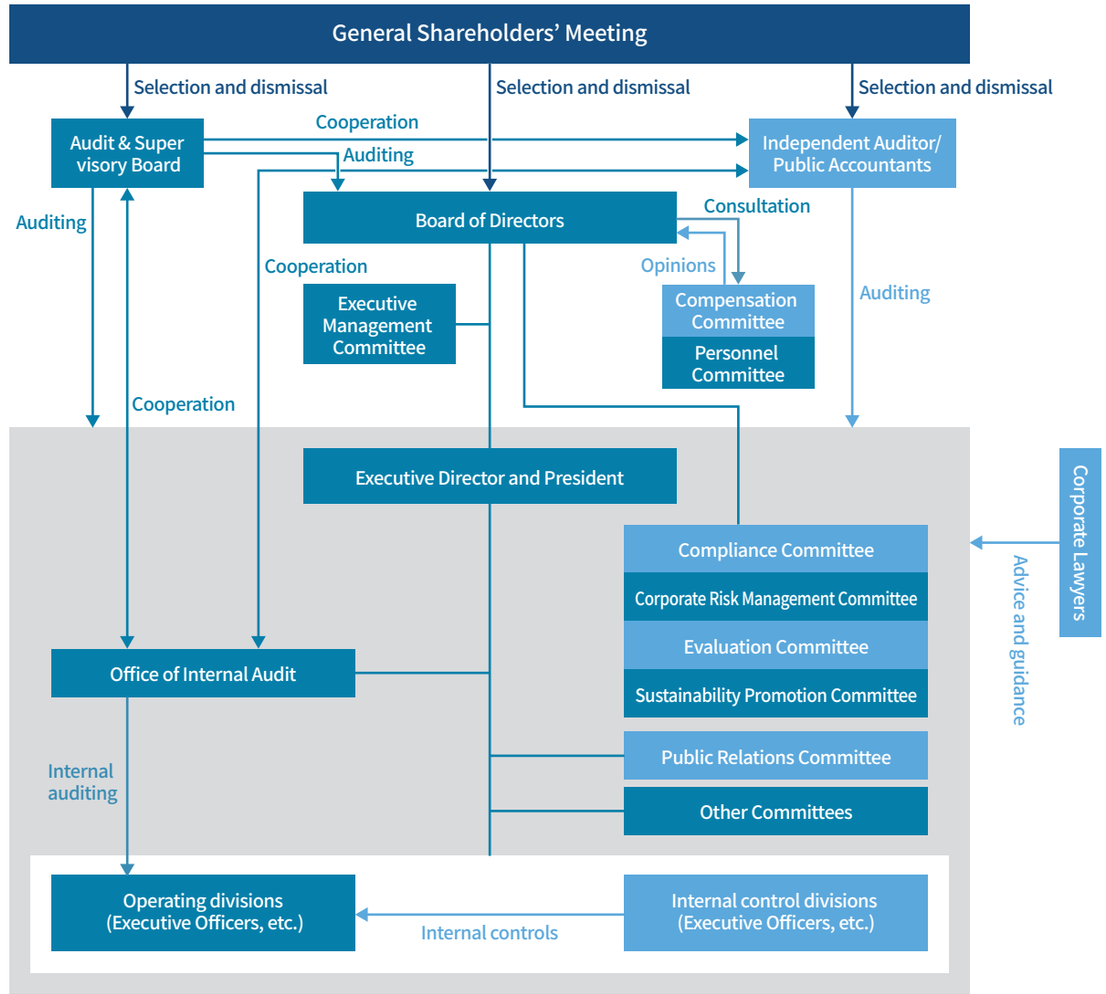
Board of Directors

Pursuant to the Board of Directors Regulations and other rules, our Board of Directors clearly defines the scope of matters to be resolved by the Board of Directors and sets the scope of authority delegated to management. Based on this, the Board of Directors discusses, and makes decisions on, basic management policies and other important matters, including business plans, sustainability management, corporate governance, and risk and compliance-related issues. In addition, as part of ISK Group management, the Board also makes resolutions regarding the basic management policies of our Group subsidiaries.
We strictly supervise the execution of business matters decided by the Board of Directors and conducts appropriate evaluations. Through these efforts we promote transparent and reliable management with the aim of achieving sustainable growth and increased corporate value.

Major Matters Discussed and Reported at Board of Directors Meetings (June 28, 2023 to June 25, 2024)

Business Plan • Medium-term Business Plan, Stage II • Capital cost and stock price-focused management policies, shareholder return policies • Restructuring of the inorganic chemicals business • Construction plan for the Technology Research Center, Hyogo-Ono • Capital investment/funding plan • Affiliate company investment and management	**Sustainability Management-related Matters** • Updating of KPIs for sustainability-related materialities • Handling of TCFD • Human resources management policy • Participation in various initiatives • Employee engagement • Investor dialog-related activities
Corporate Governance-related Matters • Effectiveness evaluation of the Board of Directors • Evaluation of the internal control system • Cross-shareholdings policy	**Risk and Compliance-related Matters** • Risk management activities • Compliance program • Internal auditing

Corporate Governance Structure



Major Organizational Entities Related to Corporate Governance

Board of Directors	Functions	The Board of Directors meets at least once a month to make decisions concerning important matters, report on the progress of operational execution and action plan implementation, review performance, and discuss and make decisions about how to deal with related issues.	
	Times convened	19 times	
	Composition	Chairperson	Executive Director and President
		Members	Directors
Executive Management Committee	Functions	The Executive Management Committee under the Board of Directors in order to speed up decision-making by the Board of Directors and efficiently monitor and assess progress in important activities and projects.	
	Times convened	12 times	
	Composition	Chairperson	Executive Director and President
		Members	The chairperson may require the attendance of such personnel as deemed necessary.
Audit & Supervisory Board	Functions	Audits the Board of Directors' execution of its responsibilities, for example by attending Board of Directors and other important bodies and visiting departments regularly to exchange views in accordance with an audit plan adopted by the Audit & Supervisory Board, at least half of whose membership consists of independent Outside Audit & Supervisory Board members.	
	Times convened	13 times	
	Composition	Chairperson	Inside Audit & Supervisory Board member
		Members	Inside Audit & Supervisory Board members, independent Outside Audit &Supervisory Board members
Compliance Committee	Functions	Develops compliance structures based on the corporate philosophy and promotes corporate management predicated on compliance, for example by conducting compliance education and responding to the issues that come from its whistleblowing system.	
	Times convened	2 times	
	Composition	Chairperson (CCO)	Executive Director and President
		Members	Directors, Audit & Supervisory Board Members, Headquarters Directors, Outside lawyer, ISK Labor Union chairperson
			Directors of major subsidiaries
Corporate Risk Management Committee	Functions	Assesses and manages corporate risk incurred in the course of operations, formulates countermeasures, and deals with risks that have manifested themselves.	
	Times convened	2 times	
	Composition	Chairperson	Executive Director and President
		Members	Inside Directors, Headquarters Directors

Evaluation Committee	Functions	Analyzes and evaluates the overall effectiveness of the Board of Directors	
	Times convened	2 times	
	Composition	Chairperson	Independent Outside Audit & Supervisory Board member
		Members	Independent Outside Directors, Inside Audit & Supervisory Board members, Independent Outside Audit & Supervisory Board members
		Note: Five of seven positions on the committee (71%) are filled by independent Directors and Audit & Supervisory Board members.	
Compensation Committee	Functions	Offers views in response to requests for advice from the executive director and president, who is delegated by the Board of Directors about concerning the remuneration of directors and executive officers.	
	Times convened	2 times	
	Composition	Chairperson	Independent Outside Audit & Supervisory Board member
		Members	Independent Outside Directors, Independent Outside Audit & Supervisory Board members
		Note: All five positions on the committee (100%) are filled by independent Directors and Audit & Supervisory Board members.	
Personnel Committee	Functions	Responds to inquiries from the executive director and president, who is delegated by the Board of Directors about the appointment of CEO's successor and candidates for new Director or Audit & Supervisory Board member positions, as advising the Board of Directors	
	Times convened	3 times	
	Composition	Chairperson	Independent Outside Audit & Supervisory Board member
		Members	Independent Outside Directors, Independent Outside Audit & Supervisory Board members
		Note: All five positions on the committee (100%) are filled by independent Directors and Audit & Supervisory Board members.	
Sustainability Promotion Committee	Functions	Undertakes initiatives to address climate change, human rights, diversity and inclusion, health and productivity management, and DX	
	Times convened	2 times	
	Composition	Chairperson	Executive Director and President
		Members	Inside Directors, Headquarters Directors, and others
Public Relations Committee	Functions	Ensures transparency by disclosing information to investors in a timely manner, ensures the timely disclosure of information from Yokkaichi Plant to the local community, and promotes communication between our stakeholders and the company	
	Composition	Chairperson	Executive Director and President
		Members	Directors, Representatives of Branches, Headquarters Directors, and others

Board of Directors Effectiveness Analysis, Evaluation, and Results

In view of the responsibilities for Boards of Directors stipulated in the Corporate Governance Code, and in order to improve the functioning of the Board of Directors, an Evaluation Committee comprised of Outside Directors and Audit & Supervisory Board members has been established under ISK Board of Directors and in line with Board of Director evaluation-related rules. Every year since fiscal 2016, this committee has analyzed and evaluated the overall effectiveness of the Board of Directors and provided the Board with its results for deliberation and approval, after which an outline of those results is released publicly. In fiscal 2023, as well, an evaluation of the Board of Directors' overall effectiveness was carried out in accordance with this policy. (Content publicly released May 2024)

Method of Evaluation

About the Questionnaire

Since it is appropriate to compare and evaluate the results for fiscal 2022 and fiscal 2023, we essentially continued with the questionnaire from fiscal 2022.

However, the following changes were made and taken into consideration.
The question regarding the Executive Management Committee was removed from the questionnaire because the position and role of the Executive Management Committee have been clarified through amendments to the Executive Management Committee rules. In addition, "Self-evaluation regarding ensuring the effectiveness of the Board of Directors" was removed from the questionnaire because it was determined that the evaluation criteria were not clear and, although this is a self-evaluation, it would be difficult to assign a score.
Questions covering multiple topics were broken down into individual questions about each topic.
We adjusted the achievement values to ensure the greatest possible accuracy when comparing the fiscal 2022 and 2023 results.

Use of Anonymity in Implementation

The Board of Directors evaluation-related rules stipulate that responses should be completed anonymously on the questionnaire, and, on this year's questionnaire, we asked each director and Audit & Supervisory Board member to respond anonymously. However, because the evaluation needed to be divided among four categories (i.e., all officers, the Inside directors , the outside directors and Audit & Supervisory Board member, and the directors), respondents were asked to state their job title in their answers.

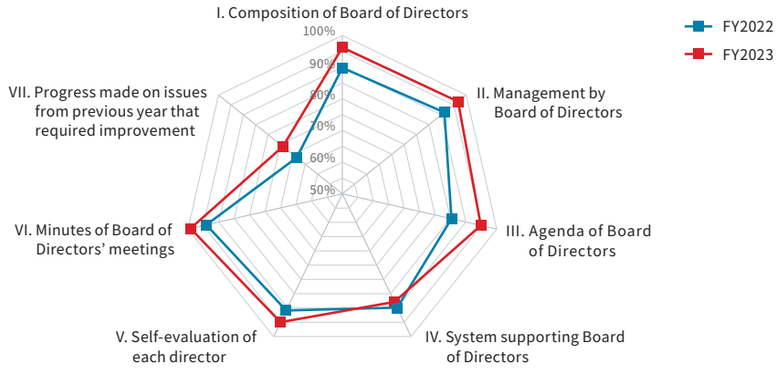
Implementation of Written Interviews

As the questionnaire responses were anonymous, it was not possible to conduct individual interviews based on the results of the responses; thus, written interviews were conducted with all directors. The interviews consisted of two questions for each of the areas where achievement was low: internal audit-related, Group company supervision-related, and portfolio-related.

Analysis and Evaluation Results of Overall Board of Directors Effectiveness

Evaluation Results of the Effectiveness of the Board of Directors (fiscal 2023)

	FY2022	FY2023	Increase/ Decrease
I. Composition of Board of Directors	89.8%	96.2%	+6.4P
II. Management by Board of Directors	91.2%	96.7%	+5.5P
III. Agenda of Board of Directors	85.3%	94.8%	+9.5P
IV. System supporting Board of Directors	89.8%	87.8%	▲2.0P
V. Self-evaluation of each director	90.8%	94.9%	+4.1P
VI. Minutes of Board of Directors' meetings	94.0%	99.1%	+5.1P
VII. Progress made on issues from previous year that required improvement	68.4%	74.0%	+5.6P
[For reference] Overall average (adjusted)	84.9%	89.0%	+4.1P



Awareness of Issues

Amidst the significant environmental change that surrounds our Group, we recognize that, in addition to promoting sustainability management (focused on the environment, society and the economy), transitioning to management that is fully aware of capital costs and return on capital is an urgent issue. In order to increase the corporate value of our Group, it is essential that we prioritize return on capital while drawing up growth strategies for each business, along with investment prospects for capital investment in manufacturing, enhancing human capital, and expanding new businesses. Speedy action will be taken with regard to the operation of the Board of Directors to ensure these issues are addressed earnestly and that the evaluation of effectiveness helps lead to sustainable growth and improvement of corporate value over the medium- to long-term for ISK.

Future Initiatives

Based on the analysis and evaluation results of the overall Board of Directors effectiveness, the Board of Directors has identified the following six priority initiatives for fiscal 2024, which it is proactively pursuing in order to achieve substantial improvement in its overall effectiveness.

1. In order to realize our Group's purpose, we must utilize this purpose as the starting point for expanding our business around our core competence of chemical technologies by leveraging our three strengths, which are the ability to develop proprietary technologies, the ability to accommodate quality and environmental requirements, and the ability to collaborate globally, along with leveraging our management capability which underpins those strengths. In particular, because strengthening technological development capabilities is a source of growth, in our organic chemicals business, we will, starting from the Central Research Institute and the currently under construction Organic Production Technology Research Institute (provisional name), further strengthen our technological development capabilities and reduce product costs. In our inorganic chemicals business, we will integrate sales, development, and production for each product to identify product needs and speed up development, and we will shift from general products to high value-added products. Through these and other measures, we will develop our business with an emphasis on revenue.
2. With regard to the development of new business, the Business Creation Committee will hold free and open discussions that incorporate various perspectives, such as market-in/product-out and design thinking, to come up with new products.
3. Regarding business portfolio, we have discussed profitability and growth potential for each of our inorganic and organic chemical business sections but have had insufficient discussion from the perspective of optimal allocation of management resources. In May of last year, we established the Committee for Inorganic Business Restructuring and are currently considering structural reforms involving human resources across the organization in order to make our inorganic business a sustainable and stable business in the future. We want to incorporate specific growth strategies into our Stage II medium-term business plan.
4. Substantive strengthening of the functions of our internal audit departments and ensuring collaboration between directors and members of the Audit & Supervisory Board are being achieved through communication with internal audit departments. To further enhance this, we will increase the frequency of meetings between directors and internal audit departments and will also make other improvements, such conducting reviews of items to be audited. Furthermore, in order to actively supervise the management of Group companies, we will require them to report on risks and issues on a regular basis and will also conduct audits of overseas subsidiaries, thereby strengthening our involvement in the supervision of business execution and overall management.
5. In addition to pursuing their own studies, for example to acquire necessary knowledge so that they can fulfill their own roles and responsibilities, directors will continue to provide sufficient oversight of their peers' performance of their responsibilities.
6. Regarding issues related to sustainability, the Sustainability Promotion Committee will thoroughly discuss the state of progress and deliberate on items requiring discussion and, while communicating the content of those discussions with outside directors and members of the Audit & Supervisory Board, will disseminate information as appropriate through the Integrated Report.

Policy on Cross-Shareholdings

ISK maintains an amount of cross-shareholdings deemed to build a smooth, stable, and ongoing relationship with business partners, in line with our business strategy. The status of cross-shareholdings is disclosed in our securities report. Other shareholdings have been appropriately reduced.

Independence Criteria for Outside Directors

Independence criteria have been established for Outside Directors and Audit & Supervisory Board members. These appear on the ISK website.

Company: Corporate Governance
https://www.iskweb.co.jp/eng/company/governance.html

Basic Policy for the Internal Control System

We are continually working to expand and improve our Group internal control systems in order to ensure the appropriateness of subsidiary governance as well as the maintenance of compliance systems. For details, please refer to ISK Corporate Governance Report.

Corporate Governance Report (in Japanese)
https://www.iskweb.co.jp/company/pdf/corporate_governance.pdf?t=240627

Remuneration of Directors

Policies for Determining Amount and Calculation of Each Director's Compensation

Compensation for ISK directors is stipulated in the Officer Compensation Regulations adopted by the Board of Directors and comprises base remuneration, which is based on job position, and performance-based remuneration. Base remuneration is paid according to the Officer Compensation Regulations to directors and executive officers according to their role and position. Outside directors are paid only base remuneration due to their independent position in executing duties.

Policies for Determining the Nature of Performance Indicators and for Calculating the Amounts and Quantities of Performance-Based Remuneration and Other Compensation

The performance-based portion of directors' remuneration (excluding Outside Directors) consists of annual performance-based remuneration and long-term performance-based remuneration, which are structured to ensure both objectivity and a connection with corporate performance in line with the Officer Compensation Regulations approved by the Board of Directors. Annual performance-based remuneration is calculated based on a comprehensive consideration of the company's performance, for example in the form of net income attributable to owners of parent, which is the final result of corporate activities, together with individual performance evaluation.

Policies for Determining Non-Monetary Remuneration and for Calculating Associated Amounts and Quantities

The non-monetary portion of directors' remuneration (excluding Outside Directors) consists of transfer-restricted shares, and the total amount of monetary claims necessary to grant those shares to directors (excluding Outside Directors) may not exceed ¥90 million per year (excluding the employee portion for officers who also serve as employees). In addition, the total number of normal shares newly issued or disposed by the company may not exceed 95,000 per year. (However, if it becomes necessary to adjust the total number of normal shares that are issued or disposed of as transfer-restricted shares, for example due to a stock split or reverse split involving normal shares, including any gratis allocations, the total number may be adjusted within reason.) The Board of Directors is responsible for determining the specific timing and distribution of such awards to directors.

Relative Proportions of Each Type of Remuneration and Other Compensation for Individual Directors

The relative proportions of base remuneration and performance-based remuneration and other compensation is determined by the Board of Directors after consultation with the Executive Director, taking into account advice sought from the Compensation Committee by the Executive Director and President, to whom the Board delegates the task of considering each year's performance and other factors.

Policies for Determining the Timing and Conditions of Remuneration and Other Compensation for Directors

The Officer Compensation Regulations adopted by the Board of Directors stipulate that base remuneration is calculated on a monthly basis and paid on the same day as employees' monthly salaries, while performance-based remuneration and other compensation is paid on the same day as employees' summer bonus.

Matters Relating to the Delegation of Decision-making Regarding Details of Each Director's Compensation

At ISK, determination of each director's compensation is done by the executive director and president, who is delegated the authority based on a resolution of the Board of Directors and who consults with the Compensation Committee. In order to ensure that the executive director and president exercises this authority appropriately, the details of compensation for each director are determined through consultation with the Compensation Committee, which is composed of independent outside directors and independent outside Audit & Supervisory Board members. The Compensation Committee provides advice and recommendations based on information from an executive remuneration survey conducted by a third-party institution and with the input of each committee member.

Remuneration of Directors in Fiscal 2023

Director category	Total remuneration (Million yen)	Total remuneration by type (Million yen)			Applicable Directors (Persons)
		Base remuneration	Performance based remuneration	Transfer restricted share compensation	
Directors (excluding Outside Directors)	224	180	34	8	6
Audit & Supervisory Board Members (excluding Outside Audit & Supervisory Board Members)	36	36	—	—	3
Outside Directors	55	55	—	—	8
Total	315	272	34	8	17

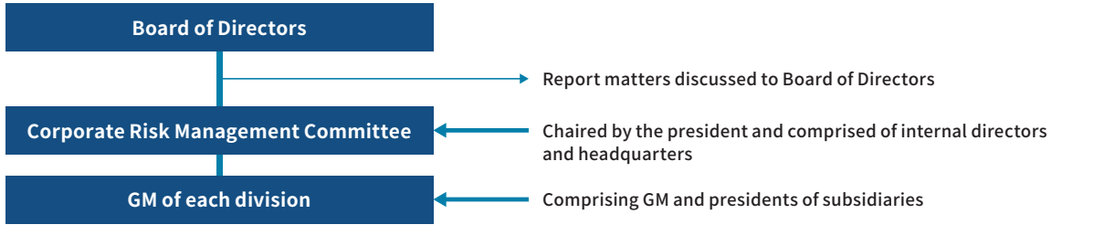
Risk Management

Basic Policy

The ISK Group pursues risk management with the aim of preparing for various risks that could seriously impact the smooth operation of our business, and in the event of an emergency, appropriately and swiftly addressing it in order not to harm the health, safety, or interests of stakeholders, restoring our business operations as soon as possible, protecting our corporate resources, and minimizing the damage to our business.

Risk Management System

We have “risk management regulations” governing our basic policy on risk management and risk management system. We have also established the Corporate Risk Management Committee, aimed at appropriately managing and preparing for various risks surrounding our business. The Corporate Risk Management Committee is held twice a year, or whenever necessary, summarizing risk assessments, selecting major risks with high priority, discussing plans for risk countermeasures, and confirming progress on those countermeasures.
The Sustainability Promotion Committee’s jurisdiction includes priority issues (Materiality), climate change risk, and human rights risk, for which it advances their measures in coordination with the Corporate Risk Management Committee.



Risk Management Process

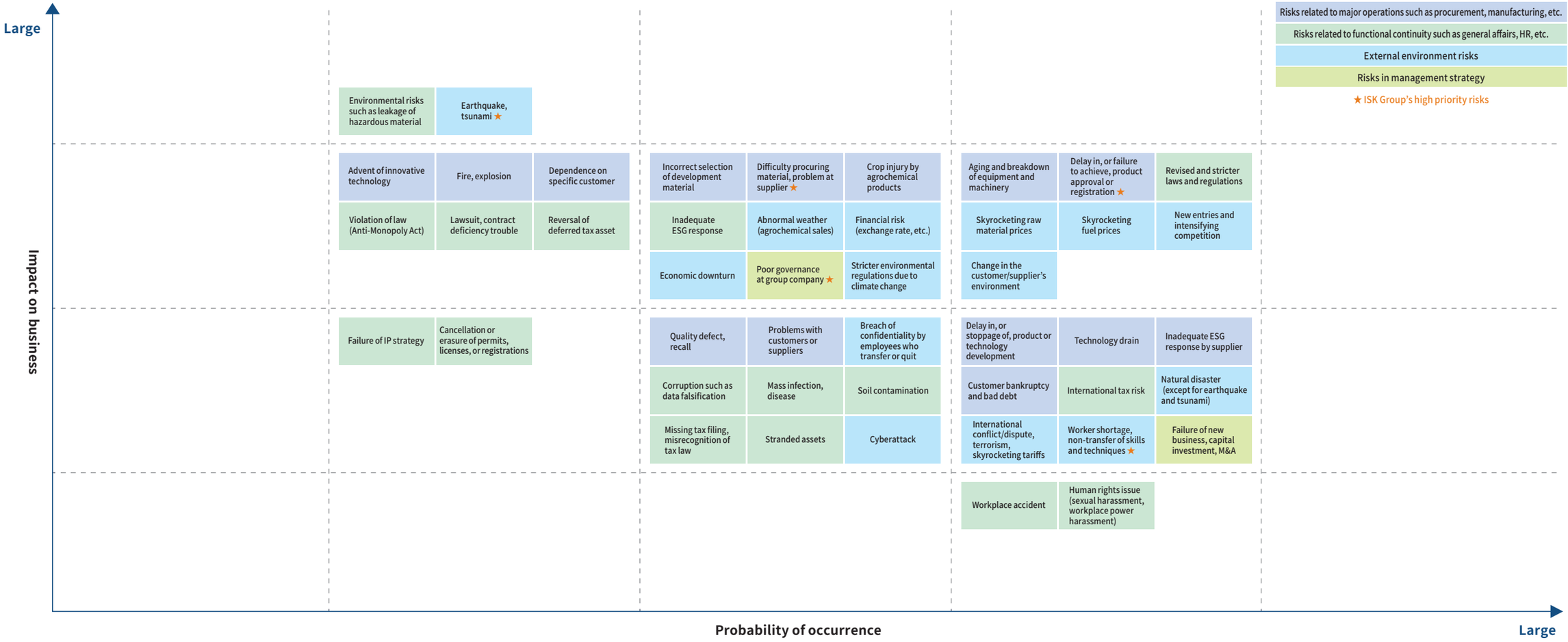
Plan	Do	Check	Act
Implement risk assessment Identify risks from a company-wide perspective Assess risk impact and probability Select major risks to address **Formulate countermeasure plans against risk** Allocate risks to each person/division in charge Decide on risk countermeasure policies Decide on action plan for countermeasures	Implement risk countermeasures	**Monitor progress on implementation of countermeasures** Review progress on implementation	**Summary and improvement plan** Report to management Consideration on countermeasure plans

High Priority Risk

Major Risk	Explanation of Risk	Major Measures
Delay in, or failure to achieve, product approval or registration (Agrochemicals)	As legal regulations regarding agrochemicals become stronger around the world, we may be unable to bring new agrochemical products under development to market as scheduled, and sales may be postponed or we may be forced to abandon their launch, which could have an adverse effect on our business performance.	● 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
Delay in, or failure to achieve, product approval or registration (Animal health products)	If full regulatory approval in the United States or approval by regulatory authorities in Europe is rejected or delayed, sales may fall far short of expectations, which could have an adverse effect on our business performance.	● Use consultants and other means to gather information on trends related to the rules and approval of the regulatory authorities ● Team up with contract manufacturers or sales partners
Earthquake, tsunami	The Yokkaichi Plant, which is a manufacturing base for titanium dioxide, is located in an area expected to be affected by a Nankai Trough earthquake. In the event of a major earthquake and serious damage caused by a tsunami, liquefaction, etc., this could result in damage to the Yokkaichi Plant's facilities and products, a suspension of production and business operations at the plant, and/or human casualties, which could have an adverse effect on the business performance of the Group.	● Provide aging facilities at our Yokkaichi Plant with seismic reinforcement ● Step up product storage at multiple bases (at elevated locations, etc.) in Yokkaichi City ● Update business continuity plans ● Get business interruption insurance to cover business continuity expenses as a response after earthquake (Yokkaichi Plant) ● Sign committed line of credit with financial institutions, which is applied to earthquake disasters
Difficulty procuring material, problem at supplier	We source many of our raw materials from overseas. The Group's business performance may be adversely affected if we are unable to procure specific raw materials due to factors such as suspension of production in producing regions or countries as a result of operational accidents, political instability or stricter environmental regulations. Also, with regard to overseas subcontractors, factors such as stricter legal regulations in the country of the subcontractor or operational accidents at a business partner may hinder procurement. As a result, this could mean increased procurement costs and production delays, which could have an adverse effect on our business performance.	● Purchase from various suppliers in multiple countries ● Closely coordinate with subcontractors and suppliers ● Perform rapid planning adjustment and proper inventory control ● Expand the range of usable raw materials
Poor governance at group company	We strive to ensure proper Group management through affiliate company management regulations, internal audits, and other means; however, if accounting fraud, bribery, quality fraud, etc., are discovered due to insufficient control over overseas Group companies, it may have an adverse effect on the business performance of our group.	● Organize and clearly stipulate the functions and roles of Three Lines model (business divisions, back-office divisions, internal audit division) ● Refine and publicize rules for group companies ● Strengthen internal auditing
Worker shortage, non-transfer of skills and techniques	If we are unable to secure the necessary human resources or ensure that skills are transferred from experienced workers to younger workers due to factors such as the declining birthrate and aging population, changes in the supply and demand balance of the labor market, or increasing labor mobility, planned operations may not proceed as planned, and expected revenues may fall far short, which could have an impact on the business performance of the Group.	● Hire new graduates and experienced professionals through diverse channels ● Compile know-how (visualization) ● Train human resources, and study ways to make work environment more pleasant and expand employee support systems so as to retain employees

Risk Management

Risk Map



Notes:
1: Regarding level of effect on business and probability of occurrence, we set risk scenarios and assess each risk impact or damage in order for assessors to have a common understanding. The risk scenario used here is a worst-case scenario, i.e. the biggest threat among the possibilities.
2: ISK defines risk as any possibility of physical or economic damage to ISK, loss of trust, or others causing disadvantages.

Compliance

Basic Philosophy

ISK Group places the utmost importance on compliance. We have formulated a code of conduct in order to carry out business rooted in our corporate philosophy, with the aim of thoroughly complying with laws and regulations, conducting fair and equitable business practices, and maintaining a high level of corporate ethics.
Because a company cannot exist without society's trust, we have launched a Compliance Committee towards fulfilling our corporate responsibility and contributing to society. The committee puts compliance front and center and ensures that we promptly report any compliance violations.

ISK Group Code of Conduct

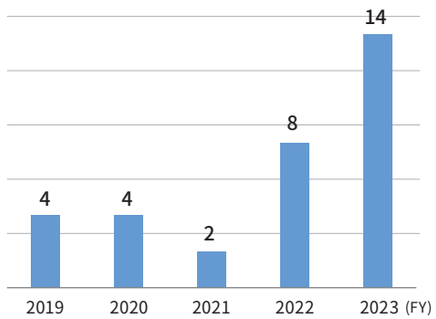
https://www.iskweb.co.jp/eng/compliance/observance.html

Compliance Promotion System

Based on our reflection on the Ferosilt problem, in November 2005 we appointed a Chief Compliance Officer (CCO) and established the Compliance Committee. This committee operates under the Board of Directors and is chaired by the executive director and president (as CCO), and comprises directors (excluding outside directors), audit and supervisory board members, directors of each headquarters, directors of affiliated subsidiaries, an outside lawyer, and the secretariat. In addition, each division has a compliance promotion manager and a compliance leader. The Compliance Committee has met about twice a year. It currently meets every March and September, with March 2024 marking the 36th session.
The following are activities which have been undertaken in recent years and the numbers of compliance-related whistleblowing reports and consultations.

- Discussion and revision of the ISK Group Code of Conduct
- Discussion of and response to whistleblowing and requests for consultation in relation to compliance violations
- Preparation and monitoring of compliance training plans
- Report on and discussion of compliance activities in each division
- Training for board members, held every second year, led by outside instructors
- Establishment of Whistleblowing Rules
  Clarification of measures to be taken against those who commit violations and disciplinary action to be taken against those who act unjustly towards a whistleblower

Numbers of Compliance-related Whistleblowing Reports and Consultations



Fiscal 2023 Compliance-Related Training and Awareness-Raising at ISK

ISK Group carries out compliance-related training in accordance with an annual plan, which is discussed and approved by the Compliance Committee. Besides job grade-specific training, training on specific topics is planned and carried out according to social conditions.
In fiscal 2023, many ISK Group members participated in training.

Classification	Target	Content	No. of Participants
Job grade-specific	New employees and mid-career hires	Online learning and e-learning	171
	Newly appointed chiefs	Text-based self-study and review tests	23
	Newly appointed managers	Group training	18
	Recent hires (new graduates, mid-career hires)	Group training	165
Topic-specific	Members*	Power harassment prevention / anonymous survey	1,175
	Line managers	Power harassment prevention / group training	146
	Manufacturing workers (daytime and shift workers)	Power harassment prevention / group training	356
	Executives	Group training	39
By workplace	Members	Specialized law seminars / video training	4,255

*Excluding some domestic Group companies who implemented it in previous years



Group training for executives



Group training for recent hires

Stronger Measures Against Workplace Harassment

In order to strengthen measures against power harassment, which has become a problem in recent years, the Act on Comprehensively Advancing Labor Measures (commonly known as the Power Harassment Prevention Act) was enacted in June 2020. Our Group has been working on awareness-raising activities to prevent harassment, but, in recent years, the number of consultations and reports to the compliance hotline has been increasing.
In fiscal 2023, we conducted an anonymous survey of our Group members to ascertain the actual situation regarding power harassment and we published the results internally.
We also conducted group training for line managers and manufacturing staff to promote understanding of harassment and provide an opportunity for each employee to reflect on their daily behavior and words. We ask managers to disseminate the content of this training to their departments.
Furthermore, we created posters and business card-sized cards within the company stating, "Don't keep it to yourself; talk to someone" and conducted awareness-raising activities to help with harassment prevention.
We plan to continue holding group training sessions on harassment every few years and will continue to conduct the survey in fiscal 2024 as well.

Responsible Care Activities

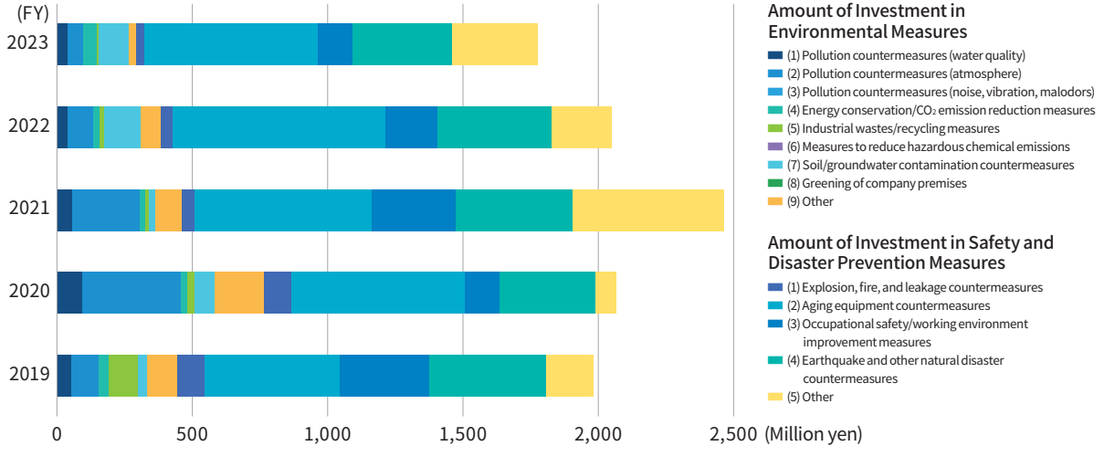
ISK's Responsible Care

ISK undertakes Responsible Care (RC) activities aimed at environmental, health, and safety assurance. In particular, our activities encompass chemical product and distribution safety specific to the chemical industry, as well as environmental protection, process safety and disaster prevention, and occupational safety and health , along with dialog with society, common to many different industries.



Investment in Environmental Measures and Safety and Disaster Prevention Measures

Most investment is allocated to the Yokkaichi Plant. The graph below shows the trends of investment in environmental measures and investment in safety and disaster prevention. In fiscal 2023, we invested intensively to replace aging equipment, prepare for earthquakes and other natural disasters, boost occupational safety, and improve working environments.



What is Responsible Care?

Companies that handle chemicals voluntarily undertake Responsible Care activities to provide environmental, health, and safety assurance covering everything from chemical substance development to production, distribution, usage, final consumption, disposal, and recycling. The results of these activities are shared and discussed with stakeholders. Responsible Care originated in Canada in 1985 and has subsequently spread to companies around the world.

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Responsible Care Achievements in Fiscal 2023

RC Code	Fiscal 2023		
	Objectives	Achievements	Evaluation
Environmental protection	Planned emission reduction of PRTR-listed materials	The amount getting into public water areas was reduced.	●
	Reduce energy intensity by 1% year-on-year	Energy intensity decreased by 3.3% year-on-year, thus achieving the 1% reduction target.	●
	Reduce, reuse, and recycle waste	Continued reducing industrial waste by reusing and recycling materials with recoverable value.	●
Process safety and disaster prevention	Eliminate plant accidents (fire, explosion, leakage)	There was one plant accident.	×
Occupational safety and health	Achieve "zero lost time accidents" at each ISK site	There was one lost-time accident due to a fall at the Osaka Head Office, and one lost-time accident which occurred on the way to work.	×
Distribution safety	Implement emergency response card (so-called Yellow Card), GHS label, and SDS management	Yellow Cards, GHS labelling, and SDSs were appropriately implemented.	●
Chemicals/ product safety	Properly manage chemical substances and provide customers with SDSs	We appropriately notified the authorities on the use of chemical substances and provided SDSs.	●
Dialog with community	Provide information to community Interact more with local communities	More two-way communication was carried out with local citizens.	●

Dealing with Climate Change

Within the ISK Group, we recognize climate change action is an urgent issue, and we are making efforts focused on “Dealing with climate change, reducing environmental impacts” as a materiality. ISK Group strives to analyze, examine, and disclose the information related to the climate change issues under the TCFD recommendations, and in carrying out business activities, ISK Group will contribute to address environmental and social issues to realize a sustainable society and improve its corporate value.

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Sustainability: Dealing with climate change
https://www.iskweb.co.jp/eng/environment/climate.html

Governance

Our climate change-related efforts are overseen by the Sustainability Promotion Committee, which is established under the Board of Directors. The Office of Sustainability Promotion, headed up by an executive officer, plans measures which will then be implemented by the Climate Change Team underneath it.
The team comprises people from factory management, manufacturing divisions, administrative department, and ISK affiliates. The efforts and measures the team comes up with are deliberated on at Sustainability Promotion Committee meetings held at least twice a year, and those approved are consulted on and passed by the Board of Directors. The progress of activities by the Sustainability Promotion Committee, including the Climate Change Team, is reported every three months to the Board of Directors, which supervises these activities.



Strategy

Chosen Climate Change Scenarios

Referencing climate change scenarios published by the IEA (International Energy Agency) and IPCC (Intergovernmental Panel on Climate Change), we selected scenarios of a rise of 1.5–2°C and 4.0°C. Recognizing that climate change’s impact on business becomes more evident in the medium- and long-term, we analyzed the impact of climate change until 2050, as the time horizon.

*Referenced climate change scenarios
- 1.5–2°C scenario: Scenario with sustainable development and climate policy to keep temperature rise under 2°C compared to pre-industrial levels but to also aim to keep it to 1.5°C or less (IEA NZE 2050, IEA SDS, SSP1-2.6, RCP2.6)
- 4°C scenario: Maximum emissions scenario with no climate policy and development dependent on fossil fuels (IEA STEPS, SSP2-4.5, RCP8.5)

Scenario Analysis Process

Identify major risks and opportunities	● Gather information on risks and opportunities in the chemical industry. ● Identify climate change risks and opportunities for ISK, and narrow down the major potential risks and opportunities that could have a large impact on our business.
Gather future forecast data	● Gather highly reliable, external future forecast data related to major risks and opportunities. ● Organize the future forecast data for each scenario and, along with relevant personnel at ISK, examine possible future world outlooks.
Calculate impact on business	● Using the collected future forecast data and in-house data, quantitatively assess what possible impacts the highly important risks and opportunities will have on business for each scenario.
Consider responses	● Consider ways to deal with climate change risks and opportunities that have a particularly large impact on business. ● Consider other efforts and ways to implement them when necessary.

Scenario Analysis Results

The ISK Group used external information to analyze the main climate change risks and opportunities in our business, and gathered future forecast data related to each risk and opportunity.
Based on this, we considered the risks and opportunities that arise from the transition to the carbon neutral society, and the physical risks and opportunities caused by climate change, under each of the 1.5–2°C and 4°C scenario. We then analyzed the major risks and opportunities that could impact our business up until 2050.
As a result, for the 1.5–2°C scenario, we identified risks such as greatly increased operating costs due to the imposition of a carbon tax on CO_2 emissions.
Therefore, recognizing the importance of reducing CO_2 emissions across the entire ISK Group, we will proceed with various planned measures towards achieving carbon neutrality by 2050.

Business Risks and Opportunities Identified through Risk Level Assessment and Scenario Analysis

Time horizon: Short term: 2025, medium term: 2030, long term: 2050

On major opportunities | Financial impact more than one billion yen: ↗ | Financial impact less than one billion yen: →

On major risks | Financial impact more than minus one billion yen: ↘ | Financial impact less than minus one billion yen: →

Major Risks and Opportunities			Covered business	Explanation of risks and opportunities			Responses aimed at reducing risks and seizing opportunities
				Explanation	Time horizon	Financial impact (2050)	
Transition risks	Policies/ regulations	Introduction of carbon tax, stricter CO_2 emission regulations	Organic chemicals/ Inorganic chemicals	Increased operating costs due to the imposition of a carbon tax on CO_2 emissions (For 1.5°C: Cost increase of approx. 17.2 billion yen in 2050*)	Medium–long	↘	• Shift boiler fuel away from coal • Rebuild manufacturing systems • Implement carbon capture and use renewable energy
	Technologies	Shift to meeting consumer needs for low-carbon products	Organic chemicals/ Inorganic chemicals	Developing low-environmental impact products and strengthening manufacturing systems (Calculation of evaluation of financial impact includes rise in semiconductor demand)	Medium	↗	• Expand sales of electronic components (semiconductors etc.), materials (IPM products), and others that reduce environmental impact • Create new technologies and products (Organic: Develop IPM products with a view to smart agriculture using AI and IoT, etc.) • Utilize subsidies and subsidy systems for capital investment and product development
	Markets	Rising raw material prices (titanium ore, coke, others)	Inorganic chemicals	Increased procurement costs, rising material prices due to limited availability	Medium	↘	• Increase yields and reduce waste • Reduce CO_2 in procurement through cooperation with suppliers and the industry
		Energy cost fluctuations	Organic chemicals/ Inorganic chemicals	Sharp price fluctuations in coal, fuel oil, gas, and electricity	Short–medium	→	• Diversify the energy sources • Pursue thorough energy savings
	Reputation	Greater awareness of environmental consciousness among customers	Organic chemicals/ Inorganic chemicals	Fewer product orders and lower investor ratings due to delay in decarbonization	Medium	–	• Proactively strive to reduce environmental impact • Pursue thorough information disclosure
Physical risks	Acute	Rise in severity of extreme weather events such as typhoons and floods	Organic chemicals/ Inorganic chemicals	Property damage and lost profits due to disasters	Short	↘	• Expand and improve BCPs, conduct drills • Increase the number of suppliers • Consider a backup manufacturing system
			Organic chemicals/ Inorganic chemicals	Rise in insurance costs due to higher risks of disaster striking bases	Short	→	• Revise terms of insurance contracts
			Organic chemicals	Decrease in sales of agricultural materials due to farmers' damage from floods	Short	→	• Develop materials that solve new issues arising from extreme weather (rain-resistant materials, biostimulants that counter heat stress, and others) • Select certain countries for priority development and marketing based on predictions of changes in uncertain ecosystems (pests, weeds, etc.)
	Chronic	Rise in average temperature, extreme change of weather patterns	Organic chemicals	Increasing sales opportunities provided by selling of materials that respond to ecosystem changes	Medium–long	→	

*Financial impact evaluation uses carbon pricing in each country under the 1.5°C scenario (IEA NZE 2050) for the calculation of cost impact (Scope 1, 2). Note that the organic business includes subcontractors (Scope 3).

Risk Management

One of the eight priority issues (materiality) that the ISK Group has identified is "dealing with climate change and reducing environmental impacts."
In recognition of the urgency of climate change, the ISK Group has established the Climate Change Team under the Office of Sustainability Promotion.
This team identified climate change risks, the results of which are assessed and controlled by the Sustainability Promotion Committee. When necessary, matters are reported to the Corporate Risk Management Committee.

Indexes and Targets

Our Group's greenhouse gas (GHG) emissions (Scope 1 and 2) remained at the same level as the previous year. Additionally, our Scope 3 emissions, which are emissions from the supply chain, increased due to such factors as increased raw material procurement costs, outsourcing costs, and capital investment.
Our Group has established targets for reducing CO_2 emissions (Scope 1 and 2). At the Yokkaichi Plant, which has the highest CO_2 emissions, the company is not only promoting energy-saving activities but also tackling a variety of other issues, including the use of renewable energy derived from biomass, the introduction of low-energy-load equipment, the verification of technologies to improve thermal efficiency, and the development of mass production of heat storage materials.

GHG (Greenhouse Gas) Emissions of ISK Group (1,000 t-CO_2)

GHG emissions	FY2019 (base year)	FY2020	FY2021	FY2022	FY2023
Scope1	471	408	488	476	479
Scope2	20	19	23	22	24
Total	490	427	511	498	504

GHG emissions calculated based on GHG Protocol

GHG Emissions of Scope3 (1,000 t-CO_2)

Scope3	Category	Calculated Scope	Calculation Basis	FY2023
Category 1	Purchased goods and services	Non-consolidated	Calculated from raw material procurement costs and outsourcing costs	483.62
Category 2	Capital goods	Consolidated	Calculated from capital investment amount and emissions intensity	24.11
Category 3	Fuel and energy-related activities not included in Scope 1 or Scope 2	Consolidated	Calculated from Scope 1 and 2 energy consumption	51.93
Category 4	Upstream transportation and distribution	Non-consolidated	Calculated based on specified shipper periodic reports	4.28
Category 5	Waste generated in operations	Consolidated(in Japan)	Calculated from the amount of disposed general and industrial waste	1.94
Category 6	Business travel	Consolidated	Calculated from number of employees and emission intensity	0.24
Category 7	Employee commuting	Non-consolidated	Calculated from employee commuting expenses	0.49
Category 8	Upstream Leased assets	Not included in Scope 3 because all leased properties are subject to Scope 1 and 2 calculations		—
Category 9	Transportation/distribution or delivery (downstream)	Not applicable due to the wide range of product usage, making it difficult to ascertain		—
Category 10	Processing of sold products	Not applicable based on WBCSD Chemical Sector Guidance		—
Category 11	Usage of sold products	Not applicable based on WBCSD Chemical Sector Guidance		—
Category 12	End-of-life treatment of sold products	Not applicable due to the wide range of product usage, making it difficult to ascertain		—
Category 13	Downstream leased assets	Not applicable as there are no leased assets held for rental purposes		—
Category 14	Franchises	Not applicable as there is no franchise business		—
Category 15	Investments	Not applicable as there are no profit-making investment activities		—
Total of GHG Emissions of Scope3				566.60

ISK Group Aiming for Carbon Neutrality by 2050

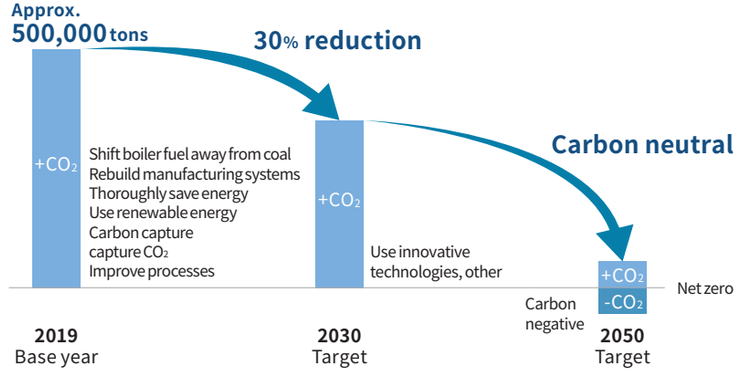
With climate change becoming a major worldwide issue, the ISK Group has identified dealing with climate change and reducing environmental impacts as priority issues (identified materiality) and aims to become carbon neutral by 2050.

Reduction Targets

2030: Target CO_2 emissions reduction by 30% (against FY2019)
2050: Challenge carbon neutrality (net zero emissions)

The ISK Group has set the reduction targets for CO_2 emissions (Scope 1 and 2). We will continue to strive for reduced emissions and carbon neutrality in order to promote Climate Change Mitigation and Adaptation.

CO_2 Emission Reduction Road Map



Energy Saving Diagnosis Conducted at Yokkaichi Plant

One of the ways we are working to reduce the Group's CO_2 emissions is to "pursue thorough energy conservation." At our Yokkaichi Plant, we have set up an Energy Working Group made up of all production departments under the Environmental Protection Committee, and we are working on energy conservation on a daily basis; however, it is becoming increasingly difficult to achieve ongoing reduction in energy consumption. Therefore, in order to find opportunities for implementing new measures, we commissioned the Energy Conservation Center, Japan to conduct an energy saving diagnosis. This diagnosis resulted in 11 suggested improvements, and we are currently prioritizing and working on these with the aim of further reducing energy consumption.



Steam trap leakage measurement

Environmental Protection

Yokkaichi Plant's Material Balance in FY 2023

Energy and raw materials consumed

- Energy *1
  140,000 kiloliters (crude oil equivalent)
- Industrial water
  16 million m^3
- Seawater
  11 million m^3
- Raw materials Titanium ore
  160,000 tons
- Coke
  20,000 tons
- Calcium carbonate
  100,000 tons

INPUT

ISK
Yokkaichi Plant

OUTPUT

Production

- Products *2
  140,000 tons (titanium dioxide equivalent)

Atmospheric emissions

- CO_2 emissions
  Greenhouse gas emissions (in accordance with the revised Act on Promotion of Global Warming Countermeasures)*3
  580,000 tons-CO_2
- Nitrogen oxides (NOx)
  182 tons
- Sulfur oxides (SOx)
  5,800 Nm^3
- PRTR-listed substances
  10 tons

Emissions into water areas

- Wastewater
  27 million m^3
- COD
  40 tons
- PRTR-listed substances
  58 tons
- Nitrogen
  139 tons
- Phosphorus
  1.2 tons

Industrial waste

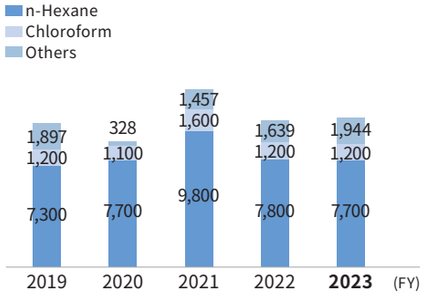
- Disposal volume
  97,000 tons
- PRTR-listed substances
  1,500 tons

*1 Heavy oil, LNG, steam, and electricity are used as energy sources. The combined usage volume is expressed as a crude oil equivalent figure under Act on the Rational Use of Energy.
*2 Beside titanium dioxide, we produce functional materials, chemical, organic, and other products. These have all been converted to titanium dioxide production figures using energy consumption intensity under Act on the Rational Use of Energy.
*3 The amount of carbon dioxide equivalent calculated from product production volume based on the revised Act on Promotion of Global Warming Countermeasures has been added to the amount of carbon dioxide emissions from energy sources based on the Act on the Rational Use of Energy.

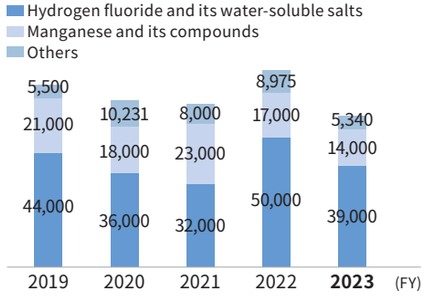
Release and Transfer of PRTR-Listed Chemical Substances to Environment

The PRTR (Pollutant Release and Transfer Register) is a system under which the government announces, from where, to where and how much chemical substances are released and transferred that may be harmful to human health and ecosystems. It also aims to encourage companies to exercise self-restraint through disclosure. The Yokkaichi Plant and the Central Research Institute handle 27 substances and 3 substances covered by the PRTR, respectively. These have been reported to the government.
The graphs show the change in the amounts released and transferred at the Yokkaichi Plant in the past five years.

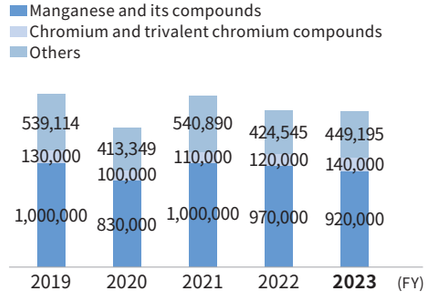
Atmospheric Emissions (kg)



Discharge into Public Water Areas (kg)



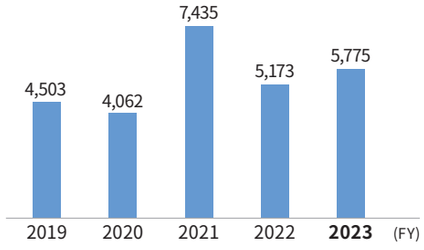
Amount Transferred Off-Site (kg)



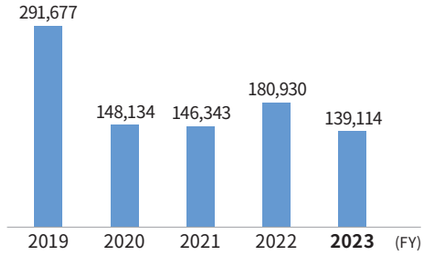
Reducing Environmental Impact on Atmosphere and Water Areas

The graphs show the amounts of substances, covered by total mass emission control, discharged into the atmosphere and public waters at the Yokkaichi Plant.
The plant has voluntary emission standards that are stricter than the total mass emission control values set under Japan's Air Pollution Control Act and Water Pollution Control Act.

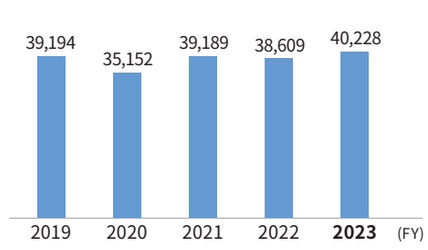
SOx Emissions (Nm^3)



Nitrogen Pollutant Load into Public Water Areas (kg)



COD in Public Water Areas (kg)



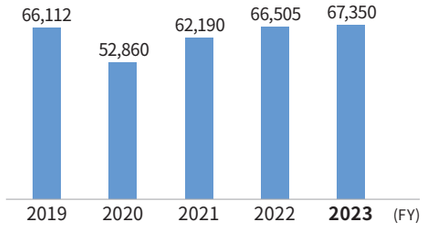
Reduction of By-product Inorganic Sludge

Unnecessary by-product solids (inorganic sludge), generated by each production activity such as titanium dioxide, are properly transported to an industrial waste disposal site.

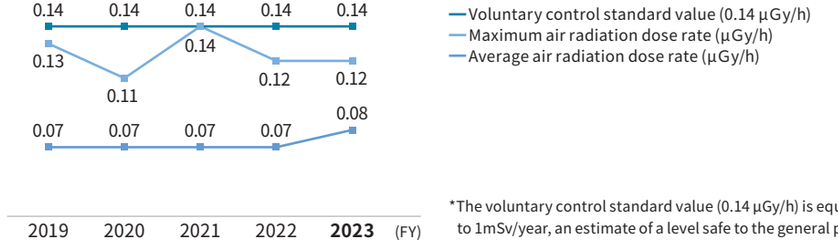
Controlling Air Radiation Dose Rate of Inorganic Sludge

Ore, used as a raw material for titanium dioxide, contains trace amounts of radioactive impurities such as uranium and thorium, and these are treated and disposed of as waste. Prior to being transferred as industrial waste, radiation levels are measured in accordance with a voluntary control standard to ensure that they are safe.

Disposed Volumes of Inorganic Sludge (tons)



Air Radiation Dose Rate Originating from Radionuclides Contained in Industrial Waste (Inorganic Sludge)



*The voluntary control standard value (0.14 µGy/h) is equivalent to 1mSv/year, an estimate of a level safe to the general public.

Occupational Safety and Health

Basic Policy

ISK's safety and health policy is to ensure the safety, security, and health of employees and local residents by complying with safety and health-related laws, preventing accidents and disasters, building a pleasant work environment, and constantly raising the level of safety and health. Additionally, we have established "occupational safety and health, operation safety, and disaster prevention" as one of our Group's key issues (materiality) and are promoting initiatives aimed at achieving a lost injury frequency rate and severity rate of zero.

Safety and Health Management Structures

In line with our "Basic Policies on Environmental Protection and Safety & Health Promotion," we have established the Environment, Safety & Health Management Committee under the purview of the Office of President to deliberate on the highest level policy proposals relating to safety and health, the environment and chemical substance management. Below this is the Safety and Health Council which, in addition to the organizations that promote environmental conservation and undertake chemical substance management, promotes occupational safety and health promotion awareness.



Safety and Health Management System

At ISK, we have established "president-directed environmental, safety and health goals" which reflect the characteristics of operation at each business location, and, in order to achieve these goals, key initiatives are set at the beginning of each fiscal year. Here, we will look at the initiatives of our sole plant, the Yokkaichi Plant.

Fiscal 2024 President-directed Environmental, Safety and Health Goals for the Yokkaichi Plant (safety and health-related only)

1. Eliminate plant accidents (fire, explosion, leakage, etc.)
2. Achieve zero workplace accidents (zero lost-time accidents)
3. Improve health awareness and prevent health disorders
4. Promote safety and health and health measures for older workers
5. Achieve zero lost-time accidents involving commuting employees' vehicles

To achieve these goals, the Yokkaichi Plant has formulated, and is implementing, an action plan. Some of the initiatives from this plan are presented below.

Thorough Management of Chemical Substances

Recently, the Industrial Safety and Health Act has been amended to include new chemical substance regulations, and chemical substance management has shifted from the previous "individual regulation" model to "autonomous management."
The Yokkaichi Plant handles many chemical substances, so preventing exposure is important to keep workers from getting sick. We conduct risk assessments for the chemical substances we handle, evaluating the risks based on their harmfulness (hazards) and usage conditions, and then taking measures* as necessary.
We have appointed a chemical substance manager in each department that handles chemical substances, and it's his or her responsibility to implement risk assessments and oversee countermeasures, among other duties. In addition, to manage protective equipment, which is an effective means of preventing exposure, we appoint multiple protective equipment managers according to the size of the department, and we ensure that workers wear protective equipment appropriately.

*Measures (methods to reduce exposure)
(1) Utilization of alternatives and other safer options
(2) Installation and operation of equipment to seal emission sources, local exhaust ventilation systems, or general ventilation systems
(3) Improvement of operational methods
(4) Utilization of effective respiratory protection

Heatstroke Prevention

As the heatwaves become more intense, we are taking basic steps to prevent heatstroke, such as by improving the working environment, managing the physical condition of workers, and managing working hours.
In order to ensure product quality, some work is done indoors, which may result in high temperatures and humidity. In order to more effectively prevent heatstroke, we conducted a trial run of a heatstroke prevention wearable device* last year and are now fully introducing it this year as an additional measure against heatstroke.

*It is worn on the wrist like a watch and prevents heatstroke by detecting an increase in core body temperature (heat buildup) and then sounding an alarm.



"CNRIA" wearable device for preventing heatstroke

Workplace Accidents at Fuji Titanium Industry and Prevention of Reoccurrence

In May of last year, a serious workplace accident occurred at the Kobe plant of Fuji Titanium Industry, an ISK Group company, in which a worker's arm was caught in rotating machinery. Under guidance from the Labor Standards Inspection Office, the plant is taking measures to prevent reoccurrence and is also identifying similar dangerous areas and implementing safety measures. Since the accident, we have shared information and are working together with the Yokkaichi Plant to prevent reoccurrence through such means as conducting reciprocal plant visits, inspections, and opinion exchange meetings. The entire Group will continue to work together to create safe, accident-free workplaces.

Respect for Human Rights

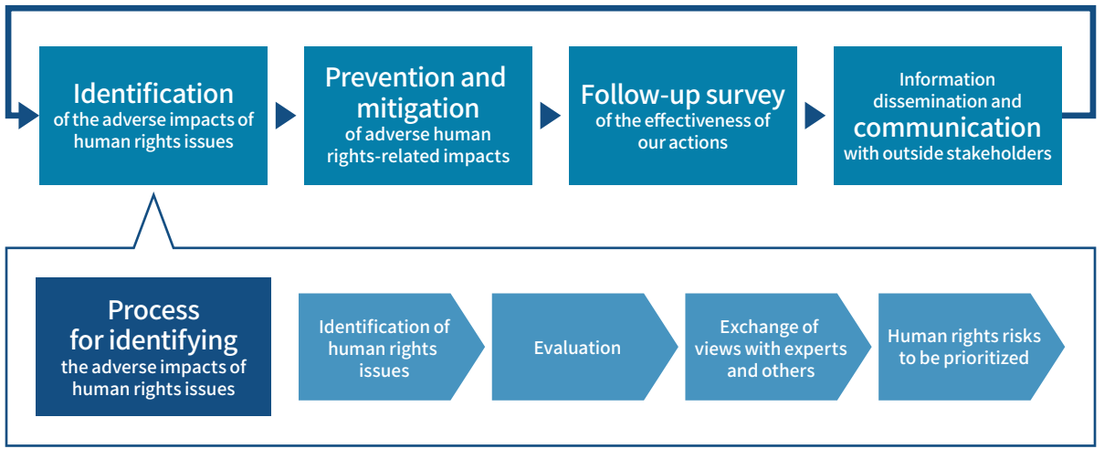
We have formulated the ISK Group Policy on Human Rights to further our efforts in respecting individuals. Based on international human rights standards such as the International Bill of Human Rights, the policy proclaims ISK's dedication to preventing discrimination and harassment and respecting individual privacy. It also details how we implement education and training to effectively achieve these goals and conduct due diligence, as well as disclose pertinent information.
In line with this policy, we pursue efforts to further respect human rights at all our worldwide bases.

Sustainability: Respect for Human Rights
https://www.iskweb.co.jp/eng/environment/human_rights.html

Implementation of Human Rights Due Diligence

The ISK Group is working to build mechanisms to identify and prevent or mitigate human rights issues negatively impacting society.
In fiscal 2023, with the cooperation of outside experts, we developed specific prevention and mitigation measures and schedules for each relevant department to implement for identified priority risks in human rights measures.

Steps in Human Rights Due Diligence



Designation of Human Rights Risks to Be Prioritized

Placing the highest priority on human life, the ISK Group has identified initiatives to address as priority human rights risks. These include responding to the fact that our major manufacturing sites are located in areas expected to be damaged by a Nankai Trough earthquake, enhancing our response to geopolitical risks, responding to workplace-specific risks like long working hours and harassment, and responding to increasingly sophisticated information security risks.
We also believe that it is necessary to understand the current state of human rights at suppliers and business partners and communicate with them in order to further increase transparency.

Human Rights Risks to Be Prioritized	Affected Group	Major Human Rights Risks
Health and safety	Workers at ISK's group companies	● Large-scale earthquakes, pandemics, etc. ● Protest activities, terrorism, and kidnappings in regions with geopolitical risks and at our overseas sites
Long working hours	Workers at ISK's group companies	● Normalization of long working hours due to personnel shortages, diversification of work styles, etc.
Harassment / abuse / corporal punishment	Workers at ISK's group companies	● Occurrence of harassment accompanying the diversification of work and human relationships
Leakage of personal information or invasion of privacy	Workers at ISK's group companies and Customers	● Diversification of risk factors, such as unauthorized access and cyberattacks, accompanying the development of information technology
Human rights issues at suppliers and business partners	Workers at suppliers and business partners	● Insufficient understanding of the actual state of human rights

Conducting Supplier CSR Survey of Business Partners

In fiscal 2023, we conducted a Supplier CSR Survey between November 2023 and January 2024 to address the risks associated with having an insufficient understanding of the actual situation of suppliers and business partners. We requested participation in this survey from 18 companies with which we transact one billion yen or more in business, including irreplaceable business partners, and we received responses from all of them. From the survey, no suppliers were found to require immediate improvement, but we will continue to strengthen risk management in our supply chain.

Human Capital

Message from the Director of General Affairs & Human Resources Headquarters

Our Vision Towards 2050
A global company that is cherished by people and society, achieving healthy and fulfilling lives



Director of General Affairs & Human Resources Headquarters
Yoshio Nishiyama

Vision 2030 Stage II seeks to realize our purpose—to continue contributing to better living environments through chemical technologies—by combining business activities with sustainability in order to implement a more sophisticated approach to sustainability management.
Our Vision Towards 2050 is to become "a global company that is cherished by people and society, achieving healthy and fulfilling lives." To formulate this vision, the Company's executive management, department leaders, Sustainability Promotion Committee members, and other participants engaged in serious discussions about their vision for the future based on the Company's purpose, corporate philosophy, business portfolio, external-environment megatrends, and other information, leading them to identify the following key items in order to realize the vision: "Challenges and innovation," "Create society," and "Organizational and human evolution."
To realize them, in addition to improving corporate value through strategic management undertaken from a medium- to long-term perspective, we must earn the empathy, support, and social praise of customers and business partners, society as a whole, shareholders, employees, and other stakeholders. For customers and business partners, we will serve as a unique company by providing safe, secure, and highly satisfying products and services through exceptional chemical technologies; For local communities, we will act as a trusted company thanks to initiatives to protect the regional environment and foster the development of the local economy while considering society, life, and the environment; for shareholders, we will increase shareholder satisfaction through robust business performance while continuing to earn the support of all shareholders; For employees, we will realize a company where employees feel fulfillment in work by supporting individual growth and offering a highly engaging environment.
With regard to "Organizational and human evolution" in particular, we will emphasize the diversity of employees, who comprise human capital, and build mechanisms that foster motivation by empowering them to make the most of their skills and act in an autonomous manner, allowing both the Company and its human resources to grow as a result.



ISK Group Human Resources Management Policy
Making human resources the source of competitiveness

Combining the Company's vision with employees' career vision in pursuit of mutual growth

Creating workplaces where employees feel fulfillment in work

Evaluating willingness to embrace challenges andability to take action
Supporting and evaluating human resources who are willing to embrace challenges and able to take action without fear of failure

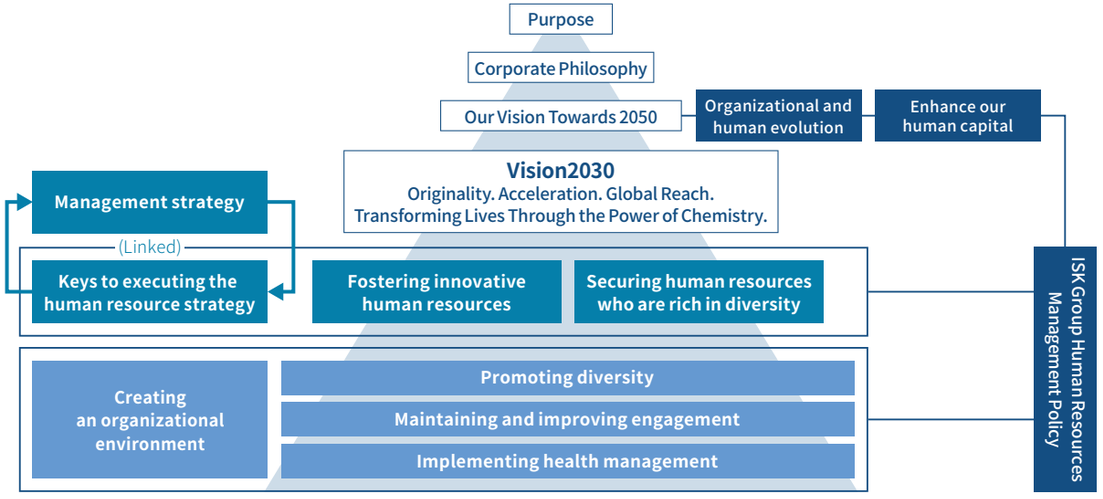
Supporting growth of human resources
Helping motivated employees develop their careers by working to enhance and enrich education and training

Respecting diversity
Accepting individual employees' differing ways of thinking and values and welcoming new ideas

A human resource strategy linked to management strategy

The Group considers human resources to be an important type of capital that creates new value. The environment in which the Company operates is undergoing significant change, and the Group's overall human resource strategy is also embarking on a period of major transition. This also applies to shifting job methods, labor market conditions, living environments, and the diversification of personal values. The types of human resources we need are changing as we work to transform strategy throughout the Group, and we need to train human resources to create a human resource strategy that's linked to management strategy and to create new business domains.

We believe the keys to executing our human resource strategy will be fostering innovative human resources and securing human resources who are rich in diversity. First, we will awaken an appetite for growth by encouraging employees to develop their careers in an autonomous manner so as to spur their own growth and thereby foster the professionals with a high level of specialization. In addition, we will aim to cultivate an organizational culture that can innovate consistently by taking advantage of collaboration between our global organic and inorganic chemicals businesses and spurring human resource exchanges that go beyond individual businesses. In this way, we will work to further increase the Group's overall corporate value by securing human resources who are rich in diversity and fostering innovative human resources.



Human capital investment value (non-consolidated)

Investments in human resources and organizations: 131.7 million yen (including outside matchup training* of 10.6 million yen)

Job grade-specific training, compliance training, DX training, self-development support (SD School), hiring activity expenses, talent management system deployment expenses, top management training, management leadership training, ISK Business School, etc.

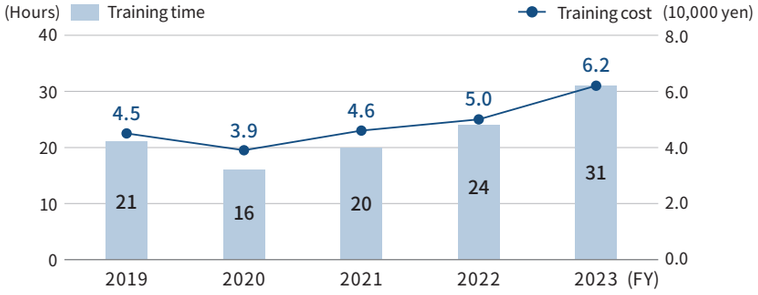
*Outside matchup training comprises an approach to learning that focuses on repeated discussions and output with people of various ages from multiple industries outside the Company.

Note: Includes FY2023 results as well as measures that have been implemented or finalized during the current fiscal year.

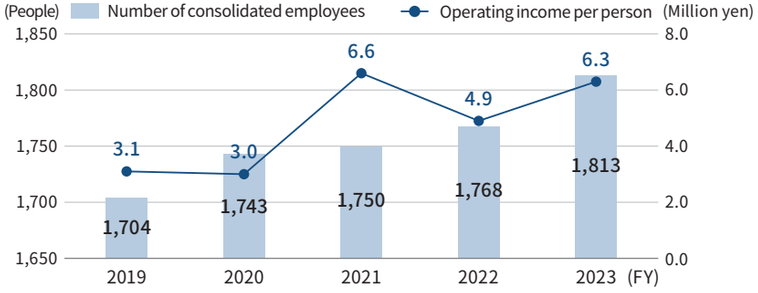
Investment in environment development: 106.3 million yen

Evaluator training, engagement survey expenses, mental health survey expenses, health management implementation expenses, etc.

Training time and cost per person (non-consolidated)



Consolidated operating income per person



Keys to executing the human resource strategy

Fostering innovative human resources

Learning based on an awareness of outside matchup training

We emphasize training human resources who possess business skills that are relevant in all settings and who can work in a way that cuts horizontally across society. In particular, we want employees with a strong appetite for growth to master the business skills needed to provide value outside the Company and use them to foster innovation. We value external learning through outside matchup training, a process where repeated discussions and output with people of various ages from multiple industries allow employees to gain not only knowledge, but also stimulation in the form of new ways of thinking that they may have lacked previously and new frames of mind, preparing them to serve as core human resources for the Company.

Mastering a comprehensive range of business skills at ISK Management School

I mastered a wide range of business skills at ISK Management School, including technical skills in the form of data analysis and creation of materials, human skills that seek to improve communication, and conceptual skills that help one see through to the essence of issues. As one example of how that training has proven useful, being able to communicate effectively while studying where the Company should focus its resources in the future while working with participants from other companies on issues that involved analyzing other companies' financial statements and businesses was an extremely valuable experience. Going forward, I look forward to helping improve our corporate value by implementing Vision 2030, our long-term vision, and taking advantage of what I've learned as soon as possible, for example by exchanging views with other stakeholders, both at the Company and elsewhere, and leveraging my analytical skills.



Chief
Corporate Planning Division
Corporate Administration & Planning Headquarters
Maki Adachi

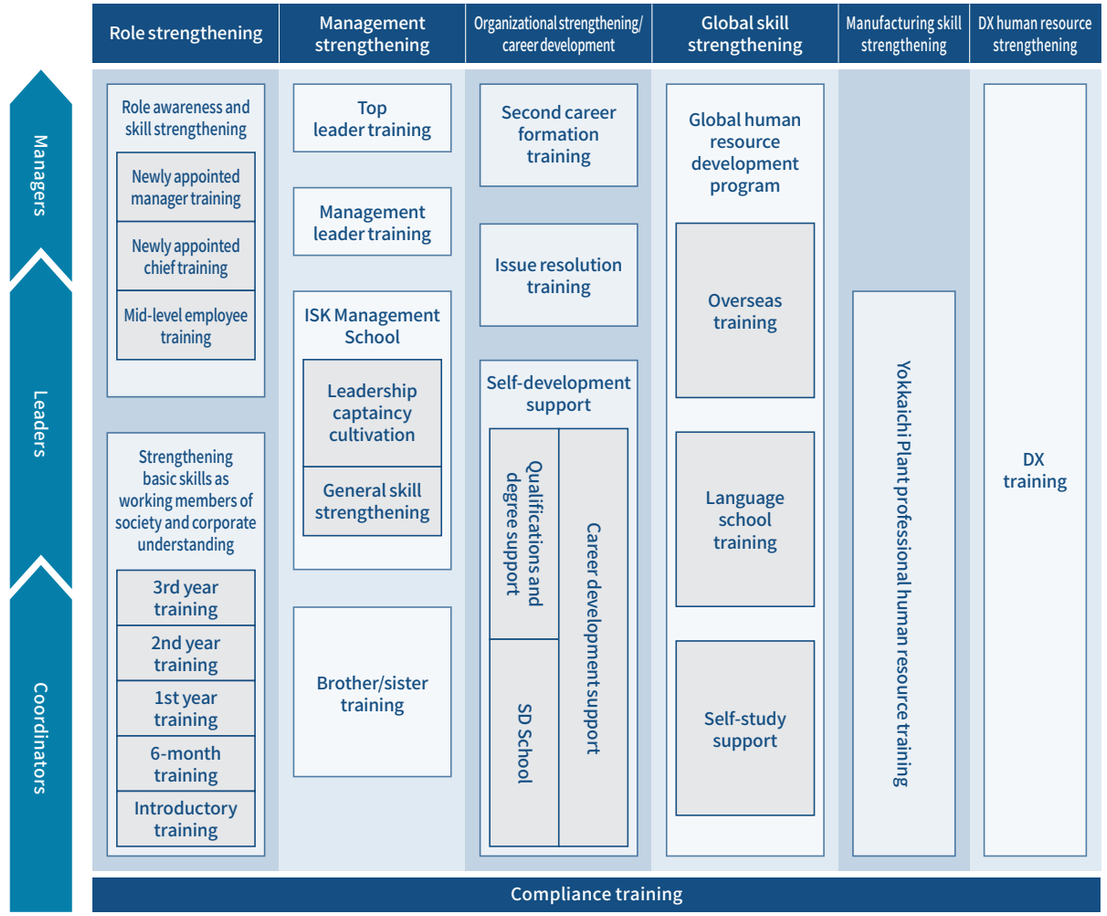
Embracing the challenges of multicultural understanding and global business through foreign-language training

During the summer of my second year at ISK, I took advantage of an in-house language training program to study at a language school in Philippine for two months. During those two months, I stepped back from my work responsibilities in Osaka and instead spent weekdays in all-day instruction and often spent time with foreign roommates after class and on days off. It was an extremely meaningful experience in an environment that let me concentrate exclusively on my English studies. In addition, I learned about and experienced different nationalities' and countries' differences in values and thinking as well as cultural differences while meeting people of a variety of nationalities at the language school and seeing how locals actually lived. I'll take advantage of not only my English training, but also multicultural understanding in the future in my product development, marketing, and sales work in the Americas. The training awakened a new appetite for learning, and I look forward to continuing to learn in the future.



Americas Group
Product Development & Marketing Division
Bioscience Business Headquarters
Yuka Minami

Training and educational programs



Training professional human resources at the Yokkaichi Plant

The Yokkaichi Plant has long faced the challenge of creating mechanisms to facilitate the unified management of the skills necessary for its operation and for the general enhancement of its human resources through systematic education and training.
The facility has set the goal of "improving overall skill levels and building a sustainable plant by training the professional human resources who will be responsible for the Yokkaichi Plant's future." In 2022, the plant rebuilt its educational and training system and offered internal training and e-learning focusing on basic-foundational knowledge to augment existing job grade-specific training, experience-based safety education, and other programs in an effort to enhance the range of learning opportunities available to young human resources.
Going forward, the plant will work to train as many professional human resources as possible by continuing these initiatives.

Career support

Employees have numerous options with regard to the direction of their careers, and individuals make different choices based on their values and thinking. The Group believes that when employees search for a career by asking what they wish to accomplish through their job, which is to say, when they take the initiative to develop their own career, individual employees realize personal growth, which ultimately helps create an innovative organization.
Employees' drive to embrace their jobs yields a motivating environment and an experience of growth. Salary, income, benefits, and other forms of compensation offer a certain level of effectiveness in terms of worker retention, but few employees wish to continue working at a company where they can't grow. We consider creating an environment where employees can work in their own way while maximizing their performance to be a priority in its human resource strategy. During Stage II of the medium-term business plan, we're working to create a strong organization through further strengthen the entire Group's growth and human resources' growth. It is important for every employee to shape their own career to foster independence. To support them, we provide each skill map.

Self-reporting program

This program lets employees seek advice from their supervisor concerning problems and issues they face in the course of fulfilling their responsibilities so that they can better align their actual course with their career plan. By facilitating free consultation and feedback without a direct link to the employee evaluation process, the program helps foster a sense of psychological safety.

The Yokkaichi Plant's professional human resource training program

Target	Level-specific education	Required training				Other
		Shared	Operations	Administrative staff	Selective	
Leaders (supervisors)	Life design and second careers	Evaluators	Plant law education		In-basket training, internal instructor training	Support for earning necessary qualifications Company, product, and industry knowledge Self-development support (SD School) Departmental cross-cutting knowledge study session regarding understanding the plant through tours of other processes
	Leadership		Independent maintenance technician Level 1	Logical thinking	Beginner managers	
	Lifelong career development		QC examination Level 2	Mentoring	Plant leadership training, SV candidates	
Mid-level (role awareness)	10th year	Harassment prevention	SkilUp Operations 2, motion board	Negotiation	Risk assessment, safety management	
			Sequence 2			
			Production meister Level 3	Listening	Facilitation, OJT trainers	
	5th year	Evaluation program education, hazard experience, environmental law education	SkilUp Operations 1, sequence 1, plant processes/QCD	Statistics basics	Production control, foreman skill enhancement, team leaders/evaluators	
"Working adult" basics	3rd year	SkilUp financial accounting, safety follow-ups	QC examination Level 3, independent maintenance technician Level 2	Presentations	FTA/FMEA introduction, business writing, computer skill application	
	2nd year	Human resource program basics	SDS basics, SkilUp chemistry and math			
			Facility basics, electricity basics	Autonomy, PDCA	Basic computer skills	
	New employees	Safety education for new employees	Production meister basic			

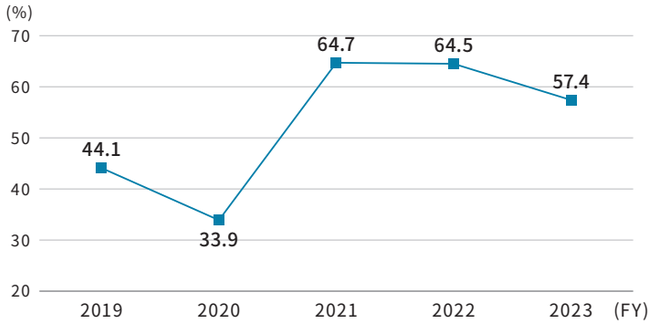
Industrial accident prevention (self-defense and disaster preparedness)

Construction safety guidance

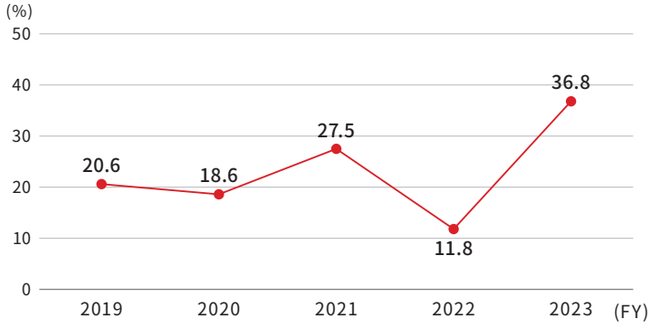
Securing human resources rich in diversity

Reflecting our belief that a diversity of backgrounds fuels innovation, we embrace mid-career hires. We've described our ideal employee as "someone who possesses fundamental understanding and who can change in order to make changes in practice." In short, we seek professional human resources who can adapt to environmental changes, who possess a high level of specialization and creativity, and who can continually refine their own skills in order to create new value.

Mid-career hires as a percentage of all hires (non-consolidated)



Female employees as a percentage of all hires
[total new-graduate and mid-career hires] (non-consolidated)



Implementing global customer service that takes advantage of diversity

Originally from South Korea, I joined the company as a new graduate in 2019 and spent my first three years in the laboratory conducting toxicity evaluation-related research on the agrochemicals developed in-house. I was assigned to the Head Office in 2022, and in my current department I am responsible for customers in China and Korea. I am responsible for over 20 companies, and these are existing customers in China and Korea with whom we have been doing business for decades.
With regard to the relationships we have with these longstanding customers, I continue to work hard every day to earn the same level of trust that my predecessors had developed. We do not simply sell them products; rather, we emphasize the importance standing alongside our customers in the "buying" process, so as to grow together with them.
At the same time, we are also focused on approaching new customers and place importance on clearly communicating our Group's purpose, vision, and strengths to them before we explain our products. We also seek to truly understand the purpose, vision and strengths of new customers so that we can then provide recommendations that are optimal for them. In this way, we aim to provide global customer service that takes capitalizes on diversity to build better relationships of trust.



East Asia Group
Product Development & Marketing Division
Biosciences Business Headquarters
Kim Junhyeong

"Come-back" program

As part of our efforts to promote diversity, we've put in place a "come-back" program. This program helps employees who have temporarily left their positions, for example to give birth, fulfill parenting responsibilities, or care for a family member, or to pursue personal circumstances to their career design goals, to return to the Company. The goal is to allow people who understand the Company's culture and have related expertise return to work again at the Company, bringing with them new experiences and knowledge.
In addition to putting in place a worker-friendly workplace environment that can accommodate employees' diverse life and career stages, the program helps us secure human resources who can contribute to the Company's growth.

Creating an organizational environment

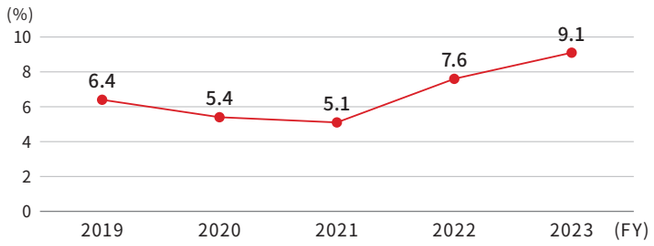
Promoting diversity

Our starting point for diversity lies in people-centric management. People are the source of corporate competitiveness, and we believe that having diverse human resources who recognize one another's differences and accept and respect various ways of thinking and values helps create new value and boost the organization's capabilities.
Human resources have value that cannot be measured quantitatively using KPIs, and they play an indispensable role in the organization's growth and development.
We will practice diversity management that helps spur innovation and improve our organizational capabilities and competitiveness by making use of each and every employee's individuality and abilities.

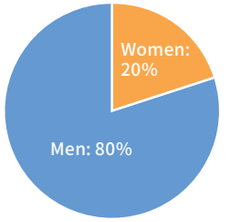
Initiatives to realize gender equality and balance work with personal responsibilities

Having more women in the workforce and making the organization more diverse help spur innovation, and increasing the number of women who are involved in important decision-making will be essential in order to ensure the Company's sustained growth. We're offering a broader range of opportunities to highly motivated employees and helping employees who are eager to grow.
In addition, we help employees balance their work and household responsibilities to help maximize the performance of motivated employees, regardless of gender. Our challenge is to help employees balance their work with personal responsibilities so that they don't feel they have to interrupt their career in order to give birth, raise children, or care for a family member and so that all employees can flourish professionally while making the most of their skills and abilities.
In particular, we strive to ensure that all employees can achieve work-life balance, and we recommend that male employees take advantage of parenting leave programs. In this way, increasing their workplace's overall productivity.

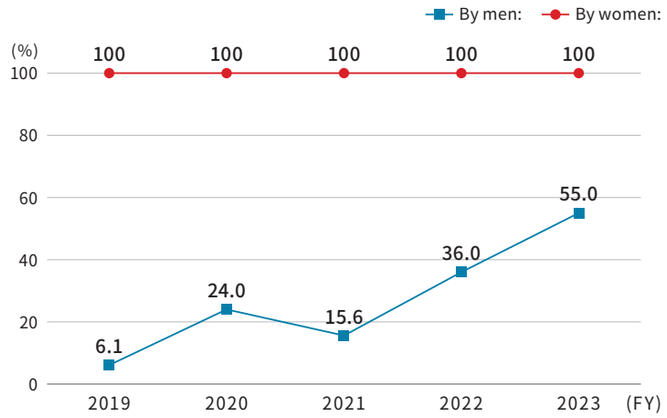
Female manager ratio (non-consolidated)



R&D employees by gender (non-consolidated, FY2023)



Utilization of childcare leave (non-consolidated)



A new leadership perspective from taking childcare leave

I took four weeks of childcare leave right after my second child was born. In fact, the birth happened almost a month sooner than my wife's due date, but everything went comparatively smooth since I had consulted with my supervisor about six months prior, and because my coworkers were understanding and cooperative.
Having actually taken the leave, I feel that it was a precious experience to be able to be so close to our new child during that first, remarkable month of growth. It was a rewarding time, as I was able to spend time with my older child, for example by dropping them off at daycare and then picking them up, and spend more time communicating with my partner.
I planned things carefully before going on leave so that my team wouldn't be hindered, and I think it was a positive in terms of my experience as a leader. I would wholeheartedly recommend that men actively take childcare leave, even if it's only for a short time. The addition of another child means I have more responsibilities at home, and I'm also feeling more motivated at work since I'm currently participating in a new project. I look forward to contributing more and more while drawing energy from both home and work.



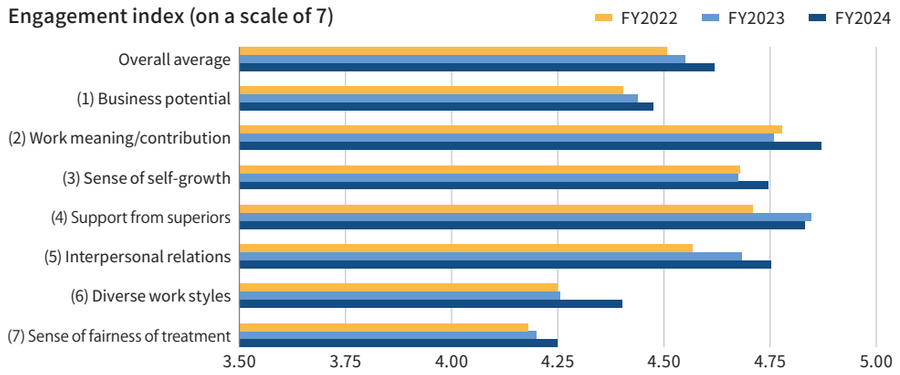
Manager
Process Research Group
for Organic Synthesis
Production Technology Division
Biosciences Business Headquarters
Tatsuya Jukurogi

Maintaining and improving engagement

We tap human resources as the source of our competitiveness and strive to ensure our purpose and their vision of their career coincide so that we can grow together. We also strive to create workplaces where a willingness to embrace challenges and an ability to act are recognized and rewarded, where human resources' growth is supported, and where diversity is emphasized. In this way, we strive to increase engagement while maintaining and improving the workplace environment so that all employees will feel fulfillment in work. Moreover, by providing an environment where each and every employee can be aware of and pursue autonomy in their own career and make the most of their potential, the Company strives to realize sustainable growth.

Measures originating in the engagement survey

We consider it important to maintain an environment where each and every employee can make the most of their skills and abilities and work while gaining a sense of fulfillment. We adopt a flexible, active approach to accommodating rapidly changing workstyles and environments and actively administer an engagement survey as one way to facilitate growth of both employees and the company.
Currently, our engagement survey consists of an engagement questionnaire and a multifaceted behavioral survey. Furthermore, we value employee feedback and use findings from the self-reporting program as an important reference resource. Based on the data we obtain from these surveys, we implement improvement measures designed to deepen insight into employees' level of satisfaction and motivation as well as the workplace environment. Specifically, we're working to improve communication by strengthening management training, undertaking initiatives to promote inclusion by respecting diversity, enhancing our mental health care, and implementing other workstyle reforms.
Moreover, we consider enhancing our career support program to be an important priority going forward, and we are committed to helping each and every employee grow and pursue their chosen career. Through these ongoing initiatives, we will pursue the Company's sustainable growth while proving a workplace environment in which all employees can realize their own growth as well as the Company's development while enjoying a high level of satisfaction.



Improving engagement and realizing sustained growth: Challenges embraced by the Yokkaichi Plant

At the Yokkaichi Plant, the Group's largest facility, improving human resources' growth and organizational capabilities is essential in order for the Company to realize sustained growth. To that end, the plant is working to improve its manufacturing capabilities and focusing on building an approach to management that can foster the development of professional human resources while accommodating change. We're working to create a workplace where employees feel fulfillment in work by maintaining and improving engagement.
Specifically, the plant conducted interviews and questionnaires independently with consultants based on the results of its engagement survey to assess employee awareness and needs and to align with the Company's direction.The structure of problems are analyzed and causal structures are organized based on the data obtained from that process. Thereby, we work to improve the workplace environment by studying and implementing measures to improve engagement in an ongoing manner.
Going forward, the plant will continue to develop its organization so that it can maximize human resources' potential and build a worker-friendly environment. In addition, we will strengthen the plant's human resource capabilities in a sustained manner and build a foundation capable of supporting improvements in the facility's manufacturing capabilities and the growth of the entire Group. Through these initiatives, we will continue to work to accommodate change at all times and realize sustainable development as we look to the future.



Professional human resources at the Yokkaichi Plant who support manufacturing

Health & Productivity Management Promotion

We recognize that employee health is the basis for the Company's continued growth, and consider health management to be an important management strategy. Since being announcing our Health Declaration in October 2021, we've worked to create an environment where employees can do their jobs energetically and in good health, and we've implemented a variety of related measures. These efforts led to ISK's recognition as a Health & Productivity Management Outstanding Organization (largescale corporate sector) in 2024 for the second year in a row.

Managing employees' health and making it easier for them to do their jobs are important priorities that are directly connected to the strengthening of the Company's competitiveness and its sustained growth. Improving mental healthcare and health literacy are particularly important as keys that underpin the Company's growth. We've created the Human Capital Management Promotion Team as part of the Office of Sustainability Promotion, which reports directly to the president, and put in place structures to implement related measures through the collaboration of industrial physicians, public health nurses, the health insurance union, and the labor union.

2024 健康経営優良法人 Health and productivity

Health management initiatives

Maintaining and improving health

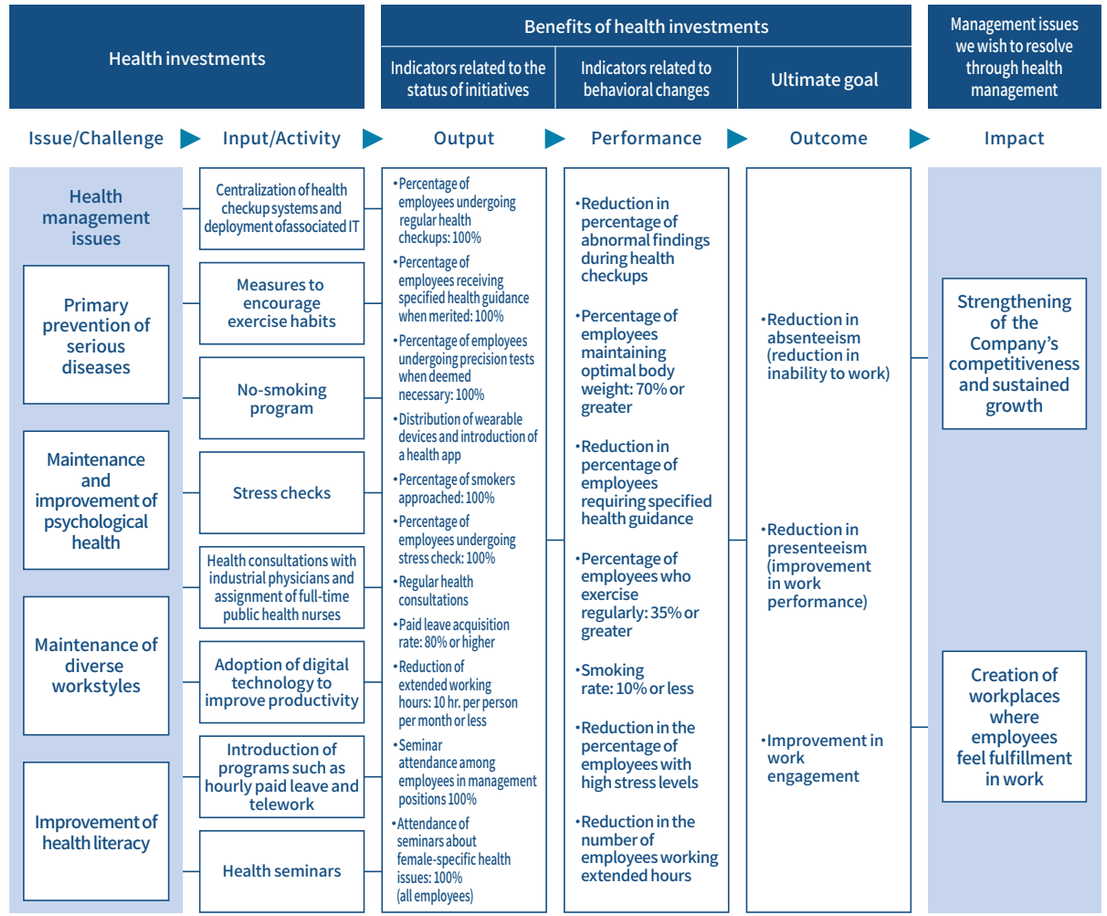
To prevent adult-onset diseases, the Company is working actively with the health insurance union to promote a collaborative health program. In addition to orchestrating a no-smoking program that utilized outside partners in an effort to lower smoking rates, we introduced a self-care health improvement service in June 2024 to help employees manage parameters including their daily steps, weight, diet, and exercise with an app in order to help them adopt healthy habits. We also distributed wearable devices to interested employees so that they can visualize their daily activity level and sleep quality. By increasing employees' interest in their own health and encouraging behavioral changes by means of these tools, employees are ascertaining their own state of health, setting health goals, and taking action as part of an ongoing PDCA cycle.

Improving health literacy

Continuing a program that began last year, we offered e-learning to all employees. By helping all employees understand unique female health issues rather than limiting this information to female employees, we're working to deepen understanding throughout the workplace.

In addition to addressing health management in training for newly assigned managers, we're providing more and more health education and information with each passing year, for example by making available videos of health talks by in-house public health nurses.

Health management strategy map



Initiatives to strengthen sustainability management and build new structures

During Vision 2030 Stage I, the Group strengthened and implemented sustainability management initiatives from an ESG and SDGs perspective and worked to lay a foundation for future efforts in this area. During Stage II, which started this fiscal year, we're seeking to combine our business and sustainability activities.
To achieve this goal, we reformed our structures in June 2024, shifted authority over the Sustainability Promotion committee from the office of the president to the Board of Directors, improved oversight functions, and strengthened governance. At the same time, we created the Office of Sustainability Promotion, which is led by an executive officer and tasked with planning, formulating, and implementing a range of sustainability-related activities, as a structure for strengthening sustainability management in an ongoing manner. The office analyzes the impact of societal needs and environmental changes on our businesses and the impact of our businesses on society and the environment and undertakes a variety of measures from the standpoint of opportunities and risks. Specific measures such as climate change countermeasures and human rights due diligence are carried out by five implementation teams consisting of members of various departments, overseen by the Office of Sustainability Promotion. Going forward, we will continue to embrace the challenge of taking action to help realize a better environment and society.
In addition, we changed the name of the department responsible for checks and oversight in the Group in the areas of environment, safety and health, and quality assurance to the Office of Environment, Safety and Quality Administration and placed it under the leadership of a managing executive officer. The office sets policies and targets related to the environment, safety and health, and other related areas and implements measures, corrective action, and improvements as necessary while assessing the status of activities through reporting and audits from various departments. By building structures to facilitate close cooperation between the Office of Sustainability Promotion and the Office of Environment, Safety and Quality Administration, we will enable sustainability-related initiatives throughout the Group to complement one another so that we can maximize overall results. By leveraging this new structure to accelerate sustainable management in a way that integrates its business and sustainability activities and working to realize additional growth and improved corporate value, the Group will seek to earn the trust of stakeholders worldwide.



Executive Director of
Office of Sustainability
Promotion
Makiko Sano

Executive Director of
Office of Environment,
Safety and Quality Administration
Shigeru Mitani

Signing the United Nations Global Compact

We signed a declaration endorsing the United Nations Global Compact (UNGC) and registered as a participating company in Global Compact Network Japan (GCNJ), an organization dedicated to realizing the UNGC's principles in Japan, in June 2024.
As the world's largest sustainability initiative, the UNGC seeks to bring the UN and the private sector (companies and organizations) together to build a robust global society. Companies and organizations that are signatories to the UNGC endorse 10 principles in the four areas of human rights, labor, environment, and anti-corruption, and they're called upon to work towards their realization.
In keeping with its purpose of "to continue contributing to better living environments through chemical technologies," the Group supports the UNGC's 10 principles and seeks to realize a sustainable society by working to resolve societal issues through its business activities.

Earning certification under the Roundtable on Sustainable Palm Oil

Palm oil, a vegetable oil produced from palm fruit, is used in a wide range of applications, including food, detergents, and pharmaceuticals. Expanding production in Indonesia and Malaysia, which are major producers of palm oil, has brought deforestation, worker rights issues, and other problems. The Roundtable on Sustainable Palm Oil (RSPO), a non-profit established in 2004, has established a series of requirements for sustainable palm oil and introduced a certification system for production and supply chains.
Our Yokkaichi Plant (in Yokkaichi, Mie Prefecture) uses palm oil to produce ultrafine particle size titanium dioxide for use in cosmetics. As an initiative to ensure sustainable procurement of palm oil, the plant recently earned RSPO SCCS (mass balance) certification.
We're currently putting in place structures that will enable us to manufacture mass balance-certified products and supply them to customers. Going forward, we will work to expand our line of products manufactured using certified raw materials.

Financial and Non-Financial Summaries

Financial Summary (Consolidated)

(FY)

Fiscal year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Profit and loss											(Million yen)
Net sales	105,293	103,330	102,903	101,601	108,001	106,441	101,066	101,774	110,955	131,238	**138,456**
Operating income	3,038	11,104	8,314	8,415	10,022	11,372	6,188	5,173	11,557	8,631	**11,491**
Net income attributable to owners of parent	-8,207	6,661	9,151	3,804	3,442	8,683	2,359	3,373	11,690	6,947	**7,988**
Financial status											(Million yen)
Current assets	96,321	105,204	109,386	102,565	103,387	107,080	110,324	117,003	121,389	137,499	**161,173**
Property, plant and equipment	47,159	44,525	38,733	39,183	40,843	43,167	46,271	47,107	46,535	46,728	**41,560**
Intangible assets, investments and other assets	21,051	17,932	14,935	15,121	15,536	18,442	15,841	15,909	17,834	17,685	**21,590**
Total assets	164,532	167,662	163,056	156,871	159,767	168,689	172,437	180,021	185,758	201,913	**224,324**
Current liabilities	59,495	56,892	49,725	47,310	47,990	44,712	43,737	42,203	46,731	59,192	**53,056**
Long-term liabilities	60,337	59,990	54,396	46,579	44,638	48,642	52,029	58,302	47,157	45,289	**65,150**
Total net assets	44,699	50,779	58,933	62,981	67,137	75,335	76,669	79,515	91,869	97,431	**106,068**
Interest-bearing debt	77,654	78,738	67,686	58,781	51,328	49,528	52,531	60,103	50,420	56,081	**70,323**
Other											(Million yen)
Cash flows from operating activities	12,067	6,351	10,268	14,631	16,607	4,907	3,317	4,749	16,501	-6,022	**-2,811**
Cash flows from investing activities	-4,125	-3,214	9,656	-5,950	-6,030	-8,590	-6,922	-6,162	-4,319	-5,021	**-7,044**
Free cash flow	7,941	3,136	19,925	8,681	10,577	-3,682	-3,605	-1,413	12,182	-11,043	**-9,855**
Depreciation and amortization	5,271	4,757	4,458	4,215	4,214	4,266	4,445	4,669	4,545	5,225	**5,207**
Capital investment (excluding intangible assets)	2,758	3,049	4,507	5,407	6,142	7,141	8,062	6,092	4,542	5,330	**8,830**
R&D expenses	8,965	9,330	8,988	8,173	8,706	8,070	9,150	8,639	8,165	9,156	**9,758**
Per share status											(Yen)
Current net income per share	-205.19	166.58	228.88	95.15	86.12	217.25	59.03	84.41	292.58	175.75	**209.27**
Dividends per share	—	—	—	—	—	12.00	20.00	18.00	36.00	42.00	**70.00**
Financial indicators											
Operating margin (ROS, %)	2.89	10.75	8.08	8.28	9.28	10.68	6.12	5.08	10.42	6.58	**8.30**
Return on equity (ROE, %)	-17.00	13.95	16.68	6.24	5.29	12.19	3.10	4.32	13.64	7.34	**7.85**
Return on assets (ROA, %)	1.78	6.69	5.03	5.26	6.33	6.92	3.63	2.94	6.32	4.45	**5.39**
D/E ratio (double)	1.74	1.55	1.15	0.93	0.76	0.66	0.69	0.76	0.55	0.58	**0.66**

Financial and Non-Financial Summaries

Non-Financial Summary

(FY)

Fiscal year	2021	2022	2023
GHG (greenhouse gas) emissions (ISK group companies*1)			
Year-on-year comparison of GHG emissions (%)	119.7	97.5	**101.1**
GHG emissions (thousand tons-CO_2)	511	498	**504**
Waste (Japan, consolidated*2)			
Industrial waste (sludge) (tons)	74,962	80,768	**76,256**
Atmosphere SOx (Japan, consolidated*2)			
SOx emissions (Nm^3)	10,223	7,044	**7,241**
Atmosphere NOx (Japan, consolidated*2)			
NOx emissions (kg)	209,394	201,412	**193,339**
PRTR-listed substances (Japan, consolidated*3)			
Atmospheric emissions (tons)	12.9	10.7	**10.9**
Emissions into bodies of water (tons)	63.5	76.3	**58.8**
Amount transferred (tons)	1,746	1,617	**1,591**
Water usage (Japan, consolidated*3)			
Water intake (thousand m^3)	28,694	28,716	**29,403**
Wastewater discharges (thousand m^3)	29,136	28,726	**29,492**
Water quality COD (Japan, consolidated*3)			
COD (kg)	62,093	62,246	**59,431**
Water quality Total Nitrogen (Japan, consolidated*3)			
Nitrogen pollutant load (kg)	163,706	198,509	**150,963**
Energy-related (Japan, consolidated*2)			
Total energy consumption (crude oil equivalent. kl)	(162,458)	(158,145)	**159,297 (157,967)**
Year-on-year comparison of energy intensity (%)	94.4	104.4	**97.6**
Energy intensity (kl/t)	0.85	0.89	**0.86**

Note) Figures in parentheses are calculated according to the former Act on the Rational Use of Energy

(FY)

Fiscal year	2021	2022	2023
Workplace accidents (Japan, consolidated*2)			
Frequency rate of lost-worktime injuries	0.93	0.56	**0.93**
Severity rate	0.01	0.03	**3.47**
Number of employees (non-consolidated)			
Number of male employees	948	952	**937**
Number of female employees	196	194	**209**
Male employee ratio (%)	82.9	83.1	**81.8**
Female employee ratio (%)	17.1	16.9	**18.2**
Diversity and inclusion (non-consolidated)			
Female hired ratio (%)	27.5	11.8	**36.8**
Number of female managers	12	18	**21**
Female manager ratio (%)	5.1	7.6	**9.1**
Number of employees taking childcare leave	12	13	**18**
Paid leave acquisition rate (%)	77.0	81.9	**82.8**
Employees over 60 rehired after retirement (%)	88.9	97.6	**93.3**
Other (non-consolidated)			
R&D employee ratio (%)	20.5	22.2	**22.4**
Number of patents held	2,527	2,502	**2,606**

*1 Entire ISK Group
*2 Operated by ISK and Fuji Titanium Industry Co., Ltd. Production facilities only
*3 ISK and Fuji Titanium Industry Co., Ltd.

History of ISK

For over a century, embracing challenges

Since foundation in 1920, the ISK Group has continued to grow by overcoming difficulties and flexibly changing its business to meet the needs of the times.
The bedrock has been a willingness to embrace challenges passed down from our founder and carried on to today.

1920 Company founding

1920 ▸ 1945 The origins of our willingness to embrace challenges

1945 ▸ 1960 Entering new businesses

1960 ▸ 1990 Expanding overseas amidst Japan's rapid economic growth

1990 ▸ 2010 Fulfilling social responsibility

2010 ▸ 2020 Become a strong and trusted chemical company

2020 ▸ 2024 Looking ahead
To continue contributing to better living environments



1920
ISK commences operation of an iron-ore mine on the Malay Peninsula. ISK has been meeting difficult challenges on the global stage since its founding.



1924
ISK begins handling its own ore shipping. Ships flying the company flag ply the oceans.

1934
The opening of the Kishu Mine, and the 1941 launch of operations at the Yokkaichi Plant, lay the foundations of ISK's domestic business.



1950
ISK begins producing agrochemicals, a cornerstone of the organic chemicals business, and becomes a pioneer in selective herbicides.



1954
ISK begins producing titanium dioxide, a cornerstone of the inorganic chemicals business, and becomes a top domestic producer.

1958
ISK's business focus shifts from mining to chemicals. It opens a research institute in Yokkaichi and embarks on extensive R&D efforts.



1970
ISK focuses its resources on environmental preservation, becoming one of the first industrial companies to build a comprehensive water treatment facility.



1974
ISK responds to rapidly rising domestic and international demand for titanium dioxide by expanding its production facilities, becoming a major global producer.

1974
ISK weathers changes in the agrochemicals market and moves boldly to strengthen its in-house development capabilities. After careful preparation, the company sets a course for world markets.



1999
After embarking on pharmaceutical production, ISK takes on challenges in life sciences, including the gene therapy business.



2005
ISK embarks on 100% Ferosilt recovery and processing, achieving the goal in 10 years.

2008
ISK publicizes the results of its comprehensive compliance audit. The company mounts a unified effort to rebuild trust.



2010
ISK launches full-scale sales of super-weather-resistant titanium dioxide, marking a shift from general products to highly functional and high value-added products.

2018
ISK receives approval for domestic manufacture and sale of the world's first anti-pancreatitis agent for dogs.



2020
ISK celebrates the 100th anniversary of its founding. By contributing to society through technological development, the company aims to help achieve a sustainable world and raise corporate value.

Company Profile / Group Bases

Company Profile

Company Name	ISHIHARA SANGYO KAISHA, LTD.
Head Office Location	3-15 Edobori 1-chome, Nishi-ku, Osaka 550-0002, Japan Tel: +81-6-6444-1451
Founded	September 10, 1920
Incorporated	June 1, 1949
Representative	Hiroshi Okubo, Executive Director & President
Capital stock	43.4 billion yen
Net Sales	(Fiscal year ended March 31, 2024) Consolidated: 138,456 million yen Non-consolidated: 109,055 million yen
Number of Employees	(As of March 31, 2024) Consolidated: 1,813 Non-consolidated: 1,146

Network / Group Companies

Network

Head Office, Central Research Institute, Yokkaichi Plant, Tokyo Branch, Chubu Branch, Sapporo Sales Office, Fukuoka Sales Office, Argentina Branch, Singapore Branch

Group Companies

Japan

- **ISK BIOSCIENCES K.K.**
  Sales of agrochemicals
- **ISHIHARA TECHNO CORPORATION**
  Trade in organic and inorganic chemical products, others
- **FUJI TITANIUM INDUSTRY CO., LTD.**
  Manufacture and sales of titanium dioxide, functional materials, others
- **MF MATERIAL CO., LTD.**
  Manufacture and sale of functional materials
- **ISK ENGINEERING PARTNERS CORPORATION**
  Construction business
- **ISHIHARA SANSO KAISHA, LTD.**
  Manufacture and sales of industrial gases
- **ISHIHARA KOSAN CO., LTD.**
  Asset management
- **HOKUSAN CO., LTD.**
  Manufacture and sales of agrochemicals

Taiwan

- **ISK TAIWAN CO., LTD.**
  Sales of inorganic chemical products

Korea

- **ISK KOREA CORPORATION**
  Sales of inorganic chemical products
- **ISK BIOSCIENCES KOREA LTD.**
  Administration of agrochemicals business in South Korea; manufacture and sales of agrochemicals

Thailand

- **ISK BIOSCIENCES (THAILAND) LTD.**
  Agrochemical registration and market development in Thailand

India

- **ISK BIOSCIENCES INDIA PVT. LTD.**
  Registration, manufacture and sale of agrochemicals

China

- **ZHEJIANG ISK & TAURUS CHEMICAL CO., LTD.**
  Sales of agrochemicals
- **ISK (SHANGHAI) CHEMICAL CO., LTD.**
  Registration and sale of agrochemicals

Philippines

- **AVC CHEMICAL CORP.**
  Sales of agrochemicals

Belgium

- **ISK BIOSCIENCES EUROPE N.V.**
  Administration of agrochemicals business in Europe; manufacture and sales of agrochemicals

The Netherlands

- **CERTIS BELCHIM B.V.**
  Sales of agricultural materials

United States

- **ISK AMERICAS INCORPORATED**
  Administration of U.S. subsidiaries
- **ISK BIOSCIENCES CORPORATION**
  Administration of agrochemicals business in the Americas; manufacture and sales of agrochemicals
- **ISK BIOCIDES, INC.**
  Sales of wood preservatives
- **IBC MANUFACTURING COMPANY**
  Manufacture of wood preservative and agrochemicals
- **ISK ANIMAL HEALTH, LLC (Ohio)**
  Manufacture and sales support of animal health products
- **ISHIHARA CORPORATION (U.S.A.)**
  Sales of inorganic chemical products
- **ISK MAGNETICS, INC.**
  Asset management
- **SUMMIT AGRO USA, LLC**
  Sales of agricultural materials and manufacture of agrochemicals

Mexico

- **ISK BIOSCIENCES, S.A. DE C.V**
  Registration and sales of agrochemicals

Brazil

- **ISK BIOSCIENCES DO BRASIL DEFENSIVOS AGRICOLAS LTDA.**
  Agrochemical registration and market development in Brazil

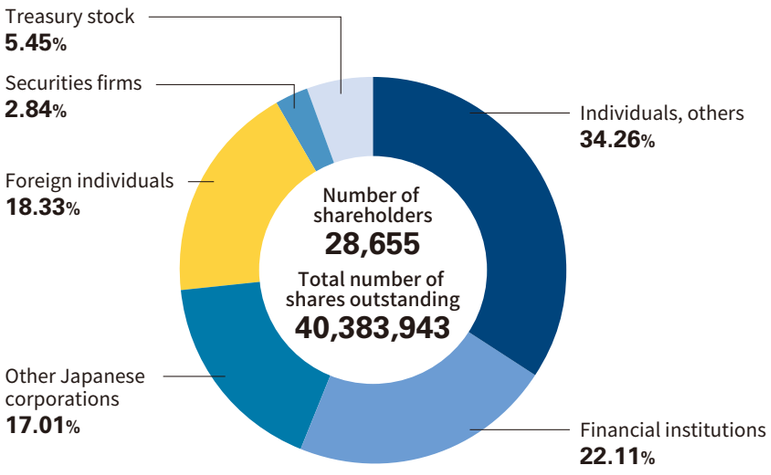
Consolidated subsidiary company
Non-consolidated subsidiary company
Equity method affiliated company
Non-equity method affiliated company

Stock Information

Stock Information (As of March 31, 2024)

Total Number of Shares Authorized	100,000,000 shares
Total Number of Shares Outstanding	40,383,943 shares
Number of Shareholders	28,655
Stock Exchange Listing	Tokyo Stock Exchange, Prime Market
Stock Code	4028

Shareholder Composition



Total Shareholder Return

(Unit: %)

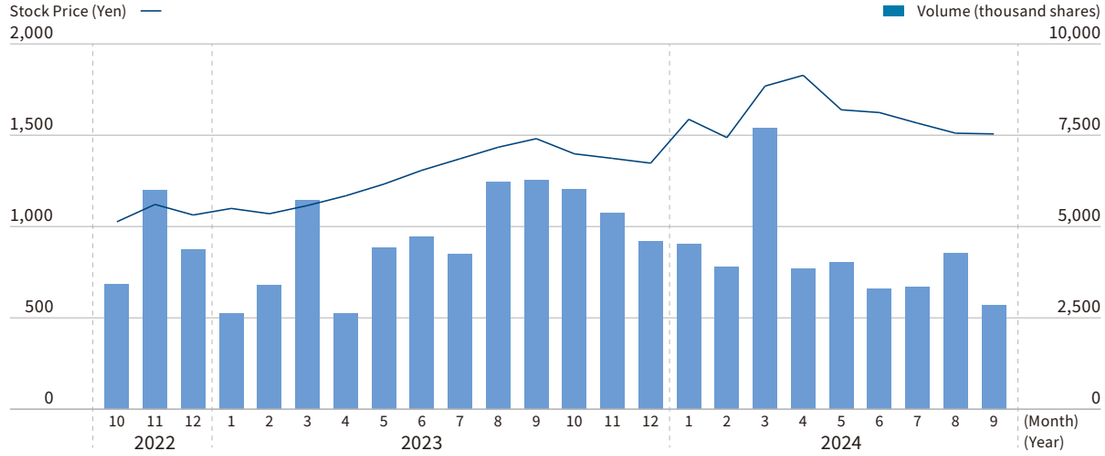
	FY2019	FY2020	FY2021	FY2022	FY2023
ISK	50.7	84.1	102.0	109.1	173.3
TOPIX	90.5	128.6	131.2	138.8	196.2
TOPIX Chemical	92.9	125.6	115.6	121.1	151.1

Major Shareholders (As of March 31, 2024)

Shareholder	Investment in ISK	
	Number of shares held (thousands)	Shareholding ratio (%)
The Master Trust Bank of Japan, Ltd. (trust account)	5,516	14.44
Mitsui & Co., Ltd.	2,019	5.29
Toagosei Co., Ltd.	1,722	4.51
Takateru Murakami	1,706	4.47
Custody Bank of Japan, Ltd. (trust account)	1,386	3.63
UPL Japan GK	1,170	3.06
Ishihara Sangyo Kaisha Client Stock Ownership Association	1,096	2.87
Ishihara Sangyo Kaisha Employee Stock Ownership Association	844	2.21
DFA INTL SMALL CAP VALUE PORTFOLIO	771	2.02
SBI Shinsei Bank, Limited	500	1.31

Note:
1: The shareholding ratio is calculated after deducting treasury stock.
2: In addition to the above, the Company owns 2,186 thousand shares of treasury stock.

Stock Price and Trading Volume



Editorial Policy

Editorial Policy

This integrated report is intended to provide stakeholders with integrated financial and non-financial information on the ISK Group (on a consolidated basis), which operates in and outside Japan. The report includes business results, as well as management policies and business strategies for creating value in the medium- and long-term.
Note: Some past figures have been revised due to improvements in precision.

Coverage

Organizations: Ishihara Sangyo Kaisha, Ltd. (ISK) and its consolidated subsidiaries and affiliates

Period: Fiscal 2023
(April 1, 2023 to March 31, 2024)

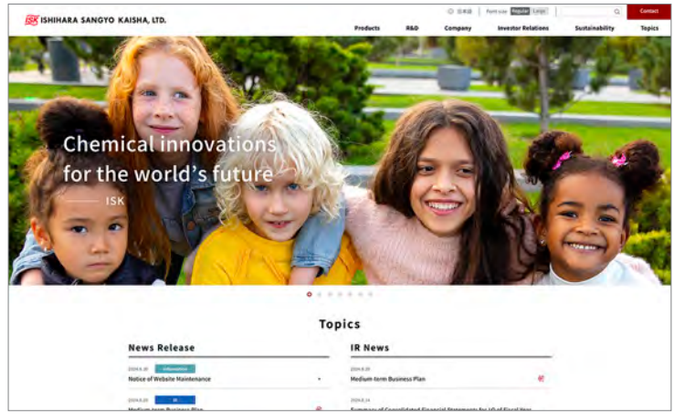
Referenced Guidelines

Integrated Reporting, International Integrated Reporting Council (IIRC)
Guidance for Collaborative Value Creation; Ministry of Economy, Trade and Industry, Japan
Environmental Reporting Guidelines (2018 version), Ministry of the Environment, Japan
GRI Standards, Global Reporting Initiative (GRI)

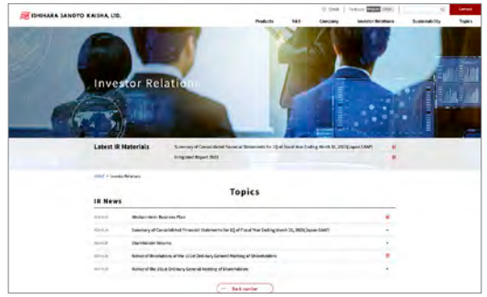
Website

Ishihara Sangyo Kaisha, Ltd. Official Website

https://www.iskweb.co.jp/eng/



▶▶ Investor Relations
https://www.iskweb.co.jp/eng/ir/



- Latest stock price information
- Topics
- Latest IR materials
- Management policies and organization
- IR library
- Stock information

▶▶ Sustainability
https://www.iskweb.co.jp/eng/environment/



- Top commitment
- Sustainability structures
- Environmental initiatives
- Social initiatives
- Governance initiatives