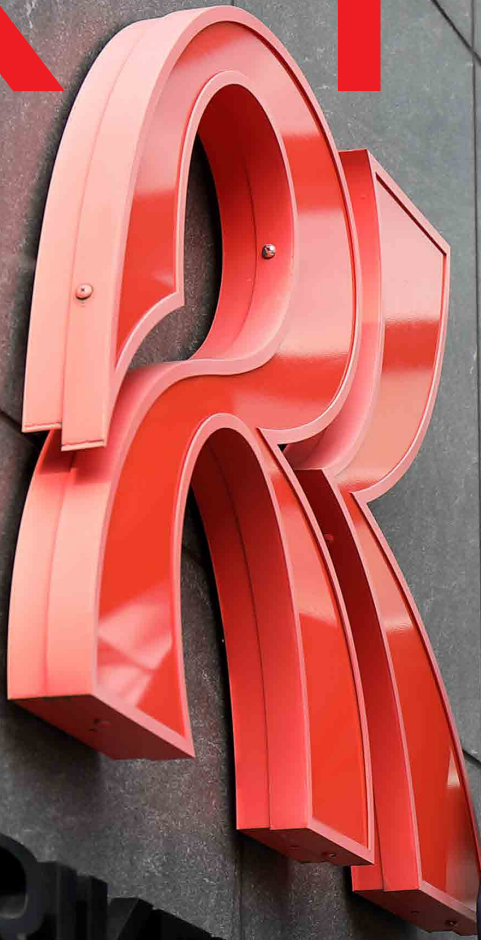


Spring 2023 | VOL.7

RiZm



RIKEN KEIKI

New President Appointed

President Tetsuya Matsumoto

RIKEN KEIKI Co.,Ltd.

Going Forward with New Presidency

[Special Feature] Tetsuya Matsumoto New President Appointed



[Special Interview]

“Management is a Balance.” Strengthen our Base and Challenge the Stronghold of the Big Three.

On April 1, 2023, Tetsuya Matsumoto was appointed as the new president. Even as the COVID-19 crisis is coming to an end, the market environment remains unpredictable due to the situation in Ukraine, soaring resource prices due to the yen’s depreciation against the dollar, their impact on the semiconductor market and other key industries, and further acceleration of the decarbonization shift, and maintenance and development of supply chains. We interviewed President Matsumoto about the future direction of RIKEN KEIKI as it sets sail under the new presidency, as well as the goals and vision for moving to the next stage.

Valuing our Employees, Strengthening our Foundation, and Turn the Management Spiral of Returning Profits to Shareholders.

—Congratulations on your appointment as President of RIKEN KEIKI Co., Ltd. Please tell us about your feelings and aspirations upon taking office.

On April 1st, I took over from my predecessor, Koyano. Thank you for having me today. This will be my 36th year since I joined RIKEN KEIKI. After joining the company, I worked in the Corporate Administration Division, but in 2018, I was appointed President of RIKEN KEIKI NARA MFG. Co., Ltd., a wholly-owned manufacturing subsidiary, and I was stationed at that company for two and a half years. After that, I served as the Executive General Manager of the Production Division at the Development and Production Center in Kasukabe, where I was in charge of the Production Management Department and Manufacturing Department for two years, leading to this appointment as President.

Currently, the consolidated sales forecast exceeds 40 billion yen. Sales have grown five times from 8 billion yen when I joined the company, and during that time we have never recorded a loss. This is because our predecessors, even during the peak of the bubble economy, did not unnecessarily

diversify their business and worked diligently on gas detectors. I believe that this is what supports RIKEN KEIKI today.

As the company has grown, the number of employees has also increased, and now, including consolidated subsidiaries, there are more than 1,200 people. If we expand the scope further, there are more than 100 subcontractors and business partners that support RIKEN KEIKI, and among them, there are quite a few companies that are supported by the work of RIKEN KEIKI. We must take responsibility for our employees and their families, as well as the employees and families of our business partners. In that sense, I feel a heavy responsibility as the president.

Also, since we are a stock company, we must grow the company and return profits to our shareholders. However, we believe that the foundation of a company is not its shareholders, but its human resources and employees. Profitability increases when a business is established with people as the starting point, and as a result, it can be returned to shareholders. I think that spiral is important.

On my appointment as president, I would like to successfully circulate this series of events to ensure that our employees, their families, and business partners are happy, and that we can return profits to our shareholders as well.

Anticipating Market Changes and Heading to the Next Stage with Net Sales of 50 billion yen.

—Even as the COVID-19 crisis is coming to an end, the market environment remains unpredictable due to the situation in Ukraine, soaring resource prices due to the yen's depreciation against the dollar, their impact on the semiconductor market and other key industries, and further acceleration of the decarbonization shift, as well as maintenance and development of supply chains. Please tell us about the future direction of RIKEN KEIKI and your goals and vision for the next stage as you set sail under the new structure.

In the last two years, RIKEN KEIKI's sales have increased by about 10 billion yen. Up until about four years ago, our combined sales from consolidated subsidiaries were around 30 billion yen, but by the fiscal year ending March 31, 2023, it exceeded 40 billion yen. We are currently aiming for the next stage, which are net sales of 50 billion yen. Behind this growth in sales is the boom in the semiconductor industry that coincides with the spread of remote work due to the impact of the COVID-19 crisis and the increased demand for personal computers and network equipment. In addition, the market for lithium-ion batteries used in mobile phones and electric vehicles remains strong. Along with this, the demand for gas detectors has also increased, and our company has grown by about 15% over the past two years.

However, currently, the semiconductor industry, which is our customer, is beginning to postpone or reduce capital investment. So far, we have had a steep climb, but we expect a "plateau" this year. I think that there are some parts where we have overstretched a little due to the rapid growth over



the past two years. Balance is important in management. I would like to review our footing and make it a year to solidify our foundation, aiming for sales of 50 billion yen. Therefore, we selected our key policy as "Anticipating Market Changes and Strengthening the Management Foundation for the Next Stage." Specifically, we will rebuild our production system and strengthen our supply chain. Furthermore, we will speed up the development and release of new products, which has been delayed until now. In addition, we will focus on gaining the trust and confidence of our existing customers and solidifying our defenses, rather than focusing solely on industries where there is demand. Due to the COVID-19 crisis, there may have been difficulties in visiting our customers, resulting in a lack of correspondence. On that note, we would like to restart our visits to our customers and hear their opinions, making up for what we could not do during the COVID-19 crisis. After solidifying our footing in this way, we would like to work on cultivating new markets.

Continuing Efforts to Achieve SDGs regardless of Business Performance

—This is the eighth year since the 2015 United Nations Summit adopted SDGs initiatives. RIKEN KEIKI has also been actively endorsing initiatives under its sustainability policy. Last year, as a company listed on the prime market, it also disclosed TCFD*2, which is an important indicator for ESG investments*1. Please tell us about your future initiatives to achieve the SDGs, as well as your policies regarding corporate governance, such as information disclosure on human capital and diversity.

For SDGs, continuous efforts are more important than overstressing. This is because we believe that accumulating efforts will eventually lead to the resolution of various issues. Our sustainability policy is to contribute to the development of a sustainable society through business based on the management philosophy, "Creating safe working environments" To that end, we are promoting three sustainability activities. The first is "Sustainability to support industrial infrastructure." Our products measure carbon dioxide and methane gas which destroy the global environment, so we believe that our corporate activities themselves will contribute to the achievement of the SDGs. The second is "Sustainability in development and production of our products," and we take care to consider the environmental burden that occurs from development to disposal. In fact, our Smart Type Gas Detector Head has succeeded in reducing environmental burden, and won the Energy Conservation Center Chairman's Award in the 2022 Energy Conservation Grand Prize (Product and Business Model Category) *3. The third is the "Sustainability as a good corporate citizen." We have been working on TFT*4 since

2019 and are also supporting the International Physics Olympiad 2023 in Japan*5. I think it is important to continue these efforts regardless of whether our business performance is good or bad. As for corporate governance, I would like to work on changing the item of "explain" to "comply" *6 in relation to the Corporate Governance Code of the Tokyo Stock Exchange Prime Market, and at the same time I would like to improve the content. Regarding the disclosure of information on human capital, we have compiled the data, and are now preparing to disclose it to the public by the General Meeting of Shareholders in June.

Achieve an Overseas Sales Ratio of 50% and Aim for Third Place in the World.

— With the turning point of the full-scale operation of the production center two years ago, the overseas strategy has been strengthened, including cooperation between the Market Strategy Department and the Global Sales Department. Please tell us about your goals for further overseas expansion in the future.

In recent years, the shareholding ratio of our subsidiaries in the United States and Singapore have become 100%, and our overseas subsidiaries have become wholly owned by RIKEN KEIKI. Some of the former management remain as corporate advisors and corporate counselors, while the current management is seconded from Japan. This system brings us closer to our overseas subsidiaries, facilitating smooth communication and decision-making between us and local management.

Our overseas subsidiaries already have strong markets, but we would like to expand into other markets in the future. For example, Singapore is originally good with the shipping market, but in order to acquire a share of the market that is likely to grow, such as the semiconductor field in Singapore, we are trying to strengthen our sales force by investing human resources and cooperating with the head office. For sales promotions, digital promotions are being developed primarily by the Market Strategy Department. Information on products and market topics on the website is one of them. We also distribute videos on YouTube.

We are looking beyond these activities to become the third in the world. Currently, RIKEN KEIKI has achieved the rank of fourth in the world. Our efforts of global expansion are beginning to bear fruit, and we are finally seeing the backs of the Big Three *7. In the future, we would like to reduce that gap. However, the domestic market is limited, so we would like to increase the overseas sales ratio to 50%. Of the overseas subsidiaries, China and Taiwan are growing in line with the goals of the head office, but there is still room for expansion in North America and Germany such as in the semiconductor market. In order to obtain our target markets, we will expand our overseas engineering division and maintenance division. We would also like to promote the

acquisition of overseas certifications.

—Finally, please give your message to the employees of the RIKEN KEIKI Group.

I would like all of our employees to have a challenging spirit. The development of new products, new markets, new procurement routes...there are many activities with the word "new." If we just maintain the status quo, not only will we not grow but our very survival will be in jeopardy. I encourage you to take on the challenge.

Management will work to create an environment where everyone can take on challenges. If the challenge succeeds, it is natural to provide an evaluation according to the result, but even if it fails, the process itself will be evaluated. We will come up with measures for that, so please keep challenging yourself.

(Interview date: March 29, 2023)

*1 ESG investment: An investment method that selects and invests in companies that conduct business in consideration of the environment (E) and society (S) and have excellent governance (G).

*2 TCFD Disclosure: Information disclosure based on the Task Force on Climate-related Financial Disclosures. Companies listed on the Tokyo Stock Exchange Prime Market are required to disclose information under the Corporate Governance Code.

*3 Energy Conservation Grand Prize: A system that recognizes exceptional energy conservation efforts in the industrial, business, and transportation sectors, as well as advanced, highly efficient energy-saving products. Organized by the Energy Conservation Center, Japan.

*4 TFT: TABLE FOR TWO. A social contribution activity originating in Japan that aims to eliminate the food imbalance between developing countries suffering from hunger and malnutrition and developed countries suffering from lifestyle-related diseases and obesity.

*5 International Physics Olympiad in Japan: IPhO2023 TOKYO JAPAN. An international physics competition for pre-university youth. This is the 53rd competition and will be held in Japan for the first time.

*6 Comply or Explain: "Comply or Explain" means to "Comply" with the Corporate Governance Code for companies listed on the Tokyo Stock Exchange Prime Market, or "Explain" the reasons for non-compliance.

*7 Big Three: Refers to Honeywell (US), Dräger (Germany), and MSA (US), the world's three largest industrial gas detection and alarm companies.



Tetsuya Matsumoto

October 13, 1964: Born in Tokyo / Graduated from Chuo University Faculty of Commerce April 1987: Joined RIKEN KEIKI
July 2006: Executive Officer, General Manager of Accounting Department and General Manager of Management Audit Office
March 2007: Executive Officer, General Manager of Corporate Administration Division Accounting Department and General Manager of Corporate Strategy Office
June 2009: Director, General Manager of Corporate Administration Division Administration Department and General Manager of Corporate Strategy Office
June 2017: Executive Managing Director, Executive General Manager of Corporate Administration Division, General Manager of Administration Department, and of Corporate Strategy Office
October 2018: Executive Managing Director, President of RIKEN KEIKI NARA MFG. Co., Ltd.
April 2021: Executive Managing Director, Executive General Manager of Production Division and General Manager of Production Management Department
April 2023: Appointed as President



Securing Diversity in our Core Human Resources and Aiming to Publish a Medium-Term Plan that is Useful for Future Predictions.

In June 2021, the Tokyo Stock Exchange announced and enforced the Revised Corporate Governance Code. The main revised codes include “Enhancing Board Independence,” “Promoting Diversity,” and “Attention to Sustainability and ESG (Environment, Social, Governance).” Of these, the Corporate Strategy Office played a central role in the TCFD Disclosure, which focused on “Attention to Sustainability and ESG.” So, what kind of initiatives does RIKEN KEIKI have for other codes? We also talked about IR support, which is attracting increasing attention, and the medium-term management plan under the new system.

Aiming for Diversity by Promoting the Appointment of Women, Foreigners, and Mid-Career Recruits as Core Human Resources.

—Thank you for taking time out of your busy schedules to meet together today. The Tokyo Stock Exchange’s Corporate Governance Code has been revised, requiring companies listed on the Tokyo Stock Exchange Prime Market to proactively address governance and diversity. Please tell us about RIKEN KEIKI’s specific efforts in these areas and future goals.

Shimomura:First, in regards to diversity, it is beginning to be cultivated at our company. We are currently promoting recruitment activities for female employees with the goal of achieving a female employment ratio of 25% or more in line with the Act on Advancement of Measures to Support Raising Next-Generation Children and the Act on the Promotion of Women’s Active Engagement in Professional Life. As of April 2022, the ratio of female employees is 15.8% of all employees, and female managers are 3.6% of all managers. At the Board of Directors meeting held on March

15, the company announced that it will actively recruit women and promote them to core human resources, aiming for a female ratio of 5% or more among core human resources by 2030. 5% is by no means a high figure, but I feel that we have taken a step forward in ensuring diversity by announcing numerical targets.

As of April 2022, the ratio of foreign employees remains at 0.9% of all employees, and the promotion of foreigners to core human resources has not progressed. However, there are cases in which a person from China hired at the head office has a fairly important position at our Chinese subsidiary. Currently, we are promoting the expansion of our recruitment network in order to strengthen the employment of foreigners based on our business strategy. For example, we would like to collaborate with our subsidiaries in the United States, Germany, Singapore, China, and Taiwan, and consider having personnel from those subsidiaries come to our headquarters.

In addition to women and foreigners, we are actively hiring specialists and experienced personnel who can work immediately, and are assigning them as core personnel in each department and our overseas subsidiaries. As of April

2022, the percentage of mid-career hires in managerial positions is 18.9% of all managers. There are a certain number of mid-career hires and mid-career hires who are promoted to core human resources, so we have not set any targets at this time. The diversity required to be disclosed in the CG Code is as described above, but we believe that there are other perspectives of diversity as well. We will continue to work on creating an organization where people involved in the RIKEN KEIKI Group can make the most of their individuality.

We will Strive to Enhance our IR Site by Valuing our Investors’ Perspectives.

—During the three years of the COVID-19 crisis, RIKEN KEIKI’s structure has undergone major changes including the transition to the Prime Market, and the change of president. Please tell us how the Corporate Strategy Office will strengthen IR under the new management system in anticipation of a leap forward after the complete ending of the COVID-19 crisis.

Takeishi:So far, RIKEN KEIKI’s IR exposure has not been that high compared to other large companies. Therefore, in June last year, in order to increase the amount of information provided to investors in the transition to the Prime Market, we began distributing videos of financial results briefings and translated some disclosure materials into English. From around this time, the positive performance of the semiconductor industry caused related stock prices to rise, and our stock price also rose. In 2014, when I joined the company, the stock price of RIKEN KEIKI was around 800 yen, but it has currently risen to around 5,100 yen and is receiving noticed.

As a result, IR interviews are also increasing rapidly. There were only a few until the year before last, but recently we have dozens of interviews every quarter. The number of applications for interviews from overseas such as New York, London, and Germany have increased, and I feel that investors have high expectations for our company.

Investors have a variety of perspectives, and we are often asked to provide information from that perspective. For example, there are many questions about growth drivers, such as which fields will grow in the future and where the profits will be obtained. Recently, there is a trend toward ESG investment, and we have received many questions in relation to it. Some are requests such as “I want to handle the product” or “I want to know what kind of competitive advantage is generating profit.” For those who have such requests, we try to explain the history of our company at our headquarters or in the product gallery of our Development Center, including how our company, which was founded to commercialize RIKEN (The Institute of Physical and Chemical Research)’s light-wave interferometry technology, became a manufacturer of industrial gas detectors and alarms with products for the semiconductor industry as its core products. Understanding the transition of business is fundamental to



RIKEN KEIKI CO., LTD.
Deputy General Manager,
Corporate Strategy Office

Motoko Shimomura

Joined in 2006 as a mid-career hire. After that, consistently worked in the Human Resources Section until 2021. In 2017, appointed Manager of the Human Resources Section, and in 2021 transferred to the Corporate Strategy Office, appointed the present position in 2022.



RIKEN KEIKI CO., LTD.
Senior Staff,
Corporate Strategy Office

Shinichi Takeishi

Joined as a new graduate in 2014. Assigned to the Sales Division. In charge of overseas web advertising. In 2021, transferred to the Corporate Strategy Office, being in charge of public relations planning, such as opening a special website for the Physics Challenge. Responsible for IR and medium-term management planning from 2022.

predicting the future of RIKEN KEIKI, so we would like to incorporate it when renewing the IR site.

Analyzing the Internal Environment and Clarifying the Direction.

—How will you strengthen the corporate planning function under the new system? Please also tell us about how you plan to handle the medium-term management plan.

Takeishi:Until now, RIKEN KEIKI had not disclosed its medium-term management plan outside the company. The reason for this is that we are greatly influenced by the capital investment policies of our major customers. Another reason is that it has been difficult in recent years to make a medium-term plan due to drastic changes in the external environment, such as the shortage of semiconductors. However, due to requests from investors during IR interviews and CG code requests, we are considering announcing the medium-term plan.

As the external environment changes dramatically, it is necessary to analyze the internal environment when formulating the medium-term plan. In doing so, we would like to incorporate our investors’ perspectives. For example, we would like to analyze and give shape to the data from the perspective of how much growth can be expected in products for the semiconductor industry and the lithium-ion battery market and their maintenance.

Although we cannot disclose all the data analyzed in-house, we would like to work to provide useful information for future predictions while improving the accuracy of the published data.

(Interview date: March 29, 2023)

Easy to See! The Detection Status can be Seen Immediately!
Easy to Use! Simple Operation!
Reliable even during Power Outages! Can be Used even during Power Outages with a Built-in Safety Power Supply
Monitor Gas Leaks for more than 3 Days!

Gas Detection Alarm System GP-148

A safety Measure for Production, Storage, and Consumption Facilities for LPG, CNG, Hydrogen, etc.
 ■Batch Monitoring by Gas Detector and Flame Detector Capabilities.
 ■Select the Number of Points You Need (up to 12 points).
 ■Equipped with 2 Contacts. Revolving Light and Buzzer can be Used at the Same Time.

■Specialized for Detecting and Warning against Combustible Gases such as LPG, CNG, and Hydrogen. Monitor Gas Leaks for at least 3 Days even during a Power Outage.

The biggest risk for production, storage, and consumption facilities for LPG (liquefied petroleum gas), CNG (compressed natural gas), hydrogen, and other combustible gases, as well as general high-pressure gas consumption factories and chemical plants is a possible gas leakage at the time of power outage during a disaster. In the worst-case scenario, there is a very high risk of secondary disasters such as explosions and fires. In order to prevent such situations, in January 2023, we have developed a combustible gas detection alarm, the GP-148, which displays gas concentration levels and issues an alarm upon receiving signals from its combustible gas detectors for gases such as LPG, CNG, and hydrogen and flame detectors. The system is equipped with a backup security power supply and uses intermittent measurement to turn the power supply to the detection unit on and off at regular intervals, allowing it to monitor gas leakage for more than three days even during power outages.

■Enhanced Ease of Viewing and Ease of Use by Improving Visibility and Operability.

GP-148 has greatly improved visibility. All operation panels support Japanese. The LCD display uses a two-color bar meter, green (normal) and red (gas alarm activated), so the detection status can be quickly determined even from a distance. In addition, the buzzer volume can be adjusted in 3 levels: high, medium, and low, allowing you to choose the volume level that suits your installation location. Another major feature is improved operability. The newly added Inspection Button makes it possible to switch all indicator units to inspection mode at once, making operation in inspection mode simple and easy.

■Batch Monitoring by Gas Detector and Flame Detector Capabilities. Up to 12 Points can be Connected per Indicator Unit.

Another feature of GP-148 is that a flame detector can be connected in addition to the combustible gas detector. For example, as a combustible gas detector, it corresponds to our diffusion type gas detector GD-A80 and suction type gas detector GD-D58. In addition, for flame detectors, it

corresponds to Emerson's 40/40 Series. As a result, in facilities such as hydrogen stations where combustible gas detectors and flame detectors are installed, it is possible to perform batch monitoring with a single unit, leading to cost reduction. Another advantage is that it can be easily expanded with a connecting case. Two points can be connected per indicator unit, and up to 12 points can be connected. In addition, since each indicator unit has two alarm contacts, it is possible to simultaneously activate revolving lights, buzzers, etc. when an alarm occurs, eliminating the need for additional external relays.

■Supporting Safety and Security by Monitoring LPG and CNG Manufacturing Equipment and Storage Tanks and Gas Leaks at Hydrogen Stations.

For a decarbonized society, hydrogen stations are in ever-increasing demand and the GP-148 will be used for gas leak monitoring at these locations. In LPG production, storage, and consumption facilities, CNG stations, general high-pressure gas consumption plants, and chemical plants, all which support industrial infrastructure, we will contribute to the realization of a sustainable society by ensuring safety and security in times of not only normal circumstances but during emergencies of power outages caused by natural disasters with our cutting-edge technology, functions, visibility, operability, and versatility.

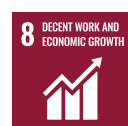
SUSTAINABLE DEVELOPMENT GOALS

The SDGs are international goals for a sustainable and better world by 2030, as stated in the "2030 Agenda for Sustainable Development" adopted at the UN Summit in September 2015, consisting of 17 goals and 169 targets.



To protect precious human lives and valuable property from the invisible danger of gas.

To fulfill this mission, we are committed to spreading the idea around the world of "creating a safe working environment for people" by developing and manufacturing state-of-the-art gas detection and alarm equipment. Through our business activities, we will contribute to the achievement of the above goals set forth in the Sustainable Development Goals.



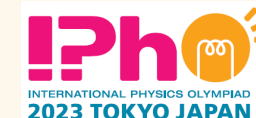
CSR REPORT



International Physics Olympiad 2023 TOKYO JAPAN July 10-17, 2023

International Physics Olympiad (IPhO) 2023 Japan Competition

Special Supporter Sponsorship



We interviewed Yasuhiro Iye (Vice Chancellor, Chubu University), Secretary General of the Organizing Committee of IPhO2023

The International Physics Olympiad 2023 (IPhO 2023) in Japan is for pre-institution of higher education (including universities) youth centered on high school students, with a total of 450 representatives from 90 countries, five from each country, taking on theoretical and experimental physics problems. As a Special Supporter, we are proud to sponsor this physics festival that brings together the best and brightest young people from around the world. We interviewed Yasuhiro Iye, Vice Chancellor of Chubu University, Secretary General of the Organizing Committee, and asked him about the significance of the Olympiad being held for the first time in Japan, the human resource development of young people, and the possibility of international exchange.

Q1. Regarding the significance of the first International Physics Olympiad to be held in Japan and expectations for the competition

The International Physics Olympiad 2023 (IPhO 2023) will be held for the first time in Japan since its first participation in the 37th International Physics Olympiad held in Singapore in 2006. The competition was originally scheduled to be held in 2022, but it was postponed by one year due to the spread of COVID-19. As chairperson of the organizing committee, please tell us about the significance of hosting the competition and your expectations for the event.

Since its first participation in 2006, expectations have grown year by year for Japan, a world leader in physics, to host the event, and it was decided that the event would be held last year in 2022. Although the conference was postponed due to COVID-19, we believe that this year's competition in Japan is very significant because it will finally be held in a physical location after two online conferences in Lithuania and Switzerland since 2020. Especially in the case of physics, we are competing not only by theory but also by experiment. It is also significant for the Olympiad to provide an opportunity for extremely talented young people from around the world to lay the foundation for their future careers through competition, and at the same time, to deepen their friendships through excursions and other activities. In this regard, especially since the competition will be held in Japan, we hope that young people from around the world who will become the future elite, will be exposed to various aspects of Japanese culture and become fans of Japan.

Q2. Regarding the significance of human resource development of young people and international exchange

As mentioned earlier, this competition is a place for international exchange where young people from all over the world can participate in various events rooted in the culture of the host country, as well as nurturing talented people through competitions that challenge theoretical and experimental problems in physics during the 10-day period. In our present-day world when political, economic, environmental, and international issues have been erupting one after another, what are your expectations for young people who will contribute to the future development and peace of the world through physics?

In terms of human resource development, for example, in Japan, about 2,000 outstanding high school students who aspire to study physics from all over Japan enter a domestic competition organized by the Japanese Physics Olympiad Committee (JPhO), which is the organization that sends them to the competition, every year before the five finalists are chosen. From these, 100 students are selected through web-based examinations, and more than a dozen are selected through an examination that includes experiments, and finally five students are chosen as representatives. Although I believe the process is similar in other countries, it can be said that this broad-range selection process contributes to the development of human resources among young people. On the other hand, in terms of international exchange, we are planning to have students from Tokyo University of Foreign Studies and International Christian University who are close to the participants' age group join in the excursions and events that I mentioned earlier, and to play the role of interpreters, so that they can fully enjoy exchanges that are not affected by politics or conflicts, but are unique to the Olympiad.

Q3. What are your contributions to the SDGs and your expectations for the company?

Promoted under the leadership of the United Nations Summit with the aim of achieving the goals by 2030, the SDGs include a wide range of sustainable development goals, such as education, gender, energy, innovation, and the environment. Please tell us about the contribution of the International Physics Olympiad in this aspect and your expectations for companies that are Special Supporters of the Olympiad, including RIKEN KEIKI.

The International Physics Olympiad, as a top-level physics competition, has not been held specifically in relation to the SDGs, but as I mentioned earlier, it may be said that it contributes to the realization of a sustainable society in a larger sense through its educational and human resource development aspects as well as international exchange. We are very grateful to RIKEN KEIKI and the more than 40 other companies and organizations for their cooperation as IPhO 2023 Special Supporters of this competition. Special Supporters have provided us with various kinds of support, including sending messages of encouragement and technical introductions to the participants in the Japan competition.

*We would like to express our sincere appreciation to Mr. Yasuhiro Iye and Mr. Akifumi Suzuki, International Physics Olympiad Organizing Committee Executive Director, for their kind cooperation in this interview.

Our company has been supporting the Japan Physics Olympiad Committee (JPhO) because of its deep connection with physics, as the detection principle of the RIKEN Gas Detector, the product that led to the company's establishment, uses the laws of physics (optics), and also to support students who are interested in physics. As a Special Supporter of the International Physics Olympiad 2023 (IPhO 2023) Japan, we are supporting young people from all over the world who aspire to become physicists. We will continue to contribute to the realization of a sustainable society through our support for the Physics Olympiad.



Sponsorship of the International Physics Olympiad 2023 (IPhO 2023) in Japan contributes to the above five goals of the SDGs.

RK REGIONAL FRONTLINE

The Chubu and Tokai regions are fortunate to have a wide variety of markets and excellent customers, including a world-class giant automobile industry, semiconductors, steel, and petrochemicals. The young elite and veterans of 17 at Sales Office and 22 at Service Station, mostly in their 20s and 30s, cover a wide area of the Aichi, Mie, and Gifu prefectures.

Nagoya Office Nagoya Service Station

The Nagoya Office was established in October 1966 as the fifth sales office in Japan. "At the time, sales offices were being opened in major metropolitan areas such as Sapporo, Fukuoka, Hiroshima, and Osaka, and we are told that this was in anticipation of the growing demand in Aichi Prefecture, where there is a concentration of industries, including the largest automobile manufacturer in Japan. It was only recently, in 2018, that certain service stations, which had been in different locations for many years, were co-located and moved to the new office." The Nagoya Office Manager Ryo Monna, who is in his fourth year in this position, explains the background of the move. In the second segment of our new series "RK REGIONAL FRONTLINE" introducing our sales offices and service stations around Japan, we report from Nagoya Office/Nagoya Service Station, a major base in the Chukyo region where the automotive, semiconductor, steel, and petrochemical markets compete with each other.

Japan's largest automobile manufacturers and their group companies are concentrated in this area. The semiconductor, steel, and petrochemical markets are also gigantic.

The Nagoya Office serves a wide range of markets and customers, including the automotive, semiconductor, steel, and petrochemical industries, but its primary market is the automotive industry market, which is comprised of Japan's largest automobile manufacturers and

their group companies. For example, the core automaker alone has more than a dozen factories, including the headquarters factory, each of which has multiple buildings and facilities where our stationary and portable gas detectors and alarms are installed at each and every one of the factories. The factories of its group companies and those of their suppliers are all part of the huge automotive market, and we are meeting the demands of a wide range of customers on a daily basis. There are also various steel makers that supply numerous types of steel, an essential component of automobile



[Interview]
Ryo Monna
Nagoya Office Manager

manufacturing, and our mainly portable types of gas detection and alarm systems are used at each steel mill to monitor the safety of the workers.

Meanwhile, the petrochemical market



Nagoya Office
Nagoya Service Station Outside View



Nagoya Office Sales and Office Staff



Nagoya Service Station Service Staff

is also important. The Nagoya Office was initially responsible for two prefectures, Aichi and Gifu, but in October 2019, the Yokkaichi No. 2 Office was integrated into the Nagoya Office, expanding its area of jurisdiction. As you know, the Yokkaichi area is dotted with large petrochemical complexes, and our stationary and portable gas detection alarms have been installed in each of these complexes.

Coordinating safety initiatives in each market.

Our products protect both the safety of the factory or work site itself, which is protected by our stationary detectors, and the safety of each individual worker, which is protected by our portable detectors. In particular, for the safety of workers at steel mills and petrochemical complexes, in addition to improving the sensor functions of the detectors, we are working in cooperation with companies and municipalities. For example, in the Yokkaichi area, the city authorities, the city fire department, and private companies are working together to implement "smart safety," a pioneering approach in the country. At the site of petrochemical complexes, our portable combustible gas detectors have been introduced to ensure the safety of workers, enabling them to work with non-explosion-proof electronic equipment in areas where there is a risk of explosions, leading to a significant contribution in operational efficiency. In addition, in the automotive industry market, workers are required to have the necessary qualifications to perform "work at height" and "electric shock operations" when working in a factory. At the same time, it is mandatory to assign a "person in charge of the work" during operations. For this reason, many of the Nagoya Service Station staff have acquired the necessary qualifications. We are also a member of the automobile manufacturer's Industrial Safety and Health Association, and work together with the manufacturer to ensure safety through regular participation in regular meetings and weekend patrols of the premises.

Actively introducing the RIKEN RakuToku Inspection Pack. We are also taking the lead in the product development needs of the decarbonization market.

In order to ensure regular and reliable maintenance of portable detectors installed in the steel and petroleum markets, the Nagoya Office was the first in our sales offices throughout the country to introduce a new maintenance method, the RIKEN RakuToku Inspection Pack. This package includes everything from pick-up to delivery of the detectors, thereby reducing the man-hours required to transport the detector between the sales office and the customer's factories. The detectors are then transported directly to the maintenance factory, which shortens the process and leads to higher efficiency in the maintenance procedure. At the same time, we are actively addressing the growing decarbonization market. One example is our efforts to develop new products that will be required in the future in the process of new technologies such as "hydrogen reduction" and "hydrogen circulation," which are created by the Super Innovative Technology Development that is underway in the steel market. We are also taking the lead in addressing the new needs for decarbonization in various markets by proposing our RTGMS* to the market in response to their plans in "recycling of waste excess-gas in factories" and "purification of high-purity CO2 and H2."

The Nagoya Office and Nagoya Service Station will actively engage in new product development proposals that will be required in new markets in the future, in order to further solidify our presence in the Chukyo region. (Interview: February 15, 2023)

*RTGMS = Former name: Combined Gas Sensor System

Coffee Break

Nagoya Office / Nagoya Service Station

Local Delicacies

No. 1 in popularity!

Extra-large Miso Katsu Set Meal

(Misokatsu no Mikawayaya)



Popular B-Grade Delicacies
by Sales Area Prefecture

Aichi Prefecture: **Ankake-Spa**

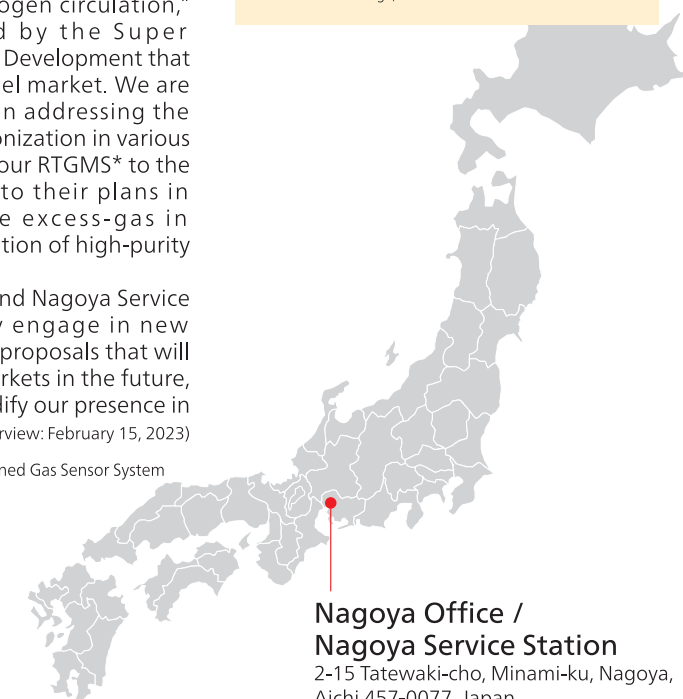
(A rich and spicy taste loved by the people of Nagoya!
Spaghetti with Ankake sauce)

Mie Prefecture: **Tonteki**

(A specialty of Yokkaichi! Sautéed pork with thick sauce)

Gifu Prefecture: **Kei-chan (chicken)**

(A Hida-Mino specialty! Chicken with miso sauce
and stir-fried cabbage)



**Nagoya Office /
Nagoya Service Station**

2-15 Tatewaki-cho, Minami-ku, Nagoya,
Aichi 457-0077, Japan

A single unit that measures both methane gas
and oxygen concentrations.

**The GX-1, a combined gas detector
that simultaneously prevents oxygen
deficiency and gas explosions
was developed.**

Tracing Back the History

by the Products

RIKEN KEIKI's History #7

as Told by Its Products

In the 1960s, accidents involving personal injury in locations such as manholes, public ditches, and subway construction sites began to occur frequently. 1971, two people were killed at the construction site of the new Supreme Court. The Tokyo Fire Department investigated the accident and found that it was caused by oxygen deficiency. Since this accident, there has been a rapid increase in awareness of accidents caused by oxygen deficiency and the need to prevent them, and the GX-1 oxygen deficiency and explosive gas alarm developed by our company in 1969 was used in the accident investigation that marked the turning point in this field.

Combining the GP series methane gas detector and the OX series oxygen analyzer

RIKEN KEIKI had previously developed and marketed the GP series of gas detectors for use at methane gas generation sites and the OX series of oxygen analyzers for use as a countermeasure against oxygen deficiency. One of our major customers, Tokyo Electric Power Company (TEPCO), used to bring two detectors, the GP and OX, with them when working in manholes, but even though the products had become lighter, it was still difficult to work in the limited space available. Therefore, the company endeavored to develop a combined detector that could measure both methane gas and oxygen concentrations with a single unit. The result was the GX-1, our first composite gas detector, which mixed the letters from "GP" and "OX." Subsequently, the previously mentioned accident investigation using the GX-1 revealed the horrifying fact that oxygen-deficient air is emanating from places such as subway construction sites, manholes, and public ditches. If a person is exposed to this lethal air for a certain period of time, he or she can suffer from oxygen deficiency without warning and suddenly lose consciousness, resulting in death. The fact that people were found to be prone to oxygen deficiency, especially at subway construction sites, became a major problem for a time, and as a result, the Ministry of Labor (now the Ministry of Health, Labor and Welfare) promulgated the Ordinance on Prevention of Anoxia, etc. in 1972. As a result, measurement of oxygen concentration at designated construction sites became mandatory, and our various oxygen analyzers along with the GX-1 suddenly came into the spotlight.

Developing the GX-1B and GX-110 three-component gas detectors.

Certified as genuine products of Nippon Telegraph and Telephone Public Corporation.

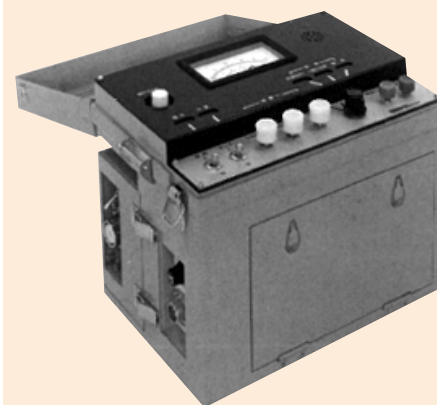
In addition to oxygen deficiency, which has been brought to light with the spread of our GX-1, poisoning accidents also occurred at underground construction sites such as tunnels, manholes, and wells due to carbon monoxide emitted from internal combustion engines used to power generators and water pumps. Therefore, we worked on the development of a new combined gas detector that simultaneously detects carbon monoxide in addition to methane gas and oxygen. As a result, the GX-1B, a three-component toxic gas detector that detects methane gas with a catalytic combustion sensor, oxygen with a galvanic cell sensor, and carbon monoxide with a colorimetric detector element (tab) was born. Also, in response to the demand for continuous monitoring of carbon monoxide, the company continued on to develop the GX-110, a toxic gas detector for continuous operation that employs a constant-potential electrolytic sensor. Both the GX-1B and GX-110 were certified as genuine products of Nippon Telegraph and Telephone Public Corporation (now Nippon Telegraph and Telephone Corporation). In order to be granted certification, the GX-1B and GX-110 had to pass the company's strict criteria screening that included performance and durability tests, which they eventually passed, strengthening the ties between the two companies.

Launching the Health Eye carbon monoxide detection tabs. Also sold through King's Idea.

The carbon monoxide detection element developed for the GX-1B was simplified and used in the later development of the Health Eye carbon monoxide detection tab. The Health Eye is a small disc-shaped container with a small hole in the center, filled with a detection agent used in a carbon monoxide gas detector tube, and capped with a porous plastic plug. As carbon monoxide permeates through the pores, it reacts with the detection agent and spreads a circular layer of coloration to the surrounding area, signaling the presence of carbon monoxide. As it was well received due to how the color changed with the concentration of carbon monoxide, in 1977, it was sold at King's Idea*, a chain store specializing in unique lifestyle products and miscellaneous goods including novelty products, and was one of our few products created for individual customers. *Closed in 2007 (Continue to [Part 8])



Oxygen deficiency
and explosive gas detector GX-1



Continuous operation
toxic gas detector GX-110



Newspaper advertisement for the Health
Eye carbon monoxide detection tab
The eccentric design evokes a sense
of the era.



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friendly vegetable oil ink.

Creating a safe working environment for people