

October 2022 | VOL.6

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TCFD

Climate Change Initiatives

Wildfires Threaten Los Angeles California as Thousands Evacuate
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Special Feature: TCFD Climate Change Initiatives by RIKEN KEIKI
Special Feature: TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

[Special Interview]

Risks and Opportunities Created by Climate Change. Using the TCFD Release as an Opportunity to Further Enhance Corporate Value as a Prime Market Listed Corporation.

RIKEN KEIKI Co., Ltd. Executive Officer, Executive General Manager, Corporate Administration Division

Shuji Tajima



The SDGs (2030 Agenda for Sustainable Development) initiative was unanimously adopted by member states at the UN Summit held in September 2015. In response to this global goal which was triggered by a sense of urgency towards climate change, the Financial Stability Board (FSB)^{*1} established the Task Force on Climate-Related Financial Disclosure (TCFD) led by the private sector at the request of the G20 that very same year. The TCFD released its final report in June 2017, recommending that companies disclose information on climate change-related risks and opportunities. In the Prime Market, which was created this April 2022 as a result of the TSE's

market reclassification, the Corporate Governance Code requires TCFD reporting of companies listed on the market.

Shuji Tajima, Executive Officer, Executive General Manager of the Corporate Administration Division and General Manager of the Corporate Strategy Office, who has been leading the company's sustainability policy, corporate governance, and environmental initiatives since his appointment in April last year, was asked about the TCFD release in June this year and RIKEN KEIKI's efforts to address climate change up to it.



With More than 30 Years of Experience in the Engineering Department, Now Developing an Investor's Perspective at the Administrative Department.

- Mr. Tajima, you have consistently worked in the field of technology since joining the company and served as Executive Officer, Executive General Manager of the Production Division and General Manager of the Production Management Department from 2019, but last spring, you were transferred from the Development Center to the Head Office, all of sudden, as being Executive Officer, Executive General Manager of the Corporate Administration Division and General Manager of the Corporate Strategy Office.

Looking back on your long history with the company, could you tell us, in particular, about your response to the transfer from the Development and Production Department to the Administration Department last year and how it led up to it?

I joined the company in 1987 and was assigned to the Product Engineering Department's Section 1. Immediately after that, I was transferred to the Design Section of the same Product Engineering Department, where I worked for a long time. I have been with the

Shuji Tajima

April 1987: Joined Riken Keiki, assigned to Product Engineering Department Section 1
October 1988: Transferred to Product Engineering Department Design Section
March 2007: Manager of Product Engineering Department Design Section
April 2013: Deputy General Manager of Product Engineering Department and Manager of Design Section
April 2014: Product Engineering Department General Manager
April 2019: Executive Officer, Executive General Manager of Production Division and General Manager of Production Management Department
April 2021: Executive Officer, Executive General Manager of Corporate Administration Division and General Manager of Corporate Strategy Office (current position)

Engineering Department all the way through, serving as the Manager of the Design Section, Deputy General Manager of the Product Engineering Department and Manager of the Design Section, and then as the General Manager of the Product Engineering Department, before being appointed Executive Officer, Executive General Manager of the Production Division and General Manager of the Production Management Department in April 2019. I had been working in engineering for more than 30 years, and then suddenly, as I mentioned earlier, I was transferred to the position of Executive Officer, Executive General Manager of the Corporate Administration Division and General Manager of the Corporate Strategy Office in April last year.

I had a difficult time at first (laughs) because the administrative department is a different field from the manufacturing department and there were many terms

^{*1} The Financial Stability Board (FSB). The FSB was established in 2009 to address vulnerabilities in the financial system and create stability. The FSB is responsible for measures, regulations, and supervision related to international finance. Representatives of central banks and financial supervisors from 25 major countries and regions are participants in the FSB.



that were completely new to me, but with the support of those around me, I became accustomed to the department after a year. The most difficult thing for me was the IR meetings where I had to explain the company's situation to investors. I had to face investors one-on-one and rapidly respond to various questions on the spot, but to be honest, I really struggled to get used to this. In order to ensure the fairness of information, I had to learn how to skillfully answer questions that could not be answered in detail, such as information that had not yet been disclosed. For this, I had the opportunity to sit in on several IR meetings with President Koyano^{*2}, who served as my predecessor, and learn from him there. Through these experiences, I came to understand how investors look at a company from various perspectives, especially, not only from the perspective of profitability such as the dividend payout ratio, but also the standpoint of governance including the environmental policies, employee training, and board diversity. I have seen how they observe the current management situation and at the same time judge the company's long-term vision and future prospects from these multiple perspectives, and I feel that this has helped me to develop a better perspective on my own company.

A Sustainability Policy that Acts in Unison with the Environmental Policy. Supporting Industrial Infrastructure and Building a Sound Material-Cycle Society.

-In response to the SDGs, which have been promoted as a global goal by the "2030 Agenda for Sustainable Development" unanimously adopted by member states at the UN Summit in September 2015, companies are required to formulate and disclose their sustainability policies, corporate governance, and environmental policies, as well as to make continuous efforts to achieve them. In this context, the last issue of Rizm featured "Accelerating Decarbonization." Including these, please tell us once more about RIKEN KEIKI's environmental policy and overall initiatives.

First of all, as the basis of our environmental policy, we have an environmental philosophy that "we recognize that global environmental conservation is fundamental

to the 'sustainable development' of humankind, and evolving corporate activities with the aim of contributing to the development of society under the permanent theme of 'creating a safe working environment for people,' which is our management philosophy."

We have also established seven action guidelines based on this philosophy. The second of these is "to provide society with products that contribute to environmental preservation in a timely manner," which we consider to be our most important task as a company. The reason for this is because our main products, industrial gas detectors and alarms, contribute to the environment by preventing the generation and explosion of toxic gases and the detection and prevention of environmental pollutants at the sites of various key industries, and if we cannot provide these products when they are needed, our contribution to society will be greatly diminished.

To this end, it is necessary to maintain excellent product development abilities and stable production capabilities. To improve these, the entire company is engaged in a variety of initiatives on a daily basis.

This environmental policy is further incorporated into our three sustainability policies.

The first is "sustainability to support the industrial infrastructure." This means providing a wide range of high-quality, long-life (energy-saving), and low-cost products and services to the industrial sector using our core competency, "the technology to measure invisible gases and make them visible," and promoting safe, secure, and eco-friendly environments through the adoption and use of these products and services by our customers.

The second is "sustainability in development and production of our products." We contribute to the development of a sustainable society by contributing to the formation of a Sound Material-Cycle Society by reducing waste and increasing the use of renewable energy in our business activities that produce products and services, and by promoting CSR procurement and green procurement throughout our supply chain.

The last one is "sustainability as a good corporate citizen." We respect the culture and customs of each country and region, conduct business activities together with local communities, and promote contributions to sustainable social activities on a global basis.

TCFD as a Result of Efforts Up Until the Present. Connecting "Visualization" to Further Results.

-The last is the main discussion for this interview. The Prime Market, which was created as a result of the TSE's market reclassification last April, requires disclosure of the Task Force on Climate-Related Financial Disclosures (TCFD), which was established by the Financial Stability Board (FSB) at the request of the G20 in June 2017 as the governance code applicable to companies listed on the market. In June of this year, RIKEN KEIKI published its

"Information Disclosure Items Recommended by the TCFD" in response to this. Please tell us about the process leading up to this disclosure and the content of the information released.

In April of this year, our company moved from the TSE First Section to the newly created Prime Market. Its Prime Market requires even stricter ratification of the Corporate Governance Code than the former TSE First Section. Among the requirements is the disclosure of the TCFD. There are many things we have been working on based on the environmental policy mentioned earlier, and I believe that organizing a portion of them led smoothly to this TCFD disclosure.

The TCFD has four disclosure elements which are "Governance," "Strategy," "Risk Management," and "Metrics and Targets." First, "Governance" is discussed mainly by the Administration Department, which is the department responsible for promoting the SDGs, and the results are appropriately reported to the Board of Directors, which is the decision-making body of management. In "Strategy," it is required to explain how climate change poses risks and opportunities for the company, but in this disclosure, many companies adopt existing scenarios created by industry groups or international organizations. For our company, based on the advice of consultants, we have adopted the scenarios developed by the IEA^{*3}, a major international organization, and have considered issues such as increased operating costs due to the introduction of a carbon tax, increased procurement costs due to increased demand for copper and platinum, and damage to production facilities due to severe extreme weather events. As for opportunities, we see them as the thriving semiconductor industry, our main customer base, as energy-saving procurement becomes easier and EVs become more popularized. As for "Risk and Management," we disclose how we assess and manage climate-related risks and as with "Governance," the Administration Department, which is the department responsible for promoting the SDGs, will conduct a risk identification assessment and report to the Board of Directors.

Regarding the last "Indicators and Targets," we have made the two main components of our "greenhouse gas emissions" as "Scope 1" for vehicle emissions and "Scope 2" for electricity used and set these as "Metrics." We disclosed the "goal" of reducing "Scope 1" + "Scope 2" emissions by 90% from the 2019 level by 2030, the target year for achieving the SDGs, and achieving "carbon neutrality" by 2050. At the same time, we also disclosed our greenhouse gas emissions for the most recent fiscal years 2019, 2020, and 2021. Approximately 90% of our energy consumption is electricity, and our switch to renewable energy sources last year has resulted in a significant reduction in greenhouse gas emissions. Specifically, we switched our head office to renewable energy in April 2021, our Development Center and Production Center in July of the same year, and the

Kanagawa Office, Kanazawa Office, and Hakodate Toi Factory in November of the same year, resulting in a 54% reduction in FY 2021 compared to FY 2019. We expect to achieve our target of 90% reduction by 2030 by converting all of our offices and service stations nationwide to renewable energy and promoting the introduction of eco-friendly vehicles such as hybrids and EVs in vehicle management.

In addition to the disclosure of the TCFD, we have also made improvements in specific IR initiatives, such as promoting the English translation of some of the financial statements and notices of convocation of general meetings of shareholders to disclose information to overseas investors, and the computerization of voting rights for the general meeting of shareholders so that shareholders can exercise their voting rights online.

By making results and achievements concretely "visible" through TCFD disclosures, employees have also become more aware of climate change in general. We predict that this trend will continue to have a positive impact on our business activities, including the development and production of new products, governance, and social contribution activities as a good corporate citizen.

(Interview date: August 23, 2022)



^{*2} Current President Junichi Koyano. Appointed Executive General Manager of the Corporate Administration Division and General Manager of the Corporate Strategy Office from October 2018 to March 2021.

^{*3} Abbreviation of International Energy Agency. Established in 1974, The IEA's role is to ensure a safe and clean energy supply through dialogue with oil-producing countries and cooperation among member countries in all aspects of energy policy. Requirements for joining the IEA are to be a member state of OECD and to meet the standard stockpiles of petroleum. There are 29 member countries.

Kimura-Unity Co., Ltd.
General Manager,
Car Management Sales Department
Tomohiro Ejiri

RIKEN KEIKI Co., Ltd.
General Manager,
Administration Department
Itaru Takabayashi

In-Depth INTERVIEW [Frontline Interview]

Redefining Sustainability and Promoting Decarbonization through Visualization.

In June of this year, following its listing on the TSE Prime Market in April, RIKEN KEIKI announced the “Disclosure Items Recommended by the TCFD Proposal” in accordance with the provisions of the market Governance Code. However, the path to disclosure of this information was naturally not built overnight. Before the TCFD, there were first the SDGs and then the formulation of a “Sustainability Policy” based on them and a fundamental effort to “decarbonize” at the company-wide level. We interviewed General Manager Takabayashi, Manager Nakajima, and Senior Staff Koike of the Administration Department, and General Manager Ejiri of the Car Management Sales Department of Kimura-Unity Co., Ltd. who have led a series of steady efforts to switch to “100% renewable electricity”^{*1} and to reduce “GHG”^{*2} through vehicle management.

Asking “why do we do something” before “what we should do.”

-Thank you for taking time out of your busy schedule to join us today. General Manager Takabayashi, Manager Nakajima, and Senior Staff Koike of the Administration Department have been working hard on various initiatives in their department, which is the SDGs promotion division of RIKEN KEIKI. I understand that the greenhouse gas emission metrics and targets disclosed in the TCFD, as well as the actual emission volume, are the result of those efforts. First of all, please tell us about your history to date.

Takabayashi: First of all, as you said, the starting point was not with the TCFD, but to work on the “SDGs” after all. That being said, at first, there were very few companies of our size that were seriously addressing the SDGs, and it was hard to visualize what exactly we should do or what we could do, and we honestly wondered if we could really do it. Therefore, the first thing we tackled before “what we should do” was to redefine the essential relationship between the SDGs and our company, in other words, to formulate our “Sustainability Policy.” We then reaffirmed that our business



itself, which promotes “the creation of a safe working environment for people” through “technologies that measure and make visible invisible gases,” contributes to the development of a sustainable society. This gave rise to the very important first policy of “sustainability to support the industrial infrastructure.” As a result, during the product development process in the development department, design plans are now presented that clearly indicate which of the SDGs the new product falls under, and this has led to the

development of higher quality, more environmentally friendly new products. This has also allowed us to see the answer to the question of “what we should do.”

-So, the starting point for all of this was the recognition that the very foundation of the business itself promotes the SDGs. Then, did you start working on the second policy, “sustainability in development and production of our products,” after this to address the SDGs in the context of your business activities?

Nakajima: I would say that rather than starting at that time, we re-recognized what we had been doing for some time as SDGs initiatives and started working on them again in earnest. One of them is the reduction of GHG through the management of company vehicles, which we have been working on together with Kimura-Unity Co., Ltd. And another one is to switch electricity used by us to renewable energy. As a result, these paired efforts have led to the release of information on “Scope 1: Fuel Combustion” and “Scope 2: Electricity Use,” which are recommended disclosure items in the TCFD.

“Visualization” of vehicle management leads to “eco-friendliness.”

-I see. Now, first of all, General Manager Ejiri of the Car Management Sales Department of Kimura-Unity Co., Ltd., could you please explain about greenhouse gas reduction through vehicle management related to “Scope 1”?

Ejiri: Yes. We provide vehicle management services for companies, mainly consulting, information management, business operations, and analytical proposals. We have been working with RIKEN KEIKI for more than 10 years through the management and renewal of company vehicles since 2008. The first thing we discuss with them at the renewal stage is reviewing the number of vehicles. Switching to hybrid or electric vehicles is essential to reduce GHG emissions, but before that, it is vital to “visualize” usage to confirm whether the current number of vehicles is really necessary. For monitoring vehicle usage, RIKEN KEIKI uses our proprietary cloud-based vehicle management system, “KIBACO,”^{*3} and a mobile communication system, “Telematics.” As a result of the analysis, we determined that the number of vehicles they owned was appropriate, so we made a proposal for them to increase the ratio of hybrid and electric vehicles. From the next fiscal year onward, we will continue to use the vehicle management system to “visualize” information related to operations and make proposals for appropriate vehicle replacement.

Nakajima: Kimura-Unity has been responsible for bidding arrangements and management from a neutral standpoint when signing contracts with leasing companies, and has provided us with consulting on the optimal solutions for vehicle management as a whole. Also, as explained earlier, “visualization” of vehicle usage is linked to “eco-friendliness.”

Our commitment is to “100% renewable electricity”^{*1} above all. And at the same time, “cost reduction.”

-Thank you very much. Lastly, I would like to ask Senior Staff Koike, who is in charge of “electricity use” in “Scope 2,” how



RIKEN KEIKI Co., Ltd.
Senior Staff,
General Affairs Section,
Administration Department
Mika Koike



RIKEN KEIKI Co., Ltd.
Manager,
General Affairs Section,
Administration Department
Yuki Nakajima

you proceeded with the conversion to renewable energy.

Koike: The first step here was to convert the electricity used at the head office to renewable energy sources. However, the term “renewable energy” covers a wide variety of renewable energy sources. For example, there is solar, wind, hydro, geothermal, solar thermal, atmospheric thermal, and biomass. Energy providers offer a variety of electricity plans, some of which combine these renewable energy sources with conventional fossil fuel-derived thermal power generation. Even with this, greenhouse gas emissions can certainly be reduced by a considerable amount. However, we decided that if we were going to introduce such a system, we definitely wanted to commit to “100% renewable energy power.”^{*1} Therefore, we took the time to listen to the explanations of several renewable energy suppliers and proceeded with our selection, with the necessary requirement being that the electricity was “100% renewable energy”^{*1} and that the cost was lower than before. It was also important that the system was able to be installed not only at the head office, but also at other offices nationwide in the future. In this case, the company's achievements, future potential, and sense of security were also important factors in our decision. In fact, although there were a number of renewable energy suppliers at the beginning of the project, there were some that later found it difficult to continue their businesses. In the end, we were able to sign a contract with a company that met all of these conditions and, starting with the installation at the head office, we have since switched to “100% renewable energy power” at locations such as the development and production centers, Hakodate Factory, and Kanagawa Office one after another. This switch has been successful in reducing greenhouse gas emissions significantly from the first year. At the same time, we were also able to lower costs.

Takabayashi: At that time, I was defeated by Senior Staff Koike's passion for “100%” and “costs” (laughs).

Nakajima: In fact, I don't think it would have been possible to pull off without it.

Koike: Really? Thank you (laughs).

(Interview date: August 23, 2022)

^{*1} “100% renewable electricity” Renewable energy (including FIT electricity) power supply mix combined with non-fossil certificates with tracking.
^{*2} “GHG” Abbreviation for “Greenhouse Gas.” A generic term for greenhouse gases such as carbon dioxide.

^{*3} “KIBACO” A cloud-based vehicle management system of Kimura-Unity Co., Ltd. (https://kimura-kibaco.jp/)

Measure work function and ionization potential!
New functions to meet researchers' needs at a new price!
Speedily create new value for a decarbonized society!

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 ■ Compact and lightweight!

■ **35 years have passed since the development of the first model. The famous AC, which has won the trust of researchers around the world, has been upgraded and reduced in price!**

In recent years, unprecedented prompt development of high-performance materials is required for the popularization of hydrogen energy and renewable energy aimed at a decarbonized society. In April 2021, RIKEN KEIKI Co., Ltd. developed and released AC-2S, the successor model of the photoemission yield spectroscopy in air AC-2, which has long been trusted by researchers at universities and research institutes around the world in the field of materials research, by adding new functions that meet the needs of researchers while reducing the size*1 and cost*2. The new AC-2S series is a new model that aims for further popularization and the creation of new value with more user-friendly, advanced functions and a lower price.

*1 Compared to the conventional model (AC-2) Width: 21% reduction, weight: 38% reduction
 *2 Please contact us for details, (RIKEN KEIKI Co., Ltd., Sales Engineering Department Phone: 03-3966-1117)

■ **Easily measure in air. Advanced measuring principle realizes highly reproducible measurements with less damage to materials.**

The measurement principle of the AC-2S series is based on a unique and advanced method in which the surface of a sample placed in air is irradiated with weak, low-energy ultraviolet rays and the trace amount of photoelectrons emitted at that time are counted one by one. Because of this, compared to conventional surface analysis that irradiates high-energy X-rays, etc. in a vacuum, this method causes extremely little damage to the object being measured and enables analysis with high reproducibility. Furthermore, since there is no need to create a vacuum, samples can be easily replaced, and work function and ionization potential can be easily measured in air in a short time (measurement time: approx. 5 minutes*3).

*3 Measurement conditions: Energy scanning range: 4.2eV to 6.2eV, step 0.1eV, counting time: 5s/step.

■ **Three types including AC-2S for the general analysis market, AC-2S Pro α for materials development, and AC-2S Pro β for device development.**

The AC-2S series offers three types to suit different markets. The AC-2S for the general analysis market is a basic model that is compact and lightweight while maintaining the general-purpose functions of the conventional models. It is newly equipped with multi-point measurement and repeated measurement functions for improved ease of use. The high-performance models AC-2S Pro α and AC-2S Pro β are newly equipped with a new laser-driven light source (LDLS), realizing

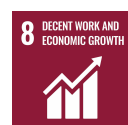
long life (approximately ten times longer than conventional models) and high light intensity (2500 nW). The heater enables measurement at temperatures up to 100°C, allowing the user to determine characteristic changes in material properties with temperature. The AC-2S Pro α for material development is a model capable of high-sensitivity and high-resolution measurement of low work function materials and localized levels in band gaps, and is suitable for measurement of powders requiring high luminous intensity and new materials requiring measurement at low energy (measurement down to 2.0 eV). On the other hand, the AC-2S Pro β for device development is a model capable of work function measurement of minute spots such as fine patterning process areas, and also enables measurement of small spots (up to 0.4 mm square) for the measurement of small materials such as semiconductors.

■ **Cited in more than 2,000 papers. The AC-2S series promotes new "value co-creation" toward a decarbonized society.**

The AC series has been installed in many universities and research institutes around the world, and the measured data has been cited in more than 2,000 papers. RIKEN KEIKI will continue to promote new "value co-creation" with customers in universities, research institutes, electronic device industry, energy industry, and other new markets around the world that aim to build a decarbonized society, through the AC-2S series, which has evolved with various new functions and greater ease of use.

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

Eye-Catching ☆ Wrapping Vending Machine!

[TABLE FOR TWO Award 2022]

We received the Grand Prize in the "PR and Enlightenment" category.



We are pleased to announce that we have won the Grand Prize in the "PR and Enlightenment Category" of the "TABLE FOR TWO Award 2022" sponsored by TABLE FOR TWO International (TFT), a Japanese non-profit organization that aims to solve the world's food inequalities.

The award was presented to the "Eye-Catching ☆ Wrapping Vending Machine!" of the donation-type vending machine "CUP FOR TWO" that we introduced in FY2020. The Grand Prize certificate was sent on July 1, 2022 for these and other "efforts to envision a healthy future for people in both developing and developed countries."

Our company provides healthy menu items at the company cafeteria and supports the activities of TABLE FOR TWO, a campaign to donate one school meal (20 yen) in a developing country for every one meal served here since October 2019. Currently, the "TFT Menu" is served approximately eight times a month in the employee cafeterias at the Head Office, Kasukabe Development Center, and Production Center, and the "CUP FOR TWO" vending machines, which donate 10 yen for every drink purchased, are installed at the Head Office, Kasukabe and Hakodate factories, and offices (six business offices). In FY2021, the "TFT Menu" was served 99 times a year, for a total of 8,658 meals, and 21 "donation-type vending machines" were installed, resulting in a total of 69,893 meals.

Our company aims to deliver approximately 90,000 school meals to children in developing countries in Africa and Asia every year through active participation in TABLE FOR TWO activities in which each employee can participate personally. We will contribute to the development of a sustainable society through the "Sustainability as a good corporate citizen," which is part of our Sustainability Policy.



TABLE FOR TWO® Supervisor Comment

Development Center Administration Section Manager **Aki Shigemura**



The TABLE FOR TWO Awards are held with the goal of sharing the various initiatives of companies across the country that have introduced the TFT Program, including our company, and to promote employee-participatory social contribution activities. The entire process from entry to voting is done online, and the winners are determined by a vote of mainly TFT implementation company representatives from all over Japan. It is a great pleasure for us to receive the Grand Prize in the "PR and Enlightenment" category for our company's efforts.

What was particularly appreciated in our efforts this time was, firstly, the addition of vending machines that use eye-catching wrapping to raise our employees' awareness of TFT activities. In addition, to promote TFT activities both inside and outside the company, we introduce our TFT initiatives in the cafeteria and in front of the vending machines when our customers tour the factory.

At our company, as part of the TFT program, we currently have a total of 21 "CUP FOR TWO" donation-type vending machines installed at six locations: Hakodate Factory, Iwate Office, Saitama Office, and Kanagawa Office, in addition to the Head Office and Kasukabe Development Center/Production Center. In addition to the TFT program POP displays that had been set on the front and sides of the vending machines, we were able to install two vending machines with eye-catching TFT wrapping on the entire surface at the Kasukabe Development Center/Production Center thanks to the cooperation of the vending machine vendor, Yuka Co., Ltd.

The impact of these vending machines, covered with smiling pictures of children in Africa enjoying TFT school lunches, was so great that each and every employee participating in the TFT program seems to have realized the significance of the activities they are involved in more than ever. While our company contributes to the SDGs through our business itself by supporting our industrial base, we also feel that each and every one of our employees has come to realize that they can actively address the SDGs on their own as well through these TFT activities and by being conscious of saving electricity and water and separating waste in their development and production activities. Furthermore, introducing TFT activities to our customers has helped the circle of support to expand among them as well as our employees.

These are some of the comments received from representatives of TFT program participating companies from around the country who voted for our entry.

・It's good that you can make people aware of TFT from an every-day vending machine!

・The Eye-Catching ☆ Wrapping Vending Machine! is wrapped with a picture of children, and I felt that it would help people want to make a purchase from it.

・I would be tempted to make a purchase if I saw such a nice vending machine.



Our company's participation in TABLE FOR TWO contributes to the above seven goals of the SDGs.

RK REGIONAL FRONTLINE



The center of the Keihin Industrial Zone, where petroleum refining, petrochemistry, and steel production are centered. The company's large team of 53 staff members covers one of the most important areas in the country, where, in addition to the main petrochemical market, semiconductors, steel, automobiles, ships, and corporate R&D departments are concentrated.

Kanagawa Office Yokohama / Atsugi Service Stations

The Kanagawa Office was established in April 1986. "It was first established in Kawasaki City to meet the growing demand in the Keihin Industrial Zone. Later, due to changes in market conditions, it was integrated with the Atsugi Office and relocated to Shin-Yokohama in 2014. Then, in December 2020, the Yokohama Service Station in Higashi-Kanagawa was relocated to the same location as it is now in Kita Shin-Yokohama. Our great advantage is that we have a large number of staff and are able to develop sales and service close to our customers, even though we are located adjacent to Tokyo," Sales Manager Toshihiro Shiraishi explains. The first article of the new "RK REGIONAL FRONTLINE" series, which introduces sales offices and service stations in various regions of Japan, is a report from the Kanagawa Office/Yokohama-Atsugi Service Station, where petrochemical plants, semiconductors, steel, and other key industries are concentrated.

A gathering of a large number of petrochemical plants. A giant market for fixed and portable gas detectors.

Along with Kashima and Chiba, the Keihin Industrial Zone forms one of the three major petrochemical combine areas in eastern Japan, where numerous chemical plants, mainly petroleum refineries and petrochemical plants, are concentrated. The installation of many fixed gas detectors and alarms is essential for the safe operation of petrochemical plants, and portable gas detectors and alarms are also indispensable for the safety of workers in the plants. The petrochemical market has long

been a major industry for the Kanagawa Office, Yokohama and Atsugi Service Stations, which have provided attentive service and maintenance to these customers since the opening of the sales offices. It can be said that they represent a huge market for sales and maintenance services for a large number of gas detection and alarm systems. The service area includes all of Kanagawa Prefecture and the eastern half of Shizuoka Prefecture, and in addition to the petrochemical market, there are customers in the semiconductor industry, steel, automotive, and marine markets within the entire area. Each of these markets is also vast in its own right, and a total of 53 sales, service, and administrative staff in the Sales Division and Engineering Division are engaged in the



[Interview]
Toshihiro Shiraishi
Kanagawa Office Sales Manager

day-to-day development of meticulous sales and services for these customers.

More than 100 R&D departments and offices of companies and public institutions are located in the area. Also active in capital investment.

In addition to the plants in the major markets, the area serves as a base for more than 100 R&D departments, research centers, and other facilities of companies and organizations,



Kanagawa Office / Yokohama Service Station Entrance

including those in various markets and public institutions, and each company is very ambitious in its capital investment. These research bases are small in scale compared to production lines, but after R&D is completed, they will be tested in test plants, and if there is an official decision for commercialization and systemization, they will eventually be scaled up to actual production lines. Therefore, it is very significant for equipment to be adopted in the R&D and test plant stages, and we are strengthening our sales efforts for the research departments and bases of these companies and public institutions from the early stages of a project to achieve a successful outcome. In addition to gas detectors and alarms, we have also been initiatively marketing and expanding sales of the AC Series (Atmospheric Photoelectron Yield Spectrometer) surface analysis systems to these R&D centers and many have already been adopted and are playing an active role. We will further focus our energy on this R&D market and expand both gas detection and alarm equipment and analyzers.

Expanding sales of newly developed Combined Sensor System and strengthen internal and external "DX promotion" for the "decarbonization" market.

The year before last, the government passed the "virtually zero CO2 emissions" declaration, a target to be achieved by 2050. Since then, petrochemicals, the main market in the Kanagawa Office area, has also rapidly shifted toward "decarbonization" and "carbon neutrality." Other markets, such as automobiles and marine vessels, have also seen shifts and new initiatives toward decarbonized fuels such



Kanagawa Office Office Staff

as hydrogen, ammonia, and alcohol. In this new market trend, our existing gas detectors as well as our newly developed Combined Sensor System and AC Series analyzers are attracting attention and have already been adopted by many customers. As mentioned before, we believe that acquiring demand in the R&D and test plant stages of these new markets and connecting them to production lines is one of the key pillars of our future sales and service strategy in the Kanagawa Office area.

On the other hand, the aging of society will continue to lead to a decrease in the number of people of working age and an ever-increasing shortage of human resources with knowledge and experience. However, we see this as an opportunity to create a new market and believe that we need to strengthen "DX promotion" both internally and externally. Our in-house maintenance system "Smart REAS" introduced by the Engineering Division is used for customer maintenance. This system caught the attention of our customers and became a topic of conversation, leading to business talks in which the customer consulted us about centralized management through the introduction of gas monitoring systems, as well as requests to automate the gas detection process by humans. The key to "DX promotion" is to increase efficiency while ensuring safety, and to express the expertise part of knowledge and experience in a digital form. We believe that further strengthening "DX promotion" both internally and externally will lead to the provision of new services and the development of new products. Going forward, the Kanagawa Office and Yokohama/Atsugi Service Stations will focus all their efforts on becoming flagship bases in the domestic market with "decarbonization" and "DX promotion" as their keywords.

(Interview: August 24, 2022)

Kanagawa Office / Yokohama and Atsugi Service Stations

3CHALLENGES

(Three challenges for new initiatives)

1
Combined Sensor
System

2
AC Series

3
System Proposals
and DX Promotion



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1968

Tracing Back the History

by the Products

RIKEN KEIKI's History	#6
as Told by Its Products	

With the proclamation of the Air Pollution Control Law, we developed the GP-400,

a catalytic combustion type auto-emission (CO) analyzer that later became an explosive seller and contributed greatly to the company's business expansion.

From the early 1960s to the mid-1960s, when the Japanese economy was undergoing remarkable reconstruction and rapid growth, pollution problems began to emerge. Pollution from soot and dust emitted from factories and business establishments together with automobile exhaust began to be viewed as a problem. Near an intersection in Setagaya Ward in Tokyo, where there was chronic traffic congestion, and along an industrial road in the Hanshin area, where large trucks passed by day and night, residents in the neighborhood experienced symptoms thought to be caused by exhaust fumes and dust. Investigations of the area revealed that the air was polluted with carbon monoxide (CO), which triggered the Air Pollution Control Law of 1968 to regulate automobile emissions. It was the technological capability of the catalytic combustion type sensor developed by our company that led to the solution of the social issue of measuring automobile emissions which was raised as an urgent problem.

The catalytic combustion type sensor that made the accurate measurement of carbon monoxide (CO) content possible

Before we commercialized and began manufacturing and selling our auto-emission (CO) analyzer, other companies had already released infrared analyzers for measuring carbon monoxide (CO). However, the product itself was not widely used because of the high cost and complicated mechanism. So, our company developed the GP-400, an auto-emission (CO) analyzer that uses a catalytic combustion type sensor. Both a combustible and toxic gas, measuring carbon monoxide (CO) was not an easy task, even though exhaust gases from internal combustion engines (automotive engines) fueled by hydrocarbons such as gasoline and LP gas always contain a certain amount of carbon monoxide. This is because when the exhaust gas is released into the atmosphere, most of the hydrocarbons are already converted to carbon dioxide (CO₂) and water (H₂O), leaving only a little oxygen for measurement. To solve this problem, our engineering department devised a method of adding a certain percentage of dilution air to the exhaust gas and then measuring it with a catalytic combustion type sensor.

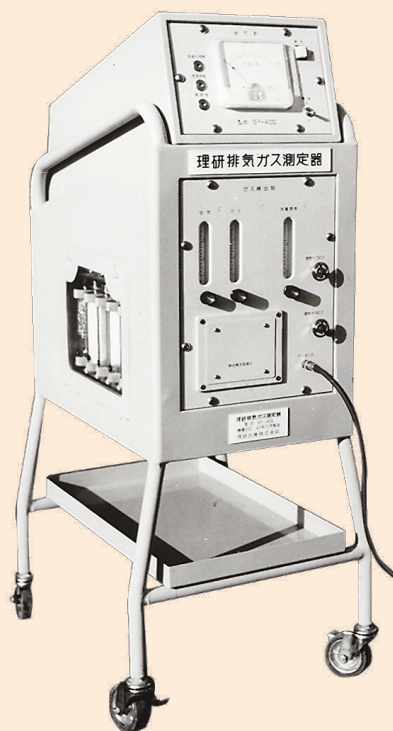
The massive delivery of desktop measuring instruments to the Metropolitan Police Department spurred demand. Unable to keep up with production because of an explosion of orders.

However, we did not see any significant sales during the first year of development of the GP-400. The legal regulations had just been enacted, and the manufacturer did not have a well-established system in place. However, the following year in 1969, the company commercialized the successors to the GP400, the desktop-type auto-emission (CO) analyzers, GP-460 and GP-450B, and delivered them in large quantities to major automobile machine tool companies and automobile maintenance equipment companies, leading to a change in trend. In particular, in the following year of 1970, our simple and inexpensive GP-450B was adopted by the Metropolitan Police Department for use in roadside enforcement of emission regulations, and after its mass introduction, orders began pouring in from automobile repair shops (private vehicle inspection stations) and gas stations nationwide. This growth in demand was actually in line with our initial plan for the development of the GP-400, but orders continued to increase at such a rate that we could not keep up with production, so we hurriedly built an additional prefabricated factory for manufacturing. Even so, there was still not enough space, so we borrowed the premises of a partner company to accommodate our needs. However, we could not secure space for packing the finished products, so we were forced to use the outdoor parking space for this work, and during the peak, all employees were dispatched to help with shipping. In the evenings, trucks would be waiting in front of the main factory for shipment, and the products would be piled up. Days such as these continued.

The company is introduced on TV as "the busiest company in Japan." Orders plummet after the demand runs its course.

At the time, motorization was progressing and the number of produced automobiles was growing rapidly. Emission control was a hot topic and our company was featured in the media as "the busiest company in Japan." Our company's production was featured on the front page of newspapers and on NHK's morning news. Consequently, the sales of auto-emission analyzers were extraordinary for two to three years, but the end came suddenly. After demand ran its course, orders dropped so sharply that we had to rent an exclusive warehouse outside the company, and it took us three years to dispose of the inventory.

However, the auto-emission analyzers contributed greatly to the expansion of our business. At the same time, even in the present when "decarbonization" is being called for on a global scale and the use of EVs in automobiles is rapidly advancing, we can say that the very spirit of development that came from our contribution to society through the development and production of visionary products at that time is still alive in our sustainability policy. (Continued to [Part 7])



Catalytic Combustion Type Auto-emission (CO) Analyzer GP-400



Desktop Catalytic Combustion Type Auto-emission (CO) Analyzer GP-460 (top) GP-450B (bottom)



RIKEN KEIKI Co., Ltd.

Creating safe working environments

The magazine "Rizm" Vol. 6
Published October 31, 2022

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Printed with
environmentally
friendly vegetable oil ink.