



# Message from the Director in Charge of Marketing

**With an eye on risks and opportunities in the short, medium- to long, and super-long terms, we will focus on further enhancement of customer satisfaction and our marketing capabilities.**



Executive Officer, Department Manager, Marketing Dept.

Kosuke Doi

## Megatrends

### ● Acceleration of DX Anticipating the Post-COVID-19 World Is Supporting the Semiconductor Market

In 2019, the global semiconductor market shrank for the first time in four years, mainly due to trade friction between the U.S. and China, decreasing by 12% year on year to US\$412,307 million. For the semiconductor market in 2020, the COVID-19 pandemic has caused uncertainty over the future, while the trade friction between the U.S. and China is expected to increase. Nevertheless, the semiconductor market is expected to grow by 3.3%\* year on year, supported by digital transformation (DX) associated with changes in people's behavior and society, such as an increase in telecommuting, which has taken root around the world as a countermeasure to the pandemic, and an increase in demand associated with people staying at home.

\* Source: World Semiconductor Trade Statistics (June 9, 2020)

## Risks and Opportunities

### ● Laying the Foundation for Long-Term Sustainable Growth, Keeping Our Focus on Risks and Opportunities in the Short, Medium- to Long, and Super-Long Terms

One of the Group's material issues is "development and provision of high value-added products that will contribute to innovation," and we are working towards "further improvement of customer satisfaction" as a key initiative to address this issue. Over the short term and medium- to long term, we will seize the growth opportunity offered by the expansion of the 5G and IoT markets, which is expected to accelerate in step with the aforementioned DX. We will develop and provide EUV photoresists and ArF/KrF excimer laser photoresists and high-purity chemicals as advanced materials for miniaturization in the front-end processes of semiconductor manufacturing, as well as high-density integration materials for advanced packaging processes and high-frequency devices in the back-end processes. Through these efforts, we will contribute to the rebuilding of society with a focus on recovery from the COVID-19 pandemic and the post-COVID-19 world, while moving forward to achieve our targets under the TOK Medium-Term

Plan 2021. Recently in particular, at the Company's overseas customer-oriented sites, there have been increasing cases where customers have visited us directly to conduct development together, and a growing number of cases of in-line support, where we go into the customer's manufacturing lines and support the smooth start-up of processes. Our strategy of building close relationships with customers started on a full scale in 2013, and we recognize that it is evolving into a customer participation model based on close collaboration and dialogue with our customers.

Meanwhile, for the medium- to long term, in addition to general processors such as CPUs and GPUs, we also forecast development of new semiconductor fields such as TPUs\*<sup>1</sup> specialized for deep learning and MRAM\*\*<sup>2</sup> with superior energy-saving performance. The Company will establish strengths in these fields as well by focusing on sales and marketing while promoting close collaboration with development and manufacturing.

Moreover, looking even further into the future from a super-long-term perspective, quantum computers are beginning to see increasing coverage in the press recently. The arrival of quantum computing will usher in an era completely different from the conventional semiconductor-based world we know today. This paradigm shift poses a risk that the Company's accumulated material technologies could become obsolete. We will make preparations to capture growth opportunities in the quantum computing era, while creating a path to long-term sustainable growth by building as many new pillars of earnings as possible in new business fields.

I will use the insights that I have acquired through my wide ranging experience on the front lines of the TOK Group's value creation and concentrate on initiatives not only for expanding short-term earnings, but also for long-term sustainable growth, while keeping focuses on risks and opportunities in the short, medium- to long, and super-long terms.

\*1 TPU (Tensor Processing Unit): A type of application-specific integrated circuit (ASIC) comprising a semiconductor device specialized for machine learning, etc.

\*\*2 MRAM (Magnetoresistive Random Access Memory): A type of non-volatile memory comprised of magnetic tunnel junctions

### Toward Further Increase in Customer Satisfaction and Strengthening of Marketing Capabilities

#### ● Strengthen Sales and Marketing

##### from a Medium- to Long-Term Perspective

In the fiscal year ending December 31, 2020, the second year of the TOK Medium-Term Plan 2021, we will fully focus on our second company-wide strategy: “Strengthen marketing, increase understanding of the customers’ value creation processes and translate these efforts into new value creation—Through rigorous marketing, TOK will carefully identify solutions that lead to the creation of new value for customers as it makes intensive and proactive efforts to address those solutions.” In doing so, we will accelerate our measures for relentlessly pursuing higher purity in materials for cutting-edge semiconductors, as well as our activities for expanding market share of the ArF excimer laser photoresists. **(See pages 40–43 “Review of Operations”)**

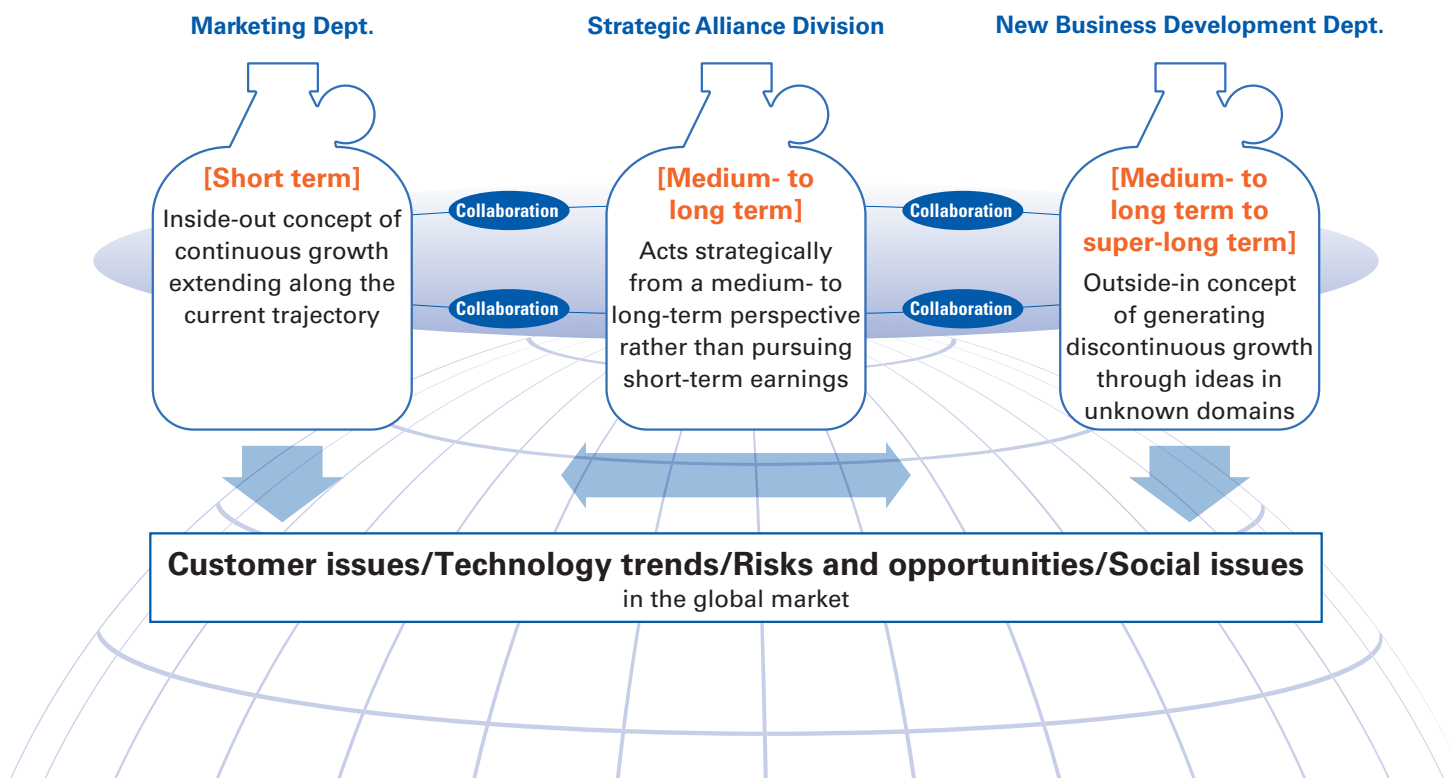
Meanwhile, as a key measure to ensure a solid path to long-term growth, we also begin initiatives combining the two approaches of “known domains” and “unknown domains,”

deepening the relationships between the Marketing Dept., Strategic Alliance Division, and New Business Development Dept.

Specifically, the Marketing Dept. will focus on increasing customer satisfaction and expanding earnings, working mainly on achieving growth through improvements in “known domains,” including recent technology trends in the industry and latent customer needs. In addition, the Strategic Alliance Division was established in January 2020 under direct supervision of the President. It will engage in strategic sales and marketing rather than simply pursuing short-term earnings, while functioning as a technical sales unit that proposes and verifies strategies to realize a marketing strategy of “seeing the forest while nurturing the trees.” Meanwhile, the New Business Development Dept. will work to build new pillars of earnings in “unknown domains” that will contribute to the Company’s business portfolio reform based on social issues and market changes.

By deepening the collaboration between these three organizations, we will strengthen the marketing capabilities of the entire Group and ensure sustainable growth.

Conceptual image of sales and marketing system from January 2020





## Message from the Director in Charge of Research and Development

### We will expand our technological seeds and focus on fostering development personnel from a long-term perspective.



Director, Senior Executive Officer,  
Department Manager, Research and Development Dept.

Harutoshi Sato

#### Megatrends

##### ● Miniaturization of Electronic Devices and Increasing New Development Needs

As digital transformation (DX) accelerates, spurred on by the COVID-19 pandemic, the 5G and IoT markets are gradually expanding. The various types of electronic devices used in these markets are subject to demands for higher performance and miniaturization.

For example, 5G smartphones require large batteries with greater capacity than conventional smartphones. This means it is necessary to miniaturize the other electronic components, and manufacturers are pursuing further miniaturization of semiconductor devices. In the same way, there is an increasing demand for miniaturization of SAW filters and BAW filters used in 5G smartphones, etc. using microprocessing technology. In other semiconductor devices, there is also a call for further advances in multiple layering and sealing technologies to enable miniaturization of packages. These examples show the increasing demand for new technologies over a wide range of fields in both front-end processes and back-end processes of semiconductor manufacturing.

#### Risks and Opportunities

##### ● Maximize Growth Opportunities by Continuing to Evolve World-Leading Microprocessing Technology

One of the Company's material issues is "development and provision of high value-added products that will contribute to innovation," and we are focusing on "contributions to innovations and solving social issues" as a key initiative in this regard. One of our core competences is "world-leading microprocessing technology," and further refining it while capturing miniaturization demand for electronic devices is one of our biggest growth opportunities under the TOK Medium-Term Plan 2021.

In the area of back-end processes, we will continue to evolve our expertise in packaging materials technology and in-line support, which we developed under our blue ocean strategy, to capture a dominant market share in materials for 5G and IoT, thereby contributing to the solution of various social issues through 5G. (See pages 32–33 "Special Feature")

##### ● Enhancing Competitiveness and Reducing R&D-Related Risk by Continuing to Incorporate New Concepts and Technological Seeds

Technology changes at a rapid pace and competition is fierce in the cutting-edge semiconductor and electronic components fields. Even if we have a dominant market share, delays in introducing new concepts immediately increase the risk of obsolescence, which can dull a company's competitiveness. The Company has the leading share of the global market in EUV photoresists for 7nm and 5nm line widths at the cutting edge of miniaturization. However, for our current efforts to develop photoresists for 3nm level semiconductors, we have introduced new concepts through open innovation with universities and research institutions, etc. in Japan and overseas, and we are making progress with material designs that differ dramatically from materials for 7nm and 5nm.

In addition, in our development of materials for semiconductors and electronic components, we need to acquire a wide range of technological seeds on a daily basis to enable a swift response to any market that may emerge in the future. Since its foundation, the Company has grown by specializing in high-value-added niche fields rather than pursuing scale expansion through general-purpose products. By using open innovation to acquire a wide range of technological seeds, we can minimize R&D-related risk by making a full-scale investment of our resources in line with the launch of new markets.

##### Toward Realization of Sustainable Growth in Cutting-Edge Fields Going Forward

##### ● Constructing an Original PDCA Cycle for Closely Examining Underlying Causes

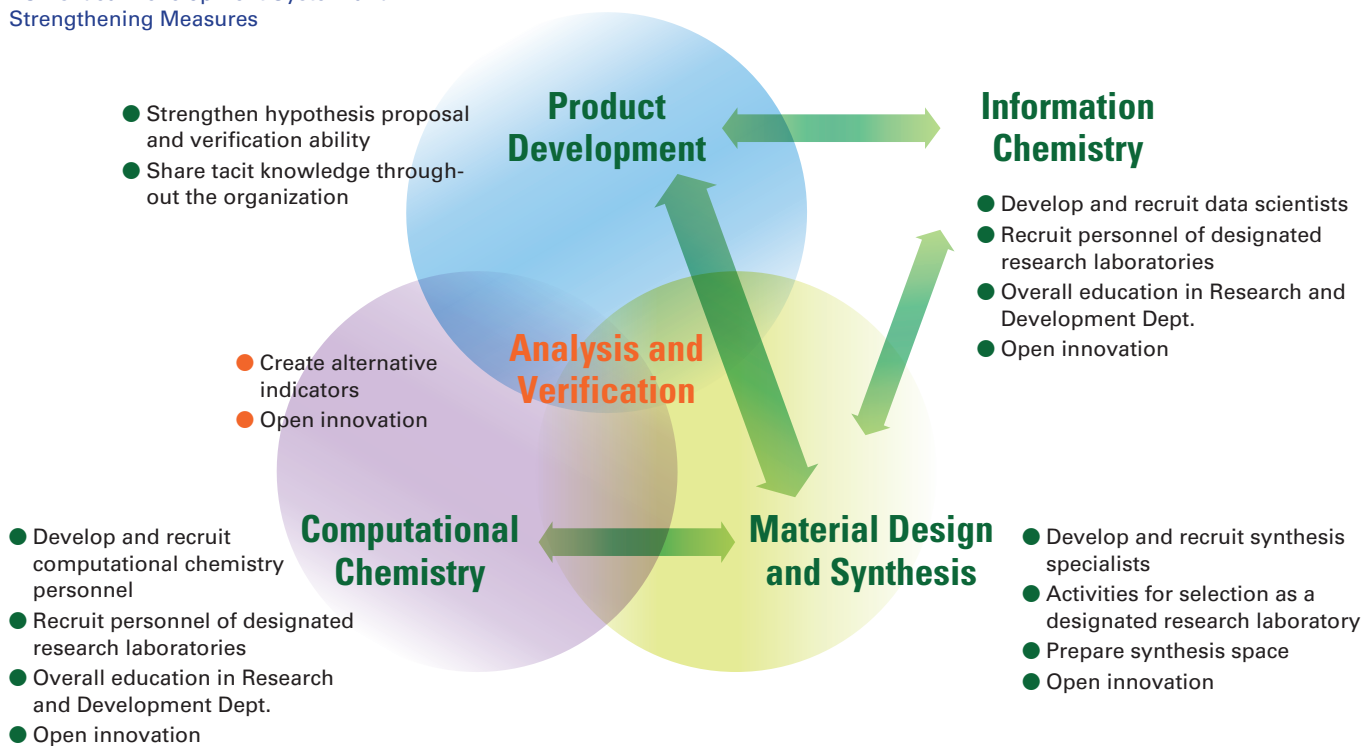
The Company marks its 80th anniversary in October 2020. As we move forward, the sources of our growth will be technologies and expertise accumulated through putting into practice our management principle, "continue efforts to enhance our technology," and relationships of trust with customers. Since April 2018, we have concentrated our efforts on Materials Informatics (MI), in which we have been building a structure that makes our technologies and expertise visible while enabling them to be shared as data across all

of our development divisions. By analyzing big data with AI and utilizing it for the development of raw materials, we are working to enhance our efficiency in discovering and verifying new materials.

Meanwhile, in our development approach, if we simply pass on to the next generation the patterns and formulas that we have learned through repeated trial and error in our material design and synthesis and product development, there is a risk of having our successors omit the trial and error process, and continue development without understanding the essence of material design and synthesis and product development. To expand our technological seeds, we must constantly return to materials and delve into the essence of the synthesis mechanism. That is why Company-wide strategy (3) under the TOK

Medium-Term Plan 2021 is to “strengthen human resources who can perform research, make decisions, and take actions on their own initiative.” In the approach to material design and synthesis and product development, our focus is on firmly embedding the habit of thinking not about *what* worked well or not, but rather *why* something worked well or not. Adding computational chemistry and information chemistry to this concept, the Research and Development Dept. has been focused on the initiatives presented in the following illustration since the fiscal year ended December 31, 2019. By working through a PDCA cycle made up of hypothesis proposal, hypothesis verification, consideration, and improvement, we will strengthen our capacity for sustainable growth in cutting-edge fields.

### TOK's Ideal Development System and Strengthening Measures



### ● Introduction of Long-Term Perspective in Evaluation and Compensation of Development Personnel

As a “long-run R&D-driven company,” the Company evaluates the initiatives of its development personnel, who carry out the PDCA of hypothesis proposal, hypothesis verification, consideration, and improvement, not only looking at recent activity, but also initiatives for the future. In this way, the Company will build a system that fosters development personnel from a long-term viewpoint.

To bolster the motivation of development personnel, the Company also operates a “performance-based reward system” that also distributes earnings from products that have been launched through long-run R&D to the developers involved at the foundation stages. (See page 26 “Message from the President” for details)

### ● Focus on Improving Intellectual Productivity and Improving Labor Productivity in the Fiscal Year Ending December 31, 2020

Under the abovementioned development system and evaluation and reward system, the Company’s focus in the fiscal year ending December 31, 2020 is on improving intellectual productivity and improving labor productivity. With regard to improving intellectual productivity, we will promote full-scale use of MI and computational chemistry, while efforts to improve labor productivity will aim to maximize the development achievements with our limited human capital.



# Message from the Director in Charge of the Environment

## We will support the foundation of cutting-edge manufacturing with environmental, health and safety activities.



Director, Officer,  
Department Manager, Manufacturing Dept.

Yuichi Murakami

### Philosophy/Basic Policy

#### Focus on EHS (Environment, Health and Safety)

##### Activities to Enhance Corporate Value

As a company that focuses mainly on fine chemical products for cutting-edge semiconductor fields such as photoresists, our basic policies in manufacturing are to ensure “safe and comfortable working environments” and “a stable supply of products of the quality required by customers” at all of our front lines in Japan and overseas. To this end, we consider employee safety as our first priority, and the firm unwritten rules, “avoid stopping plants” and “avoid stopping customers’ production lines.” Looking ahead, we will look to promote activities appropriately in line with our Environmental Policy and Occupational Health and Safety Policy, thereby minimizing shutdown risk and environmental risk. This approach reduces factors that could impede short-term and medium- to long-term growth while lowering capital cost, which leads to enhanced corporate value.

### Megatrends

#### Regulatory Tightening and Higher-Level Customer Demands

Against the background megatrend of the deepening problem of climate change, environment and safety-related laws and regulations around chemical substance management are being tightened around the world each year. The number of banned or restricted substances under regulations such as the EU REACH regulation\*<sup>1</sup> continues to increase, while in the area of compliance with customers with regard to environmental, health and safety (EHS), we have also seen an increasing number of projects that require compliance with the RBA Code of Conduct\*<sup>2</sup>. Every employee in the Group understands the importance of complying with these laws and regulations to meet customers’ demands with a sense of ownership, and will strive proactively to do so.

\*<sup>1</sup> This is an EU regulation that manages the registration, evaluation, and accreditation of chemical substances through an integrated system, with the aim of ensuring complete fulfillment of responsibility on the producers’ part, as well as thorough compliance with preventive principles.

\*<sup>2</sup> Responsible Business Alliance (formerly the EICC)

### Risks and Opportunities

#### Further Reducing Environmental Risk in Fine Chemical Products

Approximately 90% of the ingredients in photoresists, our

### Environmental Policy

Contributing to society in our aim to become a corporate group that is trusted around the world, is one of the most important themes in our management plans. Accordingly, we will track our impact on the environment in all phases, from product development to procurement, production, sale, and disposal. Reducing environmental impact from our corporate activities by complying with laws and regulations, as well as our internal regulations and social norms, and balancing production with environmental conservation while preventing pollution. We will take steps to accelerate the development of businesses in the environment and energy fields in order to contribute to the creation of energy on a global scale.

1. Enhance handling and management with consideration for chemical safety and the environment.
2. Promote efficient use, reuse, and recycling of resources.
3. Promote activities to conserve energy and mitigate global warming.
4. Prevention of pollution.

### Occupational Health and Safety Policy

The TOK Group recognizes that ensuring the health and safety of its workers is the social responsibility of any company involved in business. We work to provide a safe, comfortable working environment, and make constant efforts to prevent accidents, disasters, and illness.

1. We will observe occupational health and safety-related laws and regulations in each region.
2. In each Group organization, we will establish organizational structures to enable occupational health and safety activities, with clearly defined roles, responsibilities, and authority.
3. We will conduct hazard and toxicity pre-assessments for occupational health and safety risks in order to reduce the risks.
4. We will strive to ensure health and safety through candid consultation with workers.
5. We will provide the full education and training necessary to ensure occupational health and safety for all workers.
6. We will conduct regular audits and continuously improve occupational health and safety management systems.
7. In implementing this policy, we will allocate appropriate management resources and work continuously to make effective improvements.

### Tighter environmental and safety-related laws and regulations, etc. around the world and regions

- Japan - Revisions to the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (Chemical Substances Control Law) (June 2017)
- The U.S. - Revision to the Toxic Substances Control Act (TSCA) (June 2016)
- Europe - The European Chemicals Agency (ECHA) list of substances of very high concern
- South Korea - Revisions to the Chemicals Control Act (proposed revisions published in January 2019)  
- Revisions to the Occupational Safety and Health Act (January 2019)
- Taiwan - Revisions to the New and Existing Chemical Substances Registration Act (March 2019)  
- Revisions to the Toxic Chemical Substances Control Act (January 2019)

leading product, are safer solvents and the remaining 10% are polymers and photoacid generators, which are detoxicated by semiconductor manufacturers. Accordingly, the environmental risk associated with the fine chemicals produced by TOK is relatively lower than general chemicals made by major chemical manufacturers mainly from naphtha, etc.

On the other hand, with strengthening of environmental and

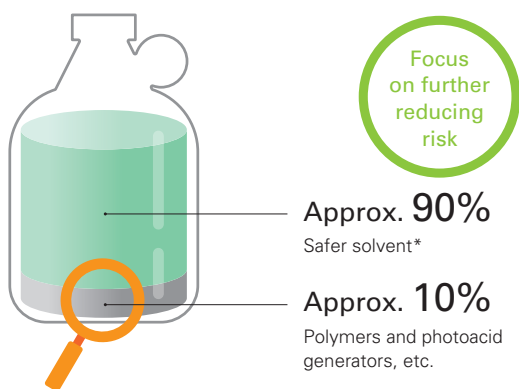


safety-related laws and chemical substance control regulations, the number of banned or restricted substances in that 10% portion (polymers and photoacid generators) is increasing. TOK is responding by using its many years of knowledge in chemical substances to develop products using substitute substances with a view to maintaining and expanding its business opportunities. Substances that do not easily biodegrade, or accumulate in living organisms, or are toxic are strictly ruled out from candidate substances through coordination between the EHS Div. and the Research and Development Dept. PFOS\*<sup>1</sup> has been completely eliminated and PFOA\*<sup>2</sup> is expected to be eliminated by 2021.

\*1 Perfluorooctane sulfonate

\*2 Perfluorooctanoic acid

Depiction of raw materials in TOK's photoresists



\* Safer solvent: Solvent that decomposes in vivo and is gentler on the human body, living organisms and the environment

Response to Direct Impact of Climate Change Risk

The growing risk of climate change is beginning to show direct impacts on the Group. In 2019, the Company's core R&D site, the Sagami Operation Center, was exposed to flood risk by Typhoon Hagibis, and we are now focusing on strengthening our business continuity plan (BCP), including flood countermeasures (See page 85). Moreover, further advances in the miniaturization of semiconductors have necessitated stricter low-temperature storage of advanced photoresists and raw materials, and we are therefore working to bolster our refrigeration facilities while giving consideration to global warming in order to focus on expanding our business opportunities further (See page 61 "Initiatives toward Information Disclosure in Accordance with the TCFD Recommendations").

Key Measures in the TOK Medium-Term Plan 2021

Renewing Aging Facilities Improves Environmental Value

Our main capital investment project in the past few years has been the construction of a new R&D Building at the Sagami Operation Center. In addition to establishing a core site for next-generation technologies, another important goal for this project is to reduce environmental risk by renewing aging facilities. Although it was within legal standards, soil contamination present on the site was removed and dramatic improvements were made to energy consumption and CO<sub>2</sub> emissions per unit area compared to previous buildings. In the fiscal year ending December 31, 2020, we will proceed with aging countermeasures at our Koriyama Plant, a mass production site, and strengthen the environmental response capabilities of the overall Group.

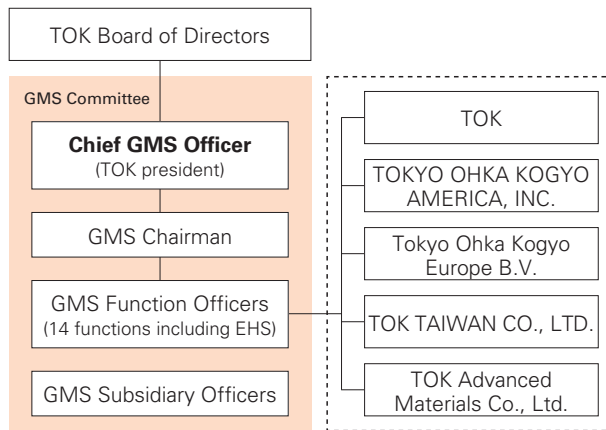
Focus on Strengthening the EHS Organization of the Overall Group

Some of the Company's most important management issues are taking an integrated approach to managing chemical substances, reducing environmental impact, and ensuring the health and safety of employees. The Company engages in Responsible Care activities\* and operates the Group Management System (GMS) to minimize the impact of emerging risks inside and outside Japan and prevent potential risks from materializing. Since the reinforcement of structures at domestic sites has wound down, under the "TOK Medium-Term Plan 2021," the Company aims to instill solid risk management at all sites, including overseas subsidiaries, while improving chemical substance and environmental risk management at overseas sites through the strengthening of human resources and organizations. These efforts have been recognized by the Ministry of the Environment, which presented TOK with the Encouragement Award in the "2019 Awards for Companies Developing the Environment and Human Resources."

In the fiscal year ended December 31, 2019, at our customer-oriented site in South Korea (TOK Advanced Materials Co., Ltd.), we set up a dedicated EHS organization, established workflows for dedicated EHS employees, and made regulations. In the fiscal year ending December 31, 2020, we are working to strengthen the organizational structure for EHS in Taiwan with support from GMS and the EHS Div.

\* Activities in which companies handling chemical substances voluntarily take environmental, safety and health measures in every process from chemical substance development through manufacturing, logistics, use and final consumption to disposal and recycling, and announce the results of these activities while engaging in dialogue and communication with the public. (Defined by Japan Chemical Industry Association)

TOK Group's Responsible Care activity framework



Focus on strengthening EHS organizational structure in Taiwan in 2020

Status of dedicated EHS organizations at customer-oriented sites overseas

- The U.S. (TOKYO OHKA KOGYO AMERICA, INC.) 2014 Established a dedicated EHS organization
- South Korea (TOK Advanced Materials Co., Ltd.) 2019 Established a dedicated EHS organization
- Taiwan (TOK TAIWAN CO., LTD.) Strengthening organizational structure with support from GMS and EHS Div. (Japan) with a view to establishing a dedicated EHS organization

Received encouragement award at the "2019 Awards for Companies Developing the Environment and Human Resources"

<https://www.tok.co.jp/news/2020/200519>

(Japanese version only)



## Promote EHS Activities with Greater Diversity

### Non-Japanese Employees Contribute to Global Development of EHS and Rapid Response

As we promote the global development of environmental, health and safety, we need to unify the concept of safety, which differs from country to country, through adequate communication with local non-Japanese employees. Our promotion of diversity has produced tremendous results in this effort by increasing the number of non-Japanese employees in the EHS Div., etc. In addition, our development of diversity is also helping us to cope with an accelerating pace of revisions to local laws and regulations overseas, especially in Asia. It enables us to keep abreast with local laws and regulations and negotiate with local government agencies, accelerating the process of registering and receiving approval for chemical substances from foreign government institutions.

### Senior Employees Providing “Know-Why,” an Intellectual Capital

Our senior human resources have insight into the advantages and disadvantages of newer and older production facilities, and are experts in environmental management and occupational safety thanks to their decades of experience working on the front lines of production at TOK. These senior employees have not only “know-how,” but also “know-why” (knowledge that allows them to immediately know why something may have happened), a precious management resource that backs the Company’s ability to sustain value creation. Recently, these employees have played an important role in conducting risk assessments and formulating various guidelines toward ISO 45001 acquisition.

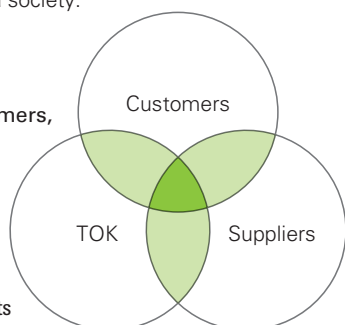
## Enhancing Engagement with Suppliers

### Initiatives as Part of Compliance with the RBA Code of Conduct

The Company is working together with customers and suppliers toward the shared goals of further reducing environmental impact and increasing the added value of products. We are engaging in linked activities to realize these goals in terms of both EHS and quality. In EHS, we are promoting compliance with the RBA Code of Conduct by ascertaining the compliance status of our suppliers and promoting risk assessment based on this information. In our initiatives for quality, we engage with suppliers at the raw material composition stage and ensure that we have shared our required quality standards, while conducting periodic exchanges or opinion and audits at our main suppliers to ensure provision of authentic environmental value to our customers and society.

Linked activities by customers, TOK, and suppliers

Common goals: further reducing environmental impact and increasing the added value of products



## Incorporation of Third-Party Perspectives and Participation in the Community

### Proactively Incorporating Third-Party Perspectives to Ensure Further Safety

To make the Group’s environmental, health and safety activities more appropriate and effective, we proactively incorporate third-party perspectives. In the fiscal year ended December 31, 2019, we asked a specialist HAZOP\* organization to inspect our plants and received valuable guidance on how to make further safety improvements.

\* Hazard and Operability Study: A risk analysis method for ensuring safety at chemical plants, etc.

### Pursuit of Best Practices through Participation in “Communities”

Overseas, we participate in the SIA\* consortium in the U.S. to get the latest information on the impacts of chemical substances on the human body. In Japan, we participate in the Responsible Care Committee and the SDGs Subcommittee, which are held periodically by the Japan Chemical Industry Association, where we encounter the latest examples of EHS and SDGs initiatives, which help to strengthen our own activities.

\* Semiconductor Industry Association

## Formulated Long-Term Environmental Targets

### Started New Initiatives for the Next 10 Years

The initiatives for reaching the various environmental targets for 2020 will come to an end in the fiscal year ending December 31, 2020, and we have therefore set new long-term targets for the next 10 years. We are targeting an annual 1% decrease in energy consumption, water usage, and industrial waste emissions through to 2030. This year, we have started a project for systematically strengthening our initiatives for the SDGs and CSR, including these new environmental targets. We will also conduct risk and opportunity analysis (See page 61) with an eye on disclosure in accordance with the TCFD\* recommendations, and we are ready to strengthen our initiatives step by step for various environmental guidelines. We will advance toward our targets based on co-existence with internal and external stakeholders, while seeking the most suitable arrangement and setting of KPIs for the Company to continue developing fine chemical products in cutting-edge fields. We hope that our stakeholders are excited to see how the TOK Group will continue to create environmental value.

\* Task Force on Climate-related Financial Disclosures



## Initiatives toward Information Disclosure in Accordance with the TCFD Recommendations

TOK is responding to the issue of climate change within the scope of its material issue “environmental protection.” This year, we have made preparations for full-scale information disclosure in accordance with the TCFD recommendations, including an analysis of the risks and opportunities presented to the Company’s business by the issue of climate change.

### 📌 Risks and Opportunities Presented to TOK’s Business by the Issue of Climate Change



## Development of New Environmentally Friendly Products and Services

Having identified “environmental protection” as a material issue for the Company, we have been focusing on developing and manufacturing environmentally friendly products. As a new initiative, we are focusing on development of an energy recycling system called “chemical looping.”

### 📌 Development of “Chemical Looping” Energy Recycling Systems

The Company recycles some of the organic solvent effluents generated in its manufacturing processes, and combusts and detoxifies resinous residues before emitting them. Now we are focusing on developing a chemical looping system for reducing the SOx and NOx generated in this process and recovering the CO<sub>2</sub>. Currently, we are promoting joint research with research institutions such as universities into SOx/NOx reduction and CO<sub>2</sub> recovery. Going forward, we will work on conversion to renewable energy and CO<sub>2</sub> conversion (turning CO<sub>2</sub> into other chemical substances to make it harmless) in relation to the system.



## Toward Long-Term Sustainable Development of Environmental, Health and Safety (EHS) that Supports Cutting-Edge Value Creation

The Company has cultivated “know-how” and “know-why” in environmental, health and safety (EHS) that support the foundation of its value creation in cutting-edge fields such as semiconductors. We are working to create systems to ensure that these assets are securely passed on in the future. Decreases in recruitment activity following the collapse of Japan’s bubble economy and the collapse of Lehman Brothers have led to shortages in mid-level personnel. We are therefore working to visualize and systemize know-how and know-why, while also incorporating “coexistence” to deepen our engagement with internal and external stakeholders and the concept of “happiness” as a human resource strategy into our EHS to ensure that we can pass them on to the next generation.



General Manager, EHS Div. Kimitoshi Kato





# Message from the Director in Charge of General Affairs and Human Resources

## We will enhance our personnel measures to align them with individual needs in order to realize a 100-year company in 2040.



Director, Executive Officer,  
Department Manager, General Affairs Dept. **Kunio Mizuki**

### Megatrends

#### Expansion of Global Competition

The advance of the global data economy has given rise to a battle over data ownership that is gradually accelerating and expanding against a backdrop of the startup of 5G. The impacts are beginning to be felt strongly in the hardware industry that supports the data economy. The impacts include significant capital investment in the semiconductor industry, which is an essential business that can influence national power. Human capital is also starting to see intensifying global competition to acquire human resources as companies vie for high-level personnel who carry out the development and manufacture of cutting-edge semiconductors. This trend has begun to reach the semiconductor materials field in which TOK operates, and we also need to continue responding to the risk of recruitment difficulties associated with Japan's declining working population.

Under the TOK Medium-Term Plan 2021, one of our most important management issues is enhancement of personnel measures, and we plan to launch a new personnel system in 2021.

### Risks and Opportunities

#### Turning Uneven Distribution of Tough Assignments into Growth Opportunities for the Entire Group

Japan's previous role as leader of the semiconductor industry has shifted overseas to the U.S., South Korea, Taiwan, etc. Since then, most of the tough assignments involving direct interaction with customers working at the cutting edge have also shifted offshore. With this change, overseas business has come to account for about 80% of consolidated net sales, with the remaining 20% from Japan, but the opposite is true for employees; only 20% of consolidated employees are overseas, and 80% are in Japan. This imbalance needs to be addressed. One way to do this is to provide overseas assignments to the many domestic employees who seek growth opportunities. Here they continue to grow beyond our expectations as they work to meet the rigorous local customers' requirements. Furthermore, at these overseas customer-oriented sites, local employees also find valuable opportunities to learn the company culture and expertise that we have developed over many years by experiencing customer service alongside Japanese

### Policy on Utilizing Human Resources

Since its founding, employees have been the greatest asset of the TOK Group. The Company's human resource policy is based on the following five principles, derived from its long-held philosophy that human resources are a company asset.



- Never forget that business always starts with "people."
- Any discrimination within the Company and among employees is strictly prohibited.
- Ensure full compliance with applicable laws and regulations, as well as fair and equal compensation.
- Educate personnel and promote creativity to become a company that develops innovative technologies.
- Ensure personnel systems are based upon performance, emphasizing and ensuring transparency.

employees. We will continue to provide Japanese employees with opportunities to develop themselves by working in various countries, while offering overseas personnel assignments at sites in various countries and regions, including Japan. In doing so, we will turn the risk of "uneven distribution of tough assignments" into a growth opportunity for the entire TOK Group.

### History of Overseas Subsidiary Development

- The U.S. .....  
1987 Established OHKA AMERICA, INC.  
(currently TOKYO OHKA KOGYO AMERICA, INC.)
- Europe .....  
1987 Established OHKA (UK) LTD.  
(currently Tokyo Ohka Kogyo Europe B.V.)
- Taiwan .....  
1998 Established TOK TAIWAN CO., LTD.  
2014 Established the Tongluo Plant  
2016 Established the Tongluo No. 2 Plant
- China .....  
2004 Established CHANG CHUN TOK (CHANGSHU) CO., LTD.
- South Korea .....  
2012 Established TOK Advanced Materials Co., Ltd.

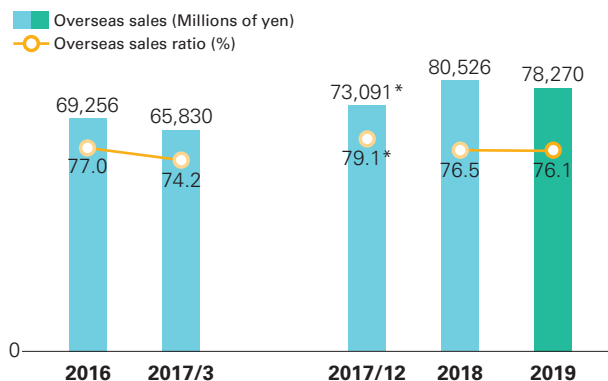


### Cross-Border Recruitment and Personnel Development Regardless of Nationality

In our recruitment operations for high-level human resources who undertake development in cutting-edge fields, we are widening our scope from the Japanese labor market to the whole world. We have started to assign more non-Japanese employees recruited overseas to cutting-edge projects in Japan.

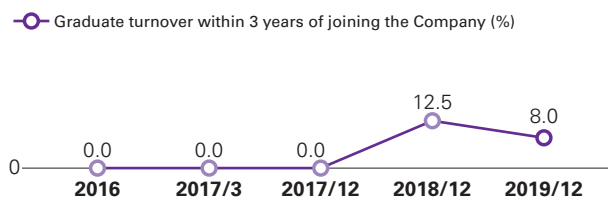
Also, in training for local non-Japanese employees overseas, we provide opportunities for them to grow and improve their knowledge of cutting-edge fields, by learning more about the Company's world-leading microprocessing technology and high purification technology at local customer-oriented sites. We also conduct training in Japan so that they can learn about and share in "the culture of TOK," which is deeply embedded in the Company.

#### Overseas sales/overseas sales ratio



\* Due to a change in fiscal year-end, the fiscal year ended December 31, 2017 was an irregular nine-month period in Japan, and 12 months overseas.

#### Graduate turnover within 3 years of joining the Company



### Key Measures in the TOK Medium-Term Plan 2021

#### Direction of New Personnel System

Under the TOK Medium-Term Plan 2021, management has defined "strengthen human resources who can perform research, make decisions, and take actions on their own initiative" as one of its company-wide strategies. Through the Personnel System Reform Project launched in 2018, we are developing a broad framework for the new personnel system, while the Human Resources Div. has been focused on refining the system details.

Under the new personnel system, which is to be introduced in 2021, we aim to create a system that will enable employees to get a real sense of their own growth and contribution to earnings. The purpose of the new system is to strengthen our human resources towards realizing a 100-year company in 2040. Based on the results of the employee engagement survey\*1 that we conducted in 2019, we will promote the

medium- to long-term growth of the Company and its human resources through the concepts of "variation," "fairness and equality," and "diversity." Under this policy, we built the broad framework of our personnel system, including the "rank system," the "remuneration system," and the "evaluation system," in the fiscal year ended December 31, 2019, the first year of the medium-term plan.

The core element in this system is the "rank system." Here, we will shift from the previous system, which emphasized ability, to a "mission grade system\*2," where benefits and remuneration are based on the level of achievement for clearly defined roles and responsibilities for each course, rank, and job type. We also expanded the specialist system and revised the criteria for managerial appointments with the goal of establishing diverse career courses. In addition, in 2019 we introduced the Executive Fellow system, which offers executive officer level benefits to human resources who have specialized their expertise, and we will focus on benefits that make use of individual expertise.

#### \*1 Employee engagement survey (2019) results



Response rate **96%**



#### Survey outline

A survey was implemented with a focus on "Engagement," such as motivation for personal growth, strengthening organizational capability, and improving business performance







#### Overview of survey results

Three highest evaluated categories: "Growth opportunities," "Remuneration and benefits," and "Resources"

Three lowest evaluated categories: "Strategy and direction," "Business performance management," and "Collaboration structure"

\*2 HR grading system which integrates features of "job-based employment" with "membership-based employment."

#### Main features of the mission grade system (to be introduced in 2021)

Systems	
	<b>Course and rank system</b> <ul style="list-style-type: none"> <li>Shift to mission grade system for both management and general courses</li> <li>Clarify the expected roles by rank and job type, and renew rank definitions to spread through the organization</li> <li>Conduct a review of criteria for managerial appointments</li> </ul>
	<b>Remuneration system</b> <ul style="list-style-type: none"> <li>Shift to a mission grade system</li> </ul>
	<b>Evaluation and promotion system</b> <ul style="list-style-type: none"> <li>Daily work evaluation changed to "Behavior evaluation"</li> <li>New rank definition set up as an item and standard for "Behavior evaluation"</li> <li>Introduction of a demotion system for management</li> </ul>
	<b>Education system</b> <ul style="list-style-type: none"> <li>Establish a new level-based education system for management level employees</li> <li>Expand education at each level</li> </ul>

In the fiscal year ending December 31, 2020, the second year of the medium-term plan, the method for human resource development will be reformed, and a focus on reforming "soft" aspects such as work style reforms to enable individuals to maximize their potential will be reflected in the new system.

## Strengthen the Training System

Before the introduction of the new personnel system, we will strengthen each of the training systems. In the fiscal year ended December 31, 2019, we strengthened the Level-Based Training Program in particular, and we will now look to enhance coaching training and training to increase effectiveness on the front lines.

### Level-Based Training Program/ Initiatives in the fiscal year ended December 31, 2019

Program/Results and Issues
<p><b>■ New Employee Training Program</b></p> <p><b>Results:</b> Conducted training with a focus on “tough assignments,” “global,” and “front lines.” The final presentation format was changed from a group presentation to an individual one, and dialogue with new recruits and management was enhanced.</p> <p><b>Issues:</b> Enhancement of frontline training for engineers/Frontline training based on individual capabilities and future assignments</p>
<p><b>■ Training Program for Senior Staff</b></p> <p><b>Results:</b> Conducted training centered on “leadership,” “logical thinking,” and “communication”</p> <p><b>Issues:</b> Enhancement of team leader training to further strengthen frontline effectiveness</p>
<p><b>■ Training Program for Junior Managers</b></p> <p><b>Results:</b> Conducted training required for managers, such as “logical thinking” and “problem solving”</p> <p><b>Issues:</b> Adjustment of training content for strengthening “team member education” and “personal communication abilities”</p>
<p><b>■ Training Program for Assistant Managers</b></p> <p><b>Results:</b> Conducted training and assessment on the themes of “problem solving” and “management”</p> <p><b>Issues:</b> Teaching and coaching trainings, etc. for strengthening of “team member education”</p>

## Evolution of “Promotion of Women in the Workplace,” “Hiring of Non-Japanese Employees,” and “Hiring of Mid-Career Professionals”

In light of recent megatrends and risks and opportunities, we will steadily adhere to our policy of “diversity and inclusion\*,” and continue proactively to promote women in the workplace, hire non-Japanese employees, and hire mid-career professionals.

With regard to promoting women in the workplace, the ratio of women among employees and the ratio of women in management both rose in the fiscal year ended December 31, 2019. We also held “Female Manager Exchange Meetings,” to further embed work styles tailored to female employees’ life stages, and held wide-ranging discussions also attended by a female outside director on topics such as childcare, nursing care, and utilization of non-Japanese team members. In addition, we strengthened our measures for supporting

childcare, such as by increasing the period of eligibility for the flextime system for childcare (childcare time) by one year up to the fourth grade of elementary school. Going forward, we will focus on initiatives based on the Act on Advancement of Measures to Support Raising Next-Generation Children and the Act on Promotion of Women’s Participation and Advancement in the Workplace. These will include “proactive communication promoting active roles for women in the workplace,” “ensuring that all employees are aware of their company’s systems for childcare leave, etc., and encouraging their use/supporting balancing work and home life,” and “building systems to curb long hours of overtime by using internal systems.”

To promote hiring of non-Japanese employees, we will conduct internships and other schemes to encourage the utilization of global human resources, irrespective of their nationality or department, to accelerate globalization.

\* Inclusion: Acknowledging and taking advantage of the skills and opinions of diverse human resources

### Indices related to female employee participation\*1

	2016	2017/3	2017	2018	2019/12
Ratio of women among new hires (%)	40.0	45.8	29.2	43.3	39.4
Ratio of women among the overall employees (%)	10.6	11.4	11.7	12.3	13.0
Difference in average tenure figures for men and women (years)	8.0	8.7	8.9	9.2	9.3
Ratio of women in senior and middle management (%)	1.1	1.5	2.0	2.4	3.3
Ratio of women on the Board of Directors (%)	8.3	8.3	8.3	8.3	7.7*2

\*1 Non-consolidated basis (employees exclude those seconded from TOK to other companies and contract workers, and include people seconded from other companies to TOK)

\*2 The ratio of women on the Board of Directors is as of 2020. The cause of the year-on-year decrease in the ratio was an increase in the number of independent directors by one member.

### Number of non-Japanese employees

	2016	2017/3	2017	2018	2019/12
Number of non-Japanese employees (non-consolidated)	6	11	11	11	16
Number of non-Japanese employees (consolidated)	301	312	323	378	412
Ratio of non-Japanese employees (consolidated, %)	19.2	19.5	20.0	22.6	23.9

### Number of users of childcare-related systems

	2016	2017/3	2017	2018	2019/12
Childcare leave system (number of users)	13	4	4	12	16
Shorter working hours (number of users)	4	2	2	6	13
Childcare time (number of users)	11	12	12	13	16

## We Are Focused on Initiatives to Increase the Happiness of Individual Frontline Employees

The basis of the new personnel system to be introduced in 2021 is the pursuit of happiness in personnel. TOK measures the happiness of its personnel using objective indicators that emphasize the level of fulfillment and joy felt by employees toward their own work. We also share and consider subjective indicators of individual employees gathered through questionnaires and interviews. The results of our employee engagement survey in 2019 offered tremendous insights, and have been strongly reflected in the details of the new personnel system. Formulation of measures for improving employee benefits is nearly complete, and we will now work on strengthening the visualization of this initiative in order to share the concept with personnel on the front lines. At the same time, we will undertake human resource development tailored to individual issues and promote initiatives for assigning the right people to the right positions.



General Manager, Human Resources Div. Motoko Samezawa

## Ensuring the Health and Safety of Human Resources

### Health & Productivity Management

Since 2015, TOK has implemented Data Health Plans in collaboration with the Tokyo Ohka Kogyo Health Insurance Society, which use a PDCA cycle for preventing and discovering diseases while encouraging employees to take better care of their health. Since 2017, we have focused efforts on preventing illnesses from becoming worse through the early detection and treatment of diseases, including offering to pay the full cost of influenza vaccinations for employees. In 2018, the Company launched My Health WEB as a portal for health-related information, and began offering convenient information for improving knowledge and awareness of health. We also made an effort to improve employee awareness of presymptomatic medicine (to lead healthier lives), such as by holding the walking festival via My Health WEB. Since 2019, we have been holding quit-smoking seminars and introduced humidifiers and powered suits to counter aging.

As a result of these ongoing initiatives, in December 2019, TOK was designated a “Fiscal 2019 Sports Yell Company” by the Japan Sports Agency. In February 2020, TOK was recognized for a third straight year in the 2020 Certified Health & Productivity Management Outstanding Organizations Recognition Program (White 500) by the Ministry of Economy, Trade and Industry and the Nippon Kenko Kaigi.



### Initiatives to Reform Work Styles with the Labor Union

The Tokyo Ohka Kogyo Labor Union was formed in 1976 and has a union shop agreement with the Company. As of December 31, 2019, there were 1,053 labor union members affiliated with the Company, and 80.5% of all employees are members of the labor union. Since the labor union was first formed, labor and management have maintained good, cooperative relations. Once every two months, the central labor-management meeting takes place on the operating environment and other labor-management issues. As a part of this, we have concluded various labor agreements that include provisions on occupational safety and health for maintaining good labor and workplace conditions. When changes in working patterns are made for business purposes, they are always discussed in advance with the labor union.

Going forward, TOK will engage in constructive, proactive discussion between labor and management with a broad perspective about what kind of work style reforms it should aim to achieve. We aim to come up with measures that make it easier for employees to enjoy a real sense of happiness.

## Respect for Human Rights

### Basic Concept

The TOK Group has declared its respect for human rights and prohibits discrimination, and strives to understand and accept diverse values without regard to gender, age or nationality. Based on this foundation, in line with one of our management principles, namely the creation of a frank and open-minded business culture, we are committed to developing a safe and sound working environment where each and every one of our employees can work in a motivated manner.

### Respect for Human Rights

Respect for human rights is a fundamental basis for sustainable value creation through international business activities. The TOK Group respects the basic human rights of individuals, diverse values, personality and privacy based on the TOK Group Personnel Management Rules and TOK Group Compliance Standards of Conduct, and has pledged to never infringe on the human rights of officers and employees based on birth, nationality, race, ethnicity, belief or religion. We conduct company-wide activities aimed at raising awareness of human rights, and have put in place systems such as collaboration with legal firms to respond to complaints and carry out improvements.

In 2019, discrimination based on sexual orientation or gender identity was explicitly prohibited in the TOK Group Policy on Utilizing Human Resources. Going forward, we will bolster CSR activities targeting the SDGs and compliance with the RBA Code of Conduct, and look to broaden our initiatives on human rights.

### Prevention of Harassment

TOK has codified “Detailed rules concerning harassment” and set up contact points and clarified procedures for handling harassment incidents. To prevent or correct harassment, we also strive to raise awareness among all employees through continuing to provide harassment prevention training. In recent years, the Company has also taken more steps to prevent harassment by making rules for preventing maternity harassment and paternity harassment, as well as by clarifying contact points and procedures for handling harassment incidents.

In 2019, we conducted training for all employees, including temporary employees, and expanded both our internal and external consultation contact points.



## Message from the Chairman

**We will continuously refine our sustainable value creation capabilities by executing governance reforms and strengthening personnel measures.**

**Ikuo Akutsu**

*Representative Director, Chairman*

### **Continuing Governance Reforms with an Eye on Risks and Opportunities**

In order for the Group to continue creating value in cutting-edge fields of the semiconductor industry, etc., it is vital that we work closely with customers globally to capture business opportunities while continuing long-run R&D; and at the same time, we must also take risks such as up-front investments and respond to environmental risks inherent to the chemical industry. To this end, we will maximize the Group's growth opportunities through initiatives to address "Development and provision of high value-added products that will contribute to innovation," which is one of our material issues. Simultaneously, we will reduce both emerging and potential risks, and mitigate factors that obstruct future growth, by continuing to work through a PDCA cycle from both short-term and medium- to long-term perspectives in "Environmental protection," "Chemical substance management," and "Occupational health and safety/Security and disaster prevention."

Corporate governance is at the heart of these initiatives, which help to reduce capital cost and increase corporate value. We have been making proactive reforms of corporate governance, including the establishment of the Nomination and Compensation Advisory Committee in 2018, followed by the publication of the TOK Corporate Governance Guidelines in 2019.

As a result, I have been working in my capacity as former president to increase the effectiveness and objectivity in the Board of Directors by monitoring from a position separated from business execution while retaining a deep knowledge of our business characteristics and internal situation. At the same time, in feedback from the questionnaire for evaluating the effectiveness of the Board of Directors, we received comments such as "I would like to increase discussion based on a long-term perspective" and "It would be better to strengthen risk analysis of business activities and investments." I will therefore respond to each of these requests individually while striving to enhance governance even further. Furthermore, in March of 2020, we added a new outside director who also has experience serving as the president of a listed company, bringing the ratio of outside directors to one in three. We are now about four months into our new structure, and we are seeing more "frank and open-minded" discussion rooted in our management principles, incorporating more diverse perspectives and becoming more vigorous. This shows that our governance reforms are making steady progress. We will continue to execute governance reforms with a view to increasing the ratio of outside directors and their diversity even further.





### **Enhancing Personnel Measures to Refine Our Sustainable Value Creation Capabilities**

In our enhancement of personnel measures, which is one of our material issues under the concept of pursuing happiness, the Nomination and Compensation Advisory Committee has played a major role in radically revising the remuneration system for directors. The committee has also functioned most effectively to renew the management team, which notably includes the establishment of the Executive Fellow system.

Meanwhile, the responses to the employee engagement survey conducted in the fiscal year ended December 2019 reaffirmed that the definition of “happiness” differs depending on the individual employee. Going forward, we will treat “being useful to customers and society” as central to employee happiness, while building systems that can accept diverse values, such as “growth through self-improvement” and “enhancing private life.” Recent changes in behavior and values in the acceleration of telework prompted by the COVID-19 pandemic will also be a consideration in shaping our work style reforms going forward, and we are ready to flexibly change and adjust the details of our new personnel system, which is scheduled to start from the fiscal year ending December 31, 2021.

### **Refining Our Risk Response Capabilities**

In monitoring the second year of the TOK Medium-Term Plan 2021, we will check our progress on quantitative indicators allowing for persistent risks in the recent COVID-19 pandemic, the U.S.-China trade friction, and the tightening of controls over exports to South Korea that was invoked in 2019. At the same time, we will focus on monitoring qualitative factors, such as the smooth roll-out of the new remuneration system for directors, the preparation for introduction of the new personnel system, and strengthening of our risk response capabilities.

In regard to our risk response capability, in particular, in addition to conducting the risk assessments that we have been carrying out for some time, our front lines around the world came together to discuss measures for new risks such as the tightened control over exports to South Korea and the COVID-19 pandemic and took swift action. This experience will contribute enormously to our response to new risks in the future. In regard to the ongoing COVID-19 pandemic, we will continue to keep our employees safe from infection and utilize the experience gained by all our executives and employees around the world who have been through the pandemic in our initiatives to realize the long-term vision for 2030.

We kindly request the ongoing support and understanding of all our stakeholders.



# Messages from Independent Officers

**We will deepen strategic discussion and continuously evolve our governance.**

## Hiroshi Kurimoto

*Outside Director,  
Chairman of the Nomination and Compensation Advisory Committee*



### **Governance Reforms— Results So Far and Issues to Be Addressed**

I think the new governance system that started in January 2019 was a great step forward for TOK. Chairman Akutsu was separated from the daily execution of management, which enabled him to closely observe the current executive division and provide appropriate advice. As a Chairman of the Board of Directors, who is not an executive officer, he is now able to run meetings from a broad, objective perspective, which shows that the Company is making progress in its intended direction on governance.

In further strengthening the governance system, I think we need to have a discussion about directors who are also executive officers. I do not think it is necessary to stop the practice of directors serving concurrently as executive officers, but I think we need to consider a structure where directors who are not in concurrent executive roles, namely, the total number of the Chairman and the outside directors, exceeds that of directors with concurrent executive roles. I think the recent addition of another outside director is a step forward on this issue.

### **Results and Issues to Be Addressed as Chairman of the Nomination and Compensation Advisory Committee**

I feel an even greater responsibility than before having been appointed as the first Chairman of the Nomination and Compensation Advisory Committee, which was established in December 2018. In particular, when we nominated our current President Taneichi, although I was confident in his suitability for the role, I did feel a lot of pressure as the decision would influence the future performance of TOK.

The next most time-consuming issue was reforming the remuneration system for directors. As Chairman of the Nomination and Compensation Advisory Committee, I first made it clear to President Taneichi that the fixed remuneration component of director's remuneration was relatively large, and the performance-linked component was underemphasized.

I recognized that this point needed to be remedied, and I obtained the agreement of the other directors, including President Taneichi. I would like to make it known again that TOK has this kind of forward-looking management team. After that, we spent some time discussing the matter over and over again, and I think that we have produced an extremely good system as a result. However, we are not finished with the remuneration system. We will continue to make improvements based on the rapid changes in the business environment going forward.

### **Toward Further Evolution of Initiatives for ESG and SDGs**

Regarding governance and the Board of Directors, in addition to the issue of directors who are also executive officers mentioned above, I think that even more strategic matters should be discussed. In 2019, all officers, including executive officers, conducted strategic discussions at a camp. I think we should increase these kinds of opportunities going forward to firmly embed a more strategic approach to understanding day-to-day matters among those who are proposing topics for discussion. I would like to see strategic matters being proposed for discussion by the younger officers, who will be running the Company 10 years from now.

Regarding initiatives on environmental and social matters and the SDGs, I feel that most Japanese companies naturally incorporated these aspects in their philosophies. The fact that they now need to be said out loud is an unfortunate reflection that there are still companies that do not have a well-developed sense of social responsibility. If TOK can continue to walk the path of contributing to society, which it has aspired to do so far, I believe it will be able to carry out management based on ESG and the SDGs naturally. In the post-COVID-19 society, ESG and the SDGs are expected to become even more important. I would like us to continuously discuss and revise our operations in this regard.

## I will make proposals toward evolving risk management and diversity and inclusion.

### Noriko Sekiguchi

*Outside Director,  
Member of the Nomination and Compensation Advisory Committee*



#### **The Nomination and Compensation Advisory Committee's Activities to Date**

From my perspective as an independent outside director, I have taken part in the activities of the Nomination and Compensation Advisory Committee, which was established in 2018. I keep in mind to be careful to discuss and decide on matters with a constant awareness of an external perspective, accountability, transparency, and fairness.

The new remuneration system for directors that started in March 2020 strongly reflects an awareness of the Company's sustainable growth and medium- to long-term increase in corporate value, and has therefore increased the ratio of performance-linked remuneration to 45%. In addition, the system has been designed to realize shared value with shareholders by introducing bonuses linked to the achievement rate of targets and stock-based remuneration. I think it is an excellent system from a standpoint of strengthening governance. In the discussion process, we exchanged opinions while constantly considering how the new system would relate to the management principles and management policy, whether it could be fairly, objectively, and rationally explained to shareholders and investors, and whether the incentives would truly lift motivation. At the same time, we also discussed the introduction of the Executive Fellow system, which I believe will contribute to strengthening and developing the Company going forward, as well as providing a strong incentive for employees.

I was very pleased with the increase in the number of independent outside directors in March 2020, since I had been wanting to see the ratio of outside directors increased. At the same time, I feel tremendously inspired by Director Ichiyanagi, who has experience as a business executive. With this increase in numbers, outside directors now make up a majority on the Nomination and Compensation Advisory Committee, which is now ready to engage in deeper discussion about succession planning.

#### **Toward Strengthening Global Risk Management**

One of my areas of expertise is internal control, and I will continue to make proposals for maintaining and improving its

effectiveness. The Company's risk management is built around the Group Management System (GMS), whose activities I have been monitoring these past five years. The repeated progress through a PDCA cycle up to now appears to have consolidated the foundations of the fields to be directly managed by the parent company. With efforts to expand the application of internal controls in overseas subsidiaries, the status of their systems seems to have been improving year by year. However, given that the overseas sales ratio is more than 75%, I think that internal controls at overseas companies should be at the same level as the parent company. Unpredictable risks such as COVID-19 do occur, and considering the possibility that we may be exposed to even more risks in the future, I would like the entire Group to work closely together, making cross-organizational efforts to increase the level of Group management and enhance operational efficiency.

#### **Toward Further Progress on Diversity and Inclusion**

In March of 2020, I was delighted that the Company appointed a female General Manager of the Human Resources Division as its first female senior manager. I have met her at a meeting for women in management positions, and I had the impression that the right person was appointed, regardless of her gender. At this meeting, I was deeply impressed by a number of people opening up and saying that they had not been aware of a gender gap in the time they had been working. I felt this was a distinctive characteristic of TOK, where the majority of positions are in scientific research, with people evaluated on their specialist knowledge and research results, irrespective of their gender.

Moreover, at recent internal technology reporting meetings, there were many presentations made by non-Japanese employees. At the same time, the number of people being sent on assignment to the headquarters from overseas subsidiaries is also increasing.

Going forward, I would like the Company to make further progress on diversity and inclusion, carefully listening to the opinions of individual employees and continuing to give them full consideration to foster a favorable environment.



# Messages from Independent Officers

**I will engage in dialogue with the manufacturing front lines based on my credo, "In the technology breathes its creator."**

## Kazuo Ichiyanagi

*Outside Director,  
Member of the Nomination and Compensation Advisory Committee*



My name is Kazuo Ichiyanagi, and I was appointed an outside director in March 2020. Having served as the representative director and president of an electronic components manufacturer for nine years, I am now involved in management as a director and senior advisor for that company, and as the representative director and chairman of its group company. I hope to contribute to TOK's sustainable value creation by drawing on this experience.

### In the Technology Breathes Its Creator

I studied engineering at university and spent over 30 years involved in development at an electronic components manufacturer. During this time, my underlying credo was, "In the technology breathes its creator." The former president of my university, Yasujiro Niwa\*, whose motto this was, explained that it means that "a good engineer must be an outstanding human being," that "one must develop as a person before one can become an engineer," and that "engineers need to constantly cultivate their character." I have returned to these words constantly, particularly since my appointment as president in 2010, during which time I focused on making the company profitable again, restructuring its overseas sites, and developing new businesses, etc. Drawing on this credo and my experience, I aim to contribute to TOK's sustainable growth.

\* Yasujiro Niwa (1893–1975) was a Japanese engineer, as such counted among Japan's top ten inventors. He invented the first facsimile machine to be produced in Japan. He was the first president of Tokyo Denki University.

### Key Points as an Outside Director

TOK is a technology-driven company, as is the company I served. Based on this similarity, I intend to focus on several key points as an outside director.

The first point is that I would like both companies to aim together to realize a 100-year company. TOK will mark its 100th anniversary in 2040, and the company I served will also have a centenary in 2044. In my previous role, I was appointed president during the second consecutive year of recording losses. I guided the company's revival to become profitable again, and when its overseas site was damaged by flooding, I took command of its business continuity plan (BCP). I have first-hand experience of the hard work and weight of responsibility

involved in ensuring the survival of a company. My experience is completely different from TOK's current situation; however, I would like to work with TOK toward realizing a 100-year company while reflecting on the significance for a company of building up a long history.

The second point is a solid financial structure. TOK is evolving its financial capital strategy and dividend policy on the basis of balance sheet management, and I understand that the major precondition for this is having a solid financial position. In my previous position, once I had restored profitability, I set about increasing the equity ratio as high as possible, and strove to build a financial position that would enable the company to invest in R&D without limiting its employees. The soundness of the Company's financial position is expected to be tested both in the current term during the COVID-19 pandemic, and in the post-COVID-19 world to come later. I will offer advice on how a technology-driven company should be in this situation.

The third point is new business development. TOK is focusing on new business development as part of its efforts to reform its business portfolio toward realizing a 100-year company. In my previous position, I also focused on business portfolio reforms centered on expanding new business fields, such as sensors. Through that experience I learned a market-in approach, which I expect to use in providing advice on new business development.

### Starting with Dialogue with the Front Lines of Manufacturing

This year, the first year of my appointment, I will begin by visiting the front lines of TOK's manufacturing and listening in person to the actual opinions of the employees. Right now, in my effort to rebuild the company where I serve as representative director and chairman, I am making continued efforts to have contact with employees and hear what they really want to say. I am keenly aware that communication based on true opinion is of paramount importance to the sustainable growth of a company. I hear that diverse true opinions were expressed in the responses to the employee engagement survey that TOK conducted last year. I will start by visiting the front lines and talking with all the employees about what they really think.



## Support Long-Run Value Creation by Minimizing Unexpected Risks

The COVID-19 pandemic has exposed the whole world to risks of loss of human life and the death of economies on an unprecedented scale. During a pandemic, the basic response of companies is to reduce their businesses and suspend operations to prevent infection and secure key personnel, while also preparing to continue and restart key operations for maintaining social functions and their supporting operations, as well as ensuring the survival of the organization. The post-COVID-19 world is expected to change significantly, and if we also expect major earthquakes, typhoons, and floods, etc., it is essential to enhance global risk management with a view to diversifying the risk. Therefore, the key for the Company is to re-examine and visualize its BCPs centered on its five key areas: Japan, the U.S., China, South Korea, and Taiwan, and to firmly establish risk management through regular PDCA cycles together with customers and suppliers. The Company faces a variety of risks such as high-level information risk due to its involvement in cutting-edge fields, the deterioration of the U.S.-China relationship, and an unstable situation in East Asia. I will actively advise the Company to reduce the unexpected element of these risks by encouraging people to take ownership of them rather than ignoring them as somebody else's concern, in order to support long-run value creation.



**Kazumasa Fukada**  
*Outside Auditor*



**Koichiro Takahashi**  
*Outside Auditor*

## Aim to Enhance Personnel Measures While Making Use of Technology

At one time, it was considered good for human resource strategy to be independent of management. However, in the so-called VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) era of today, human resource strategy needs to be integrated into the management strategy. One of the Company's company-wide strategies in the TOK Medium-Term Plan 2021 is to "strengthen human resources who can perform research, make decisions, and take actions on their own initiative" not through classroom instruction but in a practical context. This means that the goals of human resource strategy cannot be achieved without reforming the personnel system to clarify goals and evaluations and deep involvement in organizational management targeting diversity. To achieve a followership-style organization that has greater respect for individuals, it is vital to align vectors and share information. Implementing these measures thoroughly in the organization will naturally require an upgrade of IT infrastructure, such as groupware that will ensure transparency and speed. In addition, promoting human resource strategy based on technology also leads to strengthening governance. I will offer proposals and contributions from these perspectives in my role as an independent officer.

## Aim for Sustainable Growth by Strengthening Frontline Capabilities and Governance

The Company's business already plays an indispensable role in the semiconductor industry that is a foundation block of society. Our business is supported by frontline capabilities that enable us to understand customer needs and provide products with world-leading technological capabilities honed through repeated trial and error. Frontline capabilities will be key to the Company's sustainable growth going forward, and the Company needs to further refine its "highly creative development capability," "uncompromising quality-oriented production capability," and "forward-looking, social and customer needs-oriented sales capability." To achieve this, we need our front lines and employees to practice frank and open-minded, high-level communication.

Furthermore, to fulfill our social responsibility as a company and take control of various risks including unexpected situations such as disasters and the recent COVID-19 pandemic, it is vital that we build an even stronger governance system.

I will perform my duties as an independent officer by conducting auditing operations based on these perspectives.



**Nobuyuki Takeuchi**  
*Outside Auditor*





# Board of Directors/Corporate Auditors and Officers



## Directors

### Ikuo Akutsu

① Representative Director, Chairman

1982 Joined the Company  
2003 General Manager, Manufacturing Technology Div.  
2003 General Manager, Advanced Material Development Div. 2  
2007 Chairman and President of TOK TAIWAN CO., LTD.  
2009 Officer; Dept. Manager, Corporate Planning Dept.  
2010 Director; Executive Officer; Dept. Manager, Corporate Planning Dept.  
2011 Representative Director, President and Chief Executive Officer  
2019 Representative Director, Chairman (to the present)

### Yoichi Shibamura

④ Director, Senior Executive Officer  
Dept. Manager, Accounting and Finance Dept.

1980 Joined The Mitsubishi Bank, Limited (present MUFG Bank, Ltd.)  
2006 General Manager, Corporate Human Resources Department of The Bank of Tokyo-Mitsubishi UFJ, Ltd. (present MUFG Bank, Ltd.)  
2007 General Manager, Kyobashi Branch of The Bank of Tokyo-Mitsubishi UFJ, Ltd.  
2009 General Manager, Finance Division of the Company  
2010 Officer; Deputy Department Manager, Administration Department and General Manager, Finance Division  
2012 Officer; Department Manager, Accounting Department  
2013 Executive Officer; Department Manager, Accounting Department  
2017 Senior Executive Officer; Department Manager, Accounting Department  
2020 Director; Senior Executive Officer; Department Manager, Accounting and Finance Department (to the present)

### Noriaki Taneichi

② Representative Director, President and Chief Executive Officer  
Nomination and Compensation Advisory Committee Member

1986 Joined the Company  
2009 Dept. Manager, Marketing Development Business Development Div.  
2011 Dept. Manager, New Business Development Dept.  
2015 Officer; Deputy Dept. Manager, New Business Development Dept.  
2017 Director; Officer; Dept. Manager, New Business Development Dept.  
2019 Representative Director, President and Chief Executive Officer (to the present)

### Kunio Mizuki

⑤ Director, Executive Officer  
Dept. Manager, General Affairs Dept.  
Nomination and Compensation Advisory Committee Member

1985 Joined the Company  
2005 General Manager, General Affairs Div.  
2009 Officer; Deputy Dept. Manager, Administration Dept. and General Manager, General Affairs Div.  
2012 Officer; Dept. Manager, General Affairs Dept.  
2013 Director; Officer; Dept. Manager, General Affairs Dept.  
2017 Director; Executive Officer; Dept. Manager, General Affairs Dept. (to the present)

### Harutoshi Sato

③ Director, Senior Executive Officer  
Dept. Manager, Research and Development Dept.

1984 Joined the Company  
2004 General Manager, Quality Assurance Div.  
2007 General Manager, Advanced Material Development Div. 2  
2008 General Manager, Advanced Material Development Div. 1  
2009 Officer; Deputy Dept. Manager, Research and Development Dept. and General Manager, Advanced Material Development Div. 3  
2011 Officer; Deputy Dept. Manager, Research and Development Dept. and General Manager, Advanced Material Development Div. 1  
2012 Director; Officer; Dept. Manager, Research and Development Dept.  
2017 Director; Executive Officer; Dept. Manager, Research and Development Dept.  
2019 Director; Senior Executive Officer; Dept. Manager, Research and Development Dept. (to the present)

### Yuichi Murakami

⑥ Director, Officer  
Dept. Manager, Manufacturing Dept.  
President, TOK Advanced Materials Co., Ltd.

1985 Joined the Company  
2009 General Manager, Accounting Division  
2014 Deputy Department Manager, Manufacturing Department  
2015 Officer; Deputy Department Manager, Manufacturing Department  
2020 Director; Officer; Dept. Manager, Manufacturing Dept. (to the present)

**Hiroshi Kurimoto**

7 Outside Director

Nomination and Compensation Advisory Committee Chairman

1970 Joined OILES CORPORATION ("OILES")  
 1999 Director of OILES  
 2003 Director, Managing Operating Officer of OILES  
 2006 Representative Director,  
 President and Chief Operating Officer of OILES  
 2011 Representative Director and Chairman of OILES  
 2014 Director (Outside Director) of the Company (to the present)  
 Director and Senior Advisor of OILES  
 2015 Senior Advisor of OILES  
 2016 Executive Advisor of OILES

**Noriko Sekiguchi**

8 Outside Director

(Representative of Sekiguchi CPA Office)

Nomination and Compensation Advisory Committee Member

1986 Joined Manufacturers Hanover Bank  
 (present JPMorgan Chase Bank, N.A.)  
 1991 Joined Asahi-Shinwa Kaieisha audit corporation  
 (present KPMG AZSA LLC)  
 1994 Registered as certified public accountant  
 1998 Joined Japan Broadcasting Corporation  
 2001 Joined Triumph International (Japan) Ltd.  
 2002 Reregistered as certified public accountant  
 2004 Joined Ernst & Young ShinNihon  
 (present Ernst & Young ShinNihon LLC)  
 2010 Representative of Sekiguchi CPA Office (to the present)  
 2011 Contract Monitoring Committee Member of Japan International  
 Cooperation Agency ("JICA")  
 2011 External Assessment Committee Member of JICA (to the present)  
 2012 Registered as certified tax accountant  
 2015 Director (Outside Director) of the Company (to the present)  
 2019 Executive Officer of Chifure Holdings (to the present)

**Kazuo Ichiyanagi**

9 Outside Director

(Director and Advisor of Teikoku Tsushin Kogyo Co., Ltd.)

Nomination and Compensation Advisory Committee Member

1977 Joined Teikoku Tsushin Kogyo Co., Ltd.  
 2005 Executive Officer in charge of Development Department;  
 General Manager, Development Department of  
 Teikoku Tsushin Kogyo Co., Ltd.  
 2008 Executive Officer supervising Development Technology and in charge  
 of Development Department of Teikoku Tsushin Kogyo Co., Ltd.  
 2008 Executive Officer supervising Development Technology of  
 Teikoku Tsushin Kogyo Co., Ltd.  
 2009 Director; Executive Officer supervising Development Technology of  
 Teikoku Tsushin Kogyo Co., Ltd.  
 2009 Director; Executive Officer supervising Development Division of  
 Teikoku Tsushin Kogyo Co., Ltd.  
 2010 President of Teikoku Tsushin Kogyo Co., Ltd.  
 2019 Director and Advisor of Teikoku Tsushin Kogyo Co., Ltd.  
 (to the present)  
 2020 Director (Outside Director) of the Company (to the present)

 **Auditors****Nobuo Tokutake**

10 Standing Statutory Auditor

1984 Joined the Company  
 2003 Chairman and President of TOK TAIWAN CO., LTD.  
 2007 General Manager, Quality Assurance Div.  
 2009 Senior General Manager, Production Control Div. and General Manager, Quality Assurance Div.  
 2013 Officer; Deputy Dept. Manager, Manufacturing Dept.  
 2015 Director; Officer; Dept. Manager, Manufacturing Dept.  
 2020 Standing Statutory Auditor (to the present)

**Kazumasa Fukada**

11 Outside Auditor

1977 Joined Tokio Marine and Fire Insurance Company, Limited ("TMFI")  
 (present Tokio Marine & Nichido Fire Insurance Co., Ltd.)  
 2002 Branch Manager of Nagano Branch, Chubu and Hokuriku Headquarters of TMFI  
 2005 General Manager of Tokyo Automotive Sales Div. 4 of Tokio Marine & Nichido Fire Insurance Co., Ltd. ("TMNF")  
 2007 Associate Director; General Manager of Tokyo Automotive Sales Div. 4 of TMNF  
 2008 Executive Officer; General Manager of Head Office Sales Dept. 2 of TMNF  
 2010 Managing Director of TMNF  
 2011 Managing Director; General Manager of Tokyo Automotive Sales Div. 1 of TMNF  
 2011 Managing Director of TMNF  
 2013 Managing Director of the General Insurance Association of Japan  
 2017 Auditor of the Company (Outside Auditor) (to the present)  
 2017 Advisor of Tokio Marine & Nichido Fire Insurance Co., Ltd.

**Koichiro Takahashi**

12 Outside Auditor

1978 Joined Meiji Life Insurance Company ("MLI") (present Meiji Yasuda Life Insurance Company)  
 2000 General Manager, Marketing Development Dept. of MLI  
 2001 General Manager, Marketing Planning & Research Dept. of MLI  
 2003 General Manager of Niigata Branch of MLI  
 2005 Executive Officer; General Manager of Human Resources Dept. of Meiji Yasuda Life Insurance Company ("MYLI")  
 2006 Corporate Executive Officer; General Manager of Human Resources Dept. of MYLI  
 2008 Managing Executive Officer; Chief General Manager of Nagoya Headquarters of MYLI  
 2009 Managing Executive Officer; Chief General Manager of Retail Sales Dept. of MYLI  
 2012 Senior Managing Executive Officer; Chief General Manager of Retail Sales Dept. of MYLI  
 2014 President and CEO of MYJ Co., Ltd.  
 2016 Chairman of the Board of Meiji Yasuda System Technology Company Limited  
 2017 Auditor of the Company (Outside Auditor) (to the present)  
 2018 Auditor of Meiji Yasuda Institute of Life and Wellness, Inc. (present Meiji Yasuda Research Institute, Inc.)  
 (to the present)

**Nobuyuki Takeuchi**

13 Outside Auditor

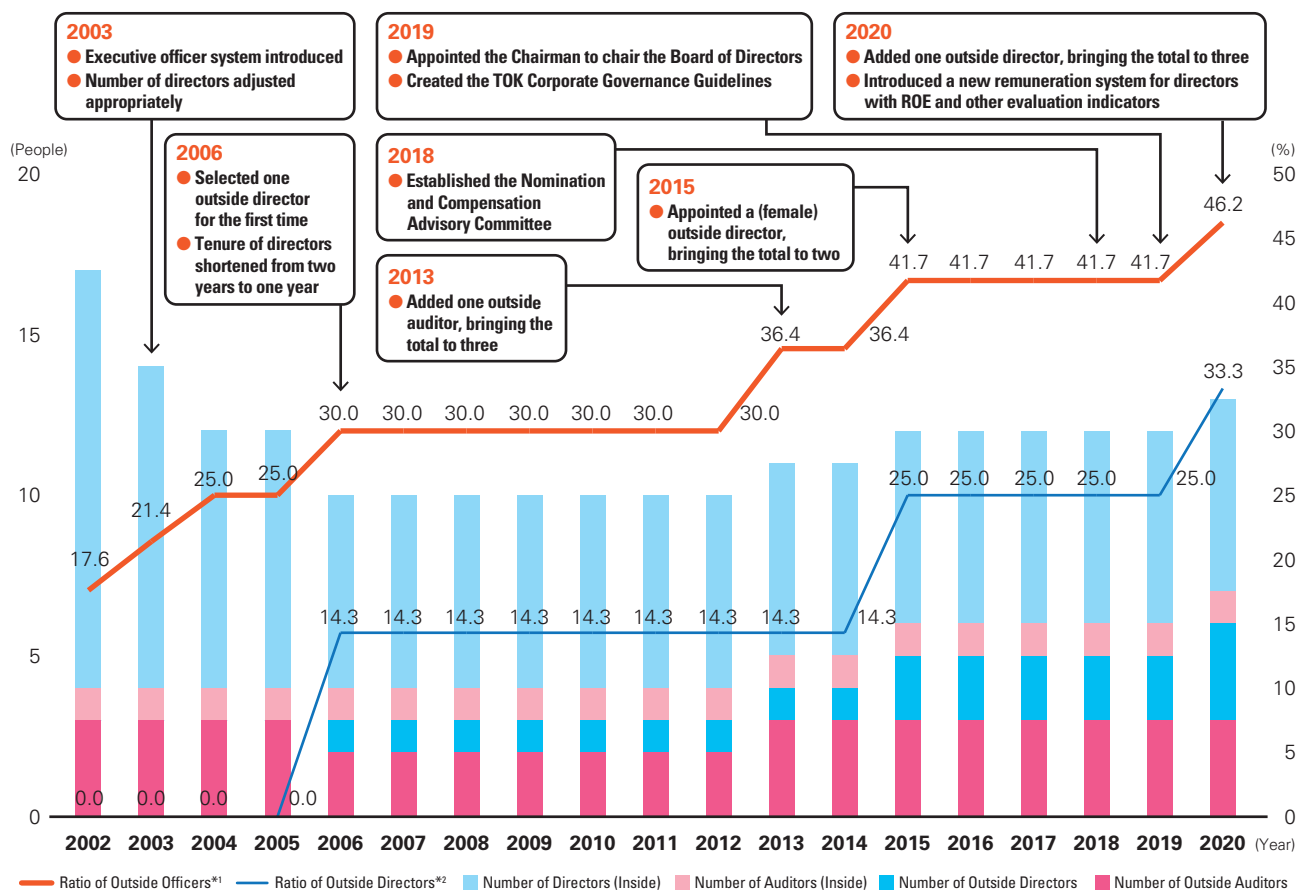
1981 Joined Mitsubishi Trust and Banking Corporation ("MTB," present Mitsubishi UFJ Trust and Banking Corporation)  
 2005 Manager, Real Estate Planning Division of MTB  
 2005 Manager, Sales Division 9 of Mitsubishi UFJ Trust and Banking Corporation ("MUTB")  
 2007 Manager, Sales Division 3 of MUTB  
 2009 Officer; Manager of Kyoto Branch and Central Kyoto Branch of MUTB  
 2011 Managing Executive Officer of MUTB  
 2013 Senior Managing Director of MUTB  
 2015 President and CEO of Mitsubishi UFJ Real Estate Services Co., Ltd.  
 2016 Corporate Auditor (Outside Corporate Auditor) of Maruzen Showa Unyu Co., Ltd.  
 2019 Auditor of the Company (Outside Auditor) (to the present)  
 2019 Representative Director and Chairman of Mitsubishi UFJ Real Estate Services Co., Ltd.  
 2019 Advisor of Mitsubishi UFJ Real Estate Services Co., Ltd. (to the present)

 **Officers****Koichi Irino**Senior Executive Officer  
Chairman and President of  
TOK TAIWAN CO., LTD.**Kosuke Doi**Executive Officer  
Dept. Manager,  
Marketing Dept.**Tsukasa Honkawa**Officer  
Dept. Manager,  
Process Equipment Manufacturing Dept.**Naoki Watanabe**Officer  
Deputy Dept. Manager,  
Marketing Dept.**Gitae Kim**Officer  
Vice President,  
TOK Advanced Materials Co., Ltd.**Yusuke Narumi**Officer  
Dept. Manager,  
New Business Development Dept.**Hirotaaka Yamamoto**Officer  
Dept. Manager,  
Corporate Planning Dept.

# Corporate Governance

We will further strengthen corporate governance, looking to sustainably enhance our corporate value.

## TOK's Path to Stronger Corporate Governance



\*1 Ratio of Outside Officers = (Number of Outside Directors + Number of Outside Auditors) / (Number of Directors + Number of Auditors)  
 \*2 Ratio of Outside Directors = Number of Outside Directors / Number of Directors

### Basic Concept

We have had a management vision of aiming to be a globally trusted corporate group by inspiring customers with high value-added products that have satisfying features, low cost and superior quality, under our management principles since our establishment ("Create a frank and open-minded business culture," "Continue efforts to enhance our technology," "Raise the quality levels of our products," and "Contribute to society"). We believe that realizing this will lead to benefits shared by shareholders and all other stakeholders and improve corporate value.

We strive to realize the management vision, placing enhancement of corporate governance as one of the most important issues. That is to ensure transparency and solidness of the management and efficiency by expediting the decision-making process.

One of TOK's material issues and company-wide strategies in the "TOK Medium-Term Plan 2021" is improving corporate governance. The Company created and published the TOK Corporate Governance Guidelines in April 2019 as a compilation of its basic policies and approaches to continuously improve corporate governance.

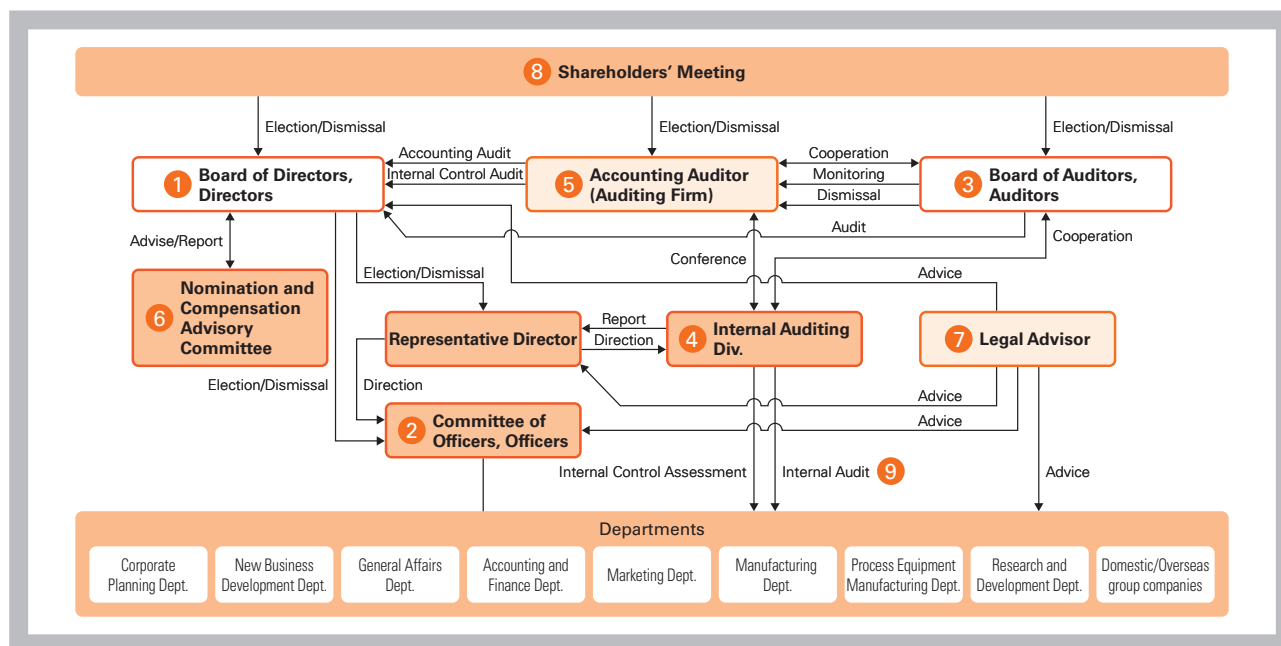
→ "TOK Corporate Governance Guidelines"  
[https://www.tok.co.jp/content/download/4719/77678/file/gov\\_guidline0403.pdf](https://www.tok.co.jp/content/download/4719/77678/file/gov_guidline0403.pdf) (in Japanese)



## Type of System

As a company with corporate auditors, TOK employs the corporate auditor system. We are taking actions to strengthen audits performed by the corporate auditors with the greater authority stipulated by the Companies Act of Japan. In addition, TOK is taking advantage of the benefits of reforms to its Board of Directors, establishment of the executive officer system, and the election of an independent outside director to fortify the management decision-making and supervisory function and the business execution function while clarifying responsibility for performing these functions. We are convinced that these measures are the most effective means to strengthen management and upgrade our corporate governance.

Diagram of Corporate Governance System (As of March 27, 2020)



### Directors and Board of Directors Diagram 1

To quickly respond to changes in the operating environment and clarify accountability for the directors concerning operating results in each fiscal year, we have shortened the tenure of the directors from two years to one year since June 2006. With the aim of enhancing the transparency of the Board of Directors and strengthening the supervisory function, the Company selected one independent outside director in June 2006 and another in June 2015 and another in March 2020. TOK currently has three independent outside directors.

In principle, the director system has simplified two layers: representative director and directors. This creates a framework that allows the Board of Directors to fulfill its primary responsibilities by effectively reaching management decisions and supervising the Company's management.

As of March 27, 2020, the Board of Directors is chaired by Director and Chairman Ikuo Akutsu, and consists of nine directors (three of whom are outside directors). In principle, the Board of Directors meets once a month on a regular basis and holds extraordinary meetings as required. The meetings are held to decide important matters of business execution, with the goal of supervising the business duties executed by the representative directors and directors.

The number of directors on the Board of Directors is set to not exceed 10 directors in the Company's Articles of Incorporation. The articles also stipulate that resolutions for the election of directors must be approved by a non-cumulative majority vote at a General Meeting of Shareholders with a third or more of the shareholders in attendance.

### Assessment of the Effectiveness of the Board of Directors

Our directors and auditors conduct an assessment and discuss at the Board of Directors using an anonymous self-evaluation questionnaire of the composition of the Board of Directors; the effectiveness of the Board of Directors; information related to the Board of Directors; the decision-making process; and external communications. This offers an analysis and assessment of the effectiveness of the Board of Directors as a whole.

We also revised the content of the questionnaire that was used for the fifth assessment in the fiscal year ended December 31, 2019. We set questions regarding issues identified in the previous fiscal year and the Nomination and Compensation Advisory Committee, and added a question for directors and auditors to write about company-wide management issues. It generated opinions along the lines of the following:

- having an impartial composition offering inside directors with thorough understanding of each field, and a good balance between experience and actual performance
- maintaining diversity by incorporating outside directors with differing backgrounds, knowledge and expertise
- the size of the Board of Directors, frequency of meetings, matters discussed, and time spent on discussions are all appropriate
- in an atmosphere of frank and open discussions, rapid decision-making has benefited from outside directors and outside auditors with high levels of transparency
- generally good self-improvement and in-house check-and-balance functions

However, the following criticisms were also made:

- there should be deeper discussion about medium- to long-term management strategies, utilization of human resources, and business strategies, etc.
- the reporting system should be improved in terms of risk analysis and important matters

Considering this feedback, the Company will continue to focus on further improving the effectiveness of the Board of Directors.

### Review of Decision-Making Authority of the Board of Directors

Within the context of strengthening the functions of the Board of Directors and changes in the business environment, the decision-making authority of the Board of Directors was reviewed in April 2019, such as delegating decision-making authority to the Committee of Officers. We also revised the Board of Directors regulations, the Committee of Officers regulations, the Specific Authority by Position, and the Duty and Authority regulations. We are currently in discussions regarding changing the decision-making authorities at subsidiaries inside and outside Japan with the aim of completing these changes during the fiscal year ending December 31, 2020.

### Establishment of Independent Officer Meetings

TOK has established meetings for its independent officers, all outside directors and all outside auditors. They are held with the same frequency as Board of Directors meetings.

The standing statutory auditor also attends the meetings.

The meetings aim to strengthen the effectiveness and add vigor to discussions at the Board of Directors through:

- additional explanations on the agenda of the Committee of Officers that was not put on the agenda of Board of Directors meetings
- exchange of opinions on themes to be taken up at the next Board of Directors meeting
- commentary on cutting-edge technology matters

### Officers and Committee of Officers Diagram 2

While taking steps to strengthen the Board of Directors' functions in management decision making and supervision, TOK has the Committee of Officers made up of all officers to reinforce its business execution capabilities. The committee members include the chief executive officer, the chief operating officer, senior executive officers, executive officers and officers, allowing for their business responsibilities, capabilities and other factors.

As of March 27, 2020, the Committee of Officers was chaired by President Taneichi and comprised 12 officers, including five officers also serving as directors. In principle, the Committee of Officers meets once a month on a regular basis and holds extraordinary meetings as required. The meetings are held to share instructions and orders resolved by the Board of Directors and information among the officers, and with the goal of planning management strategies, deliberating and approving certain important decisions that are not subject to a Board of Directors resolution.

### Auditors and Board of Auditors Diagram 3

As of March 27, 2020, we had four auditors, including three outside auditors. In principle, the Board of Auditors meets once a month on a regular basis and holds extraordinary meetings as required. The meetings are held to receive reports regarding important auditing matters from each auditor, with the goal of deliberating and reaching resolutions on those matters. The auditors attend the Board of Directors, the Committee of Officers, and other important meetings. Their duties are performed in accordance with auditing standards (Corporate Auditor Auditing Regulations), the auditing policy, the division of tasks, and other considerations. In addition, the auditors check the performance of directors by receiving reports from directors and other corporate staff, and requesting an explanation if necessary. For financial audits, the auditors receive reports from the accounting auditor and use other means, including requesting an explanation if necessary, to verify the suitability of financial accounting methods and the results of these audits.

To improve the effectiveness of corporate audits, and to ensure smooth execution of audit duties, one person is also assigned to assist the auditors.

### Internal Auditing Div. Diagram 4

The Internal Auditing Division is under the direct control of the president. In addition to internal audits, this division offers suggestions, proposals, and advice for continuous improvement through evaluations of the effectiveness of internal controls in financial reporting.

### Accounting Auditor Diagram 5

The accounting auditor conducts accounting audits of the Company from an impartial and independent standpoint. There were two certified public accountants who conducted the accounting audit of the Company in the fiscal year ended December 31, 2019: Hiroki Kitagata and Masato Shoji, both of whom are designated limited liability partners and executive members of accounting auditor Deloitte Touche Tohmatsu LLC. Moreover, there were five other certified public accountants, three persons who have passed the certified public accountant examination, and 15 other people who assisted in conducting the Company's accounting audit. The details of the remuneration of the Company's certified public accountants (Deloitte Touche Tohmatsu LLC) for conducting the accounting audit during the fiscal year ended December 31, 2019 are as follows:

- Remuneration in relation to the services set forth in Article 2, Paragraph 1 of the Certified Public Accountants Act (Act No. 103 of 1948): ¥54 million

### Nomination and Compensation Advisory Committee Diagram 6

TOK established the Nomination and Compensation Advisory Committee, chaired by an independent outside director with more than half of its members consisting of independent outside directors, to enhance corporate governance by strengthening the fairness, transparency, and objectivity of procedures related to the nomination, dismissal, and remuneration of directors (see pages 78 and 82).



### Legal Adviser, etc. Diagram 7

The Company has concluded advisory contracts with a number of law firms, and receives appropriate advice from legal advisors in situations requiring legal assessment.

### Efforts to Invigorate the Shareholders' Meeting and Facilitate Smooth Exercise of Voting Rights Diagram 8

To facilitate the exercise of voting rights by shareholders, we hold our General Meeting of Shareholders in March, when most other Japanese companies' shareholder meetings are not hosted, set a period for reviewing the resolutions for approval by the meeting that is longer than the number of days required by law, and publish the Notice of Convocation of the General Meeting of Shareholders on our

website ahead of time, 28 days (four weeks) before the day of the meeting. It is also sent out early (21 days (three weeks) before the day of the meeting). Furthermore, for shareholders unable to attend the General Meeting of Shareholders, we allow the exercise of voting rights in writing or electromagnetic method such as an electromagnetic platform for institutional investors. At the same time, we prepare a Notice of Convocation in English to help overseas institutional investors understand the resolutions. To enable the shareholders in attendance to better understand the proceedings of the General Meeting of Shareholders, we use narrated video footage to report the items up for resolution. In addition, we also upload the Notice of Convocation, Notice of Resolution, and Results of the Exercise of Voting Rights to the General Meeting of Shareholders for disclosure, each of which is in Japanese and English, on the Company website.

## Cooperation between the Auditors, Internal Auditing Division and Accounting Auditor

### Internal Audit and Corporate Audit Diagram 9

#### Cooperation between the auditors and accounting auditor

The auditors receive reports on the result of accounting audits and other work from the accounting auditor (auditing firm) four times a year. They also receive an explanation of the auditing plan from the accounting auditor once a year. In addition, the auditors also accompany the accounting auditor to the factory audits the accounting auditor conducts if necessary, as well as examine the auditing method of the accounting auditor. Apart from this, the auditors also regularly exchange information and opinions with the accounting auditor.

#### Mutual coordination among audits by outside auditors, internal audits, auditors' audits, and accounting audits and their relationship with the internal control department

To enable outside auditors to audit the directors' performance of duties, they attend the Board of Directors meetings. They also receive internal audit reports from the Internal Auditing Division, reports on the results of audits conducted by the standing statutory auditor after attending important meetings and audits performed by viewing and surveying important documents, etc., and audit reports from the accounting auditor. Moreover, the outside auditors exchange information and opinions with the Internal Auditing Division, the standing statutory auditor, and the accounting auditor as needed. In addition, the outside auditors receive reports as appropriate from the Internal Auditing Division regarding its evaluation of the effectiveness of internal controls over financial reporting and from the accounting auditor regarding its opinion on the internal control audit.

## Election of Outside Directors and Outside Auditors

The Company has nine directors, three of whom are outside directors, or one-third of them, as well as four auditors, of whom three are outside auditors. The Company has established the following criteria and policies regarding independence in the election of outside directors and outside auditors.

### Independence Standards for Outside Officers

**Independent outside officers under these criteria are defined as those who fulfill the legal requirements of an outside officer, and to whom any one of the following does not apply.**

- a. A person who executes the business of the Company or its consolidated subsidiaries (the "Group"), or who did so for a period of 10 years before being appointed.
- b. A person/entity for which the Group is a major client (Note 1), or who executes the business of such a person/entity.
- c. A major customer of the Group (Note 2) or a person who executes the business of such customer.
- d. A major lender of the Group (Note 3) or a person who executes the business of such lender.
- e. A person who, apart from receiving officer compensation from the Group, belongs to a consulting, accounting, or legal firm (corporate entity, cooperative, or other such group) receiving large amounts of cash or other assets (Note 4) from the Group.
- f. A person to whom the above b. through e. applied in the previous three years.
- g. A person who in the past three years has received donations from the Group averaging more than ¥3.0 million per year.
- h. Major shareholders of the Group (Note 5) or a person who executes the business of such shareholder.

- i. A person who executes the business of a company with a mutual relationship between outside officers. (Note 6)
- j. A person whose spouse or a relative within the second degree of kinship come under any one of above items a. through i.
- k. A person who has served a total of more than eight years as an outside officer.
- l. Regardless of the above provisions, a person for whom it is deemed likely that conflicts of interest will arise with the Company.

#### Notes:

1. A person/entity for which the Group is a major client, means a supplier that provides the Group with products or services, the amount of which transactions averaged more than ¥10.0 million per year over the past three years and represented more than 2% of the supplier's consolidated annual revenue in the most recent fiscal year.
2. A major customer of the Group means a customer to which the Group provides products and services, the amount of which transactions averaged more than ¥10.0 million per year over the past three years and represented more than 2% of the Group's consolidated annual revenue in the most recent fiscal year.
3. A major lender of the Group means a financial institution which has lent an amount equivalent to more than 2% of the Group's consolidated total assets.
4. A large sum of cash or other assets, means assets that averaged more than ¥10.0 million per year over the past three years, and which in the most recent fiscal year had an economic value in excess of 2% of said consultant or accounting or legal expert's consolidated annual revenue. (In the event the beneficiary of said assets is a corporation, association or other organization, then assets that averaged more than ¥10.0 million per year over the past three years, and which in the most recent fiscal year had an economic value in excess of 2% of said organization's consolidated annual revenue.)
5. Major shareholder, means a shareholder with a ratio of voting rights of more than 10%.
6. A mutual relationship between outside officers means a relationship in which a person who executes the business of the Group is also an outside officer at another company, and in which a person who executes the business of said outside company is also an outside officer of the Company.

## Reasons for the Election of Inside Directors

Name	Reasons for election
<b>Ikuo Akutsu</b> Representative Director Chairman	Akutsu has led the management of the TOK Group ("the Group") for many years as Representative Director and contributed to the Group's development. Thus, since the Company judges that Akutsu can be expected to contribute to enhancing the Group's corporate value by continuing to utilize his rich business experience and knowledge in important decision-making by the Board of Directors and in supervision of duties executed by other Directors, it requests his election as a Director.
<b>Noriaki Taneichi</b> Representative Director President and Chief Executive Officer Nomination and Compensation Advisory Committee Member	Since assuming the position of Representative Director, President and Chief Executive Officer, Taneichi has led the management of the Group as its top executive and contributed to the Group's further development through the measures in the Medium-Term Plan. Thus, Taneichi can be expected to continue contributing to the management of the Company.
<b>Harutoshi Sato</b> Director	Sato has held important positions in the Group, serving in such roles as representative at the U.S. subsidiary, person responsible for quality assurance, and person responsible for product development before assuming the position of Department Manager, Research and Development Dept. Owing to this experience, he is well acquainted with the Company's business characteristics and customers and consequently possesses necessary and sufficient knowledge of such matters as important decision-making by the Board of Directors and supervision of duties executed by other Directors. Thus, Sato can be expected to continue contributing to the management of the Company.
<b>Yoichi Shibamura</b> Director	Shibamura possesses not only rich experience in financial institutions but also knowledge of management, particularly accounting and finance, having served first as General Manager, Finance Division, after joining the Company and then Department Manager, Accounting and Finance Department, and contributed to developing the finance strategy, including capital policy. He also has the necessary and sufficient knowledge of such matters as important decision-making by the Board of Directors and supervision of duties executed by other Directors. Thus, Shibamura can be expected to contribute to the management of the Company.
<b>Kunio Mizuki</b> Director Nomination and Compensation Advisory Committee Member	Mizuki, since assuming the position of Department Manager of the General Affairs Department after serving as General Manager of the General Affairs Division, has been working to strengthen corporate governance, including development of the information management system, the risk management system, and the compliance system as well as improvement of investor relations. Furthermore, through his experience with the business operations in his charge, he possesses necessary and sufficient knowledge of such matters as important decision-making by the Board of Directors and supervision of duties executed by other Directors. Thus, Mizuki can be expected to continue contributing to the management of the Company.
<b>Yuichi Murakami</b> Director	Murakami has held important positions in the Group, serving in such roles as representative at the U.S. subsidiary, Chairman of the Chinese subsidiary, and Deputy Department Manager, Manufacturing Department. Owing to this experience, he is well acquainted with the Company's business characteristics and possesses the necessary and sufficient knowledge of such matters as important decision-making by the Board of Directors and supervision of duties executed by other Directors. Thus, Murakami can be expected to contribute to the management of the Company.

## Reasons for the Election of Outside Directors

Name	Reasons for election
<b>Hiroshi Kurimoto</b> Nomination and Compensation Advisory Committee Chairman	Kurimoto was elected as Outside Director on the expectation that he would continue supervision of the Company's management from an objective and neutral point of view based on his abundant experience and considerable insight as an executive of a listed company, as well as his contribution to enhancement of corporate governance with his advice on the general management of the Company.
<b>Noriko Sekiguchi</b> Nomination and Compensation Advisory Committee Member	Sekiguchi was elected as Outside Director on the expectation that she would continue supervision of the Company's management from an objective and neutral point of view based on her sophisticated expertise in accounting as a certified public accountant, abundant experience in several companies, and thorough understanding of internal control in her capacity as an external committee member for fraudulent accounting conducted in multiple listed companies. Thus, Sekiguchi can be expected to contribute to enhancement of corporate governance with her advice on the general management of the Company.
<b>Kazuo Ichiyanagi</b> Nomination and Compensation Advisory Committee Member	Ichiyanagi possesses rich experience and considerable insight as a manager of a listed company and supervises the Company's management from an objective and neutral perspective. He also contributes to stronger corporate governance by providing advice related to the Company's general management.

## Reasons for the Election of Outside Auditors

Name	Reasons for election and independence
<b>Kazumasa Fukada</b>	Fukada was elected to contribute to auditing TOK's management from an objective and neutral point of view, based on his abundant experience and considerable insight as an executive of financial institutions. Fukada was once a business executive with Tokio Marine & Nichido Fire Insurance Co., Ltd., which owns stock in TOK and conducts insurance transactions with the Company under routine and standard business conditions. However, these capital and business relationships were deemed not to affect Fukada's independence as an outside auditor of TOK.
<b>Koichiro Takahashi</b>	Takahashi was elected to contribute to auditing TOK's management from an objective and neutral point of view, based on his experience as a corporate auditor of another company as well as his abundant experience and considerable insight as an executive of financial institutions. Takahashi was once a business executive with Meiji Yasuda Life Insurance Company, which owns stock in TOK and conducts insurance transactions with the Company under routine and standard business conditions. However, these capital and business relationships were deemed not to affect Takahashi's independence as an outside auditor of TOK.
<b>Nobuyuki Takeuchi</b>	Takeuchi was elected to contribute to auditing TOK's management from an objective and neutral point of view, based on his experience as corporate auditor of another company as well as his abundant experience and considerable insight as an executive of financial institutions. Takeuchi was previously Representative Director and Chairman of Mitsubishi UFJ Real Estate Services Co., Ltd. and continues to serve there as an advisor. There is a business relationship between Mitsubishi UFJ Real Estate Services Co., Ltd. and the Company, but it is general in nature. Moreover, Takeuchi was once a business executive with Mitsubishi UFJ Trust and Banking Corporation, which owns stock in TOK and conducts cash deposit, stock administration agent and other transactions with the Company under routine and standard business conditions. However, these capital and business relationships were deemed not to affect Takeuchi's independence as an outside auditor of TOK.

## The Main Activities of Outside Directors and Outside Auditors

Name	Attendance record and activities at Board of Directors and Auditors meetings
<b>Hiroshi Kurimoto</b> Outside Director	Kurimoto attended all 14 of the 14 Board of Directors meetings (attendance rate 100%) held during the fiscal year ended December 2019. He voiced timely opinions as required when discussing resolutions, based on his broad experience and abundant expertise as a business executive. Kurimoto attended all 8 of the 8 Nomination and Compensation Advisory Committee meetings (attendance rate 100%), mainly discussing the revision of the remuneration system for directors, changes in managing executive appointments, and selection of executive fellows, new director candidates and new independent director candidates, etc. He discharged his responsibilities as chairman of the Nomination and Compensation Advisory Committee appropriately, running the meetings and making reports to the Board of Directors.
<b>Noriko Sekiguchi</b> Outside Director	Sekiguchi attended all 14 of the 14 Board of Directors meetings (attendance rate 100%) held during the fiscal year ended December 2019. She voiced timely opinions as required when discussing resolutions, based on her professional expertise in accounting and abundant hands-on business experience with several companies as a certified public accountant. Sekiguchi attended all 8 of the 8 Nomination and Compensation Advisory Committee meetings (attendance rate 100%), mainly discussing the revision of the remuneration system for directors, changes in managing executive appointments, and selection of executive fellows, new director candidates and new independent director candidates, etc. She discharged her responsibilities as a member of the Nomination and Compensation Advisory Committee appropriately, making appropriate recommendations, etc.
<b>Kazumasa Fukada</b> Outside Auditor	Fukada attended all 14 of the 14 Board of Directors meetings (attendance rate 100%) and all 14 of the 14 Board of Auditors meetings (attendance rate 100%) held during the fiscal year ended December 2019. He voiced and raised timely opinions and questions as required at the meetings, based on his broad experience including at a financial institution, and his abundant expertise as a business executive.
<b>Koichiro Takahashi</b> Outside Auditor	Takahashi attended all 14 of the 14 Board of Directors meetings (attendance rate 100%) and all 14 of the 14 Board of Auditors meetings (attendance rate 100%) held during the fiscal year ended December 2019. He voiced and raised timely opinions and questions as required at the meetings, based on his experience as a corporate auditor of another company as well as abundant experience and considerable insight as a business executive including at financial institutions.
<b>Nobuyuki Takeuchi</b> Outside Auditor	Since he was elected on March 28, 2019, Takeuchi attended all 11 of the remaining 11 Board of Directors meetings (attendance rate 100%) and all 11 of the 11 remaining Board of Auditors meetings (attendance rate 100%) held during the fiscal year ended December 2019. He voiced and raised timely opinions and questions as required at the meetings, based on his experience as a corporate auditor of another company as well as abundant experience and considerable insight as a business executive including at financial institutions.

## The Major Decisions and Agenda of Board of Director Meetings in the Fiscal Year Ended December 2019

- ◆ Devised company-wide strategies and key measures for the “TOK Medium-Term Plan 2021”
- ◆ Updated the shareholder return/dividend policy
- ◆ Issued the TOK Corporate Governance Guidelines
- ◆ Changed decision-making authority of the Board of Directors, etc.
- ◆ Enhanced manufacturing and storage equipment for cutting-edge materials for semiconductors, etc. (TOKYO OHKA KOGYO AMERICA, INC./TOK TAIWAN CO., LTD./TOK Advanced Materials Co., Ltd., etc.)
- ◆ Held discussion on tightening controls over exports to South Korea (report)
- ◆ Created the Executive Fellow system (system for providing remuneration almost equivalent to executive officers to personnel with outstanding capabilities and track records)
- ◆ Discussed introduction of new personnel system (scheduled to start from 2021)
- ◆ Introduced trust-type employee shareholder incentive plan (E-ship®)
- ◆ Confirmed progress on Group Management System (GMS)

## Remuneration for Directors and Auditors

TOK's guidelines for remunerating its directors and auditors are set for each position as follows. The guidelines focus mainly on complying with laws and regulations and maintaining sound management, while also seeking to set remuneration at a level that satisfies the expectations of shareholders and other stakeholders by increasing earnings and corporate value.

### Basic Policy on Determination of Remuneration, etc. for Directors (Excluding Outside Directors)

The Company has established a Nomination and Compensation Advisory Committee, chaired by an outside director, to serve as an advisory function to the Board of Directors. The committee has held multiple deliberations to examine the preferred remuneration system for the Company, giving consideration to the outlook for the management environment and the approach to corporate governance in Japan. As a result of these deliberations, starting in February 2020, the Company's remuneration policy for directors (excluding outside directors) has been decided as follows.

### Basic Principle of Remuneration

Remuneration for directors (excluding outside directors) is determined based on the following basic concepts.

#### Aim to support the Company's sustainable value creation

- Set the composition and level of remuneration so as to provide healthy motivation to generate sustainable growth and corporate value in the medium to long term
- Clarify responsibility for each fiscal year's results by fairly and impartially reflecting quantitative evaluations based on financial performance and evaluation of efforts to address issues taking into consideration medium- to long-term strategy in annual bonuses
- Strive to create sustainable corporate value by continuously providing long-term incentives linked to the Company's medium- to long-term performance
- Promote long-term holding of shares while serving in management and share interests with shareholders

**Ensure objectivity and transparency in remuneration decisions**

- Determine the remuneration decision policy and the individual amount of payment upon deliberation by the Nomination and Compensation Advisory Committee, which is composed primarily of outside directors
- Employ an independent remuneration advisor and set an appropriate remuneration level taking into consideration the Company’s business characteristics, etc., and based on verification through comparisons with corporate groups of the same size using objective data from outside, also taking into account recent public opinion
- Proactively disclose information necessary for stakeholders including shareholders, to monitor the relations between remuneration and corporate value

**Remuneration Structure**

The Company’s remuneration structure for directors (excluding outside directors) consists of basic remuneration, which is a fixed salary, and performance-linked remuneration. Performance-linked remuneration consists of an “annual bonus” that is linked to company-wide performance for each fiscal year, a “performance-linked share-based remuneration system (performance share units)” that is linked to the sustainable creation of corporate value, and a “restricted share-based remuneration system” that is provided to continually share value with shareholders through the continued holding of stock. An outline of each remuneration component is presented below.

**Outline of Remuneration Components**

Type of remuneration	Objective/Summary
Basic remuneration	Fixed cash salary based on position
Annual bonus	<p><b>Performance-linked cash remuneration to evaluate steady achievement of targets for each fiscal year</b></p> <ul style="list-style-type: none"> <li>· To clarify responsibility for results in each fiscal year, the payment rate is determined in a range from 0% to 200% of the standard amount, in proportion to the degree of achievement of the targets for consolidated operating margin and consolidated net sales for each fiscal year, which are key performance indicators.</li> <li>· In some cases, the payment rate determined above may be multiplied by any of 0.95, 1.00, or 1.05 depending on discretionary evaluation by the Nomination and Compensation Advisory Committee or by the president.</li> <li>· Paid in a lump sum after the end of each fiscal year</li> </ul>
Performance-linked share-based remuneration system (performance share unit)	<p><b>Performance-linked share-based remuneration to provide an incentive to sustainably increase corporate value</b></p> <ul style="list-style-type: none"> <li>· The number of shares to grant is decided within the range of 0%–200% of the standard amount (the “payment rate”), according to the achievement rate for numerical targets such as earnings during the performance evaluation period*1.</li> <li>· The method for calculating the number of the Company’s shares granted and amount of cash paid is as follows. First, the number of the Company’s shares to be granted to each eligible director is calculated in accordance with formula (i) below (fractions of less than 100 shares being rounded down); then the amount of cash to be paid to each eligible director (cash for payment of taxes) is calculated in accordance with formula (ii) below. <ul style="list-style-type: none"> <li>(i) Number of the Company’s shares to be granted to each eligible director Standard share unit number*2 × Payment rate × 50%</li> <li>(ii) Amount of cash to be paid to each eligible director (Standard share unit number × Payment rate – Number of the Company’s shares calculated in (i) above) × Stock price at the time of grant</li> </ul> </li> <li>· Grant shares in a lump sum after the end of a performance evaluation period</li> </ul>
Restricted share-based remuneration system	<p><b>Share-based remuneration to further facilitate the alignment of interests with shareholders by promoting long-term holding of stock</b></p> <ul style="list-style-type: none"> <li>· Grant restricted shares in the number determined by the Company’s Board of Directors each fiscal year in accordance with the rank of each eligible director</li> <li>· Restriction on transfers is lifted when conditions are met, such as when the restriction period expires, or when an eligible director retires or resigns from their position before the restriction period expires by reason of expiration of their term of office, death, or some other reason the Company’s Board of Directors deems justifiable, and ceases to serve as a director, officer, auditor, employee or any other equivalent position stipulated in advance by the Board of Directors of the Company.</li> </ul>

\*1 The initial performance evaluation period for the performance-linked share-based remuneration system is the two-year period from the fiscal year ending December 31, 2020 through the fiscal year ending December 31, 2021. Aiming to sustainably create corporate value, the Company will use the ROE target, which is a strategic indicator in the Medium-Term Plan, during the initial performance evaluation period.

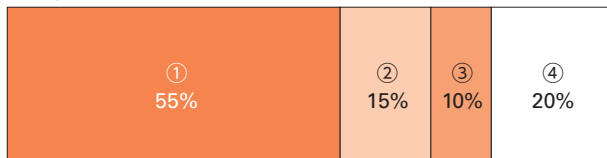
\*2 Determined by the Board of Directors in accordance with the rank of each eligible director.

### Payment Rate of Basic Remuneration and Performance-Linked Remuneration

As for the weight of each remuneration component, the ratio of basic remuneration as a fixed salary to performance-linked remuneration was set at 55:45 in order to provide a healthy incentive to generate sustainable growth and corporate value in the medium to long term. The ratio of basic remuneration to annual bonus (standard amount) to performance-linked share-based remuneration (standard amount) to restricted share-based remuneration (standard amount) is set at roughly 1 (55%) to 0.27 (15%) to 0.18 (10%) to 0.36 (20%). The composition of remuneration is presented in the diagram below.

The indicators used for specific calculation of performance-linked remuneration are decided by resolution of the Company's Board of Directors after deliberation by the Nomination and Compensation Advisory Committee.

#### Composition of remuneration



1 Basic remuneration 2 Annual bonus (standard amount)

3 Performance-linked share-based remuneration (standard amount)

4 Restricted share-based remuneration (standard amount)

### Level of Remuneration

The level of remuneration for the Company's directors (excluding outside directors) is appropriately set according to each position in order to provide healthy incentives to excellent personnel who generate sustainable growth and corporate value in the medium to long term. The level is set by setting benchmarks upon a selection of comparable corporate groups and considering the Company's business characteristics using the officer remuneration survey data (Willis Towers Watson's "Executive Remuneration Database") managed by an external remuneration advisor and other data.

### Remuneration Decision Process

In order to ensure objectivity and transparency in decisions, remunerations for directors (excluding outside directors) are determined by the president within the range of total amounts for each type of remuneration approved by the Company's Shareholders' Meeting. The president makes the decision after the Company's Board of Directors have deliberated on a draft proposal made by the Nomination and Compensation Advisory Committee, which is chaired by an outside director. However, details of the authority and the scope of the discretion given to the president are confirmed by the Nomination and Compensation Advisory Committee and the Board of Directors.

### Remuneration Amount for Directors (Excluding Outside Directors)

The remuneration amount for directors (excluding outside directors) is decided by the process described above within the range approved by the Shareholders' Meeting. In addition, the remuneration range includes the portion paid as salary and bonuses for officers' activities undertaken by directors who also serve as officers. The ranges for remunerations are as follows.

Type of remuneration	Remuneration range
Basic remuneration	Within ¥400 million per year
Annual bonus	Within ¥220 million per year
Performance-linked share-based remuneration system (performance share unit)	The total amount of monetary remuneration claims and cash for tax payment provided to eligible directors as remuneration, etc. related to the new "performance-linked share-based remuneration system" is within an amount per fiscal year equivalent to 58,000 shares multiplied by the stock price at the time of grant.
Restricted share-based remuneration system	The total amount of monetary remuneration claims provided as remuneration related to the "restricted share-based remuneration system" is within ¥150 million per year.



### Nomination and Compensation Advisory Committee

The Nomination and Compensation Advisory Committee chaired by an independent outside director drafts proposals for deciding the basic remuneration for directors (excluding outside directors). The committee takes care to set appropriate percentages of cash remuneration and stock remuneration, as well as the ratio of remuneration linked to medium- to long-term performance, while paying due consideration to the degree of contributions to the medium-term plans and budgets in the previous fiscal year of the directors (excluding outside directors), as well as the self-evaluations of the Board of Directors, in addition to the TOK Group's financial performance. The committee also drafts proposals for deciding the weighting of medium- to long-term performance-linked remuneration for directors (excluding outside directors).

In the decision-making process for basic remuneration in the fiscal year ended December 31, 2019, the Nomination and Compensation Advisory Committee convened 8 times in total, and deliberated mainly on reform of the remuneration system and deciding on remuneration for the fiscal year ended December 31, 2019, then provided a recommendation to the Board of Directors. Upon receiving this proposal, the Board

of Directors deliberated on these matters and assigned the decision on remuneration, etc. for directors (excluding outside directors) to the president, who made the final decision.

As of March 27, 2020, the Nomination and Compensation Advisory Committee is composed of a majority of independent outside directors, and chaired by an independent outside director. The chairman is Outside Director Hiroshi Kurimoto and the members are the President Noriaki Taneichi, Director Kunio Mizuki, and Outside Directors Noriko Sekiguchi and Kazuo Ichiyanagi.

### Basic Policy on Determination of Remuneration, etc. for Outside Directors

Remuneration for outside directors, who serve as an oversight function from an independent standpoint from business execution, consists only of basic remuneration of a set amount, which is determined taking into consideration the result of benchmarking with corporate groups of the same size. The remuneration amount for outside directors is decided by the president within the range approved by the Shareholders' Meeting (within ¥50.0 million per year), based on the deliberation by the Board of Directors on a draft proposal made by the Nomination and Compensation Advisory Committee.

### Basic Policy on Determination of Remuneration, etc. for Auditors

Auditors are responsible for supervising and auditing business duties executed by the directors, in a position that is independent of the Board of Directors. They receive only a basic remuneration in the form of a basic salary, which is decided on and paid out following discussions among the auditors, within a remuneration framework (of within ¥72 million per year) approved by the Shareholders' Meeting.

### Total Remuneration, etc. Paid to Directors and Auditors (Fiscal Year Ended December 31, 2019)

Position	Total remuneration, etc. (Millions of yen)	Total of various types of remuneration, etc. (Millions of yen)			Number of eligible personnel
		Basic remuneration	Stock options	Bonuses	
Directors (Excluding outside directors)	250	197	30	22	6
Auditors (Excluding outside auditors)	22	22	—	—	1
Outside directors and auditors	48	47	—	1	6

Notes: 1. The amounts for total remuneration, etc. and total of various types of remuneration, etc. for directors (excluding outside director) do not include the portion paid as salary for officers' activities undertaken by directors who also serve as officers.

Because there are no directors or auditors who received total consolidated remuneration, etc. of over ¥100 million, total consolidated remuneration, etc. for individual directors and auditors have not been provided.

2. No special indicators were set for bonuses in the fiscal year ended December 31, 2019. However, the amount of bonuses was decided by the president within the range of total amounts for each type of remuneration approved by the Company's Shareholders' Meeting, based on the deliberation by the Company's Board of Directors on a draft proposal made by the Nomination and Compensation Advisory Committee, giving consideration to the Group's performance.

## Internal Control System

TOK endeavors to augment the Group's internal control systems by strengthening management at overseas subsidiaries that have a growing presence and maintaining its compliance system. Below is a summary of our group management system, compliance system, risk management system, and improvement of information management structure.

→ For further details on internal control, please see the Corporate Governance Report at <https://www.tok.co.jp/eng/company/governance/corporate-governance.html>



## Group Management System (GMS)

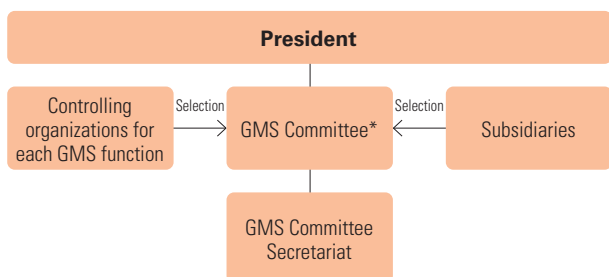
As the TOK Group is continuing to expand within and outside of Japan, a unified Group management system is needed. We have therefore been focusing on initiatives under the Group Management System (GMS), which manages various fields such as compliance and risk management across the entire Group. By promoting these initiatives, we will tie the Group's value creation to steady enhancement of sustainable corporate value.

### Organization Structure for Promoting GMS

To ensure that GMS functions correctly, the Company has established the GMS Committee, headed by the president, who is the Chief GMS Officer. The Committee has divided GMS management functions into 14 fields for Group management. It continuously works in a PDCA cycle, deliberating on action plans and activity reports for each field and making adjustments between relevant organizations to resolve issues and so forth.

We will continue to deepen dialogue with overseas subsidiaries, maintain compatibility between GMS management functions, integrate with CSR promotion activities, and strengthen the functions of the Headquarters, which controls these initiatives. In this way, the TOK Group will make a united effort to promote GMS activities.

### GMS Organizational Chart



\* Chaired by the Department Manager of the Corporate Planning Dept.

### 14 GMS Management Functions

Business management	Sales management	Accounting/ Financial management	Purchase/ Procurement management
Risk management	Human resource management	Production management	EHS management
Compliance	Information management	Safe export management	SCM
R&D	GMS (as the basis)		

### GMS Initiatives

To achieve enhancement of sustainable corporate value, the entire Group needs to be optimized. Therefore, we manage progress on targets for each management function and subsidiary, investigate issues and identify points for improvement (self-evaluation), and provide continuous support and monitoring of these.

In 2019, we conducted a self-evaluation of the development and operation of GMS for five GMS management functions and three subsidiaries. We also revised our rules and processes, creating and revising over 60 new documents. We also made progress with a 97% resolution rate on key issues.

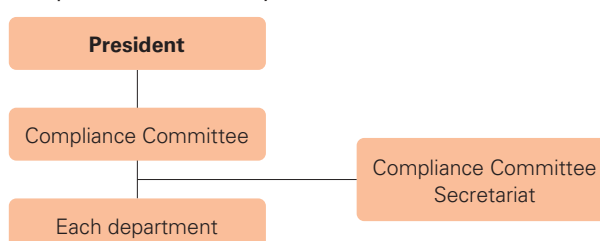
## Compliance

The TOK Group makes concerted efforts to enhance its compliance system from the basic understanding that maintaining relationships of trust with all its stakeholders is a prerequisite for sustainable development as a corporation that coexists with society. We strive to improve awareness of compliance among all officers and employees to ensure strict compliance with laws and regulations, Company rules and social norms.

### Compliance Promotion System and Standards of Conduct

Guided by the Compliance Committee, all employees at Group companies take action to promote compliance by participating in thorough training and related activities. We aim to improve awareness of compliance among all officers and employees. We have created the TOK Group Compliance Standards of Conduct to clarify shared values and standards of conduct, including for subsidiaries in Japan and overseas. We have created handbooks for the Compliance Standards of Conduct in the languages used by Group companies and distributed them to all officers and employees of Group companies.

### Compliance Promotion System



**Initiatives for ensuring compliance with laws and regulations**

To prevent compliance-related risks from emerging, it is essential that the Company instill compliance in all officers and employees' business practices. To achieve this, the Company is working to construct a system that can respond rapidly to revisions to laws and regulations in each country. It also conducts its own unique compliance training that considers conditions at each department and site within the Group, and goes through a PDCA cycle to prevent risks from materializing. In the fiscal year ended December 31, 2019, the Company identified laws and regulations related to the Group's businesses and accelerated its cycle for checking on changes to them. The Company also conducted a survey of the law and regulation management and information gathering systems at relevant departments and sites. In addition, compliance training regarding entertaining customers and so forth was conducted for all employees in Japan. The Company formulated the "Entertainment and Gift Guidelines" to clarify the boundaries of necessary and appropriate entertaining and gift-giving in business activities with a view to preventing people from forming

and maintaining unacceptable relationships with business partners, etc. A pocket-sized card bearing the guidelines was distributed to all officers and employees throughout Japan.

**Internal Reporting System**

TOK has an internal reporting system set up to facilitate the early discovery, reduction, and prevention of compliance risks in business activities. We allow the internal reporter to choose whom to report to, and have a clearly stated policy of not dismissing or unfairly treating internal reporters, unless the report has been made for malicious purposes. Regarding the operational status in the fiscal year ended December 31, 2019, the TOK Group received four reports concerning labor conditions and the work environment. After gaining a detailed understanding of the situation and those involved, based on an objective judgment of the situation, the Company provided guidance, took disciplinary action, and implemented training about proper behavior for those involved. The Company intends to enhance the internal reporting system to make it more accessible for employees.

**Risk Management**

The Group's perpetual development depends on being able to precisely deal with various risks that have major impacts on business. Through communications with stakeholders, we strive to identify and prevent a variety of potential risks. If a risk emerges, we will take the necessary measures to minimize the negative impacts of the risk. In these and other ways, TOK maintains and improves its global risk management system.

**Risk Management System**

The Risk Management Committee plays a central role in reviewing the risk management system and formulating risk management policy. The Company has risk management regulations and a risk management manual for precisely dealing with various risks. Guided by this manual, we ensure that preventive measures are normally in place by managing business risk, public risk, and disaster and accident risk, and identifying and analyzing significant risks, as well as determining, executing, and reviewing countermeasures for these risks.

**Initiatives to strengthen risk management system**

Reaffirming the importance of contingency management after the Great East Japan Earthquake, the Group has taken steps to address various risks, including disasters and other accidents and environmental risks, since creating the Contingency Management Committee (currently Risk Management Committee). In 2016, the TOK Group Risk Management Committee was established to deal with a broader range of risks in accordance with the Company's global expansion.

In the fiscal year ended December 31, 2019, the Company took steps to reduce risks deemed to have a high level of influence on business continuity in the risk assessment of the previous fiscal year, particularly risks associated with material supply and production. Efforts were also made to further strengthen the risk management system, such as building and reinforcing a stable supply system in response to a tightening of controls over exports to South Korea. Looking ahead, the Company will continue to reduce risks, including newly emergent international trade risks.

**Risk Management System**



\*1 The Risk Management Committee is made up of the president and department managers.

\*2 The Risk Management Conference is made up of responsible persons for risk management from each department and representatives of persons in charge of risk management.

**Strengthened crisis management**

The Group believes business continuity planning begins with the safety of our employees. In Japan, TOK operates a safety confirmation system for confirming whether Group employees are safe in the event of natural disasters, including major earthquakes. Safety confirmation drills are conducted every year to ensure the smooth operation of this system and to raise awareness among employees. In the fiscal year ended December 31, 2019, 100% of the planned number of drills were held, and the response rate remained at a high level.

### Large-scale natural disaster preparedness

Based on lessons learned from the Great East Japan Earthquake and the Kumamoto Earthquake, TOK has put in place a BCP that envisions damage simultaneously striking the Headquarters and multiple sites from earthquakes directly beneath the greater Tokyo area. TOK reviews its BCP every year so it is grounded in reality by running desktop drills that simulate real-world damages that interrupt order taking and

placement, product shipment, and cut off lifelines. In 2019, the BCP was revised, including an examination of alternative means of transportation, drawing on experience from the torrential rainfall in western Japan in 2018. Moreover, in response to the threat of flooding at business sites during Typhoon Hagibis, which hit Japan in October 2019, the Company set targets for responding to flood risk during the fiscal year ending December 31, 2020.

## Improving Information Management

The environment surrounding information management is drastically changing. Leaks of information assets could greatly damage the competitive advantages of the TOK Group and threaten its existence as an ongoing concern. For this reason, reinforcing the information management system is a priority issue in terms of preserving corporate value and fulfilling our social responsibility. From this standpoint, we are redoubling our efforts in ensuring information security by establishing a PDCA cycle.

### TOK Group Information Management Policy

The TOK Group (comprising TOKYO OHKA KOGYO CO., LTD. and its subsidiaries, hereinafter collectively the "TOK Group") is implementing measures in line with the following policies, having positioned risk management related to information assets as a priority management issue to fulfill its corporate social responsibility.

#### Definition, protection, and effective utilization of information assets

With respect to all information assets held by the TOK Group, including managerial, client, marketing, personal, and technical information, the Group will comply with laws and regulations related to information security, other social norms, in-house rules and other guidelines, and protect the information appropriately. The Group shall only use the information to efficiently execute the operations of the Group, within the stipulated scope of authority, and for the prescribed purpose.

#### Update and maintain tools and security platforms

The TOK Group updates and maintains reasonable communications tools and security platforms to effectively utilize its information assets.

#### Organizational structure and organized activities

The TOK Group has established an Information Management Committee and will continue to build, maintain, and promote management structure to properly govern an information asset for the overall Group.

### Completeness, confidentiality, and availability

The TOK Group will identify and assess risks and continue to implement countermeasures and improvements as well as appropriately reduce information management risks through a range of human, physical, organizational, and IT-based measures to prevent leakage, falsification, theft, destruction, and other damage to the information assets held by the TOK Group.

#### Education

The TOK Group will implement in-house education regularly and continuously and work to raise awareness and keep everyone well informed of the in-house rules and other regulations.

#### Incident response

The TOK Group will endeavor to minimize the damage when an information security incident occurs and implement measures to prevent its recurrence.

#### Audits and continuous improvements

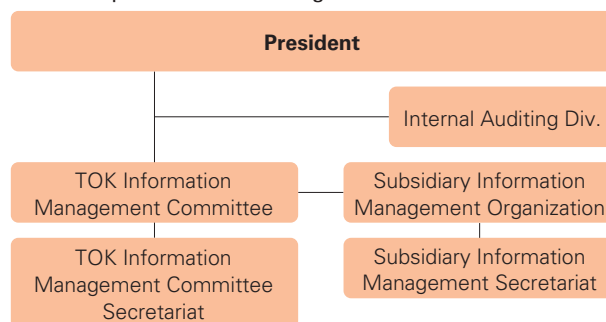
The TOK Group will implement regular audits and make continuous improvements as a part of its management of information assets.

### Maintain, Manage, and Improve Information Management Systems

The Company has created the TOK Information Management Committee, headed by the Department Manager of the General Affairs Department. The Committee decides on policies and measures related to information security and personal information protection. The overseas subsidiaries have established their information management organizations, which develop systems and rules to collaborate under the guidance of the TOK Information Management Committee, strengthening information management systems across the Group. During the fiscal year ended December 31, 2019, the Company worked to maintain and instill information management standards throughout the organization. The Company promoted effective use of the Group’s information assets and implemented in-house education on the scope of disclosure of confidential information for the protection and risk management of these assets. In addition, the Company prepared a guidebook on the use of email.

The Internal Auditing Division regularly audits compliance with rules and other matters on information management as part of its internal audits. It aims to improve the information management system by giving guidance, proposals, and advice to relevant departments.

### TOK Group Information Management Structure



### Strengthening information management through each responsible division

The TOK Information Management Committee has identified key topics based on the information management policy, and put the responsible divisions below in charge in a bid to strengthen information management.

### Divisions responsible for information management

Trade Secrets Division/Training and Rules Division/Human Resources-Related Division/IT Development Division/Physical Security Development Division/Supplier Information Management Division

## IR Activities/SR Activities

### Dialogue with shareholders and investors

The Director, Executive Officer, Department Manager of General Affairs Dept. is responsible for managing and controlling investor relations (IR), and through meetings on business results, meetings with institutional investors, company orientations for individual investors and a variety of other efforts, works to be proactive in achieving a constructive dialogue.

The Public Relations Division serves as the department responsible for TOK’s IR with regard to dialogue with shareholders and investors, and is primarily responsible for facilitating that dialogue, exchanging information with our accounting, finance, sales, legal and other departments as needed and maintaining a coordinated collaboration. The department in charge of IR also provides the top management and relevant officers with records of meetings with analysts, shareholders and investors, and shares information.

### Main IR activities in FY2019/12

Business results meetings for institutional investors/analysts	2
Individual meetings with institutional investors/analysts	206
Financial results briefings for individual investors	10

### IR activities

TOK conducts proactive IR activities, centered primarily on the Public Relations Division, in an effort to enhance our dialogue with shareholders and investors. Specifically, we hold events including biannual meetings on business results, company orientations for individual investors, as well as tours of our facilities. Our integrated reports, business reports to shareholders, and Notice of the Convocation of the Ordinary General Meeting of Shareholders are all published on our website as part of our proactive effort to provide shareholders and investors with the information they need.

Records of opinions and requests from shareholders and investors that reach us through this dialogue are collected and regularly reported to the chairman, president and all directors, and we work to ensure that information is understood and shared.

In accordance with our Disclosure Policy, TOK also makes an effort to provide its shareholders and investors with consistent information, and to offer fair and timely disclosure. We have also established internal regulations regarding management of insider information, and strive to ensure those regulations are closely followed.

## Anti-Takeover Measures

TOK has adopted anti-takeover measures. Please refer to our website for more information.

- <https://www.tok.co.jp/content/download/4193/59903/file/180223.pdf> (in Japanese)
- [https://www.tok.co.jp/content/download/5593/88252/file/0327\\_3.pdf](https://www.tok.co.jp/content/download/5593/88252/file/0327_3.pdf) (in Japanese)





## Main Business Risks, Countermeasures, and Opportunities

The TOK Group conducts business activities in every region of the world in a diverse range of fields. When carrying out these business activities, it encounters a variety of risk factors that may have a detrimental impact on its financial conditions and management performance. The risks described below are solely those that the Group judged to be most significant as of December 31, 2019 and do not constitute all of its risk factors.

Theme	Risks	Countermeasures	Opportunities
Industrial and economic change	<ul style="list-style-type: none"> <li>● The electronics market is subject to major cyclical changes in demand, in particular materials and devices for semiconductors and displays are extremely affected by such demand trends.</li> <li>● The Group may also be affected by market changes and price fluctuations driven by the rapid speed of technological innovation and the complexity and diversity of user needs.</li> </ul>	<ul style="list-style-type: none"> <li>● The Group will conduct rapid flexible sales and marketing strategies based on a deep understanding of the characteristics of each market in the semiconductor industry, including the memory field which has large fluctuations in demand and price, the logic field which has relatively small fluctuations, and the power device field which has a broad base (see pages 24–31 and 54–55).</li> <li>● The Group will mitigate the impact of demand and price fluctuations for old products, and fluctuations in economic conditions, by constantly acquiring business in cutting-edge fields.</li> <li>● The Group will expand new business in fields such as life science, which has a different demand fluctuation cycle from semiconductors (see pages 36–37).</li> </ul>	<ul style="list-style-type: none"> <li>● The Group will realize long-term stable growth and a stable increase in corporate value through its business portfolio, which is highly resilient to economic fluctuations and centered on high value-added products.</li> <li>● The Group will use marketing and development to create opportunities from structural changes in its target markets and contribute to innovation.</li> </ul>
Exchange rate fluctuation	<ul style="list-style-type: none"> <li>● The Group has production and sales sites in North America, Asia, and Europe, and hedges exchange risks by carrying out some of its overseas transactions in yen and by using forward exchange contracts. However, the Group may be affected if exchange rate fluctuations are greater than forecast.</li> </ul>	<ul style="list-style-type: none"> <li>● As a part of balance sheet management, the Group is evolving global cash management, including adjusting the balance of cash positions between overseas sites. Through these measures, the Group will enhance financial risk controls for exchange rate fluctuations and liquidity (see pages 48–51).</li> <li>● The Group receives advice on exchange rate risk hedging from three outside auditors who have backgrounds in finance.</li> </ul>	<ul style="list-style-type: none"> <li>● By minimizing exchange rate fluctuation risk, the Group will minimize the risk of fluctuations in its business performance due to focusing on the highly volatile semiconductor industry.</li> </ul>
Research and development	<ul style="list-style-type: none"> <li>● The Group carries out R&amp;D to provide products that precisely reflect user needs to maintain its competitiveness in the electronics industry, where technological innovation occurs at a rapid pace. However, since it is difficult to realize technological innovation and anticipate changes in user needs, the Group may be unable to produce the intended results due to unforeseeable reasons, regardless of how much management resources it invests into R&amp;D.</li> </ul>	<ul style="list-style-type: none"> <li>● The Group will continue to deepen the customer relationships it has cultivated at customer-oriented sites in Japan and overseas. Meanwhile, the Group will work in many fields and flexibly set its focus themes, while strengthening proactive marketing in R&amp;D (see pages 24–31 and 56–57).</li> <li>● The Group will go beyond simply responding to its customers' technology needs, expanding technological seeds through venture capital investment, open innovation, and collaboration with industry and academia, etc., and continue development in major themes until it succeeds (see pages 56–57).</li> </ul>	<ul style="list-style-type: none"> <li>● The Group will form development communities with stakeholders in Japan and overseas in the cutting-edge fields of electronics materials, such as semiconductor materials.</li> <li>● The Company will use open innovation to acquire a wide range of technological seeds to enable a response to any market that may launch in the future, making a full-scale investment of its resources in line with the launch of new markets.</li> </ul>
Intellectual property	<ul style="list-style-type: none"> <li>● The Group has a diverse portfolio of intellectual property, to which it grants licenses to third parties, also acquiring licenses from third parties when they are necessary or useful. If the Group is unable to safeguard and maintain or acquire these rights as anticipated, it may become a party in a dispute or lawsuit relating to these rights.</li> </ul>	<ul style="list-style-type: none"> <li>● Management of intellectual property, such as granting and acquiring licenses, is conducted without delay by a dedicated department. The Group also conducts awareness raising and training about intellectual property rights for relevant divisions such as development, sales, and manufacturing.</li> </ul>	<ul style="list-style-type: none"> <li>● The Company will conduct stable management of intellectual property, while building an intellectual property portfolio that supports corporate value enhancement more effectively by discerning whether to employ an open or closed strategy on a case-by-case basis.</li> </ul>
Raw material procurement	<ul style="list-style-type: none"> <li>● The Group aims to stably procure materials by maintaining a network of multiple suppliers. However, its production activities may be affected by a delay or suspension in the supply of raw materials due to accidents at the manufacturers.</li> <li>● An increase in the price of raw materials may also impact the Group.</li> </ul>	<ul style="list-style-type: none"> <li>● By strengthening supplier engagement, the Group continuously tracks potential risks for each supplier.</li> <li>● While continuing internal efforts such as reducing costs, streamlining operations, and switching to alternative materials, the Group passes on price changes for products to customers where this can be rationally justified.</li> </ul>	<ul style="list-style-type: none"> <li>● The Group will reduce factors that could impede future growth by strengthening its BCP on the assumption of emergent risks at suppliers.</li> <li>● The Group will increase capital efficiency by securing appropriate profits from its high value-added products.</li> </ul>

Theme	Risks	Countermeasures	Opportunities
Product liability	<ul style="list-style-type: none"> <li>● Within the process in which customers use our products, faults may occur that originate in a product defect. The Group has insurance to cover product liability compensation payments, but as insurance may not be able to cover the entire amount that has to be paid, there could be an impact on the Group's business results.</li> </ul>	<ul style="list-style-type: none"> <li>● The Group provides in-line support and reduces defects through the trinity of sales, development, and manufacturing, while reducing the risk of faults through thorough understanding of customers' manufacturing lines (see pages 24-31 and 40-43).</li> </ul>	<ul style="list-style-type: none"> <li>● The Group will further improve customer satisfaction and increase its brand capabilities by increasing customers' manufacturing yields.</li> <li>● Profitability and capital efficiency will be increased by adding higher value to products.</li> </ul>
Natural disaster and accident	<ul style="list-style-type: none"> <li>● In the event of a natural disaster, such as an earthquake, or an unforeseen accident, such as a fire or an explosion, the Group may have to suspend its production activities at its manufacturing plants in Japan and overseas with a resulting delay in product shipments. The Group may also have to pay repair or replacement costs at the damaged plant.</li> </ul>	<ul style="list-style-type: none"> <li>● The Group has created a unified BCP (see pages 84-85).</li> <li>● The Risk Management Committee plays a central role in reviewing the risk management system and formulating risk management policy (see pages 84-85).</li> <li>● The Company has included disaster and accident risk in its risk management regulations and risk management manual. The Company identifies and analyzes significant risks, and determines, executes, and reviews countermeasures for these risks (see pages 84-85).</li> </ul>	<ul style="list-style-type: none"> <li>● By limiting the impact of natural disasters and accidents as far as possible, the Group will minimize its downside risk and maintain its upside potential.</li> <li>● The Group will acquire trust from stakeholders such as customers, employees, and local communities over the medium- to long term and increase its brand capabilities.</li> </ul>
Environment	<ul style="list-style-type: none"> <li>● The Group uses various types of chemical substance within its production activities and has strict rules to ensure they are handled safely. However, in the event of an accident involving the discharge of chemical substances into the external environment, the Group's reputation within society may be affected, and it may have to pay costs as compensation or in order to carry out countermeasures, and it may have to suspend production activities.</li> <li>● If environment-related laws and regulations in each country where the Group conducts its business activities are made stricter, the Group may face additional costs or limits on its business activities.</li> </ul>	<ul style="list-style-type: none"> <li>● The Group has reassessed its production lines and work procedures based on lessons learned from accidents caused by highly corrosive chemical substances (see pages 102-103).</li> <li>● The Group had a third-party institution conduct a health and safety audit to further improve the level of occupational health and safety by identifying potential sources of danger (see pages 102-103).</li> <li>● The Group coordinates closely with local subsidiaries overseas to obtain the latest information on revisions to laws and regulations (see pages 100-101).</li> <li>● The Group will automate its processes and develop systems to lighten the workload from registrations and filing.</li> </ul>	<ul style="list-style-type: none"> <li>● By preventing accidents, the Group will maximize its upside potential.</li> <li>● The Group will foster greater loyalty among employees by ensuring safety on its manufacturing sites.</li> <li>● The Group will maintain and increase social trust in local communities overseas.</li> </ul>
Laws and regulations	<ul style="list-style-type: none"> <li>● When conducting its business activities throughout the world, the Group must acquire approval for business and investment activities and observe each government's regulations relating to restrictions on imports and exports. In addition, it must observe laws and regulations relating to trade, monopolies, international taxation, the environment, and recycling. If there are major revisions to any of these laws and regulations, or if the Group fails to precisely understand their requirements, or if for any reason it is unable to observe them, then this may have an impact on the Group's business results.</li> </ul>	<ul style="list-style-type: none"> <li>● The Group has accelerated the process of registering and receiving approval for chemical substances by having local non-Japanese employees interpret the laws and regulations and negotiating with local government institutions (see pages 58-61).</li> </ul>	<ul style="list-style-type: none"> <li>● Developing products that use alternatives to prohibited substances may give rise to new product characteristics and added value.</li> <li>● The Company will differentiate itself from competitors through its ability to comply with local laws and regulations.</li> </ul>
Overseas business activity	<ul style="list-style-type: none"> <li>● The Group's overseas business activities may be obstructed by the emergence of risks such as unexpected revisions to laws and regulations, weakening of the industrial base, difficulties in securing personnel, terrorist attacks, wars, and natural disasters.</li> </ul>	<ul style="list-style-type: none"> <li>● The Group uses its strength of having production sites in five regions around the world (Japan, the U.S., China, South Korea, and Taiwan) to minimize emergent risks by coordinating between them (see pages 21 and 122-123).</li> </ul>	<ul style="list-style-type: none"> <li>● Reducing the Group's overall environmental risk and natural disaster and accident risk will enable it to continue fulfilling its responsibilities as a supplier.</li> </ul>
Information leakage	<ul style="list-style-type: none"> <li>● The Group implements thorough measures to ensure the security of confidential business information, information relating to various other companies, and personal information. However, if due to some unforeseeable event information leaks outside of the Group, this may damage its reputation within society and it may have to pay liability payments for the damage caused to a company or individual whose information was leaked, which could have an impact on the Group's business results.</li> </ul>	<ul style="list-style-type: none"> <li>● Reinforcing the information management system is a priority issue in terms of preserving corporate value and fulfilling our social responsibility. From this standpoint, the Group is redoubling its efforts to ensure information security by establishing and running a PDCA cycle (see pages 85-86).</li> </ul>	<ul style="list-style-type: none"> <li>● A solid information management system will increase customer trust, helping to expand business opportunities.</li> <li>● The Group's brand capabilities will increase in Japan, the U.S., China, South Korea, Taiwan, and other regions in and outside of Japan where the Group operates.</li> </ul>



We've always got  
someone there.

At the cutting edge of  
packaging evaluation

We will ensure the performance of our products from the customers' point of view, again and again.

In packaging evaluation, we will appraise products from the perspective of our customers.

We will use existing equipment and liquid chemicals to elicit the optimal evaluation methods in order to see things from the point of view of our customers, who each have their own particular manufacturing methods.

We get the energy to go through that process from our sense of responsibility as a company involved in the manufacture of semiconductors, which support society.

TOK backs its product manufacturing with this belief.

TOK's Microprocessing Technology  
that Creates Inspiration

**tok** TOKYO OHKA KOGYO CO., LTD.

Tokyo Ohka Kogyo  Search   
<https://www.tok.co.jp/eng>

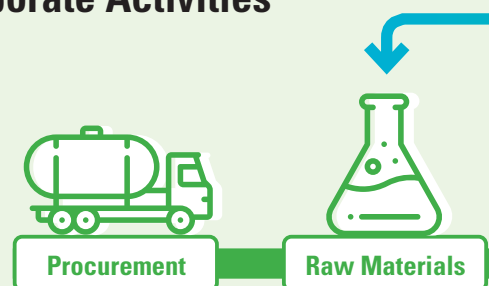
# Environmental Protection

## Reduction in Environmental Impact from Our Corporate Activities

### Environmental Performance\*

TOK conducts daily quantitative and qualitative evaluation of the effects that its corporate activities have on the environment, and takes various initiatives to minimize their impact.

\* Environmental performance: Environmental performance evaluation is a method of evaluating, in qualitative and quantitative terms, environmental activities and results achieved by an organization in accordance with its environmental policy, objectives and goals.



INPUT		OUTPUT	
Total energy consumed	15,389kL crude oil equivalent	CO <sub>2</sub>	30,000t-CO <sub>2</sub>
Electric power	10,582kL crude oil equivalent	SO <sub>x</sub> *1	0.8t
Petroleum (heavy oil)	602kL crude oil equivalent	BOD*2	0.3t
Gas	4,115kL crude oil equivalent	General administrative waste	32t (Recycling rate: 44%)
Used water	366,000m <sup>3</sup>	Industrial waste	General industrial waste 1,540t (Recycling rate: 41%) Specially controlled industrial waste 2,150t (Recycling rate: 90%)
Chemical substances (Class 1 Designated Chemical Substances under the PRTR Law)	1,120t		

\* January 2019 to December 2019 (Chemical substances: April 2019 to March 2020)

\* January 2019 to December 2019

\*1 Sulfur oxides (SO<sub>x</sub>): Produced from the combustion of fossil fuels containing sulfur. These are considered to be the causative substances of acid rain.

\*2 Biochemical oxygen demand (BOD): BOD refers to the volume of oxygen required when pollutants in the water (organic substances) are turned into inorganic substances or gases through the action of microorganisms. BOD is a major indicator used when evaluating the degree of contamination of rivers and other water bodies. A higher value for BOD means that the water involved is more contaminated.

Please follow the URL below for more detailed data on environmental impact by site.

Data on environmental impact by site

[https://www.tok.co.jp/eng/csr/env-activity/load\\_data.html](https://www.tok.co.jp/eng/csr/env-activity/load_data.html)



### Emissions of Greenhouse Gases

As climate change has become more serious in recent years, companies are expected to measure their greenhouse gas emissions from not only their own properties, but also across their entire value chain. The TOK Group measures and calculates its greenhouse gas emissions based on the Ministry of the Environment's Basic Guidelines on Accounting for

Greenhouse Gas Emissions throughout the Supply Chain within the context of emissions from business activities (Scope 1, Scope 2) and indirect emissions from non-business activities (Scope 3). TOK will advance initiatives toward the realization of a sustainable society, identifying issues throughout its value chain where its corporate activities can have an impact.

Scope 1	9,815t-CO <sub>2</sub>	Scope 2	20,375t-CO <sub>2</sub>
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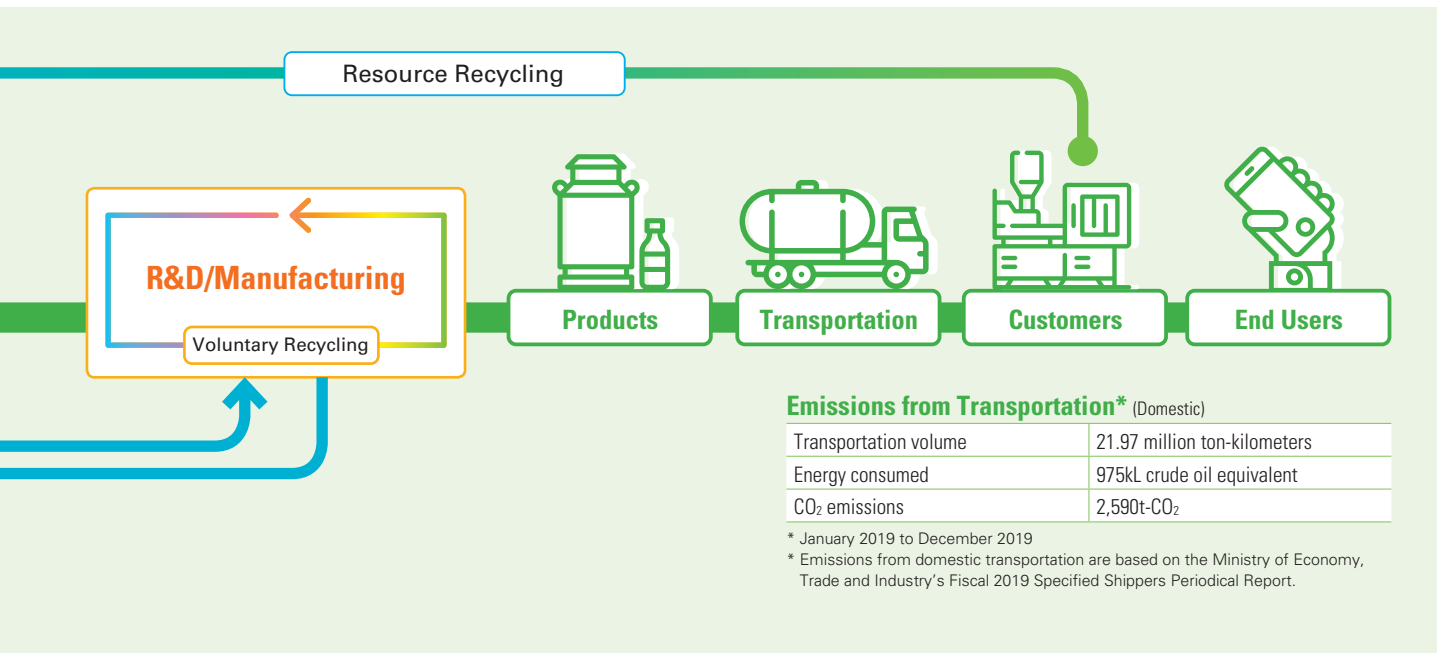
### Scope 3 Emissions by Category

Purchased goods and services	29,204t-CO <sub>2</sub>	Upstream leased assets	—
Capital goods	Not applicable	Downstream transportation and distribution	Domestic: 2,590t-CO <sub>2</sub> Overseas: 3,035t-CO <sub>2</sub>
Fuel- and energy-related activities not included in Scope 1 or 2	—	Processing of sold products	Not applicable
Upstream transportation and distribution	Not applicable	Use of sold products	Not applicable
Waste generated in operations	6,368t-CO <sub>2</sub>	End-of-life treatment of sold products	Not applicable
Business travel	788t-CO <sub>2</sub>	Downstream leased assets	—
Employee commuting	580t-CO <sub>2</sub>	Franchises	—
		Investments	Not applicable

\* January 2019 to December 2019 (Waste generated in operations: April 2019 to March 2020)

\* Excludes people seconded to other companies.





**Environmental Accounting\***

TOK has been using environmental accounting since 2000. This allows the Company to conduct environmental management while monitoring the expenses and effects of environmental programs. In 2019, environmental conservation expenses

totaled ¥659 million, mainly for the prevention of pollution and recycling of resources.

\* Environmental accounting: A system for understanding environmental conservation related investments made by, and expenses incurred by, businesses and other organizations, as well as the effects of such investments, in quantitative terms (currency or physical quantity) and communicating such information to stakeholders.

Category		Key Initiatives	Investment	Cost
Business area cost	Pollution prevention cost	Air, water and other pollution prevention equipment and its renewal, operation, maintenance and management	159	80
	Global environmental conservation cost	Energy conservation activities	77	19
	Resource circulation cost	Melting, waste processing	0	177
Upstream/Downstream cost		Green purchasing, collection of used products	0	7
Administration cost		Approach to environmental management system	38	69
R&D cost		Research and development related to environmental conservation (costs for chemical substances screening)	0	32
Social activity cost		Cleanup activities around the production plants	0	1
Environmental remediation cost			0	0
<b>Total</b>			<b>274</b>	<b>385</b>

\* January 2019 to December 2019

**Environmental Conservation Cost**

Investments refer to the accounting for equipment associated with environmental conservation and improvement. Expenses are the sum of depreciation, personnel and other operating expenses associated with environmental conservation. Personnel expenses are computed based on a basic unit cost.

**Economic Benefits Associated with Environmental Conservation Measures**

Figures are calculated based on internally realized benefits from the sale of materials having value and from the reduction of costs.

Effects		Amount
Revenue	Gains on the sale of recycled products	18
Cost savings	Reduction in disposal costs through reduction in the volume of waste	88
<b>Total</b>		<b>106</b>

\* January 2019 to December 2019

\*1 Scope of environmental accounting covers production facilities in Japan and distribution centers, excluding the headquarters and marketing offices. Reference used is the Environmental Accounting Guidelines 2005, published by the Ministry of the Environment.

\*2 Amounts of less than one million yen have been rounded off.



## Address Climate Change Issues

### Key initiatives/Results in 2019



**Energy consumption per base unit**  
**Down more than 1 point**  
 (year on year)



**Energy-related CO<sub>2</sub> emissions per base unit**  
**Down 4 points**  
 (year on year)



**Fuel consumption in distribution**  
**Down 4%**  
 (year on year)

#### Basic Concept

The TOK Group quantitatively measures the environmental impact of its value chain, and works to reduce environmental burden with a full understanding of the impact our production activities have on the environment. We aim to achieve sustainable development alongside society through the development of products that help conserve resources and energy.

#### Improve Energy Consumption per Base Unit and CO<sub>2</sub> Emissions

We conduct rigorous operational management of equipment and make improvements to achieve more efficient operations. In addition, when updating aging equipment, we look at optimizing the overall configuration, actively consider and install equipment with better energy efficiency.

In 2019, energy consumption increased 6 points year on year. The increase reflects a higher rate of ventilation than other buildings at the new R&D Building in the Sagami Operation Center because it handles hazardous substances, and the new construction of a warehouse at the Ebina Logistics Center. Efforts to reduce energy consumption included renewal of aging air conditioning equipment and boilers at our sites, and improved operation of heat source equipment.

Energy consumption per base unit decreased more than 1 point compared with the previous year, reflecting a significant increase in the total floor area used to calculate energy consumption per base unit following the rebuilding of the Sagami Operation Center.

Energy-related CO<sub>2</sub> emissions per base unit decreased by 4 points compared with the previous year, even as energy consumption increased. This reflects efforts such as reviewing the operation of the power generator at the Koriyama Plant and the switching of boiler fuel to natural gas at the Gotemba Plant in 2018. In 2019, the final fiscal year for our medium-term

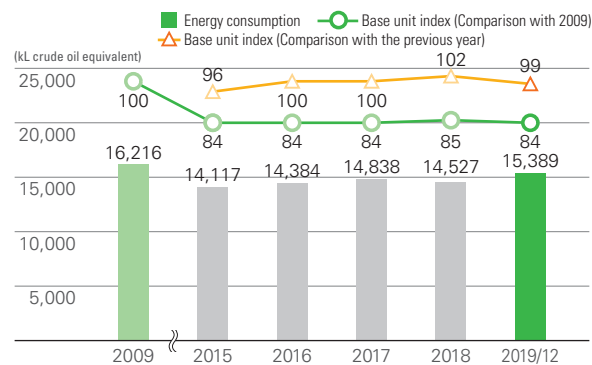
targets, we achieved a 16 point reduction in energy consumption per base unit compared with 2009, achieving our target\*<sup>1</sup>. However, we reduced energy-related CO<sub>2</sub> emissions per base unit by only 6 points compared with 2009, which did not reach the target\*<sup>2</sup>.

The Company has set a medium- to long-term target of reducing energy consumption and CO<sub>2</sub> emissions (per base unit) by 11 points (1 point per year) compared with 2019 from 2020 to 2030. We will continue working to achieve our target.

\*1 Reduce energy consumption (per base unit) by 10 points by 2019 compared with 2009 (reduction of 1 point annually)

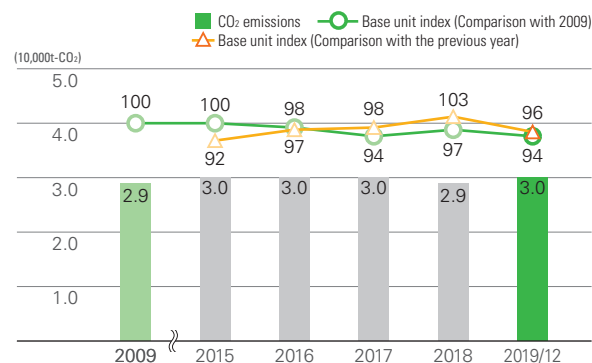
\*2 Reduce energy-related CO<sub>2</sub> emissions (per base unit) by 10 points by 2019 compared with 2009 (reduction of 1 point annually)

#### Energy Consumption



\* Changed to the total for January to December to reflect a change in the fiscal year-end (applied to data from 2009).

#### CO<sub>2</sub> Emissions (Converted from Energy Consumption)



\* Changed to the total for January to December to reflect a change in the fiscal year-end (applied to data from 2009).

### Improve Energy Consumption in Distribution

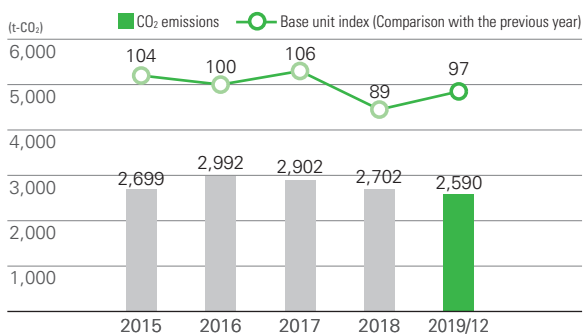
The Company agrees with the White Logistics Movement and is taking steps to realize sustainable logistics, while working with partner logistics companies to improve energy consumption. We are taking proactive measures such as using lighter product containers and packaging materials, mixed loading of raw materials, intermediates and finished products on transportation trucks to reduce the overall number of trucks, and to improve loading efficiency. In addition, we have been actively encouraging efforts to have our own delivery trucks pick up products from suppliers that lie on our regular routes.

In 2019, we made further progress with activities designed to reduce energy in procurement logistics, internal logistics, and sales logistics, such as concentrating stored products to reduce the distances travelled by trucks. As a result, we reduced fuel consumption 4% compared with the previous year, while transportation ton-kilometers remained at the same level.

Participation in White Logistics Promotion Movement  
<https://www.tok.co.jp/news/2020/0205> (in Japanese)



### CO<sub>2</sub> Emissions in Distribution



\* January to December 2019  
 \* An error in Integrated Report 2018 regarding the base unit index has been corrected.

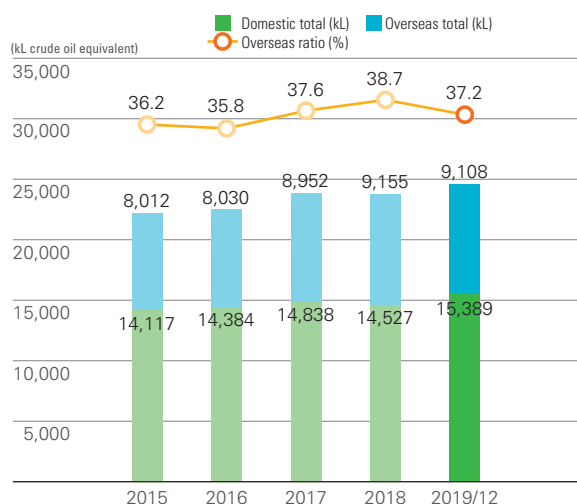


In the past few years, climate change has been evident in large typhoons and torrential rainfall that have caused major damage to society and to people's lives. Climate change is thought to be caused by fluctuations in the oceans and changing solar activity, as well as global warming caused by greenhouse gases and warming of the oceans due to hot water discharged from electric power stations, etc. The Group will address these issues by steadily carrying out initiatives to reduce its environmental impact, aiming to achieve its new medium- to long-term targets related to energy consumption, etc., which started from 2020.

### Measures to Prevent Global Warming at Overseas Manufacturing Sites

The overseas ratio of energy consumption continued its increasing trend, owing to expansion in production facilities and growth in items produced at overseas sites. However, in 2019, the ratio decreased from the previous year as a result of an increase in energy consumption in Japan and a review of equipment operations. Going forward, TOK will continue to engage in production activities with a focus on energy conservation through a PDCA cycle for environmental management systems.

### Energy Consumption Ratio of Overseas Sites



### TOK's Human Resource



**Toshio Mizuno**  
 General Manager, Logistics Center

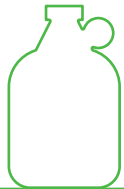
### Pursuing Efficient Reduction of Environmental Impact through Cooperation with Multiple Stakeholders

Over 90% of the Company's transportation is conducted using trucks. The distribution division has therefore been actively working to increase truck loading efficiency and reduce transportation distances as part of efforts to reduce environmental impact.

We consult daily with relevant departments outside the distribution division to find ways to further increase loading efficiency and search for even more efficient transportation routes. We have also conducted close information exchanges with partner logistics companies in efforts to reduce our environmental impact more efficiently. We will continue to focus on environmental protection with an even greater number of stakeholders concerned with the distribution of the Company's products going forward.

## Promotion of Resource Recycling: Initiatives to Address Water Risk

### Key initiatives/Results in 2019



Water usage  
(all domestic plants)

**366,000**m<sup>3</sup>



Reassessing water drainage paths

**Implemented at domestic sites**

#### Basic Concept

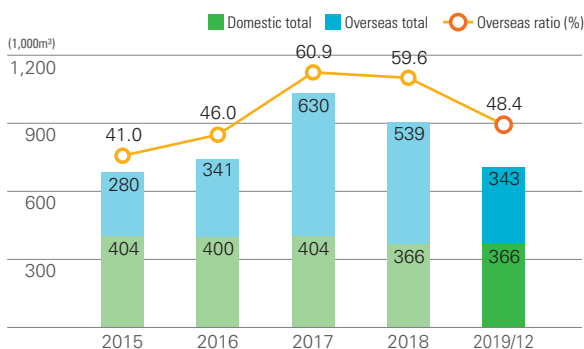
Amid increasing public attention to the social issue of water resources, the Group's products and manufacturing processes use water as an indispensable resource. We therefore make a concerted effort to minimize the amount of water consumed by production activities and to maintain and improve the quality of wastewater. We aim to contribute more in this regard through business activities that consider the global water risk.

#### Water Usage Volume

Water usage volume changes when manufacturing processes and output change. TOK works to reduce usage by constantly monitoring the state of industrial water and city water usage, and reviewing related equipment.

In 2019, water usage volume in Japan was about the same level with the previous year at 366,000m<sup>3</sup>. Overseas, we managed to reduce water usage volume by 196,000m<sup>3</sup> year on year to 343,000m<sup>3</sup> by reviewing our production methods.

Water Usage Volume at Domestic and Overseas Sites



#### Water Risk Management

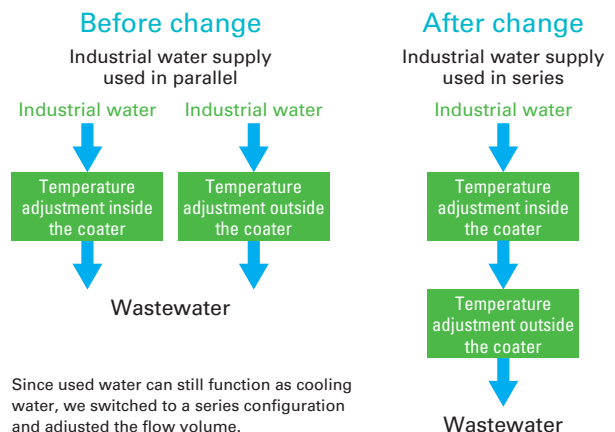
Water risk is widely recognized as a serious worldwide risk, always ranking high among the largest risks since 2012 in the Global Risks Report published by the World Economic Forum. To better understand water usage volume at all of its sites around the world, the TOK Group has clarified risks at each stage of water supply, raw materials supply, manufacturing processes, and wastewater emissions from plants.

#### Set a Medium- to Long-Term Target

The Company has aggressively pursued measures to reduce water risk since 2018. In 2019, we conducted a status check of each site and revised wastewater routes, etc., while examining countermeasures for the future, such as activities for reducing the pollution risk from pipes and equipment, etc., and water use management methods. Based on the results, we set a medium- to long-term target for 2030. For 2020, we set a new target of reducing water usage by 3% compared with 2017, and we are now working to achieve it through activities to reduce usage.

#### Reducing Water Usage at the Koriyama Plant

—Reducing Water Usage through Changes in Equipment Configuration—



Since used water can still function as cooling water, we switched to a series configuration and adjusted the flow volume.

**Confirmed a savings of 300m<sup>3</sup> of water per month after the change**

### Worldwide Water Risk (0–100%) Projections for 2030

In a business-as-usual (BAU) scenario, the map shows water usage as a percentage of water supply in each region, assuming both economic growth and higher CO<sub>2</sub> emissions.

The higher the percentage, the more severe the competition for water as more people fight over fewer water resources.

- Low risk (under 10%)
- Low to medium risk (10–20%)
- Medium to high risk (20–40%)
- High risk (40–80%)
- Extremely high risk (over 80%)
- Water shortage

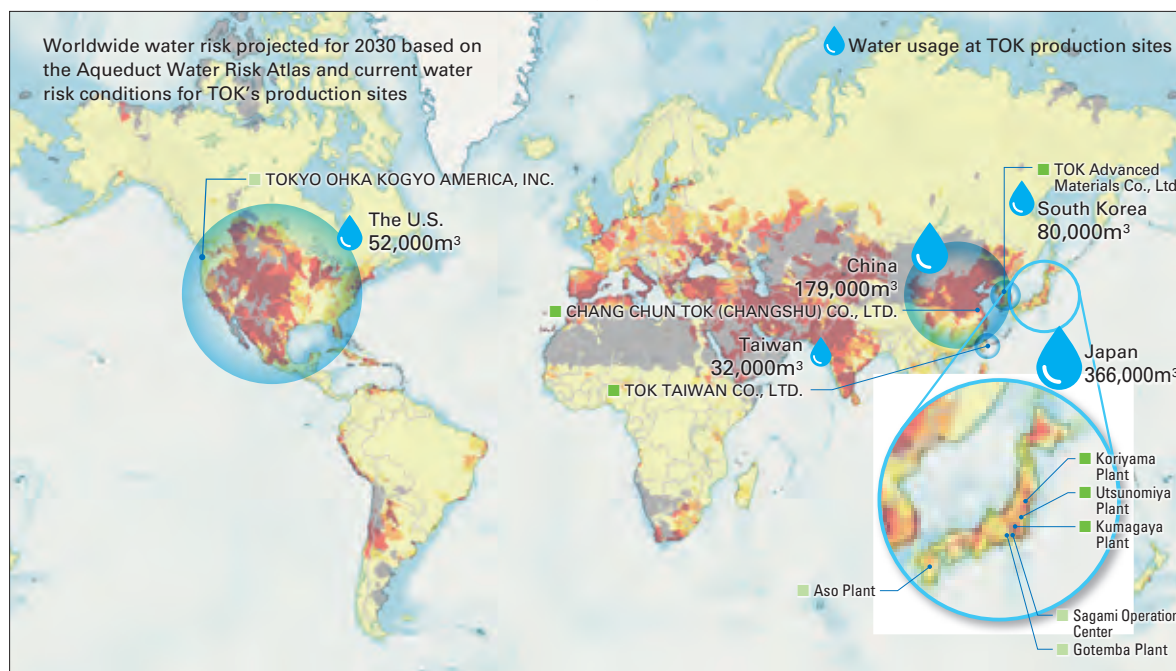
### Overall Water Risk

The current degree of exposure to water risk at TOK’s production sites, based on a comprehensive evaluation of Physical Risk Quantity, Physical Risk Quality, and Regulatory & Reputational Risk

- Low risk (0–1)
- Low to medium risk (1–2)
- Medium to high risk (2–3)
- High risk (3–4)
- Extremely high risk (4–5)

#### Business-as-usual (BAU) scenario (RCP8.5)

The BAU scenario is one of four scenarios for representative concentration pathways outlined in the Intergovernmental Panel on Climate Change’s Fifth Assessment Report. This scenario assumes no further efforts are made to suppress emissions after already introduced or currently planned measures to reduce emissions. This scenario assumes maximum emission volume among projected greenhouse gas emissions as of 2100.



#### Aqueduct Water Risk Atlas

Aqueduct is an interactive website tool for mapping water risk provided for free by the World Resources Institute (WRI), a thinktank in the U.S. that researches water and other natural resource problems.

Aqueduct provides data on water risk at the production sites of companies. The website also offers detailed information about natural resource problems in various regions of the world.



An assessment of the water risk level of the TOK Group’s manufacturing sites resulted in a “medium” risk level being identified. We are currently able to use abundant quantities of water.

However, it is possible that the situation could become severe in the future due to water intake restrictions or waste restrictions through tightening of regulations, etc. To prepare for this possibility, we continue working to reduce our water risk by reducing water usage, reducing pollution risk, and examining the impacts of natural disasters, etc.

#### TOK’s Human Resource



**Taiji Shigematsu**

*General Manager, Manufacturing Dept.*

#### Preparing for Water Risk over a Wider Range

Under our recent focus on water risk, in 2019 we also set a medium- to long- term target on water risk. Previously, the Company’s efforts centered mainly on effective use of water and prevention of water pollution, and we took measures including investments in replacing water purification equipment. We also focused on activities such as day-to-day efforts to save water and observing waste standards. Looking ahead, we will consider the impacts of water intake restrictions due to typhoons, etc., and as the manager of our facilities and equipment, I will work proactively to meet our target on this risk.

## Promotion of Resource Recycling: Reducing Industrial Waste Emissions and Landfill Disposal

### Key initiatives/Results in 2019

**Volume of industrial waste per base unit**  
**Down 9 points**  
(year on year)

**Zero emissions**  
**Achieved for six consecutive years**

#### Basic Concept

We conduct 3R activities (reduce, reuse, recycle) for effective use of limited natural resources. By restricting the volume of waste generated, thoroughly sorting the waste by type and increasing the volume that's recycled, we are working to make more effective use of resources. We strive to maintain zero emissions\* by working to reduce landfill disposal volume by processing waste products through combustion or crushing, called intermediate treatment, and through stabilization and volume reduction initiatives.

\* Zero emissions: Landfill disposal volume (direct or after intermediate treatment) of less than 1% of industrial waste discharged by business activities

#### Reduce Industrial Waste Emissions

In 2016, TOK set a new medium-term target for reducing industrial waste (per base unit) by 5 points by 2020 compared with 2015 (reduction of 1 point annually). With this target in mind, TOK has been advancing activities to reduce various industrial waste, such as by refining and reusing process effluents, internal effluent processing, internal recovery, and converting waste into items of value.

In 2019, our efforts to reuse process effluents by refining them and to proactively convert waste into items of value succeeded in reducing our waste emissions per base unit by 9 points compared with the previous year. This represented a 26 point reduction compared with 2015, the base year of our Medium-Term Plan.

#### Achieved Zero Emissions

In 2019, industrial waste subject to landfill disposal after intermediate treatment stood at less than 1% of total waste, so we have achieved zero emissions for six consecutive years.

#### Volume of Industrial Waste\*1, \*2



\* Changed to the total for January to December to reflect a change in the fiscal year-end.

\*1 The base unit index is calculated after adding general industrial waste and specially controlled industrial waste.

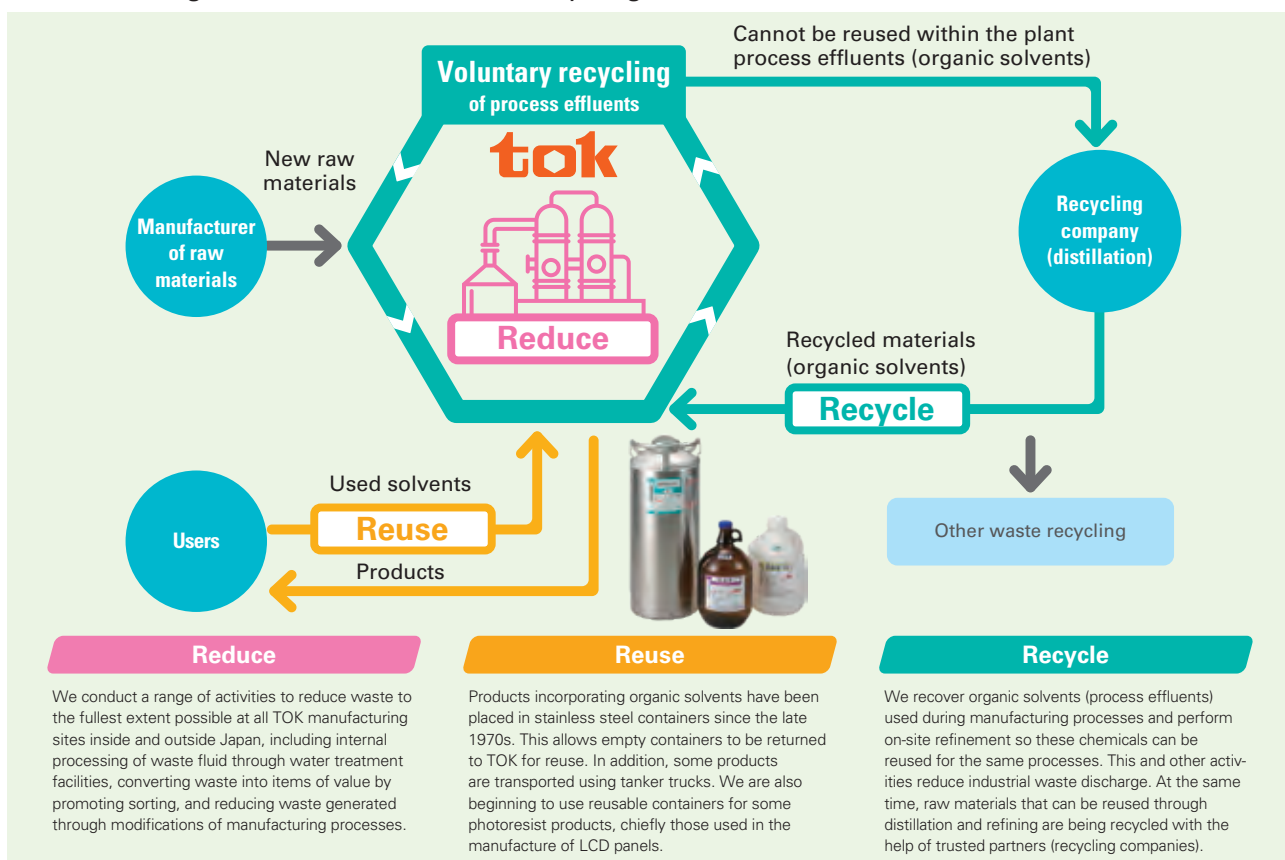
\*2 We are committed to reducing the amount of industrial waste generated, and our goal is to reduce this amount by 5 points (1 point per year) by 2020, taking the index for 2015 as the base unit.

#### Techniques for Recycling Organic Solvent Effluents

TOK makes concerted efforts to effectively use waste emitted from its own plants. Waste oil is sorted by each type of recyclable solvent, a rating for impurities is assigned, and is analyzed whenever it is emitted. By strengthening management in this way, we are able to reuse waste oil that was previously treated as industrial waste and disposed. Waste oil with a mixture of organic solvents is blended with other waste oil of differing calories and water content to create combustion improvers. In addition, at our Utsunomiya Plant, we recovered highly purified solvents from our distillation equipment, and reused only the portion of them that meets our own rigorous standards in the production process to recycle them. TOK will continue efforts to reduce emissions of industrial waste by effectively utilizing resources.



### Flow of the Organic Solvent Waste Fluid Recycling



**Reduce:** This refers to reducing the volume of waste material generated. Reduction involves minimizing the volume of materials in products in order to minimize the volume of materials that is eventually discarded.  
**Reuse:** This refers to the use of manufactured goods, containers and other products repeatedly in order to reduce the volume of waste materials generated and conserve resources.  
**Recycle:** Recycling is the use of waste materials as a resource rather than burning these materials or sending them to a landfill. Recycling thus conserves resources and prevents pollution.

#### TOK's Human Resource



**Masayuki Tezuka**  
 Plant Administration Section,  
 Utsunomiya Plant

#### Promoting Recycling by Converting Waste into Items of Value

At the Utsunomiya Plant, many types of organic solvents are used, and the waste emitted from the manufacturing process mainly consists of flammable waste oil (a specially controlled industrial waste). Reducing the volume of this waste requires that it be recycled through distillation or converted into items of value such as a high calorie fuel. We constantly think about this issue as we work to promote conversion of waste from our manufacturing processes into items of value. We also proactively promote investigation of how to turn the containers, etc. for our raw materials into items of value while exchanging ideas with raw material manufacturers. We will continue promoting the reduction of waste through even greater cooperation with relevant divisions and business operators going forward.

#### TOK's Stakeholder



**Mr. Keiichi Matsubara**  
 Officer, KOBEX Co., Ltd.

#### Working Together to Further Reduce Waste

Since its foundation in 1969, KOBEX Co., Ltd. has been driving the development of environmental and energy-saving equipment and patented technologies, constantly developing technologies to meet the needs of the era. In the past few years, we have aimed to become a company that contributes to recycling of resources, working with our solvent recycling equipment designed to recycle and reuse fossil fuel and vacuum steam cleaning equipment, etc. based on our unique technologies.

We have had a relationship with TOK for around 7 years, since the installation of our equipment at TOK's Utsunomiya Plant. At the time of installation, we had a difficult challenge to make adjustments for the rigorous specifications of the semiconductor industry, but we resolved the issues one by one through close communication with the responsible person on TOK's side. After installation, we heard that the plant achieved a significant reduction in waste. Going forward, we hope to continue contributing to further waste reduction by proposing and developing the optimal equipment for TOK's plants in Japan and overseas while exchanging information with TOK's EHS Division, which is responsible for environmental activities.

## Air, Water and Soil/Biodiversity

### Key initiatives/Results in 2019



NOx emissions to the air

Down **3.7 tons**  
(year on year)



Estimated CFC leakage volume

**216t-CO<sub>2</sub>**



Employee training on biodiversity

**731 participants**  
(FY2019/12)

#### Basic Concept

The Group takes steps to lighten its environmental impact through reductions in greenhouse gases\* and chemical substance emissions by upgrading equipment, switching fuels, and reviewing manufacturing processes to preserve the air, water, and soil environments upon which our livelihoods depend.

\* Greenhouse gas: Gas in the atmosphere that allows sunlight to pass through but absorbs infrared rays emitted from the ground and sea. These gases are believed to cause global warming.

#### Prevent Air, Water and Soil Pollution

##### • Reducing emissions of air-polluting substances

TOK has been converting its boilers to use natural gas to reduce emission of sulfur oxide (SOx) and nitrogen oxide (NOx), which are major contributors to air pollution. Boilers at all plants now use low-emission natural gas as fuel, with the exception of plants without access to city gas supplies. In 2019, SOx emissions related to business activities decreased by 0.5 tons year on year. NOx emissions decreased by 3.7 tons year on year, mainly due to improvements in the method of operation of the electric power generator at the Koriyama Plant.

##### • Monitoring soil pollution

The TOK Group manages the risk of soil and underground water pollution with the recognition of concerns that such pollution could threaten the safety and health of local residents and employees. In the event that surveys discover soil or underground water pollution, the Company will rapidly disclose information and take remedial actions to ensure the health and safety of local residents.

In 2019, a leakage accident occurred at the Koriyama Plant (see page 99). TOK handled the matter appropriately, reporting to the relevant government agencies the status of pollution and

measures being taken to prevent the pollution from spreading. To prevent soil and underground water pollution, etc. from spreading to nearby areas, we will continue activities to avoid pollution risk by properly conducting soil surveys in accordance with laws and regulations.

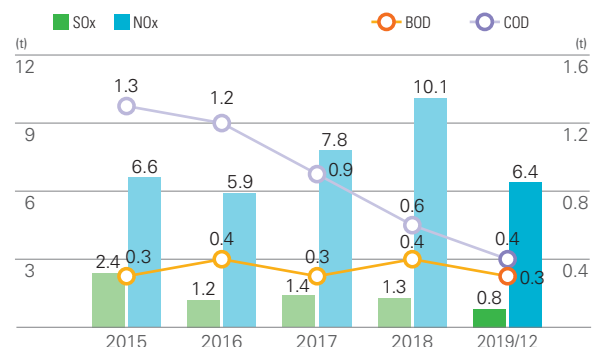
##### • Reducing emissions of water-polluting substances

TOK has set its own management standards for treating wastewater from its sites that are stricter than regulations in laws and local ordinances for purifying wastewater, such as activated sludge processing, at its process wastewater treatment facilities. Only water that satisfies standards for cleanliness is released into the public water system.

The Company also periodically evaluates water quality for compliance with its own standards as well as laws and regulations. In 2019, there were zero incidents where water quality did not meet its own standards or required values set by laws and regulations. TOK will continue its efforts to reduce emissions by maintaining and managing its process wastewater treatment facilities so water can be released after satisfying applicable standards.

BOD emissions in the water discharged into public waters in 2019 were approximately 0.3 tons, while COD emissions were 0.4 tons.

#### SOx/NOx/BOD/COD Emissions



\* Changed to the total for January to December to reflect a change in the fiscal year-end.

### Countermeasures against Ozone-Depleting Substances

The TOK Group uses ozone-depleting chlorofluorocarbons, such as CFC-11 and CFC-12, as coolants for refrigerators and freezers. The entire Group is working to reduce equipment that uses these, and to switch to alternative substances and green coolants (non-CFC). The revised Act on Rational Use and Proper Management of Fluorocarbons mandates regular inspections and reporting leakage volume, and TOK is updating its environmental system for the proper management, filling, and disposal of CFCs. As a result of taking appropriate measures, TOK's estimated leakage of CFCs in 2019 was approximately 216t-CO<sub>2</sub> based on the Act. TOK will continue to conduct group-wide inspections such as periodically replacing fire extinguishing equipment that uses ozone-depleting substances with the aim of further strengthening management to prevent any CFC leakage from occurring.

\* Data collection period: April 2019 to March 2020

### Comply with PRTR Law

Under the Japanese Pollutant Release and Transfer Register (PRTR) Law, companies are obligated to manage and report to the government the production, release and transfer of designated chemical substances. To accurately calculate and report these figures, TOK relies on its chemicals and PRTR management system.

Of the Class I Designated Chemical Substances, a list of 462 substances defined by the PRTR Law, TOK handled 41 substances (a total of 1,120 tons) in 2019, and the Company estimates 3 tons were released into the atmosphere and public water systems. TOK works to measure emissions of VOCs and harmful air-polluting substances through PRTR surveys with the Japan Chemical Industry Association, of which it is a member.

\* Data collection period: April 2019 to March 2020



Future  
Issues  
and  
Initiatives

The Group has devised countermeasures for pollution of air, soil, and water, etc., and has been working to prevent pollution.

Despite these efforts, there was a leakage accident at the Koriyama Plant in 2019. We will continue to cooperate with the government to monitor the status of the pollution, at the same time drawing lessons from this environmental accident to raise our awareness as a company that handles chemical substances and making thorough efforts to prevent a recurrence.

### Preserve Biodiversity

The TOK Biodiversity Protection Declaration guides the TOK Group's activities to preserve biodiversity. In 2019, 731 employees participated in biodiversity training and seven employees were dispatched to help with afforestation projects alongside local residents through the Kanagawa Trust Midori Foundation. We will continue to conduct these basic activities to preserve biodiversity with the intention of starting a ripple effect inside and outside the Company, spreading them throughout society.

#### TOK Biodiversity Protection Declaration

[https://www.tok.co.jp/eng/csr/env-activity/s\\_management.html](https://www.tok.co.jp/eng/csr/env-activity/s_management.html)



### Regarding Soil Pollution at the Koriyama Plant

In June 2019, we discovered soil pollution caused by leakage of 1,4-dioxane at the Koriyama Plant. We responded promptly and appropriately, making a report to the Koriyama City Environmental Conservation Center and holding several consultations with it, then repairing our equipment and so forth. The polluted soil has been removed and disposed of, and replaced with non-polluted soil. Furthermore, pollution of underground water, which had been a concern, was contained within the site of the plant. We pumped this water up to the surface to treat it and installed an observation well to undertake regular monitoring of the status of pollution. We will continue to vigilantly monitor the underground water and cooperate closely with the government to prevent the pollution from spreading while completing the clean-up process.

### TOK's Human Resource



Yuichi Okada

Plant Administration Section,  
Utsunomiya Plant

### Promoting Recycling by Converting Waste into Items of Value

The Utsunomiya Plant is situated in one of Japan's largest inland industrial parks. To comply with Tochigi Prefecture's wastewater standards, our wastewater is treated at our wastewater treatment facility and then treated again in a secondary high-level process at a wastewater treatment facility within the industrial park, before being discharged into a river. Since various organic solvents are used inside the plant, we conduct daily in-house analysis as well as having an external measurement organization conduct a monthly analysis as part of our rigorous management to ensure that no abnormal wastewater occurs. We will continue making daily efforts on environmental preservation activities to reduce the risk of pollution of limited water resources.



# Managing Chemical Substances

## Strengthening Activities Related to Product Responsibility and Product Stewardship

### Key initiatives/Results in 2019



**Accurately evaluated chemical substance risks in a timely fashion and properly managed these risks**



**Completed disposal of high-concentration PCB**

#### Basic Concept

Management of chemical substances is also a key priority for the Company from the perspective of social responsibility. In addition to observing laws and regulations, we make a group-wide effort to ensure correct management of chemical substances while being mindful of globally expanding environmental issues. To this end, we have been working to reduce our impact on the environment, including combating global warming, managing chemical substances, effectively utilizing resources, and reducing waste. In other words, we are strengthening activities related to product stewardship.

#### Carry Out Appropriate and Reliable Management of Chemical Substances

TOK is working to establish a system for properly conveying data about chemical substances throughout the supply chain as part of its product stewardship activities, a key pillar in Responsible Care. Timeliness and accuracy of information are vital when conveying data about chemical substances. "Upstream management" is very important for the timely and accurate receipt of information about chemical substances from upstream suppliers. In addition to the information about chemical substances received from these suppliers, TOK must obtain and manage the latest information about chemical substance regulations in each country and display information on product safety data sheets (SDS) and labels to present its customers with accurate relevant information about chemical substances in a timely manner.

In 2019, we reviewed these internal processes and also took steps to identify internal processes and operations that need to be strengthened in order to reduce risks related to chemical substance management. We will continue to revise and maintain our documentation, organizing manuals from an overall group-wide perspective to further reduce risk.

#### Properly Comply with the PCB Special Measures Act

In 2019 we completed disposal of the high-concentration PCB\* that was stored at the Sagami Operation Center. For low-concentration PCB, we have undertaken proper storage and management in accordance with prescribed storage standards for waste, including PCB, at three sites: the Sagami Operation Center, the Shonan Operation Center, and the Gotemba Plant, while also filing reports with the government. TOK must continue to dispose of all electrical substation facilities and related waste used and stored at all of its sites by the legally mandated deadline of 2027. The Company intends to dispose of this waste in stages by drawing up plans to update equipment in a way that does not interfere with business activities.

\* Polychlorinated biphenyl (PCB): A kind of organic compound, PCB was formerly used for thermal media, insulating oils, paints and other applications because it excels in terms of heat resistance and electrical insulation. However, due to its poor degradability and high toxicity, PCB production was discontinued in 1972. Nevertheless, little progress has been made with regard to its disposal, and managers responsible for its storage are required to place it under strictly controlled conditions.

#### TOK Group Standards on Chemical Substances Management

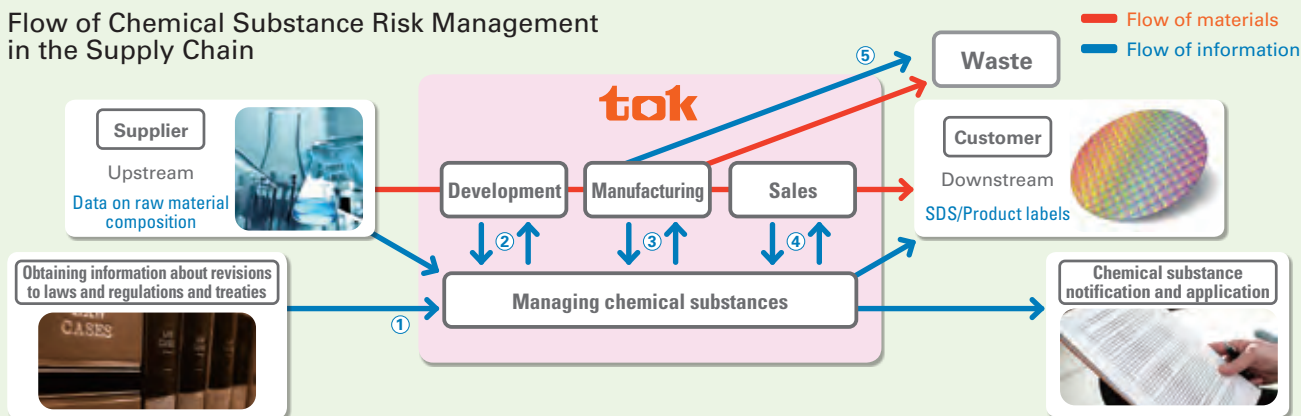
To promote initiatives related to reducing environmental impact, we are focusing on managing chemical substances during the raw material procurement stage. For this reason, in January 2005 we formulated the TOK Group Standards on Chemical Substances Management, and have made multiple revisions to comply with the latest laws and regulations, such as REACH regulations and regulations related to conflict minerals.

In the seventh edition the Company issued in May 2017, we renamed it the TOK Group Standards on Chemical Substances Management, and clarified regulations for chemical substances at Group sites and customer requirements for the environmental management of substances. The TOK Group Standards on Chemical Substances Management are used as a tool for obtaining data on chemical substances from suppliers, and by sharing information through the supply chain, we will continue to properly manage chemical substances within the context of risk management.

#### Chemical Substance Risk Management in the Supply Chain

To properly manage chemical substance risk in the supply chain, it is necessary to provide information in accordance with the flow of materials. For each stage of development, manufacturing, sales, and disposal, TOK has created procedures for complying with laws and regulations and managing risks.

## Flow of Chemical Substance Risk Management in the Supply Chain



### (1) Obtaining information about revisions to laws and regulations and treaties

For the chemical substances handled by the TOK Group, we have put in place a system for complying with legal requirements and ascertaining the existence of regulated substances under laws and regulations and treaties including chemical substance management laws and regulations in each country, such as the REACH regulation\*1 or other laws governing conflict minerals\*2, and determining whether or not such substances can be used. Moreover, for high-risk chemical substances whose use will be prohibited in the future due to tighter regulations, we have proposed and are managing the progress of elimination plans for all products to ensure that the use of such substances is stopped and inventories are disposed of prior to the implementation of the laws and regulations.

### (2) Development stage

For newly developed raw materials, in addition to the abovementioned legal and regulatory information, we also check to confirm whether they contain chemical substances identified in our own TOK Group Standards on Chemical Substances Management, which stipulate substances whose use is prohibited or should be eliminated. Moreover, we check developed products with respect to customers' requirements as well. If products exceed the levels of the TOK Group Standards on Chemical Substances Management, we strive to propose an alternative plan and eliminate them.

### (3) Manufacturing stage

All raw materials used to manufacture products are subject to occupational health and safety risk assessments. The Company identifies hazardous factors in the production environment, clarifies the hazard level, implements measures to mitigate and eliminate the hazardous factors based on their risk level, and then takes action to lower the risk. In this way, TOK maintains a proper work environment for its employees.

### (4) Sales stage

TOK has connected its ERP system, which manages product shipment volumes, and its chemicals and PRTR management system, which manages chemical substance composition, to create a framework for automatically calculating the volume of chemical substances transferred. With this framework, TOK is able to appropriately report chemical substance volumes and apply for their usage in accordance with the Chemical Substances Control Law\*3 and the PRTR Law\*4 in Japan, as well as the laws and regulations of the countries that import its products.

### (5) Disposal stage

Waste from each site is thoroughly sorted by type and recycled, and properly disposed when necessary. For waste disposal companies contracted to dispose the waste, TOK provides information about the type of waste handling precautions through a Waste Data Sheet (WDS). The Company periodically visits the waste disposal companies to perform on-site audits and ensure waste is being disposed properly in accordance with contractual agreements.

\*1 REACH regulation: Registration, Evaluation, Authorization and Restriction of Chemicals. This is an EU regulation that manages the registration, evaluation, and accreditation of chemical substances through an integrated system, with the aim of ensuring complete fulfillment of responsibility on the producers' part, as well as thorough compliance with preventive principles.

\*2 Conflict minerals: Refer to four types of minerals including tin, tantalum, tungsten, and gold mined in the Democratic Republic of the Congo and adjoining countries experiencing armed conflicts. These minerals are regulated under the U.S. Dodd-Frank Act (financial regulatory reform act).

\*3 Chemical Substances Control Law: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

\*4 PRTR Law: Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof



Future Issues and Initiatives

For raw materials used in newly developed products, we have established systems that are compliant with legal requirements and we check for the presence of materials that are restricted under the chemical substance management laws and regulations, etc. of each country. This work is mainly performed by the EHS Division, which is responsible for chemical substance management. While this arrangement has the benefit of centralized management, issues are beginning to emerge with regard to response speed as the Group's development sites become more globally spread out. Looking ahead, we will create structures that enable us to select chemical substances with lower environmental impact at an earlier stage. This will include having the EHS Division provide information about laws and regulations, etc. more quickly to relevant divisions such as development divisions.

### TOK's Human Resource



Yoshiaki Takahashi  
Chemical Substance Management  
Section, EHS Div.

### Aiming for a Structure That Can Reduce Substances of High Concern Ahead of Laws and Regulations

As the philosophy of the SDGs spreads throughout the world, environmental regulations are being tightened each year. It is therefore important not only to observe these regulations, but also to take the lead in reducing the use of chemical substances whose use may be restricted in the future or whose impact on people and the environment is of high concern. The Company will carry out its social responsibility as a company that handles chemical substances by moving ahead of regulations to build systems that will reduce substances of high concern, and proactively engage with global environmental issues as well.





# Occupational Health and Safety/Security and Disaster Prevention

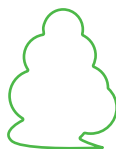
## Occupational Health and Safety/Reducing Risks Posed by Chemical Substances

### Key initiatives/Results in 2019



#### Acquired ISO 45001 certification

(Taiwan site)



#### Reduced risk in handling chemical substances

#### Basic Concept

The Company recognizes that ensuring the safety and health of workers is the social responsibility of any company that conducts business activities, and that this is demanded by all stakeholders. We aim to foster and entrench a safety culture and to increase the happiness of our employees by providing comfortable, safe workplaces.

#### Health and Safety System

In its initiatives for occupational health and safety, TOK conducts various activities to prevent accidents based on the annual action plan of the Safety and Health Committee. Company-wide issues that a single site cannot address on its own are examined by the Safety and Health Liaison Unit, which is headed by the Department Manager of the General Affairs Dept. The Safety and Health Liaison Unit shares information about the measures that must be horizontally developed across all sites. Based on this organizational structure, the Company advances activities to prevent injuries and fire accidents caused by chemical substances, as well as severe injuries caused by machinery or heavy objects. In the event of a workplace

accident, TOK takes thorough countermeasures to improve safety and rolls them out horizontally across the organization.

#### Acquiring ISO 45001 Certification

In recent years, many customers have required us to acquire ISO 45001 certification or asked us to comply with RBA requirements. Aiming to meet these demands, and increase the Company's occupational health and safety level, as well as to reduce business continuity risks posed by workplace accidents, we have been working to acquire ISO 45001 certification at our sites in Japan. In addition, through these activities we are seeking solutions for various health and safety issues, including workforce, labor saving, and mental health.

In 2019, we acquired ISO 45001 certification at the Tongluo Plant of our overseas subsidiary, TOK TAIWAN CO., LTD. For our sites in Japan, we are progressively acquiring certification, having first acquired it at our Gotemba Plant in 2020.

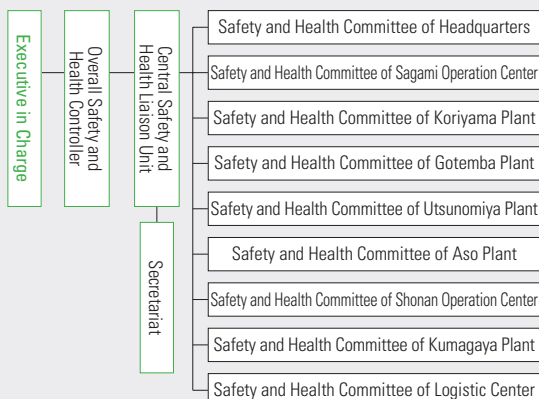
#### Initiatives for Reducing Risk in Handling Highly Corrosive Chemical Substances

The Company uses chemical substances with corrosive properties in the manufacture of semiconductor-related products. We constantly reassess our manufacturing lines and work procedures, and share information about safety measures among sites that use the same chemical substances in an effort to improve safety countermeasures. In 2019, the Company had a third-party institution conduct a health and safety audit of the Aso Plant to ascertain the suitability of the safety measures it has implemented on its own and identify any potential sources of danger. Based on the results of this audit, we are making efforts to further increase health and safety levels, such as formulating and starting implementation of internal guidelines for handling of highly corrosive chemical substances.

#### Implement Emergency Response Training/ Environmental Awareness Training/ Guideline Training for Accident Prevention

TOK operates environmental management systems at each site, and periodically conducts drills for responding to emergencies and natural disasters, such as earthquakes, based on potential scenarios it has clarified for emergency situations. Many workers from third-party vendors are often engaged in

Safety and Health Management Function Organizational Chart



construction or maintenance of machinery at the Company's sites. In 2019, TOK formulated and started operation of the Third-Party Vendor Management Guidelines as a common set of rules for the entire Company to prevent environmental accidents and workplace injuries when people from third-party vendors perform work. We have created detailed rules at each site based on these guidelines and are working to prevent accidents and injuries.



Emergency response training (Utsunomiya Plant)

### Prevention of Workplace Accidents

Safety and Health Committees at each site aim to make workplaces safe for employees. They have been conducting activities to prevent workplace accidents, while aiming to maintain and improve various factors. In addition, we are working to improve the safety level of the entire Group through measures such as preparing manuals for emergency measures, etc. in the event of accidents or workplace accidents, and conducting systematic training sessions and drills for employees, as well as fostering employee safety awareness.

In 2019, there were 13 workplace accidents (2 that resulted in lost workdays, 11 that did not); however, the frequency rate of workplace accidents was lower than the averages for the manufacturing and chemical industries. Moreover, the workplace accidents that occurred in 2019 include cases that occurred during movement of heavy objects. Since the Group's manufacturing process includes many operations that involve handling heavy objects, we have recognized this as a serious risk, and taken steps to prevent a recurrence by implementing risk assessment and countermeasures for these operations at all sites.

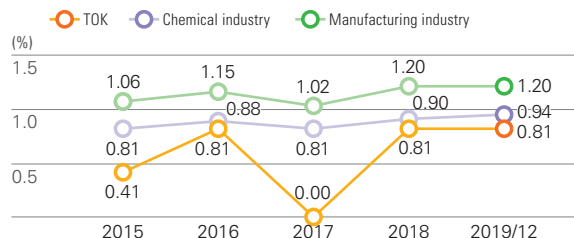


Future Issues and Initiatives

In addition to the Group's existing ISO 9001 and ISO 14001 certifications, it has been working since 2018 to acquire occupational health and safety management system (ISO 45001) certification, aiming for acquisition at all sites in Japan, including the Headquarters, by 2023. Furthermore, the goal of our initiatives is not the acquisition of certification, but to build a robust management system for preventing workplace accidents to ensure the continuous improvement of employee health and safety.

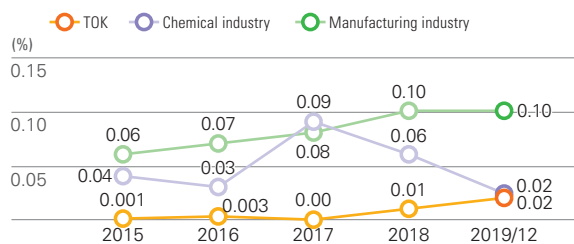
We will continue conducting risk reduction activities and employee safety awareness raising, aiming to achieve "zero accident risks."

### Frequency rate of workplace accidents (%)



\* Frequency rate: shows the frequency of accident occurrences as the number of deaths and injuries due to workplace accidents per million work hours  
 Frequency rate = (number of deaths and injuries due to workplace accidents / number of work hours) × 1,000,000  
 (Number of deaths and injuries due to workplace accidents = number of deaths and injuries resulting in 1 or more lost workdays)

### Severity rate of workplace accidents (%)



\* Severity rate: shows the severity of accidents as the number of lost workdays per thousand work hours  
 Severity rate = (number of lost workdays / number of work hours) × 1,000  
 (Number of lost workdays = number of lost workdays of dead and injured workers due to workplace accidents)  
 Source of data for chemical and manufacturing industries: Ministry of Health, Labour and Welfare's Survey on Industrial Accidents

### TOK's Human Resource



**Katsuhiro Niki**  
 Deputy General Manager,  
 Human Resources Div.

### Accelerating the Fostering of a Safety Culture through the Acquisition of ISO 45001 Certification

The Company intends to reform its previous health and safety management activities into a more unified and effective system. To this end, we are working to introduce occupational health and safety management system (ISO 45001). Acquiring ISO 45001 certification will help to improve employee health and safety awareness and reduce the risk of accidents and injuries, while increasing trust from customers and employees.

The Gotemba Plant became the first of our plants in Japan to acquire the certification in June 2020. Now, we will share this experience with other sites and work to acquire the certification at all sites. Furthermore, as part of our CSR activities we will also aim to increase social trust by realizing a company where people can work safely and securely.



# Stakeholder Communication

As a member of society, the TOK Group will continue to create value and help address social issues while engaging in dialogue with stakeholders to gain insight into their expectations for the Group.



## Dialogue about the Environment and Safety



Number of participating employees

**665**

(2019 result)

TOK strives to heighten consciousness of the environment and safety among employees and interact more with local residents through conducting activities such as cleaning up the surrounding areas and raising awareness of transportation safety in their communities at each domestic site.

In the fiscal year ended December 31, 2019, employees of our Taiwan site and their families participated in activities including cleaning areas around their sites, such as a beach clean-up. Employees also donated blood and took part in activities to promote awareness of traffic safety among local residents around the Gotemba Plant. Employees also help afforestation activities with Kanagawa Prefecture residents through the Kanagawa Trust Midori Foundation, which works to preserve water resources and the environment in Kanagawa Prefecture where our Headquarters is located.



## Dialogue for the Development of Science



Grant programs

**84 grants**

**¥35.40 million**

(Grants provided in 2019 through the Tokyo Ohka Foundation for The Promotion of Science and Technology)

TOK contributes to the advancement and development of science and technologies through the Tokyo Ohka Foundation for The Promotion of Science and Technology. Established by our founder, Shigemasa Mukai, the Foundation was founded on his philosophy that the development of Japan, a nation with few natural resources, depends on the development of innovative technologies from advances in fundamental research, and the application of these technologies in industry will lead to peace and prosperity for humanity. The Foundation contributes to the promotion and development of science and technology throughout the world by assisting international exchanges between researchers.



## Dialogue with Local Communities



Number of visitors

Approx. **1,700**

In creating shared value, TOK focuses on cooperating and collaborating with local communities, as well as building relationships based on trust. The Company proactively engages in social contribution activities around its business sites. During the fiscal year ended December 31, 2019, TOK held its 33rd Noryosai (summer festival) at the Company's housing complex and dormitory adjacent to the Shonan Operation Center as a venue to communicate with local residents and business partners. At the Gotemba Plant, we invited local children and their families to a Living Nature Observation Tour at the Dragonfly Pond, the plant's biotope. At the Koriyama Plant, many employees participated in the 22nd Nikokai\* Noryosai (summer festival). We will continue these initiatives, which provide important opportunities for communication with members of the local community.

\* An abbreviation for the Koriyama Seibu No. 2 Industrial Park Industry Association to which the Koriyama Plant belongs