



To Our Stakeholders—A Message from the President—



TOK further advances to become a 100-year company in 2040, increasing both its economic value and social value by contributing to a sustainable future through chemistry.

Noriaki Taneichi *President and Chief Executive Officer*



Record-High Performance

Supporting semiconductor supply with meticulous supply chain management amidst global confusion caused by the COVID-19 pandemic

The spread of the novel coronavirus disease started in late 2019 (COVID-19) and has yet to subside with the resurgence of variants while vaccination proceeds. We extend our sincere sympathy to the infected persons, and our deepest condolences to those who lost loved ones. We are also profoundly grateful to all persons engaged in preventing the spread of the infection and maintaining social functions.

Our group achieved record-high performance all in sales, operating income, and current net income attributable to owners of the parent in FY 2020/12 as the second year of the TOK Medium-Term Plan 2021. Despite the current global confusion caused by the COVID-19, the demand for semiconductor photoresists and high-purity chemicals has grown resulting from the dissemination of 5G and IoT, combined with the increased demand for remote working and staying home, and enhanced cloud services. This is because the semiconductor industry was positioned as an essential business in each country even under the COVID-19 pandemic, and because we have continuously responded to the demand by implementing thorough measures to prevent both getting infected and infecting others in cooperation with internal and external stakeholders so that semiconductor production would never be interrupted. On the other hand, since many photoresists and raw materials are tailored and have short shelf lives, excess inventory may result in a substantial loss. Therefore, we have carefully examined at all times the supply-demand balance and order receiving/placing time through close communication with customers, our sites, and suppliers. These efforts have also led to the record-high performance. I would like to once again extend my gratitude to all employees and suppliers who have committed to meticulous supply chain management (SCM) despite the restrictions and inconveniences that affected our sales activities, research and development, and many other aspects.

Regarding the term-end dividend for FY 2020/12, we maintained the DOE 3.5% policy, considering long-term shareholders who have supported TOK as a long-run R&D-based company. In addition, we have also determined to pay dividends commemorating the 80th anniversary at 94 yen per share (annual dividend was 154 yen).

Semiconductor demand seems to further increase in society. The TOK Group will continue contributing to the sustainable development of society by finding opportunities and responding to global risks that include the infectious

disease and climate change, as well as unexpected risks that will emerge, in cooperation with stakeholders.

Enhancing economic value and social value as the global No. 1 manufacturer of semiconductor photoresists with the largest global market share

TOK celebrated its 80th anniversary last year. Under the management philosophy stated by the founder Shigemasa Mukai since the establishment of the company, we at TOK have achieved continuous growth by increasing both its economic value and social value through the inherited integrated thinking for making sure that all management resources and initiatives ultimately lead to contributing to society. The global risk over the past year has refreshed our recognition of the social value that we provide, and the significance of our social responsibility as a global No. 1 manufacturer of semiconductor photoresists.*1

For example, in the digital transformation (DX) that proceeded in the COVID-19 pandemic, we are proud of contributing to the health and safety of people across the world, improvement of productivity, and shift to the new normal by providing our high value-added cutting-edge products such as EUV/ArF/KrF photoresists, high-density integration materials, and high-purity chemicals. DX particularly advanced in the U.S., and a research reports that automation proceeded at worksites under the COVID-19 pandemic, leading to the productivity improvement by 2.6% in 2020, the highest increase in 10 years.*2 Our photoresists were also used in cutting-edge semiconductor devices for supercomputers that supported the development of COVID-19 drugs and the research of preventive measures. We also supplied resists and devices for power semiconductors that were indispensable for extracorporeal membrane oxygenation (ECMO) to treat COVID-19 patients, thereby supporting the rapid production increase of the machines.

As the response to the climate change risks and efforts for decarbonization are accelerated in Japan and overseas, we have also supplied resists and devices for power semiconductors that are critical for renewable energy systems (such as wind power and solar power generation), EVs, and various energy-saving machines. The immediate supply-demand conditions for i-Line and KrF photoresists used in power semiconductors are tight for the automobile industry and for other uses. We have also endeavored to fulfill our supplier responsibility as the manufacturer with the largest global market share by pursuing stable supply based on several sites from the viewpoint of risk diversification.

In the development of new businesses envisioning

future business portfolio, materials for biochip production for next-generation DNA sequencers were introduced into COVID-19 virus analysis sites and elsewhere, and the sales of cell sequencing chips that contribute to the advancement of pathological diagnosis also increased thereby providing social value in the life science field, in addition to the semiconductor and electronic material fields.

In FY 2021/12 as the final year of the medium-term plan, we will leverage the value created as above in responding to new risks and opportunities and will aim to further increase our economic value and social value.

*1 Based on the projected shipment volume of photoresist for EUV, ArF, KrF, g-Line, i-Line in 2020 (calculated based on Fuji Chimera Research Institute, "Current Status and Future Outlook of Cutting-edge/Noticeable Semiconductor-related Markets 2020")

*2 Source: *Nihon Keizai Shimbun*, February 23, 2021



TOK Medium-Term Plan 2021 and Initiatives for Material Issues

Aiming to supply high value-added products that contribute to society to the extent that they outweigh geopolitical risks

At present, the high operating rates continue in the semiconductor industry based on the high demand related to 5G, IoT, and AI, as well as the ongoing shift to a data-driven society. The advancement and demand increase are also in progress for cutting-edge photoresists that promote the performance improvement of semiconductors. In addition, the advancement and demand increase will also proceed in full scale for the cutting-edge packaging domain, including the laminating technology for semiconductors, while the demand for power semiconductors will also be increased by the acceleration of decarbonization in Japan and overseas. Therefore, our business opportunities will continue to increase in the front-end and back-end processes, cutting-edge domains, and general-purpose domains.

On the other hand, the semiconductor industry faces geopolitical risks such as U.S.-China trade friction and tension between Japan and South Korea; and they are tending upwards. The supply-demand conditions are also increasingly tight in the automobile industry and other industries. Under these circumstances, the review of the concentration of semiconductor production in Asia and the reshoring of production are in progress.

Furthermore, the increasing climate change risks are beginning to have a direct impact on the semiconductor industry. The cold wave that occurred in Texas, USA, resulted in the interruption of operations at chemical plants and semiconductor plants, causing concerns about our raw

material cost and supply chain.

While carefully monitoring these global risks, the TOK Group will minimize their impact by developing business in five regions (Japan, U.S., China, South Korea, and Taiwan) for risk diversification, and by gearing up the business portfolio reform that has been promoted since the TOK Medium-Term Plan 2015. We will also continue to thoroughly comply with the laws and regulations in each country, and to pursue the creation of products supported by advanced technologies inherited since foundation, thereby aiming to supply high value-added products that contribute to society to the extent that they outweigh geopolitical risks.

Key measures in the final year of the medium-term plan and initiatives for material issues

The Company-wide Strategy (1) "Accurately identify and rapidly address the customers' voice to build an even larger and stronger pipeline to customers": The customer-oriented sites in the U.S., South Korea, and Taiwan extremely effectively functioned as a communication hub in FY 2020/12. Therefore, we will continue this initiative and consider the deployment of customer-oriented sites in new growing markets.

The Company-wide Strategy (2) "Strengthen marketing, increase understanding of the customers' value creation processes and translate these efforts into new value creation": We have reviewed our sales force and started to practice the marketing approach of seeing the forest while nurturing the trees. We have also focused on technical mar-

keting for each product.

The Company-wide Strategy (3) "Strengthen human resources who can perform research, make decisions, and take actions on their own initiative" and the material issue "Enhancement of personnel measures on a global basis": We will start the introduction of a new personnel system in 2022, being postponed due to the COVID-19 pandemic, focused on enabling human resources to maintain high motivation and the pursuit of happiness in personnel leading to enhanced corporate value based on a mission grade system. We have further improved the reemployment system, deepened the discussion toward higher employee engagement, and decided to conduct a company-wide engagement survey this year. In the development department, a performance-based reward system and an executive fellow system was introduced respectively in 2018 and in 2019. In 2020, the scope of the technological award system was expanded, adding the manufacturing process to the scope in addition to the conventional product development fields, thereby fostering an enhanced sense of unity. In coming years, we will develop human resources who can take action with the awareness of the global environment and with a broad perspective toward the resolution of new social issues and the creation of innovations, including decarbonization initiatives.

Regarding the material issue "Creation of new added value that contributes to innovation" based on the initiatives under **the Company-wide Strategies (1) to (3)**, progress

has been made in the development of EUV photoresists for the cutting-edge 3 to 2 nm processes for the miniaturization of semiconductors in FY 2020/12.

The Company-wide Strategy (4) "Strengthen management foundation": We upgraded balance sheet management following the formulation of TOK Vision 2030, thereby starting initiatives for maximizing cash generation capability by setting EBITDA target, and for improving asset efficiency using ROIC as a monitoring indicator. We have also started the operation of a new remuneration system for directors and audit & supervisory board members with an increased rate of performance-linked payment (45%), applying ROE and other evaluation indicators, and promoting the long-term holding of shares while serving in management. We recognize that these measures have steadily improved the management executives' awareness of performance indicators and capital efficiency and positive attitude for sharing interests with shareholders. In coming years, we will consider to formulate a system setting an ambitious target to help maintaining motivation, even in the downward swing of the market environment and performance.

The TOK Group aims to update the record-high performance in FY 2021/12, through the medium-term plan as above and the initiatives for material issues. These strategies aimed at sustainable growth and corporate value enhancement are defined from a long-term perspective in TOK Vision 2030.

TOK Vision 2030

Aiming to become a 100-year company in 20 years based on the accomplishments achieved over the next 10 years

The TOK Group has inherited since foundation the business model to develop and input high value-added products in niche markets with rapid technological changes. In the meantime, we have introduced a long-term perspective into management after operating deficit was recorded in 2009 for the first time since listing, immediately following the global financial crisis in 2008. Since 2010, we have pursued our management vision "Aim to be a globally trusted corporate group by inspiring customers with high value-added products," as the overarching aspiration for 2020, while endeavoring to achieve the consolidated operating income of 20.0 billion yen. As a result, these efforts led to the record-high performance in 2020, though the quantitative targets were left unattained. We are also proud of obtaining worthwhile trust in the global market by continuously pro-

viding high value-added products.

To further maintain and strengthen management from the long-term perspective as above, we formulated and disclosed TOK Vision 2030 in August 2020, aiming to become "The e-Material Global Company" contributing to a sustainable future through chemistry as a new management vision for 10 years ahead, and specifying the overarching aspiration and the seven strategies that substantially enhance the quantitative and qualitative aspects. Under this vision, we aim to become a 100-year company in 20 years based on the accomplishments achieved over the next 10 years by continuously increasing cash generation capability in the electronic material field as "The e-Material Global Company" until 2030, while promoting preparations to expand the future blue oceans. From 2030 to 2040, we will advance toward a 100-year company both in the new business fields developed as above and in the e-material field.

Recognition of the external environment—overcoming unexpected risks in cooperation with stakeholders and contributing to the achievement of a smart society

Through the advancement of electronics technology achieved by semiconductors and the progress of communication revolution led by 5G, society in 2030 is expected to be closer to a Super Smart Society (Society 5.0), where autonomous vehicles and AR/VR, remote medicine, agriculture and construction, and smart homes and flying vehicles will become common. The TOK Group will steadily grasp the business opportunities that will continuously emerge on the path toward that goal.

On the other hand, climate change risks, infectious disease risks, and geopolitical risks like U.S.-China trade friction will remain. We also need to prepare for system failure and cyberattacks as the negative side of DX, in addition to a water crisis and food crisis. Furthermore, as TOK is headquartered in Japan, we will have to cope with a decreasing working population. We at the TOK Group will cope with these risks by leveraging our unique managerial resources and strengths that we have accumulated through experience in handling and overcoming numerous risks since foundation. We will also get over unexpected risks that will emerge by joining wisdom with stakeholders.

What we hope by aiming to become “The e-Material Global Company” contributing to a sustainable future through chemistry

The new management vision incorporates our hopes toward the future enhancement of economic value and social value. First, we use the English phrase “The e-Material Global Company” to express our resolution to grow as a global company featuring e-materials over the next 10 years. Second, the phrase “through chemistry” indicates our strong will to persistently explore chemistry, continuing to specialize in fine chemical, our conventional domain maintained since foundation. The letter “心” in our company name, 東京応化 (TOK), presents our attitude to respond to the expectations of customers and society as we explained in the *Integrated Report 2018*. Third, “contributing to a sustainable future” announces our determination to continue exploring chemistry from a customer-oriented viewpoint, while carefully marketing and grasping the expectations of society, markets, and customers and to contribute to the SDGs toward 2030 as the final year. Particularly in this management vision, contributing to a sustainable future through chemistry is the core part and defined as a purpose that expresses our meaning of existence. Under this management vision that incorporates our purpose, we will continue to create new added value that contributes to innovation.

Overarching aspiration (qualitative aspects and quantitative aspects)

The qualitative aspects of the overarching aspiration for 2030 have been defined in five items as “provide new added value that inspires customers,” “earn trust from stakeholders worldwide,” “continue developing high technological capabilities and show international presence,” “enhance corporate value sustainably with an aim to contribute to SDGs,” and “all employees can work lively with pride.”

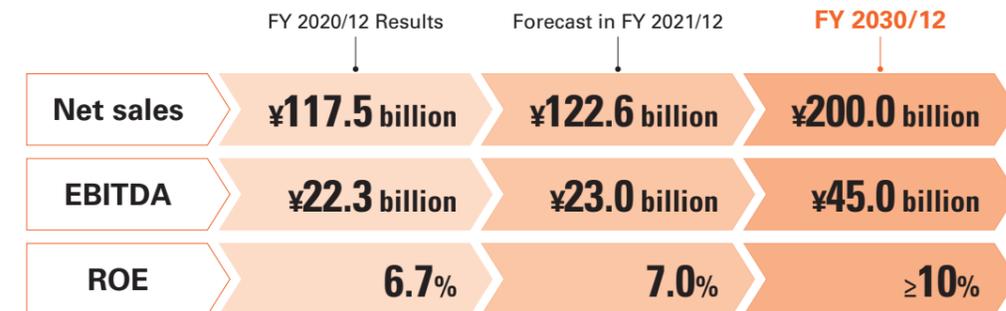
We have set qualitative targets in such a specific manner, because it is the most important that employees as our largest internal stakeholders share and personalize the vision, while establishing win-win relationships with all stakeholders, so that we can cope with various global risks, including unexpected risks, and continue contributing to the resolution of new social issues. With these in mind, I explained this vision in a video message, which has been distributed to employees at all sites in Japan and overseas in four languages.

As quantitative aspects, we have set a target to achieve the net sales of 200.0 billion yen, twice the amount in FY 2020/12, as the source of growth. In addition, we have defined EBITDA as a key indicator, and have set a target of achieving 45.0 billion yen as EBITDA in FY 2030/12, because cash generation capability holds the key to continued long-run R&D and proactive investment in the future. We will also continue endeavoring to improve capital efficiency, and aim to achieve ROE $\geq 10\%$ assuming EBITDA of 45.0 billion yen.

● Our Stakeholders



● Overarching Aspiration (Quantitative Aspects)



* Forecast-based amounts for FY 2021/12 are figures announced on February 15, 2021.

The four earning powers kept upgrading through relationships with stakeholders

At internal meetings aimed at achieving the management vision and the overarching aspiration (both qualitative and quantitative), I often emphasize the importance of continuously upgrading the four earning powers through relationships with stakeholders: technology (manufactured capital), human resources (human capital), human connections (social and relationship capital), and cash (financial capital). Specifically, technology is upgraded through collaboration with customers, academics/research institutions, and suppliers/startups, while human resources and human connections are upgraded through relationships with all stakeholders. While human resources at the TOK Group have been developed through strategy of close relationships with customers, collaboration with noncustomer stakeholders will hold the key to a further leap of TOK. We consider that the high added value generated through the combination of robust financial foundation with these non-financial earning powers based on technology, human resources, and human connections, will be the very source of our corporate value in coming years (see pages 40–45 “Special Feature”).

The TOK Group will be able to renew the record-high performance again in FY 2021/12, driven by the strong semiconductor demand. The “Seven Management Strategies” have been formulated for the group to maintain and strengthen the growth trajectory toward the achievement of the management vision and the overarching aspiration.

Seven Management Strategies

(1) Deepening and developing the e-material field

“Deepen and develop the e-material field” is the most important among the seven strategies, and TOK will continue to grasp business opportunities in the ongoing technological advancement in the front-end processes, back-end processes, and peripheral materials related to semiconductor manufacturing. Specifically, opportunities will increase

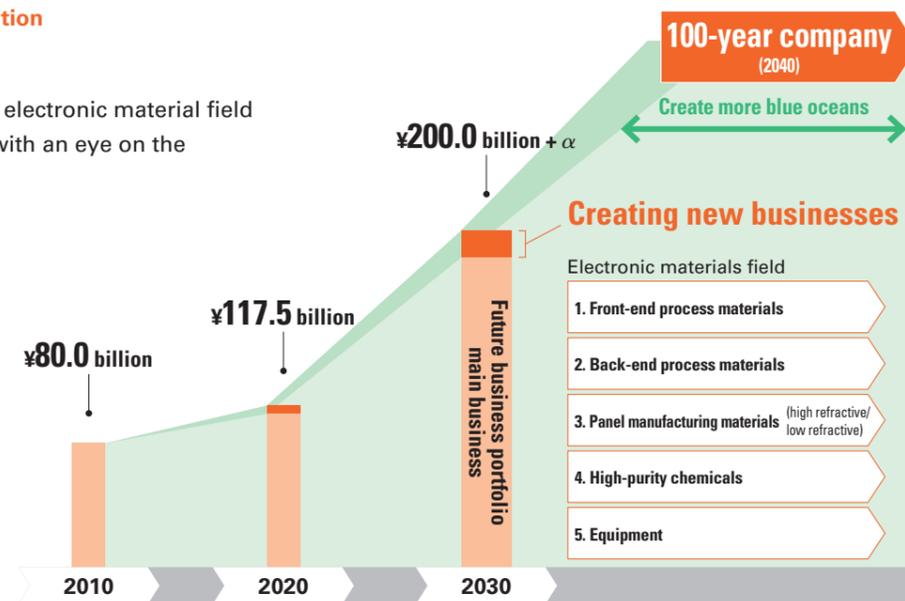
● Seven Management Strategies for TOK Vision 2030



for developing and providing our cutting-edge resists and devices as miniaturization toward the 1 nm scale in logic semiconductors will further progress in the front-end processes, and technological advancement will proceed for high-density integration represented by 2.5D and 3D packaging. In addition, TOK will have increased opportunities for the development and provision of new clean solutions among other peripheral materials, because metals used in metal wiring and insulation film will be changed to improve wiring resistance and capacitance. There is fierce competition in the e-material field with a large number of players, it is a growing industry and therefore earnings can be steadily increased by acquiring certain market shares. The TOK Group will win the competition and steadily increase earnings by leveraging its world-leading microprocessing technology and high-purity processing technology that it has accumulated as core competence, and also strengthening its production engineering and marketing.

● Future Business Composition

- Deepening and cultivating electronic material field
- Creating new businesses with an eye on the business portfolio in 2040



Our net sales target for FY 2030/12 to achieve 200.0 billion yen may seem ambitious relative to our past performance. However, we consider that this is an achievable target by deepening and expanding our present key businesses in the e-material field, considering the expected business opportunities in the shift to a Super Smart Society and the related technological advancement as mentioned above. We will also promote business expansion into the blue ocean domains by grasping niche but promising needs and catering to such needs with chemistry, leveraging our strengths in the established systems that enable development, production, and supply near customer sites based on the customer-oriented strategy. TOK has continued growing by expanding numerous blue ocean domains through efforts for long-run development, listening to customer voice in development themes where marketability and future prospects were uncertain. Some examples are the black matrix materials for LCD, clean solutions for cutting-edge processes, MEMS materials, packaging resists, and KrF excimer laser photoresists for 3D-NAND. We will continue to expand the blue ocean domains by cherishing communication with customers.

(2) Creating new businesses

On the other hand, the net sales target for FY 2030/12 was set at only several billion yen level for new businesses other than the e-material field. This is because I have learned, through my own 13-year experience in the development of new businesses, that dynamic ideas are difficult to emerge

in new businesses when restricted by numerical targets. We will encourage various trials first, and then gradually increase the sales target in the future medium-term plans while monitoring the progress of commercialization. At present, I would like to emphasize that the creation of new businesses is a strategic initiative aiming to establish a new key business to be included in our business portfolio toward a 100-year company in 2040 (20 years ahead). In this process, we will proactively collaborate with many stakeholders, including startups, academics, and research institutions. We will aim at a significant portfolio reform so that a new business will replace e-materials in the long-term vision that will be formulated 10 years from now.

(3) Establishing and utilizing financial foundation

In the e-material field related to semiconductors with rapid technological changes, thinking from customer standpoint at all times and having the same viewpoint as customers, are the essential requirements for success. Therefore, the TOK Group has continued growing by proactively investing in the same costly equipment as at customers in the semiconductor industry in order to establish the same internal environment as at customers, thereby deepening the customer-oriented strategies from customers' viewpoint. In the TOK Vision 2030, EBITDA is introduced as a new KPI to maximize cash generation capability in order to maintain these initiatives, and ROIC is also used as a monitoring indicator, so that management resources can be utilized more efficiently.

In the meantime, TOK aims at creating a frank and open-minded business culture as its primary principle and must avoid diminishing equilibrium that may be caused by excess focus on ROIC. In coming years, we will acquire the capability to make proposals while taking risks for customer expectations that have yet to be clarified by maintaining the R&D cost ratio of approx. 8% and fully utilizing the R&D cost that increases in proportion to sales increase. In this way, we will pursue cash generation to enable risk taking because the advancement of these customer-oriented strategies enables our next leap.

(4) Leveraging global human resources/(5) Renovating production sites to create new value/(6) Promoting DX

Regarding the leveraging of global human resources, we will achieve solutions that will lead to new value creation for customers, through continued efforts for human resource development, organizational development, and diversity and inclusion because human resources form the basis of value creation at TOK as mentioned above. We will also promote health and productivity management that will support the health of each employee at the basis of these initiatives. Regarding renovating production sites to create new value, we will endeavor to establish a high-quality production structure. As part of this initiative, we will achieve more efficient high-purity processing technology by upgrading chemical engineering. We consider that the enhancement of environment/occupational health and safety systems is also synonymous with earning power. Regarding promoting DX, we will promote the construction of data warehouses and the development of DX human resources, and lead them to smart factories, etc., utilizing findings in MI (Materials Informatics) that is being leveraged in R&D activities.

(7) Sustainable initiatives for key social issues

I am describing this strategy at the end, because it is rooted in integrated thinking, which aims to make sure that all management resources and initiatives ultimately lead to contributing to society. This is evident in the original form of management principles presented by the founder Shigemasa Mukai that we should contribute to society by raising the quality levels of our products and supplying them with added value, while continuing efforts to enhance our technology in a frank and open-minded business culture, which we shared in the *Integrated Report* last year. We will continue contributing to a sustainable future by pursuing our purpose through chemistry under this inherited principle.

We consider that carbon neutrality, which has become a major trend in Japan and overseas, is another aspect of sustainable future. As a decarbonization initiative at a Japanese

company, we will endeavor toward the goal set by the Japanese government to achieve a carbon neutral society by 2050. The detail and timeline of this initiative will be disclosed in the next medium-term plan that will be announced in February next year. In the present report, I will share a part of the decarbonization initiatives that TOK has taken, and its ongoing activities.

As part of contribution to decarbonization through business, TOK has provided cutting-edge photoresists in each period since it started the photoresist business in full scale in 1968. The miniaturization of semiconductors facilitated by TOK over the approximately 50 years up to 2020 has provided the value of reducing power consumption to approximately 1/2,040,000.*

* A rough estimate for two-dimensional semiconductors (1970: 10,000 nm → 2020: 7 nm); Based on scaling laws where a miniaturization in line width to approximately 1/1,429 of its original size leads to power consumption of approximately 1/1,429², or approximately 1/2,040,000.

TOK has the largest global market share in i-Line photoresists mainly used for power semiconductors, as earlier mentioned. We also develop and provide KrF excimer laser photoresists for 3D-NAND, which is indispensable to produce SSD (Solid State Drive) with substantially smaller power consumption than HDD (Hard Disk Drives), thereby contributing to energy-saving data servers and devices.

In coming years, TOK will also endeavor to develop next-generation power semiconductor materials that will reduce the power consumption of power semiconductors by half, as well as materials to be used in 6G (next-generation communication standard), which is considered to consume only 1/100 power of 5G.

In addition to decarbonization initiatives through products, we are also promoting steady decarbonizing activities at each business site. The entire power demand at the headquarters building is supplied by renewable energy. We have also decided to switch our commercial vehicles to PHV. In logistics, we strive to reduce CO₂ emissions by seamlessly connecting product distribution channels and raw material procurement channels in their transportation by trucks.

To promote these decarbonization initiatives in full scale starting in the next medium-term plan, human resources again hold the key. Fortunately, today's young generations are highly aware of environmental issues and social contribution. We will continue to enhance both economic value and social value while providing many occasions for these youths to exercise their abilities.

We request your continued expectations for new value creation by TOK.