



2020 Integrated Report
Year ended March 31, 2020



Contents

- 02 Our Path to Becoming a Global Contractor
- 04 TOYO's Strengths
- 06 SDGs: Materiality and Our Commitment
- 08 Financial and Non-Financial Highlights

- 10 President's Message
- 14 Medium- to long-term strategy
Moving forward with the Blue and Green double spiral strategy
- 16 Special Feature 1 Challenge for CHANGE
- 20 Special Feature 2 Ambitious Explorers in TOYO
- 26 Plant Solution Business Unit Strategy
- 28 Environment and Infrastructure Business Unit Strategy
- 30 Reforming Our Human Capital System

- 32 Strengthening Project Risk Management
- 34 Corporate Governance
- 37 Risk Management Initiatives
- 38 Directors and Audit & Supervisory Board Members

- 40 Safety, Quality, Environment
- 44 Contributing to the Community, Society, and the Environment

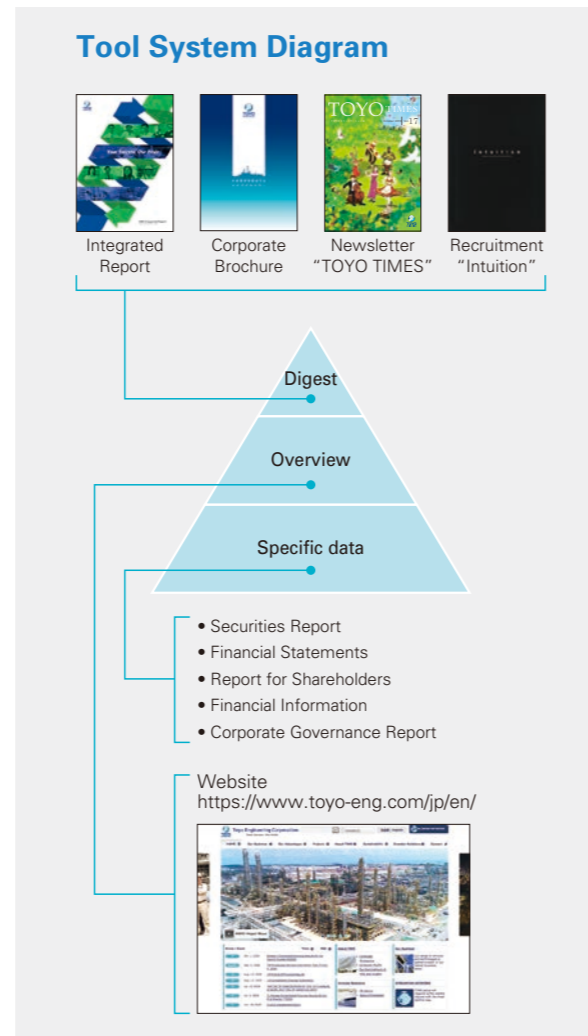
- 46 Ten-Year Financial and Non-Financial Highlights
- 48 Financial Section Consolidated Financial Statements
- 82 Corporate Information
- 83 Stock Information

Purpose of creating this report

To achieve a deep understanding of the philosophy and activities of the Toyo Engineering Group (TOYO) among all of our stakeholders, we have published this Integrated Report. It provides both our financial information (such as our management policies and financial results) and non-financial information (such as TOYO's business environment and its connections to society). Please see our Securities Report for detailed financial information about TOYO.

Caution Concerning Forward-Looking Statements

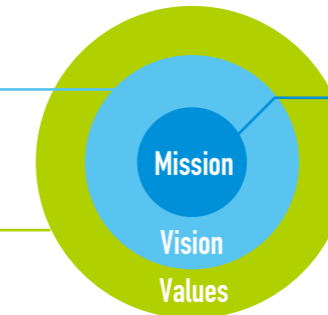
This integrated report includes certain "forward-looking statements." These statements are based on management's current expectations and are subject to uncertainty and changes in circumstances. Actual results may differ due to changes in economic, business, competitive, technological, regulatory, and other factors.



TOYO's MVV Mission, Vision, Values

Global Leading Engineering Partner

Integrity, Creativity, Diversity, Learning, Team



Engineering for Sustainable Growth of the Global Community

Engineering for Sustainable Growth of the Global Community



Our future as an engineering company

As human culture continues to develop, the world we live in is faced with an extensive range of issues at the global level, including energy problems, environmental problems, climate change problems, political problems, economic problems, and disparity problems. Ever since TOYO ENGINEERING was founded, our business has been the development of the global economy as well as industrial infrastructure, and we are once again seeing that there is a major turning point coming in terms of the role human society demands of us.

To contribute to the sustainability of the world and society, we have declared "Engineering for Sustainable Growth of the Global Community" as mission, and the business fields in which we can contribute are limitless.

Based on our slogan—"Your Success, Our Pride."—we will continue to evolve for the sake of our future as an engineering company.

Our Path to Becoming a Global Contractor

the 1960s Expanding Overseas in Search of Markets

- Received our first overseas order, an India fertilizer plant, two years after establishment in 1961.
- Cooperated with a licensor to establish a foundation for our technical capabilities.

the 1970s to the 1980s Enhancing Our Technical Capabilities and Expanding Our Business

- Learned about various cutting-edge technologies to enhance our technical capabilities.
- Expanded our business through a string of orders for fertilizer plants and ethylene plants both in Japan and overseas.
- Listed our stock in 1980.
- Expanded our overseas group companies to build a foundation for our global operation.

the 1990s Diversifying Our Portfolio

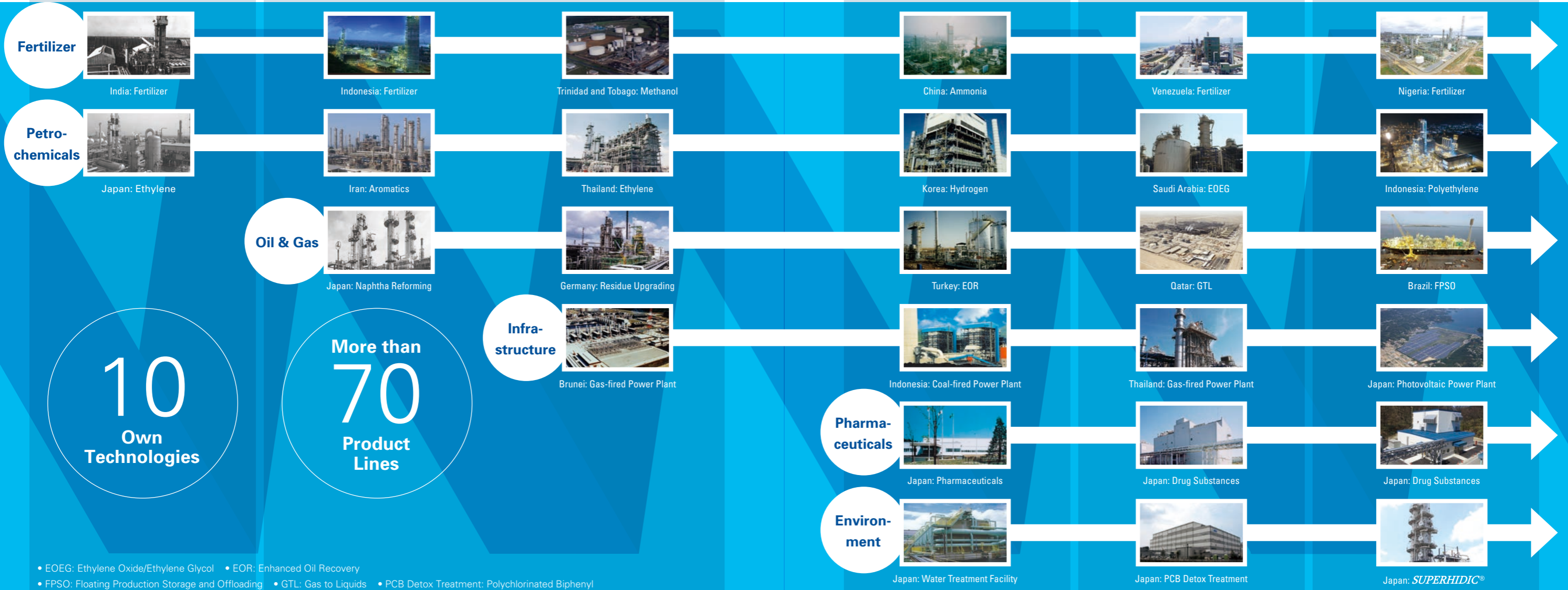
- Diversified our portfolio to include power plant, pharmaceuticals, and environmental fields due to more intense competition.
- Applied information technology to the plant enhancement business and industrial system fields.

the 2000s Establishing a Global Toyo structure

- Promoted the utilization of overseas group companies.
- Started growing again due in part to the high price of crude oil.
- Unified the Group's MVV and logo to enhance our solidarity and aim to establish all group companies as profit centers.

the 2010s Switching from Our Expansion Course Enhanced risk management and CHANGE!

- Enhancing our risk management and taking on the challenge to our CHANGE! Initiative to cope with the shale revolution, energy transformation, larger and more complicated plants, and the rise of emerging-country contractors by.



• EOEG: Ethylene Oxide/Ethylene Glycol • EOR: Enhanced Oil Recovery
 • FPSO: Floating Production Storage and Offloading • GTL: Gas to Liquids • PCB Detox Treatment: Polychlorinated Biphenyl

Established Group Companies	1961 Toyo-Japan	1972 Toyo-Europe	1976 Toyo-India	1986 Toyo-Malaysia Toyo-USA	1987 Toyo-Korea, TPS	1998 Toyo-Brazil	2004 Toyo-China	2010 Toyo-Canada 2011 IKPT
Social Trends		1972 Restoration of diplomatic relations between Japan and China	1973 Shift to a floating exchange rate system	1980-1988 Iran-Iraq War		1991 Dissolution of the Soviet Union	2000 IT bubble 2008 Global financial crisis	2015 Crude oil price crash 2018 Fourth Industrial Revolution

Group Capabilities

TOYO has ten EPC* group companies around the world as well as one procurement company, and we do business on a global basis. The abilities of our group companies—which handle engineering rooted in the community—are improving every year, and these group companies currently account for over 50% of TOYO's consolidated net sales.

In particular, Toyo-India and the rest of our Asian EPC group companies handle specialty products, and each of them has the ability to execute projects at the scale of several billions of yen on their own. In addition, in the case of large, complex projects, we use Toyo-Japan as the central hub and decide formation flexibly by taking advantage of the characteristics of our group companies.

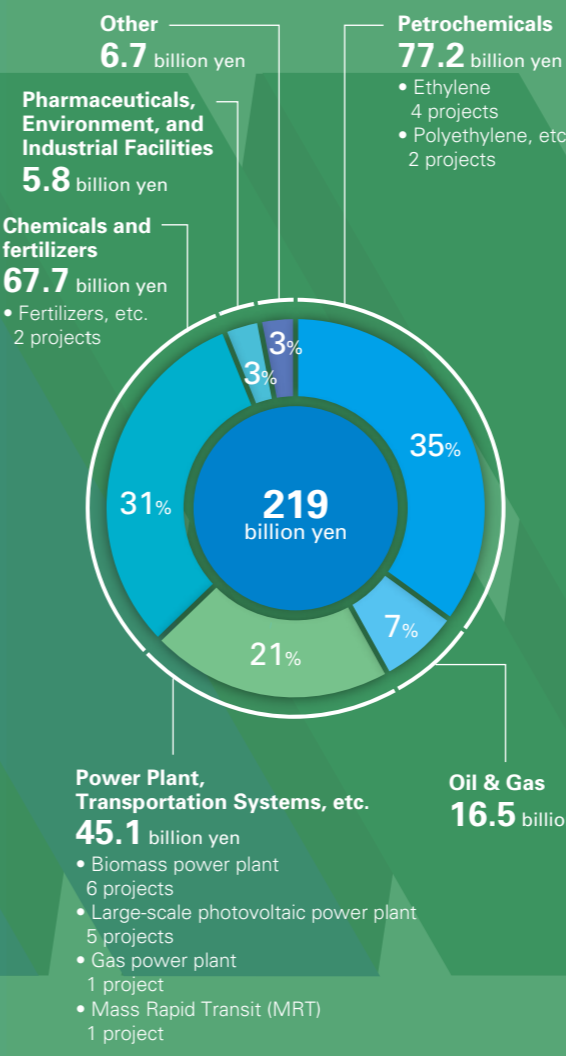
*Engineering, Procurement, Construction



Diverse Portfolio

As a result of expanding our portfolio in line with the needs of society and the times, TOYO is now engaged in a wide variety of businesses.

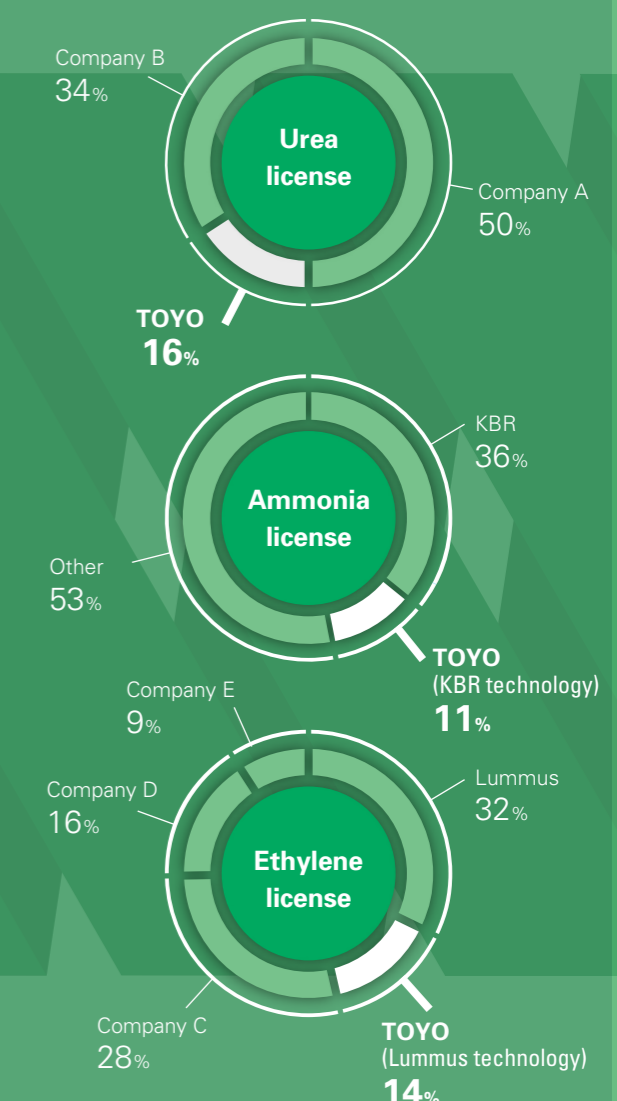
FY2019 Net Sales Results



Engineering and High-tech Capabilities

Based on a solid relationship with the ammonia licensor KBR, TOYO has exploited its strength as a urea license holder to achieve a track record of over 100 fertilizer plants. In addition, through technical cooperation with Lummus—which boasts the industry's leading share of the ethylene market—we have constructed more than 40 plants.

Global License Shares



Towards Change

- ### 2018
- Established the EPC Integration Division to enhance our EPC consistency and achieve overall EPC optimization.
 - Established the TOYO Future Architect Department to achieve awareness and communication reforms as well as productivity improvement.

- ### 2019
- Established the DXoT* Planning & Promotion Center to become a company that will continue to change its corporate activities and overall structure. We are currently pursuing bold corporate change, including our group companies.
 - Established the Next-G Technology & Application Division to develop new technology. This division is driving the Group's technological development.
- *Digital Transformation of TOYO

Mission: Engineering for Sustainable Growth of the Global Community

Materiality and Our Commitment

Aim to realize an environmentally-friendly society

Environment



Risks	Opportunities
Any delay in developing technologies that achieve low environmental impact and a recycling-oriented society could result in missed business opportunities or a decrease in corporate value.	Innovations in environmentally friendly technologies related to the prevention of global warming and waste management could lead to new business opportunities.
Climate change is resulting in natural disasters becoming more frequent and severe, which is hindering the execution of plant EPC business.	Due to increasing needs for a low-carbon/decarbonized society, there are more business opportunities related to renewable energy and resource recycling.

Our Commitment

Pursuing low-environmental-impact plants
By promoting energy saving and the use of renewable energy, we are contributing to reducing the environmental impact of industrial fields.

Contributing to the achievement of a recycling-oriented society
To reduce the environmental impact by reusing waste, we are promoting initiatives aimed at the development and social implementation of the relevant technologies.

Waste control and treatment
Through our overall business activities—which include plant construction—we are striving to minimize waste discharge and to achieve suitable treatment and reuse.

Created Value

- ▶ Reducing the emission of greenhouse gases
- ▶ Preventing environmental pollution

Enrich people's lives

Social



Risks	Opportunities
Increased regionalism is resulting in more limited market access, and the lack of technological innovation is causing low-price competition.	Harmony with the community would enable us to secure outstanding local human capital and more smoothly execute local business.
There is little demand to construct new plants due to political instability and insufficient funds resulting from weak industrial infrastructure in emerging countries.	Plant construction could promote job creation and the transfer of technology, thus creating new business opportunities.

Our Commitment

Contributing to the development of industrial infrastructure
We are utilizing TOYO's global network to provide plants equipped with state-of-the-art technology, thereby contributing to the development of industrial infrastructure in countries around the world.

Contributing to the resolution of food problems
By constructing fertilizer plants, we are contributing to improved agricultural productivity in countries around the world.

Transferring technology through EPC implementation
We are creating jobs and transferring technology in various regions at each stage of the plant construction process.

Created Value

- ▶ Contributing to economic and industrial development in emerging countries
- ▶ Contributing to improved agricultural productivity
- ▶ Creating jobs and transferring technology at plant construction sites and in various economic zones

People of diverse backgrounds engage in active, meaningful work



Risks	Opportunities
If we do not take suitable action, TOYO's technical capabilities and competitiveness will decrease, leading to the outflow of outstanding human capital from the company, lost business opportunities, decreased labor productivity, and decreased motivation.	Taking suitable action could increase technological innovation and business creation opportunities, help us secure outstanding human capital, improve labor productivity, and increase motivation.
Occupational accidents could result in a loss of trust from clients and business continuity risks.	

Our Commitment

Training and developing human resources
We are striving to train and develop the abilities of diverse human capital who can contribute to the achievement of a sustainable society by providing engineering at the global level.

Promoting inclusion
We are doing everything in our power to respect diverse people and personalities as well as the cultures and customs of various countries and regions while striving to eliminate discriminatory practices.

Improving the work-life balance
We are striving to build a workplace environment that provides job satisfaction and aims at a balance between the work and private lives of employees.

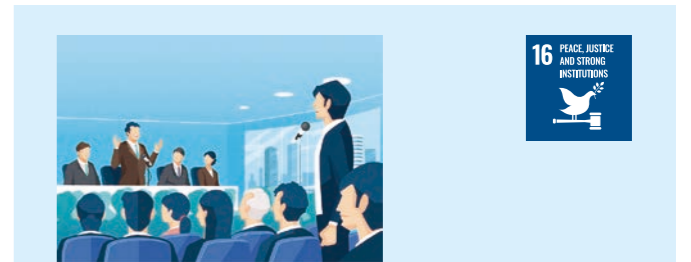
Promoting health management and improving occupational safety and health
In addition to promoting the health management of our employees, we strive to maximize safety and health during our business activities, including plant construction.

Created Value

- ▶ Creating human capital that contributes to the achievement of a sustainable society
- ▶ Providing a workplace that offers job satisfaction

Establish an organization with integrity and discipline

Governance



Risks	Opportunities
Hindering compliance could result in business continuity risks.	Through a solid governance system, we could build a stable, strong business-execution foundation based on highly transparent, prompt decision-making.
Hindering corporate governance could result in major loss risks and business continuity risks.	

Our Commitment

Compliance
By fleshing out our education and training, internal reporting system, etc., we are implementing compliance throughout the TOYO Group.

Corporate governance
We are working on building and running suitable systems based on Japan's Corporate Governance Code while comprehensively achieving effective risk management.

Created Value

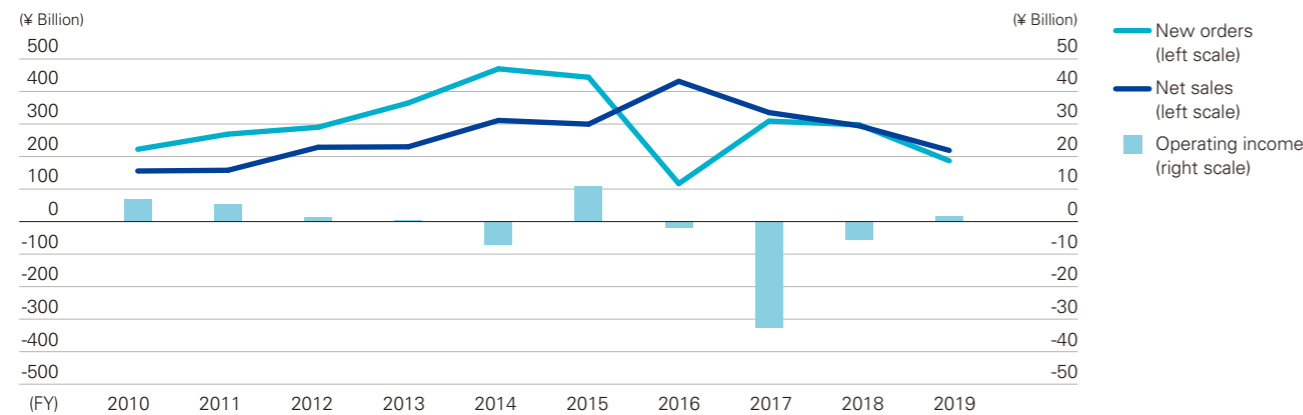
- ▶ Securing a foundation for business continuity

Financial and Non-Financial Highlights

Please go to the Ten-Year Financial and Non-Financial Highlights on P. 46 for more information.

Financial Highlights

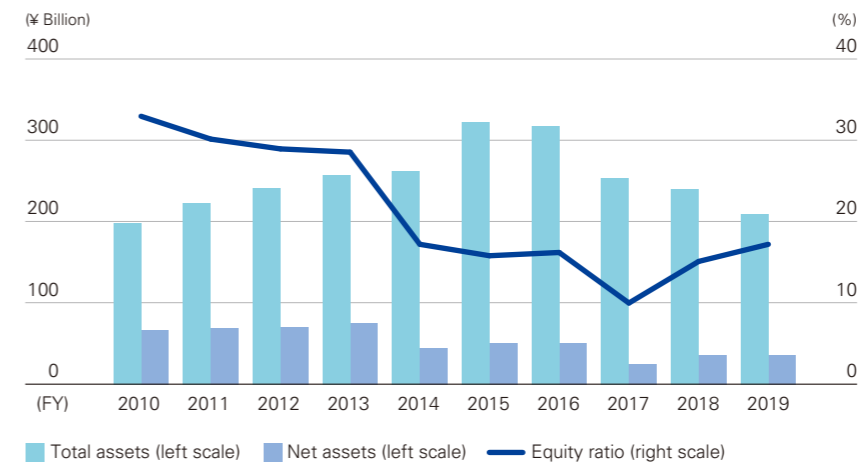
New Orders, Net Sales, and Operating Income (Consolidated)



Up until fiscal 2011—due in part to active investment in crude oil and gas fields—there was an ongoing seller’s market, and we were able to consistently increase our revenue. In fiscal 2012, we announced our medium-term management plan, which was aimed at expanding our business scale and achieving further improvements at the Group operations level. After that—as is shown by the changes in the graph of new orders—there was a steady increase in orders received, and, in fiscal 2014, we reported orders received in relation to Malaysia ethylene, Setouchi large-scale photovoltaic power plant, and the Thailand 12 SPP project, all of which resulted in a record-high level of new orders amounting to 470.3 billion yen. Similarly, in fiscal 2015, we received orders for mega projects early on, including US ethylene and India fertilizer. However, due to our order backlog suddenly piling up in a short period of time, there were various types of strain on our EPC execution system, which led to cost increases for various projects and ultimately put pressure on our business performance.

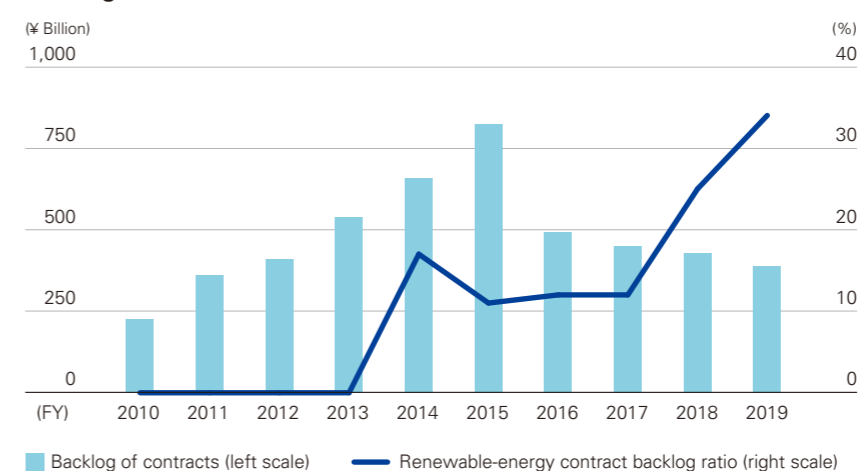
In fiscal 2015, we started reforming our management structure and formulated a Revival Plan aimed at rebuilding our business by strengthening our pre-order risk management, reducing our SG&A expenses, strengthening our project risk management, and improving our communication. Although these measures were successful—which led to an apparent V-shaped recovery in our business performance in fiscal 2015—during the third quarter of fiscal 2016, there was a significant cost increase in relation to our US ethylene project, which had a lasting effect and resulted in significant operating losses for the three straight years leading up to fiscal 2018. To restore our heavily damaged financial base, in March of 2019, we appointed Integral Corporation as an underwriter to handle the third-party allocation of preferred shares and achieve a capital increase of 15 billion yen, and we are using the funds gained as a result as capital for both DX investment and the promotion of competitiveness strengthening measures focused on R&D. Although the significant decrease in the price of crude oil in fiscal 2015 resulted in a slump in orders received in fiscal 2016—which cast a shadow in the form of a subsequent downward trend in net sales—our comprehensive implementation of risk management for projects ordered starting in fiscal 2015 is gradually resulting in improvements in our income and expenditure. At the end of fiscal 2019, the completion and delivery of the results of the US ethylene project, which was a subject of concern, caused us to go into the black for the first time in four years. For now, we are steering our company in the direction of our new medium- to long-term growth strategy, which calls for drastic changes to our business model, for which the business income and expenditure fluctuate a lot due to the effects of the external environment.

Total Assets, Net Assets, and Equity Ratio (Consolidated)



After we raised 15 billion yen through a third-party-allocation capital increase in March of 2019, our equity ratio reached 17.2% at the end of fiscal 2019 due to the compression of our total assets. We consider the strengthening of our financial base as an ongoing management issue, and we are striving to strengthen our shareholders’ equity by steadily accumulating retained earnings.

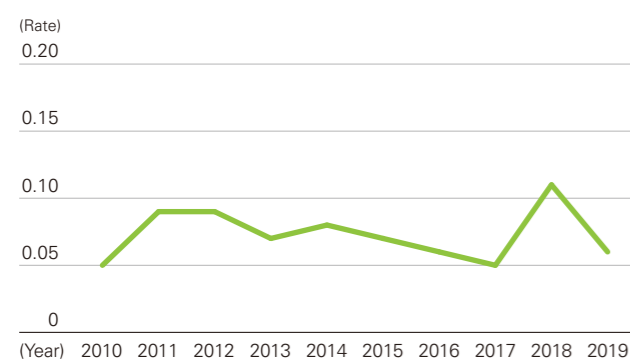
Backlog of Contracts and Renewable-Energy Contract Backlog Ratio (Consolidated)



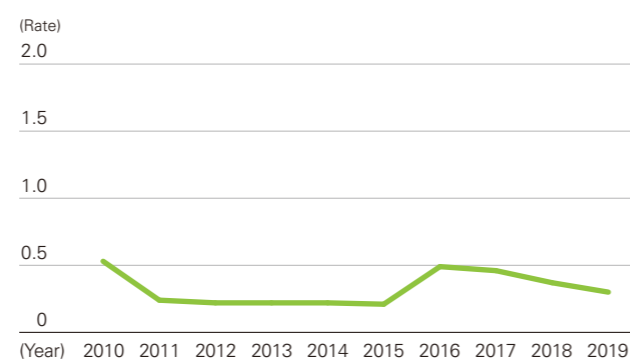
In order to achieve stable revenue without focusing too much on the scale of our sales, we are thinking of around 300 billion yen as the appropriate level of new orders per year, and—given the market environment—our goal is to achieve balanced profitability in the plant and infrastructure business fields. In terms of our infrastructure business, because we started taking advantage of domestic renewable energy demand early on, the percentage of our contract backlog accounted for by large-scale photovoltaic power plant and biomass-fired power plant projects is on an increasing trend. In particular, after we received our first order for the biomass-fired power plant project in Kamisu, Ibaraki Prefecture in fiscal 2017, we received a total of seven project orders up through September of 2020. We made strong partnership with a combination of a highly efficient biomass boiler made by Andritz AG (Austria) and a high-performance steam turbine made by Siemens AG (Germany) as our best formation, and expect orders received in this field to further increase this year or later as well.

Non-Financial Highlights

Lost-Time Incident Rate (LTIR)^{*1} (Consolidated)



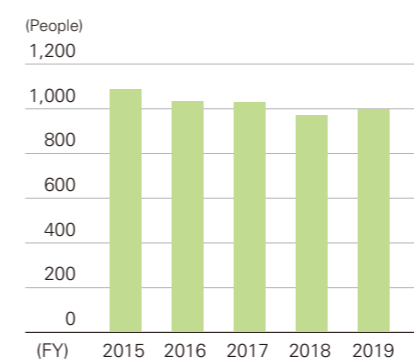
Total Recordable Incident Rate (TRIR)^{*2} (Consolidated)



In aiming for zero occupational accidents, TOYO continues to step up its efforts to improve safety. For the last ten years, our lost-time incident rate (LTIR) and total recordable incident rate (TRIR)—two key occupational safety management indicators—have been among the lowest in our industry. In addition, regarding the Thailand power plant project completed in July of 2019, we reached over 36 million hours without accidents or disasters.

*1. Lost-Time Incident Rate (LTIR) = Number of the Deceased and the Injured and Absent from Work x 1,000,000 / Total Number of Worked Hours
 *2. Total Recordable Incident Rate (TRIR) = Total Number of Those Who Suffered Recordable Incidents x 1,000,000 / Total Number of Worked Hours

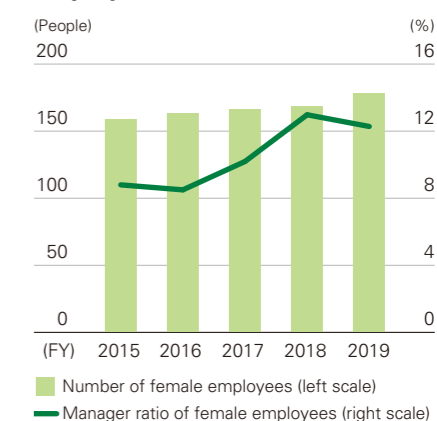
Number of Employees^{*3} (Non-Consolidated)



Number of Foreign National Employees and Manager Ratio of Foreign National Employees^{*3} (Non-Consolidated)



Number of Female Employees and Manager Ratio of Female Employees^{*3} (Non-Consolidated)



TOYO encourages diversity in its workforce and pursues merit-based promotion irrespective of nationality or gender. In fiscal 2019, the manager ratio of foreign national employees working at the Head Office was 41.7%, and the ratio of female managers was 12.3%. In June of 2019, we also received Eruboshi certification (two stars) as a company of proactively engaging in promotion of women’s participation in the workplace, certified by the Ministry of Health, Labour and Welfare.

*3. Excluding temporary employees



Sustainability initiatives will shape the future of TOYO

Haruo Nagamatsu

Haruo Nagamatsu
President and Chief Executive Officer

Measures against issues emerged from the US ethylene project

In fiscal 2019, we finally completed the US ethylene project, which had been a matter of concern, and managed to achieve operating profit for the first time in four years. With cost overruns that continued over several years, the project had accumulated significant losses that threatened TOYO's very existence. Looking back, this turned out to be a monumental project that highlighted issues in all areas from the pre-award process to contract conditions, project management, EPC engineering work, and management and execution, challenging TOYO to make a number of changes.

We will further describe the causes of the cost overruns as well as countermeasures in the "Strengthening Project Risk Management," section later in this report, but there were two main issues. The first is the lack of a rational risk assessment framework for new issues, and the second is the delay in strengthening effective EPC capabilities.

Here are some examples of measures implemented by TOYO to address issues that have come to light through the US ethylene project.

- Minimize risk upfront through a more rigorous proposal process
- Establish rules for evaluating new technologies and implementing countermeasures
- Set a rule not to take a risk of construction under American-style Time & Materials contracts*
- Carry out overall business process reforms including selection of vendor-packaged products, engineering, manufacturing, inspection and construction
- Execute measures that strengthen the Construction Division
- Strengthen both proper project management oversight and support functions

*A type of contract for which the amount paid is calculated by multiplying the set unit price by the amount of time the work takes

Through these measures, we managed to secure profitability for projects awarded from fiscal 2015 onward, and feel confident that we are moving in the right direction. Additionally, we will work on fostering a corporate culture of daily continuous improvement to avoid repeating the same mistakes and ensure that the knowledge and experiences gained through overcoming hardships serve as a valuable asset for TOYO's growth.

Pioneering the future of TOYO at a turning point

Fiscal 2020 began with a global COVID-19 outbreak that triggered lockdowns in many countries, with Japan also declaring a state of emergency. Further, uncertainty is growing in the face of a variety of changes in the external environment, including stagnant economic activity, geopolitical instability, drastic advances in digital technology, and extreme weather events with unprecedented devastation. In particular, shifting energy sources to prevent global warming has become an urgent issue for all human beings, and even the oil majors announcing plans to drastically reduce oil and gas production, and capital markets shifting investments toward low-carbon and decarbonization projects.

Since its founding, TOYO's main business has been to undertake contracting services for plant construction projects. However, with the drastic changes in the business environment and social structure in recent times, the engineering industry is now faced with the need to change its business fields and structure. With this external environment in mind, last year we started exploring medium- to long-term strategies that ensure TOYO will continue to be needed by society in the future. Specifically, with the growing societal need to combat global climate change, we engaged in deep discussions on ways to strengthen our sustainability efforts and reaffirmed the significance of TOYO's mission of "Engineering for Sustainable Growth of the Global Community." And once again, with the realization that "sustainability initiatives will shape the future of TOYO," we pledge to become a company ready for environmental change and committed to contributing sustainability.

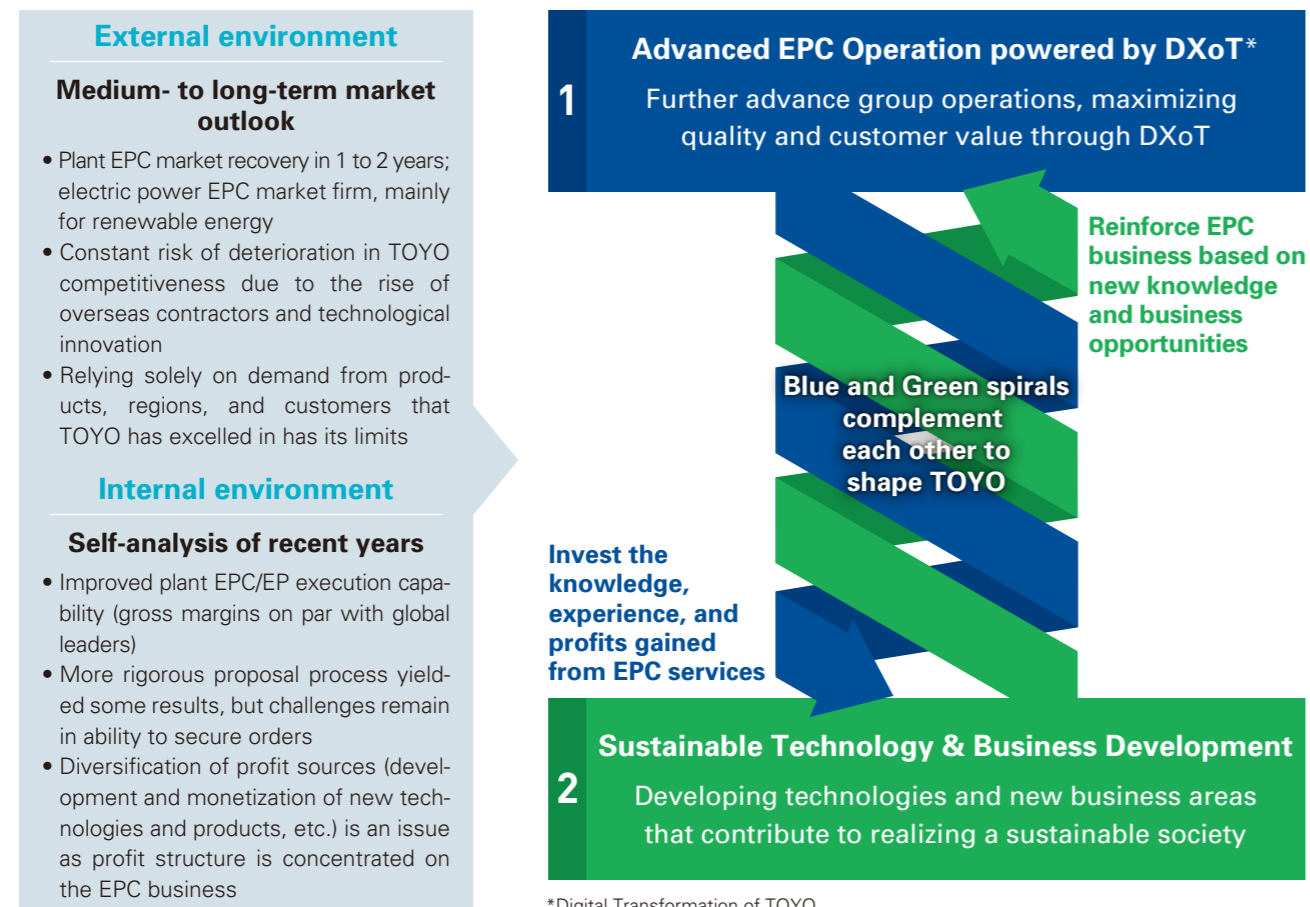
Medium- to long-term strategy
—Strengthen conventional EPC services and explore new business areas

Based on lessons learnt from past experiences, TOYO has thoroughly implemented risk management measures over the last few years, which have yielded some results. On the other hand, the outlook for the external environment is likely to remain uncertain, with the transition from the new normal to post-pandemic life, and a shift in global geopolitical power balance. Against this backdrop, although the market for plant investment is temporarily stagnant, because continued investment in the petrochemical and chemical industries, which manufacture industrial products that are integral to human life, is essential, we expect it to recover within a year or two. In addition, we expect the electric power EPC market for both renewable energy and gas-fired power

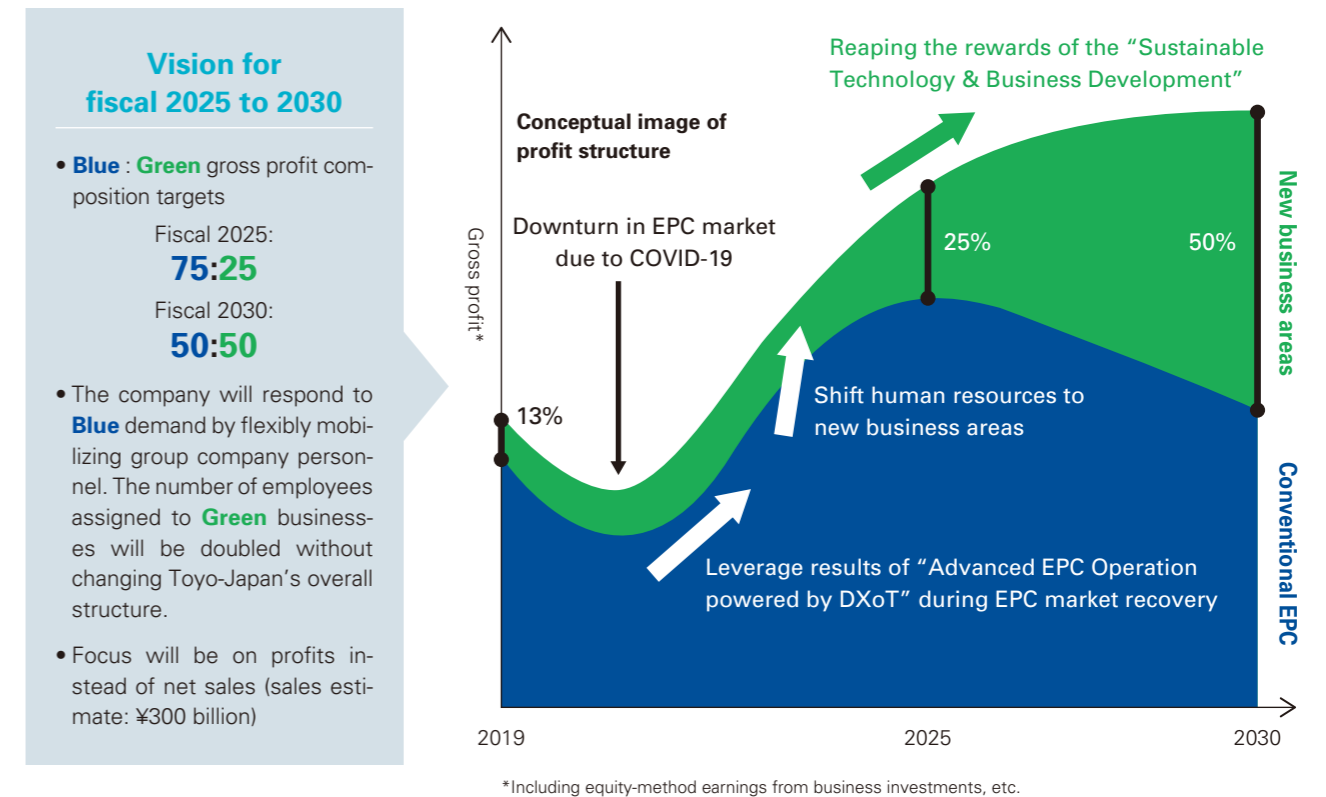
plant to remain strong, supported by continued growth in demand for electric power around the world. However, there is always the risk that competition to secure orders will intensify due to the rise of emerging engineering contractors overseas and technological innovation, and only continuing to rely on products, regions, and customers that TOYO has excelled in to date will not be enough to get the company back on a stable growth trajectory.

In light of these circumstances, we established a medium- to long-term strategy to strengthen our conventional products and regional EPC business, both in terms of orders and execution, and to diversify our profit structure by developing technologies and new business areas that contribute to realizing a sustainable society as a new and stable source of profits. In the image below, initiatives to advance conventional EPC operations are shown in **Blue** and technologies and new business areas contributing to building a sustainable society are shown in

Shaping a new TOYO with a double spiral strategy:
Strengthening conventional EPC services and developing new technologies and businesses.



Solidify Blue businesses while expanding investment in Green businesses to become a stable and profitable company



Green. We will continue to pursue the **Blue** and **Green** “double spiral” strategy, where the two spirals intertwine, complementing the strengths of each other and enhancing synergies to shape a new TOYO.

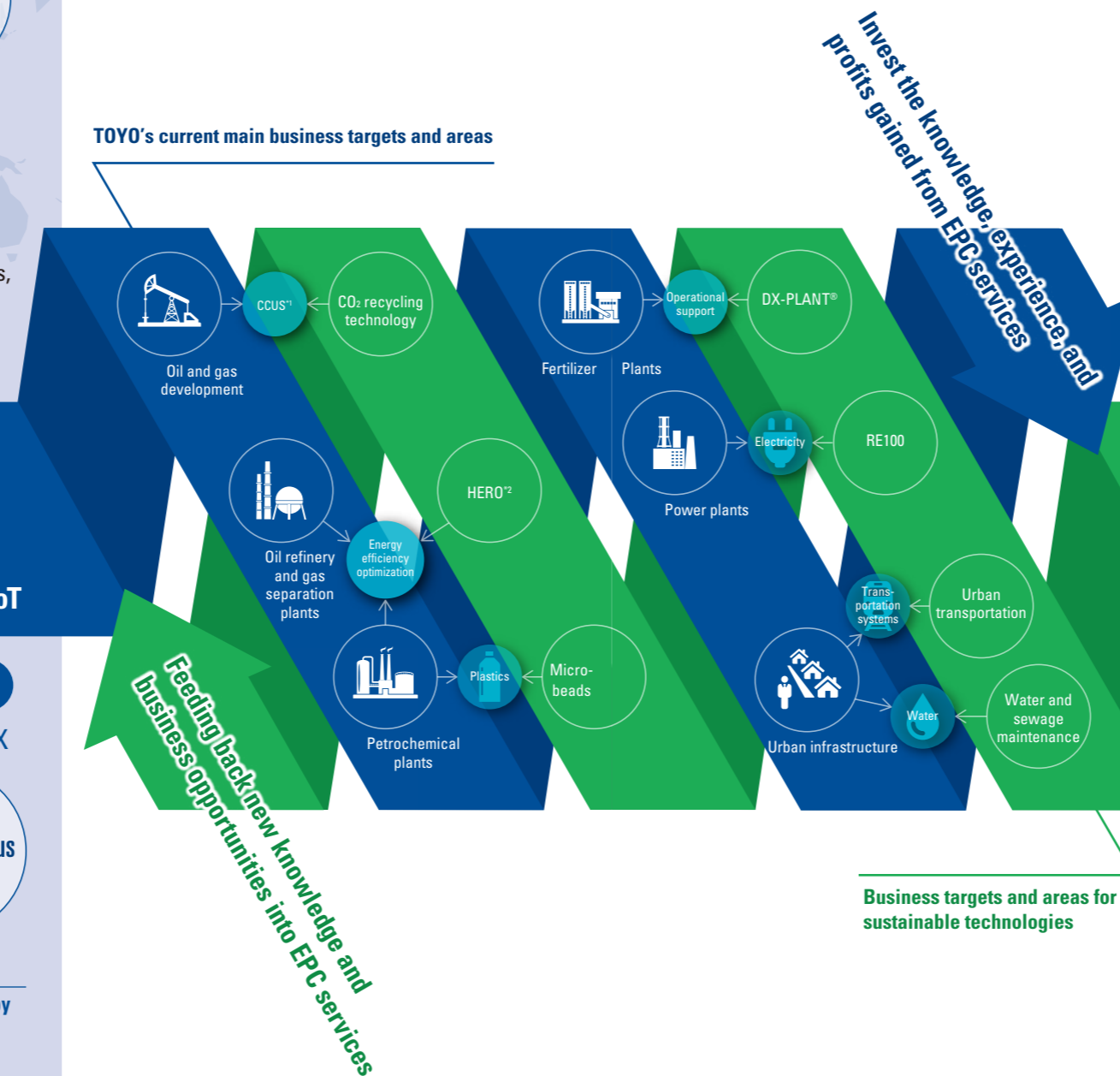
By creating a new **Green** business model, TOYO will lower the volatility resulting from the **Blue** business concentration, and transform into a stable and profitable company. We will diligently work through this strategy to transform our profit structure with an aim to bring the **Blue** to **Green** ratio to 75:25 by fiscal 2025, and to 50:50 by fiscal 2030. Moreover, rather than chasing net sales growth as we did in the past, our aim is to maintain consolidated sales at ¥300 billion while raising gross profit margins to a level comparable to leading global contractors. Although a drop in earnings is unavoidable with the recent slump in the EPC market caused by the COVID-19 pandemic, we will take the opportunity to focus on strengthening our EPC execution capabilities through DXoT, and leverage the results of these efforts when the

market recovers to quickly put the company on an earnings growth trajectory. Once the **Blue** Advanced EPC Operation is established, we will be able to run our conventional businesses with fewer people, enabling us to shift Toyo-Japan’s human resources into new areas under the **Green** business and accelerate the diversification of stable profit sources. In the meantime, to achieve profit expansion for the **Green** business, we will carefully plant the seeds for Sustainable Technology & Business Development and grow them up so that we can reap the fruits of our efforts in fiscal 2025 and beyond. Regarding the increase in demand for **Blue** conventional businesses, we will further advance our global operations to respond flexibly. As we implement our medium- to long-term strategy, we plan to establish KPIs and engage in a series of conversations with all stakeholders to deepen their understanding of our progress.

Medium- to long-term strategy Moving forward with the Blue and Green double spiral strategy

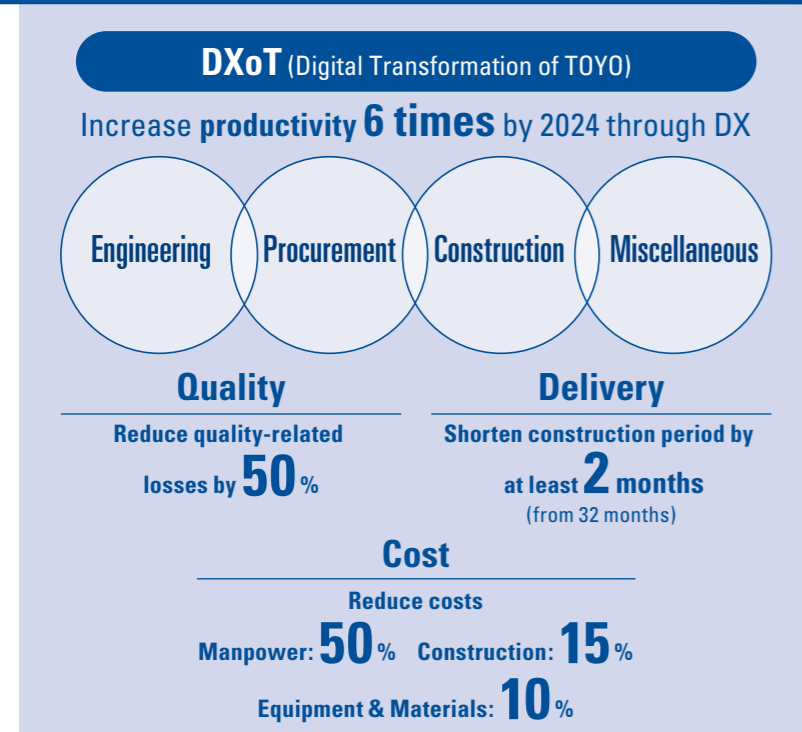


Shaping a new TOYO with a double spiral strategy: Strengthening conventional EPC services and developing new technologies and businesses



Advanced EPC Operation powered by DXoT

Further advance group operations, maximizing quality and customer value through DXoT



Comprehensive plant lifecycle support

Lab Scale, Investment Planning Stage, O&M

- Co-Creation engineering**
Early testing and commercialization of new technologies through Co-Creation with customers
- Customer Planning Support**
FS/PMC/GESA/Owner's Engineering/FEED* etc.
- Post-EPC Services**
Plant operation support using mathematical optimization and DX tools

To become a true lifecycle partner for key customers in the conventional EPC business, we will strive to create value together with our customers by leveraging our technological problem-solving capabilities to further contribute to their technological development and project planning.

*Feasibility Study/Project Management Consultant/General Engineering Service Agreement/Front End Engineering Design

Sustainable Technology & Business Development

Developing technologies and new business areas that contribute to realizing a sustainable society

Challenge to develop new business models

Business operations, subscriptions, and long tail

- Development of the gas supply value chain business**
Overseas development of gas operation technology through collaboration with partners
- National policy-supported marine resource development**
Development of methane hydrate, rare earth, and hydrothermal deposits, etc.
- Environmental and infrastructure-related business development**
Business model based on demand creation rather than waiting for ITB*
- Business creation with new business models to TOYO**
Expansion of business areas through business investment, M&A, and services

By leveraging TOYO's strengths, such as technology development and international project execution capabilities, we will diversify our customer base and business models and develop businesses that generate stable profits.

*Invitation to bid for plant construction projects

*1 CCUS: Carbon dioxide Capture, Utilization and Storage
*2 HERO: Hybrid Energy saving Re-Optimization (Energy-saving consulting service)

Meet Customer Needs with Plant Operation Support Service DX-PLANT®

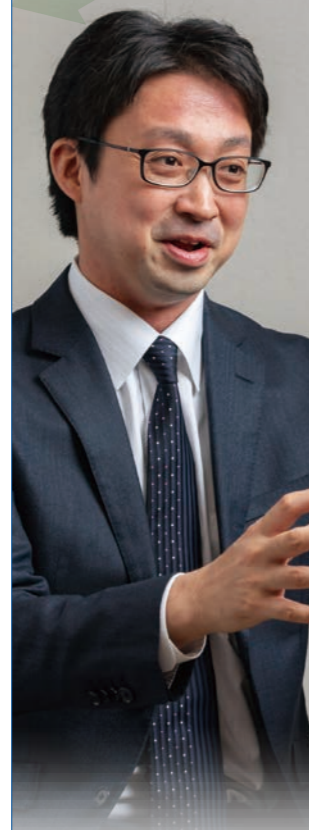
DX-PLANT®, a plant operation support service

Plant owners are constantly trying to improve facility utilization and reduce production costs, and expectations are growing for operational reforms leveraging digital transformation (DX) aimed at further improving profitability. Since fiscal 2016, TOYO started offering DX-PLANT®, a service that combines engineering knowledge with data analytics and digital technology to meet customer needs.

DX-PLANT® is to provide remote support services. It has a virtual plant (digital twin) built on the cloud based on big data consisting of real time plant operation data, inspection records, and maintenance history of an actual plant. Through this, TOYO provides four types of remote support services to address customer needs: 1. E: Engineering information management services, 2. O: Operation support services, 3. M: Maintenance support services, and 4. B: Business support services. Customers can access the digital twin at anytime from anywhere in the world to not only monitor the current status of the actual plant, but also to simulate how to improve plant utilization as well as operation and maintenance efficiency.

From service differentiation as a urea production technology licensor to lateral deployment at various plants

Toyo fully leveraged its strength as a urea production technology licensor to realize implementation of DX-PLANT® at multiple plants quickly. For example, in the operation support service, a model that combines



Kazuya Oyama

Manager of
IoT Business Department,
Business Development Division

an operation simulator (physical model) and operation data (statistical model) is used to calculate factors such as material balance, heat balance, and equipment performance to monitor plant performance in real time. Additionally, by conducting scenario studies with different operating conditions, we can make recommendations for optimal operation of the actual plant. This is just one example, and to resolve various issues which our customers are facing on, we need to have the deep expertise to reach to the root cause of each issue, propose solutions, and also be able to coordinate with partner companies such as equipment manufacturers. As a result of steadily increasing the number of installations in urea plants and refining our services, we are now in the process of expanding DX-PLANT® to non-urea plants being built by TOYO. We believe that we can offer similar services to owners of petrochemical plants and other plants being built by TOYO.

To become a partner supporting lifecycle of customer's plant through subscription services

We can provide DX-PLANT® as a subscription service. Unlike the conventional EPC business model, we work closely with our customers after plant delivery as a partner supporting the plant's lifecycle to maximize asset value. In addition, by transferring the knowledge gained through providing DX-PLANT® services back to the plant design process, we will take our customers' operational needs into consideration and strengthen our EPC business as an engineering contractor.

Exploring New Business Areas by Deviating from Conventional EPC Approaches

Environment and Energy Management Development Department: Pursuing business in new areas!

At the Environment and Energy Management Development Department, our mission is to develop patentable, universal technologies to secure stable profits, and to create businesses in new business areas based on these technologies. Unlike the conventional EPC business, which focuses on new investments by customers, our department explores new business areas by taking a different approach. TOYO customers and partners look for our high-tech capabilities as an engineering company. With a focus on internally developed technologies, we aim to efficiently produce results in line with the energy and environmental innovation strategy, NESTI 2050, promoted by the Cabinet Office. Of course, we also look to combine our own technologies with those of other companies and the needs of other industries, and take an open innovation approach when appropriate. In addition, by working on the entire process ranging from marketing and technology development to business development and sales promotion, we will leverage TOYO's strengths to push forward with developing new business areas.

HERO: Mathematical optimization technology brings innovation to efficiency and conservation

With a team centered around our younger employees, we developed a program for energy-saving consulting services to realize our mission of creating businesses in new business areas. The Hybrid Energy saving Re-Optimization (HERO) program combines mathematical optimization methods with TOYO's process design knowledge. Let's take the implementation consideration of *SUPERHIDIC*®, TOYO's proprietary distillation technology which has won numerous awards from various academic associations, most notably the Energy Conservation Grand Prize (2018 Minister of Economy, Trade



Toshihiro Wakabayashi

General Manager of Environment
and Energy Management
Development Department,
Business Development Division

and Industry Award), as an example. While we could propose a significant efficiency improvement in a specific process by implementing *SUPERHIDIC*® and present a local optimum solution, the hurdle was that this would not necessarily translate into a quantified energy reduction for the entire plant, and thus would not always result in the go-ahead for investment. This is because the heat integration within process units and the different demands of heat at individual energy levels in utility units are complexly intertwined in a plant, and there are cases where the efficiency improvements in a specific process do not directly tie into reducing the fuel used to produce utilities. Even for cases like this, HERO can produce the global optimal solution for the entire plant by working through a mind-boggling combination of variables while taking into account the processes and the utilities that keep it running. This truly innovated energy-saving methodology.

New business model: Energy-saving performance-based compensation

We offer a service where customers pay TOYO a performance-based fee for a predetermined period using the operating cost savings achieved by using HERO. By making a clear departure from the conventional EPC service model, we aim to continuously support our customers in boosting profits and reducing environmental impact. Although HERO can be used for new plants, it is primarily geared for the vast untapped market of existing facilities, such as for evaluating capacity expansion or modifications. We began providing the service in the bottom half of fiscal 2019 and have already started consultations for two domestic petrochemical companies. Going forward, we plan to expand this business both domestically and internationally to secure stable profits. Moreover, we will use the HERO initiative as a springboard to further develop technology-based businesses development.

Toward the Energy Transition and Circular Economy

The start of T-Next

The Next-G (Next Generation) Technology & Application Division was established in September 2019 as a specialized organization dedicated to leading the research, implementation, and development of product technologies that support energy transition and circular economy. We nicknamed the division "T-Next" so more people, both within and outside the company, would recognize it. "T" stands for TOYO and Technology. With the pioneering spirit embodied in the name of the division, we are in charge of developing technologies that support an energy transition and circular economy which will be the core of TOYO's next-generation products.

From R&D Engineering to Co-Creation Engineering

To support its customers' efforts to create new products out of pilot technologies, TOYO has provided R&D engineering services and successfully verified many pilot technologies. However, a more comprehensive design package is needed to combine multiple pilot technologies and build a societal value chain to realize a low-carbon recycling-oriented society. Co-Creation engineering is our new solution for implementing various technologies into society by collaborating with partners who share our



Kenichi Tominaga
Deputy Unit Director,
Engineering and Technology Unit
General Manager, Next-G
Technology & Application Division

values. We are committed to solving societal issues through a Co-Creation engineering approach that leverages our strengths in both the process development technology we cultivated over time and the EPC technology we accumulated as a specialized engineering company.

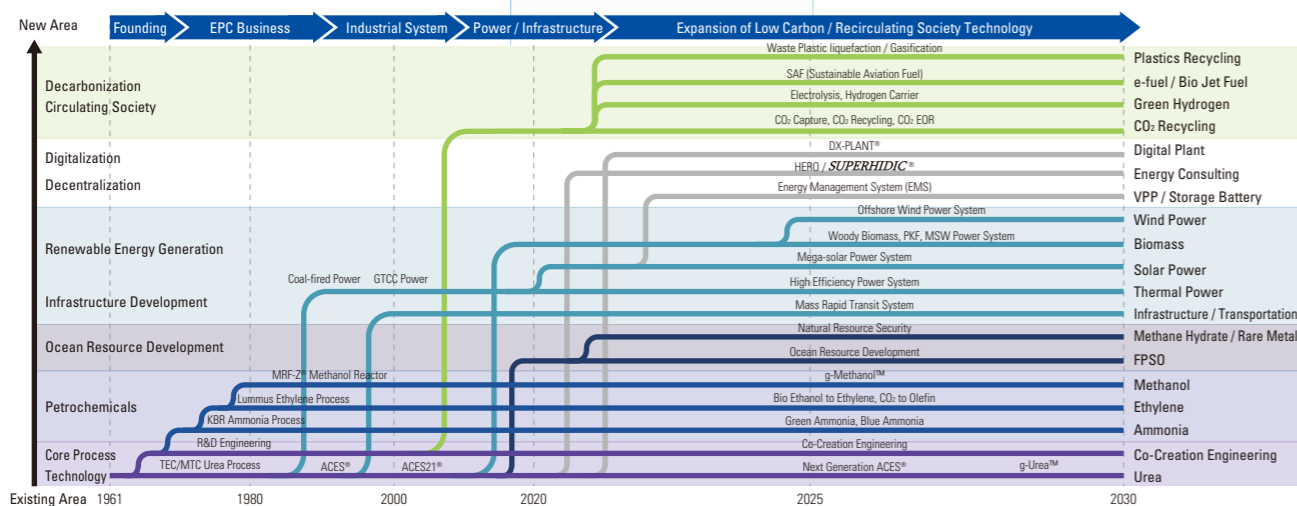
5 Focus areas

TOYO holds many proprietary process technologies such as urea synthesis technology ACES21®, methanol synthesis reactor MRF-Z®, the steam reformer, primarily built around DME (Dimethyl Ether) and synthesis gas systems. By leveraging the process development expertise gained through developing these proprietary process technologies, we will work to develop the technologies needed to realize a low-carbon recycling-oriented society. Specifically, we are focusing on the following five areas:

1. Recycling Plastics to Oil or Gas
2. SAF (Sustainable Aviation Fuel)
3. CO₂ Free Ammonia / Green H₂
4. CO₂ recycling value chain (CCU and CCS)
5. Next-generation urea process

With Co-Creation engineering as its core competence, T-Next will work to add these 5 focus areas to TOYO's profit portfolio over the medium- to long-term.

Evolution to the Future – Phylogenetic Tree of TOYO's Technology



Increasing Productivity 6 times through DXoT

DXoT Planning & Promotion Center is taking the Lead in Digital Transformation for the Entire Group directly under the CEO

To respond quickly and flexibly to customer needs, promoting DXoT for EPC projects has become increasingly urgent, and the DXoT Center was launched in July 2019 with a mission to become a company that continues transforming all corporate activities and structures, including services, operations, organizations, systems, and culture, in an ever-changing society and marketplace.

Dramatically transforming traditional work processes with DXoT

A number of paper-based tasks remain at plant construction sites, resulting in contractor's low productivities. In addition, project management experience and know-how are accumulated by experienced persons or senior persons and often are kept as tacit knowledge. In fact, several work processes heavily depend on individuals. To enhance TOYO's value proposition, we must transform these



Noriaki Seo
General Manager of DXoT Planning
& Promotion Center

longstanding work processes and styles that have been considered the existing conventions without doubt previously considered the norm. To breakthrough them, we set visionary goal that is TOYO's productivity to be increased by 6 times.

Leveraging TOYO's digital twin to work on three focus areas

We will achieve 6 times productivity by building TOYO's digital twin with a focus on three areas to fully leverage data to entire EPC business such as EPC business, project progress and profitability management, and also KPI used in management decision making.

Three focus areas

1. CC* Driven Engineering

CC Driven Engineering is an EPC strategy that places the highest priority on the productivity of construction and commissioning. It is aimed at achieving competitive quality, cost, and EPC period by preventing schedule delays and rework. To increase competitiveness, the strategy focuses on detail design that incorporates uncertainty analysis and forecasts, using standard modules, and verifying constructability through 3D models. Furthermore, by leveraging the digital twin to visualize projects and competent project management to prevent potential problems, TOYO will achieve 6 times increase in TOYO's productivity.

*Commissioning, Construction

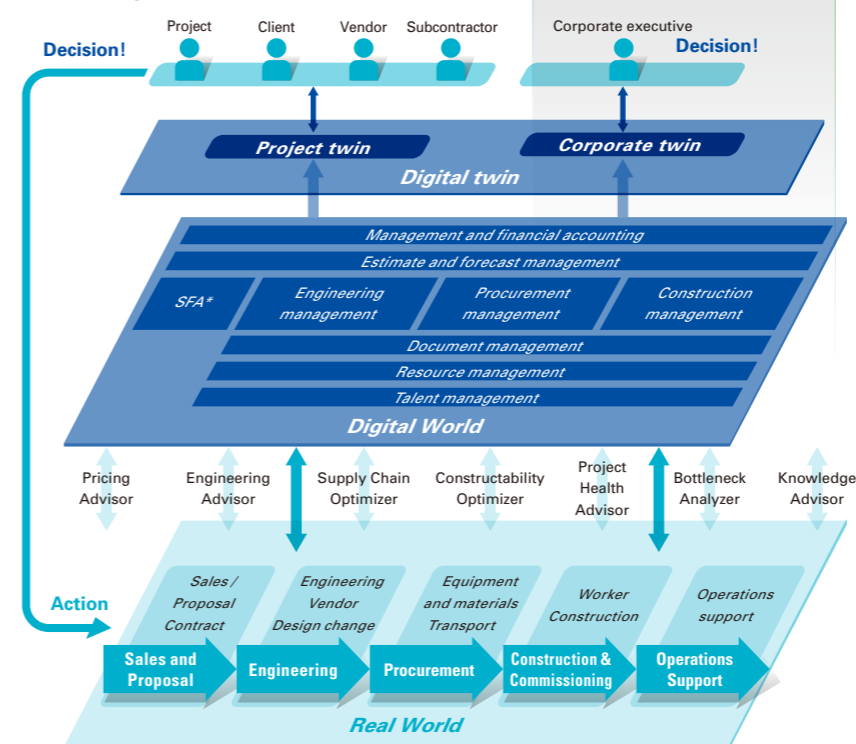
2. Proactive Corporate Management

With the visualization of business processes achieved through CC Driven Engineering, TOYO will realize proactive corporate management based on real time and accurate information. In addition to detecting and evaluating potential risks, TOYO will also strengthen sales activities, maximize employee capabilities, and support the assessment of investment in new technologies and new businesses.

3. Data Leverage

TOYO will take effective actions driven by insight derived by mathematical optimization method and AI technology using field data collected and accumulated on the data utilization platform.

TOYO's Digital Twin



*SFA: Sales Force Automation

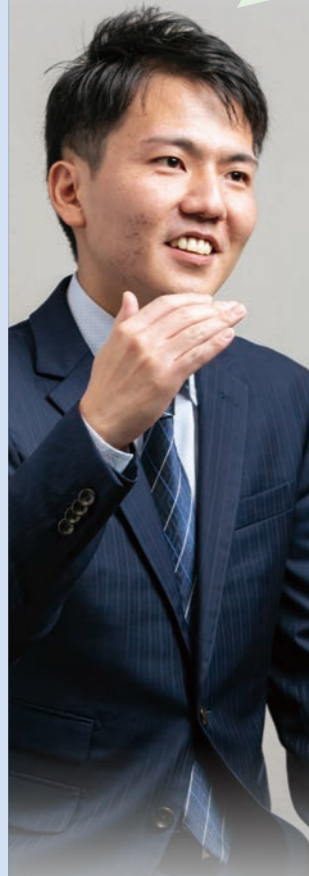
Enriching society with new math-driven solutions

The creator of HERO, an optimization service for oil refineries and petrochemical plants, is Dr. Takase, a third-year process engineer. Since efficiency evaluations for oil refineries and petrochemical plants involve a mind-bogglingly large number of variables, the conventional approach has been to combine local optima at the area and equipment level. HERO, which is Dr. Takase's first commercialized service, uses mathematical optimization technology to take in the vast number of variables and produce an optimal solution for an entire plant.

The excitement of finding and commercializing leads to new solutions

When I was in graduate school researching mathematical optimization, I met a senior TOYO employee who was creating a concept for a new distillation column. He was a key man for me to decide to join TOYO. What inspired me was his passion that went into figuring out energy savings for the commonly used unit operation technology of distillation, as well as the determination to commercialize it. Since I joined the company, I have been working to create practical technology by studying the problems our customers commonly face, identifying the underlying problems, and then searching for the phenomena and basic technologies that lead to new solutions.

Last year, as part of NEDO's contract research, we demonstrated HERO to using plant data from five domestic customers and proposed convincing solutions that can hardly be conceived from experience alone. Now, we are receiving inquiries from all over the world, and getting good responses. While incorporating customer feedback to enhance functionality, we are also exploring the possibility of deploying the HERO concept laterally in various



Hiroshi Takase

Process Engineer
Environment and Energy
Management Development
Department
Business Development Division

manufacturing industries. Furthermore, we are engaged in R&D that goes beyond conventional frameworks, mainly focusing on global challenges such as energy conservation and renewable energy.

Toward contribution for enrichment of society through mathematical optimization

While studying abroad during my doctoral program, I was surrounded by mathematical geniuses from all over the world, and although I could not match their mathematical abilities, I realized that simplifying things was one of my strengths. When applying mathematical optimization techniques to complex real-world problems, it is crucial to assign degrees of priority to a number of conditions. Engineering firms are proficient at creating systems from complex technical requirements and constraints because they are in the business of getting engineers from different specializations to work together to build high quality plants. By taking that strength and incorporating methods like mathematical optimization that exceed human knowledge, we have the potential to build on our traditional know-how to achieve even greater progress. My seniors have deep knowledge and insight on what is needed on site, and I would like to work through challenges alongside them to further polish my mathematical optimization capabilities. This is because I firmly believe that combining plant engineering with mathematics will lead to practical application in new areas. Social needs are becoming increasingly diverse, flooded with a myriad of variables, and the number of social issues needing solutions will continue to grow. My goal is to help enrich society by addressing some of these social issues, working alongside experienced supervisors and senior colleagues while applying my strength in mathematical optimization technology to create solutions unique to TOYO that capture the interest of our customers.

Developing next-generation fuels bio jet fuel & e-fuel to realize a low carbon society

To stop global warming, Europe and many other countries have set ambitious CO₂ reduction targets and are increasingly regulating the use of fossil resources such as coal and oil. As an engineering company, TOYO is developing its business in line with the low-carbon movement and aims to explore new business areas.

Development of bio jet fuel and e-fuel

For 13 years since joining TOYO, I have worked as a process engineer, mainly on large-scale urea and ethylene projects. One of the most unique experiences I had is the development of lithium carbonate production technology. This is where I discovered the excitement of developing not-yet established technologies, and when the Next-G Technology & Application Division was established in 2019 with the aim of developing technologies for a low-carbon recycling-oriented society, I was transferred at my own request. My fellow team members have expertise in a variety of technologies, and we are constantly discovering new things and exchanging information as we work to develop new technologies. Regarding the development of biojet fuels, we jointly built verification plant facilities for integrated production of biojet fuels using wood-based biomass in collaboration with Mitsubishi Power, Ltd. (formerly MHPS), JERA Co., Inc., and JAXA, with production starting in August 2020. We will continue to develop this technology with aims to commercialize it. In addition, we are currently working on a verification project to develop a technology to produce e-fuel, a next-generation fuel. e-fuel is an alternative fuel



Keita Kamiyama

Research Engineer
Next-G Technology &
Application Division
Engineering and Technology Unit

produced by synthesizing electrolytic hydrogen, which is produced from water using renewable energy, and CO₂, which is collected from a variety of emission sources. Unlike conventional fossil fuels, e-fuel is considered to have no impact on total CO₂ emissions as it uses collected CO₂ as raw material, and thus is attracting attention as a next-generation fuel. On the other hand, one of the common issues with low-carbon technologies is that they are more expensive to produce compared to fossil fuels, so the pace of widespread is slow. In addressing these issues, I believe we can help realize low-carbon technologies by leveraging TOYO's expertise in Co-Creation engineering—one of our basic technologies—to contribute to design optimization, cost reduction, and energy conservation during the verification and build-out phases.

Realizing a low-carbon society with next generation fuels

In response to global climate change and growing awareness of the need to reduce greenhouse gas emissions, companies around the world are competing fiercely to develop new technologies. Even for fuels, companies are actively developing next generation fuels such as biojet fuel, e-fuel, and "green hydrogen" that uses renewable energy, and there is a strong commitment to break away from fossil fuel dependence to realize a low-carbon recycling-oriented society. My current work is on next-generation fuels, and my goal is to deepen my knowledge and become an expert in this field. I plan to continue deepening my knowledge and co-creating new value with a wide range of partners to help realize a low-carbon society and improve the global environment.

Aiming to exceed expectations by embracing a customer-oriented perspective as a project engineer

Mr. Ikeda, who is a fourth-year engineer, is currently working as a project engineer on a project where the technology to synthesize methane from carbon dioxide (CO₂) and hydrogen plays an important role. The major difference between this project and other oil and gas resource development projects ever done is the novelty of the technology, and the project also holds great significance for an engineering company aiming to preserve the global environment.

Advance preparation leads to high performance

To put it simply, the role of the project engineer is to consult with the customer on design decisions and coordinate with internal disciplines while working under cost and schedule constraints. The major difference between this project and other projects I worked on in the past is that the purpose of this project is the realization of new technology, and the customer needs TOYO's support through technical proposals. There are various technical issues, both big and small, that need to be addressed, and we will have many discussions regarding these issues with our customer and partners such as equipment manufacturers over the course of the project. At times, it can turn into a heated discussion. This is why I take to heart what a senior project member told me, which is to do all the preparation you can to find a convincing solution for the customer. "Advance preparation leads to high performance." Since this project revolves around developing a new technology, the answer may not necessarily lie in TOYO's plant construction experience.



Keisuke Ikeda

Project Engineer
Solution Service Department
Solution Business Division
Plant Solution Business Unit

Hence, when I have the slightest technical concern or issue, I persistently ask the design team for clarification. Our experienced design team always responds with patience and sound advice. It is this kind of reassuring preparation with our design team that enables me to confidently explain TOYO's technical proposals to customers. I feel most satisfied as a project engineer when we work through constraints to pitch a proposal and the customer approves it. Preparation is truly the key.

Pursuing customer satisfaction

I learned about the plant industry because my major was oil exploration and development, and I found the sheer scale and global nature of the work to be completely irresistible. I never imagined that I would be involved in a project to develop effective CO₂ utilization technology, which is completely different from my specialization, upon joining TOYO. However, it is natural for the demands of society and customers to change with the times, and I take it as a positive that I was assigned to a role with the opportunity to deepen my new technical knowledge. Moreover, my position as a point-of-contact for customers on this project has given me confidence in what TOYO should truly care about. And it is that customers expect TOYO to be a partner that face plant construction seriously with aligned perspectives and values.

Of course, there are budgetary and scheduling constraints, but as an engineering partner, I want to capture the customer's point of view, involve all project members both within and outside of the company, and provide solutions that go beyond the customer's expectations.

Challenge to reduce environmental pollution with microplastics and microbeads removal technology

Plastics indispensable to our lives are shredded in the environment after we used them. The plastics that are less than 5 mm in size are called microplastics (MPs), and the tiny plastic particles that are used in personal care products and released into the natural environment are called microbeads (MBs). Including the pollution of marine life, there are concerns over the negative impact of microscopic plastic waste on the global ecosystem and the environment.

Interesting point of new technology development: The challenge of building from scratch and technical problem-solving know-how

TOYO has been developing technology to separate and remove MPs and MBs from rivers and oceans with the cooperation of Chiba Institute of Technology Associate Professor Yutaka Kameda's laboratory, which has provided analysis technology to quantify the separation and removal performance of MPs and MBs for practical use. Since my joining TOYO, I designed plants according to an established workflow as a process engineer, but developing this technology requires a completely different approach. The work involves making things from scratch, including everything from creating models for theoretical calculations through trial and error to building equipment and conducting test runs. We often face challenges but overcome making use of the technical problem-solving know-how that TOYO has accumulated over the years as well as my expertise as a process engineer. Although it can be struggle, I enjoy the process of establishing new technologies.



Masaki Togo

Technical Expert
Environment and Energy
Management Development
Department
Business Development Division

Tackling environmental pollution as an engineering company

Our current goal is to contribute to reducing environmental pollution by implementing the MPs & MBs removal system that TOYO helped develop in rivers and oceans. MPs and MBs in the natural environment are dispersed in water or accumulated at the bottom of the sea, and must be collected using methods appropriate to their condition and properties. It's very long way to develop the equipment for our goal since we need to try various effective technologies by creating and testing prototype equipment. However, selecting effective and essential elemental technologies from numerous options around the world, establishing partnerships with universities, research institutes, and companies that hold these technologies, integrating the technologies, and securing funding when necessary to verify the technologies, are all dynamic and intricate tasks, and these are exactly the type of work that an engineering company excels in.

The advancement of plastics has supported the development of humanity and society, but the disposed plastic products present us with a new challenge: environmental pollution. To realize a truly recycling-oriented society, achieving the 3Rs (reduce, reuse, and recycle) alone are not enough; we must also recover and remove plastic waste, including the MPs and MBs that have been discharged into the natural world to date. As a member of an engineering company, I would like to use my high-tech application capabilities to help reduce environmental pollution.

Making dreams come true: Conceptualizing a smart city through creativity

Ms. Kobari, a fifth-year engineer, and Mr. Yanagiya, a fourth-year engineer, are working on conceptualizing a smart city with local governments, which is uncharted territory for TOYO. Both have been at the forefront of the infrastructure business, with Ms. Kobari working as a power plant engineer and Mr. Yanagiya working in renewable energy plant sales. Together, they work to integrate advanced technologies into a safe and secure society by creating a disaster-resistant city based on renewable energy and leveraging ICT (information and communications technology) to manage the health of residents.

The attraction of urban development

Ms. Kobari: After working at overseas plant construction sites, I felt that I was getting to fulfilling my role as an engineer, and that's when I was given the new assignment of urban development. I originally joined TOYO because I wanted to contribute to the development of emerging countries, but as I talked with Japanese local government officials, I was exposed to the passion for planning and drafting projects for a better life for local residents with limited financial resources, and I gradually became more interested in supporting their efforts.

Mr. Yanagiya: Soon after I joined TOYO, I enthusiastically engaged in business development for biomass power plant, and managed to secure several large projects consecutively in a short period of time. I am grateful about being able to ride the renewable energy invest boom and for support of our experienced in-house engineers. As a matter of fact, I have long wanted to be involved in a business development which requires combination of a wide range of technologies and coordination of all parties involved. With experts in various technical fields within the company, TOYO is a unique player capable of handling business development projects with complex,



Asuka Kobari

Engineer
Strategic Business Domain
Development Department
(concurrent post)
Environment and Infrastructure
Business Unit
Power Plant and Utility System
Engineering Division
Engineering and Technology Unit



Kazuki Yanagiya

Sales Manager
Strategic Business Domain
Development Department
Environment and Infrastructure
Business Unit

intertwined challenges. Things often don't move forward as expected, but as Ms. Kobari and I continue discussions with the customer, there are also many exciting moments where we are able to work out the optimal path between a problem and its solution.

It's fun because it's challenging

Ms. Kobari: Unlike ordinary plant design work, specifications and proposals for urban development vary widely, and so there were times when I felt lost as we struggled through the adjustment process. However, as we solidified specifications through extensive discussions about the customer's vision of the city, and made feasible proposals from an engineering perspective for areas where they didn't know what to do, the work became more and more enjoyable. Regardless of age or experience, being the point of contact means we represent TOYO. Although I feel the pressure of my responsibilities, I am still able to work in my own way.

Mr. Yanagiya: For an urban development project spanning several decades, delivering value as O&M contractor and/or operations is essential, unlike for conventional plant EPC work. I would like to first successfully complete one project that leverages TOYO's project conceptualization and execution capabilities. And eventually, I would like to leverage the know-how accumulated in Japan to expand overseas together with Group companies.

Ms. Kobari: The Business Area Development Strategy Office was established as a flagship organization for reform, and we have been given a great opportunity to capitalize on the ideas of younger employees like ourselves. I would love to make this urban development a reality.

Mr. Yanagiya: To ensure momentum for reform across the entire TOYO Group, it is important for us, the younger generation, to take on the challenges of this unprecedented field without fear of failure through trial and error, and to achieve results one by one.

A front-runner in Emerging Bio-Ethanol and Bio-Refinery sector in India

India has made significant modernization investments in recent times. As it relies on imported oil and gas resources, there are high hopes for plant-based biomass fuel production. Mr. Samir Hadaye, who previously worked as a refinery construction project manager for Toyo-India, is in his fourth year as a sales manager. He contributes to accelerating India's progress toward becoming a developed country by quickly capturing the needs of customers and leading the development of the biomass fuel market.

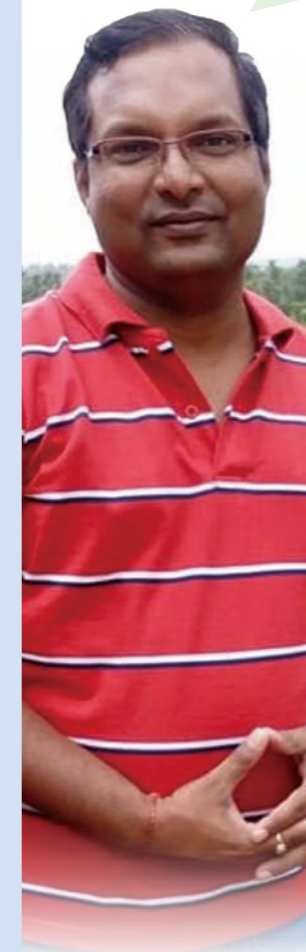
Rapidly developing second-generation biomass technology in India

One of the most promising growth markets in the world, India is also one of the world's leading agricultural countries, with about half of the total working population working in agriculture. In recent years, the Indian government has been promoting the production of second-generation biomass*-derived fuels as a financial measure to reduce crude oil imports, while also addressing the growing awareness of global climate change and the need to reduce air pollution. Specifically, GOI guidelines were put in place to increase the percentage of bioethanol blended with gasoline to 20% by 2030 (currently 6.2%), and national oil companies announced investment plans one after another.

*Biomass fuel production technology using non-edible biomass that does not compete with food as a raw material

Delivering the world's leading bioethanol manufacturing technology to customers

In response to the government's guidelines, and in anticipation of a flood of interest in bioethanol investment from manufacturing



Samir Hadaye

Sales Manager
Sales Department
Toyo-India

technology owners around the world as well as local companies in India, Toyo-India strategically focused on promising customers, including state-owned enterprises, and kicked off promotional efforts. Although it has only been a few months since we kicked off our promotional efforts, we have already been involved in multiple projects ranging from feasibility studies to participation in construction projects. I believe we were able to enter this field quickly because of TOYO's worldwide partner network and Toyo-India's customer base that was built over many years.

SDGs in the spotlight in India

India is considered to be the youngest country in the world. This is because by 2050, it is estimated that 55% of India's population will be between the ages of 12 and 35. Through 2020, India's rapid economic development also led to environmental pollution. However, looking ahead 30 years, I believe that leaving an environment that enables the next generation to drive global economic growth by polishing their skills and manufacturing in India (Skill India & Make In India) will become important for the further development of the Indian economy.

India's success, our pride

Toyo-India is currently a front-runner in the Indian bioethanol and biorefinery market. I am truly proud that TOYO contributes to solving two of India's major challenges: environmental pollution prevention and increasing energy demand. Being a part of TOYO's mission to lead India toward a successful future makes me truly happy. With the words "India's success, our pride" in my heart, I will pioneer the future of India.

Plant Solution Business Unit Strategy Market Outlook and Basic Policy

Partner for customer throughout plant lifecycle

The recent global movement toward sustainability accelerates decarbonization and recycling initiatives; accordingly, quite a few companies have revisited their business portfolio and remodeled it in line with SDGs/ESG. Besides, recession in economy and its uncertainty due to COVID-19 pandemic stall the flow of people and goods, which puts a damper on investment, forces to rebuild supply-chain and makes people/companies strived toward survival. Both of above simultaneously affect economy significantly all over the world and result in drastic changes in the market. Looking at the industry specific for our business line, demand of basic chemical such as ethylene and its derivatives like polymers has been temporarily dropped; however, we expect that it will be reinstated and get on the normal track at late in 2021 or early in 2022, which will be supported by growth in the field of mobility, IoT, healthcare/pharmaceuticals. We also expect that fertilizer of agriculture is also on a stable trend with gentle increase in demand along with growth of global population.

Though we are in the face of tough market situation for the time being, we will take this opportunity to focus on reinforcing our EPC execution capabilities by advancing our global operations and improving operational efficiency through DXoT.

We vehemently aim at being customers' long-term partner by expanding our services and offering technical solution throughout lifecycle of plant, covering from R&D, FS/Planning, pre-EPC, EPC, even including post-EPC phase.

To achieve customer-focused business direction, the Plant Business Unit has integrated our Solution Business Division and are working closely with the Business Development Division and T-Next (Toyo's Next-G Technology & Application Division), which enables us to be more active, providing our services with full range as mentioned above. Those could also be leading consequent to a foundation for establishing a stock-type business models.



Eiji Hosoi
Senior Executive Officer
Unit Director of Plant Solution
Business Unit

Toward more advancing Global Operations for EPC execution

In December 2019, we completed the Malaysian RAPID project, the largest ethylene complex in TOYO history, and handed it over to our customer successfully. The project was truly a group-wide effort, involving Toyo-India, Toyo-Korea, IKPT, Toyo-Malaysia and Toyo-Japan.

The history of TOYO is nothing but growth of group companies. Through numerous projects, our global group companies have accumulated technical knowledge and polished project management skills. In particular, Toyo-India executed 8 ethylene projects and 2 fertilizer projects in the last 10 years, which is regarded as globally unparalleled experience. Moreover, they are all-time leader in the Indian LNG regasification market. Their business line even covers refinery modernization, specialty chemical as well as industrial factory. All of those experiences and successful achievements have making them one of the most experienced EPC players even in the world. Toyo-Korea has been recognized around the globe as an excellent polymer plant contractor backed by success in ample experience. Toyo-China has been continuously appointed by the world's leading chemical companies of Japan, Europe and the United States, to build plants in the Chinese market. Indonesia IKPT is the top EPC player in the country covering from Oil & Gas, Petrochemical/Chemical and Infrastructure. These days IKPT shows its presence in the infrastructure through Jakarta MRT (Mass Rapid Transit) geothermal, thermal, and small hydroelectric power plant projects. Moving further into 2021, TOYO's EPC project execution will be dynamically shifted to the global group companies, while Toyo-Japan will focus more on creating future-oriented technologies and businesses.

Controlling EPC execution risks through project management x DXoT

Nowadays projects are likely to be larger and more complicated; accordingly, all of

stakeholders of projects are exposed more to increased risks in the aspects such as finance, cost, schedule, quality, HSE, etc. Whether those risks are properly managed is to be a point of critical importance toward successful completion of project. In other words, competencies to manage the risks is nothing but company's capability of EPC project execution. Previously such a competency is apt to relying more on experienced people; however, complexity of project and its associated risks requires appropriate systems to control the risks in a timely manner.

"Project Twin" is a strong system to monitor the project status on a real time basis, which visualizes the latest status at any time round the clock no matter where we are. The project status covers the progress of each discipline of engineering, manufacturing by vendors in the world, delivery of materials to the site, construction activities, numbers of construction workers/construction equipment,



status of pre-commissioning/commissioning and even budget vs. actual expenditures. Deriving from those status, Project Twin shows efficiency of works, trend of progress (ahead/delay) and trend of cost overrun as well. The information of Project Twin can be shared with customer, vendors and construction sub-contractor to make a firm alignment of project status on a transparency basis and to take an immediate action for resolution of issues. With this system, the management of project is much encouraged to make a timely and appropriate decision, which results in mitigation of various risks of project.

Through operation of DXoT, including Project Twin, we will continue to advance our data-centric project management methods by promoting integration of engineering, procurement, and construction data. We will further strengthen the foundation of TOYO's competitiveness by accumulating and leveraging know-how in our global operations.

Growth History of TOYO's Global Group Companies

The 1990s
Shift to an internationally distributed engineering model

Since establishing Toyo-India in 1976, TOYO set up group companies in Malaysia, the US, and Korea in the 1980s, as well as in Brazil in the 1990s. In 1995, the company set up a dedicated line between Japan and India and began laying the groundwork for its work distribution model.

2000-
Group companies as profit centers

In line with overseas expansion of the manufacturing industry, the company converted its group companies, which were previously cost centers, to profit centers. This was followed by a gradual increase in the proportion of EPC work undertaken by group companies.

2006-
Global Toyo project execution

With the aim of making each group company an independent EPC execution partner, TOYO significantly shifted EPC functions for petrochemical and refinery projects.

2012-
Establishment of the TOYO standard and consolidated management

TOYO established the TOYO Standard as a common group-wide technical standard to ensure consistency in technology and quality. The logo was unified to promote group cohesion, and a consolidated management structure was established.

2020-
Toward a group company-centered EPC operation

Group companies take the lead in finding new projects, securing orders, EPC, and delivery. TOYO's growth is accelerated by further refining group operations.

Environment and Infrastructure Business Unit Strategy

Market Outlook and Basic Policy

Electricity power demand is solid. Adapting to drastic environmental changes is key

While demand for electric power continues to rise, especially in emerging countries, decarbonization efforts launched by the Paris Agreement as well as efforts to build disaster-resistant power systems are ramping up. Against this backdrop, a shift from current system with large-scale intensive power plant to distributed power sources mainly by renewable energy is expected to go forward. In addition, traffic congestion has become the norm in cities, which not only adds to travel times but also exacerbates air pollution, and the development of urban transportation networks is attracting attention as a solution.

Since fiscal 2013, we focused on the EPC business, positioning infrastructure development projects in the areas of power plant, transportation, and water as our core business. Creating new business opportunities requires accurate responses to the needs of the changing environment as well as a long-term perspective. Accordingly, we changed the name of the business unit to the Environment and Infrastructure Business Unit this fiscal year, placing the word "Environment" in the name to show that TOYO will create sustainable businesses and develop them into primary businesses. We will strive to be a developer that creates new businesses by leveraging our project management capabilities to the fullest extent, while incorporating "amoeba-like" flexible thinking that goes beyond the norms of an engineering company.

Of course, we are not stepping back with our conventional EPC business, rather, our basic policy is to focus on mainly domestic renewable power plant projects in the near-term, while also pushing forward with construction projects such as high-efficiency, low-environmental-impact gas-fired power plant and public transportation projects that improve people's daily lives.



Keiji Morino

Senior Executive Officer
Unit Director of Environment and
Infrastructure Business Unit

Steadily securing project orders for biomass-fired power plant

Currently, our top priority is to steadily secure project orders in the booming domestic biomass-fired power plant EPC market. We received our first order in 2018 and as of September 2020, a total of 7 biomass-fired power plant projects are underway. TOYO's strength stems from the competitiveness gained from close partnerships with Andritz, a manufacturer of high performance circulating fluidized bed boilers, and Siemens, a manufacturer of high efficiency steam turbines, as well as from the strong relationships TOYO has developed with its customers. Currently, we are focusing on power plants with a single-unit power plant capacity of 50 MW and 75 MW, and we plan to pave the way for even larger turbines while adjusting to future changes in the feed-in tariff program for renewable energy.

Biomass-fired power is a valuable source of power that can be run as base load, unlike solar and wind power, which are also classified as renewable energy but are affected by the weather. We are committed to supporting electric power resilience through our business in accordance with the government's clear policy on coal-free power plant.

Developing the next flagship business

The Jakarta MRT (Mass Rapid Transit), which began operation at the end of March 2019, marked the successful completion of TOYO's first railway project, together with IKPT. Through a consortium with Mitsui & Co., Ltd. and Kobe Steel, Ltd., we contributed to exporting Japan's advanced infrastructure technology by providing tracks, train lines, power receiving and distributing equipment, signaling and communication equipment, platform doors, automatic ticketing systems, and more.

At TOYO's Infrastructure business, in addition to railways and renewable power plant, we are working to develop the next flagship business in a wide range of business areas, including gas-fired power plant, FPSO (Floating Production, Storage and Offloading), and nuclear decommissioning. In addition, we aim to collaborate with our partner Nippon Steel Engineering Co., Ltd. and use their waste-to-energy technology as a post-biomass-fired power plant system in international projects. We are also considering expanding into offshore wind power plant in the future.

In the infrastructure field, we anticipate that market needs will vary from region to region at different times, and we will continue working with an eye on business opportunities while quickly and flexibly responding to the demands of society.

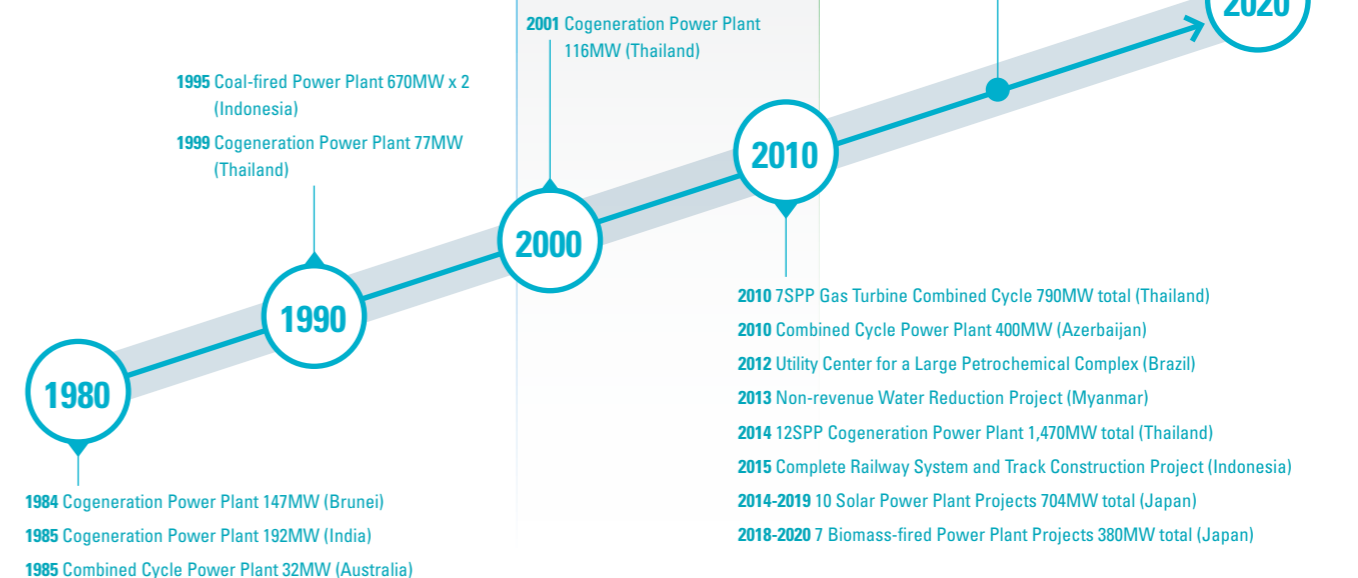
Strategic Business Domain Development Department's role in pioneering new business as a development company

This year, we established the Strategic Business Domain Development Department

to work on pioneering new business areas. The department will be responsible for expanding new BUSINESS MODELS in the environmental and infrastructure fields in accordance with the medium- to long-term company-wide strategy, and will drive the shift to a balanced operating revenue structure with the conventional EPC business and new businesses as the backbone. To build new businesses, it's important to find the shoot of new issues while working with customers and partners on-site. In doing so, we will strive to cultivate business areas where TOYO can add value. One specific example is the construction of power systems based on renewable energy and hydrogen utilization in anticipation of the shift to distributed power sources. By combining this with the outsourcing of business operations by local governments, we will work to develop a concession* business and vigorously take on the challenge of building cities resilient to environmental disasters by incorporating disaster prevention and mitigation measures.

*A system in which a public entity retains ownership of a public facility while assigning operational control of the facility to a private operator.

Development of TOYO's Infrastructure Business



Reforming Our Human Capital System

Supporting Innovation Through a Human Capital System That “Boosts Employee Growth”



Naoko Hashimoto
Team Leader
Human Capital Innovation Team
Human Capital Development
Department



Yuki Homma
Human Capital Innovation Team
Human Capital Development
Department

Handling Environmental Changes

We are once again seeing that engineering companies will be expected to play a role as a partner of customers that achieve both economic development and the sustainability of the earth, including from the stage of planning business to post-construction operations in the long term. In 2019, we started reforming our human capital system in order to expand our business portfolio, strengthen our competitiveness in terms of our ability to bring in rapidly advancing digital technologies, and start changes in human capital.

We are aiming to introduce a system in fiscal 2021 that enables us to redefine the requirements for human capital capable of succeeding in our rapidly changing business environment, facilitates effective human capital development, and contributes to the pride and job satisfaction of employees to help maximize their performance.

Developing the Ability to Adapt to Changes

Two pillars of TOYO’s medium- to long-term strategy are to innovate its EPC business and develop new business fields. In order to apply the knowledge and experience gained from our conventional EPC business to new business while simultaneously using technology acquired from new business to strengthen EPC, we need human capital capable of freely traversing both types of business. For our new human capital system, we are considering how to emphasize the effective development of human capital that possesses an increased ability to adapt to changes and can succeed beyond the range of specialized fields while also creating a system that boosts our human capital’s overall success and willingness to take on new challenges.

In particular, to develop new business fields, it is necessary to possess a broad perspective and flexible thinking ability while increasing new personal connections. Therefore, we are promoting mid-career recruitment as we encourage personnel transfers from EPC to new business, and we are pushing employees to utilize the knowledge for new business. In addition, we are actively promoting human-capital exchange outside the Company and further increase the mobility of human capital and knowledge both within and outside the Company to achieve a system enabling us to bring new knowledge into TOYO.

Providing Growth Guidelines for the Next Generation

In order to achieve the balanced operation of conventional and new business—two pillars of our medium- to long-term strategy—initiatives for promoting new business are not enough. Developing human capital capable of executing conventional business without fail is also an important issue. To develop

human capital to handle conventional business, we have selected more than 50 senior engineers to act as role models, and picked up important common traits among them, including a sense of mission and professionalism. Our plan is to include them to the basic capabilities that should be acquired by our engineers of next generation as core competencies and to then utilize them as growth guidelines when considering career plans. We believe that employees who acquire a solid background through the execution of conventional business will utilize it when developing new business fields.

In addition, as a way to support the effective development and transfer of human capital, we have set up a place to discuss specific development plans with each employee that consider their aptitudes, strengths, and weaknesses in accordance with their personal career goals. We have also taken on the responsibility of establishing a foundation that supports the growth of individuals from a broad perspective in order to provide an environment enabling our employees to face changes without any fear of failure. By providing a workplace environment and human capital system that enable employees to feel growth as individuals, we hope to improve their motivation by making them feel like TOYO is a great place to work.

A Remuneration System That Rewards Performance

For the new human capital system, we are also promoting revisions to our remuneration system in order to more suitably reward employees for their responsibilities and the performance they achieve. More specifically, we are revising the operation of the system emphasized up until now—including seniority-based factors—by incorporating job-based salary factors to encourage selection-based promotion in accordance with ability and implement operations that provide an opportunity for employees to succeed regardless of their age. During the execution of our work, capabilities acquired from long years of experience are of course very important, but we plan to increase the transparency of our system operations so our employees can benefit from treatment more in line with their actual responsibilities and performance. This system will also be fair and convincing to employees in order to accommodate remote work. In addition, we will certainly reward employees accordingly for taking on the challenge of increased job duties or heavier responsibilities.

A human capital system is a company’s most important foundation. A human capital system that “boosts employee growth” will encourage the growth of employees, support TOYO’s development, and lead to social sustainability before long, so we are ultimately building a new human capital system to serve as the foundation of TOYO’s sustainability.

TOYO’s Human Capital Development

We have started building a training system that strikes a balance in covering the development and acquisition of three core engineering business skills—professional, interpersonal, and problem-solving skills—while also focusing on the global training of digital human capital.

The TOYO Group regularly holds global HR meetings attended by HR division heads from each group company to achieve collaboration between the human capital development within the TOYO Group. In addition, we are promoting the development of human capital capable of succeeding globally by deepening the exchange of human capital across the Group. We are also working on further expanding our common training program within the Group by utilizing ICT tools.

	Technical skill acquisition (professional skills)	Human skill acquisition (interpersonal skills)	Conceptual skill acquisition (problem-solving skills)
Managers	Project manager practical training (outside the Company)	TOYO management program training	
		Division Manager training	
		New manager training	
Mid-level and younger employees	TOYO Academy Digital human capital training English training Division-internal education and workshops Overseas OFF-JT Engineering, management, and business training for young employee	TOYO Global Leaders Seminar	
		Negotiation training Presentation skill training	Meeting management training Conflict management training
		Seconded training (outside the Company)	
		Human capital rotation, group company OJT	
		On-site training	
		Newcomer training	Global mindset

* Bold text indicates training programs common to the Group.

Respecting Diversity and Creating a Rewarding Place to Work

As an engineering company, TOYO’s only assets are its “human capital.” We value diversity among our employees in accordance with one of the TOYO Values, “Diversity.” We are striving to create a rewarding workplace environment that respects work-life balance and is a place our employees can be proud of in front of family members and friends, and the results of our efforts are shown by the numbers below. In addition, in June of 2019, we obtained the Eruboshi certification (two stars) as a company of proactively engaging in promotion of women’s participation in the workplace, certified by the Ministry of Health, Labour and Welfare.



	Unit	FY2015	FY2016	FY2017	FY2018	FY2019
No. of employees ^{*1}	Persons	1,092	1,035	1,030	973	998
No. of female employees ^{*1}	Persons	159	164	167	169	179
No. of female engineers	Persons	34	36	42	42	48
No. of female managers ^{*2}	Persons	14	14	17	22	22
No. of disabled persons hired ^{*3}	Persons	22	24	22	18	21
No. of persons re-employed	Persons	112	104	102	99	86
No. of foreign employees	Persons	54	54	56	47	48
(No. of male employees taking childcare leave) and percentage of returnees ^{*4}	(Persons) %	0	0	(1)100	(4)100	(4)100
(No. of female employees taking childcare leave) and percentage of returnees ^{*4}	(Persons) %	(7)100	(4)100	(4)100	(9)100	(3)100
No. of persons taking paternity leave	Persons	28	18	14	39	21
No. of persons working shorter hours for childcare reasons ^{*5}	Persons	17	17	21	14	14
No. of persons working shorter hours for nursing care reasons	Persons	1	1	1	2	1
No. of persons taking family care leave ^{*6}	Persons	70	75	94	102	96
No. of persons taking nursing care leave	Persons	0	0	0	0	0
Percentage of annual leave used ^{*7}	%	50.5	55.1	58.3	62.0	61.9
No. of persons with overseas work experience ^{*8}	Persons	482	501	440	479	303
No. of persons working from home ^{*9}	Persons	—	—	71	184	207

- *1 Excludes temporary employees.
- *2 Equivalent to Team Manager or General Manager.
- *3 Includes subsidiaries in Japan.
- *4 Excludes employees currently taking childcare leave.
- *5 Includes employees applying for the exemption from overtime work.
- *6 Scope of family in TOYO’s internal rules includes children, spouses, parents, parents-in-law, grandparents, siblings, and grandchildren.
- *7 Excludes employees on long-term assignments overseas, employees on temporary assignment, mid-year recruits, employees on long-term sick leave, and employees on extended leave.
- *8 The number of employees embarking on overseas assignments in that year.
- *9 In fiscal 2020, the system was re-named as the remote work system, and the limit on the number of days was abolished.



Chairman
Tomohisa Abe
(Chairman of the Board of Directors)

Analyzing Issues Related to Risk Management

One cause of our business performance worsening in the past several years is the business-scale expansion strategy included in our fiscal 2012 medium-term management plan and the resulting sudden increase in orders received. However, the essence of this problem was not in fact business-scale expansion itself. Instead, our Group's human capital and operations lacked the project execution capabilities necessary to keep up with the sudden increase in orders.

Cause Analysis

- Too much emphasis on achieving the scale of orders, which resulted in the acceptance of orders with difficult contract conditions
- Overly optimistic risk assessment at the time of proposal
- Lack of key persons for projects
- Problems resulting from engineering-office decentralization

To execute EPC projects, it is necessary to set up a team capable of steadily executing ordered projects and to have human capital combining expert knowledge, ample experience, and leadership aimed at maintaining discipline both within and outside TOYO lead the projects according to plan. However, as a result of accepting orders for projects that exceeded the scale of TOYO's execution abilities, we fell into a situation in which we frequently failed to demonstrate our abilities when executing projects. Based on this analysis, starting in fiscal 2015—the first year planned for our revival—we started implementing thorough risk management strengthening measures aimed at suitably managing our order-receiving process and project execution.

US Ethylene Issues and Measures

Regarding the US ethylene project, the negotiations before

contract conclusion were more or less finished in fiscal 2014—the final stage of our expansion policy—and we started the project in fiscal 2015. Below, I would like to explain the issues that emerged and measures we implemented in response to this project, which resulted in a major cost overrun as a result of not applying our risk management strengthening measures when we accepted the order.

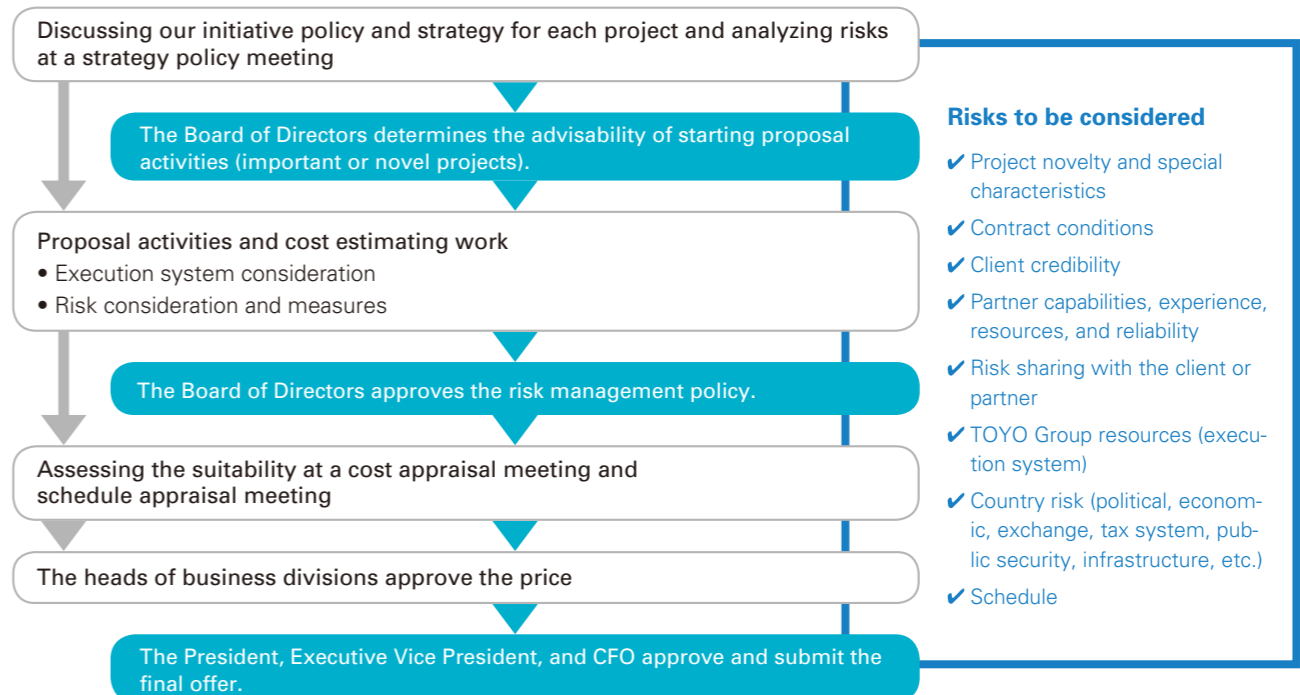
The first issue was that we did not have an adequate system for performing a reasonable risk assessment of the highly novel commercial issues, business practices, and technical issues that were involved. More specifically, our risk assessment function did not work right prior to accepting the order, and we ended up concluding a lump-sum contract with the client on the other hand a USA-style Time & Materials Contract* with the subcontractor without a sufficient understanding of the risks involved, and we also entrusted the construction work to the subcontractor. The second issue was our delay in strengthening our EPC capabilities to ensure their effectiveness. More specifically, TOYO failed to suitably respond to the quality of equipment produced at an affiliated plant in an emerging country by a manufacturer promoting the international division of labor, and we were slow to take measures in response to the USA's construction situation.

* A type of contract for which the amount paid is calculated by multiplying the set unit price by the amount of time the work takes

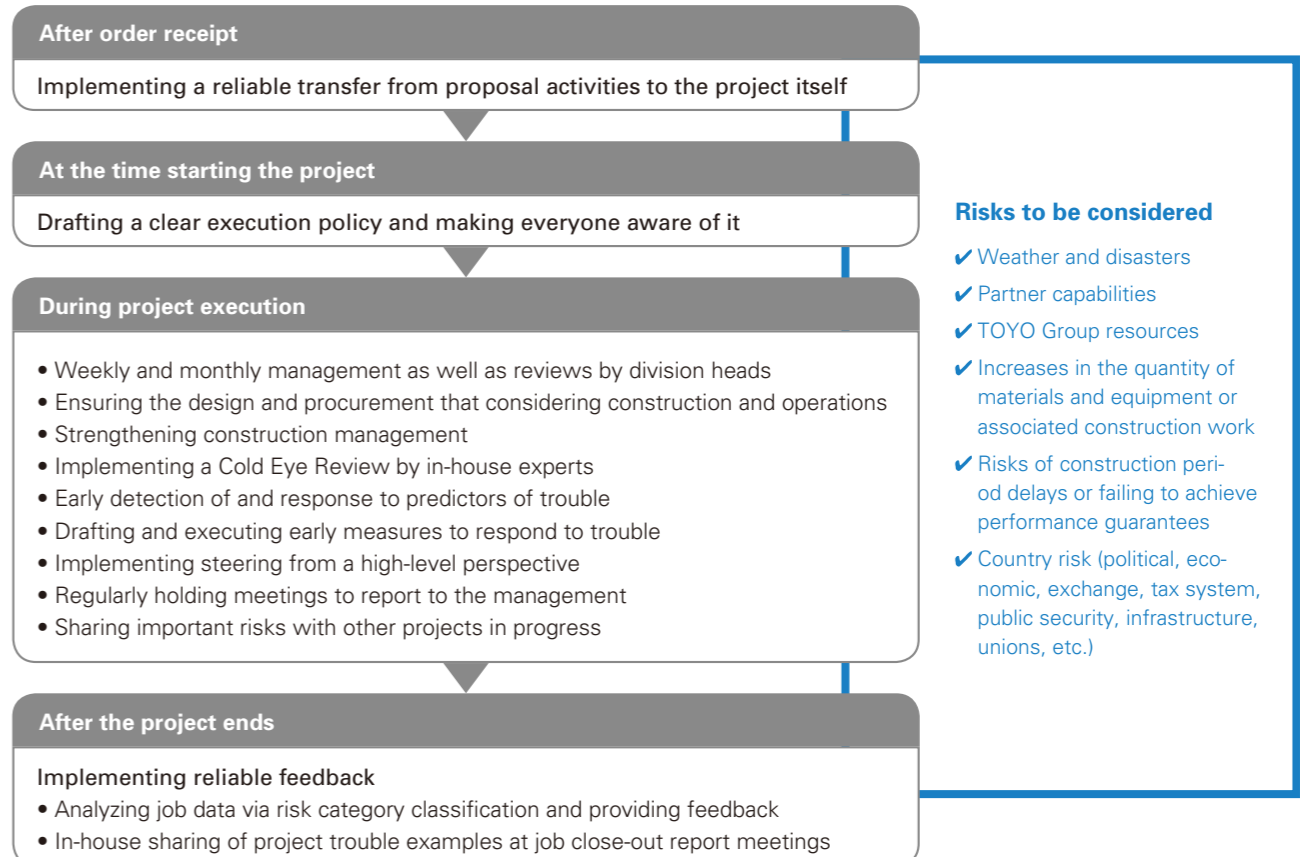
Our risk management process starting in fiscal 2015 is shown by the flowcharts below. To avoid repeating past mistakes, we took separate strengthening measures for two categories: Strengthening Pre-Order Risk Management and Strengthening Post-Order Risk Management. Regarding projects we are currently executing, we are implementing measures to strengthen our approach in terms of both income and expenditure on the one hand and quality on the other. Although we are starting to see the results of this, project risks are changing every year due to the need for ever larger, more complex plants, so we intend to continue making daily improvements as we manage risk.

Strengthening Pre-Order Risk Management

For projects that are large, important, or novel



Strengthening Post-Order Risk Management

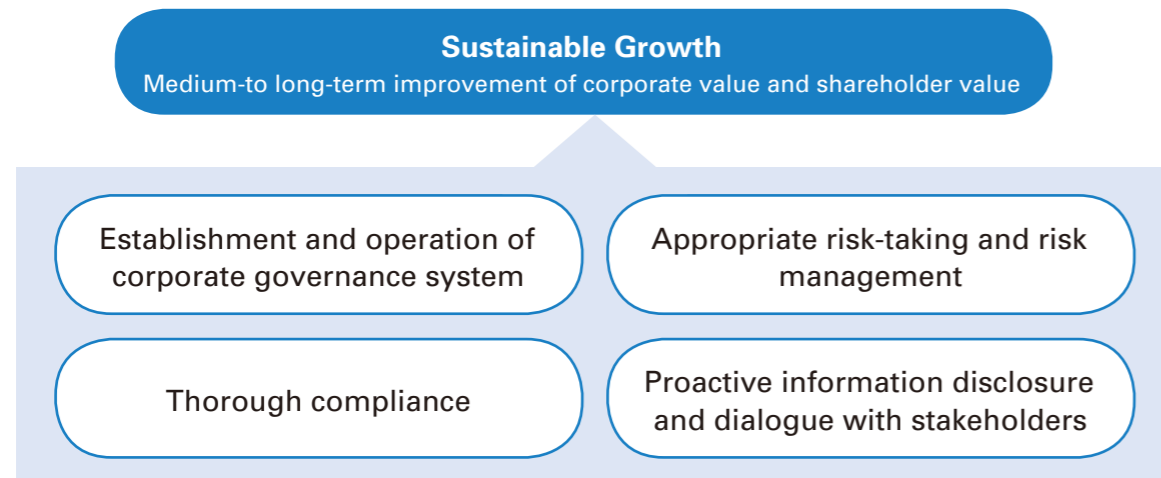


Basic Approach

Toyo Engineering's mission is to contribute to the sustainability of the world and society through engineering, and we aim to achieve both sustainability as a company and improved corporate and shareholder value in the medium-to long-term. We are also working on fleshing out our corporate governance, which we consider the foundation for

achieving the above.

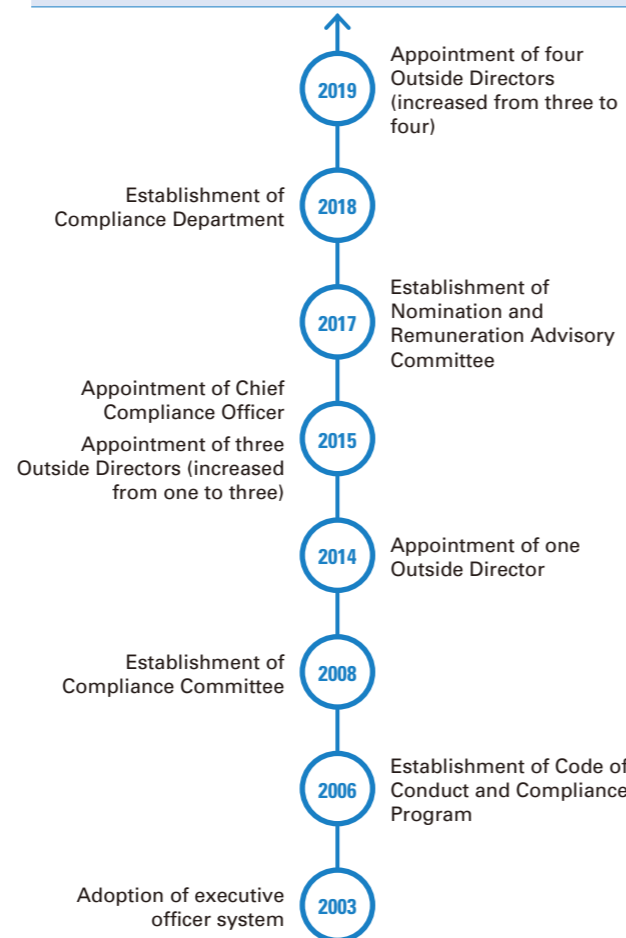
More specifically, we are doing everything in our power to establish and run a corporate governance system, implement suitable risk-taking management, ensure thorough compliance, actively disclose information, and maintain a dialogue with our stakeholders.



Corporate Governance Structure (as of July 1, 2020)

Form of organization	Company with an Audit & Supervisory Board
Adoption of an executive officer system	Yes
Number of Directors	9
Of which, Outside Directors (Independent Officers)	4 (3)
Term of Directors	1 year
Number of Audit & Supervisory Board Members	4
Of which, Outside Audit & Supervisory Board Members (Independent Officers)	2 (2)
Number of Board of Directors meetings (FY2019)	19
Average attendance ratio of Outside Directors	97.3%
Average attendance ratio of Outside Audit & Supervisory Board Members	100%
Number of Audit & Supervisory Board meetings (FY2019)	19
Average attendance ratio of Outside Audit & Supervisory Board Members	100%
Voluntary committee of the Board of Directors	Nomination and Remuneration Advisory Committee
Remuneration for Directors and Audit & Supervisory Board Members	Directors (excl. Outside Directors): fixed remuneration and performance-linked remuneration Outside Directors and Audit & Supervisory Board Members: fixed remuneration
Audit firm	Ernst & Young ShinNihon LLC

Past Initiatives to Strengthen Corporate Governance



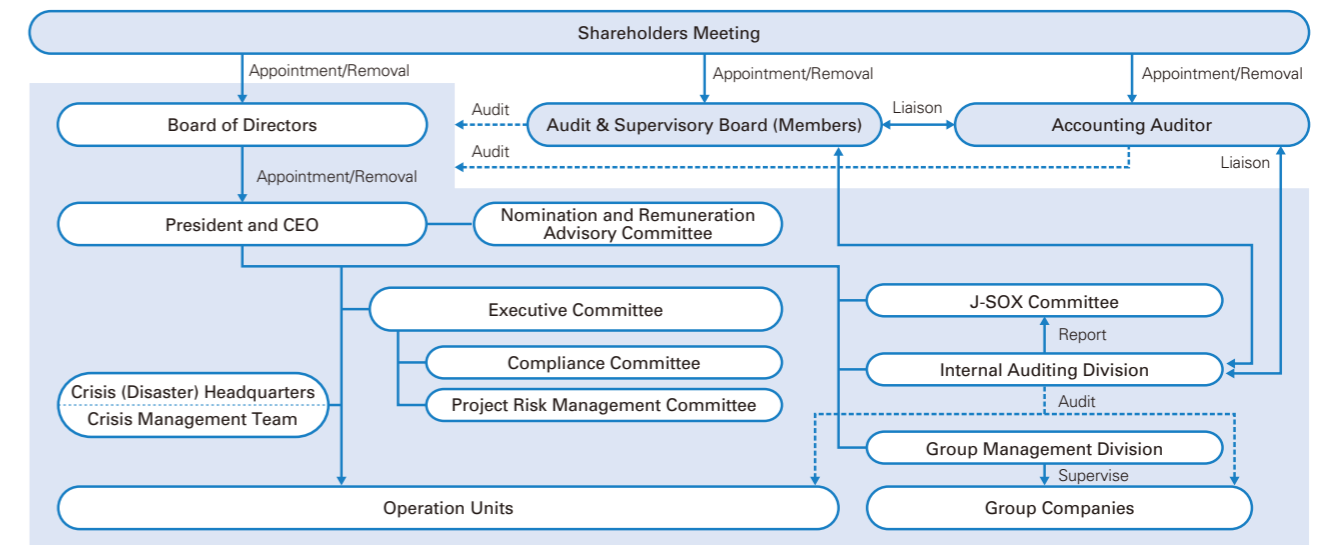
Corporate Governance System

TOYO recognizes the importance of gaining the trust of its stakeholders, including shareholders and customers, and ensuring transparency and fairness in management decision making as we fulfill our corporate social responsibilities. To this end, we have established and endeavor to properly maintain the following corporate governance system.

The Board of Directors comprises eight Directors, including three Outside Directors, who deliberate and determine all important matters related to management and execution of operation, and also monitor and supervise one another with respect to the execution of duties. We also employ an executive officer system for the purpose of guaranteeing a swift and efficient business execution system. Executive Officers are appointed by the Board of Directors and, under the CEO's directions, execute the duties they have been delegated. The Executive Committee serves as an advisory body

to the President & CEO and consists of Executive Officers with specific roles (Senior Executive Officers or above) and the heads of key divisions. The Executive Committee reports on and deliberates important matters related to the execution of operation. The Nomination and Remuneration Advisory Committee also serves as an advisory body to the President & CEO—its members comprising the President & CEO and Outside Officers. The Committee serves to ensure fair and transparent officer appointments and remuneration by providing opinions to the President & CEO.

The Audit & Supervisory Board consists of four members, two of which are Outside Auditors. They report and deliberate on the execution of duties by Directors, the establishment and implementation of internal controls, internal audit guidelines for quarterly and year-end results, and the details and results of audits.



Auditing by Internal Auditing Division and Audit & Supervisory Board Members

TOYO has established an Internal Auditing Division that is directly controlled by the President. Internal Auditing Division assesses the legality and rationality of Company operations, and provides advice and counsel regarding the operational effectiveness and efficiency of the Company. Additionally, it independently assesses the maintenance and operation of internal controls related to financial reports, and these results are reported to the J-SOX Committee, the organization immediately under the President.

Audit & Supervisory Board Members audit Directors' execution of duties through attending important meetings, including those of the Board of Directors, interviewing

Directors, Executive Officers, and employees on the status of operations and the execution of duties, and investigating the progress of the Company's operations and finances.

The Audit & Supervisory Board, Accounting Auditors, and the Internal Auditing Division conduct their auditing in cooperation, while giving full consideration to the independence of one another. Auditing is implemented through close communication such as explaining the observations related to the Company's operations, and exchanging opinions on various topics including their respective yearly auditing plans and critical audit items, auditing methods, inspection and quality control systems, and audit results.

Internal Controls

Based on the recognition that internal controls serve as the foundation of corporate governance, the Directors establish, maintain, and evaluate an appropriate internal control system. They conduct ongoing inspections and make improvements to the system and periodically review their basic policy for internal controls. Given that

internal controls ensure the reliability of compliance, risk management, and financial reports, we also pay sufficient attention to the effectiveness and efficiency of operations. The establishment of this system enables the Board of Directors to make decisions based on appropriate information and subsequently, the execution of business.

Corporate Governance

Evaluation of Effectiveness of the Board of Directors

An evaluation of the Board of Directors by each Director is conducted every year in order to ensure the effectiveness and appropriateness of decision making and supervision by the Board of Directors and in an effort to improve such functions. Discussions are made on the understandings of current status and the areas that require improvement in relation to the effectiveness of the Board of Directors overall.

For fiscal 2019, an anonymous questionnaire was completed in December 2019 by all Directors and Audit & Supervisory Board Members that comprise the Board of Directors. The results of the questionnaire were then reported to the Board of Directors by the Director in charge of the evaluation of effectiveness of the Board of Directors and in February 2020 the details were analyzed, discussed, and evaluated at the regular Board of Directors meeting.

The responses from the questionnaire regarding the size, composition, and administration of the Board of Directors

were mostly positive, as was the case last year, which confirmed that the Board's decision making and supervisory functions with respect to the execution of operation are working appropriately. These results provided reasonable assurance of the effectiveness of the Board of Directors overall.

Meanwhile, regarding the suggestion put forward in last year's evaluation that the Board's composition and methods of deliberation need to be examined in light of the Board's role, the Directors voiced the opinion that there remains room for improvement from the perspective of strengthening the Board's supervisory function and shared an awareness that they must work on further improving the Board's functions and invigorating discussions.

Based on the results of this effectiveness evaluation, TOYO's Board of Directors will continue to work on enhancing its functions by properly examining the issues and addressing them swiftly.

Outside Directors and Outside Audit & Supervisory Board Members (Outside Auditors)

TOYO appoints Outside Officers with no conflicts of interest with general shareholders pursuant to the independence criteria prescribed by the Tokyo Stock Exchange.

In addition to the requirement that Outside Directors must be independent of the TOYO Group's management, we appoint candidates that possess considerable knowledge and ample experience in areas such as corporate management, risk management, legal compliance, and global management practices, and who can express objective and practical opinions and give advice from the standpoint of various stakeholders in view of TOYO's overall management. We also appoint Outside Audit &

Supervisory Board Members that possess considerable knowledge and ample experience in various disciplines and who can suitably undertake audits with respect to the appropriateness of the execution of duties and operation by Directors in view of TOYO's overall management.

We believe obtaining opinions of highly independent Outside Officers fulfills management's accountability and ensures management transparency. We also think the current system and its implementation is allowing our corporate governance to function effectively, considering the nature and structure of our business.

Policies on Remuneration Amounts and Determining Calculation Methods for Directors and Audit & Supervisory Board Members

Remuneration for TOYO's Directors (excluding Outside Directors) is intended to be suitable, fair, and balanced and to increase their motivation to maximize the Company's corporate value while ensuring medium- to long-term profit for shareholders. More specifically, this remuneration consists of a fixed portion—determined according to each Director's position—and a performance-linked portion. The performance-linked remuneration is calculated based on the current net profit attributable to owners of the parent—which is considered the most suitable indicator that reflects the Group's business performance—and is determined by the President & CEO according to the level of contribution of each Director.

Furthermore, in order to set appropriate remuneration levels for Directors and Audit & Supervisory Board Members and strengthen accountability, the ratios for both fixed and performance-linked remuneration as well as the calculation formula for performance-linked remuneration shall be decided by the Board of Directors based on the findings of the Nomination and Remuneration Advisory Committee—which consists of the President & CEO and Outside Officers—after discussing any revisions deemed necessary by the President & CEO.

Remuneration for Outside Directors and Audit & Supervisory Board Members is fixed and not linked to business performance in light of their roles and independence.

(FY2019)

Officer Classification	Total Remuneration (¥ million)	Total Remuneration by Type (¥ million)		Number of Eligible Officers
		Fixed Remuneration	Performance-Linked Remuneration	
Directors (excluding Outside Directors)	115	115	—	5
Audit & Supervisory Board Members (excluding Outside Audit & Supervisory Board Members)	36	36	—	2
Outside Officers	36	36	—	6

Risk Management Initiatives

Corporate Ethics and Compliance Risk Management

TOYO has established a Code of Conduct, compliance manuals, and other related rules in order to abide by laws and regulations at the root of our corporate activities, as well as social justice and ethics. We have also established a Compliance Committee chaired by the Chief Compliance Officer (CCO), and we established a Compliance Department in April of 2018. In addition, we boost awareness, conduct promotional activities, and

strengthen the management and oversight of our compliance system through regular compliance-related audits performed by the internal auditing division and Audit & Supervisory Board Members. To facilitate the proper and serious handling of reporting on compliance matters, we have also established an internal reporting system as well as both internal and external hotlines for consultation and reporting.

Fiscal 2019 Compliance Risk Management Report

Number of compliance e-Learning participants (for new recruits and employees yet to complete the program)	33
Total number of mini compliance test participants	790
Internal reporting/consultations	8 (legal violations/corruption: 0, power harassment: 8, labor/employment/moral-related: 0)

Bribery Risk Management

We are also working to enhance and expand our program for preventing the bribery of foreign public officials. In addition—to enable unified compliance activities throughout the TOYO Group—we are setting up a Compliance

Committee at and assigning a manager to each overseas group company, and we are building a system that enables them to regularly exchange opinions with Toyo-Japan's Compliance Department.

Information Security Risk Management

We regularly implement the initiatives below based on the ISO 27001 information security management standards. Our goal for our information security recognition test is a response rate of 100%, and we are strengthening our educational and awareness boosting activities.

- (1) Monitoring the operational status of information security management measures
- (2) Assessing and handling information security risks
- (3) Handling information security incidents
- (4) Information security education

Fiscal 2019 Information Security Management Report

Number of serious information incidents	0
---	---

Investment Risks

We strive to mitigate the above risks with respect to the business operations of TOYO group companies we invest in by establishing a collaborative system whereby our group management division accurately understands and manages the situations of each group company. Regarding business operations conducted through our

Brazilian equity method affiliate, situations in which we are unable to guarantee corresponding returns on investment or where additional funding is needed due to changes in the political and economic climate of Brazil or credit problems with our business partners might negatively impact the earnings of the Group.

Directors and Audit & Supervisory Board Members



Tomohisa Abe Haruo Nagamatsu Masayuki Yoshizawa Kensuke Waki Noriyoshi Torigoe Masami Tashiro



Reijiro Yamamoto Tatsuya Terazawa Sayoko Miyairi Masayuki Uchida Chihiro Ubukata Yoshiyuki Funakoshi Kiyohito Uchida

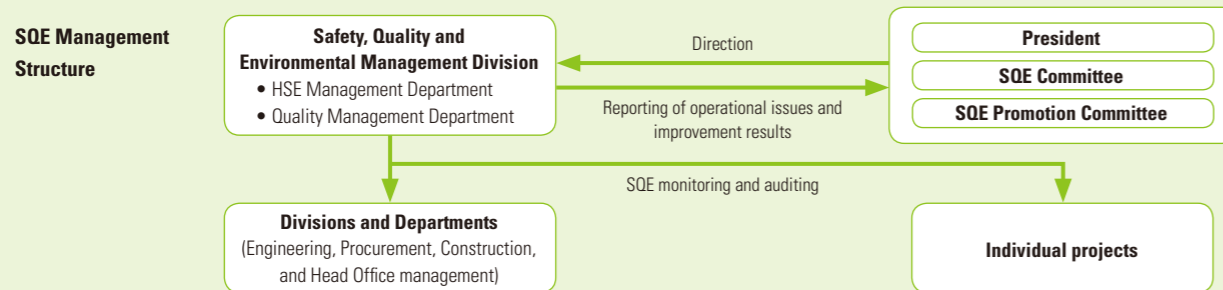
Name	Position	Experience as a president	Accounting/finance	Legal	HR/labor	Sales marketing	Global business	Technology R&D	Industry knowledge	Knowledge of other industries	Reasons for appointment	Director Audit & Supervisory Board Member Term of office	Attendance (FY2019)		Attendance (FY2018)	
													Board of Directors	Audit & Supervisory Board	Board of Directors	Audit & Supervisory Board
Tomohisa Abe	Chairman					●	●		●		Mr. Tomohisa Abe, having been engaged in the plant sales and marketing divisions of the Company for many years, possesses ample experience and deep insights related to planning sales and marketing strategies. Having served the Company as Representative Director, Senior Executive Director, and Unit Director of the Plant Business Unit, he had been engaged in supervising the overall sales activities of the Group. In addition, he assumed office as Chairman in April of 2020.	4 years	18/19 (94.7%)	—	18/18 (100%)	—
Haruo Nagamatsu	Representative Director President & Chief Executive Officer	●					●	●	●		Mr. Haruo Nagamatsu, having served the Company as Unit Director of the Infrastructure Business Unit, a representative of the Company's overseas subsidiaries, and as a project manager, possesses ample experience and deep insights related to project and corporate management. In addition, he assumed office as Representative Director and President & Chief Executive Officer in April of 2018.	3 years	19/19 (100%)	—	18/18 (100%)	—
Masayuki Yoshizawa	Representative Director Executive Vice President	●			●	●	●		●	●	Mr. Masayuki Yoshizawa, having served a general trading company for many years, possesses ample experience and deep insights related to the business of the Company, including investments and EPC businesses in energy and infrastructure fields and the management of overseas corporations. As Executive Vice President since April of 2019, he has been engaged in promoting business reform and managing projects.	5 years	19/19 (100%)	—	18/18 (100%)	—
Kensuke Waki	Director, Senior Executive Officer CFO		●						●		Mr. Kensuke Waki, having served the Company as the head of the finance and accounting divisions, possesses ample experience and deep insights related to finance and accounting. As a Chief Financial Officer since April of 2017, he has been engaged in the management of the Company's finance and accounting divisions.	2 years	17/19 (89.5%)	—	13/14 (92.9%)	—
Noriyoshi Torigoe	Director, Senior Executive Officer		●				●		●	●	Mr. Noriyoshi Torigoe has many years of experience working at a quasi-public lending institution, and he possesses ample experience and deep insights related to infrastructure business.	Newly appointed	—	—	—	—
Masami Tashiro	Outside Director	●	●				●			●	Mr. Masami Tashiro has many years of international experience working at financial institutions and possesses ample experience and deep insights as a corporate manager.	5 years	18/19 (94.7%)	—	16/18 (88.9%)	—
Reijiro Yamamoto	Outside Director	●	●				●			●	Mr. Reijiro Yamamoto, who serves as the corporate manager of an investment fund management company and has served as the corporate manager of various business companies, possesses ample experience and deep insights related to finance and corporate management.	1 year and 4 months	19/19 (100%)	—	2/2 (100%)	—
Tatsuya Terazawa	Outside Director						●			●	Mr. Tatsuya Terazawa, having served in the Ministry of Economy, Trade and Industry (METI) for many years, possesses ample experience and deep insights related to public policies, mainly in terms of trade policy and trade promotion.	Newly appointed	—	—	—	—
Sayoko Miyairi	Outside Director				●					●	Ms. Sayoko Miyairi possesses ample business and management experience related to her consulting company work as well as professional knowledge and broad insight as a university professor.	Newly appointed	—	—	—	—
Masayuki Uchida	Senior Audit & Supervisory Board Member							●	●		Mr. Masayuki Uchida has been engaged in the Company's technology development and new technology-related business development for many years and assumed office as the head of the administration division. He possesses ample experience and deep insights related to technology, quality management, corporate management, and internal audits.	4 years	19/19 (100%)	19/19 (100%)	18/18 (100%)	20/20 (100%)
Chihiro Ubukata	Audit & Supervisory Board Member		●						●		Having spent many years working as the head of the Company's finance division, Mr. Chihiro Ubukata possesses ample experience and deep insights related to finance and accounting.	1 year	15/15 (100%)	13/13 (100%)	—	—
Yoshiyuki Funakoshi	Outside Audit & Supervisory Board Member	●					●	●	●	●	Having spent many years in corporate management in the chemicals industry, which is closely related to our business, Mr. Yoshiyuki Funakoshi has wide-ranging experience and deep insights related to management.	5 years	19/19 (100%)	19/19 (100%)	18/18 (100%)	20/20 (100%)
Kiyohito Uchida	Outside Audit & Supervisory Board Member			●						●	Mr. Kiyohito Uchida possesses ample experience and extensive knowledge gained as a lawyer.	5 years	19/19 (100%)	19/19 (100%)	17/18 (94.4%)	20/20 (100%)

Safety, Quality, and Environment (SQE) Management Structure

TOYO has established an SQE Committee that reports directly to the President. The Committee formulates operating policies regarding safety, quality, and the environment, and assesses and approves the results of SQE activities. Based on the basic policies of the SQE Committee, the SQE Promotion Committee, which is subordinate organization of SQE Committee, provides support to the SQE activities of divisions, departments, and individual projects. Accordingly, with the

management-linked SQE Committee at the center of the SQE management structure, collaboration between the SQE Promotion Committee and the Safety, Quality and Environment Management Division ensures that PDCA cycles for SQE in divisions, departments, and individual projects are implemented and that ongoing improvements are carried out.

All employees also take SQE training course to enhance their knowledge and awareness of these matters.



Safety

“Safety is fundamentals to our corporate activities.”

Based on this belief and to address three challenges listed in the right that are indispensable to safety management, we diligently implement a number of safety initiatives in order to achieve zero casualties on our work execution.

- Strengthening of safety management leadership
- Fostering a safety culture
- Maintaining and complying with safety standards

Safety Record

The TOYO Group’s safety record over the last 10 years is as follows. In aiming to achieve zero occupational injury, we continue to step up our efforts on improving safety. We have therefore adopted the management indicators of

lost-time incident rate (LTIR) and total recordable incident rate (TRIR). Over this period, our LTIR and TRIR have been among the lowest in our industry.

Safety Record (TOYO Group total)

(ILO basis: Incidence rate per million hours worked)

Year (Jan-Dec)	Man-hours (A)	Number of incidents					LTIR*1	TRIR*2
		Fatalities	Lost-time incidents (LTI)	Medical treatment (no lost time)	Total fatalities and lost-time incidents (B)	Recordable (C)		
2010	117,295,032	1	5	56	6	62	0.05	0.53
2011	80,782,919	1	6	12	7	19	0.09	0.24
2012	120,760,052	3	8	16	11	27	0.09	0.22
2013	105,164,018	0	7	16	7	23	0.07	0.22
2014	89,777,237	1	6	13	7	20	0.08	0.22
2015	67,308,769	1	4	9	5	14	0.07	0.21
2016	52,540,748	0	3	23	3	26	0.06	0.49
2017	76,493,784	2	2	31	4	35	0.05	0.46
2018	102,817,669	1	10	28	11	39	0.11	0.38
2019	46,642,608	0	3	11	3	14	0.06	0.30

*1 Lost-time incident rate (LTIR) = (B) x 1,000,000 / (A) (B) = Fatalities + Lost-time incidents

*2 Total recordable incident rate (TRIR) = (C) x 1,000,000 / (A) (C) = (B) + Medical treatment (no lost time)

Site Inspections by Managers

Safety management is not viable without strong leadership. At TOYO’s construction sites, we rigidly enforce site inspections by managers.



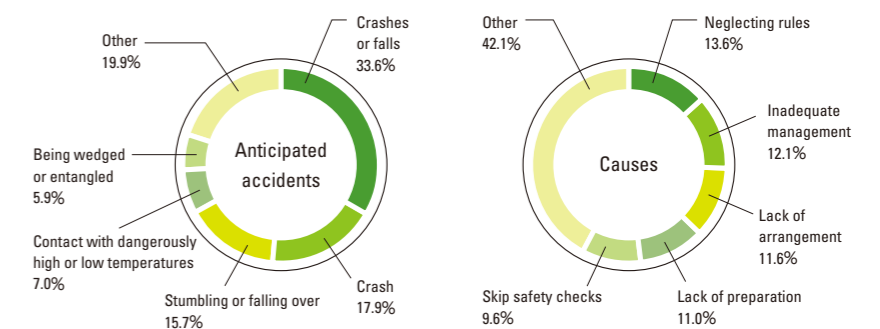
Site inspections (Japan)



Site inspections (Indonesia)

Near Misses

We call events that are not quite accidents but that are nevertheless tense or startling “near misses.” TOYO has been actively collecting and analyzing data on near misses at construction sites since 2008, and we apply the results to safety management in an effort to prevent accidents. The graphs on the right show the results of analyzing the cumulative data for 14,769 near misses up until 2019.



Safety Campaign

A safety campaign is carried out every year in July at all TOYO group companies for the purpose of raising safety awareness among all employees working at construction sites and offices.

Safety Campaign Program (2020)

1. President’s message
2. Display of posters, banners, and panels
3. Heatstroke prevention workshop
4. Safety belt/harness workshop, hanging experience
5. Voluntary drill by in-house fire-fighting crew
6. Seminar on health care
7. Safety awards



TOYO Group Safety Meeting

Safety managers from overseas group companies meet to build a consensus and promote safety improvements through active communication.

Companies that participated in the Safety Meeting held by Toyo-Japan in 2019:

- Toyo-Japan
- Toyo-India
- IKPT
- Toyo-Korea
- Toyo-Malaysia
- Toyo-China



Quality

Quality Management

Due to project-related losses in recent years, we are striving to provide feedback to all employees working on projects without fail while once again promoting the strengthening of our quality management system. Our company-wide goal is to achieve “zero quality-related losses,” and we are promoting activities leading to improvement at the management level by sorting out, analyzing, and assessing issues related to quality management based on project performance reports. In addition, we have also independently set quality management KPIs for each division—including engineering, procurement, and construction work—and we are monitoring these KPIs as we promote the building of a system for assessing

the effectiveness of our quality management system.

TOYO is sticking with the quality management policies below while sharing the spirit of these policies with clients and striving to achieve our goals.

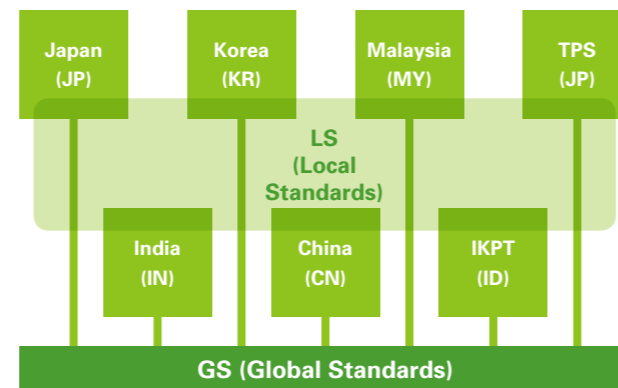
1. Provide high-quality products and services that take care of HSE and meet the requirements of our clients and society.
2. Comply with TOYO rules, and make maximum use of our high-tech application capabilities and engineering technologies.

Quality Management System

TOYO considers the standards below as the main foundation of its quality management system, and constantly strives to achieve further improvements.

TOYO Standards

TOYO has unified its common standards as Global Standards (GS) and utilizes Local Standards (LS) specific to TOYO group companies in order to execute projects in various regions and countries.



Multi-Site ISO 9001 Certification

An ISO certification body has certified that TOYO group activities are executed based on a unified quality management system built on our Global Standards (GS). TOYO will continue striving to maintain this certification for the entire group.



Feedback Knowledge Management System (FKMS)

TOYO has been accumulating feedback cases from projects over 30 years, and use them as references for project execution by each TOYO group companies and for preventing the recurrence of troubles.

Environment

Environmental Initiatives

TOYO views both the protection of the global environment and the prevention of global warming as issues shared by humanity, and we have established the following basic philosophy regarding the environment.

- We will contribute to the achievement of a sustainable community and society enabling both the development of humanity and environmental protection.
- As an international company, we will strive to provide engineering services in harmony with the global environment.

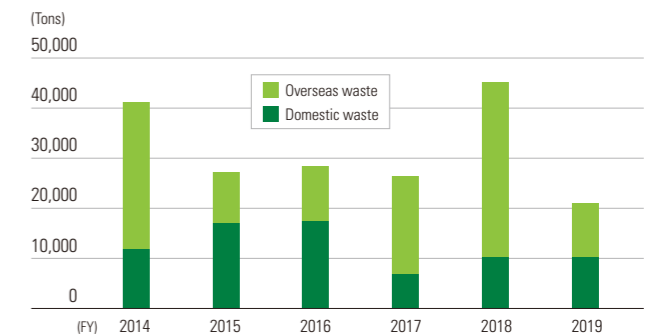
To achieve this philosophy, we will continue actively striving to resolve the environmental issues of customers.

Reducing Environmental Impact at Construction Sites

We are especially careful to ensure that pollutants never leave our domestic and overseas construction sites and—since we acquired ISO 14001 certification in 2004—we have constantly achieved our goal of zero environmental disasters.

Since 2013, we have maintained a recycling rate of at least 91%. In addition, we are careful to properly dispose of all hazardous material, and we research our industrial waste volume as shown by the graph on the right.

Annual Domestic and Overseas Waste Volume



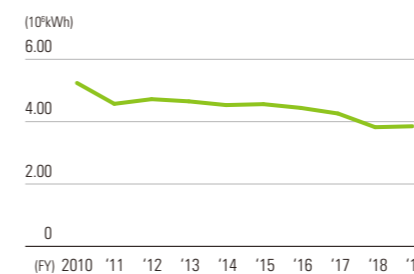
Reducing Environmental Impact at Offices

Under TOYO's internal environmental management framework, we have established an energy & resource saving council and a so-called green meeting headed by supervising officers. At these meetings, we advance the discussion regarding environmental matters at the Head Office, confirm industrial waste volumes, check trends in recycling rates, monitor whether any leakage accidents have occurred, and examine causes of and countermeasures in response to changes in energy consumption. Because we reduced energy consumption at the Chiba Head Office building through efforts such as switching to LED lighting, turning off lights at lunchtime, opening/closing window blinds, and thorough confirmation of shutting down computers, in June of 2019, we were removed from the

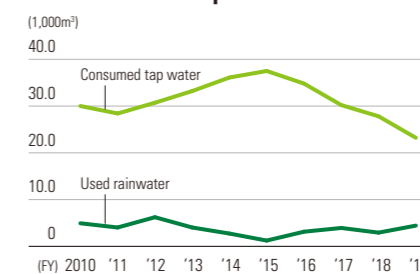
list of “Type 2 Designated Energy Management Factories, etc.,” which are large-scale energy users required by law to issue reports. In addition, compared to fiscal 2015, we have reduced our tap water use by 38% by reusing rooftop rainwater, and we have reduced our printing-paper purchase volume by approximately 30 tons by encouraging paperless offices.

In 2019, our total CO₂ emissions from domestic and overseas offices amounted to 3,996 tons/year (including 483 tons from the Chiba Head Office), and our total CO₂ emissions from domestic and overseas project site offices amounted to 1,871 tons/year (including 413 tons total from within Japan). We will continue striving to reduce our CO₂ emissions.

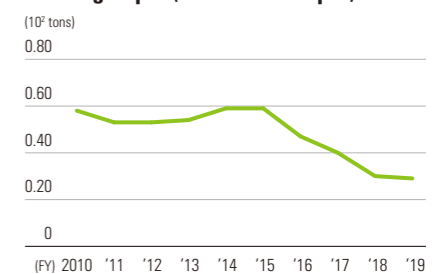
Changes in Electricity Consumption



Changes in Tap Water and Rainwater Consumption



Changes in the Purchase Volume of Printing Paper (Wood-Free Paper)



Received an Engineering Commendation Award of ENAA 2019 for the Setouchi Kirei photovoltaic power plant project



In the expansive former Kinkai salt flats of Setouchi, Okayama Prefecture—a location blessed with long hours of daylight and little rainfall throughout the year—TOYO completed the construction of one of Japan’s largest-scale photovoltaic power plants in 2018, and the plant’s 235 MW of output (direct current) is being used to supply stable power. During the construction period of this project, the logged wood, branches, and leaves were used for mushroom beds and as soil mulching material to reduce the total amount of industrial waste by around 3,000 tons. In addition, we developed the “Kinkai Habitat”—a nature reserve area that includes approximately 16 hectares of

endangered animals and plants—with the aim of protecting the salt marsh. By creating a changing habitat while leaving the waterfront environment and woodlands intact, we helped to maintain biodiversity.

This project was recognized due to the above achievements, and we received an Engineering Commendation Award of Engineering Advancement Association of Japan 2019 in the environmental contribution category. By pursuing a harmonious relationship between its business activities and environmental conservation, TOYO will continue to actively work towards realizing a sustainable society.

For clean energy environment and society’s quality of life improvement by developing a regional supply of power via renewable energy in Indonesia



IKPT prioritizes the substance of human wellness by realizing projects that contribute to society’s quality of life improvement. To respond to Indonesia’s strong infrastructure demand, IKPT is focusing on initiatives to enrich the lives of people through the execution of renewable energy projects. Although our renewable energy construction projects in Indonesia have only just begun, we are already involved in the construction of a biomass-fired power plant (Siberut island), photovoltaic power plant (Wakatobi and Karampuang islands), and small-scale geothermal power plant (Java island). Because Indonesia is made

up of over 13,000 islands, finding a way to supply power to remote islands and rural areas has been an issue for many years. Based on the belief that contributing to many planned small and medium-scale regional power construction projects will support Indonesia’s future. IKPT is looking forward for more opportunities towards green energy program in reducing global warming and increasing the chance for having sustainable energy and a cleaner environment in Indonesia as the country is blessed by an abundance of renewable resources.

Creating a safe, comfortable transportation environment through the Jakarta MRT project



IKPT and Toyo-Japan participated as members of the consortium in charge of the MRT (Mass Rapid Transit) North-South Line project, which opened for business in 2019. As Indonesia’s first rapid transit system, this project helped to free the citizens of Jakarta from traffic congestion and environmental pollution—both of which were issues for many years—by achieving a safe, comfortable, efficient means of transportation. TOYO will continue expanding its sustainable



infrastructure business, thereby contributing to betterment of lives of people in the community as well as the development of society.

Donating reusable office supplies and equipment: Resources Reusing WG of the TOYO Future Architect Department



Chiba City International Association

Toyo-Japan centrally manages office supplies and equipment after they have been used at construction sites and offices by running a reuse corner where they are kept for reuse. The quantities and types of office supplies that are brought in are continuing to gradually increase, and—due in part to the recent promotion of paperless offices—our file folders and colored index folders in particular exceeded our reuse needs in terms of quantity. Because all of them were still perfectly usable, we filled 30 cardboard boxes with over 4,500 file folders and

colored index folders that were in especially good condition and then donated them to municipalities and local communities that needed them. We will continue to donate reusable items to achieve coexistence with local communities and help build an environmentally friendly society.

Main donation recipients: Chiba City International Association, Narashino Chamber of Commerce and Industry, Chiba Employment and Vocational Life Support Center for Person with Disabilities, nearby universities, elementary schools, pre-schools, and daycares (through the Narashino City Children’s Division), etc.

Participating in activities to recycle empty cases for disposable contact lenses



We approve of HOYA Corporation’s “Eyecity Eco Project”—an activity aimed at recycling empty cases for disposable contact lenses—and, in February of 2019, we started up our own in-house collection activities. An estimated 13 million people use disposable contact lenses throughout Japan, and only about 1% of the cases are collected. The remaining 99% of cases are apparently incinerated as garbage. Empty cases for disposable contact lenses are made of polypropylene, which can be recycled and reused for the products of all kinds of

manufacturers. The proceeds from these recycling activities are being donated to the Japan Eye Bank Association.* During the 18 months since we started these activities, we have collected a total of 45 kilograms of cases, and our employees are becoming more aware of the need to recycle them.

* Japan Eye Bank Association: a non-profit public interest corporation established to provide education on and raise awareness of corneal transplants—which can be performed to restore the eyesight of certain people—and eye banks

Accepting overseas internship students (Toyo-Malaysia), building classrooms, and developing women’s restrooms (Toyo-India)



Toyo-Malaysia’s acceptance of internship students

Since fiscal 2008, we have worked with the National Institute of Technology in Japan (also called “Kosen”) to run an overseas internship program for technical school students at Toyo-Malaysia. In March of 2020, 4 students were accepted for around 3 weeks, and we provided practical training and construction-site visits tailored to each student’s field of specialization. Up until now, a total of 25 Kosen students have participated.

In addition, Toyo-India is engaged in ongoing school and other education-related support activities, including building classrooms, developing women’s



Toyo-India’s CSR activities

restrooms, donating uniforms to students, providing aid to rebuild old classrooms, and developing drinking-water infrastructure.

Ten-Year Financial and Non-Financial Highlights

Ten-Year Financial and Non-Financial Highlights

Toyo Engineering Corporation and Consolidated Subsidiaries
Years ended March 31

	2011/3	2012/3	2013/3	2014/3	2015/3	2016/3	2017/3	2018/3*4	2019/3	Millions of yen 2020/3
Financial Highlights:										
Net sales	155,696	157,881	228,723	230,124	311,454	299,813	431,917	335,697	294,993	219,094
Gross profit (loss)	26,573	24,918	24,200	25,155	17,214	30,513	15,971	(12,521)	10,636	18,765
Gross profit margin (%)	17.1	15.8	10.6	10.9	5.5	10.2	3.7	(3.7)	3.6	8.6
SG&A expenses	19,758	19,577	22,606	24,699	24,570	19,426	17,980	20,429	16,250	16,875
Operating income (loss)	6,815	5,341	1,593	455	(7,356)	11,087	(2,009)	(32,951)	(5,613)	1,890
Operating income margin (%)	4.4	3.4	0.7	0.2	(2.4)	3.7	(0.5)	(9.8)	(1.9)	0.9
Ordinary income (loss)	7,012	5,102	4,032	4,942	(25,280)	3,873	1,603	(27,821)	3,426	2,467
Profit (loss) attributable to owners of parent	3,773	3,728	1,457	967	(20,965)	3,038	1,472	(26,846)	(818)	1,664
Comprehensive income	2,751	2,597	3,178	4,088	(25,534)	8,492	1,066	(25,758)	(3,818)	(376)
Interest bearing debt	36,671	38,840	40,087	44,797	31,918	32,645	31,844	30,841	32,710	27,629
Interest bearing debt ratio (%)	18.5	17.5	16.7	17.4	12.2	10.1	10.0	12.2	13.6	13.2
Net debt	(52,391)	(53,195)	(31,588)	(52,137)	(58,543)	(91,480)	(90,858)	(75,694)	(65,197)	(52,584)
Debt equity ratio (times)	0.56	0.58	0.58	0.61	0.71	0.64	0.62	1.23	0.90	0.77
Equity ratio (%)	32.9	30.1	28.9	28.5	17.2	15.8	16.2	10.0	15.1	17.2
Operating activities cash flows	11,305	5,710	(18,986)	21,244	(4,192)	46,376	18,984	(22,824)	(25,828)	(18,696)
Investing activities cash flows	(1,371)	(2,417)	(1,587)	(1,638)	9,587	(11,776)	(16,650)	6,386	1,354	7,980
Financing activities cash flows	3,822	102	(532)	3,167	(14,341)	1,099	(1,548)	(1,174)	16,768	(6,159)
New orders	222,540	269,188	290,444	365,137	470,369	443,537	116,790	309,325	298,052	187,054
Backlog of contracts	224,693	359,120	410,492	538,023	659,005	823,066	492,682	448,629	426,373	389,236
Dividends per share (annual) (yen)	5.0	6.0	5.0	3.0	4.0	4.0	2.0	0.0	0.0	0.0
Non-Financial Highlights:										
Number of employees*1	3,956	4,494	4,548	4,747	4,463	4,397	4,287	4,085	3,997	3,991
(Number of employees in Toyo-Japan)	1,069	1,055	1,026	1,037	1,084	1,092	1,035	1,030	973	998
(Number of female managers in Toyo-Japan)	5	6	7	9	11	14	14	17	22	22
Waste recycling rate(Chiba Head Office)	82	71	72	71	66	69	64	64	67	62
Industrial waste recycling rate (Domestic construction sites)	80	93	71	95	99	96	96	96	91	91
Number of harmful substance leak accidents (Domestic/overseas construction sites)	0	0	0	0	0	0	0	0	0	0
Lost Time Incident Rate (LTIR)*2	0.05	0.09	0.09	0.07	0.08	0.07	0.06	0.05	0.11	0.06
Total Recordable Incident Rate (TRIR)*3	0.53	0.24	0.22	0.22	0.22	0.21	0.49	0.46	0.37	0.30

*1. Excluding temporary employees

*2. Lost Time Incident Rate (LTIR) = Total Lost Time Incidents × 1,000,000 / Employee-Worked Man-Hours

*3. Total Recordable Incident Rate (TRIR) = Number of Recordable Incidents × 1,000,000 / Employee-Worked Man-Hours

*4. Due to the Partial Amendments to Accounting Standard for Tax Effect Accounting, etc., the figures related to financial highlights for the fiscal year ending on March 31, 2018 are the result of retroactively applying the corresponding accounting standard, etc.

Financial Section Consolidated Financial Statements

Consolidated Balance Sheets

Toyo Engineering Corporation and Consolidated Subsidiaries As of March 31, 2020 and 2019

Assets	Millions of yen		Thousands of U.S. dollars (Note 1)
	2020	2019	2020
Current assets:			
Cash and deposits (Note 15)	¥ 81,989	¥ 101,759	\$ 753,506
Notes receivable, accounts receivable from completed construction contracts and other	55,130	68,193	506,662
Costs on uncompleted construction contracts (Note 7)	19,391	26,422	178,209
Accounts receivable-other	7,138	5,793	65,600
Deposits paid	6,236	841	57,310
Forward exchange contracts	422	95	3,878
Other	18,188	10,249	167,153
Allowance for doubtful accounts	(692)	(655)	(6,359)
Total current assets	187,804	212,700	1,725,981
Property, plant and equipment:			
Buildings and structures (Note 4)	14,510	14,581	133,351
Machinery, vehicles, tools, furniture and fixtures	5,031	5,113	46,236
Land (Note 4)	6,264	6,289	57,568
Leased assets	1,120	44	10,293
Construction in progress	19	36	174
Accumulated depreciation and impairment loss	(15,429)	(14,869)	(141,797)
Total property, plant and equipment	11,517	11,196	105,845
Intangible assets:			
Other	1,338	983	12,296
Total intangible assets	1,338	983	12,296
Investments and other assets:			
Investments in securities (Notes 3, 18)	2,842	5,895	26,118
Long-term loans receivable	4,598	4,572	42,257
Net defined benefit asset (Note 20)	—	635	—
Deferred income taxes (Note 21)	480	828	4,411
Other (Notes 3, 4)	4,701	7,468	43,203
Allowance for doubtful accounts	(4,563)	(4,585)	(41,935)
Total investments and other assets	8,059	14,813	74,064
Total non-current assets	20,914	26,993	192,206
Total assets	¥ 208,719	¥ 239,694	\$ 1,918,196

See notes to consolidated financial statements.

Liabilities and Net Assets:	Millions of yen		Thousands of U.S. dollars (Note 1)
	2020	2019	2020
Current liabilities:			
Notes payable, accounts payable for construction contracts and other	¥ 64,053	¥ 82,509	\$ 588,668
Short-term loans payable (Notes 4, 6, 8)	17,008	13,374	156,309
Income taxes payable	554	701	5,091
Advances received on uncompleted construction contracts	64,193	69,296	589,954
Provision for bonuses	459	778	4,218
Provision for warranties for completed construction	158	273	1,452
Provision for loss on construction contracts (Note 11)	349	2,144	3,207
Forward exchange contracts	1,027	1,647	9,438
Other	7,866	7,718	72,291
Total current liabilities	155,672	178,443	1,430,677
Non-current liabilities:			
Long-term loans payable (Notes 4, 6, 8)	9,964	19,294	91,572
Lease obligations	388	27	3,565
Deferred income taxes (Note 21)	2,408	2,238	22,130
Net defined benefit liability (Note 20)	1,950	1,200	17,921
Provision for losses on business of subsidiaries and affiliates	390	440	3,584
Other	1,964	1,691	18,049
Total non-current liabilities	17,066	24,893	156,842
Total liabilities	172,739	203,337	1,587,528
Contingent liabilities (Note 5)			
Net assets:			
Shareholders' equity:			
Capital stock (Note 14)	18,198	18,198	167,245
Capital surplus	4,567	25,749	41,972
Retained earnings (deficit)	13,862	(8,984)	127,396
Treasury stock, at cost	(445)	(445)	(4,089)
Total shareholders' equity	36,182	34,519	332,524
Accumulated other comprehensive income:			
Valuation difference on available-for-sale securities	(425)	(123)	(3,905)
Deferred losses on hedges	(764)	(1,463)	(7,021)
Foreign currency translation adjustments	1,687	2,908	15,504
Remeasurements of defined benefit plans	(820)	400	(7,536)
Total accumulated other comprehensive income	(323)	1,722	(2,968)
Non-controlling interests	121	116	1,112
Total net assets	35,980	36,357	330,668
Total liabilities and net assets	¥ 208,719	¥ 239,694	\$ 1,918,196

Consolidated Statements of Operations

Toyo Engineering Corporation and Consolidated Subsidiaries Years ended March 31, 2020 and 2019

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2020	2019	2020
Net sales	¥ 219,094	¥ 294,993	\$ 2,013,546
Cost of sales (Note 11)	200,328	284,356	1,841,080
Gross profit	18,765	10,636	172,456
Selling, general and administrative expenses (Notes 9, 10)	16,875	16,250	155,086
Operating income (loss)	1,890	(5,613)	17,369
Non-operating income:			
Interest income	1,012	3,714	9,300
Dividends income	53	190	487
Equity in earnings of affiliates	1,451	6,408	13,335
Reversal of allowance for doubtful accounts	—	280	—
Miscellaneous income	632	581	5,808
Total non-operating income	3,149	11,175	28,940
Non-operating expenses:			
Interest expenses	422	342	3,878
Foreign exchange losses, net	1,908	128	17,535
Share issuance cost	—	839	—
Miscellaneous expenses	241	824	2,214
Total non-operating expenses	2,572	2,134	23,637
Ordinary income	2,467	3,426	22,672
Extraordinary income:			
Gain on sales of property, plant and equipment (Note 12)	—	83	—
Gain on sales of investments in capital	1,857	—	17,066
Gain on sales of shares of an affiliate	116	—	1,066
Total extraordinary income	1,973	83	18,132
Profit before income taxes	4,441	3,510	40,814
Income taxes (Note 21):			
Income taxes	2,036	3,101	18,711
Income taxes-deferred	724	1,180	6,653
Total income taxes	2,760	4,281	25,365
Net income (loss)	1,681	(771)	15,448
Net income (loss) attributable to:			
Non-controlling interests	16	46	147
Owners of parent	¥ 1,664	¥ (818)	\$ 15,292

See notes to consolidated financial statements.

Consolidated Statements of Comprehensive Loss

Toyo Engineering Corporation and Consolidated Subsidiaries Years ended March 31, 2020 and 2019

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2020	2019	2020
Net income (loss)	¥ 1,681	¥ (771)	\$ 15,448
Other comprehensive loss (Note 13)			
Valuation difference on available-for-sale securities	(302)	(131)	(2,775)
Deferred gains (losses) on hedges	698	(661)	6,414
Foreign currency translation adjustments	(788)	(1,458)	(7,241)
Remeasurements of defined benefit plans	(1,221)	(325)	(11,221)
Share of other comprehensive loss of affiliates accounted for by the equity method	(444)	(470)	(4,080)
Total other comprehensive loss	(2,057)	(3,047)	(18,904)
Comprehensive loss	¥ (376)	¥ (3,818)	\$ (3,455)
Comprehensive loss attributable to:			
Owners of parent	(381)	(3,863)	(3,501)
Non-controlling interests	4	45	36

See notes to consolidated financial statements.

Consolidated Statements of Changes in Net Assets

Toyo Engineering Corporation and Consolidated Subsidiaries Years ended March 31, 2020 and 2019

Millions of yen												
	Capital stock	Capital surplus	Retained deficit	Treasury stock, at cost	Total shareholder's equity	Valuation difference on available-for-sale securities	Deferred losses on hedges	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance as of April 1, 2018	¥ 18,198	¥ 10,749	¥ (8,165)	¥ (444)	¥ 20,338	¥ 8	¥ (801)	¥ 4,835	¥ 725	¥ 4,767	¥ 71	¥ 25,176
Issuance of shares	7,500	7,500			15,000							15,000
Transfer to capital surplus from capital stock	(7,500)	7,500										
Net loss attributable to owners of parent			(818)		(818)							(818)
Purchase of treasury stock				(0)	(0)							(0)
Sale of treasury stock		(0)		0	0							0
Net changes of items other than shareholders' equity						(131)	(661)	(1,927)	(325)	(3,045)	45	(3,000)
Balance as of March 31, 2019	¥ 18,198	¥ 25,749	¥ (8,984)	¥ (445)	¥ 34,519	¥ (123)	¥ (1,463)	¥ 2,908	¥ 400	¥ 1,722	¥ 116	¥ 36,357

Millions of yen												
	Capital stock	Capital surplus	Retained earnings	Treasury stock, at cost	Total shareholder's equity	Valuation difference on available-for-sale securities	Deferred losses on hedges	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance as of April 1, 2019	¥ 18,198	¥ 25,749	¥ (8,984)	¥ (445)	¥ 34,519	¥ (123)	¥ (1,463)	¥ 2,908	¥ 400	¥ 1,722	¥ 116	¥ 36,357
Transfer to retained earnings from capital surplus		(21,182)	21,182									
Net income attributable to owners of parent			1,664		1,664							1,664
Purchase of treasury stock				(0)	(0)							(0)
Net changes of items other than shareholders' equity						(302)	698	(1,220)	(1,221)	(2,045)	4	(2,040)
Balance as of March 31, 2020	¥ 18,198	¥ 4,567	¥ 13,862	¥ (445)	¥ 36,182	¥ (425)	¥ (764)	¥ 1,687	¥ (820)	¥ (323)	¥ 121	¥ 35,980

Thousands of U.S. dollars (Note 1)												
	Capital stock	Capital surplus	Retained earnings	Treasury stock, at cost	Total shareholder's equity	Valuation difference on available-for-sale securities	Deferred losses on hedges	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance as of April 1, 2019	\$ 167,245	\$ 236,641	\$ (82,565)	\$ (4,089)	\$ 317,241	\$ (1,130)	\$ (13,445)	\$ 26,725	\$ 3,676	\$ 15,825	\$ 1,066	\$ 334,132
Transfer to retained earnings from capital surplus		(194,669)	194,669									
Net income attributable to owners of parent			15,292		15,292							15,292
Purchase of treasury stock				(0)	(0)							(0)
Net changes of items other than shareholders' equity						(2,775)	6,414	(11,212)	(11,221)	(18,794)	36	(18,748)
Balance as of March 31, 2020	\$ 167,245	\$ 41,972	\$ 127,396	\$ (4,089)	\$ 332,524	\$ (3,905)	\$ (7,021)	\$ 15,504	\$ (7,536)	\$ (2,968)	\$ 1,112	\$ 330,668

See notes to consolidated financial statements.

Consolidated Statements of Cash Flows

Toyo Engineering Corporation and Consolidated Subsidiaries Years ended March 31, 2020 and 2019

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2020	2019	2020
Cash flows from operating activities:			
Profit before income taxes	¥ 4,441	¥ 3,510	\$ 40,814
Depreciation and amortization	1,442	1,233	13,252
Amortization of goodwill	(10)	(9)	(91)
Increase (decrease) in allowance for doubtful accounts	14	(289)	128
Decrease in net defined benefit liability	(6)	(324)	(55)
Decrease in provision for loss on construction contracts	(1,793)	(11,739)	(16,478)
Interest and dividends income	(1,065)	(3,904)	(9,787)
Interest expenses	422	342	3,878
Foreign exchange losses (gains)	373	(203)	3,427
Loss (gain) on sales of property, plant and equipment	0	(81)	0
Equity in earnings of affiliates	(1,451)	(6,408)	(13,335)
Gain on sales of investments in securities		(0)	
Gain on sales of shares of an affiliate	(116)		(1,066)
Gain on sales of investment in capital	(1,857)		(17,066)
Decrease (increase) in notes receivable, accounts receivable from completed construction contracts	11,380	(7,134)	104,585
Decrease in costs on uncompleted construction contracts	6,561	5,091	60,297
(Increase) decrease in accounts receivable-other	(806)	1,569	(7,407)
Decrease in notes and accounts payable-trade	(17,470)	(21,042)	(160,555)
(Decrease) increase in advances received on uncompleted construction contracts	(4,158)	7,250	(38,213)
Increase in deposits paid	(5,395)	(150)	(49,581)
Other, net	(6,883)	2,750	(63,257)
Subtotal	(16,380)	(29,540)	(150,537)
Interest and dividends income received	1,079	6,678	9,916
Interest expenses paid	(349)	(335)	(3,207)
Income taxes paid	(3,045)	(2,632)	(27,984)
Net cash used in operating activities	(18,696)	(25,828)	(171,822)
Cash flows from investing activities:			
Net decrease in time deposits	1,721	506	15,816
Purchase of property, plant and equipment	(464)	(561)	(4,264)
Proceeds from sales of property, plant and equipment	18	637	165
Purchase of intangible assets	(660)	(335)	(6,065)
Proceeds from sales of investments in securities		500	
Proceeds from sales of shares of an affiliate	3,081		28,315
Proceeds from sales of investments in capital	4,255		39,104
Net increase in short-term loans receivable	(3)	(0)	(27)
Other, net	32	606	294
Net cash provided by investing activities	7,980	1,354	73,338
Cash flows from financing activities:			
Net (decrease) increase in short-term loans payable	(1,088)	7,358	(9,999)
Proceeds from long-term loans payable	900	1,000	8,271
Repayment of long-term loans payable	(5,459)	(6,581)	(50,170)
Repayment of finance lease obligations	(511)	(7)	(4,696)
Proceeds from issuance of preferred stock		15,000	
Other, net	(0)	(0)	(0)
Net cash (used in) provided by financing activities	(6,159)	16,768	(56,603)
Effect of exchange rate change on cash and cash equivalents	(818)	(923)	(7,517)
Net decrease in cash and cash equivalents	(17,694)	(8,628)	(162,613)
Cash and cash equivalents at beginning of period	97,907	106,536	899,797
Cash and cash equivalents at end of period (Note 15)	¥ 80,213	¥ 97,907	\$ 737,184

See notes to consolidated financial statements.

Notes to Consolidated Financial Statements

Toyo Engineering Corporation and Consolidated Subsidiaries

1. BASIS OF PREPARATION

Toyo Engineering Corporation (the "Company") and its domestic consolidated subsidiaries maintain their accounting records and prepare their financial statements in accordance with accounting principles generally accepted in Japan, and its foreign consolidated subsidiaries maintain their books of account in conformity with those of their respective countries of domicile. The accompanying consolidated financial statements have been compiled from the accounts prepared by the Company in accordance with the provisions set forth in the Financial Instruments and Exchange Law of Japan and with accounting principles generally accepted in Japan, which are different in certain respects as to the application and disclosure requirements of International Financial Reporting Standards.

For the convenience of readers, the accompanying consolidated financial statements and the relevant notes have also been presented in U.S. dollars by translating all Japanese yen amounts at the exchange rate of ¥108.81 to U.S.\$1.00 prevailing on March 31, 2020.

As permitted, amounts of less than one million yen have been omitted. As a result, the totals shown in the accompanying consolidated financial statements (both yen and in U.S. dollars) do not necessarily agree with the sum of the individual amounts.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(a) Principles of Consolidation

The accompanying consolidated financial statements include the accounts of the Company and its significant subsidiaries. Investments in significant affiliates are accounted for by the equity method. As of March 31, 2020, the numbers of consolidated subsidiaries and affiliates accounted for by the equity method were 13 and 4, respectively.

Toyo Engineering Korea Limited, Toyo Engineering Corporation (China) and 5 other subsidiaries are consolidated using their financial statements as of their respective fiscal year end, which falls on December 31, and necessary adjustments are made to their financial statements to reflect any significant transactions from January 1 to March 31. Intercompany accounts and transactions are eliminated in consolidation. The difference between the acquisition cost and the equity in the net assets at the time of acquisition is amortized in principle within 20 years on a straight-line basis.

(b) Securities

All debt and equity securities other than equity securities issued by subsidiaries and affiliates are classified into one of three categories: trading, held-to-maturity or available-for-sale securities. Trading securities are bought and held principally for the purpose of selling them in the near term. Held-to-maturity securities are those securities which the Company and its consolidated subsidiaries have the ability and intent to hold until maturity. All securities not included in trading or held-to-maturity are classified as available-for-sale securities.

Trading securities are recorded at fair value. Held-to-maturity securities are recorded at amortized cost, adjusted for the amortization or accumulation of premiums or discounts. Unrealized gains or losses on trading securities are included in earnings. Other securities classified as available-for-sale securities are recorded at fair value with changes in unrealized holding gain or loss, net of the applicable income taxes, included directly in net assets. Non-marketable securities classified as available-for-sale securities are recorded at cost.

Cost of securities sold is determined by the moving-average method.

(c) Derivative Financial Instruments

The Company and certain consolidated subsidiaries enter into various derivative transactions in order to manage certain risk arising from adverse fluctuations in foreign currency exchange rates and interest rates. Derivative financial instruments are carried at fair value with changes in unrealized gain or loss charged or credited to operations, except for those which meet the criteria for deferral hedge accounting under which unrealized gain or loss is deferred as a component of net assets.

Deferral hedge accounting is adopted for derivatives which qualify for hedge accounting, under which unrealized gain or loss is deferred. Hedging instruments are derivative transactions such as foreign exchange forward contract, currency option, currency swap and interest rate swap, and hedged items are primarily forecast sales and costs denominated in foreign currencies, and receivables and payables denominated in foreign currencies. Hedge effectiveness is not assessed if the substantial terms and conditions of the hedging instruments and the hedged forecasted transactions are the same. The Company and its consolidated subsidiaries manage derivative transactions in accordance with their internal "Policies and Procedures for Risk Management".

(d) Costs on Uncompleted Construction Contracts

Costs on uncompleted construction contracts are stated at cost, determined by the identified-cost method.

(e) Depreciation and Amortization

Depreciation of property, plant and equipment is principally computed by the declining-balance method based on the estimated useful lives of the assets. However, buildings acquired on or after April 1, 1998, and facilities attached to buildings and structures acquired on or after April 1, 2016 are depreciated on a straight-line method.

The useful lives of property, plant and equipment are as follows:

Buildings and structures: 3 to 50 years

Machinery, vehicles, tools, furniture and fixtures: 2 to 20 years

Amortization of intangible assets of the Company and its consolidated subsidiaries is calculated principally by straight-line method. Software for internal use is amortized on a straight-line method 5 years of the estimated available period.

(f) Leases

Depreciation of assets under finance leases which do not transfer ownership of the leased assets to the lessee is calculated by the straight-line method over the lease period with the residual value estimated at zero.

From the fiscal year ended March 31, 2020, overseas consolidated subsidiaries adopted International Financial Reporting Standard ("IFRS") 16 "Leases" as disclosed below in "Accounting change." Accordingly, the subsidiaries, as lessees, account for all leases on the balance sheet, in principle, under a single model and depreciation of leased assets is calculated based on the straight-line method.

In "Note 16 LEASES", leased assets based on IFRS 16 are classified as "(a) Finance Leases".

(g) Allowance for Doubtful Accounts

The Company and its consolidated subsidiaries have provided an allowance for doubtful accounts at an estimated amount of probable and reasonably possible bad debts and an estimated amount computed on the actual percentage of credit losses.

(h) Provision for Bonuses

Provision for bonuses to employees is provided at the expected payment amount for the fiscal year.

(i) Provision for Warranties for Completed Construction

Provision for warranties for completed construction is provided based on past experience.

(j) Provision for Loss on Construction Contracts

Provision for loss on construction contracts is provided in case the material loss is expected for a certain large-scale contract work.

(k) Provision for Losses on Business of Subsidiaries and Affiliates

Provision for losses on business of subsidiaries and affiliates is provided based on the financial position of the subsidiaries and affiliates.

(l) Retirement Benefits

Net defined benefit liability at year-end is stated based on the fair value of plan assets and the projected benefit obligation.

As to calculation of the projected benefit obligation, the expected benefit payments at the year-end have been recorded mainly at the amount calculated based on benefit formula.

Actuarial gain or loss is amortized by the straight-line method within the average of the estimated remaining service years of the employees (over 9 years) in the year following the year of recognition.

Unamortized actuarial gain or loss is provided with tax effect as a component of remeasurements of defined benefit plans under accumulated other comprehensive income of net assets.

(m) Foreign Currency Translation

Both short-term and long-term receivables and payables in foreign currencies are translated at the rates of exchange in effect at the balance sheet date and differences arising from the translation of these accounts are credited or charged to profit or loss.

The balance sheet accounts of the consolidated foreign subsidiaries are translated at the rates of exchange in effect at the balance sheet date, except for capital stock and capital surplus, which are translated at their historical exchange rates. Revenues, expenses and net income for the year are translated at the rates of exchange in effect at the balance sheet date. Differences arising from translation of the accounts of foreign subsidiaries and affiliates are presented as "Foreign currency translation adjustments" and "Non-controlling interests" in the accompanying consolidated balance sheets.

(n) Recognition of Revenues

Revenues and costs of construction contracts of which the percentage of completion can be reliably estimated, are recognized by the percentage-of-completion method. The percentage of completion is calculated at the cost incurred as a percentage of the estimated total cost. The completed-contract method continues to be applied for contracts for which the percentage of completion cannot be reliably estimated.

(o) Cash and Cash Equivalents

For the purposes of the consolidated statements of cash flows, the Company and its consolidated subsidiaries consider all highly liquid investments with insignificant risk of changes in value purchased with an original maturity of 3 months or less to be cash equivalents.

(p) Share Issuance Cost

Share issuance cost is recorded at cost.

(q) Consumption Taxes

Transactions subject to consumption taxes are recorded at amounts exclusive of consumption taxes.

(r) Consolidated Tax Return System

The Company files a consolidated tax return with domestic its fully-owned subsidiaries.

(Adoption of Tax Effect Accounting for the Transition from Consolidated Taxation System to the Group Tax Sharing System)

With respect to items subject to the review of the Non-Consolidated Taxation System conducted to coincide with transition from the Consolidated Taxation System to the Group Tax Sharing System, established under the Act on Partial Revision of the Income Tax Act, etc. (Act No.8 of 2020), the Company and certain of its domestic consolidated subsidiaries have not applied the provision of Paragraph 44 of "Implementation Guidance on Tax Effect Accounting" (Accounting Standards Board of Japan ("ASBJ") Guidance No.28, February 16, 2018) in accordance with the treatment set out in Paragraph 3 of "Practical Solution on the Treatment of Tax Effect Accounting for the Transition from the Consolidated Taxation System to the Group Tax Sharing System" (ASBJ Practical Issues Task Force No.39, March 31, 2020) and the amounts of deferred tax assets and deferred tax liabilities are based on the provisions of tax laws in effect before the revision.

(s) Advances Received on Uncompleted Construction Contracts

Advances received on uncompleted construction contracts from customers are shown as a liability, not as a deduction from the amount of costs on uncompleted construction contracts.

(t) Income Taxes

Deferred tax assets and liabilities are determined based on the differences between carrying amounts of existing assets and liabilities in the financial statements and their respective tax bases. Deferred tax assets and liabilities are measured using the enacted tax rates and laws which will be in effect when the differences are expected to be reversed.

(u) Research and Development Costs

Research and development costs are charged to income when incurred.

(v) Additional Information**(Accounting change)**

International Financial Reporting Standard ("IFRS") 16 Leases

Effective from the beginning of the fiscal year ended March 31, 2020, overseas consolidated subsidiaries adopted IFRS 16 "Leases." Accordingly, the subsidiaries, as lessees, account for all leases on the balance sheet, in principle, under a single model. In the adoption of IFRS 16, the subsidiaries adopted the method where the cumulative effect of applying this standard is recognized at the date of initial application, which is allowed as a transitional measure.

As a result, "Leased assets" under property, plant and equipment increased by ¥604 million (\$5,550 thousand), "Other" under current liabilities increased by ¥253 million (\$2,325 thousand), and "Lease obligations" under non-current liabilities increased by ¥367 million (\$3,372 thousand) in the consolidated balance sheet as of March 31, 2020.

Also, the effect of the application on the consolidated statements of operation and per share information as of and for the year ended March 31, 2020 is immaterial.

Cash flows from operating activities increased by ¥489 million (\$4,494 thousands) and cash flows from financing activities decreased by the same amount in the consolidated statement of cash flows for the year ended March 31, 2020.

(Accounting Standards Issued But Not Yet Effective)

Accounting Standard for Revenue Recognition (ASBJ Statement No. 29, March 31, 2020)

Implementation Guidance on Accounting Standard for Revenue Recognition (ASBJ Guidance No. 30, March 31, 2020)

(1) Overview

The accounting standard and implementation guidance mainly focus on the recognition of revenue and cash flows arising from contracts with customers. Revenue is recognized by applying the following five-step model.

Step 1: Identify the contract

Step 2: Identify performance obligations

Step 3: Determine the transaction price

Step 4: Allocate the transaction price to performance obligations

Step 5: Recognize revenue based on progress of performance obligations

(2) Planned date of application

The above accounting standard and implementation guidance are scheduled to be applied from the beginning of the fiscal year ending March 31, 2022.

(3) Effects of application of the accounting standard and the implementation guidance

At present, the Company is in the process of evaluating the impact on the consolidated financial statements from the adoption of the accounting standard and implementation guidance.

Accounting Standard for Fair Value Measurement (ASBJ Statement No. 30, July 4, 2019)

Implementation Guidance on Accounting Standard for Fair Value Measurement (ASBJ Guidance No. 31, July 4, 2019)

Accounting Standard for Measurement of Inventories (ASBJ Statement No. 9, July 4, 2019)

Accounting Standard for Financial Instruments (ASBJ Statement No. 10, July 4, 2019)

Implementation Guidance on Disclosures about Fair Value of Financial Instruments (ASBJ Guidance No. 19, March 31, 2020)

(1) Overview

ASBJ developed "Accounting Standard for Fair Value Measurement" and "Implementation Guidance on Accounting Standard for Fair Value Measurement" and established the guidance defines the fair value measurement method, to improve the international comparability of accounting standards. These accounting standard and implementation guidance will be adopted for the fair values of the following items.

—Financial instruments defined in "Accounting Standard for Financial Instruments"

—Inventories held for trading purposes defined in "Accounting Standard for Measurement of Inventories"

In addition, revised "Implementation Guidance on Disclosures about Fair Value of Financial Instruments" requires to disclose the breakdown of financial instruments by level of their fair values.

(2) Planned date of application

The above accounting standards and implementation guidance are scheduled to be applied from the beginning of the fiscal year ending March 31, 2022.

(3) Effects of application of the accounting standards and implementation guidance

At present, the Company is in the process of evaluating the impact on the consolidated financial statements from the adoption of the accounting standards and implementation guidance.

Accounting Standard for Accounting Policy Disclosures, Accounting Changes and Error Corrections (ASBJ Statement No. 24, March 31, 2020).

(1) Overview

The revised accounting standard requires to disclose principles and overviews of the accounting treatment adopted when relevant accounting standards, etc. are unclear.

(2) Planned date of application

The above accounting standard is scheduled to be applied from the end of the fiscal year ending March 31, 2021.

Accounting Standard for Disclosure of Accounting Estimates (ASBJ Statement No. 31, March 31, 2020)

(1) Overview

The new accounting standard requires to disclose the information that deepens the understanding of users for accounting estimates recorded in the financial statements for the current fiscal year that have the risk of material impact on the financial statements of the following fiscal year.

(2) Planned date of application

The above accounting standard is scheduled to be applied from the end of the fiscal year ending March 31, 2021.

(Changes in Presentation)

(Consolidated Balance Sheets)

Deposits paid and forward exchange contracts, which had been included in "Other" under current assets as of March 31, 2019 are presented separately as of March 31, 2020 because their materiality has increased.

To reflect this change in presentation, deposits paid of ¥841 million and forward exchange contracts of ¥95 million which had been previously included in "Other" under current assets, were reclassified as "Deposits paid" and "Forward exchange contracts" as of March 31, 2019.

(Consolidated Statements of Cash Flow)

Increase in deposits paid, which had been included in "Other" under cash flows from operating activities for the year ended March 31, 2019 is presented separately for the year ended March 31, 2020, because its materiality has increased.

To reflect this change in presentation, Increase of deposits paid of ¥(150) million, which had been previously included in "Other" under cash flows from operating activities, was reclassified as "Increase in deposits paid" for the year ended March 31, 2019.

(Impact of Global Spread of COVID-19 on Accounting Estimates)

With regard to certain projects, the Company recognized the expected additional costs resulting from delays in construction progress due to COVID-19.

In addition, the Company forecasts certain impacts on new orders, as a result of customers' reconsidering or extending their investment plans due to falling oil prices caused by COVID-19.

As for impairment test of non-current assets and tax effect accounting, the Company estimated the future cash flow and recoverability of deferred income taxes based on the assumption that the effect of COVID-19 lasts for at least one year, and the business environment surrounding the Company and its group companies will improve gradually from the fiscal year ending March 31, 2022.

3. INVESTMENTS IN UNCONSOLIDATED SUBSIDIARIES AND AFFILIATES

Investments in and advances to unconsolidated subsidiaries and affiliates included in investments in securities and other in the consolidated balance sheets as of March 31, 2020 and 2019 are as follows:

As of March 31,	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Investments in unconsolidated subsidiaries and affiliates	¥ 995	¥ 3,685	\$ 9,144
Other	518	690	4,760

4. PLEDGED ASSETS

The following assets as of March 31, 2020 and 2019 were pledged as collateral:

As of March 31,	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Collateral			
Buildings	¥ 731	¥ 803	\$ 6,718
Land	956	969	8,785
Other	146	99	1,341
Total	¥ 1,834	¥ 1,872	\$ 16,855

These assets above were mainly pledged for issuing the performance bonds.

5. CONTINGENT LIABILITIES

Contingent liabilities as of March 31, 2020 are as follows:

Guaranteed parties	Millions of yen	Thousands of U.S. dollars	Details
		2020	
Other	¥ 84	\$ 771	Loan guarantee etc.
Total	¥ 84	\$ 771	

6. COMMITMENT LINE CONTRACTS

In order to maintain access to a stable and effective sources of operating capital, the Company has entered into commitment line contracts with 8 trading banks. The status of these commitment line contracts as of March 31, 2020 and 2019 is as follows:

As of March 31,	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Total amount of commitment line contracts	¥ 8,000	¥ 10,000	\$ 73,522
Used amount	—	1,000	—
Available amount of commitment line contracts	¥ 8,000	¥ 9,000	\$ 73,522

7. COSTS ON UNCOMPLETED CONSTRUCTION CONTRACTS

Costs on uncompleted construction contracts and provision for loss on construction contracts related to the construction contracts with substantial anticipated losses are not offset. Costs on uncompleted construction contracts corresponding to provision for loss on construction contracts as of March 31, 2020 and 2019 are as follows:

As of March 31,	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Costs on uncompleted construction contracts	¥ 237	¥ 110	\$ 2,178

8. SHORT-TERM AND LONG-TERM DEBT

The average interest rates on the short-term loans payable outstanding as of March 31, 2020 and 2019 are 1.39% and 0.69%, respectively.

The average interest rates on the current portion of long-term loans payable outstanding as of March 31, 2020 and 2019 are 0.14% and 1.56%, respectively.

The average interest rates on the long-term loans payable outstanding as of March 31, 2020 and 2019 are 1.09% and 1.24% respectively.

The following schedule shows the maturities of long-term loans payable subsequent to March 31, 2020:

Years ended March 31,	Millions of yen	Thousands of U.S. dollars
2021	¥ 10,197	\$ 93,713
2022	3,785	34,785
2023	4,952	45,510
2024	1,046	9,613
2025	180	1,654
2026 and thereafter	—	—

The following schedule shows the maturities of lease obligations subsequent to March 31, 2020:

Years ended March 31,	Millions of yen	Thousands of U.S. dollars
2021	¥ 267	\$ 2,453
2022	157	1,442
2023	142	1,305
2024	48	441
2025	35	321

As of March 31, 2020 and 2019, short-term loans payable and long-term loans payable with financial covenants concerning the financial condition or business results of the Company and its consolidated subsidiaries and affiliates amounted to ¥8,480 million (\$77,934 thousand) and ¥11,240 million, respectively.

9. SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

The main components of selling, general and administrative expenses for the years ended March 31, 2020 and 2019 are as follows:

Years ended March 31,	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Salaries	¥ 7,155	¥ 7,241	\$ 65,756
Provision for bonuses	367	312	3,372
Retirement benefit expenses	1,137	994	10,449
Depreciation	752	308	6,911
Research and development costs	1,925	798	17,691

10. RESEARCH AND DEVELOPMENT COSTS

Research and development costs included in cost of sales and selling, general and administrative expenses for the years ended March 31, 2020 and 2019 amounted to ¥1,925 million (\$17,691 thousand) and ¥798 million, respectively.

11. PROVISION FOR LOSS ON CONSTRUCTION CONTRACTS

The amount of gross increase in provision for loss on construction contracts included in cost of sales in the consolidated statements of operations for the years ended March 31, 2020 and 2019 are as follows:

Years ended March 31,	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Amount of provision for loss on construction contracts	¥ 349	¥ 2,126	\$ 3,207

12. GAIN ON SALES OF PROPERTY, PLANT AND EQUIPMENT

Breakdown of gain on sales of property, plant and equipment is as follows:

Years ended March 31,	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Buildings and structures	¥ —	¥ 44	\$ —
Machinery, vehicles, tools, furniture and fixtures	—	3	—
Land	—	35	—
Total	¥ —	¥ 83	\$ —

13. OTHER COMPREHENSIVE INCOME

Years ended March 31,	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Valuation difference on available-for-sale securities:			
Amount arising during the year	¥ (382)	¥ (178)	\$ (3,510)
Valuation difference on available-for-sale securities before tax effect	(382)	(178)	(3,510)
Tax effect	80	46	735
Valuation difference on available-for-sale securities	(302)	(131)	(2,775)
Deferred gains (losses) on hedges:			
Amount arising during the year	82	(426)	753
Reclassification adjustments for gains and losses realized in profit or loss	615	(234)	5,652
Deferred gains (losses) on hedges before tax effect	698	(660)	6,414
Tax effect	(0)	(0)	(0)
Deferred gains (losses) on hedges	698	(661)	6,414
Foreign currency translation adjustments:			
Amount arising during the year	(788)	(1,458)	(7,241)
Foreign currency translation adjustments before tax effect	(788)	(1,458)	(7,241)
Foreign currency translation adjustments	(788)	(1,458)	(7,241)
Remeasurements of defined benefit plans:			
Amount arising during the year	(1,221)	(194)	(11,221)
Reclassification adjustments for gains and losses realized in profit or loss	(170)	(258)	(1,562)
Remeasurements of defined benefit plans before tax effect	(1,391)	(452)	(12,783)
Tax effect	170	127	1,562
Remeasurements of defined benefit plans	(1,221)	(325)	(11,221)
Share of other comprehensive losses of affiliates accounted for by the equity method:			
Amount arising during the year	(444)	(470)	(4,080)
Total other comprehensive loss	¥ (2,057)	¥ (3,047)	\$ (18,904)

14. SUPPLEMENTARY INFORMATION FOR CONSOLIDATED STATEMENTS OF CHANGES IN NET ASSETS

For the year ended March 31, 2020

(a) Type and number of outstanding shares

Type of shares	Number of shares			Balance as of end of year
	Balance as of beginning of year	Increase in shares during the year	Decrease in shares during the year	
Issued stock:				
Common stock	38,558,507	—	—	38,558,507
Class A preferred stock	20,270,300	—	—	20,270,300
Total	58,828,807	—	—	58,828,807
Treasury stock:				
Common stock	224,680	784	—	225,464
Total	224,680	784	—	225,464

Note: Treasury stock increased by 784 shares due to the purchase of shares less than one unit.

For the year ended March 31, 2019

(a) Type and number of outstanding shares

Type of shares	Number of shares			Balance as of end of year
	Balance as of beginning of year	Increase in shares during the year	Decrease in shares during the year	
Issued stock:				
Common stock	38,558,507	—	—	38,558,507
Class A preferred stock	—	20,270,300	—	20,270,300
Total	38,558,507	20,270,300	—	58,828,807
Treasury stock:				
Common stock	223,648	1,035	3	224,680
Total	223,648	1,035	3	224,680

Note: Issued stock increased by 20,270,300 shares due to the issuance of Class A preferred stock.

Treasury stock increased by 1,035 shares due to the purchase of shares less than one unit.

Treasury stock decreased by 3 shares due to the sale of shares less than one unit.

15. CONSOLIDATED STATEMENTS OF CASH FLOWS

A reconciliation between the balance of cash and deposits reflected in the accompanying consolidated balance sheets and that of cash and cash equivalents in the accompanying consolidated statements of cash flows as of March 31, 2020 and 2019 are summarized as follows:

As of March 31,	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Cash and deposits	¥ 81,989	¥ 101,759	\$ 753,506
Time deposits with maturities over 3 months	(1,776)	(3,852)	(16,322)
Cash and cash equivalents	¥ 80,213	¥ 97,907	\$ 737,184

16. LEASES

(a) Finance Leases

(a-1) Finance leases which do not transfer ownership of the leased assets to the lessee

The main component of the leased assets is rental office of foreign subsidiaries.

Depreciation methods

See "2.SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, (f) Leases "

(b) Operating Leases

Operating Leases (as Lessee)

Future minimum lease payments subsequent to March 31, 2020 for noncancelable operating leases are summarized as follows:

As of March 31,	Millions of yen		Thousands of U.S. dollars
	2020	2020	2020
Within 1 year	¥ 143		\$ 1,314
Over 1 year	168		1,543
Total	¥ 312		\$ 2,867

17. FINANCIAL INSTRUMENTS

1. Condition of Financial Instruments

The Company and its consolidated subsidiaries hold their temporary cash surplus through low-risk financial assets and raise funds through borrowings from banks.

Derivative financial instruments are utilized for reducing the risk of exchange rate fluctuations, interest rate fluctuations, and credit. Therefore, there are no derivatives for speculative purposes.

Notes receivable, accounts receivable from completed construction contracts are exposed to credit risks of customers and risks of exchange rate fluctuations. The Company deals with these risks by organizing careful reviews on awarded contracts, letters of credit, and export credit insurance. The Company minimizes exchange fluctuation risks by entering into corresponding forward-exchange contracts, in principle.

Investments in securities are exposed to volatility risks of market price. The Company manages these risks by periodic monitoring, as they mainly consist of stocks of business partners.

Notes payable, accounts payable for construction contracts and other are mostly due within 1 year.

Borrowings from banks are raised mainly for capital investment or working capital. For some long-term loans payable, the Company entered into interest swap agreements to minimize risks of interest rate fluctuations.

Regarding derivatives, forward-exchange contracts are used to minimize exchange fluctuation in foreign-currency operations, and interest-swap contracts are used to minimize interest rate fluctuations.

The fair value of financial instruments is based on their quoted market prices, if available, or reasonably estimated amounts if there is no market price. Since various assumptions and factors are reflected in estimating the fair value, different assumptions and factors could result in different fair value. In addition, the notional amounts below are not necessarily indicative of the actual market risk involved in derivative transactions.

2. Fair Value of Financial Instruments

Book value, fair value, and net unrealized gain or loss of financial instruments consist of the following:

The following does not include items for which it is extremely difficult to determine the fair value.

As of March 31, 2020	Millions of yen		
	Book Value	Fair Value	Unrealized gain / (loss)
(1) Cash and deposits	¥ 81,989	¥ 81,989	¥ —
(2) Notes receivable, accounts receivable from completed construction contracts	55,130		
Less: Allowance for doubtful accounts (*1)	(658)		
Notes receivable, accounts receivable from completed construction contracts, net	54,472	54,473	1
(3) Accounts receivables-other	7,138		
Less: Allowance for doubtful accounts (*1)	(30)		
Accounts receivable-other, net	7,108	7,109	1
(4) Investments in securities			
Available-for-sale securities	637	637	—
Total of assets	144,207	144,209	2
(1) Notes and accounts payable for construction contracts and other	64,053	64,054	0
(2) Short-term loans payable	6,811	6,811	—
(3) Long-term loans payable (including current portion)	20,161	20,192	31
Total of liabilities	91,026	91,058	32
Derivatives (*2)			
not designated as hedging instruments	158	158	—
designated as hedging instruments	(764)	(764)	—
Total derivatives	¥ (605)	¥ (605)	¥ —

As of March 31, 2020	Thousands of U.S. dollars		
	Book Value	Fair Value	Unrealized gain / (loss)
(1) Cash and deposits	\$ 753,506	\$ 753,506	\$ —
(2) Notes receivable, accounts receivable from completed construction contracts	506,662		
Less: Allowance for doubtful accounts (*1)	(6,047)		
Notes receivable, accounts receivable from completed construction contracts, net	500,615	500,624	9
(3) Accounts receivables-other	65,600		
Less: Allowance for doubtful accounts (*1)	(275)		
Accounts receivable-other, net	65,324	65,334	9
(4) Investments in securities			
Available-for-sale securities	5,854	5,854	—
Total of assets	1,325,310	1,325,328	18
(1) Notes and accounts payable for construction contracts and other	588,668	588,677	0
(2) Short-term loans payable	62,595	62,595	—
(3) Long-term loans payable (including current portion)	185,286	185,571	284
Total of liabilities	836,559	836,853	294
Derivatives (*2)			
not designated as hedging instruments	1,452	1,452	—
designated as hedging instruments	(7,021)	(7,021)	—
Total derivatives	\$ (5,560)	\$ (5,560)	\$ —

(*1) Notes receivable, accounts receivable from completed construction contracts and accounts receivable—other listed above are offset by the corresponding figures of allowance for doubtful accounts listed above.

(*2) Net receivables and payables derived as a result of derivative transactions are presented. Values in parentheses show contra-asset account, net liabilities and unrealized loss.

As of March 31, 2019	Millions of yen		
	Book Value	Fair Value	Unrealized gain / (loss)
(1) Cash and deposits	¥ 101,759	¥ 101,759	¥ —
(2) Notes receivable, accounts receivable from completed construction contracts	68,193		
Less: Allowance for doubtful accounts (*1)	(648)		
Notes receivable, accounts receivable from completed construction contracts, net	67,545	67,546	0
(3) Accounts receivables-other	5,793		
Less: Allowance for doubtful accounts (*1)	(1)		
Accounts receivable-other, net	5,791	5,793	2
(4) Investments in securities			
Available-for-sale securities	906	906	—
Total of assets	176,003	176,006	3
(1) Notes and accounts payable for construction contracts and other	82,509	82,513	3
(2) Short-term loans payable	7,900	7,900	—
(3) Long-term loans payable (including current portion)	24,768	24,831	62
Total of liabilities	115,177	115,244	66
Derivatives (*2)			
not designated as hedging instruments	(88)	(88)	—
designated as hedging instruments	(1,462)	(1,462)	—
Total derivatives	¥ (1,551)	¥ (1,551)	¥ —

(*1) Notes receivable, accounts receivable from completed construction contracts and accounts receivable—other listed above are offset by the corresponding figures of allowance for doubtful accounts listed above.

(*2) Net receivables and payables derived as a result of derivative transactions are presented. Values in parentheses show contra-asset account, net liabilities and unrealized loss.

(Note 1) Computational method and related issues

Assets

(1) Cash and deposits

Book values are used as fair values because they are nearly equal to such book values.

(2) (3) Notes receivables, accounts receivable from completed construction contracts and accounts receivable—other

Book values for items which are settled in a short-term are used as fair values of these items because they are nearly equal to such book values. Fair values of other items are based on the present value discounted by an appropriate discount rate coupled with the remaining maturity and credit risks.

(4) Investments in securities

Fair value of stock items are based on the market prices and bond items are based on the market prices or their price provided by financial institutions.

Liabilities

(1) Notes payable, accounts payable for construction contracts and other

Book values for items which are settled in a short-term are used as fair values of these items because they are nearly equal to such book values. Fair values of other items are based on the present value discounted by an appropriate discount rate coupled with the remaining maturity and credit risks.

(2) Short-term loans payable

Book values are used as fair values because they are nearly equal to such book values.

(3) Long-term loans payable (including current portion)

The present values of the principal and total interest, discounted by the rate assumed to be applied to the new borrowings under the same conditions, are used as the fair values.

Derivative Transactions

See "19. DERIVATIVE TRANSACTIONS".

(Note 2) Financial instruments of which it is extremely difficult to determine the fair value

Unlisted securities that amounted to ¥1,572 million (\$1,447 thousand) as of March 31, 2020 and ¥1,673 million as of March 31, 2019 are excluded from the above table because they are deemed extremely difficult to determine the fair values; they do not have market prices and it is not possible to conduct alternative methods such as the estimation of their future cash flows.

(Note 3) Redemption schedule for monetary assets, and investment in securities with maturities

As of March 31, 2020	Millions of yen			
	Within 1 year	After 1 year through 5 years	After 5 years through 10 years	After 10 years
Cash and deposits	¥ 81,989	¥ —	¥ —	¥ —
Notes and accounts receivable from completed construction contracts	54,296	834	—	—
Accounts receivable-other	6,647	491	—	—
Total	¥ 142,933	¥ 1,325	¥ —	¥ —

As of March 31, 2020	Thousands of U.S. dollars			
	Within 1 year	After 1 year through 5 years	After 5 years through 10 years	After 10 years
Cash and deposits	\$ 753,506	\$ —	\$ —	\$ —
Notes and accounts receivable from completed construction contracts	498,998	7,664	—	—
Accounts receivable-other	61,088	4,512	—	—
Total	\$ 1,313,601	\$ 12,177	\$ —	\$ —

As of March 31, 2019	Millions of yen			
	Within 1 year	After 1 year through 5 years	After 5 years through 10 years	After 10 years
Cash and deposits	¥ 101,759	¥ —	¥ —	¥ —
Notes and accounts receivable from completed construction contracts	67,594	599	—	—
Accounts receivable-other	5,105	688	—	—
Total	¥ 174,459	¥ 1,287	¥ —	¥ —

(Note 4) Schedule for repayment of bonds and long-term loans payable

See "8. SHORT-TERM AND LONG-TERM DEBT".

18. INVESTMENTS IN SECURITIES

The acquisition cost, unrealized gain and loss and the related book value of available-for-sale securities with available fair values as of March 31, 2020 are summarized as follows:

As of March 31, 2020	Millions of yen		
	Book value	Acquisition cost	Unrealized gain
Securities whose carrying value exceeds their acquisition costs:			
Equity securities	¥ 506	¥ 390	¥ 115
Subtotal	¥ 506	¥ 390	¥ 115
Securities whose carrying value does not exceed their acquisition costs:			
Equity securities	¥ 130	¥ 138	¥ (7)
Subtotal	¥ 130	¥ 138	¥ (7)
Total	¥ 637	¥ 529	¥ 107

As of March 31, 2020	Thousands of U.S. dollars		
	Book value	Acquisition cost	Unrealized gain
Securities whose carrying value exceeds their acquisition costs:			
Equity securities	\$ 4,650	\$ 3,584	\$ 1,056
Subtotal	\$ 4,650	\$ 3,584	\$ 1,056
Securities whose carrying value does not exceed their acquisition costs:			
Equity securities	\$ 1,194	\$ 1,268	\$ (64)
Subtotal	\$ 1,194	\$ 1,268	\$ (64)
Total	\$ 5,854	\$ 4,861	\$ 983

The acquisition cost, unrealized gain and loss and the related book value of available-for-sale securities with available fair values as of March 31, 2019 are summarized as follows:

As of March 31, 2019	Millions of yen		
	Book value	Acquisition cost	Unrealized gain
Securities whose carrying value exceeds their acquisition costs:			
Equity securities	¥ 906	¥ 529	¥ 376
Total	¥ 906	¥ 529	¥ 376

Proceeds from and gain on sales of securities for the year ended March 31, 2019 are as follows:

Year ended March 31, 2019	Millions of yen		
	Proceeds	Gain on sales	Loss on sales
Equity securities	¥ 500	¥ 0	¥ —

Impairment of investments in securities

For the year ended March 31, 2019, the Company recognized ¥13 million of impairment loss on unconsolidated subsidiaries.

19. DERIVATIVE TRANSACTIONS

For the year ended March 31, 2020

1. Derivatives not designated as hedging instruments

(1) Currency-related

	Millions of yen			
	All notional amounts	Notional amounts due over 1 year	Fair value	Unrealized gain / (loss)
Non-market transaction:				
Foreign exchange forward contracts				
Selling				
USD	¥ 649	¥ 23	¥ (29)	¥ (29)
JPY	11,313	2,858	121	121
Buying				
USD	6,219	28	68	68
EUR	79	—	(2)	(2)
Total	¥ 18,260	¥ 2,911	¥ 158	¥ 158

	Thousands of U.S. dollars			
	All notional amounts	Notional amounts due over 1 year	Fair value	Unrealized gain / (loss)
Non-market transaction:				
Foreign exchange forward contracts				
Selling				
USD	\$ 5,964	\$ 211	\$ (266)	\$ (266)
JPY	103,970	26,265	1,112	1,112
Buying				
USD	57,154	257	624	624
EUR	726	—	(18)	(18)
Total	\$ 167,815	\$ 26,753	\$ 1,452	\$ 1,452

2. Derivatives designated as hedging instruments

(1) Currency-related

	Main hedged items	Millions of yen			Computational method of fair value
		All notional amounts	Notional amounts due over 1 year	Fair value	
Deferral hedge accounting method:					
Foreign exchange forward contracts					
Selling					
USD	Accounts receivable and	¥ 2,026	¥ 861	¥ (131)	Based on prices offered by financial institutions
EUR	accounts payable	923	—	39	
Buying					
USD		32,305	2,718	480	
EUR		24,935	9,819	(1,152)	
Alternative method:					
Foreign exchange forward contracts					
Selling					
USD	Accounts receivable and	6,005	337		Based on forward exchange contract prices
EUR	accounts payable	2,364	282		
Buying					
USD		1,819	194	N/A	
EUR		958	—		
SGD		35	—		
Total		¥ 71,373	¥ 14,214		

Thousands of U.S. dollars							
	Main hedged items	All notional amounts	Notional amounts due over 1 year	Fair value	Computational method of fair value		
Deferral hedge accounting method:							
Foreign exchange forward contracts							
Selling							
USD	Accounts receivable and accounts payable	\$ 18,619	\$ 7,912	\$ (1,203)	Based on prices offered by financial institutions		
EUR		8,482	—	358			
Buying							
USD		296,893	24,979	4,411			
EUR		229,160	90,239	(10,587)			
Alternative method:							
Foreign exchange forward contracts							
Selling							
USD	Accounts receivable and accounts payable	55,187	3,097	N/A	Based on forward exchange contract prices		
EUR		21,725	2,591				
Buying							
USD		16,717	1,782				
EUR		8,804	—				
SGD		321	—				
Total		\$ 655,941	\$ 130,631				

(2) Interest-related

Millions of yen						
	Transaction type	Main hedged items	All notional amounts	Notional amounts due over 1 year	Fair value	Computational method of fair value
Accounting method:						
Special method for interest rate swap	Interest swap contracts floating for fixed rate swap	Long-term loans payable	¥ 7,300	¥ —	N/A	Based on prices offered by financial institutions
Total			¥ 7,300	¥ —		

Thousands of U.S. dollars						
	Transaction type	Main hedged items	All notional amounts	Notional amounts due over 1 year	Fair value	Computational method of fair value
Accounting method:						
Special method for interest rate swap	Interest swap contracts floating for fixed rate swap	Long-term loans payable	\$ 67,089	\$ —	N/A	Based on prices offered by financial institutions
Total			\$ 67,089	\$ —		

For the year ended March 31, 2019

1. Derivatives not designated as hedging instruments

(1) Currency-related

Millions of yen				
	All notional amounts	Notional amounts due over 1 year	Fair value	Unrealized gain / (loss)
Non-market transaction:				
Foreign exchange forward contracts				
Selling				
USD	¥ 2,827	¥ —	¥ 47	¥ 47
MYR	5,147	—	(123)	(123)
Buying				
USD	863	7	(6)	(6)
EUR	123	23	(5)	(5)
JPY	84	—	(1)	(1)
Total	¥ 9,046	¥ 31	¥ (88)	¥ (88)

2. Derivatives designated as hedging instruments

(1) Currency-related

Millions of yen						
	Main hedged items	All notional amounts	Notional amounts due over 1 year	Fair value	Computational method of fair value	
Deferral hedge accounting method:						
Foreign exchange forward contracts						
Selling						
USD	Accounts receivable and accounts payable	¥ 15,148	¥ 3,324	¥ (895)	Based on prices offered by financial institutions	
EUR		5,840	1,764	323		
Buying						
USD		39,642	15,734	164		
EUR		23,321	11,428	(1,030)		
SEK		204	—	(25)		
SGD		51	2	0		
Alternative method:						
Foreign exchange forward contracts						
Selling						
USD	Accounts receivable and accounts payable	10,188	—	N/A	Based on forward exchange contract prices	
EUR		252	—			
SEK	16	—				
Buying						
USD		1,873	173			
EUR		678	—			
Total		¥ 97,218	¥ 32,428			

(2) Interest-related

Millions of yen						
	Transaction type	Main hedged items	All notional amounts	Notional amounts due over 1 year	Fair value	Computational method of fair value
Accounting method:						
Special method for interest rate swap	Interest swap contracts floating for fixed rate swap	Long-term loans payable	¥ 7,800	¥ 7,300	N/A	Based on prices offered by financial institutions
Total			¥ 7,800	¥ 7,300		

20. RETIREMENT BENEFITS

The Company and certain consolidated subsidiaries have either funded or unfunded defined benefit plans and lump-sum payment plans and the defined contribution plans.

The Company and certain consolidated subsidiaries provide lump-sum or pension which is based on salary and service time in the defined benefit plans and introduce cash balance-style pension plans in a part of defined benefit plans. In this institution, hypothetical individual employee accounts which are equal to the source of deposit and pension by each buyer are established. In these accounts, the interest credit which is based on the movement of market interest rate and the contribution credit which is based on the salary level, etc. are accumulated. In a part of defined benefit plans, etc., retirement benefit trust is established.

In lump-sum payments plans (part of which becomes funded as a result of benefit trust although the system is unfunded), the lump-sum based on the salary and service time as retirement benefits is provided.

Defined contribution plans and lump-sum payments for certain consolidated subsidiaries are accounted for using the simplified method in which calculates retirement benefit liabilities and retirement benefit expenses.

(1) Changes in defined benefit obligations

	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Beginning of year	¥ 18,764	¥ 19,441	\$ 172,447
Service cost	900	1,004	8,271
Interest cost	228	222	2,095
Actuarial gains and losses	155	(510)	1,424
Benefit paid	(1,387)	(1,173)	(12,746)
Other	(46)	(220)	(422)
End of year	¥ 18,613	¥ 18,764	\$ 171,059

(2) Changes in plan assets

	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Beginning of year	¥ 18,198	¥ 19,004	\$ 167,245
Expected return on plan assets	507	540	4,659
Actuarial gains and losses	(1,271)	(721)	(11,680)
Contributions by the employer	559	602	5,137
Benefit paid	(1,137)	(1,089)	(10,449)
Other	(194)	(138)	(1,782)
End of year	¥ 16,663	¥ 18,198	\$ 153,138

(3) Reconciliation of defined benefit obligations and plan assets to net benefit liability and asset

The reconciliation of the defined benefit obligations and plan assets to net defined benefit liability and asset recognized in the consolidated balance sheets as of March 31, 2020 and 2019 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Funded defined benefit obligations	¥ 17,367	¥ 17,608	\$ 159,608
Plan assets	(16,663)	(18,198)	(153,138)
Subtotal	704	(589)	6,469
Unfunded defined benefit obligations	1,246	1,155	11,451
Net amount of liability and asset recognized in consolidated balance sheets	1,950	565	17,921
Liabilities (net defined benefit liability)	1,950	1,200	17,921
Assets (net defined benefit asset)	—	(635)	—
Net amount of liability and asset recognized in consolidated balance sheets	¥ 1,950	¥ 565	\$ 17,921

(4) Retirement benefit expenses

	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Service cost	¥ 900	¥ 1,004	\$ 8,271
Interest cost	228	222	2,095
Expected return on plan assets	(507)	(540)	(4,659)
Amortization of actuarial gains and losses	34	(241)	312
Other	163	(72)	1,498
Total	¥ 819	¥ 372	\$ 7,526

(5) Remeasurements of defined benefit plans

	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Actuarial gains and losses	¥ (1,391)	¥ (452)	\$ (12,783)
Total	¥ (1,391)	¥ (452)	\$ (12,783)

(6) Accumulated remeasurements of defined benefit plans

The unrecognized actuarial gains and losses recognized in accumulated other comprehensive income (amount before income tax effect) as of March 31, 2020 and 2019 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Unrecognized actuarial gains and losses	¥ (820)	¥ 570	\$ (7,536)
Total	¥ (820)	¥ 570	\$ (7,536)

(7) Major breakdown of plan assets

	2020	2019
Components of plan assets		
Securities	27%	26%
Stocks	41%	46%
Cash and deposits	13%	11%
Other	19%	17%
Total	100%	100%

18% and 20% of total plan assets as of March 31, 2020 and 2019, respectively, are included in the retirement benefit trust.

(8) Basis of actuarial calculation

Basis of calculation of projected benefit obligation for the years ended March 31, 2020 and 2019 are as follows:

	2020	2019
Discount rate	Mainly 0.08%	Mainly 0.08%
Expected rate of return on plan assets	Mainly 2.5%	Mainly 2.5%
Expected salary increase rate	Mainly 3.1%	Mainly 3.1%

Defined contribution plans

The contributions by the Company and subsidiaries to the defined contribution plans were ¥306 million (\$2,812 thousand) and ¥280 million for the years ended March 31, 2020 and 2019, respectively.

21. INCOME TAXES

The statutory tax rate applicable to the Company and its domestic subsidiaries for the years ended March 31, 2020 and 2019 was approximately 30.5%. Income taxes of the foreign subsidiaries are based generally on the tax rates applicable in their countries of incorporation.

(1) Significant components of the deferred income tax assets and liabilities

As of March 31,	Millions of yen		Thousands of U.S. dollars
	2020	2019	2020
Deferred tax assets (gross):			
Net operating loss carry forwards (*2)	¥ 13,429	¥ 14,665	\$ 123,416
Accounts payable for construction contracts	4,475	3,112	41,126
Provision of allowance for doubtful accounts	2,198	2,220	20,200
Net defined benefit liability	1,414	1,307	12,995
Interest income receivable	845	660	7,765
Provision for loss on construction contracts	89	626	817
Deferred losses on hedges	225	436	2,067
Other	1,859	2,275	17,084
Total deferred tax assets (gross)	24,538	25,304	225,512
Valuation allowance for net operating loss carry forwards (*2)	(13,426)	(14,657)	(123,389)
Valuation allowance for deductible temporary differences	(10,312)	(8,051)	(94,770)
Total valuation allowance (*1)	(23,738)	(22,708)	(218,160)
Total deferred tax assets (gross)	799	2,596	7,343
Deferred tax assets-Deferred tax liabilities	(319)	(1,767)	(2,931)
Total deferred tax assets	480	828	4,411
Deferred tax liabilities (gross):			
Undistributed earnings of subsidiaries and affiliates	1,522	2,202	13,987
Valuation difference on available-for-sale securities	35	115	321
Gain on securities contribution to retirement benefits trust	652	660	5,992
Other	304	1,027	2,793
Total deferred tax liabilities (gross)	2,515	4,006	23,113
Deferred tax assets-Deferred tax liabilities	(106)	(1,767)	(974)
Deferred tax liabilities	2,408	2,238	22,130
Net deferred tax liabilities	¥ (1,928)	¥ (1,409)	\$ (17,718)

(*1) The Company studied the recoverability of deferred tax assets under the increasing uncertainty in business environment and future profitability due to COVID-19 and falling oil prices. As a result, total valuation allowance has increased by ¥1,030 million (\$9,466 thousand) from the end of previous fiscal year.

(*2) A breakdown of net operating loss carry forwards and valuation allowance by expiry date as of March 31, 2020 and 2019 are as follows:

As of March 31, 2020 Years ended March 31,	Millions of yen		
	Net operating loss carry forwards	Valuation allowance	Deferred tax assets
2021	¥ 14	¥ 12	¥ 2
2022	—	—	—
2023	—	—	—
2024	445	445	—
2025	—	—	—
2026 and thereafter	12,969	12,969	—
Total	¥ 13,429	¥ 13,426	¥ 2

Years ended March 31,	Millions of U.S. dollars		
	Net operating loss carry forwards	Valuation allowance	Deferred tax assets
2021	\$ 128	\$ 110	\$ 18
2022	—	—	—
2023	—	—	—
2024	4,089	4,089	—
2025	—	—	—
2026 and thereafter	119,189	119,189	—
Total	\$ 123,416	\$ 123,389	\$ 18

As of March 31, 2019 Years ended March 31,	Millions of yen		
	Net operating loss carry forwards	Valuation allowance	Deferred tax assets
2020	¥ —	¥ —	¥ —
2021	18	10	8
2022	—	—	—
2023	—	—	—
2024	445	445	—
2025 and thereafter	14,201	14,201	—
Total	¥ 14,665	¥ 14,657	¥ 8

(2) The effective tax rate on income before income taxes in the accompanying consolidated statements of operations were not equal to the above-mentioned statutory tax rate for the following reasons for the year ended March 31, 2020 and 2019.

Year ended March 31,	2020	2019
Statutory tax rate in Japan	30.5%	30.5%
Adjustments:		
Permanently nondeductible expenses	5.3%	3.5%
Permanently nontaxable income	(9.7%)	(1.2%)
Per capita levy on corporate inhabitant tax	0.5%	0.4%
Temporary differences excluded from calculation of deferred tax assets	3.0%	(132.6%)
Difference in tax rates for foreign subsidiaries	(0.9%)	(1.1%)
Difference in tax base between corporate income tax and enterprise tax	(6.5%)	(11.2%)
Net operating loss carry forwards etc.	49.9%	253.3%
Equity in earnings of affiliates	(10.0%)	(55.6%)
Adjustment of tax in prior years	(0.2%)	1.4%
Non-income based tax in foreign countries	7.9%	10.2%
Undistributed earnings of subsidiaries and affiliates	(15.3%)	21.4%
Changes in tax rate of foreign subsidiaries	2.4%	—
Adjustment for consolidation of gain on sales of shares of an affiliate	6.6%	—
Other	(1.3%)	3.0%
Effective tax rate	62.2%	122.0%

(3) Change in deferred tax assets and deferred tax liabilities due to tax rate changes

Due to the amendment of the Income Tax Act in India, the statutory tax rate in the country has been changed from 34.94% to 25.17% for the calculation of deferred income taxes arising from future deductible or taxable temporary differences.

As a result, deferred income taxes in investments and other assets (amount offset by that of non-current liabilities) in the consolidated balance sheet as of March 31, 2020 decreased by ¥108 million (\$992 thousand) and income taxes-deferred in the consolidated statement of operations for the year ended March 31, 2020 increased by ¥108 million (\$992 thousand).

22. SEGMENT INFORMATION

(1) Information by geographical segment based on the locations of projects

Year ended March 31, 2020	Millions of yen						Total
	Japan	India	Nigeria	Indonesia	Thailand	Other	
Net Sales	¥ 65,060	¥ 39,964	¥ 28,512	¥ 26,841	¥ 22,767	¥ 35,948	¥ 219,094

Year ended March 31, 2020	Thousands of U.S. dollars						Total
	Japan	India	Nigeria	Indonesia	Thailand	Other	
Net Sales	\$ 597,922	\$ 367,282	\$ 262,034	\$ 246,677	\$ 209,236	\$ 330,374	\$ 2,013,546

Year ended March 31, 2020	Millions of yen			
	Japan	Indonesia	Other	Total
Property, plant and equipment	¥ 7,869	¥ 2,012	¥ 1,635	¥ 11,517

Year ended March 31, 2020	Thousands of U.S. dollars			
	Japan	Indonesia	Other	Total
Property, plant and equipment	\$ 72,318	\$ 18,490	\$ 15,026	\$ 105,845

Year ended March 31, 2019	Millions of yen						Total
	Japan	India	Nigeria	Indonesia	Thailand	Other	
Net Sales	¥ 50,086	¥ 40,524	¥ 10,493	¥ 48,859	¥ 37,765	¥ 107,264	¥ 294,993

Year ended March 31, 2019	Millions of yen			
	Japan	Indonesia	Other	Total
Property, plant and equipment	¥ 8,003	¥ 2,089	¥ 1,104	¥ 11,196

(Changes in presentation)

Nigeria, which had been included in "Other" for the year ended March 31, 2019, is presented separately for the year ended March 31, 2020 because the corresponding amount exceeded 10% of net sales on the consolidated statement of operations for the year ended March 31, 2020.

USA and Malaysia, which had been presented separately for the year ended March 31, 2019, are included in "Other" for the year ended March 31, 2020 because the corresponding amounts are below 10% of net sales on the consolidated statement of operations for the year ended March 31, 2020.

To reflect these changes in presentation, ¥10,493 million attributable to Nigeria for the year ended March 31, 2019, which had been previously included in "Other," was reclassified and presented separately, while ¥49,030 million attributable to USA and ¥41,168 million attributable to Malaysia for the year ended March 31, 2019, which had been previously presented separately, are reclassified as "Other" as of March 31, 2020.

(2) Information by major clients

Year ended March 31, 2020	Millions of yen	
	Net Sales	Segment
Hindustan Urvarak & Rasayan Limited	¥ 32,855	EPC
Indorama Eleme Fertilizer & Chemicals Limited	¥ 28,512	EPC

Year ended March 31, 2020	Thousands of U.S. dollars	
	Net Sales	Segment
Hindustan Urvarak & Rasayan Limited	\$ 301,948	EPC
Indorama Eleme Fertilizer & Chemicals Limited	\$ 262,034	EPC

Year ended March 31, 2019	Millions of yen	
	Net Sales	Segment
Shintech Louisiana, LLC	¥ 45,607	EPC
PRPC REFINERY AND CRACKER SDN. BHD.	¥ 37,610	EPC

23. RELATED PARTY INFORMATION

1. Related Party Transactions

For the year ended March 31, 2020

Name: NEDL-CONSTRUCOES DE DUTOS DO NORDESTE LTDA.	Summary of transactions	Millions of yen			Thousands of U.S. dollars		
		Transaction amount	Title of account	Account balance	Transaction amount	Title of account	Account balance
Category: Affiliate							
Address: Brazil							
Capital and investments:							
17,141 thousands BRL	Loan for operating fund	¥ —	Long-term loans receivable	¥ 3,707	\$ —	Long-term loans receivable	\$ 34,068
Business: Construction							
Equity ownership percentage: 42.5% directly							
Relation with related party:							
Loan for operating fund							

For the year ended March 31, 2019

Name: NEDL-CONSTRUCOES DE DUTOS DO NORDESTE LTDA.	Summary of transactions	Millions of yen			
		Transaction amount	Title of account	Account balance	
Category: Affiliate					
Address: Brazil					
Capital and investments:					
15,153 thousands BRL	Loan for operating fund	¥ —	Long-term loans receivable	¥ 3,707	
Business: Construction					
Equity ownership percentage: 42.5% directly					
Relation with related party:					
Loan for operating fund					

Notes: 1. Interest rate on loan is determined by considering effective market rates.

2. The Company reserved ¥3,707 million (\$34,068 thousand) of allowance for doubtful accounts as of March 31, 2020, against the loan above.

3. The Company reserved ¥3,707 million of allowance for doubtful accounts as of March 31, 2019, against the loan above.

For the year ended March 31, 2019

Name: Toyo Setal Empreendimentos Ltda.	Summary of transactions	Millions of yen			
		Transaction amount	Title of account	Account balance	
Category: Affiliate					
Address: Brazil					
Capital and investments:					
38,904 thousands BRL	Contingent liabilities	¥ 1,601	—	¥ —	
Business: Construction					
Equity ownership percentage: 50% indirectly					
Relation with related party:					
Contingent liabilities					

Note: 1. Contingent liabilities are provided for refund guarantee etc. of Toyo Setal Empreendimentos Ltda.

For the year ended March 31, 2020

Name: Estaleiros do Brasil Ltda.	Summary of transactions	Millions of yen			Thousands of U.S. dollars		
		Transaction amount	Title of account	Account balance	Transaction amount	Title of account	Account balance
Category: Affiliate							
Address: Brazil							
Capital and investments: 57,749 thousands BRL	Loan for operating fund	¥ —	Short-term loans receivable	¥ 5,389	\$ —	Short-term loans receivable	\$ 49,526
Business: Construction							
Equity ownership percentage: 50% indirectly	Repayment of loan for operating fund	884	—	—	8,124	—	—
Relation with related party: Loan for operating fund	Accrued interest income	5			45		

For the year ended March 31, 2019

Name: Estaleiros do Brasil Ltda.	Summary of transactions	Millions of yen		
		Transaction amount	Title of account	Account balance
Category: Affiliate				
Address: Brazil				
Capital and investments: 57,749 thousands BRL	Loan for operating fund	¥ —	Short-term loans receivable	¥ 5,432
Business: Construction				
Equity ownership percentage: 50% indirectly	Repayment of loan for operating fund	2,986	—	—
Relation with related party: Loan for operating fund	Accrued interest income	688		

Note: 1. Interest rate on loan is determined by considering effective market rates

2. Summary of Financial Statements of Significant Affiliates

For the years ended March 31, 2020, the significant affiliates were MODEC and Toyo Offshore Production Systems Pte.Ltd. and TS Participações e Investimentos S.A.

Their condensed financial information is as follows:

As of and for the years ended March 31,	Millions of yen	Thousands of U.S. dollars
	2020	2020
Total current assets	¥ 13,627	\$ 125,236
Total non-current assets	3,483	32,009
Total current liabilities	31,266	287,344
Total non-current liabilities	1,864	17,130
Total net asset deficiencies	¥ (16,020)	\$ (147,229)
Net sales	¥ 5,270	\$ 48,433
Profit before income tax	1,749	16,073
Profit	¥ 1,656	\$ 15,219

For the years ended March 31, 2019, the significant affiliates were Moeco Thai Oil Development Co.,Ltd., MODEC and Toyo Offshore Production Systems Pte.Ltd. and TS Participações e Investimentos S.A.

Their condensed financial information is as follows:

As of and for the years ended March 31,	Millions of yen
	2019
Total current assets	¥ 26,178
Total non-current assets	11,172
Total current liabilities	36,646
Total non-current liabilities	5,057
Total net asset deficiencies	¥ (4,351)
Net sales	¥ 10,461
Profit before income tax	9,598
Profit	¥ 7,209

24. AMOUNTS PER SHARE

As of and for the years ended March 31,	Yen		U.S. dollars
	2020	2019	2020
Net assets per share	¥ 544.16	¥ 554.11	\$ 5.00
Income (loss) attributable to owners of parent per share	28.40	(20.51)	0.26

Income (loss) attributable to owners of parent per share is computed based on the Income (loss) available for distribution to shareholders of common stock and the weighted average number of shares of common stock outstanding during each year.

For the calculation of "income (loss) attributable to owners of parents per share", the number of Class A preferred stocks were included.

Net assets per share are computed based on the number of common stock outstanding and the net assets excluding non-controlling interests and residual assets attributable to Class A preferred stock at the year end.

Independent Auditor's Report

The Board of Directors
Toyo Engineering Corporation

Opinion

We have audited the accompanying consolidated financial statements of Toyo Engineering Corporation and its consolidated subsidiaries (the Group), which comprise the consolidated balance sheet as at March 31, 2020, and the consolidated statements of income, comprehensive income, changes in net assets, and cash flows for the year then ended, and notes to the consolidated financial statements.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at March 31, 2020, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with accounting principles generally accepted in Japan.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in Japan. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Japan, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management, the Corporate Auditor and the Board of Corporate Auditors for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern and disclosing, as required by accounting principles generally accepted in Japan, matters related to going concern.

The Corporate Auditor and the Board of Corporate Auditors are responsible for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with auditing standards generally accepted in Japan, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.
- Consider internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances for our risk assessments, while the purpose of the audit of the consolidated financial statements is not expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation in accordance with accounting principles generally accepted in Japan.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Corporate Auditor and the Board of Corporate Auditors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Corporate Auditor and the Board of Corporate Auditors with a statement that we have complied with the ethical requirements regarding independence that are relevant to our audit of the financial statements in Japan, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

Interest Required to Be Disclosed by the Certified Public Accountants Act of Japan

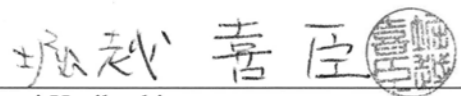
Our firm and its designated engagement partners do not have any interest in the Group which is required to be disclosed pursuant to the provisions of the Certified Public Accountants Act of Japan.

Convenience Translation

The U.S. dollar amounts in the accompanying consolidated financial statements with respect to the year ended March 31, 2020 are presented solely for convenience. Our audit also included the translation of Japanese yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made on the basis described in Note 1 to the consolidated financial statements.

Ernst & Young ShinNihon LLC
Tokyo, Japan

August 3, 2020



Kiomi Horikoshi
Designated Engagement Partner
Certified Public Accountant



Hiroto Inoue
Designated Engagement Partner
Certified Public Accountant

Corporate Information

Corporate Data

Corporate Name: Toyo Engineering Corporation
Founded: May 1, 1961
Number of Employees: 3,991 (Consolidated, as of March 31, 2020)
Corporate Philosophy: **Mission** Engineering for Sustainable Growth of the Global Community
Vision Global Leading Engineering Partner
Values Integrity, Creativity, Diversity, Learning, Team

Business Activities: **Engineering and Construction for Industrial Facilities**
 R&D support, design, engineering, procurement, construction, commissioning, technical assistance for industrial facilities: oil, gas, oil & gas development, petrochemicals, chemicals, water treatment, transportation systems, power plant, nuclear power, advanced production systems, pharmaceutical, fine chemical, logistic center, biotechnology, environment conservation and others

History

- | | |
|---|--|
| <p>1961 TOYO was established. Capital: 300 million yen</p> <p>1962 An agreement for engineering service and technical assistance was concluded with Lummus Co. (U.S.A.).</p> <p>1963 The first overseas contract for a fertilizer plant with The Fertilizer Corporation of India Ltd. was awarded.</p> <p>1964 The first urea plant contract in the former Soviet Union was awarded.</p> <p>1965 TOYO was awarded its first ethylene plant contract (Osaka, Japan).</p> <p>1969 TOYO was awarded the contract for the first ammonia plant in the former Soviet Union.</p> <p>1970 TOYO was awarded the contract for two ammonia plants in the former East Germany.</p> <p>1972 International Procurement & Service Corporation (Currently Toyo Engineering Europe, S.r.l.) established.</p> <p>1973 A contract for a Ethylene plant for China was awarded.</p> <p>1975 Capital: 1,890 million yen</p> <p>1976 Toyo Engineering India Limited established.</p> <p>1978 Capital: 2,970 million yen</p> <p>1980 Capital: 3,300 million yen
TOYO was listed on the second section of the Tokyo Stock Exchange.</p> <p>1982 Capital: 5,040 million yen
TOYO was listed on the first section of the Tokyo Stock Exchange.</p> | <p>1986 Toyo U.S.A., Inc. established.
Toyo Engineering & Construction Sdn. Bhd. established in Malaysia.</p> <p>1987 Toyo Engineering Korea Limited established.
Tecno Frontier (currently TEC Project Services) established in Japan.</p> <p>1989 Capital: 12,219 million yen</p> <p>1990 Head Office/Engineering Center (Bay-TEC Building) started operation in Narashino, Chiba.</p> <p>1993 Capital: 13,017 million yen</p> <p>1994 TOYO received ISO 9001 registration.</p> <p>2004 TOYO received ISO 14001 registration.
Toyo Engineering Corporation, China established.</p> <p>2006 Capital: 18,198 million yen</p> <p>2007 Relocation of Tokyo head office.</p> <p>2009 TOYO formulated the Group MVV (Mission, Vision, Values).</p> <p>2010 TOYO acquired Tri Ocean Engineering Limited in Calgary, Alberta, Canada (Currently Toyo-Canada).</p> <p>2011 The 50th Anniversary
TOYO invested in PT. Inti Karya Persada Teknik (IKPT) in Indonesia.</p> <p>2012 TS Participações e Investimentos S.A. established in Brazil.
Consolidated Group logo developed.</p> <p>2018 Haruo Nagamatsu was elected as President and CEO.</p> <p>2019 TOYO formulated "Your Success, Our Pride." as the slogan for the entire TOYO Group.</p> |
|---|--|

Worldwide Network

HEAD OFFICE	OVERSEAS GROUP COMPANIES	DOMESTIC GROUP COMPANIES
<ul style="list-style-type: none"> • Head Office/Engineering Center Chiba, Japan • Tokyo Head Office Tokyo, Japan • Jakarta Office Indonesia • Moscow Office Russia 	<ul style="list-style-type: none"> • Toyo Engineering Korea Limited Seoul, Korea • Toyo Engineering Corporation (China) Shanghai, China • PT. Inti Karya Persada Teknik (IKPT) Jakarta, Indonesia • Toyo Engineering & Construction Sdn. Bhd. Kuala Lumpur, Malaysia • Toyo Engineering India Private Limited Mumbai, India 	<ul style="list-style-type: none"> • TEC Project Services Corporation EPC and maintenance services for plants and facilities • TEC Business Services Corporation Staffing service, contracted business service, translation and interpretation service, facility management service • TEC Air Service Corporation Travel and insurance services • TEC Accounting & Consulting Ltd. Business support and consulting for accounting and accounting system development • Chiba Data Center Corporation Data entry, scanning services and commercial printing

Stock Information (As of March 31, 2020)

Capital Stock	¥18,198 million	Number of Shareholders	Common Shares 15,569 Class A Preferred Shares 2
Stock Exchange Listing	Tokyo Stock Exchange	Administrator of Shareholders' Register	Sumitomo Mitsui Trust Bank, Limited 1-4-1 Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan
Authorized Shares	Common Shares 100,000,000 Class A Preferred Shares 25,000,000		
Capital Stock Issued	Common Shares 38,558,507 Class A Preferred Shares 20,270,300		

Major Shareholders

1. Common Shares

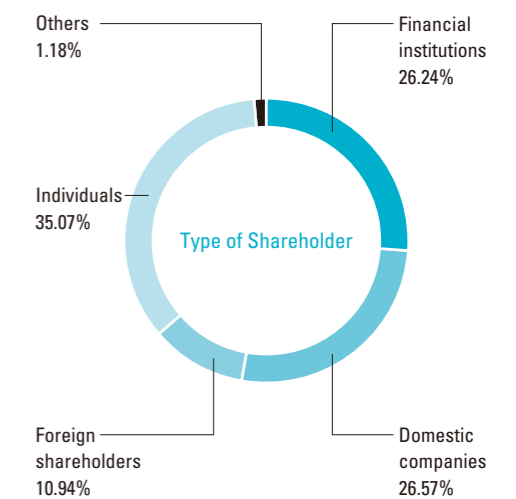
	Number of shares (thousands)	Voting rights ratio (%)	Percentage of total (%)
Mitsui & Co., Ltd.	8,754	22.89	14.93
Japan Trustee Services Bank, Ltd. (Sumitomo Mitsui Trust Bank, Limited Re-trust Account, Mitsui Chemicals, Inc. Pension Trust Account)	5,140	13.44	8.77
The Master Trust Bank of Japan, Ltd. Trust Account	1,070	2.80	1.82
Taisei Corporation	1,000	2.61	1.70
SSBTC CLIENT OMNIBUS ACCOUNT	811	2.12	1.38
Japan Trustee Services Bank, Ltd. Trust Account 5	533	1.39	0.91
Japan Trustee Services Bank, Ltd. Trust Account	530	1.38	0.90
Sumitomo Mitsui Banking Corporation	470	1.22	0.80

2. Class A Preferred Shares

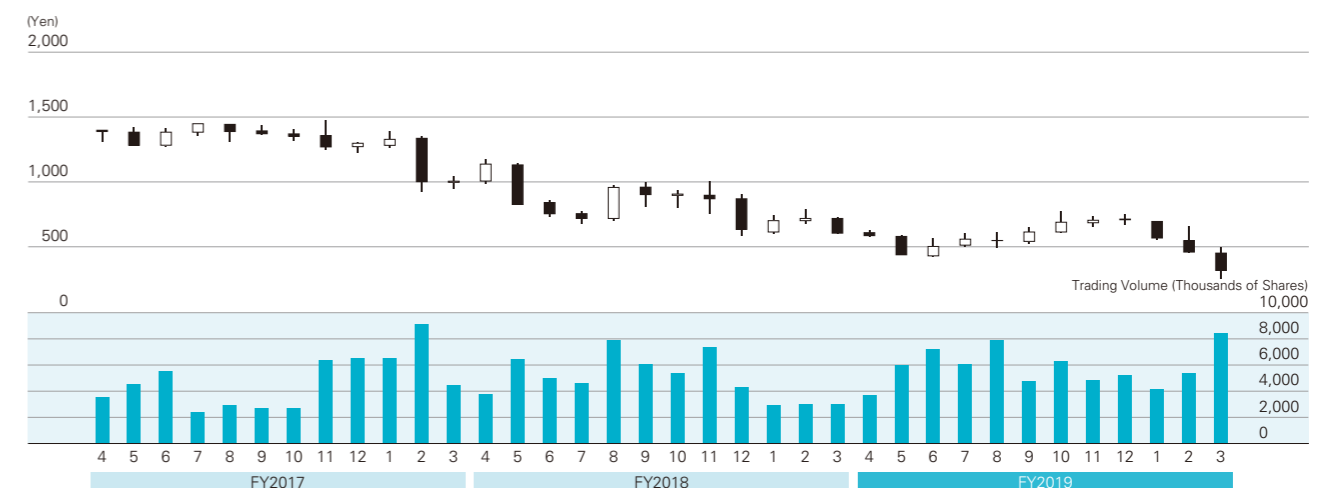
	Number of shares (thousands)	Voting rights ratio (%)	Percentage of total (%)
Integral Team Limited Partnership	17,576	—	29.99
Innovation Alpha Team L. P.	2,693	—	4.59

Notes) 1. The shareholding ratio was calculated based on the exclusion of the 225,464 shares of treasury stock.
 2. Class A preferred stock do not have any voting rights.

Types of Shareholder (Common Shares)



Stock Chart



*Stock prices are converted taking into account the impact of share consolidation.



TOYO ENGINEERING CORPORATION

2-8-1 Akanehama,
Narashino-shi, Chiba 275-0024, Japan
<https://www.toyo-eng.com/jp/en>

