



INTEGRATED REPORT  
**2017**

Fiscal year ended December 31, 2017

# The Nikkiso Group Continues to Lead Society Forward, Blazing a Trail to the Future with Technology and Creativity

Since its foundation, Nikkiso has provided numerous first-to-market products to society through its pioneering efforts in technology innovation. The Company has product groups for special precision pumps, hemodialysis machines, and carbon fiber reinforced plastic (CFRP) aircraft components, which form Nikkiso's core businesses. Recently, we have also been supplying original technology and products in new fields, such as deep ultraviolet LED (DUV-LEDs). To boldly take on difficult challenges and meet customers' expectations are Nikkiso's missions and have been the Company's culture since its foundation. We have maintained Nikkiso's tradition and will continue to maintain it by contributing to society through advanced technology and original products.



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### Forward-Looking Statements

Forecasts regarding future performance in this report are based on judgements made in accordance with information available at the time this presentation was prepared. As such, these projections involve risks and uncertainties. For this reason, investors are advised not to depend solely on these projections when making investment decisions. It is possible that actual results may change significantly from these projections due to a number of factors. Such factors include, but are not limited to, economic trends affecting the Company's operating environment, movements in the value of Japanese yen to the U.S. dollar, the euro, and other foreign currencies, and stock market trends in Japan. Also, the results projected here should not be construed in any way as being guaranteed by the Company.



## EXERCISING COLLECTIVE

# STRENGTHS

Product groups with strong competitive advantages

Nikkiso's products and technologies have contributed to creating new markets where the Company continues to lead as a pioneer. Working in highly specialized fields, Nikkiso has built a reputation for excellence among customers for its original technologies and ideas as well as its high quality.

## AEROSPACE BUSINESS

**First in the world to make jet engine cascades using CFRP, we hold a global market share of more than 90%**

In 1983, we succeeded in developing the world's first carbon fiber reinforced plastic (CFRP) jet engine cascades for commercial aircraft. Our cascades are chosen by major aircraft companies around the world such as Boeing and Airbus because of our high reputation for advanced design, analysis and production technology and because the Company is known for performing on-time delivery. In addition to cascades, we now have a wide range of CFRP products such as engine nacelle parts and main wing parts, and our expertise as a components manufacturer is recognized worldwide.

A large industrial facility, likely a refinery or petrochemical plant, is shown at night. The scene is illuminated by warm yellow lights from various structures, with several tall, cylindrical smokestacks rising into the dark sky. The foreground shows a complex network of pipes and metal frameworks.

# INDUSTRIAL BUSINESS

## Supporting stable energy supplies as a world-leading pump systems manufacturer

We make pump systems used in areas such as oil and natural gas exploration, liquefied natural gas (LNG) transportation, and petrochemical plants. Making pumps that will achieve stable performance even in extreme environments of high temperature, high pressure, and super-low temperature requires advanced technological capabilities and product quality. Since the days of the petrochemical industry's rapid rise, Nikkiso has supplied various special pumps to meet customers' needs.

In 2009, we welcomed the LEWA Group of Germany into the Group, followed in 2017 by the Cryogenic Industries Group of the United States. Today, we are expanding our global business as a world-leading pump systems manufacturer with a wide-ranging lineup covering the entire value chain in the oil and gas field.

A medical professional, wearing a white short-sleeved uniform and a dark blue cap, is standing in a dialysis room. He is looking at a large piece of medical equipment with a digital display screen. The room is filled with similar machines and medical supplies, creating a clinical and professional atmosphere.

# MEDICAL BUSINESS

## We have led the Japanese dialysis therapy sector for around 50 years, with a domestic market share of more than 50%

In 1969, Nikkiso became the first company in Japan to produce dialysis machines domestically. Since then, we have responded to advances in therapy methods and changes in the medical-care environment as a pioneer in dialysis machines in Japan and have continued contributing to the development of dialysis therapy. Every step, from development to manufacture, sales, and maintenance, is carried out within the Nikkiso Group, enabling us to offer a comfortable therapeutic environment to dialysis patients. Recently, we have started developing overseas markets such as China, which has seen a rapid rise in the numbers of dialysis patients. We are also widening our business domain by applying the expertise we have cultivated in the dialysis business to the field of blood purification, such as continuous renal replacement therapy (CRRT), and in the surgical field with such things as microwave surgical instruments.

# PIONEERING INTO TOMORROW

Technological capabilities that create new markets

Since its foundation, Nikkiso has continuously engaged in a cycle of challenge and creation by introducing new cutting-edge technologies to Japan and commercializing them. In the process, we have created numerous products and technologies that have been the first in the world or the first in Japan.

First in Japan

1954

Developed a water-conditioning system with a focus on the water environment of thermal power plants.

First in Japan

1960

Built Japan's first artificial heart.

First in Japan

1963

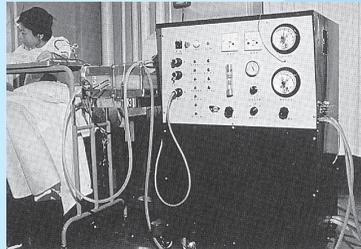
Succeeded in production of a leak-free canned motor pump.



First in Japan

1969

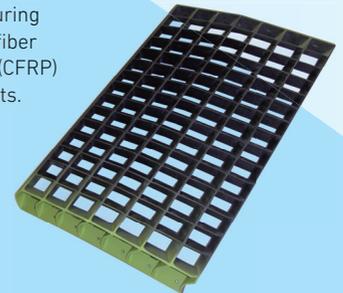
Developed Japan's first dialysis machine.



First in the world

1983

Started manufacturing cascades, carbon fiber reinforced plastic (CFRP) aircraft components.



First in the world

1984

Marketed the world's first artificial pancreas (STG-11A).



Start of the Industrial Division (1953)    Start of the Medical Division (1960)    Start of the Aerospace Division (1983)

1953

Special Pump Co., Ltd. established.

1961

Listing on the second section of the Tokyo Stock Exchange.

1973

Established Nikkiso Eiko Co., Ltd. Established Nikkiso Deutschland GmbH (currently Nikkiso Pumps Europe GmbH) in Germany.

1995

Completed construction of the Kanazawa Plant.

1960

Completed construction of the Higashimurayama Plant.

1971

Listing on the first section of the Tokyo Stock Exchange.

1974

Completed construction of the Shizuoka Plant (currently the Research & Engineering Institute).

1996

Established Nikkiso LNG Testing, Inc. (currently Nikkiso Cryo, Inc.) in the U.S.A.

First in the world

1985

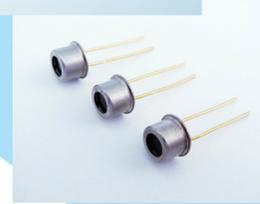
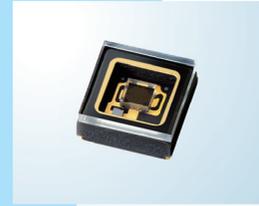
Developed the Warm Isostatic Laminator, a world-standard high-pressure press essential for manufacturing electronic devices.



First in the world

2015

Succeeded in commercializing DUV-LED, expected to become a next-generation light source to replace mercury lamps.



First in Japan

1985

Delivered Japan's first cryogenic pump.



First in the world

2016

Commercialized "Acrosurg.," a microwave surgical instrument.



First in Japan

1997

Developed the D-Dry dissolving device in pursuit of purified dialysate.



## 2017 Development of 70 mW and 85 mW high-output DUV-LEDs

In October 2017, Nikkiso and Nikkiso Giken Co., Ltd. launched sales of a DUV-LED product capable of boosting output power by more than 1.5 times over conventional products while securing a service life exceeding 10,000 hours. Furthermore, the companies developed two new types of DUV-LED with even higher output power (a 70 mW and an 85 mW type for each shape). The usage applications of DUV-LEDs are expected to expand, replacing the mercury lamps currently used in industry.



1997

Established Nikkiso Medical GmbH (currently Nikkiso Europe GmbH) in Germany.

2001

Established Nikkiso Vietnam MFG Co., Ltd. in Vietnam.

2009

Established Nikkiso Technical Research Institute (currently Nikkiso Giken Co., Ltd.).

2017

Established Miyazaki Nikkiso Co., Ltd.

2000

Established Microtrac, Inc. in the United States.

2008

Established Nikkiso Vietnam, Inc. in Vietnam.

2014

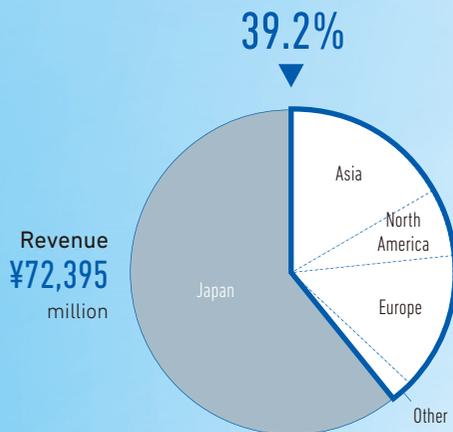
Completed the Hakusan Factory. Established the Aerospace Products Factory and the Medical Products Factory at the Kanazawa Plant.

Expanding the Business Foundation  
through Overseas M&As

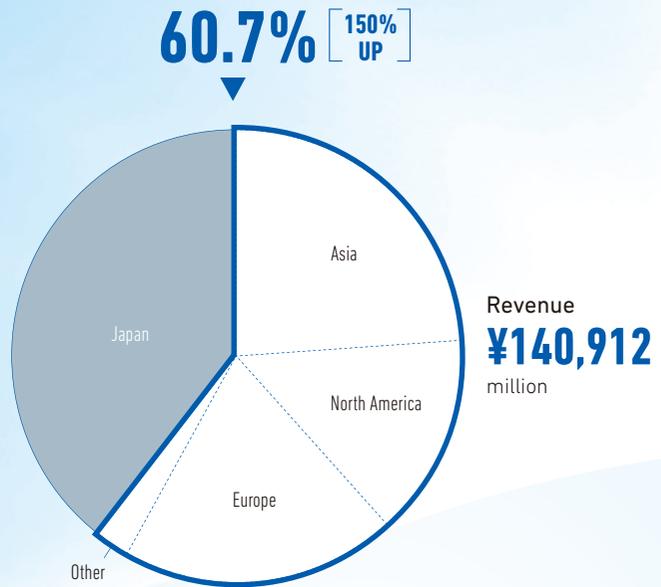
EXPANDING

# GLOBAL PRESENCE

Overseas revenue ratio  
in the fiscal year ended  
March 31, 2009



Overseas revenue ratio  
in the fiscal year ended  
December 31, 2017



## Main Overseas M&As

### 2015

- Acquired the cryogenic pump business of Atlas Copco of Sweden.

Acquired the business of pumps for liquefied natural gas (LNG) to strengthen the cryogenic pump business and obtain half of the global market share.

### 2013

- Acquired Geveke B.V. of the Netherlands.

The addition of Geveke B.V., which has strengths in special pump package products, etc., for the oil and gas industry, strengthened the Group's oil and gas business.

### 2009

- Acquired the LEWA Group of Germany.

The addition of the LEWA Group, which built a strong position in the oil and gas industry, expanded the Group's product lineup and business domains.

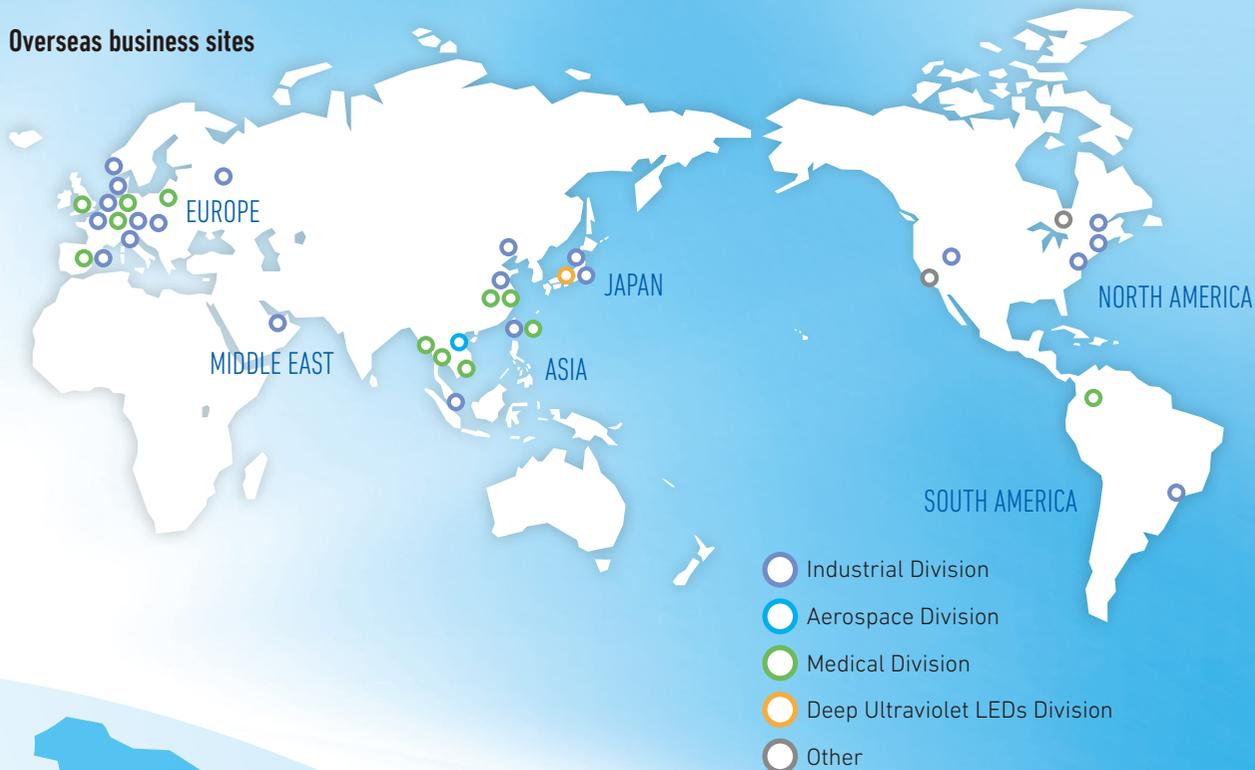
### 2010

- Acquired the business in Japan for dialyzers and peritoneal dialysis-related products from Fresenius Medical Care of Germany.

Expanded the dialysis business products lineup.

In recent years, Nikkiso has expanded its business foundation with M&As. We aim to build manufacturing, sales, and after-sales service platforms to meet the needs of our globally expanding customers anywhere in the world. Today the ratio of overseas revenue for the entire Group has reached 60%. We strive to increase our market presence overseas to enhance sustainable corporate value.

### Overseas business sites



### 2010

Established a partnership with Weigao of China and set up Weigao Nikkiso (Weihai) Dialysis Equipment Co., Ltd. to manufacture and sell dialysis machines in China.

Partnered with China's largest medical equipment manufacturer to enter the Chinese dialysis market, which is expected to grow rapidly.

### 2017

Concluded a basic agreement with the Formosa Plastics Group (FPG) of Taiwan for strategic business collaboration (establishment of a joint venture).

Combined the Company's world-leading DUV-LED technologies with FPG's manufacturing technology capabilities with a view toward global expansion of high-quality, low-cost products.

### 2014

Acquired the CRRT business from Baxter International Inc. of the United States.

Entered the continuous renal replacement therapy (CRRT) market and expanded the business domain of the Medical Division.

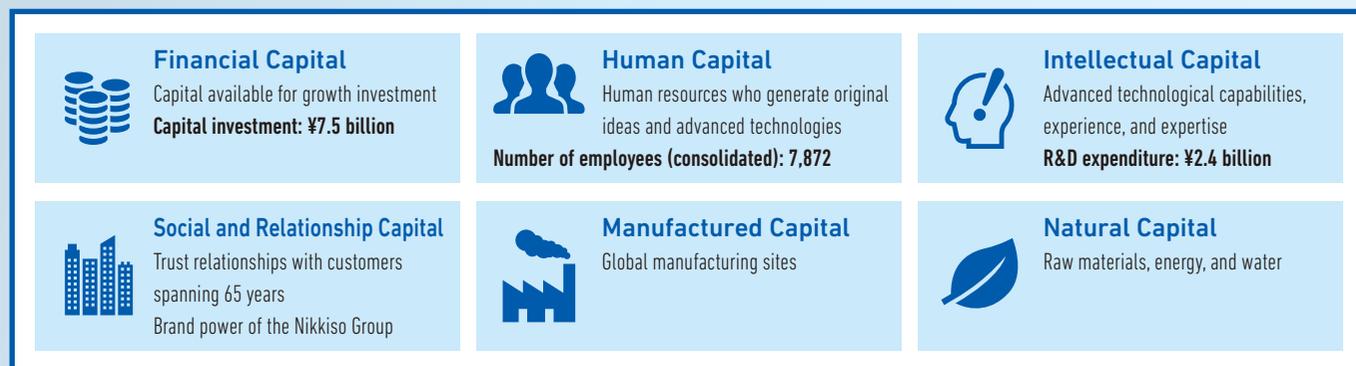
### 2017

Acquired the Cryogenic Industries Group of the United States.

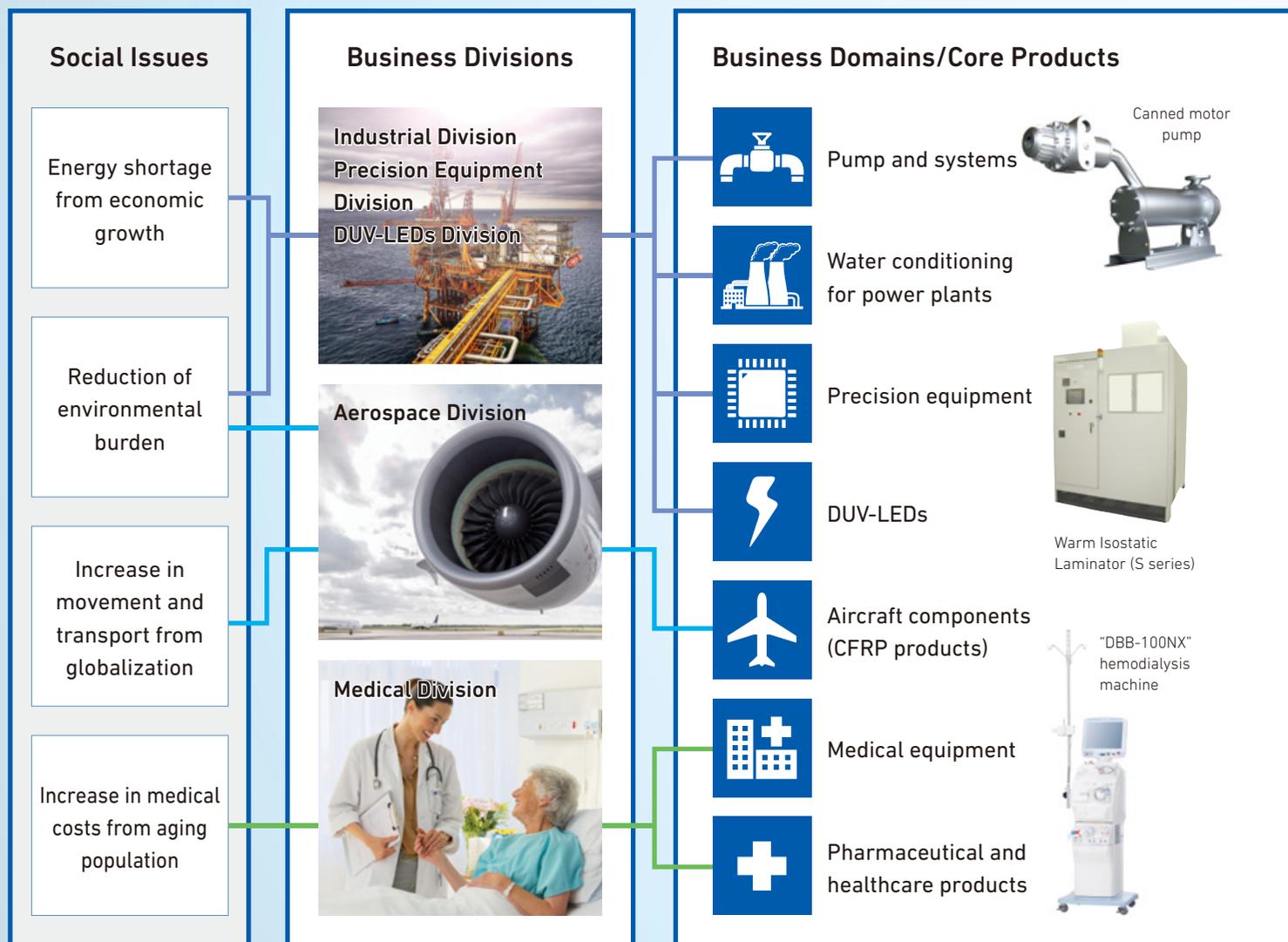
The addition of the CI Group, which has world-class technological capabilities and a high market share, mainly in the downstream field of the LNG sector and in the industrial gas processing and equipment field, expanded the Group's product lineup and business domains.

# The Nikkiso Group's Business Model

Nikkiso has contributed to society by creating new value through original ideas and advanced technological capabilities. To boldly take on difficult challenges is Nikkiso's mission and has been the Company's culture since its foundation. As we move forward, we will continue to evolve, seeking to create value through our business.



**INPUT** Invest management resources



## KPI/Social Value

Promote sustainable industrialization

Realize a very safe society

Contribute to realizing a low-carbon society

Improve QOL for patients

Medium-term business plan, "Nikkiso 2020"

Targets: Consolidated revenue of ¥200 billion Consolidated operating profit of ¥20 billion

## ↑ OUTCOME Create value

### OUTPUT Value to Customer

#### Customers

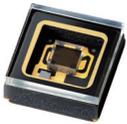
- Major oil companies
- Plant engineering companies
- Power companies
- Petrochemical manufacturers
- Electronic device manufacturers, etc.

- Aircraft Tier 1 manufacturers, etc.

- Medical institutions, etc.



Cascade



DUV-LED chip



"Acrosurg," microwave surgical instrument



Promote spread of clean energy

▶ See pages 16-19



Improve safety, quality, and productivity of manufacturing sites



Improve fuel efficiency and performance of aircraft



Save labor and improve quality in medical care

## Message from the President

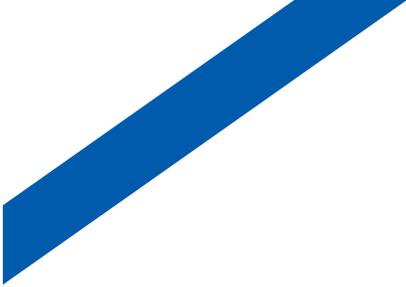


A stylized, handwritten signature of Toshihiko Kai in white ink, positioned above his name and title.

Toshihiko Kai  
President & Chief Executive Officer

Defining the Future with

# INNOVATION



## We will fulfill our social responsibilities through our business operations, meeting customers' expectations with advanced technology and reliability.

### What strengths has Nikkiso cultivated, and how is the Company's market environment?

Since its foundation, Nikkiso has developed business in areas where there have been social needs, such as producing water-conditioning systems for power-generation plants, and where growth is expected. We provide specialized products in smaller volumes that require more advanced technologies than mass-produced items.

As a result, much of Nikkiso's business involves projects that are the first to be undertaken in Japan. We have brought advanced technologies into specialized fields such as producing special precision pumps for petrochemical plants, hemodialysis machines, and carbon fiber reinforced plastic (CFRP) aircraft components. We supply highly specialized products to major companies and leading medical institutions in each business field.

As the structure of Japan's industry changes, the markets in which we excel are losing their growth potential. In this situation, relying on successful strategies from the past brought us to a crisis where the Company was about to come to a standstill. We have attempted to capture new demand by expanding our focus to include overseas markets, improving our products to meet market needs and standards, and widening our view to include peripheral fields as well as our traditional areas of business. For example, in the field of dialysis therapy, besides hemodialysis machines, we strengthened the field of disposables such as blood tubing lines and dialysate. In the pump business, we innovated and evolved our special pump technologies in response to the shift from energy resources such as coal and oil to liquefied natural gas (LNG) and renewable energies such as hydrogen and so forth. We continue to value our original technologies and products while taking a new perspective to develop and expand them.

Nikkiso's business today has tremendous development potential and boundless possibilities for growth. To realize this potential, we must respond to the market environment by constantly embracing new technologies, developing our human resources, and reviewing our organization and facilities.

**What initiatives are you taking to “re-establish Nikkiso as a technology expert,” as announced in “Nikkiso 2020,” the medium-term business plan?**



As a manufacturer, Nikkiso recognizes that its existence rests on an unwavering commitment to technological innovation. We believe that our way forward lies in developing world-leading technologies in each business field and having the facilities, systems, and human resources to continue making products that instill confidence in our customers.

Our existing Kanazawa and Higashimurayama plants have reached the limit of their production capacity. Moreover, we need to develop engineers and establish quality management systems to



Rendering of the Miyazaki Factory

cope with new environments and new customer demands. We now believe we need to review our manufacturing process from the ground up, and that we should have a key plant to re-establish a high-level manufacturing culture. This is the purpose for building a new plant in Miyazaki City.

To win the confidence of our customers, rather than simply continue to make our current products in their current volume, we need to grasp customer trends and respond to new needs. For example, aircraft manufacturers also have to reduce costs and are taking various steps to do so. We believe that we can respond as a components manufacturer or develop new products and materials through joint research.

Thankfully, our recruitment activities at Miyazaki have been successful, and we have acquired excellent human resources.

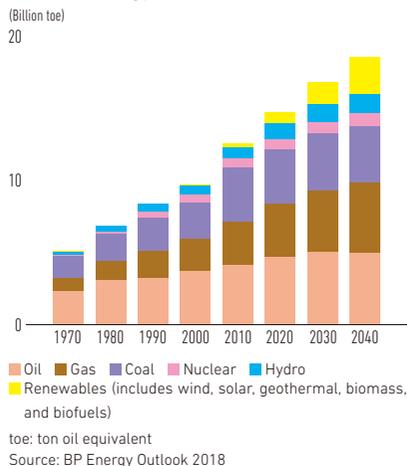
In autumn 2018, we plan to complete construction of the aerospace facility and start production and delivery of cascades by the end of the year. In other initiatives, aiming to increase production, we are considering setting up a new test stand for actual liquid testing of cryogenic pumps inside the Miyazaki Plant, in addition to using a test stand at Las Vegas in the United States, as before.

The Miyazaki Plant is to be developed as a key facility to support “Nikkiso as a technology expert” by efficiently producing new products in new business areas in line with our future business plans.

**What potential does the LNG-related business have?**

In August 2017, we acquired the Cryogenic Industries Group (CI Group), thereby taking our first step into a new market. The CI Group has advanced technology expertise and products in the downstream side of the LNG value chain, being well regarded in the industry for its fuel gas supply systems and vaporizers for LNG-fueled ships. The company’s market was still limited mainly to the United States, and its business scale had not extended globally. Our plan is to leverage complementary technologies and regional networks with the CI Group to open new markets. To this end, we must leverage the sales channels of the LEWA Group,

## Global energy demand forecast



which has a strong base in Europe, and the Nikkiso Group network to create a structure that can harness opportunities to expand in the LNG market in China and the rest of Asia, which is expected to grow enormously.

Joining the Nikkiso Group will enable the CI Group to make capital investments and exchange human resources and technologies globally, which should see the group develop further. Looking ahead, we aim to develop LNG into a business to stand alongside oil and to take initiatives with an eye toward the renewable-energy domain, such as hydrogen.

## What progress has been made on “Nikkiso 2020”?

### Medium-term business plan, “Nikkiso 2020”

#### Basic Policies

#### 1. Re-establish Nikkiso as technology expert

Provide products and services that meet the true needs of customers through prominent technological capabilities in each business as a world-class supplier.

#### 2. Strengthen management bases and profitability for further growth

Reinforce structures that respond appropriately to changes in the business environment and the expanded business. Speed up strengthening each business's profitability and realizing returns on past investments.

#### Targets (Year ending December 2020)

**Consolidated revenue: 200 billion yen**  
**Consolidated operating profit: 20 billion yen**



(Note) Industrial Division includes Precision Equipment Division.

Over the two years since “Nikkiso 2020” started in 2016, we have been sowing the seeds of future growth in an adverse business environment. We saw subdued results in fiscal 2017, weighed down by a slump in oil prices and changes in the environment around dialysis therapy, as well as a financial burden associated with increased capital investment and M&As, costs incurred for measures taken to address product quality issues, and a downturn in certain areas of the Medical Business overseas. Although we expect the adverse business environment to continue in fiscal 2018, we are also nearing the time when we should start to see results from the various management measures that we have been steadily implementing. For example, we are seeing expansion in the business for pump-related equipment associated with the switch in energy resources from oil to LNG, an increase in the relative importance of our overseas hemodialysis business, developments in the Medical Business that go beyond dialysis in the domestic and overseas markets, and the start of the full-scale commercialization of our DUV-LEDs business. With these developments, we are finally moving from the preparation stage of investing money and investing in personnel to the stage where we can expect a contribution to earnings.

Currently, we have built up several pillars of our business. I would like us to focus on fields that have an affinity with the direction in which we intend to develop and that offer potential for technological improvement. On the other hand, we do not intend to continue any business that has limited scope for technological advancement or guidance. I believe we should start by looking at the industry structure today, carefully discerning what is needed, what should be reformed, and so forth, then respond flexibly.

## What is your outlook for the Medical Business?

The number of dialysis patients in Japan is declining. At the same time, there is an increasing focus on cost cutting due to changes in medical fees and other factors. In addition, chronic personnel shortages among medical professionals have given rise to demands for systems in which medical equipment can shoulder as much of the burden as possible in basic medical care. We see a new market for products that can deliver this. Specifically, we are urgently working on development that will enable us to market products such as water-processing technologies for the dialysis water used in hemodialysis and systems that facilitate information sharing between main hospitals and their affiliated clinics.

Overseas, the number of dialysis patients is on the rise in China, and we expect to see an increase in shipments of hemodialysis machines through our joint company in China, Weigao Nikkiso (Weihai) Dialysis Equipment Co., Ltd.

## How is the DUV-LEDs business developing?

In DUV-LEDs, our chips currently provide superior performance, including durability. Creating a new market requires mass production to bring down the price and stabilize chip production. However, that will mean significant capital investment. So far, we have spent most of our efforts on improving chip performance. We now plan to expand our business by providing specific products that make the best use of our DUV-LEDs in fields where we are strong, such as water disinfection and air disinfection. At the same time, we also need to consider moving ahead with chip production with the Taiwan-based Formosa Plastics Group.

The DUV-LED field is seen as having enormous potential. The technology has great possibilities, with a wide scope of applications, as demonstrated by the practical example of its use in the aquaculture industry announced at an exhibition in 2017. It is difficult to commercialize all applications at once, but we can supply DUV-LED chips to various industries. We plan to start with the medical- and healthcare-related fields, which have a deep affinity with Nikkiso's business.

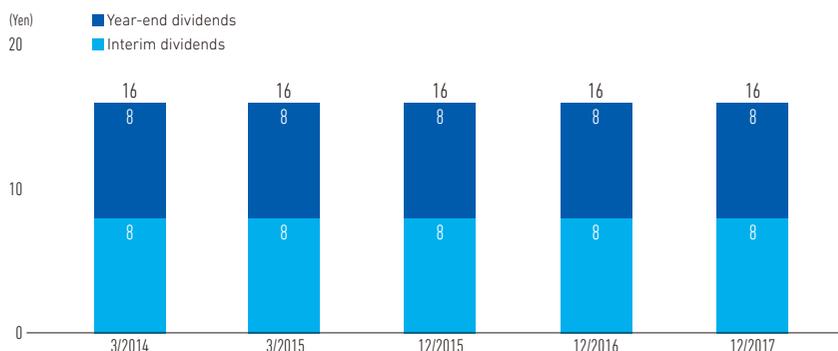
## What is your policy on the distribution of profits and shareholder returns?



Nikkiso's basic capital policy is to secure sustainable growth and to improve the Company's medium- and long-term corporate value while pursuing optimal balance between the need to maintain a sound financial position, capital efficiency, and the proper return of profits to shareholders. With the fundamental recognition that the continuous and stable return of profits to shareholders is an important component of our capital policy, we work to allocate profits accordingly, while taking into consideration our performance and the business environment. At the same time, we strive to appropriately reinvest our internal reserves with a view toward developing new business and strengthening production systems.

In the fiscal year ended December 31, 2017, Nikkiso again declared an annual dividend of ¥16 per share. In the fiscal year ending December 31, 2018, the Company plans to pay an annual dividend of ¥16 per share again.

### Dividend results



## What is your message to stakeholders?

Nikkiso considers energy, aerospace, and medical care socially important fields in which it has taken on vital roles. I believe that rather than simply pursuing profits, it is in the Company's DNA to constantly tackle difficult problems in totally untouched fields.

Take pumps as one example. The mainstream energy resource has changed from coal to oil, and even if it changes to natural gas or a renewable energy such as hydrogen, pumps will continue to play the same role. Changing the contents of the pump will change the requirements for technology and precision, but we will continue to make products that keep pace with environmental changes.

Nikkiso will also continue to meet customers' expectations for doing what no one else will and for providing solutions that cannot be imitated, thereby fulfilling our social responsibility through our business.

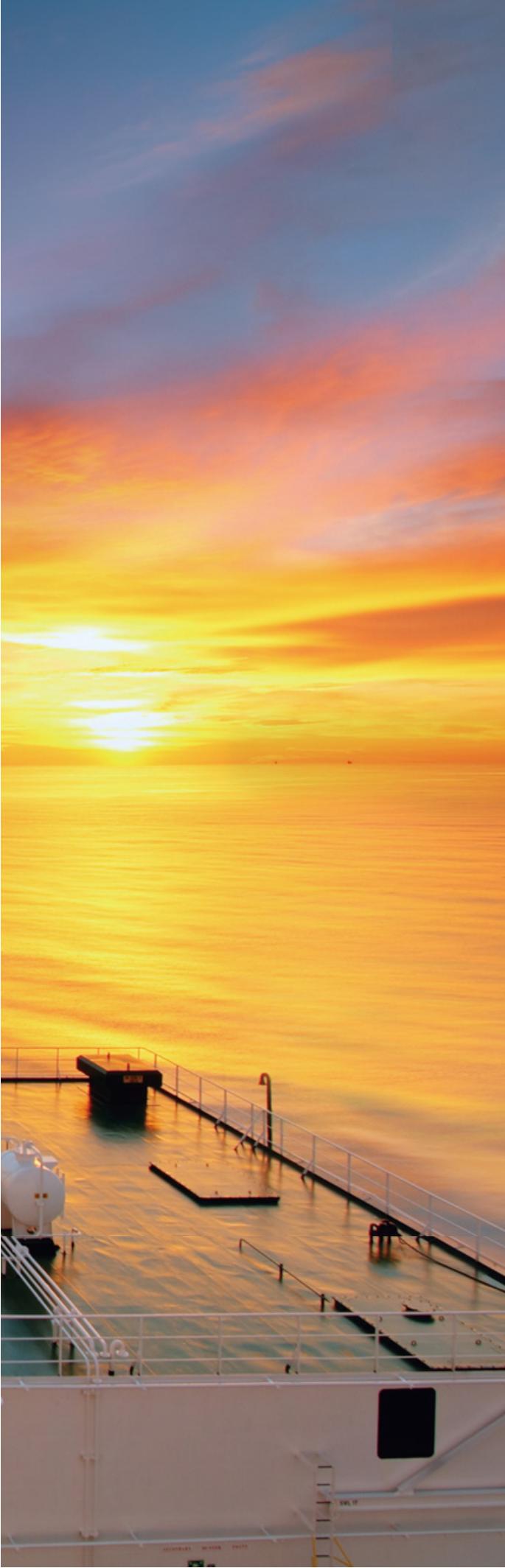
I ask all of our investors to take a medium- to long-term perspective on the Company and to continue to offer support and understanding.

# Expanding the LNG-related business to realize a sustainable society

On November 4, 2016, the Paris Agreement on climate change went into effect as the international community of advanced, emerging, and developing countries agreed to keep the increase in global temperature to less than 2°C compared to preindustrial levels, while aiming to limit it to 1.5°C. As global economic advances increase consumption of the fossil fuel energy used in power generation and logistics, the world is likely to shift to natural gas, which has fewer CO<sub>2</sub> emissions.

For many years, Nikkiso has developed its oil-related business over a wide range, from upstream to downstream, but its business development in natural gas extended to only part of the value chain. The recent addition of the Cryogenic Industries (CI) Group, a major LNG plant equipment manufacturer, has enabled Nikkiso to build a comprehensive LNG value chain extending from upstream to downstream, including transportation, supply, and consumption. By acquiring a partner who complements the Group technologically and geographically, Nikkiso aims to develop the LNG-related business into a major pillar for the future, on a par with its oil-based business.





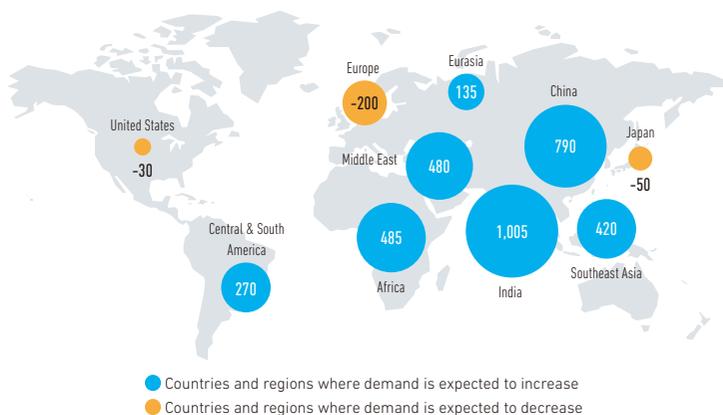
## A growing demand for LNG in China and the rest of Asia

A look at global energy demand reveals that while demand in advanced countries is contracting, it is expected to expand dramatically in China, India, Africa, and other areas where economic development is forecast. [Fig. 1]

Demand for natural gas as a replacement for oil is growing due to its significant available reserves and status as a clean energy source with few CO<sub>2</sub> emissions. The main production areas for natural gas are North America, the Middle East, and Australia, while the main consumption areas are China and the rest of Asia. It is therefore transported as liquefied natural gas (LNG). In addition to being a fuel for electricity generation, LNG is expected to be used in a wider range of applications, including fuel for ships, trains, and automobiles. Import volume is forecast to increase by around 50% between 2015 and 2020.

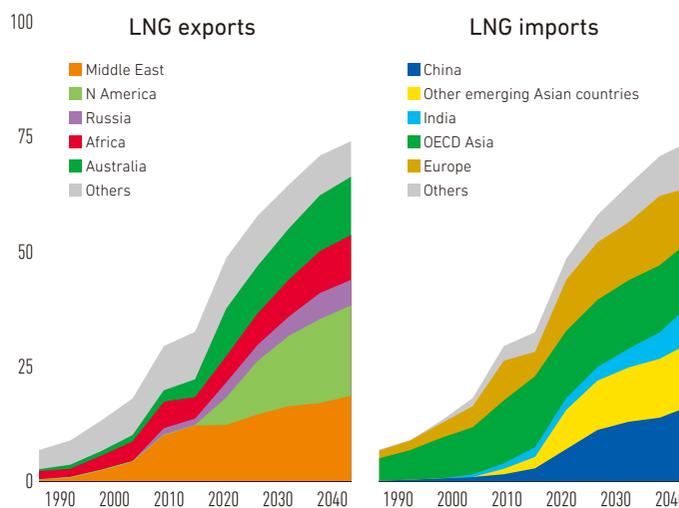
[Fig. 1] Primary Energy Demand Projection for 2040 (compared to 2016) (Mtoe)

Source: IEA World Energy Outlook 2017



[Graph 1] LNG Export and Import Growth (Bcf/d, billion cubic feet per day)

Source: BP Energy Outlook 2018

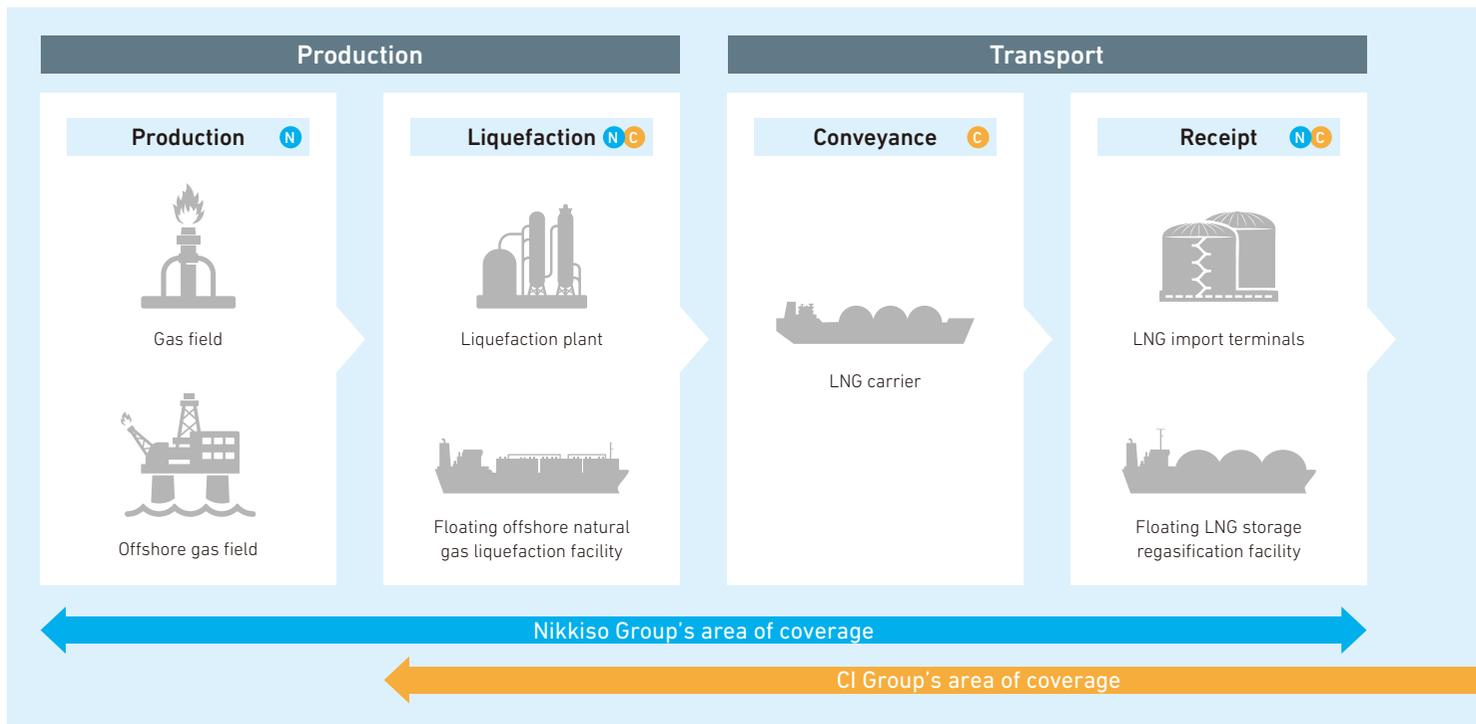


# From pump manufacturer to pump-system manufacturer, and now solutions provider

In 1985, Nikkiso succeeded in setting up domestic production of cryogenic pumps able to handle LNG. Today, the Company has become one of the world's leading manufacturers in this field. The CI Group has strengths in the downstream field of LNG, such as LNG import terminals, LNG-fueled ships, and LNG-powered automobiles. It is also a leader in devising next-generation pump technologies related to hydrogen, which is expected to see rapid growth in demand for fuel

cells. As such, it can help to advance the Nikkiso Group's technological capabilities. The Nikkiso Group added the LEWA Group of Germany in 2009, then Geveke B.V. of the Netherlands in 2013. With the subsequent addition of the CI Group, which has expertise in plant construction-related processes as well as a reputation for reliability in pumps, the Nikkiso Group is now positioned to develop as a solutions provider.

## LNG value chain ● Nikkiso Group ● CI Group



## Cryogenic-related products

### Nikkiso's cryogenic products

Nikkiso manufactures large-scale pumps for delivering LNG from LNG terminals.

Cryogenic pumps require advanced technologies to cope with the difficulty of handling LNG at  $-162^{\circ}\text{C}$  as well as increases in the size of the pumps.

The largest pump stands about six meters high, weighs approximately 9 tons, and has an output of 2,100 kilowatts.



### The CI Group's cryogenic products

The CI Group manufactures the centrifugal pumps and reciprocating pumps used at LNG plants and gas stations, as well as the vaporizers used at regasification plants.



**With integrated operation management and the synergies of the Nikkiso and CI groups, we will provide the world with comprehensive solutions to rapidly growing demands for clean energy**

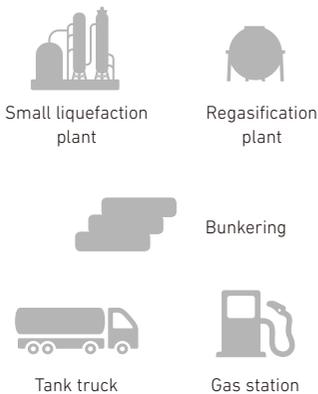
In the U.S.-centered market for industrial gases including LNG, the CI Group grew by leading the industry with superior technological capabilities and products. Recently the Group had been eyeing opportunities for further global business expansion. In addition to equipment such as special pumps, vaporizers, and heat transfer equipment, the CI Group has highly efficient liquefaction processes for natural gas and industrial gas, and its business of constructing plants around these processes is one of its major strengths. Furthermore, the Group has foundation technologies and pump products that can be applied in the field of hydrogen, which is viewed as a next-generation energy solution. Through joint operations with Nikkiso, the Group has become one of the world's leading corporate groups able to provide the higher pressures and increased scale that are essential for commercializing hydrogen. Now, the CI Group and Nikkiso will operate as one, in technology development, sales, service, and production, collaborating with their many customers to provide comprehensive clean energy solutions.



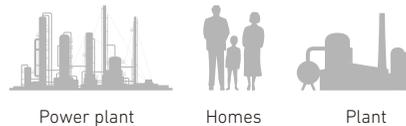
**Naota Shikano**  
CEO  
Cryogenic Industries, Inc.

**Consumption**

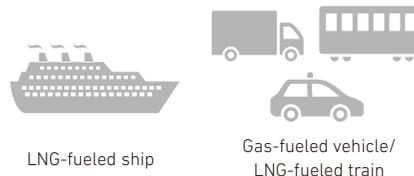
**Storage/Distribution** C



**Electricity usage/Heat source usage**



**Power source usage** C



**CI Group's core technologies**

- 1**
- Highly efficient and stable fluid control technology for cryogenics**
- 2**
- Heat exchange process in gasification and liquefaction**
- 3**
- Highly efficient small and medium-scale process/plant technology**

**Usage Scenarios of the CI Group's Cryogenic-Related Products**

**Small LNG plants**

The CI Group designs small-scale LNG plants and manufactures pumps and other equipment for them. Small-scale LNG plants can liquefy natural gas for storage during off-peak periods, then vaporize it for use during high-demand times. Demand for small-scale LNG plants has been growing recently, mainly in Europe and the United States.



**LNG-fueled ships**

The CI Group provides the fuel gas supply systems and the vaporizers used to supply natural gas to the engines of LNG-fueled ships.

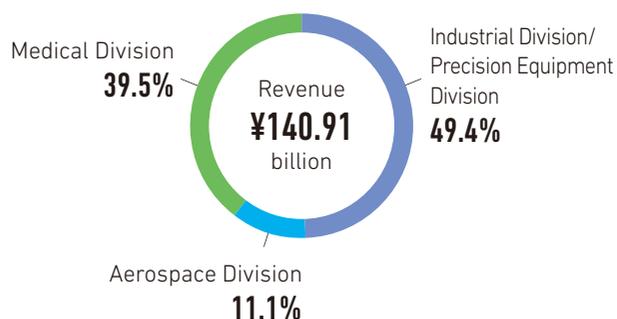


**LNG gas stations**

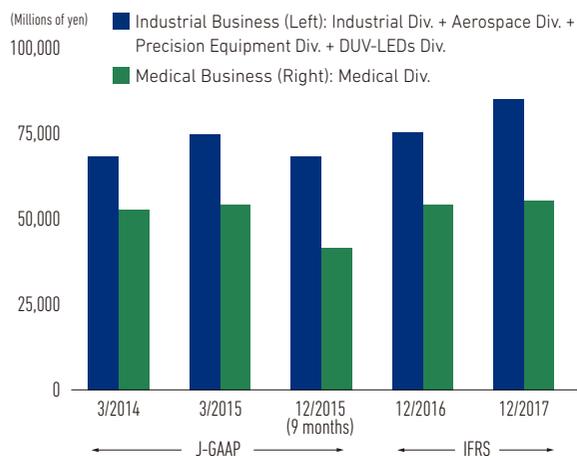
As the use of LNG spreads, it is increasingly becoming a motive power source for automobiles, buses, trains, and other vehicles, in addition to its conventional role in power generation. The CI Group supplies the pumps and other equipment used at gas stations for LNG and in compressed natural gas (CNG) vehicles.

# AT A GLANCE

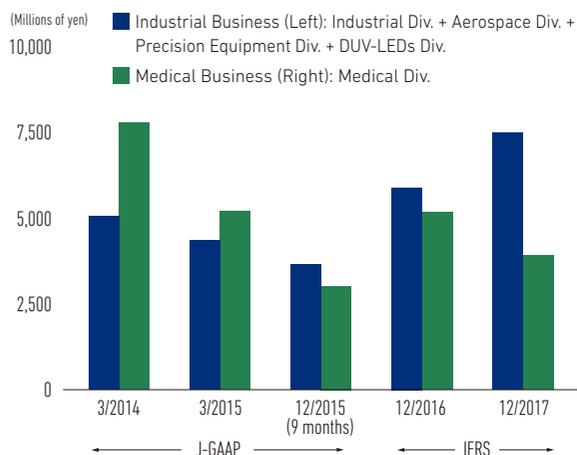
## Revenue composition ratio



## Revenue



## Operating Profit



## Industrial Division/Precision Equipment Division



### Main customers

- Major oil companies
- EPCs
- Power companies
- Chemical manufacturers
- Electronic device manufacturers, etc.

### Main products

- Reciprocating pumps/systems
- Cryogenic pumps
- Vaporizers
- Canned motor pumps (non-leakage)
- Systems for power plants
- Warm laminating systems



Cryogenic pumps



Warm laminating system (S series)



Vaporizer



Reciprocating pumps/system

## Aerospace Division



### Main customers

- Aircraft Tier 1 manufacturers, etc.

### Main products

- CFRP jet engine/nacelle parts (cascades, blocker doors, torque boxes, fan case liners)
- CFRP main wing components (fixed leading edges, winglets)
- CFRP door components



## Medical Division



### Main customers

- Medical institutions, etc.

### Main products

- Dialysis-related products (dialysis machines, dialyzers, blood tubing lines, artificial kidney dialysate, etc.)
- Continuous renal replacement therapy (CRRT)-related products (CRRT machines, disposables, etc.)
- Artificial pancreas "STG-55"
- Apheresis product "Immunopure"
- Microwave surgical instrument "Acrosurg."



Dialyzers



Hemodialysis machine "DBB-100NX"



Microwave surgical instrument "Acrosurg."

# Industrial Division/ Precision Equipment Division

## Performance for Fiscal Year Ended December 31, 2017

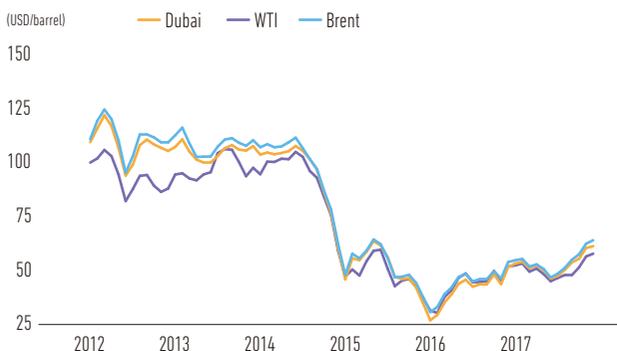
During the fiscal year ended December 31, 2017, orders in the Industrial Division came to ¥58,827 million, and revenue amounted to ¥59,715 million. Orders were up 13.6%, and revenue was up 12.7% year on year.

A look at the energy market environment for the Industrial Division shows it to be competitive and increasingly severe, with limited major projects, as full recovery of capital investment has yet to be achieved in the upstream sector, including crude oil and gas extraction, due to no full-scale increase in crude oil prices.

LEWA is focusing on expanding projects in the petrochemical field and its after-sales business, while striving to improve profitability through further cost reduction, amid a continuing difficult business environment caused by stagnant demand in the upstream sector. In our domestic business, inquiries have increased, owing to active large-scale capital investment by petrochemical manufacturers, both in Japan and abroad.

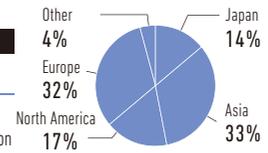
In our cryogenic pump business, we expect continued

## Trends in Crude Oil Prices (Monthly)

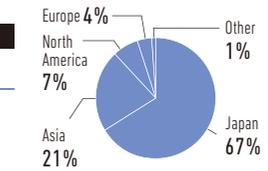


## Revenue by region

Industrial Division	
Orders	Revenue
¥58.82 billion	¥59.71 billion



Precision Equipment Division	
Orders	Revenue
¥10.73 billion	¥9.84 billion



active inquiries due to growth in demand for liquefied natural gas (LNG). Although we incurred additional expenses in 2017 by addressing the quality non-conformity issue of 2016, we are close to resolving technical issues and are carrying out such risk-management measures as strengthening our quality control system, aiming for drastic improvement.

We completed the acquisition of shares of the Cryogenic Industries (CI) Group on August 21, 2017, and its performance is shown in our consolidated results as of the third quarter. The CI Group's revenue was also lower than the initial forecast, due to the sluggish LNG market caused by weak crude oil prices.

In the fiscal year ended December 31, 2017, the Precision Equipment Division had orders of ¥10,731 million and revenue of ¥9,843 million. Sales grew due to the solid market for smartphones and in-car devices.

## Initiatives for Fiscal Year Ending December 31, 2018

Turning to the market environment for the Industrial Division, we expect conditions to remain severe in 2018, despite signs of recovery in crude oil prices and expectations for recovery of investment appetite in the crude oil and gas upstream sector. Over the long term, we expect worldwide demand for energy to grow and LNG consumption to increase, reflecting the standpoint of combating climate change.

The Industrial Division will roll out business globally covering the oil and LNG value chain from upstream to downstream, through efforts to build an inter-regional complementary relationship through cooperation with overseas subsidiaries and affiliated companies such as LEWA and the CI Group, and will strengthen and optimize various pump systems, plant production, and sales structures.

Regarding the outlook for the fiscal year ending December 31, 2018, the combined Industrial and Precision Equipment divisions will aim for orders of ¥83,400 million (up 19.9% year on year) and revenue of ¥83,300 million (up 19.8% year on year).

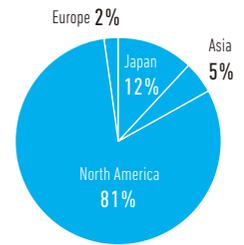
# Aerospace Division



**Orders**  
**¥15.71** billion

**Revenue**  
**¥15.55** billion

## Revenue by region



### Performance for Fiscal Year Ended December 31, 2017

During the fiscal year ended December 31, 2017, orders in the Aerospace Division came to ¥15,712 million, and revenue amounted to ¥15,550 million. Orders were up 2.1%, and revenue was down 0.3% year on year.

We anticipated difficult conditions in the fiscal year ended December 31, 2017: shipments decreased due to production adjustments associated with ramp-downs of some programs and strong price reduction demands from customers, while we also bore anticipatory expenses from construction at the Higashimurayama Factory and the launch of the Miyazaki Factory. However, revenue recovered to almost the same level as that of the previous year owing to an increase in shipments in the second half.

### Initiatives for the Fiscal Year Ending December 31, 2018

A look at the market environment for the Aerospace Division shows that demand for commercial aircraft, especially single-aisle aircraft, remains strong, due to such factors as growth in passenger and cargo demand in emerging nations

and the growth of low-cost carriers. We have had active inquiries and are continuing business discussions.

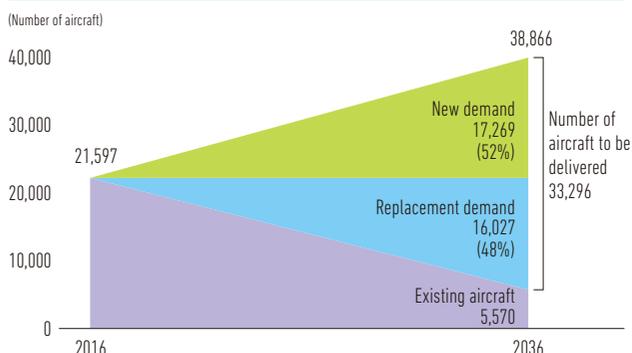
To respond to robust customer demand, we set up new fan case liner production facilities at our Higashimurayama Factory in August 2016 and started construction of the Miyazaki Factory, which will function as a key factory for the Group, and construction of a second factory in Hanoi, Vietnam.

Starting in 2018, we expect to further increase shipments of cascades from the Kanazawa and Miyazaki factories and wing parts from Hanoi, Vietnam Factory 1, as well as increase shipments of fan case liners from the Higashimurayama Factory, which has gone into full-scale operation.

Our Miyazaki Factory is aiming to start production and shipment of cascades in fall 2018. We aim to complete construction of our second factory in Hanoi, Vietnam in 2018. We are ready to meet the ramp-up in aircraft demand worldwide by enhancing production facilities and rebuilding business operations and production structures.

Regarding the outlook for the fiscal year ending December 31, 2018, we will aim for orders of ¥17,000 million (up 8.2% year on year) and revenue of ¥17,000 million (up 9.3% year on year).

### Results of Demand Forecast for Passenger Jets



Source: Japan Aircraft Development Corporation (March 2017), Worldwide Market Forecast 2017-2036



Rendering of the Miyazaki Factory

# Medical Division

## Performance for Fiscal Year Ended December 31, 2017

During the fiscal year ended December 31, 2017, orders in the Medical Division came to ¥55,005 million, and revenue amounted to ¥55,684 million. Orders were up 1.8%, and revenue was up 2.3% year on year.

In the Japanese hemodialysis market, while sales of dialysis machines have slumped because of economic changes in the medical environment, including political measures to curb medical costs, sales of disposables such as blood tubing lines and dialysate have increased, underpinning revenue. In the overseas hemodialysis market, amid a growing market in China, where adoption of medical insurance systems is growing, our local joint-venture partner, Weihai Weigao Blood Purification Product Co., Ltd., is proactively expanding its business and steadily increasing sales of dialysis machines. We also expanded sales in Europe and, as a result, revenue increased in the hemodialysis-related businesses as a whole.

In the continuous renal replacement therapy (CRRT) business, performance fell due to the impact of difficult conditions in Europe and other regions, despite a large increase in device sales in our mainstay Chinese market, achieved by rebuilding our sales structure and strengthening our sales and service functions.

## Initiatives for Fiscal Year Ending December 31, 2018

As for the market environment of the Medical Division, our main market, domestic hemodialysis has entered a transformative period due to changes to the medical-care business model, including the economics of the medical market and the growing scale of hospital management. We therefore expect the market to remain sluggish, and for competition to continue to increase. Amid these

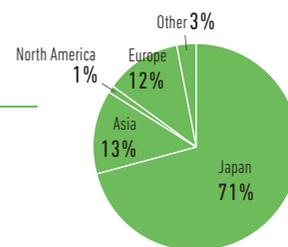
### Orders

**¥55.0** billion

### Revenue

**¥55.68** billion

### Revenue by region



circumstances, we will promote the development of new products and services that precisely meet the needs of the Japanese market, while rebuilding the business operations structure and reforming business processes that support these efforts. Additionally, in the overseas market, medical insurance systems are becoming more developed in Asian countries outside China, and we are therefore enhancing our sales structure, including setting our sights on collaboration with major dialysis service providers.

In the CRRT business, we are advancing measures to improve profitability, rebuilding our global sales system, and drastically revising our system for developing new devices.

Looking to new business fields, we are steadily cultivating global markets for products such as the “Acrosurg,” a microwave surgical instrument that went on the market in 2017, the “STG-55” artificial pancreas, and “Immunopure” apheresis products for patients with ulcerative colitis, while developing a medium-term revenue base for the Medical Business.

Regarding the outlook for the fiscal year ending December 31, 2018, we will aim for orders of ¥60,100 million (up 9.3% year on year) and revenue of ¥60,200 million (up 8.1% year on year).



Artificial pancreas “STG-55”



Apheresis product for patients with ulcerative colitis “Immunopure”

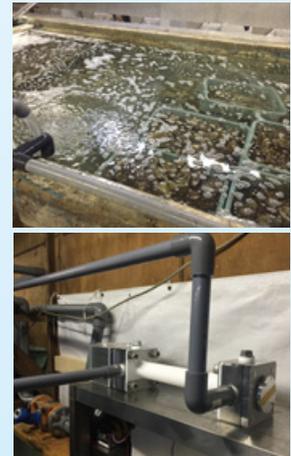
# TOPICS

## Developed the World's First Deep Ultraviolet LED Purification System for Aquaculture

Deep ultraviolet light has a shorter wavelength than ordinary ultraviolet light. Its strong disinfection effects make it a promising application in a wide range of fields, including environmental health and medical care. We became the first in the world to successfully commercialize a deep ultraviolet LED (DUV-LED) and have launched products such as a DUV-LED package with the world's highest output and a DUV-LED water disinfection module for industrial use.

The world's first DUV-LED purification system for aquaculture was developed to reduce the risk of norovirus infection, which spreads every winter. Although heating is an effective countermeasure against norovirus, there was a need for a non-heating disinfection method for oysters, the raw consumption of which is in strong demand. We tested this system for a year in a seawater pool at an oyster farm in Hiroshima Prefecture. The results showed that the system is highly effective at purifying seawater containing viruses expelled from oysters, greatly reducing the risk of the virus being re-introduced. This system is being considered for the aquaculture of other marine products, and there are expectations for expansion into other applications for aquaculture as well.

Sample installation in an oyster purification pool



## "Acrosurg." Won Japan Creation Award 2017 for Innovation in Medical Technology

The "Acrosurg.," a microwave instrument created by Nikkiso, is the world's first commercial product of its type, with microwave energy in the same wavelength range as that of a microwave oven. It not only has excellent hemostasis capability but can perform on its own a range of surgical operations, including peeling, dissecting, and vascular sealing of living tissue. The award was given in recognition of our efforts for the "Acrosurg."



Microwave surgical instrument "Acrosurg."



## Smart E System® Dialysis Heat Pump System Wins Energy Conservation Center Chairman's Award, the 2017 Energy Conservation Grand Prize

The dialysate used in dialysis is normally heated to near body temperature, then discarded after use while still warm. The Smart E System® amplifies the small amount of heat in dialysis wastewater into a major source of thermal energy with a water-cooled heat pump and inverter technology, then uses it to heat the source water of RO systems. The system won the Energy Conservation Center Chairman's Award for its contribution to energy conservation, saving approximately 78% to 90%\* of the electricity consumed by dialysis treatment.

\*Based on actual data from 11 hospitals nationwide where the system has been adopted.



## Research and Development

Since Nikkiso was founded, its unflagging mission has been to confront difficult issues with original ideas and advanced technologies, while continuing to contribute to society. To remain a strong manufacturer that continues to evolve in the years to come, Nikkiso will create new innovations from technology.

### R&D TOP INTERVIEW

#### We Will Tackle Tough Challenges and Contribute to Society through Technical Capability

Hisakazu Nakahigashi  
Director, Executive Officer, and General Manager,  
Research & Engineering Institute



The Research & Engineering Institute is our R&D hub. At the institute, we have established a system that enables us to efficiently conduct the full gamut of R&D activities, from fundamental research to elemental technologies as well as product development and design. To use a martial arts analogy, the institute also serves as a dojo (training hall)-like entity for the human resource development of the Company's engineers, who diligently work together to apply their skills and play a very important role in enhancing the technological capabilities of Nikkiso as a whole.

One key R&D topic in recent years has been the creation of a more labor-saving dialysis therapy. In 2017, we initiated the concept of Nikkiso Total Solution Service (NTSS) to respond to customers' needs amid the current chronic shortage of medical-care professionals. The goals of NTSS are to remotely collect and integrate information, analyze it with artificial intelligence (AI) and other means, and use the results to improve the quality of medical care, curb medical costs, and meet the national challenges of extending healthy life spans, improving early detection and intervention, and preventing conditions from worsening or becoming more

severe. Specifically, under this concept, we are developing a maintenance service to monitor system operation and deliver alerts before a malfunction occurs as well as a telemedicine service that can remotely monitor the status of patients' treatment.

In addition, we have successfully developed a DUV-LED—which we were the first in the world to make commercially viable—with more than 1.5 times the output of previous products.

We are also working on commercial applications that utilize the high output and long service life of our LEDs, including development of a water disinfectant module and a purification system for aquaculture.

Boldly confronting difficult issues and remaining on its avowed mission to lead society, Nikkiso in the years to come will focus on Groupwide R&D, such as the evolution of existing products and new product development, ensure that the Nikkiso brand remains synonymous with technology innovation, and continue to contribute to society through its technical capabilities.

## Research & Engineering Institute, Hub of R&D

Nikkiso engages in technological development on a daily basis to resolve customer issues and society's problems. The "brain center" for these activities is the Research & Engineering Institute, which is located in Shizuoka Prefecture.

As the hub of the Nikkiso Group's R&D activities in Japan, the institute oversees the evolution of existing products and supports new product development from a technical viewpoint and from a customer perspective.

To remain a strong manufacturer that continues to evolve without settling for existing technological standards, Nikkiso will launch unprecedented products while creating and bringing new value to its customers' businesses with its innovative ideas and technological capabilities.



## Quality Assurance

### QUALITY ASSURANCE TOP INTERVIEW

We Are Strengthening Our Quality Assurance Structure through a Wide Range of Initiatives

Shotaro Fujii

Director and Senior Executive Officer



As a company that holds Nikkiso as a technology expert, we recognize that quality issues that occurred in 2016 are a serious problem relating to our management foundation. The Company is united in its commitment to strengthen the structure for quality assurance.

We have reaffirmed the importance of the control of quality sources in product design as the most important element for the quality craftsmanship of our products, and we have revised our design review rules, which include marketing. These decisions have enabled us to implement appropriate risk management by visualizing and revealing technical and production issues before taking an order and beginning design work.

Developing the human resources to carry out quality craftsmanship and ensuring that proprietary technologies

are transmitted from the senior ranks are also urgent tasks. We have visualized these by rebuilding our skills maps, starting from our engineering divisions. Through centralized management, we are striving to improve the performance of each division of our business sectors through the development of individual skills, appropriate assignment of human resources, and hiring based on objective data. Through a continuous PDCA (Plan, Do, Check, Act) cycle of human resource development based on these skills maps, we will further improve the very highly specialized technical capabilities that are our assets to build a structure capable of swiftly responding to the changing needs of society and our customers.

Nikkiso is committed to further improving quality to remain a top-tier supplier of products.

# Sustainability Highlights

	Initiatives	Contribution to Business/ Management	Future Challenges
<b>E</b> Environmental	<b>Carry out initiatives based on Nikkiso Environmental Declaration</b> <ul style="list-style-type: none"> <li>Develop environmentally friendly products</li> <li>Minimize and appropriately treat waste and pollutants produced at each stage, including production, distribution, service, and disposal</li> <li>Reduce energy consumption and CO<sub>2</sub> emissions</li> </ul>	<ul style="list-style-type: none"> <li>Reduce costs</li> <li>Increase revenue opportunities through improved product capabilities</li> </ul>	<ul style="list-style-type: none"> <li>Develop products that help reduce environmental impact (LNG/hydrogen products, next-generation dialysis products, DUV-LED products)</li> </ul>
	<b>Customer relations</b> <ul style="list-style-type: none"> <li>Tackle issues about quality</li> <li>Initiatives to improve customer satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>Reduce costs</li> <li>Increase revenue opportunities through improved product capabilities and customer satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen quality assurance structure</li> <li>Further improve technical capabilities</li> </ul>
<b>S</b> Social	<b>Relationships with local communities</b> <ul style="list-style-type: none"> <li>Contribute to and support local communities with locally rooted efforts centered on production sites               <ul style="list-style-type: none"> <li>Kanazawa Techno Park Science Class, Kanazawa Techno Conservation Forests and Beautification Activities, sponsorship of Kanazawa Marathon, factory tours for local students</li> </ul> </li> <li>Initiatives against natural disasters               <ul style="list-style-type: none"> <li>Nikkiso Forest volunteer activities</li> </ul> </li> <li>Activities to promote culture, the arts, and industrial technologies               <ul style="list-style-type: none"> <li>Activities to preserve and promote Kaga Zogan, the craft of metal inlaying, ICHIYU Industrial Science and Technology Promotion Foundation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Build relationships of trust with local communities</li> <li>Hire talented employees</li> </ul>	<ul style="list-style-type: none"> <li>Build relationship of trust with local community at new factory (Miyazaki)</li> </ul>
	<b>Employee relations</b> <ul style="list-style-type: none"> <li>Employee education and training</li> <li>Promote active participation of women               <ul style="list-style-type: none"> <li>Increase ratio of women in career-track positions and develop women into future management candidates</li> </ul> </li> <li>Utilize and develop global human resources</li> </ul>	<ul style="list-style-type: none"> <li>Hire talented employees</li> </ul>	<ul style="list-style-type: none"> <li>Develop engineers in new advanced technologies</li> <li>Increase ratio of female managers</li> <li>Strengthen human resources globally</li> </ul>
<b>G</b> Corporate Governance	<ul style="list-style-type: none"> <li>Assess effectiveness and utilize the Board of Directors</li> <li>Build Groupwide internal whistle-blowing system</li> </ul>	<ul style="list-style-type: none"> <li>Avoid management-decision risk by strengthening oversight function</li> </ul>	<ul style="list-style-type: none"> <li>Further improve effectiveness of the Board of Directors</li> <li>Further optimize the Board of Directors' resolutions</li> </ul>

## Environmental Initiatives

### Nikkiso Environmental Declaration

Nikkiso's corporate philosophy is to contribute to the world using its proprietary technologies, focusing on "human life" and the "environment." Modern-day society is in a stage of transition, seeking both harmony with nature and sustainable development. Nikkiso aims to grow and develop with society and offer technologies, products, and services to help realize these objectives.

To achieve these objectives, we announced the Nikkiso Environmental Declaration, composed of the philosophy and action guidelines, in 1998 and took our first step as a company to contribute to a recycling-oriented society.

The action guidelines, composed of four items, call for the development of environmentally friendly products, minimizing the amount of waste and pollutants generated in each process ranging from production to distribution and disposal, striving to meet and surpass our own environmental management targets, and the importance of striving to conserve the environment as a member of society by devoting considerable resources to educating employees about environmental issues.

### Efforts to Reduce Our Environmental Impact

Nikkiso aims to reduce its burden on the natural

environment through innovative technological reform in all businesses and contribute to the achievement of a sustainable environment. In accordance with this policy, the Group promotes the development and provision of products contributing to the reduction of its burden in terms of both environmental pollution and environmental impact.

### (1) Initiative to develop deep ultraviolet LED (DUV-LED) products

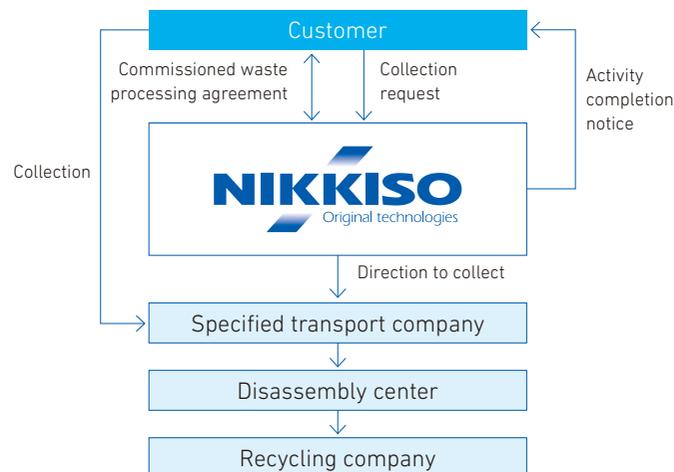
In the past, ultraviolet mercury lamps were used to disinfect water and air. However, the adverse impact of mercury on human health and the environment resulted in the Minamata Convention on Mercury. This international treaty aiming to prevent environmental pollution and damage to health from mercury took effect in Japan on August 16, 2017. Under this treaty, use of mercury will be restricted by 2020. DUV-LEDs have been gaining attention as an alternative to mercury lamps. In addition to having less harmful impacts on human health and the environment, DUV-LEDs are also more compact, energy efficient, and have a longer service life. We were quick to develop the world's only high-output DUV-LED with a service life of over 10,000 hours, and we are developing products that use DUV-LEDs, such as water treatment systems. In addition to the existing fields of water disinfection and analysis, we will contribute to reducing the environmental impact through product development in a wide range of

fields, including disinfecting high-volume water flows such as water and sewage pipes and wastewater treatment, as well as resin curing and surface disinfection.

### (2) Dialysis machine recycling system

Nikkiso signs waste disposal agreements with customers to dispose of their Nikkiso dialysis machines after use, including reusing and recycling as appropriate. This system lightens the workload for customers and contributes to a recycling-oriented society.

### Recycling System



## Social Initiatives

### Efforts to Promote the Active Participation of Women

Nikkiso is striving to develop frameworks and systems above and beyond those required by the law so that women can fully realize their capabilities, including the provision of a child care leave system, shorter working hours system, and flex-time system, as we believe the resignation of female employees due to child raising or childbirth results in the loss of valuable human resources. In fiscal 2017, the number of our female employees increased by 121 from the previous year, resulting in a female employee ratio of 24%.

On the other hand, while the number of women in management positions at the end of fiscal 2017 increased by three compared to the end of the previous fiscal year, this is not yet sufficient. We also recognize as issues the low ratio of women in career-track positions and the low hiring rate for women compared to the ratio of male to female applicants.

For that reason, we have devised and implemented an action plan that aims to increase the ratio of women in career-track positions to 20% or above, within three years from April 2016. We



are implementing two initiatives to achieve this goal, specifically "efforts to increase the number and promote the hiring of female applicants for career-track positions" and "the expansion of duties in each business division and the formulation and implementation of individual and specific development measures, to promote the hiring of women for career-track positions and develop their candidacy for management positions in the future."

### Utilization and Development of Global Human Resources

Recently, Nikkiso has expanded its business overseas and the number of overseas bases has grown accompanying this business expansion. The overseas sales ratio grew to 61% and the overseas employee ratio grew to 73% as of the end of fiscal 2017, and accordingly global human resources who serve as a bridge between business in Japan and overseas are essential. For that reason, we actively hire outstanding human resources regardless of nationality. In addition, we dispatch young employees to overseas bases as part of efforts toward human resource exchange within the Group.

Through these efforts, we aim to develop human resources who have a global perspective and are capable of proposing optimal solutions for customers around the world.

# Corporate Governance

Nikkiso has reinforced its corporate governance system as described below and has, thereby, prepared the way for transparent and fair management as well as prompt and decisive decision-making. As a member of society, the Company maintains social ethics and a set of values that are sound and works to build close ties with its stakeholders, while at the same time upholds the corporate philosophy of providing its unique technology to contribute to fields that form the bedrock of our lives in a creative manner, with the aim of achieving sustainable growth as well as medium- to long-term enhancement of corporate value.

## Basic Approach to Corporate Governance

The Group believes that our goal for corporate governance should be to achieve our corporate philosophy by ensuring transparency and fairness in decision-making and by making decisions promptly and decisively. We are working to build optimum corporate governance suited to the development stages of the Group, in line with the following core beliefs.

- We respect the rights of the shareholders and secure their equality.
- We respect the interests of the stakeholders and cooperate with them, appropriately.
- We disclose the Nikkiso Group's information in an appropriate manner and ensure transparency.
- We effectively separate supervision and execution of management.
- We ensure the effective supervision and audit of management through the coordination of independent outside directors, independent outside Audit & Supervisory Board Members, internal auditors, and the accounting auditor, and at the same time, develop an environment within the Nikkiso Group that allows our business execution

divisions to focus on improving business profitability.

- We hold constructive dialogue with shareholders who have medium- to long-term shareholder profit as their investment aim.

## Corporate Governance Structure Overview

Main items	Value
Organization design format	Company with its Audit & Supervisory Board
Number of directors (number of outside directors)	8 (2)
Number of Audit & Supervisory Board Members (number of outside Audit & Supervisory Board Members)	4 (2)
Number of meetings of the Board of Directors (FY2017)	15
(Average attendance by outside directors)	(90%)
(Average attendance by outside Audit & Supervisory Board Members)	(100%)
Number of meetings of the Audit & Supervisory Board (FY2017)	16
(Average attendance by outside Audit & Supervisory Board Members)	(100%)
Director term	1 year
Employment of Executive Officer System	Yes
Optional committee of the Board of Directors	Internal Control Committee
Accounting auditor	Deloitte Touche Tohmatsu LLC

## Major Recent Reforms in Corporate Governance

### 2001

- Introduced the Executive Officer System

### 2006

- Abolished officers' retirement benefit system

### 2008

- Shortened term of office of directors from two years to one year

### 2012

- Elected one outside director
- Introduced a system of stock options as stock-based compensation for directors excluding outside directors

### 2015

- Increased the number of outside directors from one to two
- Abolished anti-takeover measures
- Established Nikkiso Group Corporate Governance Guideline

### 2016

- Examined the effects of cross-shareholdings
- Conducted monitoring of related party transactions
- Introduced a "stock-linked compensation plan" (Phantom Stock Plan) for all directors other than outside directors, executive officers of the Company, and officers of affiliates
- Conducted analysis and evaluation of the effectiveness of the Board of Directors

### 2017

- Built a Groupwide internal whistle-blowing system

## Board of Directors

There are eight directors, of which two are outside directors. As a general rule, the Board of Directors meets regularly once a month, and passes resolutions in writing, as necessary, from the standpoint of prompt and efficient decision-making. Individual business execution is delegated to the executing divisions whenever possible, to ensure prompt and decisive decision-making. Partial amendments are made to the Board of Directors Resolution Standards in an appropriate manner in an effort to establish an environment for the Board of Directors to dedicate itself to the roles of "indicating the overall direction of management, including management strategies," "developing internal systems that support prompt and decisive management decisions," and "demonstrating supervisory functions over management in general and ensuring fair and transparent management."

## Executing Divisions

The Executive Officer System and Operating Division System have been adopted to build an internal structure that ensures prompt and decisive decision-making. The Executive Management Committee, which is composed mainly of the president, vice president, and senior executive officers, has been established to deliberate important business execution matters, including resolutions by the Board of Directors. In addition, as the Company engages in a diverse range of businesses, the Operating Division System has been adopted to delegate each business to executives who are well informed regarding the specific business and market to enable prompt and market-oriented decision-making.

## Audit & Supervisory Board

The main responsibility of Audit & Supervisory Board Members and the Audit & Supervisory Board is to determine by audits whether the directors and the Board of Directors are performing their duties in fulfillment of their responsibilities appropriately and in compliance with laws and regulations, from an independent

standpoint. Currently, the Audit & Supervisory Board comprises four Audit & Supervisory Board Members (including two outside Audit & Supervisory Board Members).

## Assessment of Effectiveness of the Board of Directors

To analyze and assess the effectiveness of the Board of Directors, we implement a questionnaire of all executives (including outside officers) regarding the effectiveness of the Board of Directors. The results and issues for improvement are then discussed by the Board of Directors. A high proportion of responses to most of the assessment's questions indicates that the board's execution of duties has been appropriate. On the other hand, there were multiple responses indicating the need to enhance meeting agenda materials and executive education. We will tackle these issues to further improve the effectiveness of the Board of Directors.

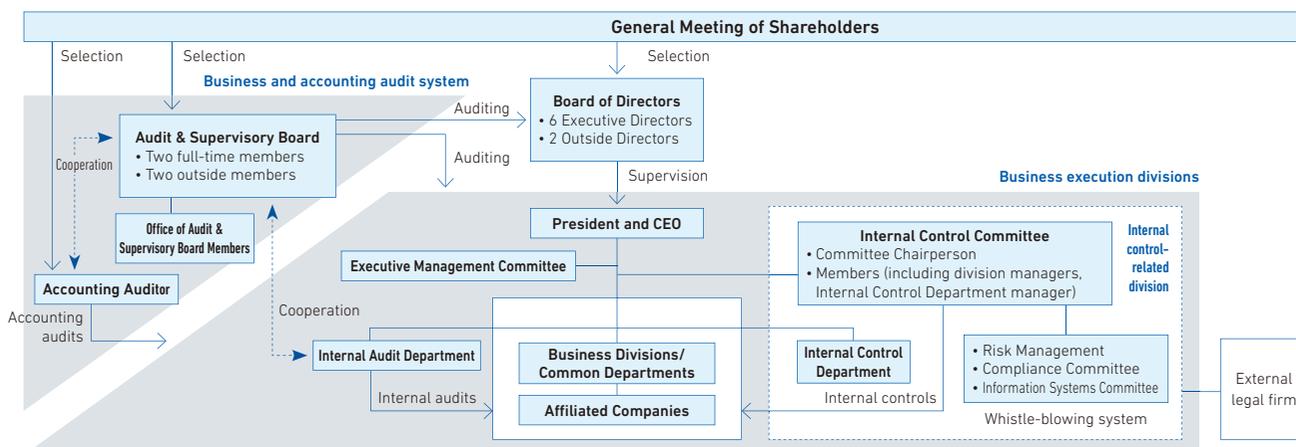
## Independent Outside Board Members

For outside directors, the Company elects people who do not have any personal relationship, capital relationship, transactional relationship or any other interest other than the relationship as an outside officer with the Company and who have no conflicts of interest with general shareholders. Elected outside directors are expected to play their full part to supervise decision-making and execution of duty by directors from an objective and expert standpoint independently from the Company's business execution, and to provide proper advice from the viewpoint of promoting the Company's sustainable growth and increasing corporate value over the medium to long term, based on their own knowledge and experience.

Furthermore, given that all outside directors and outside Audit & Supervisory Board Members have met the independence standards provided by the Tokyo Stock Exchange, which the Company has adopted as its independence standards for outside officers, they have been registered as such with the Tokyo Stock Exchange.

## Corporate Governance Organization, Roles, and Responsibilities

(as of March 29, 2018)



## Reasons for Election and Activities of Outside Directors and Outside Audit & Supervisory Board Members

Position	Name	Reason for election	Activities
Outside Director	Eisuke Nagatomo Newly elected* <sup>1</sup>	Having held major positions during his career, including being former managing director of the Tokyo Stock Exchange, Inc., former member of the Financial Services Agency Business Accounting Council, and commissioner of the Financial Accounting Standards Foundation, he has close familiarity with corporate governance and compliance systems, in addition to his extensive knowledge of finance and accounting. He is expected to provide valuable advice for the continuous growth of the Group and to increase our corporate value over the medium to long term.	Board of Directors Attended 15 of 15 meetings
	Haruko Hirose* <sup>2</sup> Newly elected	For many years, she has worked on international projects such as in personnel, financial affairs, and industrial development of the United Nations. Furthermore, she has endeavored in activities for developing personnel who are active on the world stage. She is expected to provide valuable advice for building a Group environment where a diverse workforce can thrive in appropriate positions, starting with ensuring the effective functioning of the Board of Directors and promoting the active participation of women.	Newly elected
Outside Audit & Supervisory Board Members	Mitsuaki Nakakubo Present position from June 2015	He is an attorney who has been active in a wide range of corporate legal matters. He also has deep insight into corporate governance and compliance systems. He is expected to play an extensive role in monitoring the decision-making and business execution of the directors, from an objective and expert perspective.	Board of Directors Attended 15 of 15 meetings Audit & Supervisory Board Attended 16 of 16 meetings
	Hiroyuki Muneta Newly elected	Through his activities as a certified public accountant and licensed tax accountant over the years, he has acquired abundant expertise related to financial affairs, accounting, and corporate management. He is expected to point out risks and provide advice relating to corporate management, based on a wide range of knowledge relating to finance, accounting, and corporate management.	Newly elected

\*1 Eisuke Nagatomo attended the Board of Directors' meetings as an Audit & Supervisory Board Member in the fiscal year ended December 31, 2016.

\*2 Haruko Hirose's legal name is Haruko Makinouchi.

## Executive Compensation

The Board of Directors determines the proper portion of fixed compensation, short-term performance-based compensation, and medium- to long-term performance-based compensation so that the compensation of executive directors may serve as a sound incentive for sustainable growth. In addition, a draft for the compensation of directors is explained to independent outside officers in advance, and after receiving their advice, is submitted to the Board of Directors. As a part of the compensation, a stock option plan, in which stock options are granted to directors excluding outside directors as stock-based compensation, has been in effect since 2012. Furthermore, in April 2016, a "stock-linked compensation plan" (Phantom Stock Plan) was adopted as an incentive to achieve the medium-term business plan, "Nikkiso 2020," and the enhancement of corporate value.

(Millions of yen, people)

Executive Category	Total Compensation Amount	Basic Compensation	Stock Option	Bonus	Number of People
Directors	164	88	31	45	8
Audit & Supervisory Board Members	30	30	—	—	3
Of which, Outside Directors and Outside Audit & Supervisory Board Members	33	33	—	—	4

## Internal Control System

As part of its internal control system, the Company has formed a company-level Internal Control Committee, chaired by the director in charge of internal controls. In addition, the Company has established the "Nikkiso Group Global Code of Conduct," which stipulates basic matters to be fulfilled by officers and employees of the Nikkiso Group, in order to follow their conscience and contribute to society. Furthermore, a "whistle-blowing system" in place both in Japan and overseas allows employees of the Nikkiso Group to make reports directly and either anonymously or in their own names to experts such as outside attorneys, in the event that an illicit act such as violation of laws and regulations is discovered within the Nikkiso Group.

## Internal Audits and Audits of Audit & Supervisory Board Members

The Nikkiso Group has formed an Internal Audit Department under the direct control of the President, as an internal auditing body to conduct internal audits. The Internal Audit Department and the Audit & Supervisory Board Members regularly exchange information and opinions, and additionally exchange opinions and deliberate with the accounting auditor on a regular basis or as needed.

# Board of Directors and Audit & Supervisory Board Members

As of June 1, 2018



## Board of Directors

### Ⓐ President & Chief Executive Officer Toshihiko Kai

February 1996 General Manager of Dai-ichi Kangyo Bank Nederland N.V.  
 March 2000 Joined the Company  
 April 2001 Executive Officer of the Company  
 April 2002 President, Medical Equipment Unit of the Company  
 June 2003 Director of the Company  
 December 2004 President & CEO of the Company (present position)

### Ⓑ Director, Executive Vice President Hiroshi Nakamura

January 2006 Executive Officer, General Manager of Nihonbashi Branch, The Bank of Tokyo-Mitsubishi UFJ, Ltd.  
 March 2007 Joined the Company  
 June 2007 Director of the Company  
 October 2009 Director of the Company  
 Managing Director of Nikkiso Europe GmbH (consolidated subsidiary in Germany)  
 June 2015 Audit & Supervisory Board Member of the Company  
 March 2017 Director, Executive Vice President in charge of Administration and Corporate Planning and UVLED Business of the Company (present position)

### Ⓒ Director, Senior Executive Officer Shotaro Fujii

April 2008 General Manager, IVD Technology Center of Nihon Kohden Corporation  
 November 2011 Joined the Company  
 October 2012 General Manager of Shizuoka Plant (currently Research & Engineering Institute) of the Company  
 April 2013 Executive Officer, General Manager of Shizuoka Plant of the Company  
 June 2015 Director (present position), Executive Officer, General Manager of Shizuoka Plant of the Company  
 January 2016 Senior Executive Officer (present position), General Manager of Research & Engineering Institute of the Company  
 January 2018 In charge of Quality Control of the Company (present position)

### Ⓓ Director, Executive Officer Naota Shikano

April 1977 Joined the Company  
 April 2010 Executive Officer, Senior Manager of Industrial Solutions & Overseas Business Headquarter, Industrial Division of the Company  
 January 2013 Executive Officer of the Company  
 Managing Director & CEO of LEWA GmbH (consolidated subsidiary in Germany)  
 March 2016 Director (present position), Executive Vice President of the Company  
 August 2017 CEO of Cryogenic Industries Holdings, Inc. (consolidated subsidiary in the United States, currently Cryogenic Industries, Inc.) in charge of Industrial Business  
 September 2017 Executive Officer of the Company (present position)

### Ⓔ Director, Executive Officer Hisakazu Nakahigashi

April 1978 Joined the Company  
 April 2015 Executive Officer (present position), General Manager of Kanazawa Plant of the Company  
 Director (present position)  
 March 2017 In charge of Production and Engineering, General Manager of Research & Engineering Institute of the Company (present position)

### Ⓕ Director, Executive Officer Yoshihiko Kinoshita

April 1989 Joined the Company  
 January 2016 General Manager, Medical Division of the Company (present position)  
 October 2016 Vice Chairman, Weigao Nikkiso (Weihai) Dialysis Equipment Co., Ltd. (associates accounted for using the equity method in China) (present position)  
 January 2017 Executive Officer of the Company (present position)  
 March 2017 Director in charge of Medical Business of the Company (present position)  
 October 2017 CEO and Managing Director of Nikkiso Europe GmbH (consolidated subsidiary in Germany) (present position)

### Ⓚ Outside Director: Eisuke Nagatomo Ⓛ Outside Director: Haruko Hirose

## Audit & Supervisory Board Members

### Ⓜ Audit & Supervisory Board Member Nobuhiko Ban

### Ⓝ Audit & Supervisory Board Member Kenji Hida

### Ⓞ Outside Audit & Supervisory Board Member Mitsuaki Nakakubo

### Ⓟ Outside Audit & Supervisory Board Member Hiroyuki Muneta

## Executive Officers

Shoichi Nagato  
 General Manager, Aerospace Division

Susumu Koito  
 General Manager, Administration Division  
 In charge of Environment & Risk Management

Masaru Yamamura  
 General Manager, Industrial Division

Takayoshi Izumi  
 General Manager, Medical Products Factory, Kanazawa Plant

# Financial Highlights

## NIKKISO CO., LTD. and its Consolidated Subsidiaries JGAAP

	3/2009	3/2010	3/2011	3/2012	3/2013	3/2014
Orders	¥67,604	¥ 74,770	¥ 84,536	¥ 94,921	¥103,409	¥122,325
Net sales	72,395	78,019	83,143	90,137	103,670	121,548
Gross profit	21,093	24,248	26,920	29,625	34,239	43,953
Selling, general and administrative expenses	16,322	18,585	21,521	23,044	26,757	34,530
Operating income	4,771	5,662	5,398	6,580	7,481	9,423
Ordinary income	4,161	6,022	4,658	6,370	8,945	11,330
Net income attributable to owners of the parent	1,367	3,239	2,684	3,317	6,897	5,897
Capital investments	¥ 3,454	¥ 2,966	¥ 2,028	¥ 3,242	¥ 4,377	¥ 9,093
Depreciation expenses	3,173	2,982	2,802	2,738	2,841	3,452
R&D expenses	1,012	1,229	1,150	1,125	1,433	1,889
Total assets	¥83,687	¥115,130	¥122,009	¥118,234	¥138,345	¥161,283
Net assets	36,721	47,517	49,039	50,392	58,558	67,372
Interest-bearing debt and bonds	29,751	46,172	51,924	44,332	49,844	56,737

### Cash flows

Cash flows from operating activities	¥ 4,409	¥ 11,674	¥ 6,004	¥ 3,961	¥ 8,398	¥ 5,587
Cash flows from investing activities	(3,921)	(25,208)	(609)	(3,325)	(324)	(15,966)
Cash flows from financing activities	(885)	15,005	6,623	(10,242)	3,653	2,047

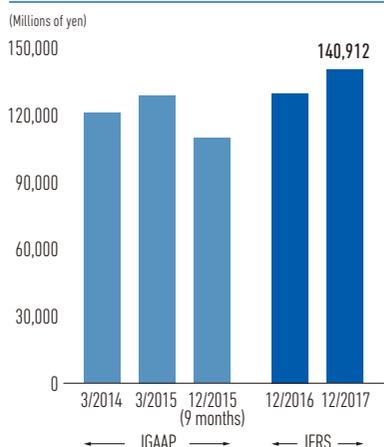
### Per share information (yen)

Net assets	¥578.72	¥ 587.66	¥ 605.46	¥ 639.98	¥ 742.03	¥ 853.06
Net income attributable to owners of the parent	21.46	47.49	33.86	42.47	89.41	76.46
Cash dividend	12.00	12.00	12.00	12.00	14.00	16.00

### Ratio

Equity ratio (%)	43.3	40.5	39.3	41.8	41.4	40.8
Return on equity (ROE) (%)	3.6	7.8	5.7	6.8	12.9	9.6
Return on assets (ROA) (%)	4.8	6.1	3.9	5.3	7.0	7.6
Payout ratio (%)	55.9	25.3	35.4	28.3	15.7	20.9
Debt/equity ratio (times)	0.82	0.99	1.08	0.90	0.87	0.86
Number of employees	3,843	4,691	4,820	5,185	5,408	6,198

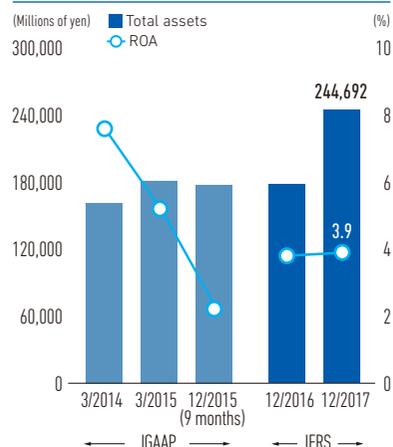
### Revenue



### Operating Profit/ Operating Margin



### Total Assets/ROA



(Millions of yen)

	3/2015	12/2015 (9 months)	12/2016
	¥133,751	¥113,059	¥130,980
	129,255	110,218	132,890
	47,912	40,856	45,225
	41,792	37,012	40,332
	6,120	3,844	4,893
	8,960	3,964	4,201
	5,099	2,031	2,729
	¥ 7,467	¥ 4,828	¥ 7,635
	4,982	4,738	5,150
	1,811	1,688	1,679
	¥181,187	¥177,646	¥175,457
	74,464	71,142	65,533
	70,302	69,843	69,488
	¥ 8,183	¥ 3,265	¥ 12,608
	(9,046)	(4,635)	(7,400)
	11,578	(1,209)	(6,052)
	¥ 945.30	¥ 904.40	¥ 902.45
	66.12	26.34	36.93
	16.00	16.00	16.00
	40.2	39.3	36.6
	7.4	2.8	4.1
	5.2	2.2	2.4
	24.2	60.7	43.3
	0.96	1.00	1.08
	6,389	6,558	6,870

## IFRS

(Millions of yen)

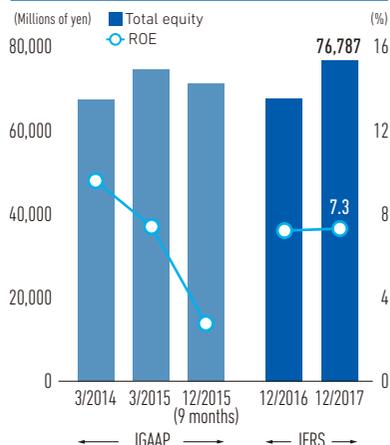
	12/2016	12/2017
Orders	¥129,209	¥140,412
Revenue	130,045	140,912
Gross profit	44,855	48,608
Selling, general and administrative expenses	37,374	42,218
Operating profit	8,117	8,718
Profit before tax	6,801	8,310
Profit for the year attributable to owners of the Company	4,883	5,182
Capital expenditure	¥ 7,635	¥ 7,508
Depreciation and amortization	4,766	5,246
Research and development expenditure	1,679	2,435
Total assets	¥177,717	¥244,692
Total equity	67,664	76,787
Interest-bearing debt and bonds	70,946	123,671
Net cash generated by operating activities	¥ 13,400	¥ 4,915
Net cash used in investing activities	(7,993)	(48,058)
Net cash generated by/used in financing activities	(6,251)	51,015
Equity attributable to owners of the Company per share	¥ 932.67	¥1,053.16
Earnings per share (Basic)	66.08	72.82
Dividends	16.00	16.00
Equity ratio (%)	37.4	30.7
Return on equity (ROE) (%)	7.2	7.3
Return on asset (ROA) (%)	3.8	3.9
Dividend Payout Ratio (%)	24.2	22.0
Debt/equity ratio (times)	1.05	1.63
Number of employees	6,870	7,872

## Cash flows

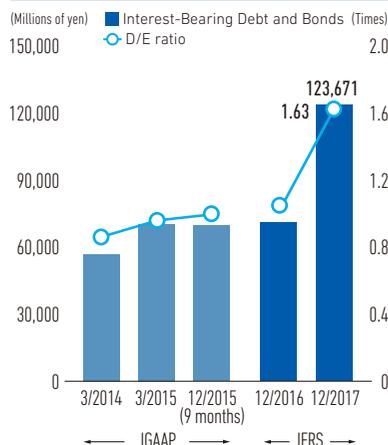
## Per share information (yen)

## Ratio

## Total Equity/ROE



## Interest-Bearing Debt and Bonds &amp; D/E Ratio



## Regarding change of accounting standards:

As of the fiscal year under review, we changed from Japanese accounting standards to International Financial Reporting Standards (IFRS). As a result, the concept of operating profit has changed, including some items that had been accounted for under non-operating income and expenses, and extraordinary income and losses now accounted for under operating profit; additionally, amortization of goodwill has been eliminated.

# Management's Discussion and Analysis

## Application of International Financial Reporting Standards

As of the fiscal year ended December 31, 2017 (the fiscal year under review), we replaced our previous Japanese accounting standards with International Financial Reporting Standards (IFRS). Performance for the fiscal year ended December 31, 2016 (the previous fiscal year) is also shown in accordance with IFRS. Related to this, the concept of operating profit under IFRS differs from that of the previously applied Japanese accounting standards. For example, some items accounted for under the Japanese standards as non-operating income and expenses, and extraordinary income and losses, fall under operating profit according to IFRS. Additionally, the application of IFRS eliminates amortization of goodwill. As a result of these changes, operating income of ¥4,893 million in the previous fiscal year under the Japanese accounting standards becomes operating profit of ¥8,117 million under IFRS.

## Operating Environment

A look at the business environment for the Group in the fiscal year under review shows that the competitive environment for the Industrial Division is increasingly severe, with limited major projects, as full recovery of capital investment has yet to be achieved in the upstream sector, including crude oil and gas extraction, due to no full-scale uptrend in crude oil prices.

Turning to the Aerospace Division, we anticipated difficult conditions in the fiscal year ended December 31, 2017: shipments decreased due to production adjustments associated with ramp-downs of some programs and strong price reduction demands from customers, while we also bore anticipatory expenses from construction at the Higashimurayama Factory and the launch of the Miyazaki Factory. However, revenue recovered to almost the same level as that of the previous year owing to an increase in shipments of cascades in the second half.

As for the Medical Division, in the Japanese hemodialysis market, although sales of dialysis machines slumped due to economic changes in the medical environment, we saw growth in sales of disposables such as blood tubing lines and dialysate, which can provide added value by being

combined with dialysis machines, underpinning revenue in the Japanese market. Overseas, the Chinese market is growing as adoption of medical insurance systems increases, and our local joint-venture partner, Weihai Weigao Blood Purification Product Co., Ltd., is proactively expanding its business, steadily increasing sales of dialysis machines. Sales in Europe also grew.

## Overview of Operating Performance

In the fiscal year ended December 31, 2017, the Group had orders of ¥140,412 million (up 8.7% year on year), revenue of ¥140,912 million (up 8.4% year on year), operating profit of ¥8,718 million (up 7.4% year on year), profit before tax of ¥8,310 million (up 22.2% year on year), and profit for the year attributable to owners of the Company of ¥5,182 million (up 6.1% year on year).

In the Industrial Business, profits of our domestic pump business and those of our Germany-based consolidated subsidiary, LEWA GmbH (LEWA), both improved, while in the Aerospace Division, improved production efficiency and the benefits of the weak yen contributed to performance, despite a slight drop in revenue due to the end-of-year impact from model changeovers, resulting in improved segment profit.

In the Medical Business, device sales were sluggish due to the stagnant domestic hemodialysis market, while sales of disposables increased, but we were unable to halt the decline in performance of continuous renal replacement therapy (CRRT), resulting in a drop in segment profit. In addition, we had temporary expenses, including advisory expenses related to the acquisition of shares of the Cryogenic Industries Group (CI Group) and costs relating to the launch of our new Miyazaki Factory, but these were offset by the profit on the sale of the Nikkiso Annex Building, resulting in a Companywide increase in operating profit year on year.

## Research and Development

The Nikkiso Group spends heavily on research and development to create new products and technologies that address the needs of its customers, applying innovative technologies in each business domain.

In the industrial field, Nikkiso has been producing DUJ-LEDs, which in addition to conserving electricity and having

a long service life, protect the environment by avoiding the use of toxic mercury. Moreover, we are working to enhance the functionality and efficiency of large pumps for LNG exploration sites. In addition, we are developing new applications for carbon fiber reinforced plastic (CFRP) products that help reduce weight and thus fuel consumption in civilian jet aircraft.

In the medical field, Nikkiso has been pursuing basic research for next-generation dialysis therapy by augmenting the functionality of dialysis machines and developing next-generation dialysis machines. Leveraging our accumulated dialysis-related technologies, we continue to perform clinical research into blood purification therapy models with the aim of contributing to the treatment of ulcerative colitis and other immunological diseases. As for products now available in the field of internal medicine and surgery, we are working to further improve artificial pancreases while developing new products for the acute medical care field.

R&D expenditure for the fiscal year under review totaled ¥2,435 million.

## Financial Position

As of December 31, 2017, total assets were ¥244,692 million, an increase of ¥66,974 million compared with a year earlier. The main reason for the increase was goodwill from the acquisition of the CI Group.

Total liabilities were ¥167,905 million, an increase of ¥57,851 million compared with the end of the previous fiscal year, reflecting an increase in borrowings.

Total equity was ¥76,787 million, an increase of ¥9,123 million from a year ago. The main reason for the increase was a rise in retained earnings due to the recording of profit for the year attributable to owners of the Company.

## Cash Flows

As of December 31, 2017, cash and cash equivalents totaled ¥34,095 million, an increase of ¥8,175 million from the end of the previous fiscal year.

Net cash generated by operating activities increased ¥4,915 million, mainly from the posting of profit before tax.

Net cash used in investing activities decreased ¥48,058 million. The main reason for the decrease was payments for

acquisition of subsidiaries associated with the acquisition of the CI Group.

Net cash generated by/used in financing activities increased ¥51,015 million. The main reason for this was the proceeds from short-term borrowings.

## Capital Expenditure and Depreciation and Amortization

During the fiscal year under review, capital expenditure totaling ¥7,508 million was mainly allocated to the expansion of production capacity, and also included investments in facility upgrades and rationalization.

With regard to capital expenditure by segment, the Industrial Business invested a total of ¥6,335 million, mainly for constructing a new factory in Miyazaki, improving and setting up new production facilities for products such as carbon fiber reinforced plastic at our Higashimurayama Plant and in Vietnam, and scaling up equipment in Germany, including that of a reciprocating pump production facility.

In the Medical Business, Nikkiso invested a total of ¥896 million in expanding and upgrading production facilities at the Kanazawa Plant, and increasing production capacity at factories that make blood tubing lines in Thailand and Vietnam. Companywide investments amounting to ¥276 million were mainly for upgrading equipment at the head office.

We sold the following major property and equipment in the fiscal year under review.

Company	Facility (location)	Segment	Description of Property or Equipment	Date of Sale
NIKKISO CO., LTD.	Sales Office (Shibuya, Tokyo)	Companywide (common)	Land and Buildings	Sept. 2017

(Note) The book value is not disclosed due to a confidentiality agreement with the buyer.

Depreciation and amortization were ¥5,246 million.

## ROE

Nikkiso regards ROE as a key management indicator, but does not rely solely on ROE as a measure of performance. Under the new medium-term business plan, "Nikkiso 2020," the Company has set targets for revenue of ¥200 billion and

operating profit of ¥20 billion as easily recognizable management objectives for the entire Group, and has not created a specific target for ROE.

In the fiscal year ended December 31, 2017, we had ROE of 7.3% due to an increase in profit for the year attributable to owners of the Company. Going forward, we will work to increase ROE by raising our profit levels.

### Shareholder Return Policy

Nikkiso's basic capital policy is to achieve sustained growth and improve corporate value over the medium to long term while pursuing an optimal balance in financial health, capital efficiency, and shareholder returns. From a basic recognition that reliable and consistent shareholder returns are a key pillar of our capital policy, management endeavors to return profits to shareholders based on a comprehensive assessment of performance and the operating environment, while enhancing internal reserves for the purpose of nurturing new businesses and strengthening the production structure.

For the fiscal year ended December 31, 2017, Nikkiso distributed an annual dividend of ¥16 per share. For the fiscal year ending December 31, 2018, Nikkiso plans to again pay an annual dividend of ¥16 per share.

### Forecasts for Fiscal 2018

We recognize that the environment surrounding Nikkiso, including weak crude oil prices and economic changes in the medical environment in Japan, remains difficult. In the

fiscal year ending December 31, 2018, the third year of our medium-term business plan, "Nikkiso 2020," we will create a profitable organization by solidifying the base of new business growth to ensure that we recover the investments we made in business growth, while at the same time cutting selling, general and administrative expenses by building an efficient sales structure and headquarters organization, and reviewing unprofitable businesses. We will also reflect seriously on the weakening of our technology and manufacturing sites, including quality non-conformity in 2016 and late deliveries of products, develop and strengthen our human resources, update and strengthen our equipment, further enhance our quality control system, and strive to earn the unshakeable confidence and trust of our customers. Based on these conditions, our forecast for performance in the fiscal year ending December 31, 2018 is as follows.

(Millions of yen)	FY2017 results (01/2017– 12/2017)	FY2018 forecasts (01/2018– 12/2018)	Change
Orders	140,412	162,000	15.4%
Revenue	140,912	162,000	15.0%
Operating profit	8,718	10,000	14.7%
Profit before tax	8,310	9,000	8.3%
Profit for the year attributable to owners of the Company	5,182	5,900	13.8%

# Business Risk

## Business and Other Risks

The following are recognized as the main risk factors that could adversely affect the business results, stock price, and financial condition of the Nikkiso Group. Please note also that forward-looking statements herein represent the expectations of the Group as of the end of the fiscal period described in this report.

### Changes in Product Markets

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Our principal customers in the industrial sector are in such industries as energy, petrochemicals, and power generation. Shrinking demand or a decline in competitiveness in these industries could have a negative impact on the Nikkiso Group's operating performance and financial position. Furthermore, aircraft industries account for the majority of the Group's customers in the Aerospace Business. Should an incident such as a synchronized terrorist attack that substantially impacts aircraft demand occur, the Nikkiso Group's operating performance and financial position could be negatively affected.

### Medical Insurance

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In the Medical Business, government regulations on medical insurance affect dialysis-related markets, which are key sources of sales. Such regulation can have both direct and indirect effects on the markets and prices for products in this business. If markets were to shrink or prices to fall as a result of changes in government policies, the Nikkiso Group's operating performance and financial condition could be negatively affected.

### Fluctuations in Currency Exchange Rates

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The assets and liabilities of the Nikkiso Group's overseas subsidiaries are denominated in foreign currencies, and the Group has foreign currency sales, purchases, assets, liabilities, and other items that are converted into Japanese yen when preparing its consolidated financial statements. Fluctuations in the exchange rates for the major non-yen currencies, notably the U.S. dollar and the euro, could affect the Nikkiso Group's operating performance and financial condition. For the Nikkiso Group as a whole, the Nikkiso Group's foreign currency sales exceed its purchases that are denominated

in foreign currencies, and foreign currency assets outweigh foreign currency liabilities. As a result, appreciation of the Japanese yen against these currencies could have a negative effect on the Nikkiso Group's operating performance and financial condition.

### Overseas Production

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As overseas sales grow in relation to the Nikkiso Group's total sales, its overseas production ratio is also rising. In the Industrial Business, we manufacture pump products mainly in Germany and the United States, some parts in China, Taiwan, and other countries. The Company manufactures some aircraft components in Vietnam, as well. In the Medical Business, the Group manufactures disposables such as blood tubing lines in Vietnam and Thailand, and some dialysis machines through a joint venture in China. Accordingly, changes in laws and regulations or changes in political and economic conditions in those regions could affect normal company operations and production activities at overseas subsidiaries. Such changes could have a negative effect on the Nikkiso Group's operating performance and financial condition.

### Performance of Overseas Subsidiaries

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The Nikkiso Group acquires and invests in companies and businesses in Japan and overseas in an effort to enhance its lineup of products and technologies in existing businesses, reinforce sales routes, and acquire new businesses. The Nikkiso Group believes that such acquisitions and investments will strengthen its operations and lead to higher growth in the future. However, if the performance of such businesses were to fall significantly, the Nikkiso Group's performance and financial condition could be negatively affected.

### Other

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In addition to the factors described above, should certain events such as a downturn in the global economic environment or a large-scale natural disaster that would significantly affect the Group's operating environment occur, the Nikkiso Group's operating performance and financial position could be negatively affected.

# Consolidated Statement of Financial Position

NIKKISO CO., LTD. and Consolidated Subsidiaries  
As of December 31, 2017

	Millions of yen			Thousands of U.S. dollars
	12/2017	12/2016	Transition date January 1, 2016	12/2017
<b>Assets</b>				
<b>Current assets</b>				
Cash and cash equivalents	¥ 34,095	¥ 25,919	¥ 27,402	\$ 301,728
Trade and other receivables	50,434	41,498	43,331	446,322
Other short-term financial assets	1,698	909	623	15,031
Inventories	30,363	27,181	25,792	268,701
Income tax refund receivable	359	168	1,172	3,180
Other current assets	2,152	1,913	1,732	19,054
<b>Total current assets</b>	<b>119,103</b>	<b>97,591</b>	<b>100,055</b>	<b>1,054,016</b>
<b>Non-current assets</b>				
Property, plant and equipment	38,454	35,679	33,563	340,304
Goodwill and intangible assets	67,792	28,098	27,734	599,934
Investments accounted for using the equity method	1,198	1,052	958	10,608
Long-term financial assets	15,354	12,093	13,225	135,876
Deferred tax assets	1,913	2,253	1,647	16,932
Other non-current assets	875	948	930	7,751
<b>Total non-current assets</b>	<b>125,588</b>	<b>80,126</b>	<b>78,059</b>	<b>1,111,405</b>
<b>Total assets</b>	<b>¥244,692</b>	<b>¥177,717</b>	<b>¥178,115</b>	<b>\$2,165,421</b>
<b>Liabilities and equity</b>				
<b>Liabilities</b>				
<b>Current liabilities</b>				
Bonds and short-term borrowings	¥ 76,975	¥ 16,557	¥ 19,487	\$ 681,196
Trade and other payables	22,624	21,606	20,301	200,215
Other short-term financial liabilities	573	512	613	5,071
Income taxes payable	1,237	2,090	877	10,954
Provisions	1,513	1,247	764	13,395
Other current liabilities	11,006	8,227	7,310	97,408
<b>Total current liabilities</b>	<b>113,930</b>	<b>50,241</b>	<b>49,356</b>	<b>1,008,239</b>
<b>Non-current liabilities</b>				
Bonds and long-term borrowings	45,553	53,326	50,756	403,128
Other long-term financial liabilities	569	549	465	5,042
Net defined benefit liabilities	3,287	3,617	3,504	29,093
Provisions	176	89	81	1,561
Deferred tax liabilities	4,269	1,843	2,599	37,784
Other non-current liabilities	117	385	298	1,039
<b>Total non-current liabilities</b>	<b>53,974</b>	<b>59,812</b>	<b>57,705</b>	<b>477,647</b>
<b>Total liabilities</b>	<b>167,905</b>	<b>110,053</b>	<b>107,061</b>	<b>1,485,886</b>
<b>Equity</b>				
Share capital	6,544	6,544	6,544	57,914
Capital surplus	11,099	11,103	11,091	98,229
Treasury shares	(2,543)	(2,578)	(2,306)	(22,512)
Other components of equity	6,268	1,662	3,766	55,475
Retained earnings	53,682	49,709	50,646	475,064
Equity attributable to owners of the Company	75,051	66,441	69,742	664,170
Non-controlling interests	1,736	1,222	1,310	15,365
<b>Total equity</b>	<b>76,787</b>	<b>67,664</b>	<b>71,053</b>	<b>679,535</b>
<b>Total liabilities and equity</b>	<b>¥244,692</b>	<b>¥177,717</b>	<b>¥178,115</b>	<b>\$2,165,421</b>

## Consolidated Statement of Profit or Loss

NIKKISO CO., LTD. and Consolidated Subsidiaries  
Year ended December 31, 2017

	Millions of yen		Thousands of U.S. dollars
	12/2017	12/2016	12/2017
Revenue	¥140,912	¥130,045	\$1,247,015
Cost of sales	(92,304)	(85,189)	(816,850)
Gross profit	48,608	44,855	430,165
Selling, general and administrative expenses	(42,218)	(37,374)	373,610
Other income	2,554	939	22,610
Other expenses	(227)	(302)	2,014
Operating profit	8,718	8,117	77,151
Financial income	493	412	4,370
Financial costs	(1,112)	(1,903)	(9,845)
Share of profit of associates and joint ventures accounted for using the equity method	210	174	1,864
Profit before tax	8,310	6,801	73,540
Income tax expenses	(3,005)	(1,878)	(26,596)
Profit for the year	5,304	4,922	46,944
Profit for the year attributable to:			
Owners of the Company	5,182	4,883	45,865
Non-controlling interests	121	38	1,079
Profit for the year	¥ 5,304	¥ 4,922	\$ 46,944
Earnings per share (Yen or U.S. dollars):		Yen	U.S. dollars
Basic	¥ 72.82	¥ 66.08	\$ 0.64
Diluted	63.97	57.66	0.56

## Consolidated Statement of Other Comprehensive Income

NIKKISO CO., LTD. and Consolidated Subsidiaries  
Year ended December 31, 2017

	Millions of yen		Thousands of U.S. dollars
	12/2017	12/2016	12/2017
Profit for the year	¥ 5,304	¥ 4,922	\$46,944
Other comprehensive income:			
Items that will not be reclassified subsequently to profit or loss			
Financial assets measured at fair value through other comprehensive income	1,674	66	14,816
Remeasurements of defined benefit pension plans	(70)	(244)	(628)
Share of other comprehensive income (loss) of associates and joint ventures accounted for using the equity method	0	(1)	0
Total	1,603	(178)	14,188
Items that may be reclassified subsequently to profit or loss			
Exchange differences on translation of foreign operations	3,357	(1,780)	29,710
Gain (loss) on cash flow hedges	14	(86)	131
Share of other comprehensive income (loss) of associates and joint ventures accounted for using the equity method	31	(58)	281
Total	3,403	(1,925)	30,122
Other comprehensive income, net of tax	5,007	(2,104)	44,310
Total comprehensive income for the year	¥10,311	¥ 2,818	\$91,254
Total comprehensive income for the year attributable to:			
Owners of the Company	9,717	2,819	85,999
Non-controlling interests	593	(1)	5,255
Total comprehensive income for the year	¥10,311	¥ 2,818	\$91,254

# Consolidated Statement of Changes in Equity

NIKKISO CO., LTD. and Consolidated Subsidiaries  
Year ended December 31, 2017

Millions of yen

	Equity attributable to owners of the Company					
	Share capital	Capital surplus	Treasury shares	Other components of equity		
				Financial assets measured at fair value through other comprehensive income	Remeasurements of defined benefit pension plans	Exchange differences on translation of foreign operations
Balance as of January 1, 2016	¥6,544	¥11,091	¥(2,306)	¥3,973		
Profit for the year						
Other comprehensive income				65	¥(244)	¥(1,798)
Total comprehensive income for the year				65	(244)	(1,798)
Purchase of treasury shares			(4,939)			
Disposal of treasury shares		2	11			
Retirement of treasury shares		(5)	4,656			
Dividends						
Share-based payments		15				
Transfer to retained earnings				(284)	244	
Total transactions with owners		12	(272)	(284)	244	
Balance as of December 31, 2016	¥6,544	¥11,103	¥(2,578)	¥3,754		¥(1,798)
Profit for the year						
Other comprehensive income				1,674	¥(70)	2,917
Total comprehensive income for the year				1,674	(70)	2,917
Purchase of treasury shares			(0)			
Disposal of treasury shares		3	35			
Dividends						
Share-based payments		(7)				
Transfer to retained earnings					70	
Total transactions with owners		(3)	34		70	
Balance as of December 31, 2017	¥6,544	¥11,099	¥(2,543)	¥5,428	—	¥1,118

Thousands of U.S. dollars

	Equity attributable to owners of the Company					
	Share capital	Capital surplus	Treasury shares	Other components of equity		
				Financial assets measured at fair value through other comprehensive income	Remeasurements of defined benefit pension plans	Exchange differences on translation of foreign operations
Balance as of December 31, 2016	\$57,914	\$98,264	\$(22,818)	\$33,223		\$(15,918)
Profit for the year						
Other comprehensive income				14,815	\$(627)	25,813
Total comprehensive income for the year				14,815	(627)	25,813
Purchase of treasury shares			(6)			
Disposal of treasury shares		26	312			
Dividends						
Share-based payments		(62)				
Transfer to retained earnings					627	
Total transactions with owners		(35)	305		627	
Balance as of December 31, 2017	\$57,914	\$98,229	\$(22,512)	\$48,039	—	\$ 9,895

Millions of yen

	Equity attributable to owners of the Company					
	Other components of equity		Retained earnings	Total	Non-controlling interests	Total equity
	Profit (loss) in cash flow hedges	Total				
Balance as of January 1, 2016	¥(206)	¥3,766	¥50,646	¥69,742	¥1,310	¥71,053
Profit for the year			4,883	4,883	38	4,922
Other comprehensive income	(86)	(2,064)		(2,064)	(39)	(2,104)
Total comprehensive income for the year	(86)	(2,064)	4,883	2,819	(1)	2,818
Purchase of treasury shares				(4,939)		(4,939)
Disposal of treasury shares				13		13
Retirement of treasury shares			(4,650)			
Dividends			(1,210)	(1,210)	(86)	(1,296)
Share-based payments				15		15
Transfer to retained earnings		(40)	40			
Total transactions with owners		(40)	(5,820)	(6,120)	(86)	(6,207)
Balance as of December 31, 2016	¥(292)	¥1,662	¥49,709	¥66,441	¥1,222	¥67,664
Profit for the year			5,182	5,182	121	5,304
Other comprehensive income	14	4,535		4,535	471	5,007
Total comprehensive income for the year	14	4,535	5,182	9,717	593	10,311
Purchase of treasury shares				(0)		(0)
Disposal of treasury shares				38		38
Dividends			(1,138)	(1,138)	(80)	(1,219)
Share-based payments				(7)		(7)
Transfer to retained earnings		70	(70)			
Total transactions with owners		70	(1,209)	(1,108)	(80)	(1,188)
Balance as of December 31, 2017	¥(278)	¥6,268	¥53,682	¥75,051	¥1,736	¥76,787

Thousands of U.S. dollars

	Equity attributable to owners of the Company					
	Other components of equity		Retained earnings	Total	Non-controlling interests	Total equity
	Profit (loss) in cash flow hedges	Total				
Balance as of December 31, 2016	\$(2,591)	\$14,713	\$439,903	\$587,977	\$10,821	\$598,798
Profit for the year			45,865	45,865	1,079	46,944
Other comprehensive income	131	40,134		40,134	4,176	44,310
Total comprehensive income for the year	131	40,134	45,865	85,999	5,255	91,254
Purchase of treasury shares				(7)		(7)
Disposal of treasury shares				339		339
Dividends			(10,076)	(10,076)	(712)	(10,788)
Share-based payments				(62)		(62)
Transfer to retained earnings		628	(628)			
Total transactions with owners		628	(10,704)	(9,806)	(712)	(10,518)
Balance as of December 31, 2017	\$(2,460)	\$55,475	\$475,064	\$664,170	\$15,364	\$679,534

# Consolidated Statement of Cash Flows

NIKKISO CO., LTD. and Consolidated Subsidiaries  
Year ended December 31, 2017

	Millions of yen		Thousands of U.S. dollars
	12/2017	12/2016	12/2017
<b>Operating activities:</b>			
Profit before tax	¥ 8,310	¥ 6,801	\$ 73,540
Depreciation and amortization	5,246	4,766	46,425
Interest and dividend income	(350)	(295)	(3,101)
Interest expense	856	693	7,576
Exchange difference	612	112	5,421
Share of profit of associates and joint ventures accounted for using equity method	(210)	(174)	(1,863)
Gains on sale and disposal of property, plant and equipment	(1,191)	(238)	(10,545)
(Increase) decrease in trade and other receivables	(5,375)	742	(47,575)
Decrease (increase) in inventories	2,094	(1,961)	18,533
(Decrease) increase in trade and other payables	(1,921)	1,888	(17,002)
Decrease in net defined benefit liabilities	(470)	(206)	(4,167)
Other	2,098	2,616	18,570
Subtotal	9,696	14,744	85,812
Interest and dividends received	441	369	3,910
Interest paid	(688)	(679)	(6,094)
Income taxes paid	(4,534)	(1,034)	(40,125)
Net cash generated by operating activities	¥ 4,915	¥13,400	\$ 43,503
<b>Investing activities:</b>			
Payments into time deposits	(467)	(500)	(4,133)
Proceeds from withdrawal of time deposits	839	212	7,428
Purchase of property, plant and equipment	(5,604)	(6,719)	(49,601)
Proceeds from sale of property, plant and equipment	1,703	613	15,073
Purchase of intangible assets	(508)	(704)	(4,504)
Proceeds from sale of intangible assets	¥ 9	¥ 9	\$ 88
Purchase of equity instruments	(1,734)	(148)	(15,345)
Proceeds from sale of equity instruments		1,058	
Payments for acquisition of subsidiaries	(42,299)	(1,753)	(374,327)
Payments made for short-term loans receivable	(6)	(67)	(61)
Proceeds from collection of short-term loans receivable	11	10	98
Payments of made for long-term loans receivable	(1)	(3)	(16)
Net cash used in investing activities	¥(48,058)	¥(7,993)	\$(425,300)
<b>Financing activities:</b>			
Proceeds from short-term borrowings	¥ 53,118	¥13,951	\$ 470,077
Repayments of short-term borrowings	(13,296)	(13,494)	(117,668)
Repayments of finance lease obligations	(75)	(88)	(666)
Proceeds from long-term borrowings	16,886	8,886	149,441
Repayments of long-term borrowings	(4,398)	(9,269)	(38,921)
Payments for purchase of treasury shares	(0)	(4,939)	(9)
Dividends paid	(1,138)	(1,210)	(10,076)
Dividends paid to non-controlling interests	(80)	(86)	(711)
Net cash generated by/ used in financing activities	¥ 51,015	¥(6,251)	\$ 451,467
Effects of exchange rate changes on the balance of cash and cash equivalents held in foreign currencies	302	(638)	2,680
Increase (decrease) in cash and cash equivalents	8,175	(1,482)	72,351
Cash and cash equivalents at the beginning of the year	25,919	27,402	229,376
Cash and cash equivalents at the end of the year	¥ 34,095	¥25,919	\$ 301,728

## Company Information

As of December 31, 2017

Company Name	NIKKISO CO., LTD.
Head Office	Yebisu Garden Place Tower 22nd Floor, 20-3, Ebisu 4-Chome, Shibuya-ku, Tokyo 150-6022, Japan Tel: +81-3-3443-3711 Fax: +81-3-3473-4963
Date of Establishment	December 26, 1953
Paid-in Capital	¥6,544,339,191
Number of Employees	7,872 (Consolidated) 1,877 (Non-Consolidated)
Fiscal Year	From January 1 to December 31

## Investor Information

As of December 31, 2017

### Share Information

Securities Code	6376
Number of Shares Issued (Including Treasury Shares)	74,286,464 (3,098,489)
Number of Shareholders	9,586
Stock Exchange Listing	First Section of Tokyo Stock Exchange

### Major Shareholders

	Number of Shares Held (Thousands)	Percent of Total Shares Outstanding (%)
Japan Trustee Services Bank, Ltd. (Trust Account)	3,802	5.34
The Master Trust Bank of Japan, Ltd. (Trust Account)	3,137	4.40
Nikkiso Shareholders Association	2,528	3.55
Mizuho Bank, Ltd.	2,500	3.51
JP Morgan Chase Bank 385632	2,447	3.43
Mitsui Sumitomo Insurance Co., Ltd.	1,966	2.76
Nikkiso Employee Shareholders Association	1,891	2.65
Nippon Life Insurance Company	1,650	2.31
The Bank of Tokyo-Mitsubishi UFJ, Ltd.	1,622	2.27
Sumitomo Mitsui Trust Bank, Limited	1,404	1.97

\* The Company maintains 3,098,489 shares of treasury shares, which does not include the holdings of the major shareholders in the above list. In addition, the shareholding ratio is calculated deducting treasury shares.

### Detailed Financial Information

For detailed financial information, please see the Financial Statements.

<https://www.nikkiso.com/ir/annualreport.html>



**NIKKISO CO., LTD.**

Yebisu Garden Place Tower 22nd Floor,  
20-3, Ebisu 4-Chome, Shibuya-ku,  
Tokyo 150-6022, Japan  
Tel: +81-3-3443-3711  
Fax: +81-3-3473-4963  
<https://www.nikkiso.com>

