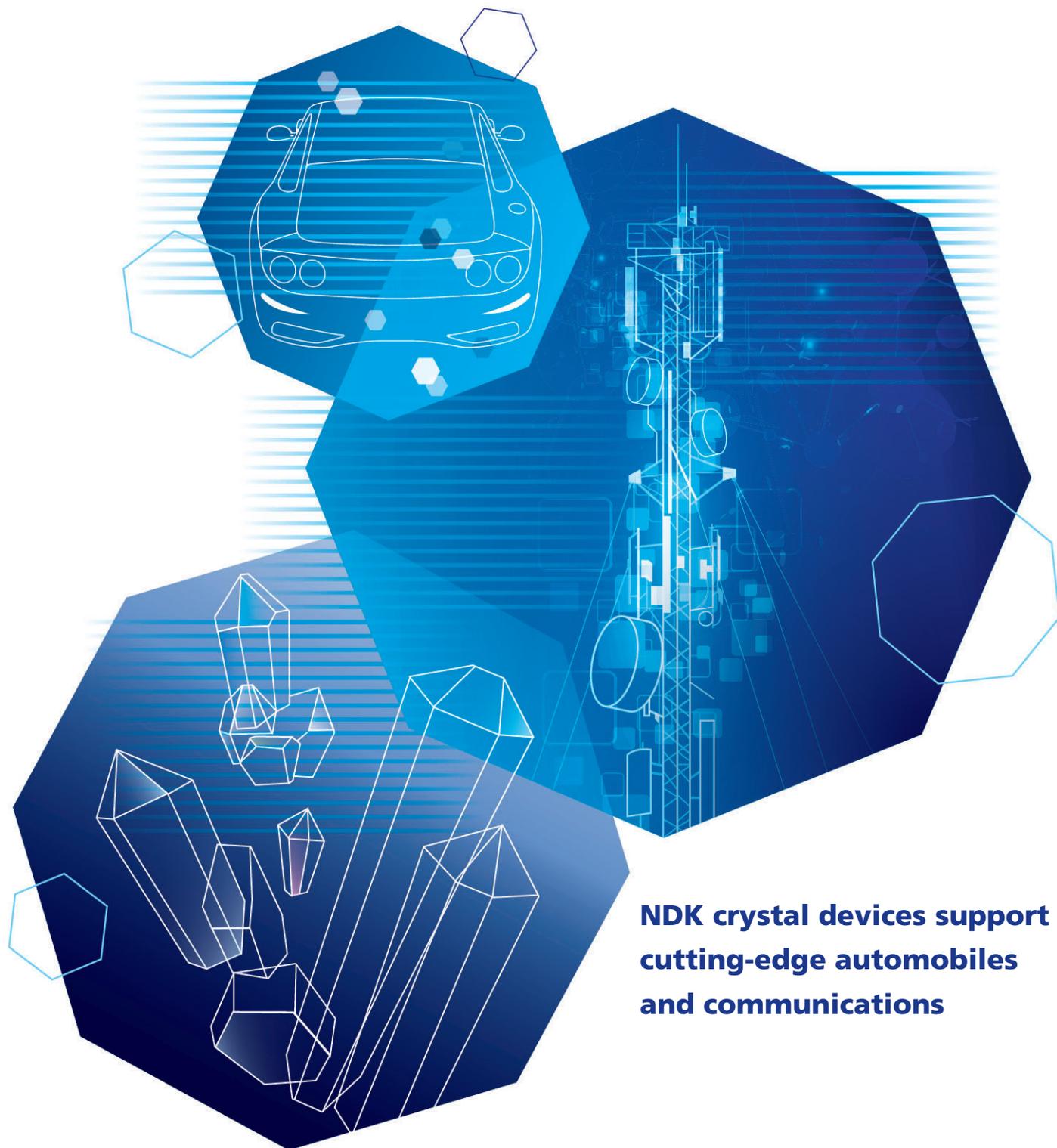


# ANNUAL REPORT 2021

Report for the Fiscal Year Ended March 31, 2021



**NDK crystal devices support  
cutting-edge automobiles  
and communications**

A LEADER IN THE FIELD OF QUARTZ CRYSTAL ELECTRONIC COMPONENTS

**NIHON DEMPA KOGYO**

## PROFILE

Nihon Dempa Kogyo Co., Ltd. (NDK) was established in 1948 as a company specializing in the manufacturing of quartz crystal devices for frequency control, selection, and detection, and having a founding philosophy of “contributing to the prosperity of society and world peace through our service to customers.” Quartz crystal devices are passive components that utilize the piezoelectric effect of crystals. Applying voltage to crystal and utilizing its vibration phenomena enables oscillation at a frequency that is highly stable and precise. Quartz crystal devices were primarily used in clocks and in the communications equipment field. However, given that microcontrollers have come to be used for so many applications, crystal devices are now used across a wide range of fields, from digital appliances through automobiles to smartphones.

Looking ahead, it is expected that the number of Advanced Driver Assistance Systems (ADAS) installed in automobiles will increase and that 5G smartphones will become more widespread as progress are made toward upgrading infrastructure for the next-generation communication standard 5G base stations. As a result, crystal devices are expected to be increasingly in demand for automotive electronics, 5G base stations and 5G smartphones. As 5G requires highly accurate and highly reliable crystal devices that meet the needs for high frequencies and miniaturization, we aimed to reap the fruits of these business opportunities and build a robust management structure capable of reliably securing profits under the Mid-Term Management Plan. Measures are being implemented from the fiscal year ended March 31, 2021.

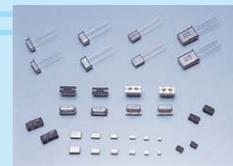
Under the Mid-Term Management Plan, we aim to achieve net sales of ¥42.0 billion, and to secure an operating income ratio of 7% in the fiscal year ending March 31, 2023. However, owing to strong demand for automotive electronics, we expect to clear this target a year early, reaching ¥42.5 billion in net sales in the fiscal year ending March 31, 2022. Moreover, having made progress on structural reforms, including undertaking workforce rationalization measures throughout the Group, we have trimmed fixed costs to levels in line with plans. We will continue to grow sales for automotive electronics and increase cutting-edge and compact products geared toward 5G base stations and smartphones to reach the target of 7% operating income ratio in the next fiscal year.

NDK is committed to implementing its Mid-Term Management Plan and steadily improving profitability. Moving forward, NDK will provide the highly reliable and high-precision products required in the 5G era and continue to contribute to the creation of a safe, secure, and comfortable society.

## PRODUCT LINEUP



Synthetic Quartz Crystals



Crystal Units



Crystal Oscillators



76.8MHz Crystal Units with Built-in Thermistors



Ultrasonic Probes



7x5mm Small OCXOs



Outgas Sensors



Frequency Synthesizers

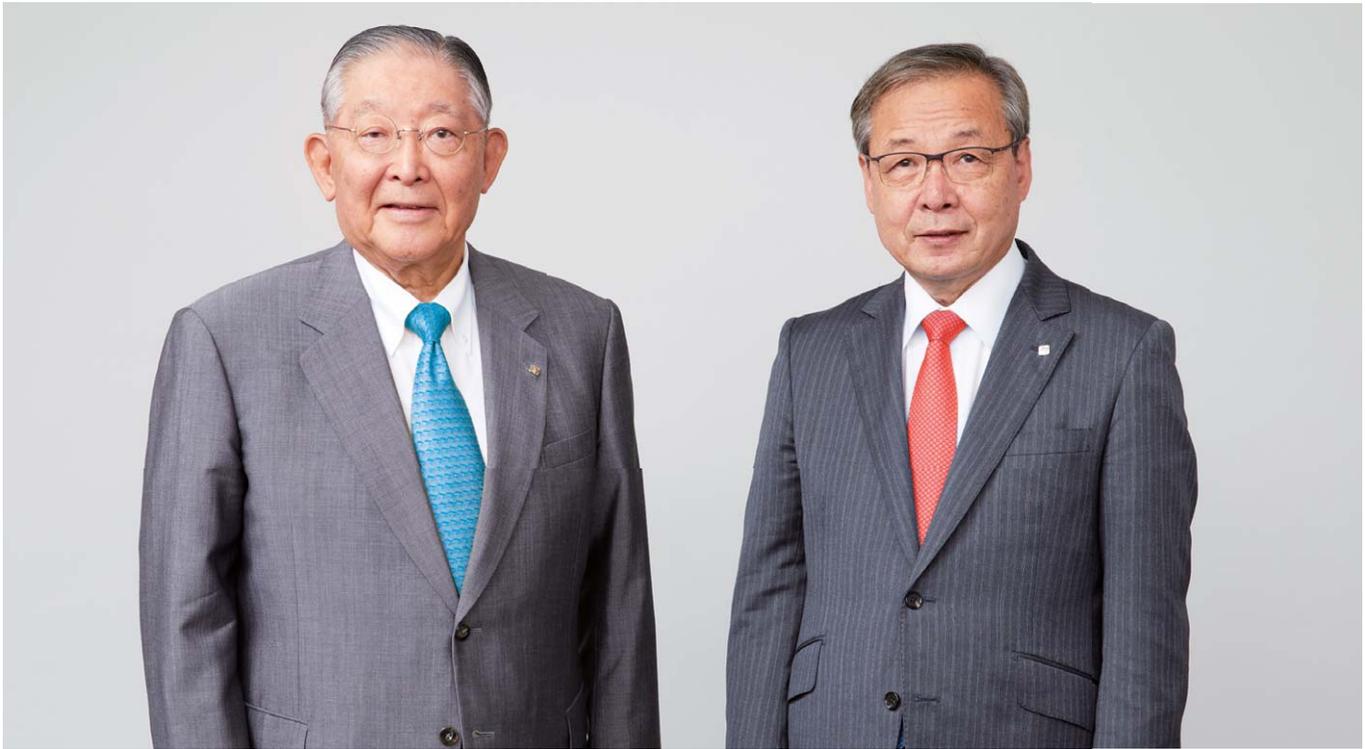
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<https://www.ndk.com/en/index.html>

### Forward-Looking Statements

Statements made in this report with respect to our current plans, estimates, strategies, beliefs and other statements that are not historical facts are forward-looking statements about our future performance. These statements are based on management's assumptions and beliefs in light of information currently available to it. We caution that a number of important risks and uncertainties could cause actual results to differ materially from those discussed in the forward-looking statements, and therefore you should not place undue reliance on them. You also should not rely on the belief that it is our obligation to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise. Risks and uncertainties that might affect us include, but are not limited to, fluctuation of currency exchange rates, overall supply and customer demand in the industry, product development and production capacities, performance of affiliated companies, and other risks and uncertainties.



## **Toshiaki Takeuchi**

Representative Director and  
Chairman of the Board

## **Hiromi Katoh**

Representative Director and  
President

## **Fiscal Year 2021 Results**

### **Returned to profitability in second fiscal half**

In the first quarter of the fiscal year ended March 31, 2021, the global economy deteriorated significantly due to COVID-19. With positive impact from aggressive fiscal stimulus measures in major countries, automotive and other markets recovered toward fiscal year end.

About half of sales, automotive applications decreased significantly in the first quarter, but automobile manufacturing rapidly recovered thereafter. With rising demand for Advanced Driver Assistance Systems (ADAS), crystal device units installed per vehicle increased. Second half sales surpassed the fiscal 2018 peak.

In mobile communications, roughly 20% of sales, sales rose due to robust demand for 76.8MHz crystal units with built-in thermistors and ultra-compact crystal unit products for 5G smartphones. In industrial equipment, 10% of sales, second half sales to major Chinese telecommunications equipment makers fell sharply with U.S. sanctions, but full-year sales, mainly for base stations, rose. In consumer markets, some 10% of sales,

sales fell due to significantly decreasing SLR camera demand, despite an increase in sales for PCs.

With a substantial impact from first quarter decline in sales of automobiles, fiscal year sales totaled ¥39,196 million, edging down 0.7%.

We improved profitability, despite restructuring costs of ¥790 million and a decrease in inventories that exerted downward pressure, by returning mobile communications to profitability, reducing fixed costs, and selling 51% of the shares of NDK SAW Devices Co., Ltd., which had been a wholly owned subsidiary. A gain of ¥4,406 million was recorded on sale of shares and as a gain on valuation of residual interests associated with the transfer. Impairment losses decreased ¥3,604 million. Restructuring and other expenses declined ¥1,710 million. Fiscal year operating income was ¥2,844 million, income before income taxes ¥2,592 million, and net income ¥1,976 million. In the second fiscal half, operating income, excluding income of ¥4,406 million from said transfer of shares, ¥414 million in restructuring costs, and ¥328 million yen in impairment losses, turned to ¥634 million profit.

## TO OUR SHAREHOLDERS

### ■ Fiscal Year 2021 Results

(Millions of yen)

	FY2020 Full Year	FY2021		Full Year	YoY
		1H	2H		
Net Sales	39,468	17,575	21,621	39,196	(272)
Operating Income	(8,286)	(1,453)	4,297	2,844	+11,130
Operating Income Ratio	(21.0%)	(8.2%)	19.8%	7.3%	28.3%
Operating Income/Loss (Excluding temporary factors)	(1,998)	(1,077)	634	(443)	+1,555
Operating Income/Loss Ratio	(5.1%)	(6.1%)	2.8%	(1.1%)	+4.0%
Net Income before Tax	(8,644)	(1,664)	4,256	2,592	11,236
Net Income	(8,709)	(2,157)	4,133	1,976	+10,685
Exchange Rate (against the U.S. dollar)	109.10	106.68	105.60	106.17	(2.93)

#### <Temporary factors>

Impairment losses	(3,932)	–	(328)	(328)
Cost of structural reform	(2,500)	(376)	(414)	(790)
Grant from Suzhou government	144	–	–	–
SAW device business related revenue	–	–	4,406	4,406
<b>Temporary factors</b>	<b>(6,288)</b>	<b>(376)</b>	<b>3,664</b>	<b>3,287</b>

### Fiscal Year 2022 Forecast

#### Anticipating operating income of ¥2.9 billion (¥2.2 billion excluding temporary factors)

Sales are foreseen to rise ¥3,304 million to ¥42,500 million due to significant growth in automotive electronics. Mobile communications sales of 76.8MHz crystal units with built-in thermistors and ultra-compact crystal units are expected to increase, but overall sales are predicted to decrease slightly due to a decline in sales of temperature compensated crystal oscillator (TCXO) products. Sales of industrial equipment are anticipated to decrease as sales to major Chinese telecommunications equipment makers approach zero. We are targeting compact, oven-controlled crystal oscillator (OCXO) products for small mobile phone base stations supporting 5G as demand takes off from 2023.

We forecast operating income of ¥2,900 million, income before income taxes of ¥2,300 million, and net income of ¥2,100 million. Profitability will improve as inventories rise toward an appropriate level due to production capacity expansion. We will receive a ¥1 billion subsidy from the Suzhou City, China government, reflecting ¥1.8 billion in economic compensation to employees when relocating manufacturing there. Payment was expensed in fiscal year ended March 2020.

In the fiscal year ending March 2022, we will make capital investments of ¥2,700 million, including high-speed, high-precision production lines, allocating ¥600 million for mobile communications and ¥400 million for automotive electronics.

### ■ Fiscal Year 2022 Forecast

(Millions of yen)

	FY2021 Full Year	FY2022 Forecast		Full Year	YoY
		1H	2H		
Net Sales	39,196	21,100	21,400	42,500	+3,304
Operating Income	2,844	1,800	1,100	2,900	+56
Operating Income Ratio	7.3%	8.5%	5.1%	6.8%	(0.5%)
Operating Income/Loss (Excluding temporary factors)	(443)	1,000	1,200	2,200	+2,643
Operating Income/Loss Ratio	(1.1%)	4.7%	5.6%	5.2%	+6.3%
Net Income before Tax	2,592	1,500	800	2,300	(292)
Net Income	1,976	1,400	700	2,100	+124

\*Temporary factors for FY2022 include ¥1.0 billion in grant from Suzhou government (1H) and ¥300 million in cost of structural reform (¥200 million in 1H and ¥100 million in 2H).

\*\*Exchange Rate against the U.S. dollar for FY2022 forecast is 104.00yen.

### Mid-Term Management Plan (Fiscal 2021 ~ 2023)

#### Solid progress

The Mid-Term Management Plan target sales of ¥42 billion and an operating income ratio of 7% (¥107:US\$1) in the fiscal year ending March 2023. Expeditiously, we now forecast sales of ¥42.5 billion by March 2022. Via structural reforms, including voluntary retirement offers, we streamlined fixed costs to planned levels. With sales and fixed costs targets likely realized ahead of schedule in fiscal year March 2022, our focus is on increasing sales in automotive and cutting-edge small products for 5G smartphones and for 5G base stations, targeting 7%

operating profit in fiscal year March 2023. Mid-term, Advanced Driver Assistance Systems (ADAS) installed in automobiles will increase. 5G-compatible smartphones will become more widespread as infrastructure for 5G base stations expands. Demand will grow in the crystal device markets of automotive electronics, 5G-compatible base stations, and 5G smartphones. As 5G requires highly accurate and reliable crystal devices for high frequencies and miniaturization, our Mid-Term Management Plan announced in 2020 outlines our commitment to product differentiation via high-precision, high-reliability products utilizing cultivation of high-quality synthetic quartz crystals and photolithography technologies. Achieving a robust management structure via our Mid-Term Management Plan will deliver sustainable profitability.

◆ **Restructuring for drastic reduction of fixed costs**

To assure profitability even at current sales levels, we implemented vigorous fixed-cost reductions. In fiscal year March 2020, we offered voluntary retirements at non-consolidated operations, and in October 2020 transferred part of our surface acoustic wave (SAW) filter business. Restructuring includes rationalization of personnel at consolidated subsidiaries in China and Malaysia. We are rebuilding domestic subsidiary production systems. Niigata NDK will terminate its business operations on September 30, 2021. Fixed costs are expected to decline approximately ¥2.3 billion from fiscal 2019 levels. The Mid-Term Management Plan of reducing fixed costs to ¥18 billion is within reach.

◆ **Focus on high-value-added products**

Expanding sales of compact, high-frequency/high-accuracy crystal units utilizing photolithography blanks

We are improving “sales quality” by increasing the number of small, high-precision, high value-added products with built-in photolithography blanks using photolithography technology and high-quality raw materials, reducing the number of low

margin products. In mobile communications, orders for 76.8MHz thermistor-embedded crystal units (1.6 x 1.2mm size) are steadily increasing, with NDK the first crystal device company to receive certification from Qualcomm Technologies Inc. (US) for use in 5G smartphones. We will increase production capacity in the fiscal year ending March 2022. As demand for small 1.2 x 1.0mm and 1.0 x 0.8mm size crystal units using photolithography blanks rises along with growing demand for 5G smartphones and wearable devices including wireless earphones, we will increase production capacity apace. By implementing the Mid-Term Management Plan, we will assure stable profitability in mobile communications.

Transfer of SAW filter business

Recognizing the challenges of a standalone SAW filter business, we established NDK SAW Devices Co., Ltd. as a wholly owned subsidiary. On October 30, 2020, 51% of the Company's shares were transferred to a Chinese advanced technology investment firm.

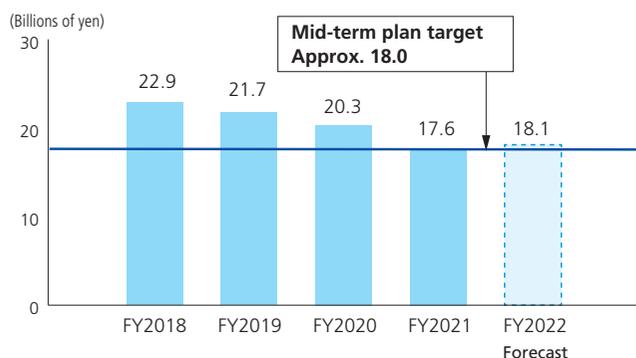
◆ **Investment strategy**

We will invest in technological development and equipment upgrades to further improve the quality and productivity of photolithography blanks, for which high-quality raw crystals are utilized. In downstream processes (assembly), we will introduce high-speed/high-accuracy equipment to improve productivity and strengthen cost competitiveness.

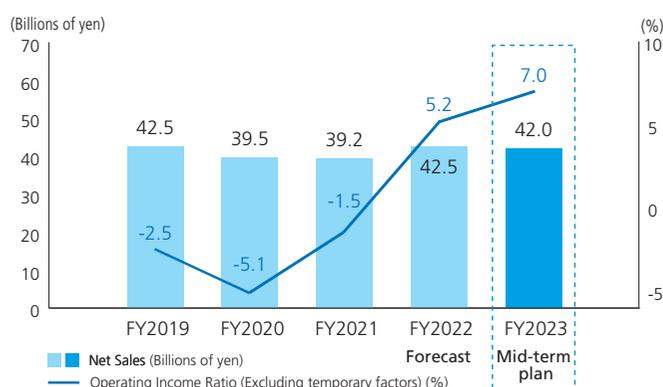
◆ **Stabilization of cash flow, improvement of financial position**

We reached an agreement with financial institutions servicing existing loans to maintain the debt balance up to the end of September 2023. We issued ¥5 billion of class shares through a third-party allotment in August 2020, receiving a capital injection. As profit exceeded expectations due to the increases in sales and other factors, shareholders’ equity ratio in March 2021 exceeded the target of 20%. Going forward, we will aim for improvement toward a further sound financial basis.

■ **Streamlining Fixed Costs**



■ **PL (Sales/Operating Income Ratio) Targets**





# THE COMPANY'S PRIORITY FOCUS FIELDS



**From automated driving to 5G. NDK crystal devices support cutting-edge automobiles and communications.**

**NDK crystal devices are indispensable for the daily operation of society**

NDK crystal devices are used virtually in every type of electronics from mobile phones, computers, and home appliances to automobiles, game consoles, digital cameras, and medical devices. Crystal devices are the reference source to enable the accurate transmission and processing of the vast amounts of information by using signals from accurate and stable vibrations. Thus, crystal devices play an important role in controlling the inner movements of electronics products. The demand for the crystal devices is expected to grow, mainly in automotive market where the growing number of self-driving vehicles and vehicles equipped with advanced driver assistance systems (ADAS) are now in full swing and in the telecommunications market with the spread of 5G technology.

## Automotive Electronics

**No.1 global market share in crystal devices contributing to the automobile revolution**



Market share of automotive crystal devices (Fuji Chimera Research Institute, NDK estimate)

**Over 50% global market share backed by decades of experience in automotive electronics**

NDK has been developing crystal devices for automotive applications since the beginning of the move toward the electrification of automobiles in the early 1970s. Since then, NDK has gained clients worldwide, making NDK the pioneer company supplying crystal devices for automotive applications. NDK currently commands 55% market share\* of crystal devices for automotive applications, making NDK number one in the world in both name and reality. (\*NDK estimate)

Our crystal devices are used in various applications in automobile from applications contributing to automotive safety, such as electronic fuel injection systems for engines and controllers for brakes, transmissions, and airbags, to speedometers, audio systems, Tire Pressure Monitoring Systems (TPMS), and Remote Keyless Entry systems (RKE).

Currently, the market expansion potential is limitless for crystal devices for ADAS and self-driving vehicles, which are the next-generation in automobiles. Our products are used for sensor instruments with millimeter-wave radar, LiDAR, in-vehicle cameras, and telematics which is linked with GPS.

Based on these trends, the number of crystal devices used in automobile are: 70 to 100 crystal devices for luxury cars; 30-40 devices for mid-priced cars; 10-20 devices for low-priced cars; and roughly 30 crystal devices per car on average. The number is expected to grow by more than 5% each year.

## NDK's advantage is to offer comprehensive support capability from product planning and development to mass production and delivery

One of the key factors behind NDK becoming the world leader in automotive crystal devices is our comprehensive support capability, which is essentially in our DNA. From the planning and development stages to mass production and delivery, our fully integrated manufacturing, engineering, quality, and sales divisions work closely together to meet the needs of our customer.

For example, at the development stage, it is necessary to develop products with higher robustness than general consumer products, considering predicted severe environments and how vehicles are used. Through the combination of simulation testing for repeated cooling and heating cycles as well as vibration and impact with design engineering for onboard components refined over decades, NDK is developing highly robust in-vehicle products by selecting materials to be used and by focusing on structural design.

At the prototype production stage, we apply rigorous verification processes for defect prevention. For crystal units, which are passive components, the oscillation conditions must be optimal for the circuit, and we verify that they match through evaluation testing directly on the circuit board, which ensures stable operation. To keep pace with the increasing speed of product development at our customers, we are carrying out verification processes not only in Japan but in the United States, Germany, and China.

Our activities at the mass production stage take full advantage of our ability to supply high-quality, highly reliable products. NDK has obtained International Automotive Task Force

(IATF) 16949 certification at all of its domestic and overseas factories that manufacture automotive crystal units.

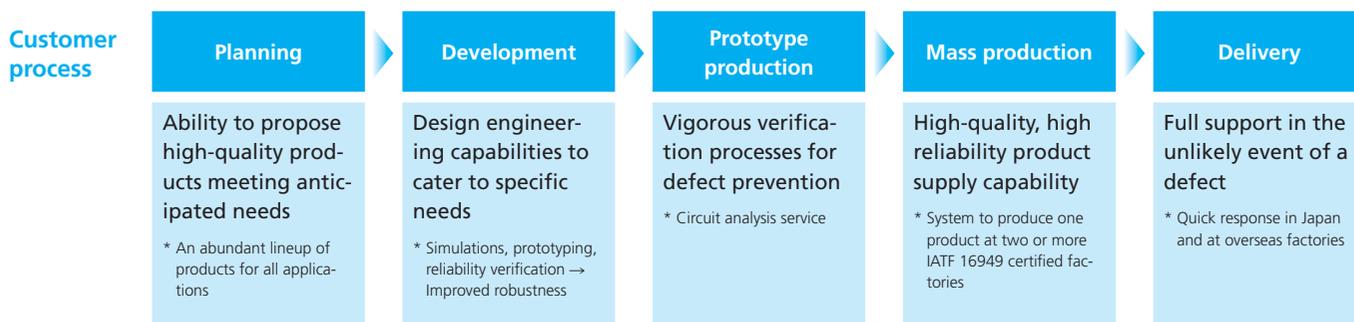
## "Automotive quality" meeting individual customer specifications

NDK acquired ISO/IEC 17025 accreditation for its laboratory systems in 2008 and NDK tests its automotive products in compliance with the AEC-Q200, which is industry standard, as well as for conformance with the needs of individual customer requirements related to usage conditions. Our testing equipment includes apparatuses to conduct random continuous drop testing for crystal devices for keyless entry systems, assuming key fobs are often dropped, and centrifugal accelerators for crystal devices used in TPMS, which are exposed to gravitational acceleration in tires for hundreds of hours.

Moreover, auto industry suppliers are required to supply parts not only at the time of manufacturing, but also in case of failure for replacement demand through the product usage period. NDK has systems in place to ensure continuous supply of automotive quality crystal devices, as well as systems to meet detailed individual specifications, that have earned the trust of automotive component makers around the world.

The automobile industry is undergoing a once-in-a-century transformation that is attracting new market entrants and parts suppliers with no previous experience providing automotive components. We will continue to contribute to all areas of the automotive industry by broadening the quality concepts and methods we have learned over the years from automotive component makers from our standpoint as a components maker.

### NDK Comprehensive Support Capability



5G

**NDK photolithography technology adopted in the latest 5G smartphones**

**NDK's crystal blank became first to receive Qualcomm certification for IC due to superior temperature characteristics**

The shift to 5G mobile communications is increasing requirements for higher frequency clock sources and low phase noise in chipsets. The proposed solution for improving phase noise was to reduce the frequency multiplication by raising the frequency from 38.4MHz to 76.8MHz for the internal reference oscillator source, and then to lower noise further by raising the crystal unit drive level to maintain stable temperature characteristic.

NDK met this challenge by advancing the crystal blanks it has been developing since 2008 to be more compact with higher frequency, and engineering them to accommodate photolithographic processing technology. Extensive trial and error led to ideal external dimensions and configuration enabling compact, high-frequency, and high yield photolithographic blanks.

Our photolithographic blanks provide excellent frequency stability at increased drive levels and exhibit highly stable characteristics with minimal frequency variation from temperature changes.

The superior characteristics of these photolithographic blanks fulfill the Qualcomm Technologies requirements for its 5G smartphone chipset\* in the United States, making NDK its very first certified manufacturer ahead of other crystal devices manufacturers.

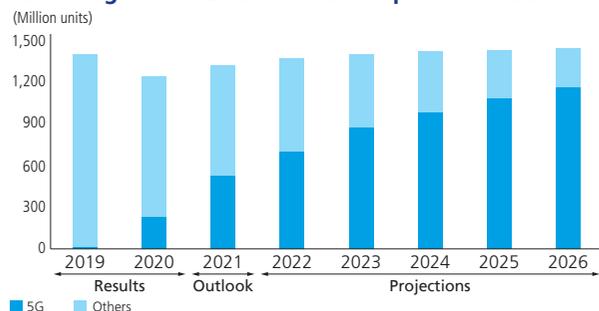
Our photolithographic blanks are used in 5G-compatible smartphones, True Wireless Stereo (TWS) earphones, and smartwatches, and are opening the way for devices that are increasingly smaller and thinner.

\* Qualcomm Snapdragon 690, 750G for 5G Mobile Platform



76.8MHz Crystal Units with Built-in Thermistors

**Percentage of 5G Devices in Smartphone Production**



**4-inch wafer for stable mass production**

While the current standard size of wafers is two inches, NDK's many years of research into large, high-quality raw crystals led to us becoming the first manufacturer to achieve mass production of 4-inch wafers, with improved blank performance and productivity improvement. The increased blanks per wafer and the ability to stably-mass-produce crystal blanks with uniform quality makes our process highly competitive in terms of both cost and quality.

Making large wafers requires large, highly pure quartz crystals. NDK grows and manufactures its own high-quality raw crystals for photolithographic blanks. The raw crystal is cut and microfabricated to make precisely-sized wafers. This technical expertise accumulated over many years is the crucial foundation for integrated production of high-quality, high-performance crystal blanks.

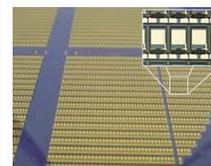
We are strictly preserving product quality from the initial raw crystals through to the final products as we seek to further increase production yields and maintain our competitive advantage in the market.



Developing raw crystals



Large, high-quality raw crystals



Photolithographic process

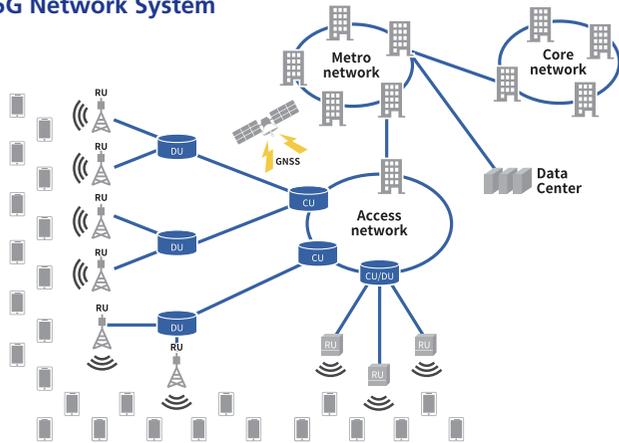
**Japan's sole mass-producer of OCXO for 5G base stations for the world market**

**Gaining market share of OCXO for 5G base stations**

In 5G systems, only few highly stable OCXOs are used in the controller base stations called the central unit (CU) and distributed unit (DU) base stations, but the specification requirements are becoming increasingly demanding.

Raw crystal with very high-purity and high-quality characteristics is an essential factor for meeting such severe requirements and NDK provides integrated large-volume production of highly stable OCXO using our own high-quality raw crystals and supplies consist-

## 5G Network System



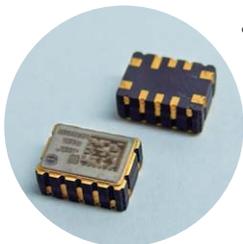
tent-quality, high-performance products to base station developers in Japan and overseas. NDK is the sole crystal device manufacturer with the elemental technology for fully integrated production of oscillators from raw crystals.

Also, an OCXO unit is a fusion of a high-precision crystal unit and advanced circuit technology. NDK is the sole Japanese company actively engaged in the OCXO business for base stations. In fact, NDK is one of only five makers of OCXOs for base stations worldwide, and NDK has been constantly acquiring market shares.

### World's smallest-class OCXO capable of handling high temperatures for miniaturized base stations

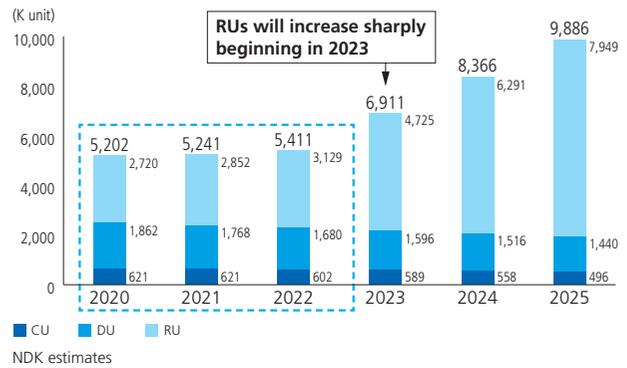
The 5G systems use high-frequency radio waves called Sub 6GHz and millimeter waves. Although the communication speed is faster than 4G radio waves, 5G radio waves have strong directivity but short range, which means that it is expected to lead to an increase in the number of small radio unit (RU) wireless base stations.

We expect that RUs will be installed in urban centers with a lot of communication traffic such as on building walls and rooftops. Accordingly the OCXOs for RU must not only be compact, they must also maintain stable performance in extremely harsh conditions including vibrations from external sources and a wide range of temperatures.



World's smallest-class 7mm×5mm OCXO NH7050SA capable of handling high temperatures (+95°C) for 5G base stations

## Projected Number of Base Stations



NDK offers the world's smallest-class 7mm x 5mm OCXO oscillators. This product is a culmination of our painstaking efforts to bring together the small circuit integration and ultra high-density mounting technologies we developed for our TCXO and VCXO oscillators.

## For 5G and beyond

NDK is aggressively working to put the business for 5G base stations on track, but we are also preparing for future business and to make further expansion.

NDK was openly recruited by The Ministry of Economy, Trade and Industry, jointly with the National Institute of Information and Communications Technology, University of Tokyo, and Tohoku University to study "Post 5G Information and Communications Systems Fundamental Reinforcement R&D Project/Leading Research"(consigned). NDK has started to study time synchronization technology with the title of "Innovative Communications Devices and Applications Development based on Extreme Time Synchronization", which is expected to become increasingly important in future technologies.

From 5G to 6G. To support continuous development of digital society, we will contribute to make our world more safe, secure, and comfortable by continuously providing high-precision, highly reliable products.

### [Reference]

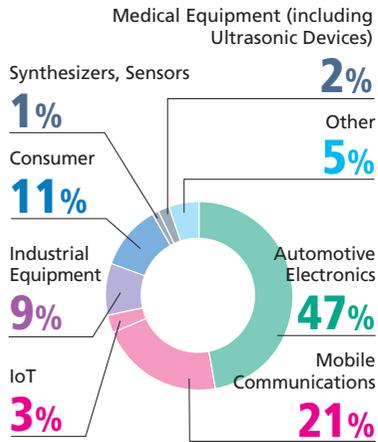
<https://www.meti.go.jp/press/2020/10/20201027001/20201027001.html>



# BUSINESS OVERVIEW

## Principal Markets

### Percentage of Total Sales



## Automotive Electronics



## Industrial Equipment



## Number of Crystal Devices Used

- Ultralow-priced models: 10 to 20
- Economy models: 30 to 40
- Luxury models: 70 to 100

- Mobile phone base stations
- Optical communications devices (each device: 1 to 10 or more)

## Used In

- Automobiles

- Mobile phone base stations
- Optical communications devices

## Outline of Business Results and Outlook

- Sales in FY2021 recovered from the second quarter onward against the significant slowdown in automobile production at the first quarter caused by COVID-19.
- The number of crystal devices per vehicle is exhibiting an upward trend due to the increasing installation of ADAS devices, including car cameras and radars as well as communication functions, in automobiles. Coupled with the recovery in demand for automobiles, demand is expected to remain robust for the foreseeable future.

- Despite signs of widespread global use of 5G services since its commercial launch in 2019, the impact of COVID-19 and trade friction between the U.S. and China caused delays in base station installation plans in 2020.
- The installation of small base stations is projected to increase owing to the shorter communication distance of 5G services compared with LTE. With expectations that demand for small, high-precision quartz products will increase, the Company will develop and market products that stand apart from the competition by leveraging its technological capabilities.

## Mobile Communications/IoT



- Smartphones (2 to 5 crystal units and oscillators)
- Wearable devices (1 to 5 crystal units and oscillators)

- Smartphones
- IoT devices

- Demand for smaller and higher frequency components in smartphones and wearable devices is increasing. IoT is becoming more widespread in a variety of forms, and crystal demand is increasing for communication functions.
- Sales increased year on year as the Company expanded sales of highly profitable small-sized products. By developing photolithographic crystal blanks ahead of its rivals, NDK was the first crystal device company to receive certification from Qualcomm Technologies for a 76.8MHz crystal unit with built-in thermistor (1.6mm x 1.2mm size) for 5G terminals, and commenced sales.

## Consumer



- Laptop PCs: 3 to 4
- LCD TVs: 2 to 3
- Game consoles: 3 to 5
- Digital single-lens reflex cameras: 2 to 3, and 1 for optical filter

- PCs
- Flat-panel TVs
- Game consoles
- Digital single-lens reflex cameras

- Sales of optical products were sluggish due to a decline in the SLR camera market. While the market for PCs and games is recovering, the Company will adopt a selective approach based on profitability.

## Synthesizers/Sensors/ Ultrasonic Devices, Other



- Frequency synthesizers
- Outgas sensors
- Ultrasonic probes

- In frequency synthesizers, the Company will enhance sales for specialized equipment and satellite base stations.
- Outgas analysis systems: Commenced sales of outgas sensors developed jointly with JAXA from September 2019 to domestic/overseas space R&D agencies and companies. Plans to strengthen sales channels for such non-space and other applications to materials and other manufacturers.
- Ultrasonic: The Company is promoting sales for medical use.

## Environmental Preservation

### 1. Basic Environmental Philosophy

As a global enterprise, the NDK Group's corporate philosophy includes the stipulation that we will "strive to conserve the earth's environment and carry out our social responsibilities," and we recognize the importance of activities that reduce environmental impact and of establishing a recycling-oriented society. Possessing the will and sense of responsibility, we will deploy proactive and ongoing environmental preservation activities and pass on our irreplaceable Earth to future generations.

### 2. Basic Environmental Policy

Initiatives geared toward the preservation of the global environment are one of the major corporate management issues at NDK. We carefully assess the environmental impact of all our products and business processes through product development, design, manufacture and sale, while working to prevent environmental pollution.

For more detailed information, please refer to the sections headed Environmental Policy and ESG Activities at the following Internet address:

<https://www.ndk.com/en/environment/policy/index.html> (English)

<https://www.ndk.com/jp/environment/policy/index.html> (Japanese)

### 3. Green Crystal Technology

To reduce CO<sub>2</sub> emissions that are a contributory factor in global warming, the NDK Group formulates and promotes mid-term plans that include specific reduction targets. To meet society's environmental needs, we are also contributing to the reduction (curbing) of CO<sub>2</sub> emissions by fully utilizing the most advanced technologies to realize product miniaturization and weight reductions as well as lower power consumption.

Chart 1

#### Manufacturing

Excellence in manufacturing that takes environmental factors into account

#### Optimization

Contributing to energy conservation through improvement in performance and efficiency



#### Environment

Eliminating and reducing substances that place a burden on the environment

#### Reduction

Conserving resources through miniaturization and incorporation of multiple functions

## Social Responsibility

### 1. Respect for and Protection of Human Rights

We will protect human rights and respect diversity, personal characteristics and individuality and must not engage in any conduct that could lead to unfair discrimination. We will not tolerate discrimination based on, for example, race, gender, disability or political affiliation, neither will we tolerate discriminatory practices, violence, or sexual or other harassment. We prohibit the exploitation of forced labor and will not employ children under the age of 15.

The Board members and managerial staff of the NDK Group must comply with the laws and regulations of each country with regard to managing the working hours of their employees. We will make efforts to ensure that our staff's working hours, including overtime, do not exceed 60 hours per week. Furthermore, we must provide statutory holidays to our staff in compliance with the relevant laws and regulations of their respective countries.

With regard to the hiring of employees, NDK Group companies must comply with the laws and regulations of the respective countries in which they operate, present the terms and conditions of employment in writing and execute an employment contract. The wages payable to the employees of the NDK Group must not be lower than the minimum wage allowed by law in their respective countries.

NDK Group companies must permit the establishment of, and membership in, labor unions.

### 2. Health and Safety

We must keep our workplace environments clean and hygienic, and comply with internal rules for the appropriate use of chemicals and protective gear to guard against the risks to health and safety posed by toxic chemicals. The facilities used by management and employees of the NDK Group (e.g. dormitories, cafeterias, and restrooms) must be kept clean and hygienic. NDK Group companies must provide information on workplace health and safety in languages that both the management and employees of their companies can understand.

### 3. Procurement Policy

If the products manufactured or sold by the NDK Group contain substances such as tantalum, tin, tungsten, gold, and cobalt originating from the Democratic Republic of the Congo, its adjoining countries and other high-risk areas, the NDK Group will make efforts to ensure that it does not use Conflict Minerals that directly or indirectly encourage the activities of organization engaged in a risk and fraud such as 1) conflicts 2) human rights violations including child labor or 3) poor working conditions, environmental destruction or corruption.

## Basic Stance on Corporate Governance

“Contributing to the prosperity of society and world peace through our service to customers”—this is our founding philosophy and it represents the origin of the spirit we bring to business, as well as being the foundation upon which we aim to fulfill our social responsibilities to create a sustainable society. In working to achieve this goal, NDK seeks to continue to be a company that is trusted and respected by all its stakeholders, and has therefore positioned corporate governance as one of its most critical management issues. With regard to corporate governance, we have developed five points that comprise our basic policy, namely, (a) always keep in mind sound management, efficiency and promptness; (b) heighten the effectiveness of the Board of Directors; (c) respect the rights of shareholders and ensure equality; (d) ensure transparency through the appropriate disclosure of information; and (e) aim to build long-term relationships so as to gain the trust of stakeholders, including parties other than shareholders.

## Structure of Corporate Governance

NDK adopts the Audit & Supervisory Board system and appoints nine Directors and three Audit & Supervisory Board Members. To strengthen auditing and oversight functions, we appoint

three Outside Directors who constitute the one-third of Directors, and two Outside Audit & Supervisory Board Members.

Additionally, to strengthen the independence, objectivity, and accountability of the Board of Directors’ functions as pertain to the appointment and remuneration of Directors and Corporate Officers, the Company has established an Independent Advisory Council, positioned under the Board of Directors, that is chaired by one Independent Outside Director who reports on appointments and remuneration for Directors and Corporate Officers, and is comprised of two Independent Outside Directors and one Representative Director.

To expedite management decision making and policy implementation, NDK has introduced a Corporate Officer system. Comprised of Corporate Officers, the Board of Corporate Officers, as a general rule, meets monthly. The Board of Directors, which convenes once a month, in principle, conducts decision making with regard to items deliberated upon by the Board of Corporate Officers, as well as items with regard to legal matters, and basic policies of management and other critical items. The Board of Directors also decides upon the responsibilities of the Corporate Officers and conducts oversight on the progress Corporate Officers have made on carrying out their tasks.

## Reasons for Appointments of Outside Officers

Title	Name	Status of Activities	Directors’ meetings attended	Audit & Supervisory Board meetings attended
			Attendance record for the previous fiscal year	
Outside Directors	Takehiko Tatsuko	Mr. Tatsuko offers a wealth of experience and a wide range of insights as a principal member of management to the Board of Directors. Consequently, his contribution to rational and proper decision making at the Board of Directors includes appropriately raising issues and expressing his opinion on market trends, sales strategy, and quality assurance. Mr. Tatsuko also serves as chairperson of the Independent Advisory Council, which reports to the Board of Directors on the appointment, dismissal, and remuneration of Directors and Corporate Officers.	18/18	—
	Yorihisa Suwa	Mr. Suwa offers a wealth of experience and a wide range of insights as a principal member of management and as an engineer to the Board of Directors. Based on this, he properly poses questions and offers opinions concerning business plans and performance, designs, quality assurance, and reducing costs, and also offers his advice to assure that decision making at the Company is appropriate and adequate. Mr. Suwa also serves as a member of the Independent Advisory Council, which reports to the Board of Directors on the appointment, dismissal, and remuneration of Directors and Corporate Officers.	18/18	—
	Eiketsu Tsuchiya	Mr. Tsuchiya offers abundant knowledge and expertise as well as experience with regard to financial and management matters to the Board of Directors. Consequently, his contribution to rational and proper decision making at the Board of Directors includes appropriately raising issues and expressing his opinion on business plans, performance, market trends, sales strategy, and marketing.	11/11	—
Outside Audit & Supervisory Board Members	Makoto Yoshitoshi	In both the Board of Directors and the Audit & Supervisory Board, Mr. Yoshitoshi has acquired a wealth of experience in management and wide-ranging insights. Given this, he will appropriately pose questions and offer opinions pertaining to quality assurance and risk management, as well as provide his council in order to assure that decision making at the Company is appropriate and adequate.	18/18	15/15
	Kouki Anraku	Mr. Anraku offers a wealth of experience and a wide range of insights mainly as a tax accountant to both the Board of Directors and the Audit & Supervisory Board. Based on this, he properly poses questions and offers opinions concerning tax-related matters, and also offers his advice to assure that decision making at the Company is appropriate and adequate.	12/12	10/10

## Policy of Officer Appointments

The Representative Director considers candidates for the position of Director from the perspectives of (1) appropriate knowledge, experience and capabilities; (2) an ability to contribute to raising corporate value; and (3) ensuring diversity in the Board of Directors. Following this, designated candidates are decided upon at the Board of Directors' meetings, taking into account opinions with regard to these candidates held by the Independent Advisory Council, which has as its primary constituents Independent Outside Directors.

## System of Internal Control

Regarding compliance, NDK has formed a Compliance Committee, and, by conducting compliance training for Directors and employees, works to establish and improve systems for maintaining compliance with laws and regulations. Moreover, the Company's Internal Audit Office audits compliance status and other matters, and reports its results to the Representative Director and President. In addition, NDK has introduced internal reporting systems and has put in place a framework which works to gather internal information with regard to violations of laws and other suspicious behavior as pertains to compliance, and to analyze and utilize such information.

## CONTRIBUTING TO SDGs

"Contributing to the prosperity of society and world peace through our service to customers"—this is our founding philosophy and it represents the origin of the spirit we bring to business, as well as being the foundation upon which we aim to fulfill our social responsibilities to create a sustainable society. This expressed intent is consistent with the direction of the Sustainable Development Goals (SDGs).

In addition, as outlined earlier, ESG activities are efforts that contribute to SDGs. In NDK's business, specific examples include business targeting medical applications (ultrasonic equipment) that contribute to "Goal 3. Ensure healthy lives and promote well-being at all ages," and business targeting industrial equipment (crystal units, oscillators, synthesizers, etc.) that contribute to "Goal 9. Build resilient infrastructure, promote sustainable industrialization and foster innovation."

The Sustainable Development Goals are a collection of international goals adopted at a September 2015 United Nations summit. From a start in 2016, the goals are to be achieved by 2030, as part of the "2030 Agenda for Sustainable Development."

Comprised of 17 goals established to realize global sustainability, the SDGs' overarching pledge is to "leave no one behind."



## CORPORATE INFORMATION

### DIRECTORS, AUDIT & SUPERVISORY BOARD MEMBERS, AND CORPORATE OFFICERS

#### Directors

##### Toshiaki Takeuchi

Representative Director and Chairman of the Board

##### Hiromi Katoh

Representative Director and President

##### Kenichi Ueki

Senior Corporate Officer  
General Manager of Engineering Division,  
General Manager of Crystal Units Engineering Division

##### Hideyuki Oikawa

Senior Corporate Officer  
General Manager of Sales & Customer Service Division

##### Kenichi Sugawara

Senior Corporate Officer  
General Manager of Corporate Production Division,  
Managing Director of ANC/NQM

##### Yuzuru Takeuchi

Senior Corporate Officer  
General Manager of Administration Division

##### Takehiko Tatsuko

Outside Director

##### Yorihisa Suwa

Outside Director

##### Eiketsu Tsuchiya

Outside Director

#### Audit & Supervisory Board Members

##### Natsuhiko Sakairi

Standing Audit & Supervisory Board Member

##### Makoto Yoshitoshi

Outside Audit & Supervisory Board Member

##### Kouki Anraku

Outside Audit & Supervisory Board Member

#### Corporate Officers

##### Kouji Kubota

General Manager of Quality Assurance Division

##### Nobumitsu Fujiwara

Director of Suzhou NDK Co., Ltd.

##### Michio Aoyama

in charge of finance

##### Shunichi Wakamatsu

Deputy General Manager of Engineering Division,  
General Manager of Oscillators & Modules Engineering Division

##### Tamahiko Masukawa

Deputy General Manager of Corporate Production Division,  
General Manager of Industrial Engineering Department

# SIX-YEAR SUMMARY

Nihon Dempa Kogyo Co., Ltd. and Consolidated Subsidiaries  
For the years ended March 31

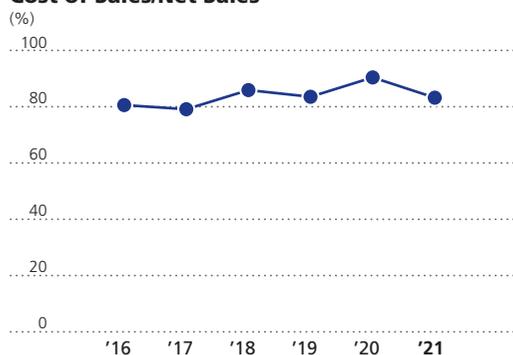
	Millions of yen						Thousands of U.S. dollars (Note)
	2021	2020	2019	2018	2017	2016	2021
Net sales	<b>¥39,195</b>	¥39,468	¥42,498	¥43,952	¥43,791	¥44,850	<b>\$354,033</b>
Cost of sales	<b>32,616</b>	35,696	35,497	37,768	34,620	36,137	<b>294,607</b>
Selling, general and administrative expenses	<b>5,495</b>	5,922	6,255	6,642	6,479	6,718	<b>49,634</b>
Research and development expenses	<b>1,613</b>	1,684	1,884	1,787	2,035	1,921	<b>14,569</b>
Operating income/(loss)	<b>2,844</b>	(8,286)	406	(9,618)	727	410	<b>25,688</b>
Income/(loss) before income tax	<b>2,592</b>	(8,644)	(56)	(9,640)	472	102	<b>23,412</b>
Net income/(loss)	<b>1,976</b>	(8,709)	(251)	(10,202)	611	317	<b>17,848</b>
Net income/(loss) attributable to owners of the parent	<b>1,976</b>	(8,709)	(251)	(10,202)	611	317	<b>17,848</b>
Total comprehensive income/(loss) for the period	<b>3,270</b>	(9,376)	(460)	(9,732)	(72)	(1,414)	<b>29,536</b>
Total assets	<b>63,054</b>	54,547	60,784	60,816	68,830	67,966	<b>569,542</b>
Total equity	<b>13,552</b>	5,349	14,725	15,108	25,234	25,700	<b>122,409</b>
Depreciation and amortisation	<b>3,104</b>	3,697	3,469	4,094	3,641	3,558	<b>28,037</b>
Capital expenditures	<b>3,228</b>	3,133	2,376	7,141	6,779	2,099	<b>29,157</b>

## Per Share Data:

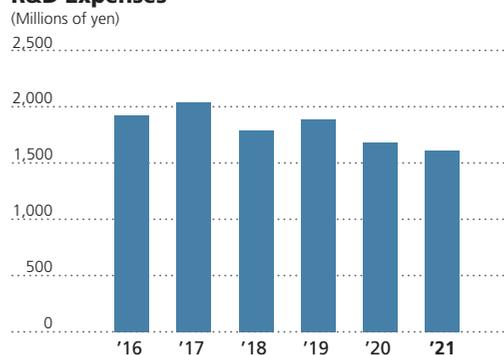
	Yen						U.S. dollars (Note)
Net income/(loss):							
Basic	<b>¥100.70</b>	¥(443.79)	¥(12.80)	¥(519.87)	¥31.16	¥16.17	<b>\$0.91</b>
Diluted	<b>61.27</b>	—	—	—	—	—	<b>0.55</b>
Cash dividends applicable to the period	<b>0</b>	0	0	10.00	20.00	20.00	<b>0</b>

Notes: 1. Figures are presented in accordance with International Financial Reporting Standards. The U.S. dollar amounts represent translations of Japanese yen amounts at the rate of ¥110.71 to U.S.\$1.00, which was the rate prevailing on March 31, 2021.

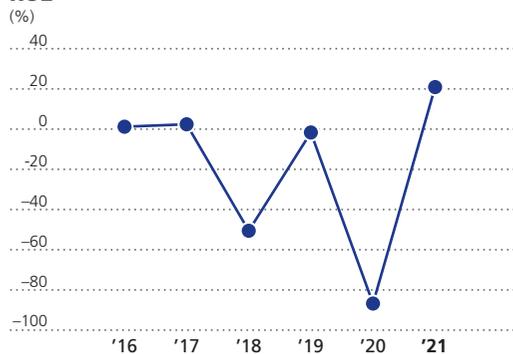
### Cost of Sales/Net Sales



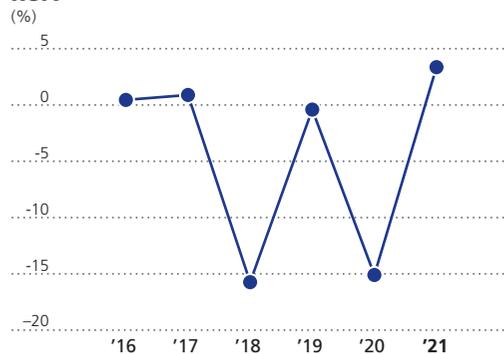
### R&D Expenses



### ROE



### ROA



## Outlook

Looking at the global economy during the fiscal year ended March 31, 2021, activity stagnated across countries all over the world as a result of the COVID-19 pandemic, with business conditions deteriorating significantly during the first quarter (April to June 2020). Thanks largely to the efforts of most major countries to proactively implement fiscal stimulus measures, economic activity gradually resumed, triggering an ongoing recovery trend in the automobile market and other sectors over the end of the fiscal year under review.

Against this backdrop, automotive applications, which account for nearly half of consolidated net sales, increased steadily. After a substantial decline in the first quarter, net sales in the second half (October 2020 to March 2021) exceeded the previous peak recorded in fiscal 2018. In addition to the sharp recovery in automobile production from the second quarter (July to September 2020), this was largely attributable to an upswing in the number of crystal devices installed per vehicle in line with the increase in Advanced Driver Assistance Systems (ADAS).

In mobile communications applications, which make up around 20% of consolidated net sales, NDK took steps to increase sales of 76.8MHz crystal units with built-in thermistors and ultra-compact crystal units for 5G smartphones. As a result, net sales increased year on year.

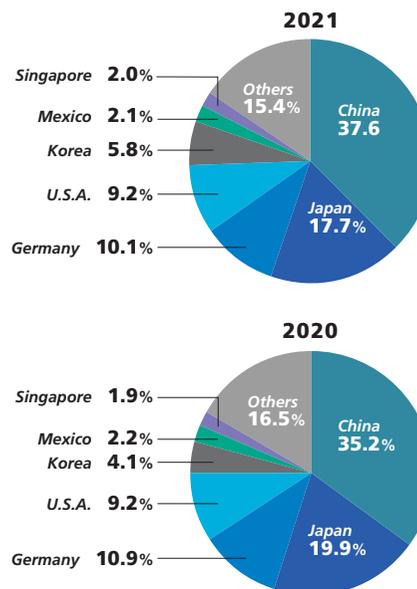
In industrial equipment applications, which represents roughly 10% of consolidated net sales, full-year results improved from the previous year. Sales increased year on year primarily for base station application, despite a substantial drop in industrial equipment sales to major communication equipment manufacturers in China in the second half of the fiscal year due to tighter sanctions imposed by the U.S. government.

Meanwhile, results declined year on year in consumer applications, which also generate around 10% of consolidated net sales. The decline was mainly due to the substantial downturn in sales for the single-lens reflex camera application, which exceeded the increase in sales for the PC application.

In overall terms, results were significantly impacted by the drop in automotive application sales, which was especially marked in the first quarter. Consequently, consolidated net sales edged down 0.7% year on year to ¥39,195 million in the fiscal year ended March 31, 2021.

On July 1, 2020, the Company conducted an absorption-type company split to form a wholly owned subsidiary, NDK SAW Devices Co., Ltd. (NSD). NSD took over the SAW filter development and manufacturing businesses of NDK and its wholly owned

## Sales by Customer-Based Geographic Area



subsidiary, Hakodate NDK Co., Ltd. (Hakodate NDK). Along with the above split, the Company negotiated with JIC Technology Investment Co., Ltd. (JICT) to establish a joint venture by spinning off the development, manufacture, and sales businesses of SAW filter products, which NDK and Hakodate NDK were operating. On October 30, 2020, the Company transferred a 51% equity interest of NSD to SITO Microelectronics Technology (Shanghai) Co., Ltd., a subsidiary of Jiaying Jiawang Investment Partnership (Limited Partnership), an investment subsidiary of JICT.

## Results of Operations

In the fiscal year under review, NDK reported operating income of ¥2,844 million, compared with an operating loss of ¥8,286 million in the previous fiscal year, income before income taxes of ¥2,592 million, compared with a loss before income taxes of ¥8,644 million in the previous year, and net income of ¥1,976 million, compared with a net loss of ¥8,709 million a year ago. Structural reform expenses of ¥800 million and decreased inventories served to push down earnings. In contrast, such factors all contributed to the above-mentioned positive turnaround as improved profitability in products for mobile communications applications, reduced fixed costs, decreased impairment losses of ¥3,600 million, and cutbacks in structural reform expenses of ¥1,700 million, in addition to the posting of a combined ¥4,400 million as a gain on sales of shares due to the transfer of a 51% equity interest in NSD, a wholly

owned subsidiary, and a valuation gain of residual equity interest associated with the transfer. Operating income in the second half came in at ¥600 million, excluding earnings of ¥4,400 million from the transfer of shares in a subsidiary, ¥400 million in structural reform expenses, and ¥300 million in impairment losses.

## Sales by Product

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Sales by product were as follows.

### (1) Quartz Crystal Units

While sales of quartz crystal units for automotive applications recovered rapidly after bottoming out in the first quarter (April to June 2020), a substantial drop in the first quarter resulted in a year-on-year decline for the full fiscal year. Meanwhile, for mobile communications applications, sales of 76.8MHz crystal units with built-in thermistors and ultra-compact crystal units increased for 5G smartphones. Sales of tuning fork crystal units for smartphones and PCs also increased. As a result, net sales totaled ¥25,476 million, up 4.0% year on year.

### (2) Crystal Devices

Sales of products for automotive applications including clock oscillators for vehicle-use cameras recovered rapidly after bottoming out in the first quarter. Once again, the substantial drop in this first quarter resulted in a year-on-year decline for the full fiscal year. For mobile communications applications, while sales of clock oscillators for tablets and other devices increased, sales decreased for low-margin temperature-compensated crystal oscillators (TCXOs). Consequently, net sales declined 7.4% year on year to ¥10,322 million.

### (3) Others

Impacted by a shrinking single-lens reflex camera market, sales of optical products decreased. Accordingly, net sales fell 11.1% year on year, to ¥3,396 million.

## Performance by Customer-Based Geographic Area

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Performance by customer-based geographic area was as follows.

### Japan

Sales of crystal oscillators for base station applications increased from the previous fiscal year. While sales for automotive applications recovered after bottoming out in the first quarter, the substantial drop in this first quarter resulted in a year-on-year decline for the full fiscal year. Coupled with this downturn, sales of optical products for single-lens reflex cameras also declined from the previ-

ous fiscal year. As a result, net sales in Japan fell 11.6% year on year, to ¥6,950 million.

### Asia

In China, sales for automotive, mobile, and PC applications increased year on year. In automotive applications, sales declined in the first quarter but recovered from the second quarter to exceed levels recorded prior to the COVID-19 pandemic. In mobile communications applications, sales to major Chinese communication equipment manufacturers declined significantly in the second half of the fiscal year due to the impact of tighter sanctions imposed by the U.S. government. This sales decline was, however, more than offset by increased sales of 76.8MHz crystal units with built-in thermistors for 5G smartphones to other Chinese smartphone manufacturers, resulting in a year-on-year upswing in sales. For the base station application, sales to major Chinese communication equipment manufacturers decreased. In South Korea, sales of ultra-compact crystal units for 5G smartphones increased. Accordingly, net sales climbed 6.2% year on year, to ¥14,749 million in China, jumped 40.2%, to ¥2,290 million in South Korea, and declined 12.7%, to ¥2,265 million in other regions.

### Europe

Sales for automotive applications recovered after bottoming out in the first quarter. However, the substantial drop in this first quarter resulted in a year-on-year decline for the full fiscal year. As a result, net sales declined 7.9% year on year, to ¥3,961 million in Germany, and edged down 1.2%, to ¥4,162 million in other countries.

### North America

Sales of crystal units for blood glucose meters increased. While sales for automotive applications recovered after bottoming out in the first quarter, the substantial drop in this first quarter resulted in a year-on-year decline for the full fiscal year. Consequently, net sales decreased 1.0% year on year to ¥3,606 million in the U.S. and declined 48.0% to ¥17 million in other areas.

### R&D Expenses

NDK engages in R&D programs that aim to establish new technologies and manufacturing methods that will be the foundation for future products in the medium- and long terms. To better meet customer crystal device needs, the Group is strengthening its R&D systems, with the Sayama Plant as its hub. As part of this, we are conducting R&D to develop next-generation frequency control, selection, and detection devices as well as enhancing our design and process technologies, which form the core of our R&D.

R&D expenses on a consolidated basis during the fiscal year under review totaled ¥1,613 million.

## MANAGEMENT'S DISCUSSION AND ANALYSIS

### Financial Condition

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As of the fiscal year-end, total assets stood at ¥63,054 million, ¥8,506 million increase from the previous fiscal year-end, reflecting the following factors: an increase of ¥6,646 million in cash and cash equivalents, an increase of ¥1,018 million in trade receivables, a decrease of ¥2,801 million in inventories, and an increase of ¥2,844 million in investments accounted for using the equity method after posting the Company's 49% equity interest in NSD SAW Devices Co., Ltd. Total liabilities amounted to ¥49,501 million, ¥303 million increase from the previous fiscal year-end, owing mainly to an increase of ¥1,183 million in loans and borrowings and an increase of ¥464 million in income taxes payable as well as a decrease of ¥1,630 million in provisions. Equity attributable to the owners of the Company stood at ¥13,552 million, ¥8,202 million increase, due to factors including an increase of ¥4,932 million associated with the issuance of Class A shares and the posting of ¥3,270 million in comprehensive income. As a result, the ratio of equity attributable to the owners of the Company was 21.5%, 11.7 percentage points higher from the previous fiscal year-end.

### Capital Financing and Cash Flow Analysis

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The Group obtains funds for working capital and capital investments from internal sources and bank loans. Regarding bank loans, concerns surrounding cash flow for the foreseeable future have been significantly reduced following the implementation of an agreement reached in June 2020 with all the Company's financial institutions to maintain the balance of loans until the end of September 2023. As of the end of the fiscal year under review, the balance of short-term loans and borrowings was ¥2,101 million, while the balance of long-term loans and borrowings was ¥31,630 million.

The balance of cash and cash equivalents on a consolidated basis at the end of the fiscal year under review amounted to ¥16,707 million, an increase of ¥6,646 million from the end of the previous fiscal year. Cash flow activities were as follows.

Free cash flow amounted to a positive ¥437 million, ¥1,715 million lower than the last fiscal year, reflecting net cash provided by operating activities of ¥124 million and net cash provided by investing activities of ¥313 million.

Net cash provided by operating activities totaled a positive ¥124 million, ¥824 million lower than the previous fiscal year. Negative

factors entailed a gain of ¥2,665 million on sales of subsidiary shares, a gain of ¥1,740 million from remeasurement relating to the application of equity method, and a decrease in provisions of ¥1,837 million. Positive factors included income before income tax of ¥2,592 million, depreciation and amortization of ¥3,104 million, and a decrease in inventories of ¥2,945 million.

Net cash provided by investing activities was a positive ¥313 million, ¥891 million lower than a year earlier. Negative factors included expenditures of ¥2,256 million for purchase of property, plant and equipment and ¥710 million for purchase of investments accounted for using the equity method. This was more than offset by ¥3,293 million in proceeds from sales of subsidiary shares resulting in a change in scope of consolidation as a positive factor.

Net cash provided by financing activities totaled a positive ¥5,420 million, ¥5,443 million larger than the previous fiscal year, reflecting ¥4,932 million in proceeds from the issuance of shares and ¥1,059 million in net increase in short-term loans and borrowings.

### Dividends

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NDK regards returning profit to shareholders as a management priority and aims to maintain stable dividend payments while taking into account earnings, financial position, and other factors. NDK seeks to maintain a virtuous circle through a reasonable balance between the accumulation of retained earnings and shareholder dividend payments. We are committed to further improving earnings performance by conducting R&D and capital investments that enable NDK to manufacture high-value-added and high-quality products that will effectively strengthen the Group's business structure.

In the fiscal year ended March 31, 2021, we sincerely regret there will be no payment of dividends.

# CORPORATE HISTORY

- 1948** • Founded as Nanbu Shoko Co., Ltd.
- 1949** • Started crystal unit production and sales
- 1950** • Changed the Company's name to Nihon Dempa Kogyo Co., Ltd.  
• Transferred the Company's registered Head Office to Oyamacho in Shibuya-ku (Tokyo)
- 1954** • Relocated to newly constructed Head Office and plant in Shibuya-ku, Tokyo
- 1960** • Started crystal oscillator production
- 1962** • Started construction of Sayama Plant in Sayama, Saitama Prefecture
- 1963** • Started mass production of synthetic quartz crystals  
• Began trading of NDK stock on the OTC market
- 1964** • Opened Kansai Sales Office for sales in Osaka
- 1970** • Established production affiliate Hawk Denshi Co., Ltd., in Niigata Prefecture (converted to a subsidiary in 1990 and renamed Niigata NDK Co., Ltd., in 2005)
- 1975** • Opened representative sales office in California, U.S.A.
- 1976** • Established subsidiary Furukawa NDK Co., Ltd., in Miyagi Prefecture
- 1979** • Established subsidiary Asian NDK Crystal Sdn. Bhd. in Selangor, Malaysia  
• Established NDK America, Inc., in California, U.S.A., and dissolved representative sales office
- 1985** • Completed main building at the Sayama Plant
- 1986** • Opened Chubu Sales Office for sales in Aichi Prefecture  
• Established production subsidiary Malaysian Quartz Crystal Sdn. Bhd. in Selangor, Malaysia (now NDK Quartz Malaysia Sdn. Bhd.)
- 1988** • Established NDK Electronics Singapore Pte. Ltd. (Currently, NDK Crystal Asia Pte. Ltd.)  
• Established sales subsidiary NDK Europe Ltd. in the United Kingdom
- 1989** • Established production subsidiary Hakodate NDK Co., Ltd., in Hakodate, Hokkaido
- 1990** • Relocated Head Office functions to Shinjuku-ku, Tokyo  
• Listed NDK stock on the Second Section of the Tokyo Stock Exchange
- 1994** • Established production subsidiary Suzhou NDK Co., Ltd., in Suzhou, China  
• Established sales subsidiary NDK Italy Srl as a subsidiary of NDK Europe Ltd., which is a subsidiary of the parent company  
• ISO 9001 certification obtained
- 1995** • Established sales subsidiary NDK Electronics (HK) Limited in Hong Kong
- 1998** • QS-9000 certification obtained  
• Listed on the First Section of the Tokyo Stock Exchange
- 1999** • ISO 14001 certification obtained
- 2002** • Established production subsidiary NDK Crystal, Inc., in Illinois, U.S.A.  
• Established NDK Holdings USA, Inc., in Illinois, U.S.A. as an umbrella holding company holding 100% of the shares in NDK America, Inc., and NDK Crystal, Inc.  
• Established sales subsidiary NDK-Electronics Shanghai Co., Ltd.
- 2003** • Established NDK Crystal Asia Pte. Ltd. in Singapore as a sales subsidiary of Asian NDK Crystal Sdn. Bhd., which is a subsidiary of the parent company
- 2004** • Opened Chitose Technical Center in Chitose, Hokkaido
- 2005** • Head Office functions relocated to Sasazuka, Shibuya-ku, Tokyo
- 2008** • Quality Assurance Laboratory certified for the ISO/IEC 17025:2005 international laboratory management standard  
• Obtained approval as a specified exporter from Tokyo Customs
- 2009** • Completed Laboratory ATOM, a new research facility, within the Sayama Plant  
• Established Suzhou NDK Trading Co., Ltd., in Suzhou, China as a subsidiary of Suzhou NDK Co., Ltd., which is a subsidiary of the parent company
- 2010** • NDK became the first company in Japan to adopt IFRS
- 2014** • Subsidiary NDK Italy Srl subsumed in a merger with subsidiary NDK Europe Ltd.  
• ISO13485 certification obtained
- 2015** • Head Office functions relocated to Sasazuka, Shibuya-ku, Tokyo (within the same area before relocation)
- 2016** • Subsidiary NDK Crystal, Inc. merged with subsidiary NDK Holdings U.S.A., Inc. and went into liquidation.
- 2019** • Established Suzhou NDK Co., Ltd., a subsidiary in Suzhou, China (factory relocation)
- 2020** • Established NDK SAW Devices Co., Ltd., a subsidiary in Hakodate, Hokkaido  
• Sold 51% of the Company's interest in subsidiary NDK SAW Devices Co., Ltd., NDK SAW Devices reclassified as an affiliated company

# INVESTOR INFORMATION (As of March 31, 2021)

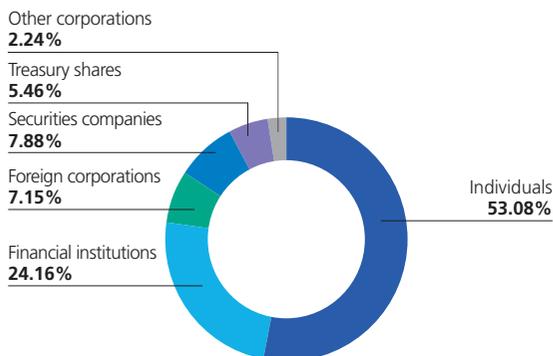
Date of Foundation : 1948

Share Capital : ¥5,596 million

Number of Shares of Common Stock Issued and Outstanding: 20,757,905 shares  
Class-A Shares: 5,000 shares

Number of Shareholders of Common Stock: 10,798  
Number of Shareholders of Class-A Shares: 1

## Distribution of Ownership among Shareholders: (On a number of shares basis)



## Major Shareholders:

Shareholding Name	Number of Shares Held	
	(Thousands)	Ratio
The Master Trust Bank of Japan, Ltd. (Trust Account)	804	4.09%
Resona Bank, Ltd.	667	3.40%
Toshiaki Takeuchi	623	3.17%
Saitama Resona Bank, Ltd.	610	3.10%
Custody Bank of Japan, Ltd. (Trust Account)	599	3.05%
Hiroshi Takeuchi	528	2.69%
J. P. MORGAN SECURITIES PLC	360	1.83%
Marusan Securities Co., Ltd.	327	1.66%
MUFG Bank, Ltd.	318	1.62%
Tokio Marine & Nichido Fire Insurance Co., Ltd.	315	1.60%

Notes: 1. The above list of major shareholders excludes treasury shares.  
2. Shareholding ratios are calculated with the outstanding shares excluding treasury shares.

Stock Listing : First Section of the Tokyo Stock Exchange

Fiscal Year-End : March 31

General Meeting of Shareholders : June



**Crystal Bridge to the Future**

Merkmal Keio Sasazuka Bldg., 1-47-1,  
Sasazuka, Shibuya-ku, Tokyo 151-8569, Japan  
Phone: 81-3-5453-6711  
Facsimile: 81-3-5453-6733  
URL: <http://www.ndk.com/en/>