03 Chapter 1 About Nippon Chemi-Con CHEMI-CON REPORT 2023

Market Environment and Business Development (Develop businesses that are less affected by fluctuations in demand > Optimize sales balance by market/Focus on automotive electronics market)

Issues:

The contraction of PC, camera, car navigation, and other markets due to the rise of the smartphone Around 2007, the main device for connecting to the internet shifted from the PC to the smartphone

Strategies:

Focus on growing automotive electronics market > establish competitive advantage, stabilize profitability Sharp rise in demand for aluminum electrolytic capacitors driven by rapid shift to the electrification of automobiles

(1) Further weight reductions, (2) increased safety and reliability, (3) acceleration of network connectivity

I C T

Height of TV/PC market > Demand for TVs/PCs declined with the rise of the smartphone, resulting in sales ratio falling to below 30% > Strengthened sales related to communication base stations and data center servers

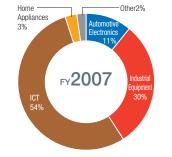
Automotive electronics

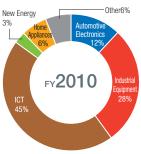
Drive towards electrification > Strengthen new product development > Sales ratio nearly doubled (vs. FY2007) CASE announcement > Sales ratio nearly tripled (vs. FY2007) > Focus on hybrid capacitors

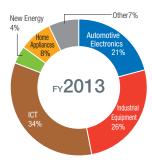
Industrial Equipment

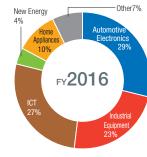
Economic trends trigger dramatic demand fluctuations > Constrain wave of change as much as possible > Drop sales ratio to 30% or lower!!

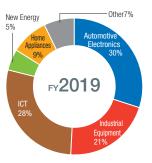
Net sales by market (application)













Net sales / Operating income / Operating income margin



Nippon Chemi-Con's Value Provision Domains

The Nippon Chemi-Con Group focuses on marketing, product development, and sales promotion activities in five strategic markets where we expect market growth and where there is demand for our technology. Striving to resolve social issues, Nippon Chemi-Con continues to provide value in various domains.

Net sales by product group (FY2022)



Aluminum Electrolytic Capacitors, Conductive Polymer Capacitors, Hybrid Capacitors, Supercapacitors, Multilayer Ceramic Capacitors, Metal Oxide Varistors



Mechanical and other parts 5%

Inductors (Choke Coils etc.), Camera modules



Realizing a carbon-free society

Demand for electronic components is projected to increase with trends such as vehicle electrification and automation, the adoption of inverters in industrial equipment and home appliances, expanding adoption of renewable energy, and energy management.

Stable supply of high-quality products

- -Upgrading to smart factories
- -Global manufacturing and sales network

Advancements in information infrastructure

With the expansion of fifth generation mobile communication systems (5G), demand for electronic components is projected to increase with the construction of communication base stations, an increase in data centers for supporting high-speed, large-volume communications, and advancements in information infrastructure such as the new construction of Al servers.

Net sales by market (application) (FY2022)

Automotive Electronics Market -Electronic control units (ECU) -Advanced driver assistance systems (ADAS)

-Advanced driver assistance systems (ADAS -Onboard chargers etc. 28%

Industrial Equipment Market

- -General-purpose inverters
- -Servo amplifiers
- -Switching power supplies etc.

25%

New Energy Market

- -Photo voltaic systems
- -Wind power generation systems etc.

6%

Home Appliances Market

- -Air conditioners
- -Refrigerators
- -Smart home electronics etc.

10%

ICT Market

- -Computers
- -Servers
- -Base stations etc.

24%

Other

7%

At a Glance (Results and Prospects of Our Main Businesses)

In this section, we introduce our results for FY2022 and future initiatives with a focus on the aluminum electrolytic capacitor business, Nippon Chemi-Con Group's largest business, and the highly promising supercapacitor business.





Nippon Chemi-Con is the world's largest manufacturer of aluminum electrolytic capacitors. Our products are used in a broad variety of applications, from consumer electronics to industrial devices, automobile and avionics, and medical device.

FY2022 earnings and future initiatives

Net sales of aluminum electrolytic capacitors in FY2022 increased by 16.1% from the previous fiscal year to 140.8 billion yen, continuing the double-digit growth seen in the previous year.

The automotive electronics market, one of our strategic markets, saw some stagnancy due to vehicle production delays caused by factors such as semiconductor supply constraints. However, the shift to electrification and automation advanced further, driving an increase in the number of embedded electronic components per vehicle. As a result, overall sales to the automotive electronics market remained firm. In particular, sales were favorable for hybrid capacitors, which are one of our strategic products. Furthermore, sales to the industrial equipment market, mainly large-sized aluminum electrolytic capacitors, were favorable thanks to a recovery in capital investment following a period of constraint due to COVID-19. Additionally, we were successful in expanding sales on markets related to carbon neutrality as sales for solar power generation and other new energy markets increased significantly.

Moving forward, market environments are projected to be severe due to economic slowdown. However, we will work to expand sales on markets seeing investments such as autonomous vehicles and Al servers. We will also continue working to expand sales of high value-added products such as hybrid capacitors and new products that attract customers.



Maintained favorable performance for automotive electronics to record significant growth

Environmental and energy issues are driving increased interest in power storage devices. Nippon Chemi-Con plans to develop supercapacitors into a business that rivals our aluminum electrolytic capacitor business.

FY2022 earnings and future initiatives

Net sales of supercapacitors in FY2022 increased significantly by 31.5% from the previous fiscal year to 4.4 billion yen.

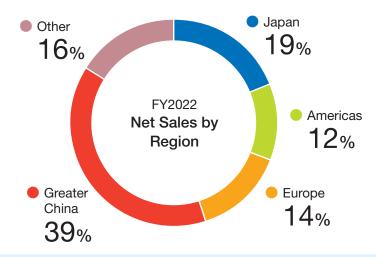
Supercapacitors are energy storage devices that can be charged and discharged more rapidly than rechargeable batteries. They have excellent environmentally friendly features such as long endurance and non-use of heavy metals as materials. Currently, our DLCAPTM products are largely used in automobiles.

In FY2022, amid an environment of sluggish vehicle production numbers and a limited sales recovery for high capacitance products for use in braking energy recovery systems, we were able to maintain favorable sales for products used in backup power supplies for unlocking automobile doors in emergencies. As a result, sales of radial lead type products increased significantly.

Moving forward, various segments, including vehicles and industrial equipment, are projected to see a rapid increase in initiatives related to achieving carbon neutrality. Amid such an environment, additional growth is expected for markets for energy storage devices used to enable effective energy utilization. We will monitor market trends and work on new product development as we strive for further business expansion.

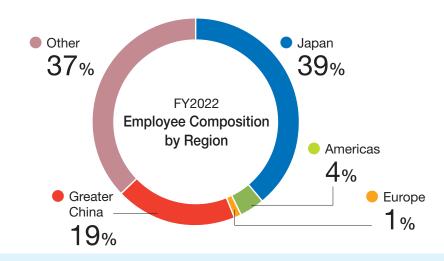
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At a Glance (Net Sales by Region/Employee Composition by Region)



Our FY2022 overseas net sales ratio was 81%.

Looking at FY2022 net sales by region, the ratio of sales in Americas and Europe increased YoY due to the regions' economic recovery from the impact of COVID-19. Our FY2022 overseas net sales ratio remained the same as FY2021 with 81%.



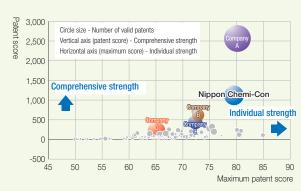
Region-based figures for employees is as shown in the graph (including fixed-term employees).

The Nippon Chemi-Con Group has over 6,000 employees, of which 61% are employees working overseas. To achieve speedy management suited to each region, we are supporting the transition to local business administration, including promoting local employees to management positions, as we enhance measures to respond to globalization of Group businesses. We also have increased recruitment of foreign students studying in Japan. We seek to reinforce our business structure, promoting human resource diversity.

Topic Patent Ranking

Nippon Chemi-Con is strengthening its intellectual property strategy. To drive the development of intellectual property based on our key technologies and materials, we established intellectual property targets (patent application goals, etc.) in development plans, with the technology departments and IP department conducting joint activities to achieve targets. In particular, the departments hold discovery meetings from the initial stages of development to drive patent applications for unique technology while also promoting overseas development with the goal of using intellectual property to build barriers to entry.

Nippon Chemi-Con ranks No. 2 in comprehensive evaluations based on the quality and volume of electrolytic capacitor patents (patent score).



*Made by Nippon Chemi-Con with analysis software "BizCruncher" provided by Patent Result Co., Ltd.

Analysis of the 2,955 published patents (including pending applications) as of July 2023.

History

Since its establishment in 1931 as the first Japanese manufacturer of aluminum electrolytic capacitors, Nippon Chemi-Con has developed and provided a variety of products that meet the demands of the times.

Social conditions/ issues

Dawn of the electronics industry

Post-war reconstruction and rapid growth

Home appliance boom Car boom

Bubble economy

Globalization

1930

· Mass production of capacitors for radios

• Supplying of capacitors specialized for transistor radios (world's first)

Automation of capacitor manufacturing facilities (world's first)

1980

Start of capacitor export

• Supplying of capacitors for vehicles

· Mass production of capacitors for TVs

Mass production of capacitors for tape recorders

Mass production of capacitors for consumer-use VTR

products we provide

Values/

- Successful commercialization of Japan's first Aug 1931 electrolytic capacitors. "SATOH DENKI KOGYOSHO" as a limited partnership company established in Tokyo.
 - 1943 A product fromSATOH DENKI KOGYOSHO 1945



- Aug 1947 Company reorganized, company name changed to "NIPPON CHEMICAL CAPACITOR INC."
 - **1955** A micro electrolytic capacitor installed in the first model of transistor radio



May 1963 Japanese spelling of the company adjusted.

Apr	1966	A new plant established in Miyagi Prefecture for production of small size aluminum electrolytic capacitors.
Jun	1966	HITACHI ELECTROLYTIC FOIL LABORATORY INC. (later changed to KDK CORP.) established in Ibaraki Prefecture for production of materials for aluminum electrolytic capacitors.
Mar	1969	A new plant established in Iwate Prefecture for production of medium size aluminum electrolytic capacitors.
Jun	1970	UNITED CHEMI-CON, INC. established in the United States.
Sep	1970	Listed on the second section of the Tokyo Stock Exchange.
Sep	1972	SAMYOUNG ELECTRONICS CO., LTD. established as a joint venture in South Korea.
Feb	1975	SINGAPORE CHEMI-CON (PTE.) LTD. established in Singapore.
Jun	1976	A new plant established in Fukushima Prefecture for production of large size aluminum electrolytic capacitors.
Feb	1977	EUROPE CHEMI-CON (DEUTSCHLAND) GmbH, established in Germany.
Sep	1977	Listed on the first section of the Tokyo Stock Exchange.
Apr	1979	TAIWAN CHEMI-CON CORP. established in Taiwan.

Sep	1980	A local Hong-Kong affiliate (currently HONG KONG CHEMI-CON LTD.) established.
Jul	1981	Company name changed to "NIPPON CHEMI-CON CORPORATION."
Jan	1993	P.T. INDONESIA CHEMI-CON established in Indonesia.
May	1994	DONG GUANG KDK ALUMINUM FOIL MANUFACTURE LTD. established in China.
Apr	1995	Acquisition of shares of MARCON ELECTRONICS CO., LTD.
	1998	Conductive polymer aluminum solid capacitors launched

May 1998 SHANGHAI CHEMI-CON TRADING CO.,LTD. established in China.

Oct 1999 Merger of the processing division of KDK CORP.

aluminum electrolytic capacitors.

to strengthen technical development capabilities of

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History

*Total of BEV (Battery Electric Vehicle) and PHEV (Plug-in Hybrid Electric Vehicle) among passenger vehicles. Source: International Energy Agency (IEA), Global EV Outlook 2021

Century of the environment Popularization of digital devices and IT adoption

Emergence of hybrid cars

Towards a sustainable society

Global number of EV exceeds 10 million*

2000

2022



08

Values/ products we provide

Social

conditions/

issues

- · Supplying of conductive polymer aluminum solid capacitors for home video game consoles (world's first)
- Introduction of lead-free, environmentally friendly capacitors

- Supplying of supercapacitors for passenger vehicles (world's first)
- Commercialization of hybrid capacitors

Aug 2002 Production of aluminum electrolytic capacitors launched at CHEMI-CON (WUXI) CO., LTD. in China.

2003 Mass production of large capacitance supercapacitors launched



Apr 2003 CHEMI-CON ELECTRONICS (THAILAND) CO., LTD. established in Thailand.

Apr 2008 CHEMI-CON TRADING (SHENZHEN) CO.,LTD. established in China.

2012 Conductive polymer hybrid aluminum electrolytic capacitors launched



Mar 2012 Kanagawa Research Center established.

Feb 2016 CHEMI-CON AMERICAS HOLDINGS, INC. established as a regional headquarters in the United States.

Aug 2016 NIPPON CHEMI-CON CORP.'s shares of CHEMI-CON (WUXI) CO.,LTD. transferred to HONG KONG CHEMI-CON LTD.

CONSOLIDATION OF FUKUSHIMA ELECTROLYTIC INDUSTRY
CORP. to CHEMI-CON FUKUSHIMA CORP. and
Consolidation of CHEMI-CON YONEZAWA CORP. to
CHEMI-CON YAMAGATA CORP.

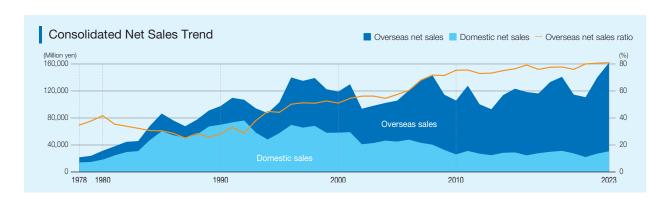
2020 CHEMI-CON EAST JAPAN MATERIALS CORP. established after the split of the electrode foil business of CHEMI-CON IWATE CORP. and CHEMI-CON FUKUSHIMA CORP. The absorption of CHEMI-CON IWATE CORP. and CHEMI-CON FUKUSHIMA CORP. into CHEMI-CON MIYAGI CORP., renamed CHEMI-CON EAST JAPAN CORP.

Mar 2022 Declaration of support for the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD).

Apr 2022 Transition to the Prime Market of the Tokyo Stock Exchange.

Oct 2023 Absorption of CHEMI-CON MACHINERY CORP. into CHEMI-CON EAST JAPAN CORP.

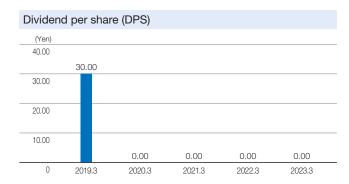
Absorption of CHEMI-CON NAGAOKA CORP. into CHEMI-CON YAMAGATA CORP., renamed CHEMI-CON DEVICE CORP.

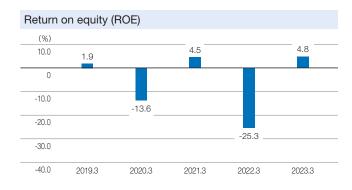


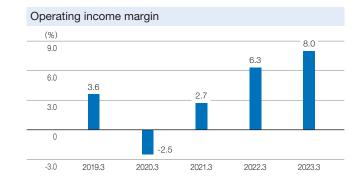
Financial and Non-financial Highlights

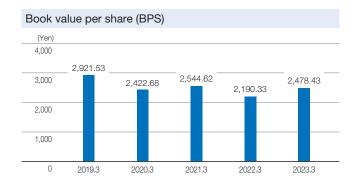


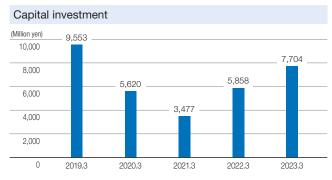
In FY2022, demand from the automotive electronics-related market remained strong.



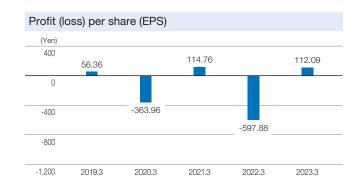


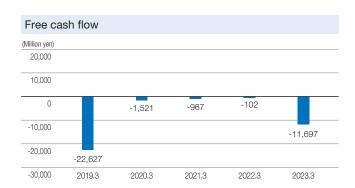


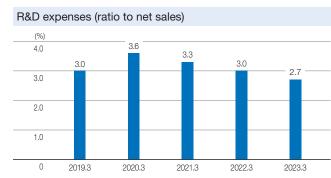




We will increase capital efficiency by concentration and selection of our capital investments.



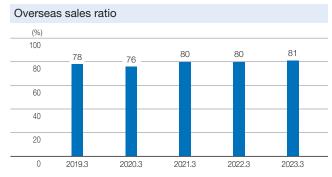


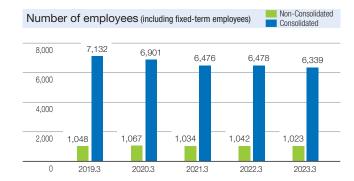


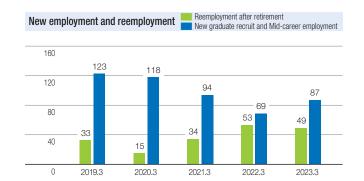
Under a medium- to long-term plan, we work to maintain R&D investments equivalent to 3-4% of net sales for technology development, the driving force behind corporate growth.

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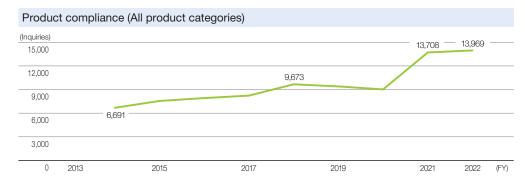
Financial and Non-financial Highlights







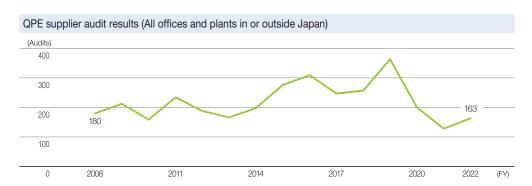
We work to strengthen regional strategies to diversify risks.



Since the ELV Directive came into force in Europe in 2003, the RoHS Directive became effective in 2006, and REACH in 2007. REACH is intended for all chemical substances. These European standards have become a global trend and countries around the world are strengthening chemical substance management.

We are committed to providing "green products" that are free of regulated chemical substances keeping up with rapidly changing chemical substance regulations and complying to laws and distributing information in advance.

The graph shows the shift in the number of surveys conducted on our products by customers such as non-containment confirmation of hazardous substances. There were about 7,000 inquiries in FY2014, but they increased to over 9,000 by the time the revised RoHS Directive (RoHS2) was implemented in 2019. In 2021, we started a service for downloading RoHS/REACH Compliance Statements on our website. This service is being used frequently, indicating how much customers are focusing on product "compliance."



The potential applications for our products are expanding due to customer technology trends. However, it goes without saying that strong, trusting relationships with our suppliers are critical to ensure a quick response to customer expectations.

We have made improvements on the conventional Green Supplier Certification System by combining quality (Q), procurement (P) and environment (E) into a single audit system and are promoting the creation of "QPE Supplier Charts" through this system. These charts are similar to a health exam chart and enables us to regularly check on the health (management) status of our suppliers. These charts serve as a tool for close communication with our suppliers.

Process of Value Creation

Contributing to the creation of new values and resolving social issues through our business activities.

The process of value creation leads to the growth and increase in sustainable corporate value of Nippon Chemi-Con Group.

Chapter 1 About Nippon Chemi-Con

