

# Human Resources

## Reasons for Materiality

The Nitto Group considers human resources as our most valuable asset. Recruitment and retention of able human resources will determine the competitive advantage of the entire Group. In order for us to sustain our growth and continue creating new innovations, we see it as necessary to not only recruit global-minded people but also to create a work environment in which employees are constantly encouraged to take on challenges, thus enabling our diverse human resources to demonstrate their abilities to the fullest.

## Nitto Group's Approaches

At the Nitto Group, every employee is expected to be a "Nitto Person," who comprehends and lives up to the Nitto Way, that is, one who can function as an integral member of a global team and is capable of joining hands with people of diverse backgrounds without being divided by differences in culture and values. Because employees' physical and mental well-being is crucial to all this, we also issued a Good Health Declaration. Meanwhile, to empower human resources across the globe, we are developing the group-wide foundation for human resource management, which encompasses a global grading system, a personnel evaluation system based on Nitto Competency, and the global Human Resource Information System (HRIS). Going forward, we intend to globally develop more Nitto Persons by accelerating the introduction of these inter-regional human resource development systems throughout the Group.

## Our Prospects for 2030 (Performance Targets)

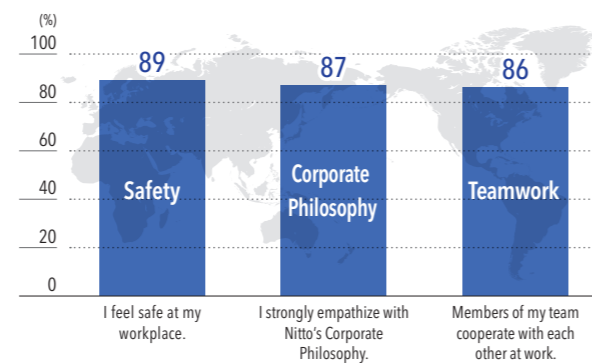
- Investment in Employee Training  
Double the annual number of hours of employee training attended
- Continuous improvement of engagement surveys and measures against issues identified
- Ratio of women in management Global: 30%, Japan: 10%

## Recruitment and Development of Employees

### Administering Engagement Surveys for the Entire Group

Following the first engagement survey of Nitto Group employees in Japan in 2019, we conducted our first engagement survey of members of the Nitto Group across the globe in 2021 (14,193 of them responded). The average score of "sustainable engagement" was 74%, which was at a "healthy level." High scores were recorded for questions on "Safety," "Corporate Philosophy," and "Teamwork," reassuring us of the strengths of the Nitto Group.

### Questions with a high percentage of affirmative responses



The survey also indicated that our efforts for "Talent Management" and "Operational Efficiency" leave something to be desired.

"Engagement" was also put forward for discussion at the Global Conference, where senior executives gather twice a year to discuss managerial issues. There, it was confirmed that we would work to "create a workplace environment and a corporate culture that allow each employee to feel satisfied with what they do and to excel as they make the most of what they have." In fiscal 2022, to follow up on the global survey, we have supported and will continue to support each entity, site, and regional headquarters with their initiatives in this regard.



General Manager Sam Strijckmans, who is responsible for sharing engagement enhancement programs in the EMEA region, at the venue

## Nitto Group Award

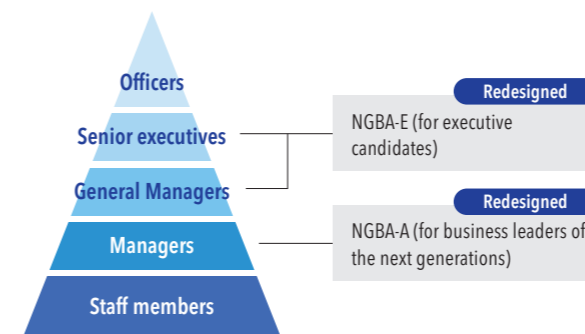
In fiscal 2020, a total of 117 applications were filed for the Nitto Group Award, nine of which were recognized, including two President's Awards, at the Nitto Group Awards 2021.



The recognition ceremony was streamed throughout the world, and the proud winners received a big round of applause from their colleagues. At the Nitto Group, we pride ourselves on our corporate culture, which encourages employees to take on challenges under various circumstances and praises their professional attitudes and accomplishments that result.

## Talent Management on a Global Scale

The Nitto Global Business Academy (NGBA) is an avenue to provide leadership training to promising candidates for global leadership positions. With select members with diverse nationalities participating in English-only sessions, this program is designed to train core members of the global management team of the future.



Ten years after its inception, the training scheme for the entire Nitto Group around the world was redesigned in fiscal 2021 into the NGBA-E (Executive) Course for corporate executive candidates and the NGBA-A (Advanced) Course for future business leader candidates. Both courses are now offered to a small group of trainees and use a seamless curriculum that ranges from discovering high-potential talent from across the globe to developing the managers of tomorrow.

	Enrollment limit	Duration	Curriculum highlights
NGBA-E	Around five trainees	Two years	<ul style="list-style-type: none"> <li>Short-term study program at overseas business schools</li> <li>Making recommendations on solutions to managerial issues</li> </ul>
NGBA-A	Around five trainees	One year	<ul style="list-style-type: none"> <li>Making recommendations on solutions to management/business agenda</li> <li>Leadership coaching</li> </ul>

## Succession Planning

To train future members of the management team at local subsidiaries, we identified a pool of candidates for 70 key positions at our overseas Group companies. By selecting and training the candidates according to a mid- and long-term plan through cooperation with relevant Group companies and regional headquarters, we ensure that the programs bring out their latent abilities to the fullest.

## Promotion of Employee-Driven Innovation Nitto Innovation Challenge

Inviting employees to contribute their ideas for new, innovative businesses, we launched the Nitto Innovation Challenge (NIC) in fiscal 2020. A total of 877 original entries were received in fiscal 2021.

All entries from Nitto Group employees across the globe undergo a series of screening sessions to determine the feasibility of their ideas and to narrow down choices. We then support entries that have demonstrated reliable market survey results and successfully passed the concept verification phase, and those on the shortlist will move on to the next stage where their ideas will be commercialized.

## Future Challenges/Outlook

Going forward, we will accelerate the process of visualizing where our talents lie and proactively developing/assigning them on a global basis. At the same time, we will increase investment in training opportunities (in fiscal 2021, the number of hours spent on training sessions increased by roughly 20% compared to the previous fiscal year\*).

In fiscal 2022, we are planning to introduce a 360-degree evaluation of manager level (equivalent to managers, on a non-consolidated basis) for the first time, as part of efforts to reform our organizational culture and increase employee engagement.

\* Hours spent on training sessions organized by the Human Resources Management Division for the Nitto parent company

## Diversity & Inclusion (D&I)

The Nitto Group employs diverse people from around the world, representing a wide range in terms of nationality, cultural background, gender, age, and employment type. We consider D&I to be one of the overriding managerial issues because, as we turn sharply toward ESG management, we need to take a renewed sense of perspective and flexibly accept diverse approaches to bear fruit. In fiscal 2021, we set up the D&I Promotion Department in a bid to share the direction that the Nitto Group will be taking in promoting D&I, raising awareness of this issue, and accelerating our initiatives in this regard.

### Our Prospects for 2030



### Empowerment of Women

Empowerment of women is among the top priorities at the Nitto Group. As such, we have set for ourselves targets to raise the ratio of women in management to 30% globally and 10% in Japan by 2030 (17.5% and 5.8%, respectively, as of March 31, 2022). We do not think that having more women in managerial positions is the end of the story. Rather, our goal is to develop as many leaders as possible who can propel the company forward, as that should lead us to achieve our goals for the entire Nitto Group. To this end, General Managers of each region delivered a message on International Woman's Day. In Japan, we supported their career development by organizing the FLOWER Program\*, which aims at developing women leaders, and a lecture session by Wong Lai Yong, one of our Outside Directors, which was viewed by over 1,000 employees.

\* FLOWER stands for "Female Leaders OWnship EmpoweRment." The program is named as such out of our wish to see everyone bloom like a large flower, regardless of gender.



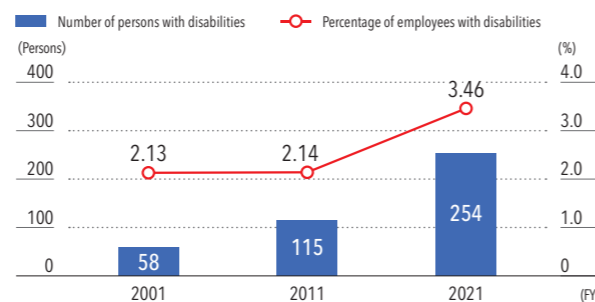
Lecture session | Members of a Kuruma-za discuss the empowerment of women

**D&I logo promotion**  
At Nitto in Japan, we appoint 30 women empowerment promotion managers, who are responsible for the assignment, promotion, and development of women employees. They wear the badge with the logo on the left at all times.

### Employment of Persons with Disabilities

Founded as special subsidiary companies of Nitto Denko Corporation, the four Nitto Himawari Group companies aim to create a workplace environment where persons with disabilities and healthy individuals work with vigor and enthusiasm. Currently, a total of 254 persons with disabilities are on the payroll of the Nitto Group, each playing an integral part of operations at their workplaces.

### Numbers and Percentages of Persons with Disabilities Employed (Over the Past 20 Years)



\* The number of persons with disabilities and the percentage of employees with disabilities are the sum of the figures for Nitto Denko Corporation, and its four special subsidiary companies and six Group companies in Japan specially certified as related companies.

The Nitto Himawari Group's business has since been expanded to include such services as the inter-office mailing service (collection and delivery of dossiers, etc.), support for manufacturing departments, and services that lead to a reduction in environmental impact.

### Future Challenges/Outlook

In Japan, we will make steady efforts to implement programs designed to develop women leaders, while at the same time developing a motivating workplace environment where diverse employees feel welcome and satisfied, and where accommodations are made for job transfers and working hours. Through collaboration with each regional headquarters, we will also develop and promote programs on D&I.

# Product Safety/Quality

### Reasons for Materiality

The Nitto Group operates in 28 countries and regions around the world. As such, we are aware of the magnitude of impact that our business activities have on local communities and economies. As a responsible manufacturer, we deem it imperative to ensure product safety, a secure workplace environment, and respect for human rights throughout the supply chain, in addition to offering the best quality, cost, and timely delivery. In fact, we currently receive customer requests that are more diverse and advanced than ever before, and local authorities are tightening their laws and regulations across the world. We at the Nitto Group consider it part of our corporate social responsibility to ensure that the workplace environment is improved and that human rights infringements are prevented, while at the same time providing products and services that satisfy our customers.

### Our Prospects for 2030 (Performance Targets)

- Advanced quality assurance and safety management
- Zero critical/serious occupational accidents
- Sustainability appraisal and improvement of suppliers who account for 90%+ of total purchases
- Digitalized logistics for greater efficiency

### Enhancement of Safety and Quality of Products

We at the Nitto Group are constantly working to improve the product safety and quality in a bid to provide products and services that meet the demands of society and satisfy customers. To achieve one of our Prospects for 2030, "Advanced quality assurance and safety management," we act with changes in both society and the market in mind.

### Nitto Group's Approaches

In order to deliver well-being and satisfaction to our valued customers through the supply of products and services, we assign product quality managers to the corporate quality division and each business execution departments and Group company, to build a structure for proper quality management, and we have obtained certifications of external international standards for our management systems.

To create a safe and secure workplace environment, in addition to constant improvement on the factory floor, the Corporate Strategy Meeting gathers to discuss programs and any challenges in integrating such activities with management objectives.

Respect for human rights is another key consideration for the Nitto Group that needs to be promoted globally, not only within the Group but also throughout the entire supply chain. The Nitto Group endorses the Universal Declaration of Human Rights and has established its own Basic Policy on Human Rights to promote CSR-based procurement.

### Anticipating Changes in Society

The Nitto Group uses upwards of 4,000 varieties of chemical substances, and we deem it our essential responsibility to manage them properly. In order to constantly monitor trends in the revision of relevant laws, we are working closely with our overseas sites to bolster an information gathering system, whose coverage was expanded to the China region in fiscal 2021, in addition to Europe and North America. In order to ensure quick access to information and reduce the use of prohibited substances that cause health problems, we have made it a rule to act proactively before each country's regulations regarding such substances are changed. We will remain committed to the proper management of chemical substances by voluntarily setting stricter standards for ourselves. Furthermore, by centralizing the management of data regarding the chemical substances contained in raw materials and products, we can respond to inquiries from customers promptly and appropriately.

### Anticipating Changes in the Market

We strive to differentiate ourselves by working closely with customers, creating an environment in which they can consult with us early on about new issues. This allows us to develop and provide products and technologies that meet their needs.

Our manufacturing sites are certified for the international

quality management system ISO 9001 and, by following the PDCA cycle that it dictates, are making the utmost efforts to prevent critical complaints and product recalls from occurring.

We are also expediting the process of having our manufacturing sites certified for IATF 16949, an international automobile standard related to "next-generation mobility products". By the end of fiscal 2021, 92% of our sites that needed to obtain prior certification in order to develop their business had completed IATF 16949 certification.

### Future Challenges/Outlook

Out of the need to guarantee the safety of raw materials, we will strengthen frameworks for supplier management and incoming inspection of raw materials. While we aim to obtain IATF certification in fiscal 2022 we are continuously working hard to improve. This is to continue providing to the world products whose safety and quality are assured and offering the highest quality products to our customers through product proposals that incorporate novel ideas.

## Improvement of the Workplace Environment

True to its basic policy of "We place safety before everything else," the Nitto Group strives to create workplace environments where everyone—employees and members from partner businesses and construction services—can work in good health without anxiety on our premises. Toward the self-set goal of achieving "zero accidents and injuries," we invite everyone to participate in our efforts to prevent such accidents and injuries.

In fiscal 2021, we had six critical/serious accidents and so we have yet to achieve our ultimate target of zero critical/serious accidents. (Highlights, p. 9)

We are thus introducing greater automation in hopes of eliminating the risk of occupational accidents and injuries and enhancing captaincy to foster a safety culture, while striving to reduce foreseeable risks. Should an unfortunate event or accident occur, we will lose no time thoroughly investigating its causes in order to prevent its recurrence.

### Eliminating the Risk of Occupational Accidents and Injuries

Because accidents that fall under the categories of "caught/entangled in" continue to occur (although different plants use different sets of production equipment), we decided

to address this as a priority and are working to eliminate these types of accidents entirely from the Nitto Group.

In concrete terms, we have ensured that humans and machines are separated from each other. We have also aggressively promoted automation at production plants. For example, there is a process where operators have to manually handle materials near rolls, which involved a high degree of risk. We introduced industrial robots on several of those lines to automate the operation, which also helped to reduce the burden on operators.

To further reduce avoidable risks, we have begun developing measures to detect hazards and prevent accidents using artificial intelligence (AI).

### Fostering a Safety Culture

The Nitto Group considers the fostering of a safety culture to involve three stages: "Reactive: response to accidents after the fact," "Independent with the aid of leaders: safety behaviors may be taken under leadership," and "Independent: safety behaviors may be taken independently." Our goal is to establish an "independent" safety culture.

In fiscal 2021 we began introducing a safety officer program\* to those in managerial positions in the hopes of enhancing safety captaincy among managers. All managers in Japan will have taken this training program by the end of fiscal 2022. Furthermore, we will rate each plant and site according to which stage they are at from among the three stages. Based on the four rating factors we chose, namely, awareness, systems, past results, and realities, plants and sites will be subject to a quantitative rating, in a bid to complete a system that helps to further raise the level of safety culture and accelerate information exchange among different plants. This assessment program has been administered at our plants in Japan and will be introduced to our international sites in a phased manner.

\* A personnel training/certification system designed to verify knowledge and understanding of safety among the top executive and other members of the management team, those in managerial positions, and staff members.

### Future Challenges/Outlook

To place safety before everything else underlies everything we do at the Nitto Group.

In cases where we find it difficult to reduce risk, we seek "collaborative safety," i.e., ensuring safety through collaboration between AI, robotics, and other novel technologies and humans and organizations. At the same time, we continue with behavioral reform to raise safety awareness across the organization.

## Respecting Human Rights throughout the Supply Chain

### CSR-Based Procurement

Endorsing the Universal Declaration of Human Rights, the Nitto Group has established its own Basic Policy on Human Rights. To prevent human rights infringements throughout the supply chain, we ensure that thorough action is taken in accordance with this Basic Policy.

More specifically, we published the CSR-Based Procurement Guidelines which we expect our suppliers to follow. We ask for their cooperation in implementing sustainability initiatives, including respect for the human rights of workers, fair trade, compliance with corporate ethics, health and safety, and environmental considerations. We then have them share the Guidelines with other players in the supply chain.

Pursuant to these Guidelines, we conduct an annual CSR Procurement Survey with key suppliers. By definition, "key suppliers" refer to business partners with whom we have a large volume of transactions, who are irreplaceable or who supply raw materials that are critical for Nitto, and whose combined volume of business with the Nitto Group accounts for 90% or more of the total purchases of the Group (based on fiscal 2021 results). In fiscal 2021, approximately 3% of those surveyed were suppliers located outside of Japan. Based on the survey findings, we assess their risk, suggest improvements to those whose risk is deemed high, and follow up on their improvement efforts. It has been reported that approximately 70% of the "high-risk" suppliers have completed their improvement programs. Meanwhile, in fiscal 2022 we will implement the plan to visit suppliers for a follow-up survey, which was slated in fiscal 2021 based on our CSR Procurement Survey.

Before going into business with new suppliers, we make it a rule to use the CSR Procurement Supplier's Evaluation Checklist to determine their qualifications.

Through these activities, we constantly assess the business sustainability of the selected suppliers and help them with the improvement process, thus guaranteeing the integrity of our supply chain.

### Human Rights Due Diligence

Some of the raw materials that the Nitto Group purchases involve human rights-related risks such as conflict minerals, whose risk has been under management. On top of this, we will start a human rights due diligence program, in which we

continuously assess risk of all materials, take preventive/mitigation measures, evaluate the contents of such measures, and disclose the series of action thus taken. In fiscal 2021, we worked to enhance the level of internal control to prepare for human rights due diligence.

### Increasing Logistics Efficiency

Improvement of logistics in our supply chain is one of the key managerial issues for the Nitto Group as it concerns our sustainable growth, compliance, and ESG. We are also working on the promotion of "white logistics" and "green logistics" movements.

Under the government's lead, the "White Logistics Movement" was launched in 2019 with a view toward stabilizing logistics and sustaining economic growth in response to the serious shortage of truck drivers in Japan, and Nitto expressed its support for this movement in 2020. At the Onomichi Plant, we set for ourselves a target of reducing trucks' standby time to an average of 30 minutes or shorter. We analyzed data on the occurrence of standby time to determine which cases were attributable to customers, production at the plant, logistics, or otherwise. In fiscal 2021, we were able to meet the target for five months. In fiscal 2022, we are extending this initiative to other locations in Japan.

As for "green logistics," we are working to shorten the distance for land transportation by promoting modal shift, as well as changing loading locations and raising the loading ratio, and we were thus able to reduce CO2 emissions in Japan by approximately 152 tons (-2.35% from the previous year) in fiscal 2021.

To increase efficiency in logistics, it is vital that we have a full understanding of all employees from relevant departments, including logistics, production, and sales. Therefore, in fiscal 2021, we organized e-learning on logistics for employees from departments outside of back-office operations, such as accounting and personnel affairs at Group companies in Japan. Over 80% of eligible employees took this voluntary course.

### Future Challenges/Outlook

To ensure that human rights are respected throughout the supply chain, we are planning to improve the skills of the staff for on-site surveys with suppliers so that we can identify and mitigate risk by conducting human rights due diligence. Meanwhile, we will make continued efforts to optimize and increase efficiency in logistics (via cooperative distribution or otherwise) and improve the working environment to reduce the labor load by developing and introducing a system that digitalizes and visualizes data.

# Environment

## Reasons for Materiality

Faced with climate change resulting from CO2 emissions, the depletion of resources, and marine pollution by plastic, the global environment is in a state of crisis. For the Nitto Group, it is essential to make eco-friendly efforts as we emit CO2 due to consuming electric power and fossil fuels, and produce waste and harmful pollutants through using plastics, organic solvents, water, and other resources for manufacturing.

As customers and the public expect private enterprises to make proactive efforts to conserve the environment, environmental awareness constitutes one of the overriding conditions for sustainable business growth. We consider it an integral part of our corporate responsibility to minimize the environmental impact of our manufacturing processes in order to confront the crisis facing the global environment.

## Nitto Group's Approaches

In order to fulfill our corporate social responsibility through manufacturing, the Nitto Group discusses environmental challenges and programs at the Corporate Strategy Meeting, in an effort to integrate our environmental activities with our management objectives. To promote environmental programs, in fiscal 2021 we set up the Green Committee, which has three working subcommittees, each responsible for decarbonization, the 3Rs (Reduce, Reuse, Recycle), and the prevention of pollution.

Remaining committed to achieving our "Prospects for 2030" and carbon neutrality by 2050, we will both expand and strengthen relevant functions and link such goals with our business plans, thus rolling out our environmental initiatives globally along the three management axes of "business execution," "special function," and "regional management."

We will also be ramping up campaigns designed to raise the environmental awareness of every employee.

## Our Prospects for 2030 (Performance Targets)

- Reduction in CO2 emissions**
  - CO2 emissions: 470,000 tons/year\*1
  - Reduction in CO2 emissions in supply chains\*2
- More efficient use of resources**
  - Reduction in total waste disposed
  - Recycling ratio of generated waste-plastics: 60% or over
  - Promotion of usage of recycled resources
- Emissions-reduction of pollutants and hazardous substances**
  - Reduction in VOC emissions

\*1 scope1+2 \*2 scope3

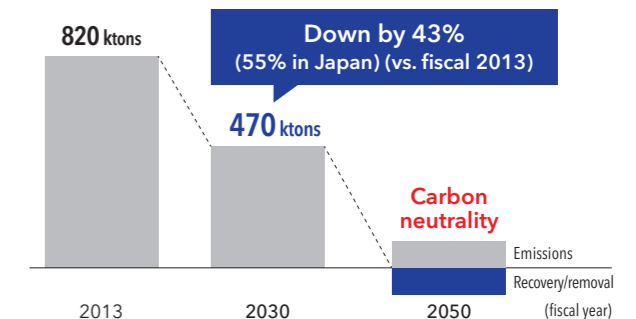
## Reduction in CO2 Emissions

As climate change heightens the risk of natural disasters globally, every company must act to mitigate these conditions.

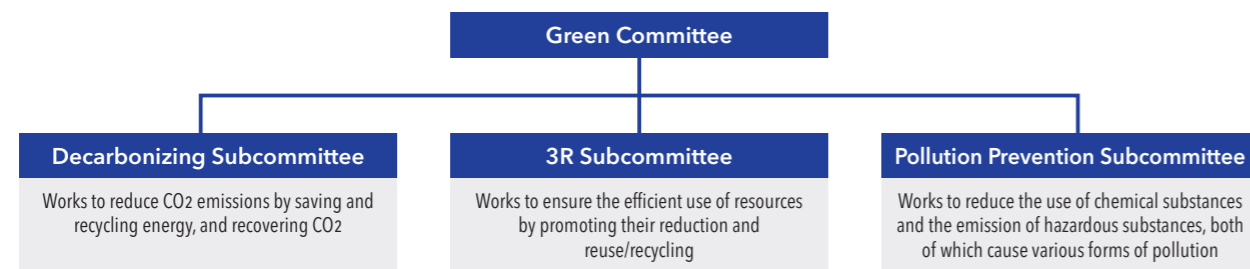
It was against this backdrop that in February 2022 the Nitto Group made the Carbon Neutrality Declaration to accelerate its drive to reduce CO2 emissions. Toward the self-set goal of achieving carbon neutrality by 2050, we have updated our 2030 target to 470,000 tons/year, which represents a 43% reduction from fiscal 2013 for the entire Group (down by 55% in Japan). Working toward this ambitious target, we will take a more strategic approach to making a decarbonized society a reality.

For example, we are implementing a variety of programs, including the promotion of energy conservation in various manufacturing processes, the elimination of CO2 emitted while combusting solvent gases by making such processes solvent-free, and the introduction of solar power generation systems. Besides saving and recycling energy, we will proactively use innovative decarbonization technologies, such as one for recovering CO2 whose development and practical application is on our roadmap, while at the same time helping customers to reduce their CO2 emissions through the supply of superior products and solutions.

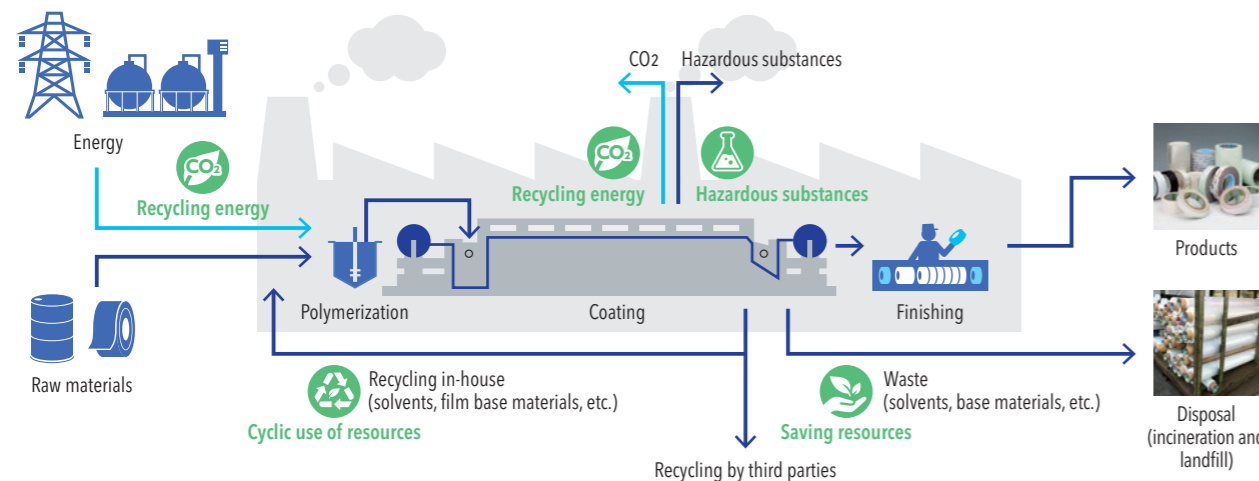
In fiscal 2021, we spent 2.8 billion yen on decarbonizing our production processes, which included capital expenditures for cleanroom facilities. Through a series of such proactive environmental investments, we were able to reduce our CO2 emissions to 649 ktons/year in fiscal 2021. We have earmarked an investment totaling 7.5 billion yen for fiscal 2022.



## Green Committee Organizational Chart



## The Nitto Group's environmental initiatives in its manufacturing process

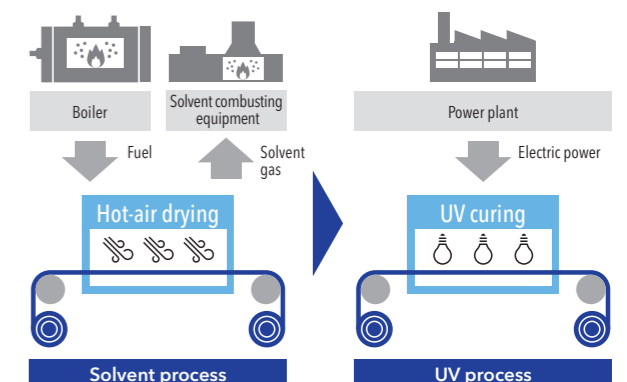


## Development of Technology for Solvent-Free Processes

Organic solvents that we use for manufacturing processes do not remain in final products but are recovered and treated during the manufacturing process, with the result that CO2 is emitted along the way.

For some time now, the Nitto Group has been working to reduce the volume of solvents used at manufacturing processes ultimately to zero. In fiscal 2021, we focused on the establishment of relevant key technologies for UV curing and emulsification at manufacturing processes.

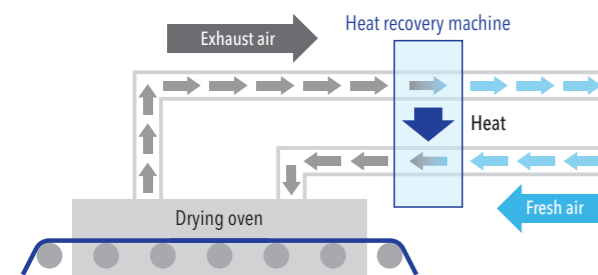
## Improving production processes (UV curing technology)



### Recovering Waste Heat from Coaters

Coaters require a large amount of electric power and steam and release a lot of heat as a result. At our manufacturing sites in and outside of Japan, we are working to curb CO2 emissions by installing co-generation systems. In fiscal 2021, our Toyohashi Plant began recovering waste heat from the coating machine room and the machine's drying oven. They can then use the resulting thermal energy generated to preheat the air supply, which is expected to reduce CO2 emissions by roughly 400 tons per year.

#### Waste heat recovery system of the coating machine's drying oven



### Initiatives for Green Electric Power

At a total of eight production sites—six in Europe and one each in China and Japan—we have achieved 100% green power, an important step in realizing carbon neutrality by 2050. At other sites where a large volume of energy is needed, we have begun setting up solar panels and procuring green electric power to make up for any shortage.



### Reducing CO2 Emissions throughout the Supply Chain

The Nitto Group's business activities are dependent on the supply chain, from the procurement of raw materials to the disposal of end products. This makes it mandatory for us to reduce indirect CO2 emissions (Scope 3), as well as direct emissions (Scope 1 and Scope 2), from our operations, and so we are gathering information on Scope 3 emissions from abroad. Recognizing the significance of LCA (life cycle assessment) of individual products and services, we are also working to standardize the carbon footprint calculation formula.

### Future Challenges/Outlook

We are planning to develop technologies for solvent-free and decarbonization as we shoot for our 2030 goals and carbon neutrality by 2050 by reducing CO2 emitted directly

from our business activities. For us to transform in order to achieve decarbonization, it is vital that we hone our technological prowess to add more value to our products. We will proceed with this initiative as we gain the understanding of our customers about the shift to solvent-free products.

## More Efficient Use of Resources



We at the Nitto Group believe that it is a critical mandate for companies to put the limited resources of the Earth into efficient use.

The Nitto Group has set itself three goals for fiscal 2030: waste-plastics recycling ratio of 60% or over; reduction in total waste disposed; and promotion of usage of recycled resources as raw materials.

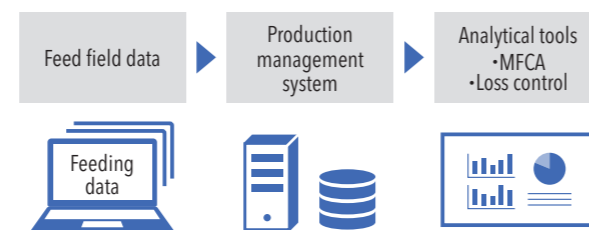
To recycle more waste-plastics, we recycle plastic waste in three ways: plastic waste to film (horizontal recycling), to high-value-added plastic products (upcycling), and to products in general (upcycling).

In fiscal 2021, the percentage of recycled plastic waste was 40% (estimate) and the total waste disposed amounted to 144 ktons. We will continue enhancing production efficiency by incorporating digital transformation (DX) technologies, among other things.

### Resource-Saving Activities

At Nitto's Kanto Plant, members from their Engineering, Production, Sales, and Administration teams set up a working group to carry out an industrial waste reduction campaign. Using Material Flow Cost Accounting (MFCA) and other tools to analyze the production data of all product models, they visualized materials loss for the purpose of reducing industrial waste. This initiative led to a successful material loss reduction of 10 tons by reducing feed and edge loss.

### Visualization of Material Flow



### Promoting Reuse of Wastewater and ZLD

To achieve more efficient use of water resources and to minimize the impact that abnormal weather patterns and other events have on our business activities (restricted water supply, etc.), we are making the utmost efforts to reuse wastewater and achieve ZLD.

Completed in October 2020, the water recycling facility currently in service at the Onomichi Plant has achieved "zero" discharge into the river, thus setting a model for other plants to emulate. As a result, the Nitto Group achieved a 4.6% reduction in total water discharge.

Making use of the expertise that the model facility gained, the Shiga Plant achieved a high recovery ratio of 83% in fiscal 2021. They are looking for a 90% recovery ratio in fiscal 2022 and ultimately "zero wastewater generated from processes" by combining these achievements with technologies for evaporative concentration and volume reduction.



Water recycling facility at the Shiga Plant

### Promoting Recycling of Solvents

The Nitto Group's manufacturing sites are developing organic solvent-free processes and recycling solvents recovered from processes after use.

In fiscal 2021, the Shiga Plant began a project to recycle and reuse solvents used in their manufacturing processes. Overall, we were able to reduce the volume of waste solvents by 440 tons/year in fiscal 2021. At the Toyohashi Plant, on the other hand, they established a new recycling technology for liquid adhesive waste, which had yet to be recycled, to reduce overall industrial waste further.

### Development of Mono-Material Technology

Because one of the mainstay products of the Nitto Group is adhesive tape, it is essential to separate it into mono-materials to promote recycling.

In fiscal 2021, we established technologies for the separation process for recycling and confirmed the quality of recycled films. Going forward, we will work on their practical applications and the expansion of their production on a commercial scale, with the aim of applying the technologies to film base materials for tape and other products.

### Future Challenges/Outlook

It is important and necessary to keep abreast of the latest information regarding industrial waste outside of Japan, and so we are gathering detailed data about such waste abroad (by treatment method, form, etc.). To export our resource conservation practices in Japan to foreign subsidiaries, we are visualizing the process as we develop the relevant infrastructure. For the recycling of resources, we are planning on building a relevant system in each region by carefully selecting local alliance partners and introducing their technologies.

## Emissions-Reduction of Pollutants and Hazardous Substances



To minimize the impact on the work environment and the environment surrounding our plants, we are making efforts to reduce emissions of organic solvents and hazardous substances.

Beginning in fiscal 2020, we expanded the scope of this initiative to include volatile organic compounds (VOCs) on a global basis, thus accelerating our reduction drive.

### Recovering Solvents with Greater Efficiency

Nitto Bento Bantçılık San. ve Tic. A.Ş. of Turkey managed to reduce the VOC emissions by 370 tons, to 820 tons annually, in fiscal 2021 by increasing the efficiency of recovering exhaust gases from solvents. This correspond to 20% of the Group's VOC emissions.

### Future Challenges/Outlook

To make VOC emissions-reduction doubly sure, we are discussing reduction targets and action plans for 2030. By expediting the introduction of solvent-free processes, identifying hazardous substances and regulating their use in accordance with self-imposed standards that are more rigorous than applicable laws and regulations, we are making steady progress towards reducing the impact of our operations on the environment.