Business Activity

Investment Support through Open Innovation

Startups **21**

Venture capital firms **12**

Procurement Partner Quality Management System Assessments

Conducted for **80** companies

Customer Satisfaction

88.7%*

* Customer satisfaction with call center responses in the Americas, Europe, and China for the Imaging Products business

Materiality 1

Creating Social Value through Core Technologies

Companies are considered public institutions and have a responsibility to contribute to the sustainable development of society through transparent and fair business activities. Moreover, in recent years, amidst the emergence of social issues of global importance, companies are required to innovate in ways that will transform social systems and lifestyles, and contribute to solving these issues through their business activities.

Nikon seeks to fulfill Vision 2030 by striving to become a key solutions company in a global society where humans and machines co-create seamlessly. By leveraging the inherent strengths of our business activity, Nikon will deliver innovative value and unique solutions that contribute to the creation of a sustainable society.

Indicators and Targets

Self-Evaluation ○:Achieved △:Measures partially achieved or revised

Indicators	Targets (Year of Achievement)	Fiscal Year 2024 Plan (Action Plan)	Fiscal Year 2024 Results	Self-Evaluation	Fiscal Year 2025 Plan (Action Plan)
Growth drivers as a percentage of consolidated operating profit	40% or more (FY2030)	* Annual plan for each business unit and division	• 0% or less	—	* Annual plan for each business unit and division
Services and components as a percentage of consolidated operating profit	50% or more (FY2030)		• 59%		

Nikon's Social Value Creation

Basic Approach

In our Medium-Term Management Plan, we state our Vision 2030 is to be a key technology solutions company in a global society where humans and machines co-create seamlessly. Over our history spanning more than 100 years, Nikon has cultivated ultra-precise *Monodzukuri* (manufacturing) capabilities, as evidenced in our lithography systems. We have also cultivated a brand that has popularized digital cameras worldwide and greater trust among our stakeholders. Leveraging these strengths, we will provide solutions closely tied to customer experience value and the generation of innovation, and expand possibilities for people in a world where humans and machines co-create more seamlessly. We will also contribute to the realization of a prosperous and sustainable society by providing innovative value that will help address societal and industrial challenges, including those presented in the Sustainable Development Goals (SDGs).

Strategy

Risk

In an increasingly diverse society, where issues are emerging on a global level, failure to provide solutions that contribute to the creation of customer experience value and innovation could result in a loss of customer trust, a decline in corporate brand strength, and a fall in business performance.

Opportunities

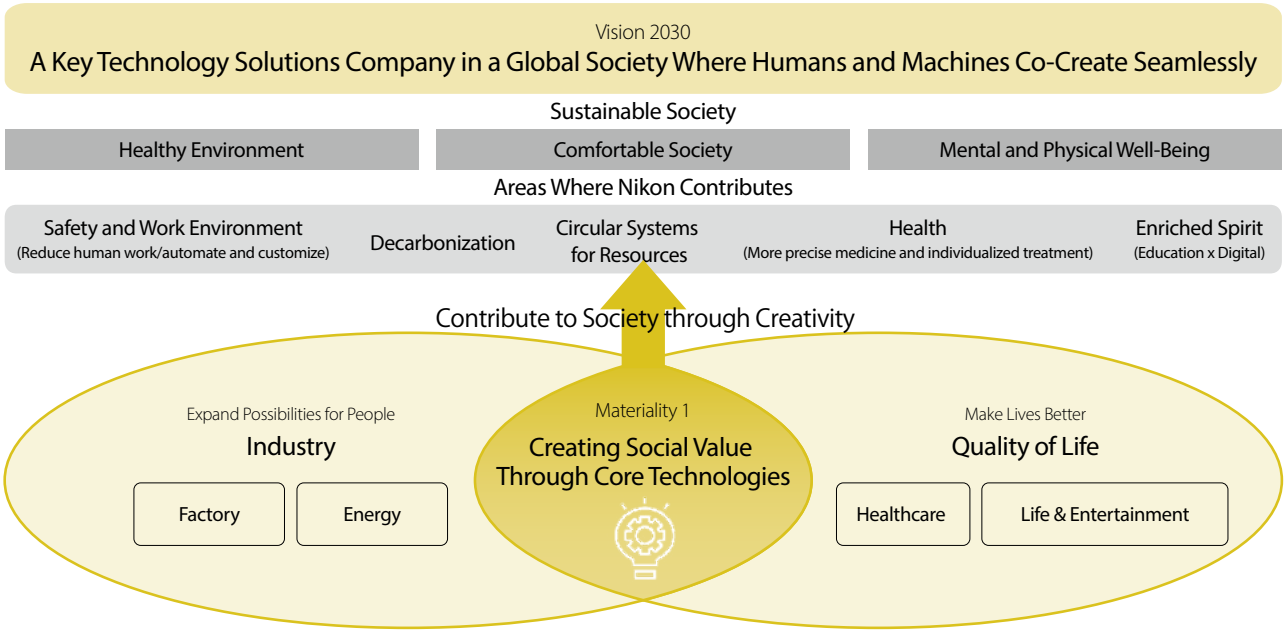
Creating innovations that alter social systems and lifestyles and contribute to solving social issues through our business activity will lead to our corporate brand strength improving and the creation of sustainable growth.

Strategy

The Nikon Group aspires to be a company that contributes to the sustainable development of society through the creativity of new value through our business activity based on our Corporate Philosophy of *Trustworthiness and Creativity*. In our Sustainability Policy, we are committed to helping solve environmental and social challenges, as well as achieving the SDGs through our business activities by delivering unique Nikon products and services, thereby contributing to society through creativity.

In addition, to promote Creating Social Value through Core Technologies, which is one of our materialities, we have made our sustainability strategy part of the management base set out in our Medium-Term Management Plan. Under this plan,

● Contributions to Society through Creativity



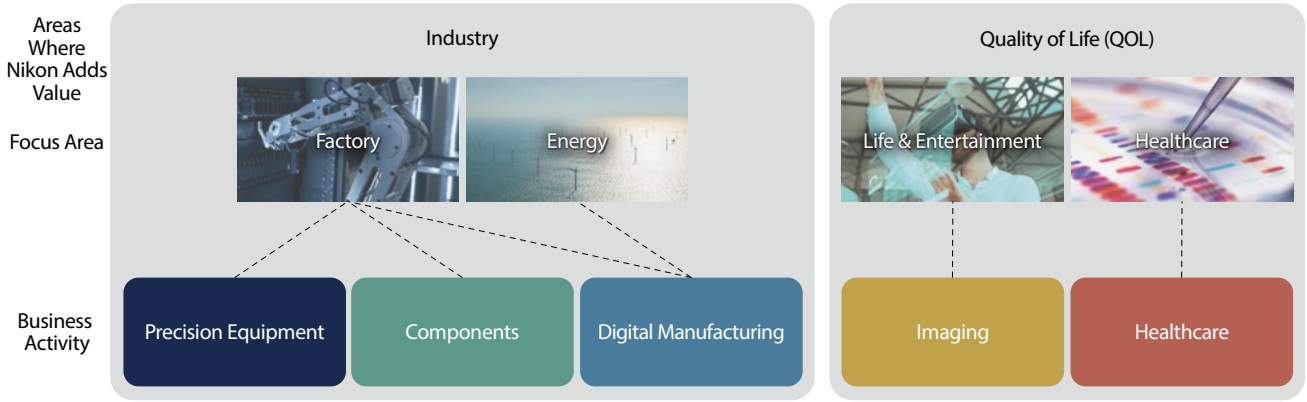
our Vision 2030 is to become a key technology solutions company in a global society where humans and machines co-create seamlessly. We will focus on the Industry and Quality of Life (QOL) value creation domains, specifically in the areas of Factory, Energy, Healthcare, and Life & Entertainment, to expand human potential and enrich lives. In a world where humans and machines co-create more seamlessly, we will use these efforts to contribute to the achievement of the SDGs and the realization of a sustainable society, especially in the areas of safety and work environment, decarbonization, circular systems for resources, health, and enriched spirit.

Areas and Businesses of Contribution in the Medium-Term Management Plan

In our Medium-Term Management Plan, we aim to use our Components, Digital Manufacturing, and Precision Equipment businesses to provide value in the Industry domain. Likewise, we aim to use our Imaging Products and Healthcare businesses to provide value in the Quality of Life domain. In this context, we aim to contribute to a sustainable society and grow our own company by focusing on five areas, with the delivery of integrated solutions, including finished products, services, and components as growth drivers.

Web Medium-Term Management Plan

Areas and Businesses Where Nikon Provides Value



Contributions through Business Activities

Areas Where Nikon Contributes	● Precision Equipment ● Components ● Digital Manufacturing ● Imaging ● Healthcare
Safety and Work Environment (Reduce human work labor, automate and customize)	• Contribute to work environments and public transportation infrastructure through sensing, imaging and displays, etc. • Contribute to urban planning and resilient social infrastructure with image analysis and optical telecommunications technology • Contribute to space industry and technology by providing satellite modules, etc.
Decarbonization	• Increase energy efficiency in society with additive and fine processing using optics • Enhance manufacturing efficiency in robots with sophisticated hands and eyes and device manufacturing processes • Contribute to a society where people connect transcending time and space and real and virtual leveraging image production technologies • Contribute to a healthy global environment with longer lasting light sources and more durability in our products
Circular Systems for Resources	• Reduce the burden of waste and promote re-use among our customers through turbine repairs and ultra-precision processing, controls and measurement • Aim to achieve a recycling society by strengthening equipment re-use and refurbished systems sales • Leverage digitalization to help reduce needs
Health (More precise medicine and individualized treatment)	• Reduce the burden on doctors and patients and support drug discovery with early and high-precision evaluation of ailments • Achieve regenerative medicine for everyone with Contract Cell Manufacturing solutions • Support medicine with high-precision robot modules
Enriched Spirit (Education x Digital)	• Contribute to rich and creative visual expression and culture with imaging equipment and 3D and 4D technology, etc. • Use cameras, microscopes, and telescopes to spark interest in space and the natural sciences, contributing to learning and the development of future generations • Education and training that transcends time and space and real and virtual

Major Initiatives

Research and Development (R&D)

The Technology Strategy Committee at Nikon, chaired by an officer, leverages analyses of macro social issue trends to comprehend business environments, conduct market studies and evaluations, and develop new areas of focus for our efforts. The committee also formulates technology strategies and R&D plans for existing business activities. These serve as the foundation for the Advanced Technology Research & Development Division's duties, including R&D of technologies shared by business units and R&D of future technologies.

Web Research and Development

Open Innovation

In order to accelerate the development of new products and services, as well as the launch of new businesses that address diversifying social issues, Nikon actively adopts open innovation by leveraging external resources.

Specifically, as a part of our corporate venture capital activities, we established the private funds to directly invest in startups and nurture promising technologies and ideas from startups. In addition to the two Japan-based private funds, Nikon-SBI Innovation Fund and Nikon-SBI Innovation Fund II, we established the US-based NFocus Fund in August 2024.

As of March 31, 2025, we are providing investment support to 21 startups and 12 venture capital firms.

Web Open Innovation

Creation and Utilization of Intellectual Property

To adequately protect the competitiveness of products and technologies that support sustainable business growth, Nikon has established and effectively utilizes a necessary and sufficient intellectual property portfolio. At the same time, we respect others' intellectual property rights while taking a resolute stance against infringements of our own intellectual property rights.

To achieve management plans, it is crucial to support the business strategies of each division from the perspective of intellectual property. To this end, our business units and R&D and intellectual property divisions work closely together to formulate and implement intellectual property strategies optimized for each of our business activities. These strategies involve utilizing an IP mix that combines patents, designs, and trademarks to provide comprehensive protections for our products and services. Following these strategies enables us to create intellectual property and manage associated risks, both of which are essential for business growth from a medium- to long-term perspective.

Web Intellectual Property Initiatives

Value Provided through Business Activities-1

Areas Where Nikon Contributes: **Health**

Helping Address Declining Birthrates with Fertility Treatment Products

In Japan, Europe, and the United States, the declining birthrate has become a serious social issue, and so the demand for fertility treatments is increasing*. Confronting this social issue are embryologists. Working under the guidance of physicians, they employ assisted reproductive technologies (ART) such as in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), and clinical embryology. The workload on embryologists is growing with the rising volume of fertility treatments being performed, leading to an ever-greater need for efficiency and accuracy in their work.

Against this societal backdrop, Nikon Solutions Co., Ltd., a subsidiary of Nikon, released the ECLIPSE Ti2-I, a microscope designed specifically for intracytoplasmic sperm injection, in July 2024.

* In Japan, births resulting from fertility treatments account for 8.6% of all births. This figure was calculated using the number of births in 2021, which is based on data in the *ART Data Book* (Japan Society of Obstetrics and Gynecology) and the *Total Fertility Rate* (Japan Ministry of Health, Labor and Welfare). In Europe, infertility treatment increased by a factor of about 1.8 between 2011 and 2019. This is based on calculations taken from *ART in Europe, 2019: results generated from European registries by ESHRE* (Human Reproduction, 2023, 38(12), 2321–2338). In the U.S., infertility treatment increased by a factor of about 2.3 between 2012 and 2021. This is based on calculations taken from the *CDC 2021 Assisted Reproductive Technology (ART) Fertility Clinic and National Summary Report.*

ECLIPSE Ti2-I Motorized Inverted Microscope for ICSI/IMSI (photo with the manipulator of Narishige Lifemed Co., Ltd. installed)

Contributing to the Efficiency and Accuracy of ICSI

Intracytoplasmic sperm injection is a fertility treatment technique. It is a treatment in which a sperm is injected directly into a collected egg. Because extremely delicate manipulation is required, the work must be performed in a short period of time under microscopic observation by a highly skilled embryologist.

The ECLIPSE Ti2-I microscope was developed to streamline the ICSI process, which is a complex process. The necessary microscope settings for each process and the observation mode can be changed with a single touch of a button while the operator is actually looking through the microscope. According to our research, this one-touch adjustment reduces the number of operational steps by approximately 75% compared to when existing equipment is used, significantly improving workflow efficiency (Figure 1).

In addition, the display on the front of the microscope features intuitive icons for easy operation and a notification function to prevent operational errors (Figure 2).

Our unique optical technology enables bright and clear observation of the eggs and sperm. In particular, the microscope's ability to provide full-color, omnidirectional visualization of the oocyte spindle, which is difficult to see even under a microscope, helps embryologists accurately determine the angle to insert the needle when injecting the sperm, improving the operational precision of the fertility treatment and reducing the workload of embryologists (Figure 3).

Reducing Workload of Embryologists

Embryologists performing ICSI are under a lot of pressure when handling eggs and sperm—the source of life—and, in particular, because they always have to perform the best possible work in the shortest possible time without making mistakes. Many have said the emotional burden of the mission, intensified by the desire to provide the best possible outcome for patients having difficulty conceiving, is very heavy.

Compounding these challenges, ICSI is a routine operation performed by multiple personnel taking turns in a limited space,

Figure 2

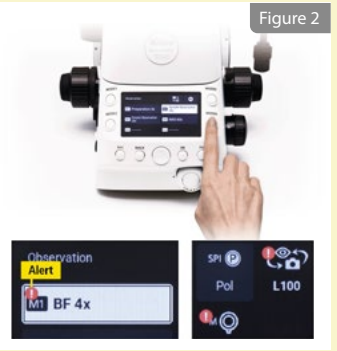


Figure 3

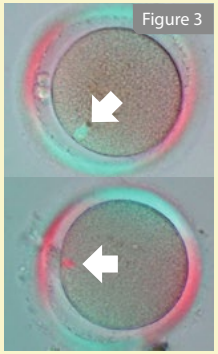
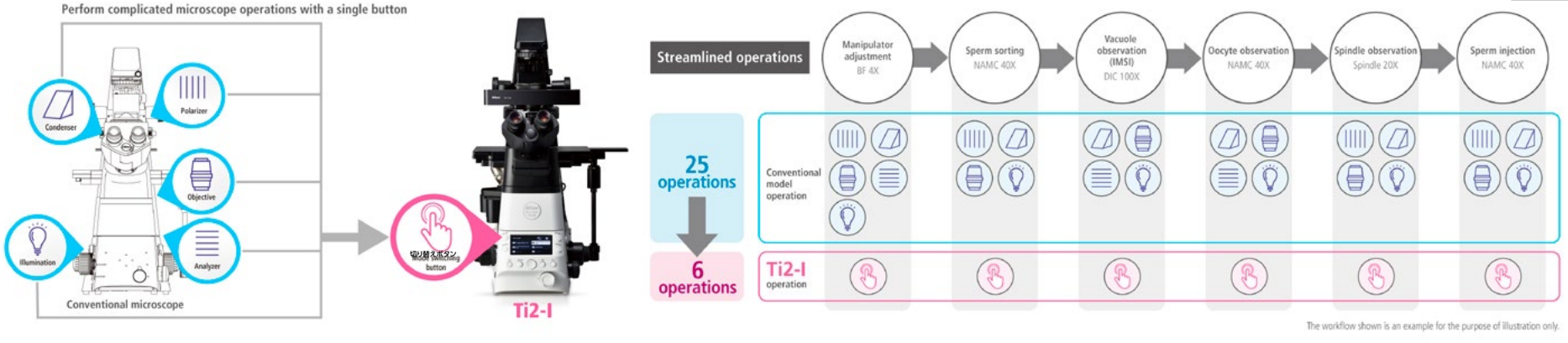


Figure 1



meaning an efficient work environment is essential. In particular, the frequent manual micromanipulations required contributes to the increased burden on embryologists.

The introduction of the ECLIPSE Ti2-I is expected to substantially mitigate these issues, reducing the burden on embryologists and increasing productivity. And Nikon will continue looking for ways we can contribute to fertility treatment by supporting professionals using our microscopes.

Contributing to Women's Advancement in Society and Diverse Lifestyles

Significant progress in fertility treatment has contributed greatly to the advancement of women in society, allowing women to have more diverse lifestyles. Women who previously felt they had to abandon their career aspirations if they wanted to have a child can now plan childbirth around their life stages more easily, thanks to IVF and ICSI being available options. These increase the chances of conception even for women who have difficulty conceiving naturally due to age or medical factors. Moreover, as family structures diversify–with later marriages, rising average ages for first marriages, and an increase in single motherhood–everyone can expand their possibilities of becoming a parent and having children.

Such advances in fertility treatment are helping to create a society that respects diverse values. And we will certainly continue supporting healthier, more creative work styles and diverse lifestyles.

Value Provided through Business Activities -2

Areas Where Nikon Contributes: Decarbonization

Digital Lithography Systems Contributing to Next-Generation Semiconductor Manufacturing and a Sustainable Future

Chiplets Overcoming the Limits of Miniaturization

With the miniaturization of circuit patterns in monolithic ICs approaching its practical limits, the semiconductor industry is turning to chiplets as a promising new manufacturing technology. With conventional monolithic ICs, as circuit pattern miniaturization continues, manufacturing costs increase, and issues such as lower yields and increased design complexity become more pronounced. This is especially the case in leading-edge processes, making it difficult to improve performance and keep costs down.

In light of this, combining multiple individual chips to create larger multi-chip modules, or chiplets as they are known, has been attracting attention in the past few years. Using chiplets

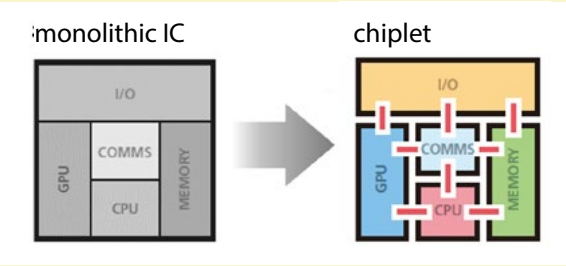


Illustration comparing a monolithic IC and chiplet

can reduce manufacturing costs and improve yields because only the chips requiring the most advanced manufacturing processes are actually made using them, meaning the rest can be made using conventional processes. In the future, chiplets are expected to have a wide range of applications, including in data centers and AI, and may become mainstream next-generation semiconductors.

Chiplet Manufacturing and Lithography Systems

As demand for AI, cloud services, and big data analysis rapidly increases, the semiconductors used in data centers are required to have higher performance and greater efficiency than they do at present. To support large-scale processing in data centers, larger chiplets that can accommodate more chips are essential.

When manufacturing a chiplet, it is necessary to form fine wiring, or interconnects, to precisely connect the chiplet, and our lithography systems are used for this purpose. Such systems form an interconnect pattern on a substrate coated with a photosensitive material by projecting a pattern engraved on a photomask onto the substrate. For large chiplets, the density and accuracy of the interconnects is especially important so that high-speed, low-power communication between multiple chiplets can be achieved.

Balancing Miniaturization and Productivity

As chiplets continue to increase in performance and size, the lithography systems used in the manufacturing process must be able to handle ever finer patterns and larger exposure areas. Our high-resolution semiconductor lithography system technology,

developed over many years, enables miniaturization and facilitates interconnect formation that is leading edge.

However, as chiplets increase in size, substrate dimensions also grow. This in turn demands higher throughput from lithography systems, requiring them to expose large areas more quickly. This can be accomplished by integrating the multi-lens technology employed in the lithography systems used to manufacture flat panel displays. This technology enables efficient scanning of large exposure areas by arranging multiple lenses in an array, and can accommodate future substrate enlargement.

Therefore, our digital lithography systems, which enable both miniaturization and offer high productivity, provide an indispensable technological foundation for next-generation semiconductor manufacturing.

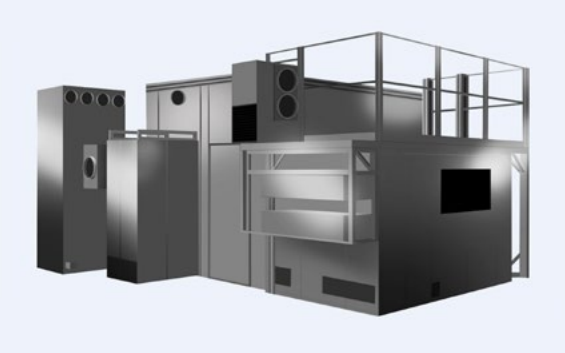


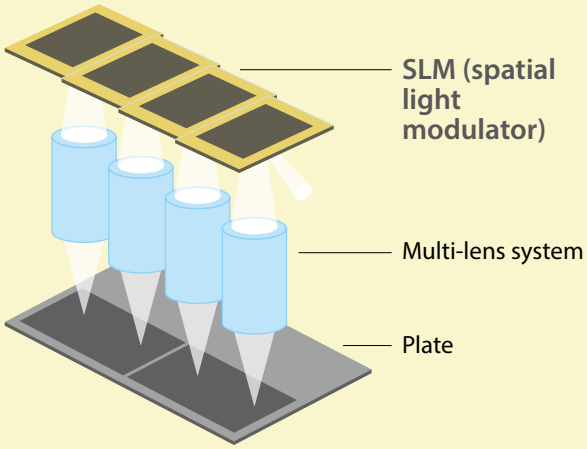
Illustration of a digital lithography system

Maskless Digital Lithography Systems

By replacing photomasks with SLMs (spatial light modulators), our digital lithography systems not only shorten development lead times and improve exposure accuracy, but also provide major advantages with regard to the environment and sustainability.

These environmental advantages become clear when considering the drawbacks of conventional photomasks: Conventional photomasks use chemicals and consume energy during manufacturing and transportation, and ultimately become waste themselves. In addition, each time an interconnect pattern changes, a new mask must be created, which consumes energy and generates waste.

However, using SLMs (spatial light modulators) eliminates the need for physical photomasks, significantly reducing the environmental impact. In addition, SLMs (spatial light modulators) are electronically controlled, allowing them to generate a variety of patterns. This in turn allows changes in interconnect patterns to be responded to very quickly, streamlining prototyping and development and reducing the amount of resources wasted.



Digital lithography technology using SLMs (spatial light modulators)

Contributing to Sustainability and Development of Various Fields

Our digital lithography systems will make a significant contribution to chiplet manufacturing, providing the foundation for the further development of semiconductors. This will bring efficiency and convenience to a wide range of fields, including medicine, education, transportation, and energy, leading to the enrichment and improved well-being of people's lives.

Our digital lithography systems are a future-oriented technology that reduces the carbon footprint of the entire semiconductor manufacturing process by reducing the resource consumption and environmental impact of the process. Moreover, our digital lithography systems are a technology that delivers sustainability through both environmental conservation and technological innovation, and these systems will play a vital role in shaping the society of the future.

We plan to launch Nikon's digital lithography systems during fiscal year 2026.