

Noul Sustainability Report
2022-2023

Beyond Diagnostics

noul

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Message from Management

We proudly present our stakeholders with our third sustainability report, grateful for their unwavering interest and support as they accompany us on our journey of growth.

🔥 **With both its concerns and expectations, 2022 was the most dynamic year we have had as a company since our foundation.**

Overall external conditions deteriorated rapidly amid interest rate rises, the economic slowdown, rising raw material prices, and global supply chain disruptions. This prompted us at Noul to shift gears and take a proactive stance in managing financial and operational risks from the second half of 2022. We reacted to the decline in the bio health industry with a mode of management equivalent to one of emergency protocols so we could focus on handling the uncertainties in our business.

However cautious we were concerning external uncertainties, we made multiple tangible achievements and progress towards our growth goals internally. In fact, our efforts to go public on the KOSDAQ for the past two years finally came to fruition when we became a listed company in March of 2022. This was truly next level in the credibility we gained from stakeholders concerning our technology, business potential, and management competency. For products, we developed two new cartridge models for blood cell morphology analysis and cervical cell analysis, and obtained CE marking for these cartridges. Meanwhile, we fully initiated our global sales operations to eventually advance into 10 nations in Africa, Latin America, and Europe. By March of 2023, following nearly one year of preparation, we were qualified to receive KRW 4 billion in research funds from the RIGHT Foundation to commercialize malaria diagnostic platforms.

We achieved numerous accomplishments over the past year for the next step of our growth journey: we were selected for a KRW 10 billion project to explore novel cancer profiling technology, formed research partnerships with organizations under the Cameroonian and Ghanaian governments, and were honored with awards for our inventions and patents. Building on such achievements, we have been more forthright in our approach to our global sales and business expansion since 2023.

🔥 **Noul is progressing towards the next milestone in reaching the break-even point.**

In our start-up and early growth phase, we focused on substantiating our technology and products. As the intrinsic value of our patents have been duly recognized and as we have reached the milestones of passing technology assessments

and going public under the special technology listing program, our company has been verified to some extent. It is worth noting that an official report in 2022 from Unitaid introduced our miLab™ Platform as “the most advanced digital microscope.. and fully integrated benchtop platforms”. These statements serve to testify how the value of our products have been recognized at the global level.

Such achievements have served to strengthen our commitment at every level within the Company since the latter half of 2022 to reach our next milestone of arriving at the break-even point and demonstrate our business potential in so doing. For us, this milestone means much more than merely securing financial profitability. First, we know it will help us actualize the business potential we were recognized for under the special technology listing program; second, it substantiates the viability of our social mission venture model that simultaneously generates social and business value; and lastly, it will enable us to fulfill our social, economic and environmental responsibility in a balanced way as a sustainable company. In December 2022, Noul established our company-wide mid-term roadmap to reach the break-even point, and intends to monitor our progress regularly into 2024 to execute our plan on the roadmap. By ensuring the financial backing required to achieve our roadmap and firmly establish our financial stability in so doing, we will preemptively manage any potential short-to mid-term financial risks. This will help us focus our capabilities on building a successful market presence for our product portfolio so that we remain steady regardless of the external environment.

🔥 **At Noul, sustainability is the philosophy that underlies our business operations and is the foundation for our solid growth.**

The value of sustainability that we have pursued from day one has now moved beyond our initial aspirations to become the principle of our organizational operations, the standard of our HR policy, the driver of our technology innovation, and the strategy of our business growth at every level of our organization. There is further to go when our sustainability management is measured against standardized ESG assessment metrics. We nonetheless realize that our progress is significant as a venture company that has just passed the startup phase and is building solid track records in its efforts for advancing sustainability and generating tangible outcomes along its growth cycle.

To embed sustainability into our business operations in a more systemic and integrated manner, we established five focus areas of sustainability and mid/long-term implementation strategy at the company-wide level in March 2023. In line with this strategy, we will undertake step-specific key activities across focus areas, beginning with establishing policies, systems, and cultural setting. We will then strengthen our execution and further facilitate communication, before advancing our systems and reinforcing our reputation as a market leader. We also defined our hybrid business model by pairing our business operations with the impact generation process based on the Theory of Change. Our hybrid business model offers a structured view of how our business strategy contributes to social impact generation and the attainment of the UN SDGs and how the social change we enable through improved access to diagnostics could drive Noul's business growth. Our hybrid model will not only allow us to take a more integrated approach to our business activities and our initiatives to create impact, but also promote more systemic communication with our stakeholders.

🔥 At Noul, stakeholder communication through sustainability reporting is an instrumental part of being a responsible and trustworthy company to stakeholders.

The preparation of our report is anchored on the two core principles of truthfulness and transparency. This is why the preparation process and content of our report have been internally planned and organized since the very first report. Our reports also outline our annual sustainability improvement plans and transparently disclose the implementation results. In our previous report, we committed to make improvements on 30 items. From these 30, we improved on 24 of the items, and were able to adequately explain why the improvements were not completed on the remaining six.

In last year's management message of our report, we mentioned we were seizing new opportunities amid the crisis we faced in the business landscape. A full year has passed since then, and we realize how the external conditions of today make us feel unusually alerted more than ever before. From the internal perspective, however, we are more confident as a company and know there are more diverse global business opportunities looming on the horizon. In fact, our team members seem more deeply engaged in their work and have an elevated level of organizational energy in the process. Our business is well on track to pursue full-fledged growth, and this reminds us of the importance of managing our operational risk more systematically and realizing business opportunities that generate both financial value and social impact. We will also strive to do our utmost to evolve into an investment-worthy company for our stakeholders, a supplier of appealing products, a fair and sought-after business partner, a reputable organization that draws talented members, and a trusted brand in the industry. We look forward to your unwavering interest in and encouragement for our growth journey.

Sincerely,



CLO Peter Kim

CEO David Lim

CSO Justin Ahn

Part.1

Mission-Driven Company

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Our Growth Milestones in 2022–2023

2022

- Jan.** • **Initiated research and development on novel cancer profiling technology**

 - Granted a KRW 10 billion research project by the Ministry of Trade, Industry and Energy to team up with Boston Children’s Hospital, Harvard Medical School, Seoul National University, Yonsei University, and Asan Medical Center to develop spatial biology-based cancer profiling technology
- Mar.** • **Listed on the KOSDAQ market**

 - Listed under the special technology program to secure trust from stakeholders and gain recognition for our technology, business potential, and management
 - Established a growth base to expand into a global business through strengthened R&D, secured production capacity, and talent recruitment
- Apr.** • **Published our solid-based staining technology in the ACS journal**

 - Published the results from our joint research conducted with Harvard Medical School and Massachusetts General Hospital on the applicability of solution-free blood cell staining at the ACS Appl. Mater. Interfaces, the American Chemical Society journal
- Jun.** • **Honored with the Prime Minister Commendation on 57th Invention Day**
- Aug.** • **miLab™ featured in Unitaid’s Malaria Diagnostics Market and Technology Landscape report**

 - miLab™ recognized in the 4th Edition of the Malaria Diagnostics Market and Technology Landscape report published by Unitaid (international drug purchase facility) with the quotes “the most advanced digital microscopes are fully integrated benchtop platforms from Noui”

- Aug.** • **Awarded a Declaration of Conformity under the European IVDD for our cartridge solutions**

 - Awarded a Declaration of Conformity under the European IVDD (In Vitro Diagnostic Directive) for our cervical cancer cell screening cartridge solution miLab™ Cartridge CER and our morphology-based cell blood analysis cartridge solution miLab™ Cartridge BCM
- Oct.** • **Signed an MOU with Center Pasteur in Cameroon**

 - Opened up possibilities to partner with Center Pasteur in Cameroon under the Cameroonian Ministry of Public Health to conduct joint malaria research by leveraging miLab™ to improve malaria diagnostic capabilities and to bring miLab™ into the local malaria diagnostics market
- **Awarded at the Innovation Pitch Competition of ASTMH**

 - Ranked 2nd at the Innovation Pitch Competition held by the ASTMH (American Society of Tropical Medicine & Hygiene) for our presentation on the ‘Decentralized Malaria Diagnostic Platform’
 - miLab™ highly appreciated by global healthcare professionals for its innovative technology and point-of-care applicability
- Nov.** • **Received the Korean Intellectual Property Office Commissioner Award (Silver Award) at the 2022 Inventions & Patents Awards**
- Dec.** • **Signed an MoU with the Ghana Infectious Disease Center**

 - Cooperated in conducting product validations and obtaining local approvals to introduce miLab™ to local health establishments in compliance with the malaria control program of the Ghanaian government

2023

- Jan.** • **Signed a sales and purchase agreement valued at KRW 2.4 billion with a distributor in Saudi Arabia**

 - Signed a sales agreement for miLab™ devices as well as miLab™ MAL and miLab™ BCM cartridges
 - Expected to improve Saudi Arabia’s diagnostic capacity, which is required to perform blood cell analyses and diagnose cases of imported malaria on a massive scale
- Feb.** • **Obtained CE marking under the IVDR for miLab™ Platform products**

 - Obtained CE marking under the European In Vitro Diagnostic Regulation (IVRD) for our two platform components – miLab™ Platform and Safefix™
- Mar.** • **Granted KRW 4 billion in research funds by the RIGHT Foundation**

 - Selected as a recipient of research grants by the RIGHT Foundation, an international health technology funding organization
 - Received KRW 4 billion in funding to conduct global clinical research and cost-effectiveness analysis on miLab™ in Africa and Asia for three years

2022-2023 ESG Highlight



Environment

**334.27 tCO2eq,
6.84 TJ**

- Posted a 11% y-o-y increase in GHG emissions and a 19% reduction in power consumption at manufacturing facilities

4 cases

- Implemented employee-led green projects
- Conserved water, reduced waste, reviewed and improved sorting and recycling practices, and facilitated the sharing of used goods

16,576 units

- Number of disposal cups avoided by encouraging employees to opt for tumblers at the in-house café 'Noul, With You'
- Helped mitigate 747.712kgCO2eq in carbon emissions

Paperless Quality Management System

- Introduced an eco-friendly business process to shift to e-documentation for quality documents and records and avoid printing
- Posted a 52% decline in per-person paper consumption



Society

Recognized as a social venture business

- Exceeded the social criteria for innovative growth potential and social mission by the Ministry of SMEs and Startups to determine the status of social ventures

7 cases

- Eliminated health and safety hazards and risk factors
- Implemented a health and safety access improvement program

Family-friendly business certification

- Achieved the family-friendly business certification by the Ministry of Gender Equality and Family in December 2022
- Provided a workplace that ensures work-life harmony

**27 persons,
648 hours in total**

- Number of employees who completed in-house advanced sustainability training and total training hours
- Implemented 8 in-house, employee-led sustainability improvement projects

96%

- "My supervisor and colleagues treat me with respect."
- 2022 Engagement Survey
- Survey period: Apr. ~ Sep. 2022
- Respondent: 75 persons



Governance

40%

- Percentage of outside directors in the Board of Directors

20%

- Percentage of female outside directors in the Board of Directors

Stakeholder newsletter

- Operated the newsletter channel to ensure regular communication with our stakeholders and obtain valuable feedback

Our Progress towards Sustainability Commitments in 2022

Noul first disclosed area-specific sustainability improvement plans in our 2021 sustainability report, and we illustrate our progress towards such plans in the following year's report. This ensures that we prioritize our sustainability commitments to stakeholders within our business operations and transparently share our progress and achievements. In 2022, we implemented 24 out of the 30 plans: five of which were partially completed while the remaining one plan was not implemented as our sustainability priorities changed. The details and results of the major improvement plans can be found in the corresponding section of this report. While some plans were not covered in this report, we nonetheless completed internal reporting on them according to our sustainability reporting process.

*Implementation status : O Completed △ Partially completed X Not completed

Area	2022 Improvement Plan	Implementation Status	Page
Market Entry	Explore and implement responses to the planned transition of CE marking into the IVDR (In-Vitro Diagnostic Regulation) from May 2022	O	28p
	Develop mid/long-term country-specific tailor made sales strategies to improve healthcare access	O	Not reported
	Attend Arabhealth and MedMab and secure a strategic sales network in the Middle East, the Commonwealth Independent States (CIS) region and Asia	O	Not reported
	Attend world-renowned medical conferences (ISLH, AACC, etc.) to publicize our products and secure market cooperation opportunities	O	Not reported
Research & Development	Develop hydrogels which enable staining for diverse types of tissues and cells, including IHC and FNA	O	Not reported
	Publish papers in peer-reviewed journals to establish the credibility of our miLab™ platform	△	Not reported
	Secure local R&D partnerships to develop cancer diagnostic products that meet the needs of LMICs	O	28p
Corporate Governance	Assess the operational status against the internal accounting control system and report the results to the Board	O	40p
	Strengthen the role of outside directors through the proactive reporting of business conditions and improve the operational effectiveness of the Board	O	40p
	Establish a disclosure implementation system as a listed company	O	40p
	Reinforce company-wide training to raise employees' compliance awareness	O	33p

Product Quality & Safety	Take the risk-based approach to product development and process management	O	35p
	Develop and advance a quality system for reliable and continuous manufacturing	O	35p
	Conduct training on quality systems and processes	O	35p
Human Rights & Labor	Improve our grievance mechanism to increase its effectiveness	O	34p
	Provide company-wide training on human rights and diversity & inclusion	O	35p
	Identify improvement issues from the viewpoint of labor and human rights, and perform ongoing improvements and monitoring	O	Not reported
Implement training programs to strengthen leadership skills	Recruit members with disabilities and abide by the regulatory requirements to employ people with disabilities	O	44p
	Make institutional and operational improvements to prevent and manage excessive workloads	O	Not reported
	Plan and implement employee engagement programs to create pleasant and rewarding work experience	O	45p
	Support members' career vision and growth	△	46p
	Implement training programs to strengthen leadership skills	△	Not reported
Environment & Climate Change	Regularly measure and monitor GHG emissions	O	50p
	Develop plans to reduce the environmental impact of miLab™ packaging, including FSC certification	△	Not reported
	Implement sustainability improvement projects based on member engagement through Sustainability 101 training	O	41p
	Set the policy course of our environmental management	X	Not reported
Health & Safety	Launch member-led, eco-friendly campaigns to reduce energy consumption and waste generation	O	51p
	Organize the Health and Safety Committee and convene quarterly meetings to preemptively manage issues	O	37p
	Provide work-related stress training to help promote the physical/mental health of members	△	Not reported
	Strengthen health support activities, including the on-site health counseling provided by healthcare professionals	O	37p

Our Plans for Commitments Not Completed

<p>Publish papers in peer-reviewed journals to establish the credibility of our miLab™ platform</p>	<p>Revising our planning approach once in the paper preparation phase in 2022 delayed the thesis and its submission. An abstract containing a portion of our miLab™ clinical performance results was submitted to the ASTMH 2023 Annual Meeting, and a technical paper to ensure the reliability of our miLab™ platform was also submitted. A clinical paper will be submitted within 2023.</p>
<p>Support members' career vision and growth</p>	<p>While we bolstered one-on-one meetings between leaders and employees to help our employees with career development in 2022, additional growth support programs were not implemented. We plan to conduct an in-house training program to develop company-wide common competency in 2023, and also explore ways to support employees' career vision and growth in alignment with our organizational growth cycle.</p>
<p>Implement training programs to strengthen leadership skills</p>	<p>While the Leadership Probation program was implemented and a capacity-building workshop was held for leaders in team head and higher positions in 2022, additional leadership capacity-building training programs were not implemented. We plan to develop leadership training programs and reinforce our Leadership Probation program in 2023.</p>
<p>Develop plans to reduce the environmental impact of miLab™ packaging, including FSC certification</p>	<p>We are phasing in our shift to eco-friendly product packaging in consideration of the ease of the particular switch, the degree to which it impacts our products, and the availability of eco-friendly alternatives. For the four types of boxes reviewed in the first phase, we fully switched to FSC-certified alternatives or completed the switch approval process. We did, however, run into some delays for buffer, plastics, and tapes that we reviewed in the 2nd phase since August 2022. The quality issues of their greener substitutes, the need to adjust our production process, and insufficient eco-friendly benefits were the main causes behind such delays. Currently, we are exploring candidate materials that meet our miLab™ packaging needs in terms of buffer performance and eco-friendliness, and will re-establish our green packaging plan to implement detailed action plans by 2024.</p>
<p>Set the policy course of our environmental management</p>	<p>Our sustainability self-assessment in 2022 revealed that the first step to establish an effective environmental management policy in consideration of our current business growth and organizational scale would be to secure the process and organizational capacity for basic environmental data management. This informed our decision to focus on regulatory compliance and environmental data collection/management in the short-term while including environmental management policy development into our mid/long-term improvement roadmap.</p>
<p>Provide work-related stress training to help promote the physical/mental health of members</p>	<p>We provided training to alleviate job strain as part of our quarterly occupational health and safety training. As such training was primarily theoretical in nature, we plan to include more practical solutions by inviting external experts to individually assist our team members in performing self-evaluations to reduce their job-related stress.</p>





01.

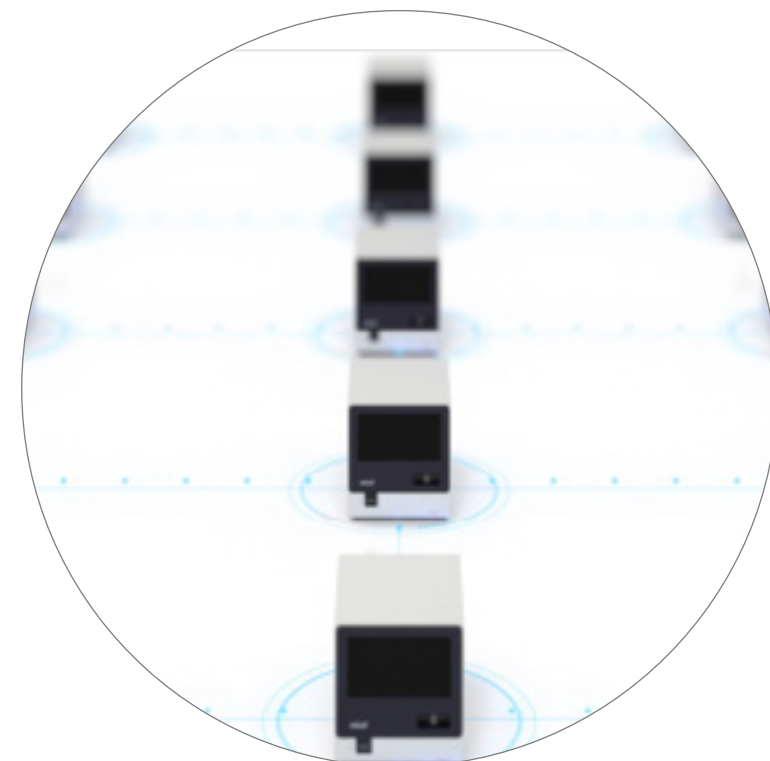
Noul is the first decentralized diagnostic testing platform company in the world.

Since our inception in 2015, we have remained focused on developing innovative products that deliver accurate, hospital-grade diagnostic testing even to local clinics lacking full lab infrastructure. The sum of our endeavors has allowed us to create miLab™, the world’s first diagnostic testing platform which fully automates the entire process – from sample preparation to embedded AI-based analysis. miLab™ is blazing a new trail in the field of decentralized diagnostic testing, finding its applications into a wide array of diagnostic tests, including but not limited to malaria diagnostics, blood analysis and cancer screening.

02.

Noul leverages future-driven convergence technology to pioneer telehealth and accelerate the digitalization of diagnostic testing.

We have developed over 40 AI, bio, and platform component technologies to enable telehealth and the digitalization of diagnostic testing. Our innovative technologies which have been integrated and used on the miLab™ platform – NGS solid-based staining, (the world’s first and Noul’s proprietary technology), embedded AI optimized for decentralized diagnostic testing products, and platform technologies with micro-level precision – are expected to expedite the digital innovation of diagnostic testing. This is truly revolutionary as manual labor had been the modus operandi for the past century, along with the fact that test results can be applied remotely in real-time. In harnessing our original convergence technology, we create a new paradigm in telehealth, a rapidly expanding sector in the wake of COVID-19.



03.

Noul improves healthcare access in such essential diagnostic tests as blood testing and cancer screening, creating business value in the process.

Our business model and growth roadmap are aligned with our aspiration to dramatically improve healthcare access in many global regions lacking adequate healthcare infrastructure. Our miLab™ platform focuses on diagnostic testing which falls into the jurisdiction of blood and tissue analyses performed via microscopic examinations, and holds immense market growth potential while providing an opportunity to improve healthcare access. In 2020, we completed the development of our blood diagnostics solutions for malaria, one of the three major worldwide infectious diseases, and developed our blood morphological analysis solutions in 2021. We also developed cervical cancer screening solutions in 2022, extending the scope of our testing solutions year after year. Over the mid-to-long term, we aim to incorporate cancer screening and other essential diagnostic tests into our platform to eventually evolve into a global company that positively impacts both business and society.

Business for SDGs



Our core business area is directly aligned with the UN Sustainable Development Goal 3 ‘Good Health and Well-being’. Our goal for healthcare access directly contributes to attaining the SDGs Target 3.3, and our goal for precision cancer diagnostics also contributes to reaching the SDGs Target 3.4.

*The UN Sustainable Development Goals (SDGs) set out 17 goals for the international community to achieve by 2030 to advance sustainable development insofar as ending global poverty, advancing health and creating a higher quality of life, promoting inclusive growth, and responding to climate change.

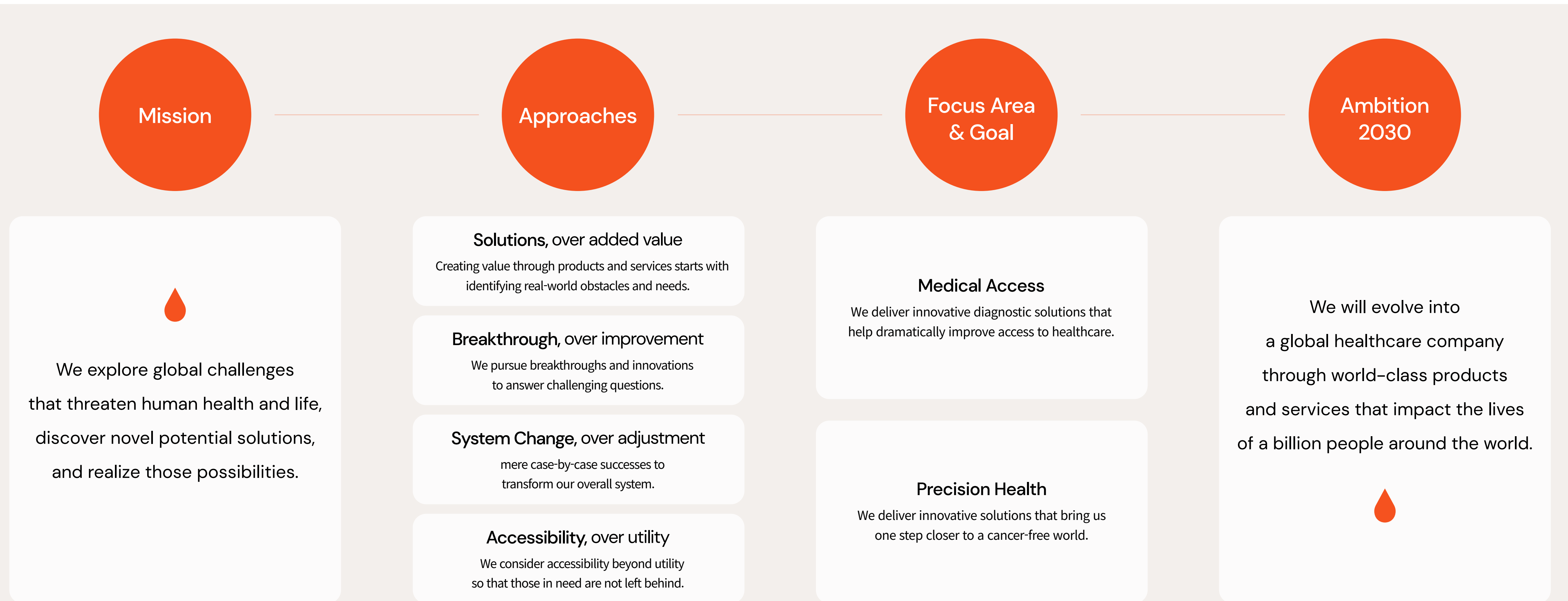
Our Mission Framework

Noul established a mission framework outlining our corporate mission, approach, and business goal and vision, and aligns our business operations with this framework.

Mission defines our raison d'être as a company and Approaches outlines our unique business approach to realizing this Mission.

Focus Area & Goal each illustrates our key business areas and our goals in terms of the customer value that we strive to create through products and services in each Focus Area.

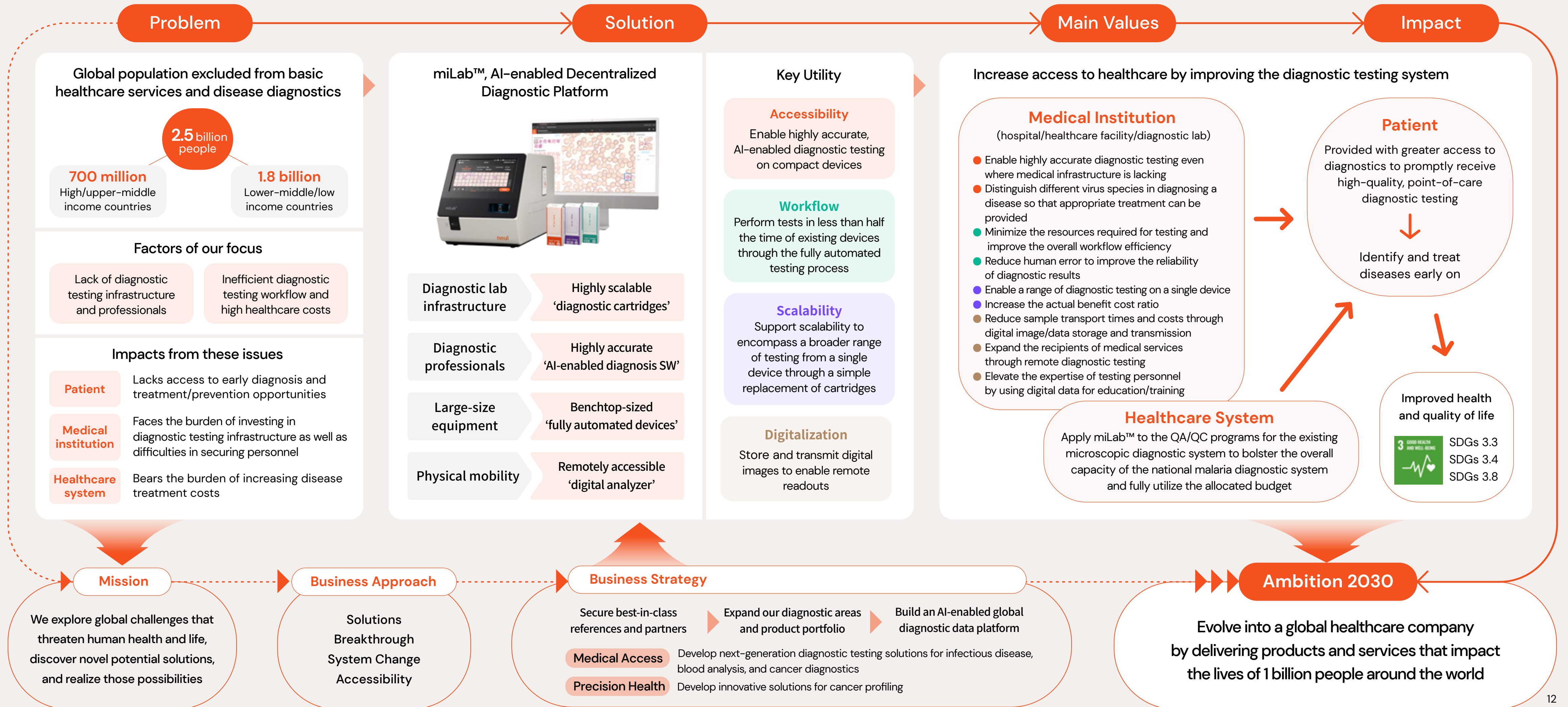
Finally, Ambition envisions our corporate growth aspirations by 2030.



Hybrid Business Model

How we create business and social value

Our business operations are driven by our hybrid business model that aims to create both business and social value in an integrated way. Today, LMICs (Low and Middle Income Countries) and high income countries face the same challenge in accessing healthcare only in different ways: LMICs are plagued by a significant shortage of diagnostic testing infrastructure and medical professionals while high income countries suffer from an inefficient workflow of their existing diagnostic testing and prohibitively high healthcare cost. This is where Noul comes in: we provide miLab™ platform-based solutions that cater to the conditions and needs of respective diagnostic test sites to help dramatically improve the workflow efficiency of healthcare institutions while enabling swift and accurate diagnostic testing even among sites with limited lab infrastructure. This creates business value for healthcare institutions so that they are able to offer their patients high-quality diagnostic testing service, which in turn leads to generate social value as the diagnostic testing is made reachable for broader populations through improved healthcare access and economics.



miLab™ Platform

Noul's miLab™ Platform delivers decentralized diagnostic solutions that enable highly accurate, hospital-grade diagnostics even at sites lacking diagnostic testing lab infrastructure. Powered by devices that support fully automated point-of-care testing, smart cartridges that replace lab infrastructure, and the digital analyzer for remote result verification and diagnosis, our miLab™ Platform is the world's first to deliver unsurpassed diagnostic convenience all while maintaining the accuracy of microscopic testing which is considered the gold standard for diagnostic testing.



Accessibility

With miLab™ Platform, the conventional diagnostic lab is replaced with 'disposable diagnostic cartridges', professionals with 'Artificial Intelligence' and large equipment with 'miLab™ devices' to enable highly accurate diagnostic testing at over 95% of the world's medical institutions which lack a well-functioning healthcare infrastructure.

Workflow Efficiency

Microscopic diagnostic testing requires the manual, direct execution of a highly complicated laboratory process ranging from sample preparation and smear to fixation, staining and analysis. Our miLab™ Platform fully automates all such procedures and is more than twice as fast as conventional methods. This minimizes the input of testing resources including lab infrastructure investments and reagents while dramatically elevating the efficiency of overall workflow.

Scalability

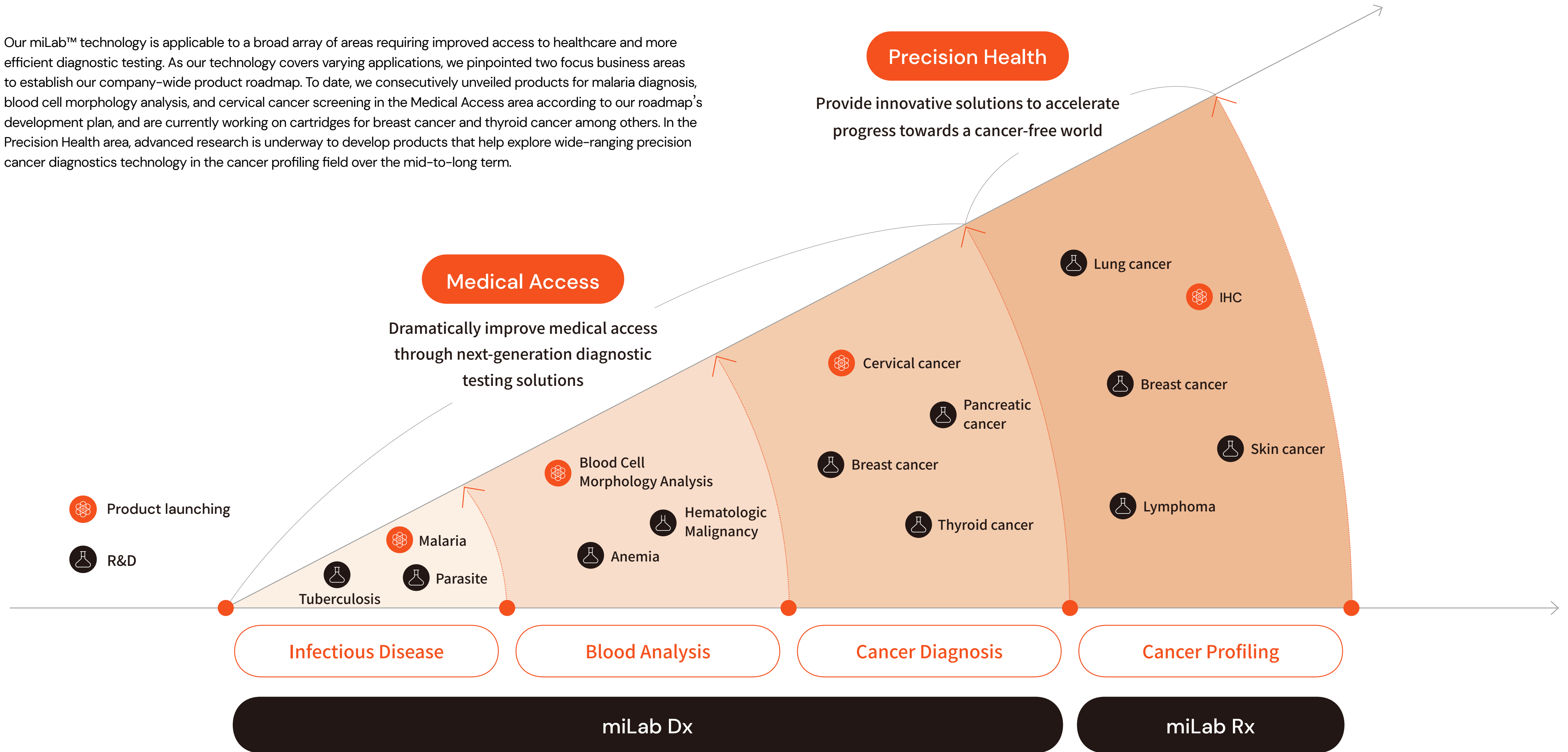
Our miLab™ cartridges powered by Noul's proprietary, patented solid-based staining technology are recognized for their versatile and easy application to a range of staining techniques for blood/cell/microbial samples, including Romanowsky, Papanicolaou, H&E, and immunohistochemistry. This in turn enables exceptional scalability to a broad spectrum of diagnostic testing from blood analysis to malaria and cervical cancer. The more scalable a single device becomes in performing diagnostic testing, the higher the benefit-cost ratio will be for users.

Digitalization

The results of tests performed on miLab™ devices are all stored in high-resolution digital image and data formats, and can be used as basic data for telehealth. This eliminates the need for physical sample transport and allows for the storage and transmission of digital data, which significantly reduces diagnostic testing times. This saves on both time and cost for patients as in-person clinic visits for diagnostics is unnecessary.

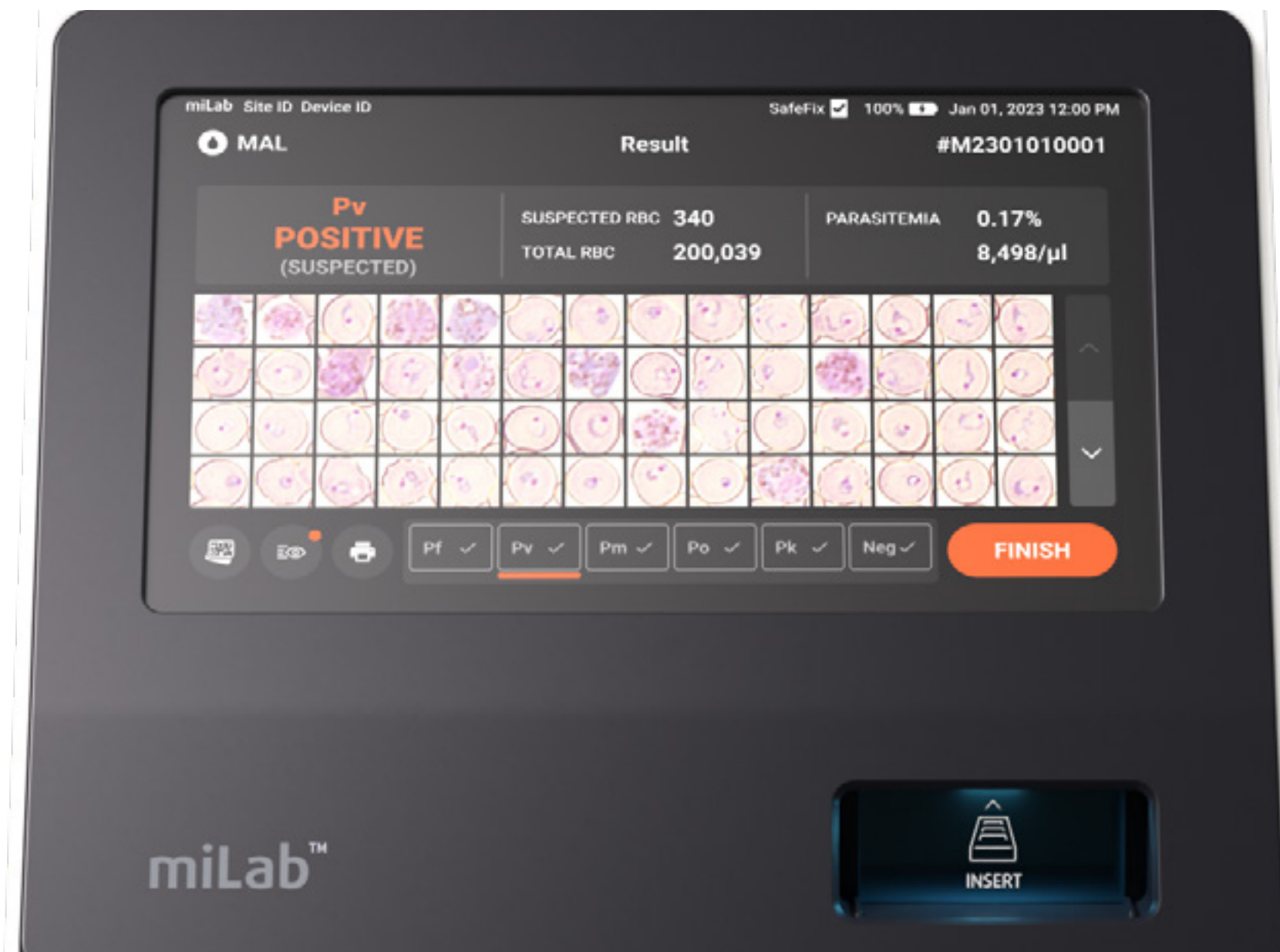
Product Development Roadmap

Our miLab™ technology is applicable to a broad array of areas requiring improved access to healthcare and more efficient diagnostic testing. As our technology covers varying applications, we pinpointed two focus business areas to establish our company-wide product roadmap. To date, we consecutively unveiled products for malaria diagnosis, blood cell morphology analysis, and cervical cancer screening in the Medical Access area according to our roadmap's development plan, and are currently working on cartridges for breast cancer and thyroid cancer among others. In the Precision Health area, advanced research is underway to develop products that help explore wide-ranging precision cancer diagnostics technology in the cancer profiling field over the mid-to-long term.



miLab™ MAL

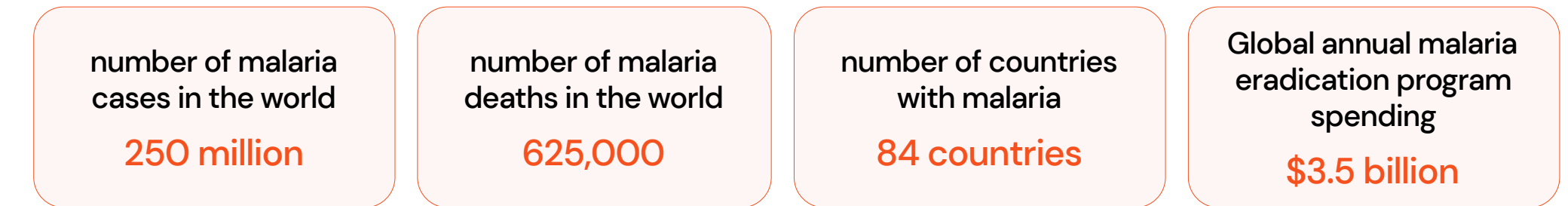
The Most Advanced Digital Microscope for Malaria Analysis



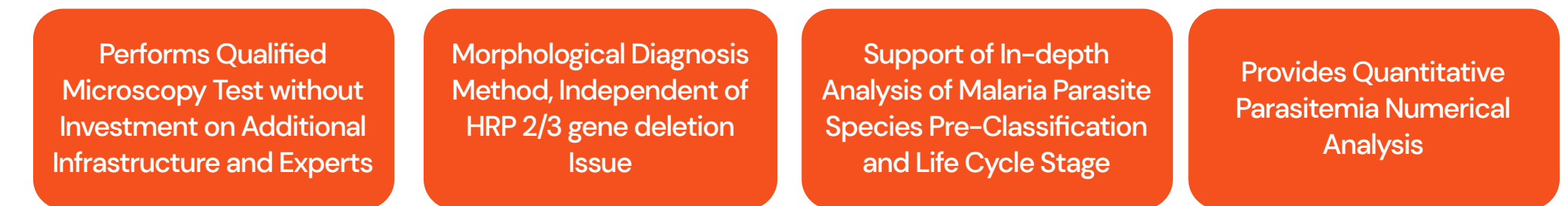
miLab™ MAL performs diagnostic processes from staining, digital imaging to AI analysis with ~5μl of blood from fingertips and diagnoses malaria infection within 15 minutes by analyzing up to 300,000 red blood cells.

Problem We are trying to solve

miLab™ MAL focuses on overcoming the limitations of traditional diagnostics for malaria elimination in the world.



Product Features & Key Values

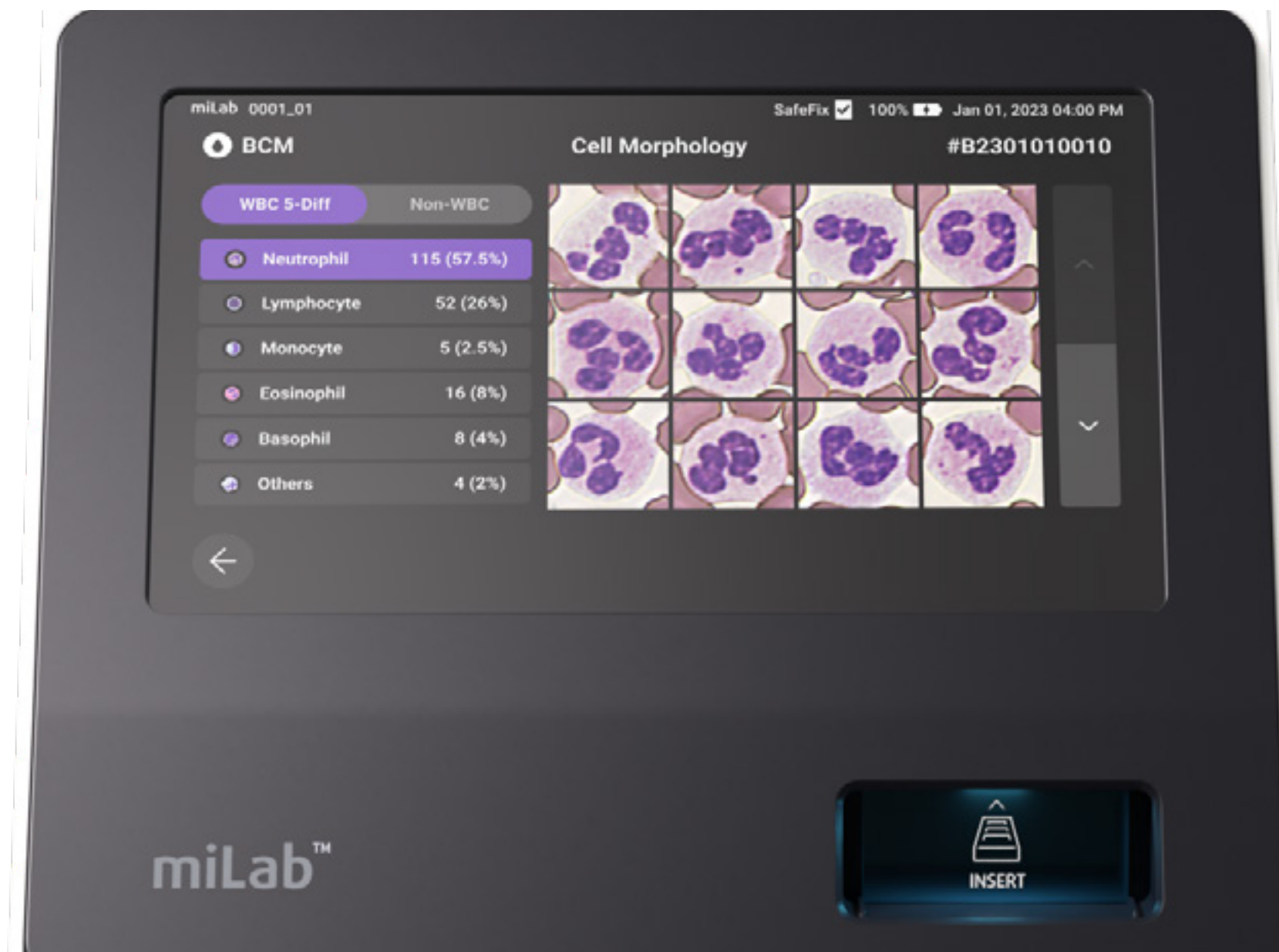


User's Needs & Benefits

Regions with a High proportion of Imported Malaria Infections (North America, Europe, Middle East, etc.)	When only a small number of professionals is available for malaria diagnostic testing due to low demand for such testing, our miLab™ Platform supports diagnostic testing labs to perform remote diagnoses by using the digital images generated by the Platform, and the automated diagnosis process delivered by miLab™ MAL improves workflow efficiency.
Regions with a High proportion of Indigenous Malaria Infections (Africa and Latin America)	When it is difficult to secure professionals performing microscopic diagnostic tests in spite of the high number of malaria infections, miLab™ MAL assists diagnostic testing labs in improving the reliability of diagnostic results while elevating the expertise of testing workforce with the help of a diverse type of samples stored in digital data format.
Regions Where pfHRP 2/3 gene deletions occur	In regions experiencing the spread of PfHRP 2/3 gene variation, our miLab™ MAL, with its easy-to-follow user training, helps healthcare facilities to provide patients with reliable microscopic diagnostic solutions just by leveraging their existing personnel, rather than depending on rapid diagnostic test kits that produce difficult-to-trust results.
Regions Where Mixed infection Cases Occurred (Latin America, Southeast Asia, etc)	In regions with potential mixed malaria infections, introducing miLab™ MAL enables healthcare facilities to accurately distinguish the species that cause malaria in a given patient and swiftly identify the introduction of new species.

miLab™ BCM

the World's First Decentralized
Blood Cell Analysis Solution



miLab™ BCM performs diagnostic processes from staining, digital imaging to AI analysis with ~4µl of blood obtained through fingertips or from veins. It provides high-definition digital images of white blood cells, red blood cells and platelets, as well as pre-classification.

Problem We are trying to solve

miLab™ BCM focuses on improving access to basic blood test.

CBC-based blood cell analysis tests administered worldwide
4 billion

microscopic blood cell analysis tests administered worldwide
600 million

global health facilities can perform microscopic blood cell analysis
1%

left out of the health care system worldwide
2.5 billion people

Product Features & Key Values

Integration of the microscopic diagnosis process

Full automation from sample preparation to AI analysis

Blood cell classification by embedded AI

Remote access of the stored digital images

User's Needs & Benefits

Local Medical Institutions Seeking to Provide Peripheral Blood Smear Tests Independently

Peripheral blood smear tests can be performed independently on patients whose CBC test results are outside the normal range to expand the scope of medical services available for these patients.

Medical Institutions that Seeking to Optimize the Workflow for Peripheral Blood Smear Tests

Automation of tasks previously performed by professionals improves the workflow and significantly increases the number of tests that can be performed in the same amount of time without the need for increased staffing.

Medical Institutions Seeking to Improve the Accuracy of Peripheral Blood Smear Tests

The quality management system of peripheral blood smear testing is bolstered, and the reliability of test results produced by existing professionals is improved. Furthermore, miLab™ BCM's digital data can be used in training professionals to help strengthen their capabilities in interpreting readout results.

Medical Institutions Seeking to Perform Remote peripheral blood Smear Tests

Even in areas lacking access to medical service, it is now possible to check a patient's health conditions on-site and transmit his/her digital data to remotely-located professionals to enable more accurate analysis and monitoring of patient conditions.

miLab™ CER

(to be launched in H2 of 2023)

**From Slide Staining to Results,
a Digital Cervical Cell Analysis Solution
that Can Provide Analysis Anywhere**



miLab™ CER performs diagnostic processes from staining, digital imaging to AI analysis on cervical cells and analyzes each cell's characteristics to provide analysis results grouped into stages.

Problem We are trying to solve

miLab™ CER focuses on improving access to healthcare for women in settings where early detection of cervical cancer is difficult.

Annual number of cervical cancer cases worldwide ('20) 600,000	Percentage of women who have been screened for cervical cancer in the past 5 years 9% LMICs	Percentage of deaths from cervical cancer cases worldwide per year ('20) 58%	The age at which human papillomavirus (HPV) infection, which causes cervical cancer, starts being transmitted 15 years old
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Product Features & Key Values

Innovative solid staining technology enables standard Pap Smear methods automation	Dramatic improvements of existing workflows	Supports same-day diagnosis and remote diagnostic service	Provides reliable early diagnostic tests in low and middle-income countries
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User's Needs & Benefits

- Medical Institutions Seeking to Perform Pap Smear Tests In-house**

Seamless execution is made possible from cervical sampling to cervical cancer screening, and screening test results are made available more quickly for patients receiving such tests.
- Medical Institutions Seeking to Improve the Productivity of Pap Smear Tests**

Automating the test process, ranging from the most complicated and error-prone Papanicolaou staining to digital imaging and AI analysis, frees up more time for professionals to focus on their role to review analysis results on their monitor screen for final verification. This, in turn, leads to a significant increase in the number of tests performed with the same personnel and time over conventional methods.
- Medical Institutions Seeking to Improve the Accuracy of Pap Smear Tests**

The reliability of test results produced by professionals is improved by comparing Pap smear test results from professionals and miLab™ CER results. miLab™ CER's digital data can be also used for education and training purposes to help professionals strengthen their skills in readout analysis.
- Medical Institutions Seeking to Perform Remote Pap Smear Tests**

In regions where Pap smear tests are not easily available, medical institutions capable of cervical sampling may transmit digital test data to remotely-located professionals and request precision readouts. This greatly benefits those in medically-underserved regions as they are able to receive an earlier diagnosis of cervical cancer.
- Government Seeking to Switch to a More Reliable Cervical Cancer Screening System**

Introducing miLab™ CER facilitates the shift to Pap smear testing known for its most universal and reliable application as a cervical cancer screening method with the minimum diagnostic testing lab infrastructure and professional workforce investments. This helps establish a public health system to provide the general public with the early, accurate diagnosis of cervical cancer and proper treatment.

Part 2

Approach to Sustainability

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Sustainability Implementation System

As specified in our Articles of Incorporation, ‘our sustainability philosophy forms the foundation of our organizational management’, and we continue to integrate sustainability perspectives and components into our management system across our business and organizational operations. The Noul Sustainability Circle was established in December 2020 as our sustainability implementation system to take a more strategic and systemic approach to our company-wide sustainability implementation.

The Noul Sustainability Circle is composed of three implementation domains and three approaches. The three domains are Compliance, Responsible Business Conduct (RBC) and Social Value Creation (SVC) from the viewpoint of regulatory binding force, management risk, and stakeholder expectation, and present our priorities and strategic directions for sustainability implementation at all levels. The three approaches highlight the values and principles we aim to live by in advancing sustainability management, and include Corporate Citizenship, Stakeholder Engagement, and Collaboration.

Our 3 Domains of Sustainability Implementation

<p>Compliance We abide by laws and regulations.</p>
<p>Responsible Business Conduct We consider responsible business practices throughout our entire operations.</p>
<p>Social Value Creation We create social value throughout our business operations.</p>

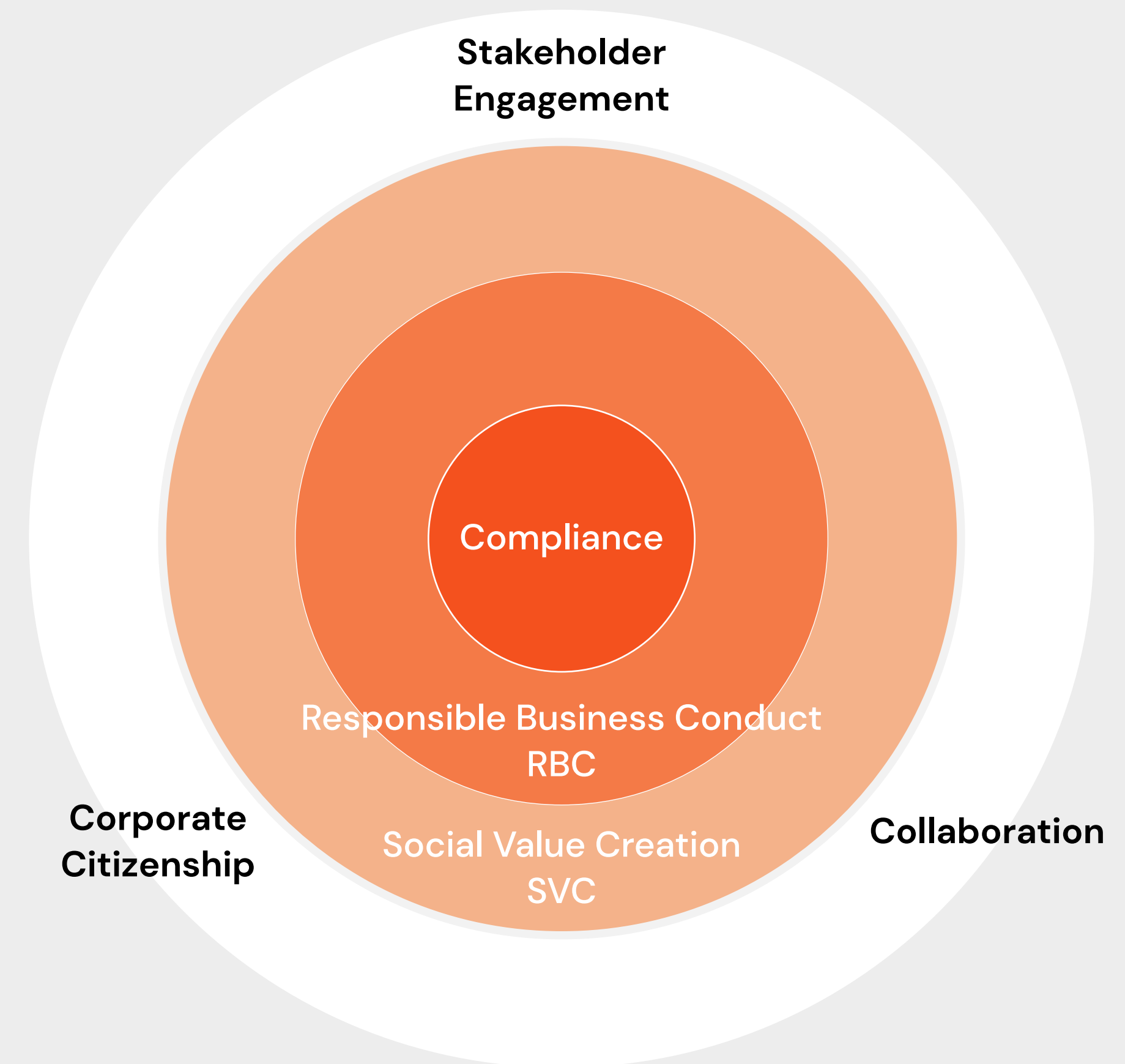
Our 3 Approaches to Sustainability Implementation

<p>Corporate Citizenship Our identity is tied to our corporate citizenship.</p>
<p>Stakeholder Engagement We promote stakeholder communication and engagement.</p>
<p>Collaboration We pursue collaboration and collective impact.</p>

In 2022, we focused on our priorities in respective implementation domains to improve key issues and help working-level organizations with capacity-building.

<p>Compliance</p> <ul style="list-style-type: none"> · Lay the basis for compliance risk management · raise awareness on compliance 	<p>Responsible Business Conduct (RBC)</p> <ul style="list-style-type: none"> · Meet basic requirements on human rights, labor, environment, anti-corruption and others · improve our health & safety management system · strengthen the operational framework of the QMS 	<p>Social Value Creation (SVC)</p> <ul style="list-style-type: none"> · Secure joint research opportunities with national institutions in Ghana and Cameroon · improve product performance
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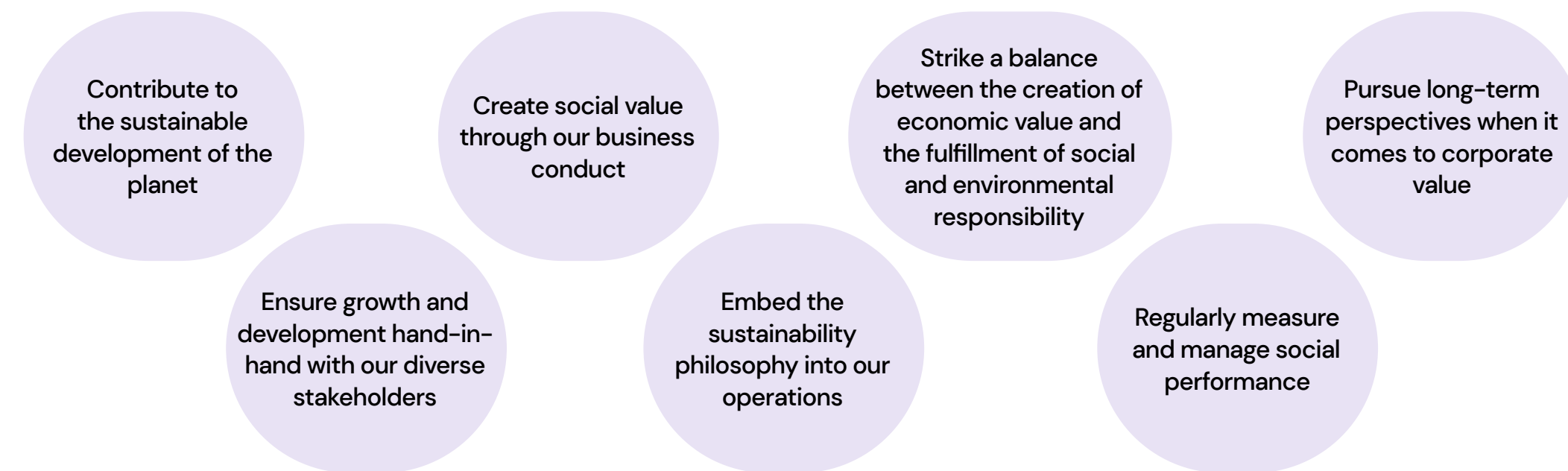
In 2023, we aim to lay the necessary policy and system settings for systemic sustainability implementation by developing our DEI (Diversity, Equity, Inclusion) policy and establishing a sustainability risk management process.



Noul Sustainability Circle

Sustainability Policy and Strategy

Noul’s Articles of Incorporation specify our corporate mission defined based on our sustainability philosophy and principles of sustainability management. The sustainability management principles set forth in our Articles of Incorporation serve as the policy foundation in advancing sustainability at the departmental and company-wide levels, and set the course ahead in our sustainability journey. The sustainability perspective outlined in our Articles of Incorporation includes the following components.



5 Sustainability Focus Areas

In March 2023, Noul defined the five Sustainability Focus Areas and corresponding Commitments to embed the sustainability principles stipulated in our Articles of Incorporation into our day-to-day business operations and to effectively communicate the process and results of our sustainability implementation. These Focus Areas and Commitments are based on the three implementation areas presented in the Noul Sustainability Circle and were elaborated by reflecting key sustainability issues and stakeholder expectations in the industry we are associated with. From 2023 onwards, we will strive to further improve our sustainability with a focus on these five Focus Areas, and regularly review and report our progress and achievements with Commitments in each Area serving as the milestone to reach in our sustainability implementation.

Sustainability Focus Area	Our Commitment
Improvement in Access to Healthcare	<ul style="list-style-type: none"> We develop innovative diagnostic testing solutions and work with global public/private partners to broaden our market presence. We establish effective strategy to create impact from the viewpoint of medical access and systematically manage our impact.
Compliance, Ethics and Risk management	<ul style="list-style-type: none"> We abide by laws and standards and also act ethically. We systematically prevent and address tangible/non-tangible management risks.

Sound and Sustainable Governance	<ul style="list-style-type: none"> We bolster a transparent and sound decision-making system driven by the Board of Directors. We integrate sustainable management practices across the entire decision-making system and organizational operation.
Responsible and Inclusive Workplace	<ul style="list-style-type: none"> We internalize a system and culture where all employees are respected and collectively practice the values of diversity, equity and inclusion. We consider our social responsibility as a corporate citizen and communicate with stakeholders.
Protecting the Planet	<ul style="list-style-type: none"> We understand our impact on the earth ecosystem and systematically transition to greener alternatives in our operations.

Sustainability Implementation Strategy

Our sustainability implementation strategy was established to effectively deliver on our Commitments in the five Sustainability Focus Areas, and is composed of Sustainability Stages that evolve along with our business growth cycle between 2023 and 2027 as well as Key Actions in each of these Stages. Sustainability Stages set the course for sustainability capacity-building in consideration of our impact on stakeholders across different growth phases, and Key Actions describe key capacity-building activities that we should prioritize in each Stage. From 2023 onwards, we aim to elevate our sustainability capability at all levels in a more strategic and systemic way by implementing our mid/long-term improvement roadmap in line with our sustainability implementation strategy. We will also regularly identify the pace of our business growth and stakeholder expectations to supplement and gradually evolve our implementation strategy.

Period	2023~2024	2025~2026	2027 and Onwards
Sustainability Stage	Set-up Lay the policy/system/cultural foundation	Speed-up Bolster execution and facilitate communication	Level-up Advance the system and establish reputation
Key Actions	Social & Governance · Establish policies and regulations Environmental · Lay the basis for data management Make improvements in the 1st phase based on priorities	Social & Governance · Secure an implementation system and organizational capacity · further reach out to stakeholders Environmental · Establish the policy and management system Make improvements in the 2nd phase based on priorities	· Establish an integrated goal and performance management system · Internalize global ESG standards at the departmental and company-wide levels

Sustainability Performance Management

Sustainability Assessment and Improvement

We have developed a checklist that serves as our sustainability performance index and have made self-assessments accordingly since 2021 to consistently advance sustainability as our management philosophy while flexibly responding to the shifting internal/external business landscape. While there is no explicit demand for ESG from external stakeholders and we are not subject to ESG assessment given the scale of our sales or organization, we are building our sustainability performance management system step by step to proactively cater to the ESG requirements that are expected of any global business. In 2022, we revisited the metrics associated with global sustainability, ESG, and social impact, and updated our sustainability checklist to reflect diverse stakeholder expectations as a listed company and to improve our sustainability performance indicators in line with our corporate growth cycle. The final version of our checklist comprises 82 items across 24 areas for six stakeholder groups. Against 2021, the updated checklist includes 10 indicators supplemented in relation to environmental pollution and emissions management, employee working conditions, Board of Directors operations, and disclosures, and one community indicator has been deactivated.

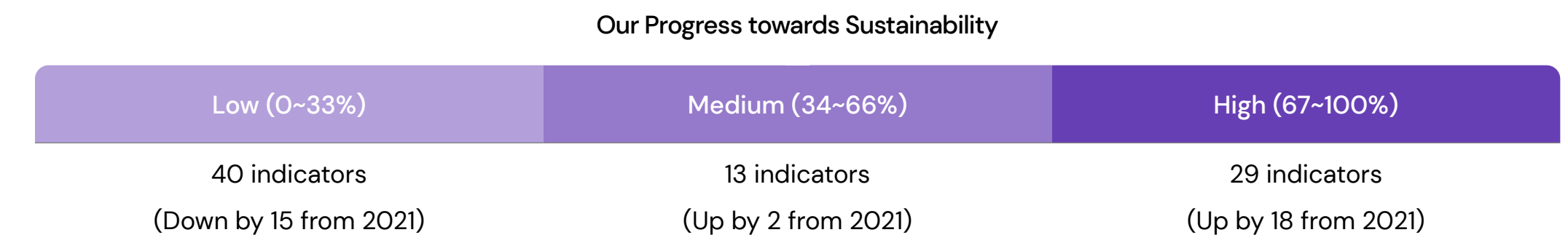
Categories and Major Indicators Aligned with the NSC in 2022

	Noul Sustainability Circle (NSC)	Indicator Description	
Implementation Approach	Corporate citizenship identity	1 indicator on purpose-driven management commitment	
	Communication and engagement with stakeholders	2 indicators on stakeholder issues and communication	
	Pursuit of collaboration and collective impact	(to be developed)	
Implementation Domain	Compliance with laws and regulations	6 indicators on regulatory non-compliance	
	Responsible Business Conduct		27 indicators on shareholders
			21 indicators on employees
			6 indicators on customers/consumers
			3 indicators on supply chains
			16 indicators on the environment
Social Value Creation through business conduct	(to be developed)		

*In developing our sustainability checklist, we selected and reviewed global sustainability/ESG/impact metrics, including the K-ESG Guidelines, the Korea Corporate Governance Service's best practices, key domestic/overseas ESG guides and metrics, the GRI Standards, and the Stakeholder Capitalism Metrics of the World Economic Forum, and came up with stakeholder group-specific self-assessment indicators in consideration of their alignment with the Noul Sustainability Circle, our sustainability implementation system.

In December 2022, we applied the checklist in performing sustainability self-assessment at the company-wide level. The assessment was conducted with the sustainability department taking the lead and nine relevant departments participating from compliance, HR, finance & accounting, health & safety, quality system, sales/marketing, IT/security, and procurement functions.

The sustainability self-assessment revealed that our internal sustainability progress measured against the checklist commitments was 41% in 2022. Notable improvements were made for our working-level compliance organization whose capacity and system were reinforced to help conduct business responsibly as a listed company. This also elevated our implementation concerning regulatory authorities and shareholders to the medium range (34~66%). In addition, system improvements for product quality and employee capacity-building put our implementation for employees and customers/consumers in the high range (67~100%). Meanwhile, our implementation in the supply chain/environment areas was on the low side (0~33%). While we recognize the importance of sustainable supply chains and ecosystem protection, we are managing risk in the supply chain and environmental areas at the basic level by taking our growth stage and organizational size into account, and will pursue gradual improvement in line with the pace of our business growth.



*Our internal sustainability implementation was 25% in 2021 and 41% in 2022. While such figures could be interpreted as improvement on a year-on-year basis, variations in implementation rates in absolute terms may not accurately reflect actual improvements. Some indicators were supplemented, meaning that the items on this year's checklist are not completely identical from those of previous years. We plan to update our checklist each year to reflect stakeholder expectations and our corporate growth cycle.

Developing and Implementing Mid/long-term Sustainability Improvement Plans

Our 2022 sustainability self-assessment results informed our effort to develop a mid/long-term sustainability improvement plan to ensure systemic implementation in line with sustainability priorities and effective sustainability performance management. Improvement priorities were set by considering key sustainability agendas of the medical devices industry where we operate as well as our current company-wide sustainability implementation capabilities and the urgency of necessary response measures. Detailed sustainability improvement activities were defined in each of the five Focus Areas in line with our sustainability implementation strategy. While we will remain focused on the Key Actions identified in reflection of market conditions and stakeholder requirements, our plan will be revisited and adjusted for its validity each year to pursue sustainability improvement step by step in anticipation of a variety of change that would inevitably accompany our dynamic growth journey as a venture company.

Noul's Mid/long-term Sustainability Improvement Plan between 2023-2027

Sustainability Stage and Key Actions	2023~2024	2025~2026	2027 and Onwards
	Set-up Lay the policy/system/cultural foundation	Speed-up Bolster execution and facilitate communication	Level-up Advance the system and establish a sound reputation
Compliance, ethics, and risk management	<ul style="list-style-type: none"> · Social & Governance : Establish policies and regulations · Environmental : Lay the basis for data management · Make improvements in the 1st phase based on priorities 	<ul style="list-style-type: none"> · Social & Governance : Secure an implementation system and organizational capacity, further reach out to stakeholders · Environmental : Establish the policy and management system · Make improvements in the 2nd phase based on priorities 	<ul style="list-style-type: none"> · Establish an integrated goal and performance management system · Internalize global ESG standards at the departmental and company-wide levels
Sound & sustainable governance	<ul style="list-style-type: none"> · Establish an integrated regulatory non-compliance management process and operate compliance awareness building programs · Lay the basis for the health and safety management system · Improve the effectiveness of the internal control system · Develop ethics/anti-corruption policies and stipulate ethics standards · Establish a human rights/sustainability risk management process · Establish and implement a CS process · Establish information security policies/regulations/systems 	<ul style="list-style-type: none"> · Establish a compliance risk management system · Systematize the company-wide health and safety management system and operate safety culture dissemination programs · Strengthen the capacity and expertise of the internal control organization · Conduct human rights impact assessment and establish a human rights management policy · Perform LCC analyses and strengthen the CS process system · Bolster the information security system and raise internal security awareness 	<ul style="list-style-type: none"> · Upgrade the compliance management system on par with international standards · Advance the internal control system · Establish a health and safety management system on par with international standards · Pursue information security system reliability certification
Responsible and inclusive workplace	<ul style="list-style-type: none"> · Amend the Board operational regulations in reflection of our commitment to improving the independence, expertise, and diversity of the Board's composition and operation · Develop goals and programs to strengthen the Board's independence, expertise, and diversity · Establish standards and procedures to assess directors' management activities 	<ul style="list-style-type: none"> · Systematize the remuneration policy and remuneration calculation process for Board members · Bolster the process for regular reporting and discussion of sustainability agendas within the Board · Establish a stakeholder reporting and engagement process 	<ul style="list-style-type: none"> · Advance the Board operational system on par with global sustainability standards · Systematize the stakeholder reporting and engagement process
Protecting the planet	<ul style="list-style-type: none"> · Establish our DEI (Diversity, Equity, Inclusion) policy and its operational direction · Develop content for employee capacity-building 	<ul style="list-style-type: none"> · Implement institutional/cultural improvement programs to promote DEI · Develop and implement female leadership capacity-building programs · Strengthen leadership training for employees · Establish supply chain assessment criteria and processes from the sustainability viewpoint 	<ul style="list-style-type: none"> · Establish a company-wide DEI goal and performance management process · Stipulate our supply chain code of conduct and conduct regular supply chain due diligence
Improvement in access to healthcare	<ul style="list-style-type: none"> · Improve our GHG emissions (Scope 1 & 2) measurement methodology and systematize pollutant discharge data management · Gradually improve the percentage of recyclable packaging materials 	<ul style="list-style-type: none"> · Establish our environmental management policy · Develop and implement GHG emissions (Scope 1 & 2) reduction plans · Gradually improve the percentage of recyclable raw materials 	<ul style="list-style-type: none"> · Pursue international environmental management system certification · Recognize the boundary of GHG emissions (Scope 3) and pilot the calculation of such emissions · Fully shift to renewable energy for business operations
	<ul style="list-style-type: none"> · Establish an impact framework · Develop an impact measurement and management system 	<ul style="list-style-type: none"> · Develop and implement projects to disseminate impact business cases 	<ul style="list-style-type: none"> · Develop and implement projects to disseminate impact business cases

Material Stakeholder Issues

Noul's Key Stakeholders

At Noul, it is imperative that we grow together with our customers, employees, shareholders, partners, communities and other stakeholders, and strive to genuinely engage in communication with key stakeholder groups and transparently disclose our activities and accomplishments.

Since 2022, the scope of our stakeholders has widened following our IPO on the KOSDAQ market, and our full-fledged global market advancement allowed us more opportunities to directly/indirectly hear the voice of varying stakeholders. While there has not been any official feedback or request on sustainability from our key stakeholders, we are working step by step to establish a process to gather stakeholder feedback and systematically manage sustainability issues. In 2022, our focus was on identifying key stakeholders associated with our business operations and looking into our communication channels and activities for each stakeholder group. We have not yet established an official stakeholder feedback collection process, but will explore ways to effectively incorporate stakeholder requirements and expectations into our business operations and decision-making process while further organizing our ongoing communication efforts with key stakeholders.



Customers

We closely communicate with and collect feedback from customers who use our miLab™ offerings at medical institutions, diagnostic testing labs, healthcare facilities, and research labs across the world to reflect the problems and needs they experience in the field in our product development and upgrade. As miLab™ is the world's first to enable decentralized diagnostics, we expand our communication and partnership in various ways even from the product development phase to embed the real-world perspectives and experiences gained from diagnostic testing sites into our products and services.

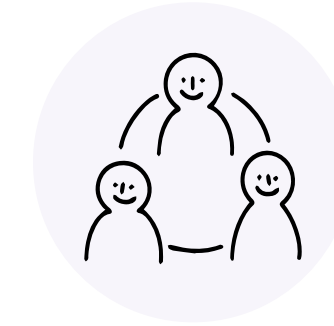
- Collect customer feedback through CS/VOC and reflect them in our product development and quality improvement
- Hold on/offline user meetings to communicate accurate ways of using miLab™
- Observe local miLab™ user environments and conduct interviews through customer visits



Employees

We are committed to creating an environment conducive to capacity building and work engagement so that all our employees contribute to achieving our corporate growth and mission on the strength of their exceptional expertise. We are building systems and culture that encourage our team to internalize our sustainability philosophy and to understand and live the values of diversity and inclusion within the organization.

- Conduct employee Engagement Surveys (quarterly)
- Hold meetings with 'Noul Harmony', our Labor-Management Council (quarterly)
- Hold Creative Meetings as a company-wide participatory town hall meeting (weekly)
- Provide capacity-building training and Work Ethic training
- Publish our in-house newsletter All That Noul (semi-monthly)



Shareholders and investors

We provide management information to shareholders and investors in a transparent and timely manner. We heed the voice of our shareholders and investors and reflect the key insights gained accordingly in our business operations and IR activities.

- Hold the Annual General Meeting of shareholders
- Make regular and timely disclosures
- Engage in IR activities
- Publish newsletters for stakeholders



Partners

- **Business partners** : We communicate with our business partners engaging in the distribution and purchase of medical devices based on expertise and trust, and work with them to identify market needs and build successful business cases for miLab™.
- **R&D partners** : We team up with globally renowned R&D partners and experts to research next-generation technology for improved medical access, and analyze the value delivered by miLab™ to gain meaningful performance data.

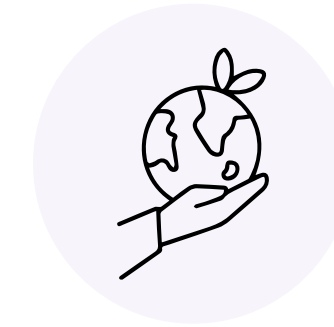
- Attend International exhibitions and conferences
- Hold regular/ad-hoc on/offline meetings with partners
- Implement joint research and projects



International organizations and government agencies

International organizations and government agencies develop and implement health policies, regulations, and guidelines at the country and global levels, and thus have grave impact on our efforts to develop products and tap into global markets. We consult and cooperate with international health organizations on matters required for our advancement into the global public healthcare market, and pursue partnerships with country-level healthcare institutions so that we could more easily verify the effectiveness of our miLab™ offerings and bring them to market in respective countries.

- Discuss global public healthcare issues and make policy proposals
- Conduct joint research and engage in project cooperation
- Attend domestic/global public healthcare conferences and propose agendas



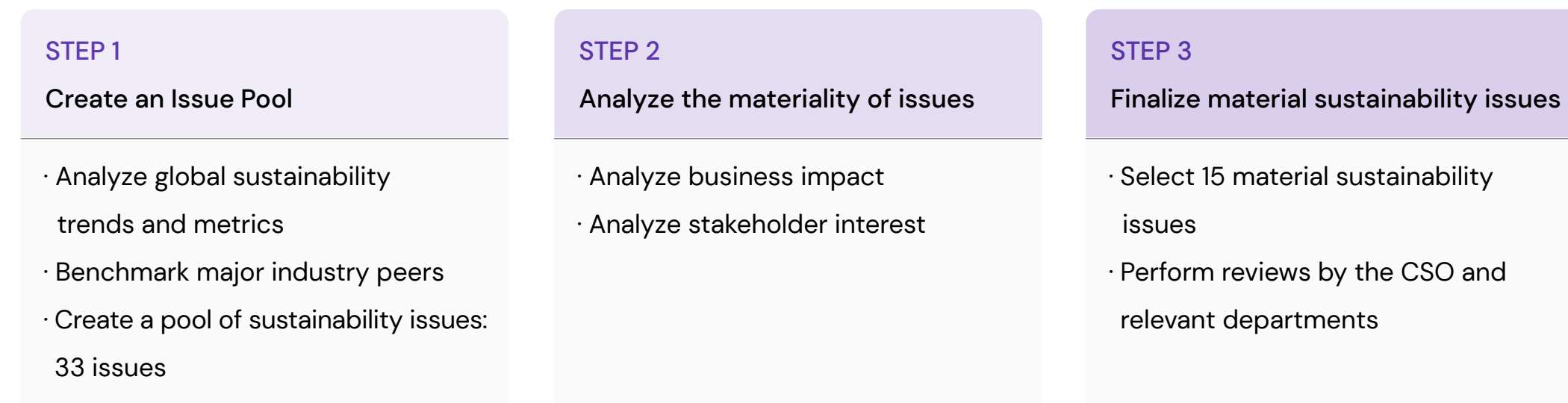
Environment

We consider the environment as our non-human stakeholder that could significantly influence or be influenced by our business operations. Thus, we heed to environmental issues – resource and energy conservation, environmental protection, and climate change adaptation – as well as those who raise such issues. We go the extra mile to proactively communicate environmental issues associated with our business operations with employees and other stakeholder groups and undertake environmental stewardship initiatives.

- Share environmental issues internally/externally through in-house newsletters, company-wide town hall meetings, and reports
- Provide sustainability training to employees
- Implement in-house environmental improvement projects and energy saving campaigns for climate change adaptation

Material Stakeholder Issues

We followed the 3-step process in analyzing material stakeholder issues. This starts with creating a pool of sustainability issues based on global sustainability trends and industry-specific key metrics. In Step 2, issues in the issue pool are analyzed for the level of actual and potential positive and negative impact our business operations bring to stakeholders to determine the materiality of each issue from the viewpoint of impact. In identifying the impact of respective issues, comprehensive reviews were made on both internal and external materiality including stakeholder interest, key issues of the medical devices industry, and internal progress made towards sustainability performance indicators. In the final step, we selected 15 material sustainability issues based on analysis results and finalized them through final reviews made by senior management and relevant departments.



*The analysis of global trends and metrics to create an issue pool primarily covered the UNGC 10 principles, the WEF Global Risk Horizon, the GRI Standards, and media research. Healthcare and medical devices sector issues and their materiality were reviewed with a focus on the MSCI Industry Materiality Map and the SASB Materiality Finder.

Material Issues Identified in 2022

Issue	Our Activity	Report Section
Improvement in Access to Healthcare	<ul style="list-style-type: none"> Ensure credibility in the international public healthcare sector Initiate research to verify clinical performance and improve local usability 	Improvement in Access to Healthcare
Product Innovation	<ul style="list-style-type: none"> Develop innovative diagnostic solutions and improve product performance Conduct research on cancer profiling 	
Market Entry	<ul style="list-style-type: none"> Advance into global markets Expand public partnerships 	

Business Ethics	<ul style="list-style-type: none"> Establish a compliance risk management system 	Compliance, Ethics and Risk management
Compliance	<ul style="list-style-type: none"> Provide compliance and ethics training 	
Anti-Corruption	<ul style="list-style-type: none"> Operate a compliance whistleblowing process 	
Product Quality	<ul style="list-style-type: none"> Bolster the operational framework of the quality management system Establish a CS process 	
Health and Safety	<ul style="list-style-type: none"> Improve the health and safety management system Engage in health and safety management activities 	Sound and Sustainable Governance
Protection of Labor /Human Rights	<ul style="list-style-type: none"> Establish systems and culture that respect human rights Operate dedicated channels to receive grievances and public interest disclosures 	
Non-Discrimination		
Sound Governance	<ul style="list-style-type: none"> Improve the independence, expertise, and diversity of the Board Strengthen the Board's operations 	
Diversity and Inclusion	<ul style="list-style-type: none"> Develop DEI-conscious systems and lay the basis for a DEI-driven culture Operate an in-house cafeteria employing baristas with disabilities 	Responsible and Inclusive Workplace
Employee Capacity-Building	<ul style="list-style-type: none"> Facilitate a feedback culture Bolster capacity-building programs Ensure OKR-based company-wide performance management 	Protecting the Planet
GHG Emissions Management	<ul style="list-style-type: none"> Measure GHG emissions Make improvements to reduce GHG emissions 	
Green Transition for Products and Processes	<ul style="list-style-type: none"> Pursue a paperless quality management system Improve the manufacturing process to reduce waste generation 	

Part.3

Our focus

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Protecting the Planet	49



Improvement in Access to Healthcare

Duly noting that restricted access to healthcare is caused by the lack of diagnostic testing infrastructure and professionals, we developed innovative solutions that automate the entire blood/tissue testing process and remotely verify test results regardless of challenges in infrastructure and personnel shortage. As the world's first decentralized diagnostics solution, miLab™ not only dramatically improves access to healthcare in LMICs but also significantly increases the efficiency of healthcare institutions in advanced countries. We collaborate with global public/private partners to explore market entry opportunities to bring miLab™ within the reach of diagnostic testing sites. Meanwhile, we pursue impactful business opportunities to improve access to healthcare for specific targets and regions. Going forward, we will continue with technology innovation and seek a broader market presence so that quick and accurate diagnostic testing is made available for all.

Broader Global Market Presence and Partnerships

- Established business presence in 10 countries in Africa, Latin America and Europe with miLab™ MAL
- Successfully completed the parasitic infection testing project led by the Korea Disease Control and Prevention Agency
- Recognized for the innovative technology of miLab™ in a Unitaaid report
- Awarded at the Innovation Pitch Competition held by the ASTMH
- Selected as a recipient of KRW 4 billion research grants by the RIGHT Foundation
- Expanded public-private partnerships in Africa
- Obtained CE marking under the European IVDR with miLab™ Platform

Technology Development and Improvement in Product Performance

- Reduce miLab™ MAL diagnostic testing times and better distinguish between different species
- Develop core functionality for miLab™ BCM to provide readout assistance for peripheral blood smear testing
- Complete advanced research and develop prototypes to develop miLab™ CER technology
- Pursue phased-in improvement in production capacity and initiate full-scale mass production
- Conduct next-generation technology research to develop novel cancer profiling platforms

Partnerships and Collaborations

Broader Global Market Presence and Partnerships

miLab™ MAL advancing into 10 countries across Africa, Latin America and Europe

miLab™ MAL, our malaria diagnostic solution, debuted on the global market in 2021 and advanced into five countries in Africa, Latin America and Europe in 2022. It is especially notable that Nigeria, known for the world's highest number of malaria cases, provided us with positive feedback on product performance and market value. We also supplied 26 miLab™ devices and landed our first large-scale cartridge orders from our local Nigerian distributors, which we believe will be a meaningful milestone in accelerating our malaria business. Presently, we are expanding our miLab™ use cases, firstly with private hospitals and in-house clinics in the country so that we may eventually move into a broader spectrum of healthcare institutions such as military hospitals through our partnership with the Nigerian government.

Our market presence for miLab™ MAL

· 3 countries in Africa, 3 countries in Europe, 1 country in North America, 2 countries in the Middle East, and 1 country in Latin America

In the Middle East where active discussions are underway for business partnerships, we are tailoring our introduction of miLab™ MAL in line with the region's specific needs, which is to test foreign workers, businessmen and travelers coming from malaria-affected countries to curb the spread of malaria infections. Since the end of 2022, validation has been on-going for market entry in the United Arab Emirates, Saudi Arabia and Kuwait. Once such validations are completed, our primary focus will be on national malaria and medical centers to expand our business at full scale.

Our miLab™ customers are especially satisfied with its full automation of the standard testing process which also supports test confirmation, delivery of digital image analysis results, workflow facilitation enabled by AI analysis, and ease of use and simple installation. This in turn leads us to identify market expectations that these advantages miLab™ provides as a decentralized diagnostic platform will significantly improve diagnostic convenience and efficiency for healthcare professionals in the field while providing a better healthcare environment for patients. Fully reflecting the voice of our customers and markets for miLab™ in our product development and business strategy, we will expand our miLab™ sales into Latin America, Europe and Asia in the upcoming years.

Successfully completing the KDCA's parasitic infection testing project

In Korea, our 8-month joint research project with the Korea Disease Control and Prevention Agency (KDCA) was a clear success. This project was on clonorchis sinensis infection, a foodborne parasitic infection that has been a high priority for endemic parasitic disease management. This project allowed us to verify the applicability of miLab™ to parasitic infection testing, and has prompted us to produce prototypes in 2023. Over the long haul, we aim to effectively apply our miLab™ technology to parasitic infection testing. This will shorten testing turnaround times and make it much accessible than other conventional foodborne parasitic infection tests. Ultimately, such actions will work towards eradicating foodborne parasitic infection in Korea.

miLab™ featured as an innovative technology in a Unitaid report



The most advanced digital microscopes are fully integrated benchtop platforms from Sight Diagnostics and Noul.

p63, 4th Edition of the Malaria Diagnostics Market and Technology Landscape report, Unitaid (2022)



In August 2022, miLab™ was featured in the Malaria Diagnostics Market and Technology Landscape report published by Unitaid (international drug purchase facility)*. This report raised the need for new innovative diagnostic technology as the limitations of rapid test kits become increasingly clear including but not limited to PfHRP 2/3 deletions, and mentioned miLab™ as a practical alternative. Unitaid cited three reasons for taking note of miLab™: first, miLab™ integrates all the functionalities of diagnostic microscopy; second, miLab™ evolved beyond product development to market entry; and third, miLab™ is the most advanced option against its competitors.

The malaria diagnostics pipeline outlined in the Unitaid report was also quoted in the 'World Malaria Report 2022' published by the WHO. This malaria report included 'digital microscopy' for the first time, with which miLab™ is associated, as one of the major malaria diagnostic solutions. It also recognized digital microscopy as an advanced innovative technology among existing diagnostic testing solutions and as one that is most proximate to scale-up. This shifting global trend added to our confidence for the potential value and feasibility of miLab™ as a future diagnostic technology for malaria eradication. Going forward, Noul will keep close tabs on the global policy/technology shift towards ending malaria, and further push miLab™ into the public market as a next-generation malaria diagnostic solution to further the global commitment to put an end to malaria by 2030.

*Unitaid (international drug purchase facility), is a global health agency under the WHO working to support the development of medicines and medical devices for AIDS, tuberculosis and malaria diagnosis and treatment and to encourage and aid affordability, better quality and technology innovation.

Awarded at the Innovation Pitch Competition held by the ASTMH

In October 2022, we made a presentation at the Scientific Session and the Innovation Pitch Competition held by the ASTMH (American Society of Tropical Medicine & Hygiene), a globally authoritative academic organization in the field of malaria diagnostics. Notably, we ranked 2nd at the Innovation Pitch Competition as miLab™ was highly appreciated by global healthcare professionals for its innovative technology and point-of-care applicability. These professionals expressed their expectations that miLab™, as a digital microscopic tool integrating all of staining, imaging, and AI analysis functionalities, could be easily deployed in monitoring local and national malaria incidences as well as for drug resistance. Looking ahead, we will partner with professionals who are specifically interested in the applicability of our miLab™ solutions through joint research to propel the expectations of miLab™ to be practically fulfilled to prove its value in real-world environments.

Selected as a recipient of KRW 4 billion research grants by the RIGHT Foundation

In March 2023, Noul was selected as a recipient of research grants awarded by the RIGHT Foundation, an Global health technology research funding organization jointly invested in by the Korean government, the Bill & Melinda Gates Foundation, and biotech companies in Korea. Over the next three years, we will leverage the research funds worth nearly KRW 4 billion to verify the clinical performance of miLab™ MAL in local African settings, study its usability under varying use conditions, and perform cost/benefit analyses at the local and national levels to collect the fundamental evidence essential for its commercialization. This project is led by Noul as the supervising organization, and joined by such collaborating organizations as PATH (Program for Appropriate Technology in Health), Malawi's National Malaria Control Program, the Ghana Infectious Disease Center, University of Notre Dame in the US, and the Swiss Tropical and Public Health Institute (Swiss TPH). Executing this project will serve not only to demonstrate the usability of miLab™ but will also be instrumental in learning and internalizing the expertise of collaborators and bolster our organizational capability.

Expanding public partnerships in Africa

In the latter half of 2022, government officials from multiple African countries visited our headquarters in Korea. Dr. Lawrence Ayong from the Center Pasteur of Cameroon under the Cameroonian Ministry of Public Health made the first such visit in July 2022, followed by nearly 20 infectious disease experts in the public health sector from Uganda, Ghana, Ethiopia, and Tanzania coming under the Dr. Lee Jong-wook Fellowship, an invitational training program for healthcare professionals in LMICs, that same month. In March 2023, the Minister of Health of the Democratic Republic of the Congo and the nation's presidential envoy visited our headquarters where Noul's CEO personally introduced Noul and our miLab™ products and held a Q&A session. We forged official miLab™ distribution partnerships with major organizations that came to our campus to pave the way to bolster cooperation ahead.

We also signed MOUs with the Center Pasteur of Cameroon in October and with the Ghana National Infectious Disease Center in December 2022, broadening our business territory to Nigeria and into the entire West African region. Such public partnerships are vital in better positioning us to make country-specific product registrations. This is the initial step for local market entry, and will lead to improving the credibility of Noul and our products in the proceeding step of business expansion, to reflecting the needs and opinions of major national government agencies to engage in public procurement consultations with international organizations, and to providing us with critical partnership opportunities to broaden our business base and impact. Not only will we accelerate our local market advancement on the back of our collaborative efforts with such partner organizations but we will also verify the effectiveness of miLab™ from the viewpoint of recipient countries. Undoubtedly, this will help us build trust and earn support from international organizations.

Obtaining CE marking under the European IVDR with miLab™ Platform

The medical devices industry is subject to product registration and approval for each national market as these devices are especially critical to the lives and health of people and influence the degree to which public health is promoted and ensured. Noul leverages the European CE marking system in entering key markets, and abides by the IVDD (In Vitro Diagnostics Directive, 98/79/EC) and the upgraded IVDR (In Vitro Diagnostic Regulation, 2017/746) in consideration of our product development conditions and applicable regulatory requirements. In detail, our cervical cancer cell screening cartridge solution miLab™ Cartridge CER and our morphology-based cell blood analysis cartridge solution miLab™ Cartridge BCM were awarded a Declaration of Conformity under the European IVDD. Our miLab™ Platform and Safefix™, two platform component products, also obtained CE marking under the European IVDR. We will preemptively review the IVDR through regulatory monitoring to effectively respond to this tightened regulation for any products that we plan to develop in the upcoming years.

Our 2023 Plans

- Develop mid/long-term sales strategy tailor-made for LMICs in terms of improving access to healthcare
- Secure opportunity to identify and cooperate with global partners in key potential markets
- Expand public malaria partnerships in West Africa
- Identify partnerships with public institutions for miLab™ BCM and miLab™ CER

Technology Development and Improvement in Product Performance

To resolve the challenge of dramatically improving access to healthcare, we make bold and strategic investments in developing innovative diagnostic solutions and improving product performance. Specifically, our approach to blood and tissue product development and performance improvement is driven by rendering our diagnostic testing process more efficient and supporting remote diagnosis through digitalization. In the manufacturing domain, we remain focused on facility investment and process development for improved process quality and strengthened production capacity along with our on-going improvements to product quality and readiness. In tandem with this, we engaged in future-oriented research to discover potential commercialization opportunities to verify the applicability of our solid-based staining technology for cancer profiling. We work closely with domestic and overseas research institutions to pursue next-generation technology in an aim to secure new technology and develop products that can diagnose other various cancer types.

miLab™ MAL: Reducing diagnostic testing times while improving species differentiation

In 2022, we continued with our efforts to optimize the overall operation of our miLab™ MAL and improve its product performance in reflection of local diagnostic testing conditions and customer needs. Key areas that we focused on in improving the performance of our miLab™ MAL are as follows:

- Worked to reduce the malaria testing time from over 28 minutes to under 15 minutes
- Improved storage performance to ensure consistent performance even when storing cartridges for an extended period of time
- Improved functionality so that inspectors review AI analysis results to increase accuracy
- Introduced an AI algorithm for more accurate differentiation between *P.falciparum* and *P. vivax*, to improve performance in distinguishing different species
- Boosted the functionality of miLab™ Viewer that enables the remote verification of malaria test results

To ensure the appropriate prescription and treatment enabled by accurate malaria species differentiation at the diagnostic testing sites, we aim to improve the detection of *P.falciparum* at all our clinical trial sites to bolster our performance in distinguishing between *P.falciparum* and *P.vivax* species. To this end, we plan to designate two or more global clinical trial sites to gather more data and optimize our AI-assisted species differentiation performance.

miLab™ BCM: Developing core functionalities to support the interpretation of peripheral blood smear test results

In 2022, we elaborated on the profile of our key customers and what they were using our products for. Meanwhile, we selected and developed five core functionalities required for the interpretation of peripheral blood smear test results. Our fine-tuned definition of miLab™ BCM customers refers to small/mediums-sized diagnostic laboratories wishing

to independently perform peripheral blood smear tests on patients whose CBC test results fall outside the normal range. In automating blood smear, staining and blood cell imaging following CBC testing, miLab™ BCM is expected to reduce screening times while increasing testing accuracy. The following summarizes our key development activities and achievements made to enable the core functionalities of miLab™ BCM:

- Secure blood smear conditions applicable to blood samples with hematocrit levels ranging between 20 and 50
- On-going development of fixation and staining conditions to differentiate abnormal samples as well as five different types of white blood cells
- On-going development of Ideal Zone Detection algorithms to automatically identify the desired zone on the blood smear slide for staining and imaging
- On-going development of annotation tools to facilitate AI learning

Going forward, we will tailor our tests to satisfy specific product use conditions for our key customers. This will ensure proper equipment operation across a broader scope of settings which will make the results more convenient and reliable for interpretation. In 2023, we aim to launch miLab Viewer™ for miLab™ BCM to support the verification of peripheral blood smear test results even in remote locations.

miLab™ CER: Completing advanced research from the technology prospective and developing prototypes

In 2022, we completed advanced research in developing foundational technology to perform cervical cancer screening on our miLab™ platform. Our major activities and achievements in developing miLab™ CER technology is as follows.

- Develop staining technology to streamline and expedite the 40-step Papanicolaou stain for cervical cytology by employing a total of 3 miLab™ cartridge hydrogen patches
- Develop miLab™ platform's unique oil optical technology to ensure the quality of cell images during microscopic examination
- Develop algorithms that enable swift cell scanning and imaging

Following the completion of advanced research, we are working on new optical and imaging systems capable of scanning large areas in a shortened period of time in consideration of characteristics of microscopic examination for cervical cancer screening, along with AI algorithms that are able to isolate cells likely to possess lesions. We are also developing staining technology and dedicated cartridges applicable to conventional pap smear as well as liquid-based cytology. In 2023, we plan to fully develop cartridges that are miLab™ CER-exclusive, along with our miLab™ CER prototype that automates the entire process from staining and imaging to AI analysis. We will collect varying feedback from the field to consistently upgrade our product performance.

Phased-in improvement of production capacity and full-scale mass-production

In 2022, we moved into the full-scale mass-production stage: our GMP-compliant manufacturing facility was expanded while automation equipment was developed and introduced to improve our process quality and productivity, along with activities to optimize our equipment workflow. First, automation equipment was developed and implemented for our cartridge manufacturing process. This was specifically applied to those processes involving high-risk and repetitive work that could place a musculoskeletal burden and to processes where consistent quality is especially critical. This helped us optimize their work process and environment and reach 40% in our effort to eliminate waste as much as possible through the rightsizing of our workforce. Furthermore, our equipment flow was optimized through the monthly monitoring of facility utilization, and our facility utilization remained 94% or above as a result. In the first half of 2023, we will introduce an automated patch appearance inspection process to eliminate visual inspections that may prove hazardous due to harmful substances in an aim to reach 60% in our initiative to reduce the number of workers through equipment and work improvement. In tandem with this, we will scale-up our reagent and gel solution manufacturing to improve our production capacity.

Studying next-generation technology to develop novel cancer profiling platforms

In December 2021, Noul was selected for the KRW 10 billion research project led by the Ministry of Trade, Industry and Energy to develop novel cancer profiling platform and has since developed spatial biology-based cancer profiling technology that will drive our next-generation products. This project is joined by globally renowned institutions who bring top-notch technology to the table from their respective fields – Boston Children’s Hospital, Harvard Medical School, Seoul National University, Yonsei University, and Asan Medical Center. Each of these research institutions will contribute their technology to developing spatial biology-based cancer profiling technology to deliver research-driven analysis platforms that assist cancer researchers.

- Project name: International joint R&D technology development project by the Ministry of Trade, Industry and Energy
- Research period: Dec. 1, 2021 ~ Nov. 30, 2024

Noul	Develop staining technology that enables IHC (Immunohistochemistry) by innovating our solid-based staining technology which is based on conventional chemical staining, develop analytic instruments for spatial biology research
Boston Children’s Hospital Harvard Medical School	Develop multiple nanobodies to apply to novel IHC technology

Seoul National University	Develop technology that emits dozens of types of light by replacing fluorescent materials with new nano particles
Yonsei University	Develop new optical technology that surpasses the limitations of conventional optical microscopy by detecting and imaging a wide spectrum of light emitted from nano particles
Asan Medical Center	Provide guides on the project research approach from the viewpoint of commercialization as an actual user while preparing clinical samples and making evaluations as a technology user

Spatial biology-based cancer profiling will not only fulfill the basic functions of IHC – determining the type of cancer and keeping track on the progress of cancer treatment – but will also provide information on the tumor microenvironment surrounding cancer cells as well as spatial information on the immune cells within a given tissue. This will surely assist cancer researchers in identifying new biomarkers and eventually developing new successful immunotherapies for cancer.

Developing novel cancer profiling platforms is certainly challenging as it demands that we create optical structures completely unlike those of our miLab™ devices while validating new materials and proposing new analytic methodologies. Teaming up with partner research institutions to produce meaningful research outcomes, however, will allow us to accurately determine the possibility of administering immunotherapy for different patients so that they stand a better chance of receiving personalized treatment. In 2023, we plan to develop new solid-based staining technology that enables immunostaining and conduct research on applying this technology to cancer tissue samples on the slide to distinguish between the different types of cancer.

Our 2023 Plans

- Improve our performance to differentiate P.falciparum and P.vivax in regions where clinical trials are conducted for miLab™ MAL
- Improve staining and AI performance to facilitate the differentiation of 5 types of white blood cells and abnormal white blood cells for miLab™ BCM
- Develop cartridges and AI for cervical cancer screening and miLab™ Viewer for miLab™ CER
- Develop new solid-based staining technology that enables immunostaining
- Reach 60% in rightsizing our workforce through the automation of the patch appearance inspection process

Partnerships and Collaborations

Our mission ‘We explore global challenges that threaten human health and life’ and our vision of ‘distributing decentralized diagnostic platforms across the globe’ are directly aligned with the global challenge of ensuring access to healthcare, and can’t be achieved through the efforts of any one single company.

Since day one, we have recognized Collaboration and Collective Impact as the key driver behind our mission, and have joined hands with globally-renowned partners and experts across a variety of areas.

We will continue to broaden our global partnerships to improve access to healthcare and create social value.

In so doing, we will transcend the boundary of a single individual company to help bring System Change in improving access to healthcare at the global level.

Partner and Collaborating Organizations





Compliance, Ethics and Risk management

At Noul, abiding by domestic and overseas laws and regulations as well as international standards and norms is our top priority in conducting business fairly, and we fully commit to establishing and effectively implementing our compliance system. To meet and exceed stakeholder requirements and expectations, we also continue to underscore the viewpoint of business ethics and social responsibility in our overall organizational operation and systematically prevent and manage tangible/intangible management risks.

Compliance and Ethics

- Phase in a compliance risk management system
- Provide compliance and ethics training to all employees
- Operate a compliance whistleblowing process

Respect for Human Rights

- Systems that respect human rights and the principle of zero tolerance
- Operate Speakup as a dedicated channel to receive grievances and public interest disclosures
- Noul Harmony, our Management-Labor Council based on trust and cooperation
- HR policies and processes free from discrimination and/or exclusion
- Efforts to improve human rights sensitivity

Establishing a Quality Management System

- Operate a quality management system for medical devices in accordance with international standards
- Take a risk-based approach to product development and process management
- Establish a CS process to promptly respond to customer feedback

Health and Safety

- Gradually bolster the health and safety management system
- Engage in health and safety management activities that increase employee engagement
- Conduct risk assessment and improve hazards/risk factors

Compliance and Ethics

Phased-in establishment of our compliance risk management system

Noul abides by laws and regulations throughout our business operations, and strives to fulfill our social role as a company and our responsibility to stakeholders. We categorize compliance into 1) legally-binding regulations in Korea and abroad, 2) international standards – ISO 13485 and the IVDR – and our internal regulations, 3) ethical standards duly required according to social norms, and manage the occurrence of non-compliance accordingly. To minimize the risk of regulatory non-compliance that may occur within our organization, key decisions and activities, publicly-available information, and all contracts are reviewed in advance by our legal affairs department. Our compliance policy and process are made readily available for viewing and awareness-building efforts are made to concerned employees whenever an issue arises and at the company-wide level when deemed necessary. Presently, we are focusing on establishing a process to swiftly identify any non-compliance through regular compliance monitoring, and will evolve this process to ensure that reasons for such non-compliance are analyzed to pursue improvement on a continual basis.

Compliance Risk Management System Development Plan

Step 1 2023~2024	Step 2 2025~2026	Step 3 2027
<ul style="list-style-type: none"> · Set our compliance guidelines and goal · Develop our compliance policy and process · Establish an integrated legal non-compliance management system · Operate compliance awareness building programs for employees 	<ul style="list-style-type: none"> · Establish a compliance risk management system · Bolster the compliance training programs for employees 	<ul style="list-style-type: none"> · Bolster our compliance management system on par with international standards · Assess and improve the effectiveness of our compliance system · Internalize a culture of compliance · Conduct internal audits and effectiveness assessments

Providing compliance and ethics training to all employees

We provide regular compliance training to raise employees compliance awareness and establish a culture of compliance. In 2022, we specifically conducted internal company-wide training on unfair securities trading prior to our stock market listing. This training covered the concept and types of unfair trading practices, the use of undisclosed information that requires caution following our IPO, short-term trading, arbitrage trading and other necessary precautions, and was attended by all our employees including senior management. In the latter half of the year, trade

secret protection training was provided by a third-party law firm, and our compliance policy training and two rounds of Work Ethic training were conducted at the company-wide level. In addition, statutory trainings on the prevention of sexual harassment, personal data privacy, and disability awareness-building were provided at least once a year, along with quarterly company-wide health and safety training pursuant to the Occupational Safety and Health Act. Since 2022, Noul Work Ethic* Training has been conducted at the start of each year to revisit our expectations concerning attitudes and specific behaviors we have of all our employees. This training consists of five rounds in total, and covers from the concept of Work Ethic as defined by Noul to our corporate value and principles, our compliance policy and system, and HR/accounting compliance provisions. As compliance and social responsibility have always been our top priority since the beginning, we believe that employee participation in trainings and interest in relevant topics is high. As such, our focus will naturally evolve from compliance and ethics training to conducting employee compliance awareness surveys and publishing guidelines containing the actual cases of ethical non-compliance. This will help improve their compliance and ethical awareness as well as execution in their day-to-day operations.

Noul Work Ethic describes the basic attitudes and a set of ethical values that everyone at Noul should prioritize and practice throughout their entire business conduct, in their relationships with colleagues, and in their professional life so that the mission, value, and culture of Noul is safeguarded.

Operating a compliance whistleblowing process

All at Noul can easily access our compliance whistleblowing channel to report corruptive practices, workplace sexual harassment and bullying, power harassment and other incidences of non-compliance. Whistleblowers and their reports remain confidential to protect the identity of whistleblowers, and we ensure that whistleblowers do not suffer any disadvantage for their reporting. Once such a whistleblowing report is submitted, this first is reviewed for its non-compliance. When the report is classified as non-compliant, factual grounds are established for concerned parties and expert opinion is sought when necessary. Those who found to be non-compliant are requested to make necessary improvement depending on the severity of the issue at hand or are subject to appropriate action pursuant to our rules of employment. A case handled as such is followed by training and regular monitoring to prevent its reoccurrence.

Our 2023 Plans

- Establish an integrated regulatory non-compliance management system
- Provide employees with compliance awareness-building programs

Respect for Human Rights

Systems that Respect Human Rights and the Principle of Zero Tolerance

As a corporate citizen, Noul believes that respecting the human rights of our team and stakeholders in our business operations is a prerequisite to maximizing our organizational capacity and the first step in conducting business responsibly. This prompted us to stipulate our commitment to respecting human rights in our HR regulations and continue to establish systems and a culture that respect the dignity of each individual at Noul. Particularly, we maintain the principles of Zero Tolerance and Protection of and Care for the Victim as our top priority in dealing with workplace and sexual harassment and any other behaviors that undermine the value of our company and/or cause severe damage to our team members. At Noul, Zero Tolerance means that we do not turn a blind eye to or respond apathetically to even seemingly insignificant slights, and that we make doubly sure that the responsible party is held accountable and bear the appropriate consequences.

Matters subject to the principle of Zero Tolerance

- All form of sexual abuse including sexual harassment
- All forms of harassment including making mischief and slandering
- Serious conflict of interest or non-compliance with ethical principles
- Consistent and serious negative feedback from colleagues
- Production and dissemination of false or biased information
- Other serious violation of contractual or corporate regulations

For matters that call for the principle of Zero Tolerance, we follow the set internal process to ensure that the victimized employee is safe from the perpetrator, that the perpetrator goes to receive strict training, sign the pledge to prevent any reoccurrences, and is subject to continuous management/supervision and personnel/disciplinary action.

Operating Speakup as a dedicated channel for receiving grievances and public interest disclosures

At Noul, a company-wide grievance mechanism is up and running, and our dedicated hotline channel – speakup@noul.kr – was launched in September 2020 to facilitate the submission of grievances and public interest disclosures. Irrespective of type of employment, all Noul employees are free to access this hotline channel and submit any kind of grievances and public interest disclosures that are directly/indirectly associated with their work routines and professional life, including matters falling in the Zero Tolerance category. The hotline channel is regularly monitored by our Chief Sustainability Officer (CSO) and the leader of the People department, and submissions can be made either anonymously or under one’s given name depending on the issue at hand. When an issue is received through Speakup, we follow our internal grievance mechanism to respond as quickly as possible and implement the relevant process. While we prioritize the protection and care for the victim in the entire grievance handling process, we also ensure that appropriate corporate action is taken in consideration of the severity of the issue in question and the damage inflicted on our organization and/or team members.

Grievances Received and Handled in 2022

Grievance Reported	Handling Status	Handling Rate
1 report	Handling completed	100%

Noul Harmony, the Labor-Management Council based on trust and cooperation

Our Labor-Management Council is under operation in conformity with the spirit and requirements of applicable laws, and is called ‘Noul Harmony’ to convey its commitment to pursue joint growth based on trust and cooperation between Noul and our team members. In 2022, Noul Harmony continued to meet regularly to deliberate on a range of agenda items, including management plans, employee welfare, HR system improvement, working conditions, and grievance-related matters with both representatives from management and employees participating with open-minded and collaborative attitudes. During the year of 2022, 10 regular items were discussed, and none of these items were delayed nor failed to reach consensus due to disagreement between labor and management. Going forward, we will evolve into an organization that enables the journey of mutual growth between the company and its members with Noul Harmony taking the lead based on mutual trust and cooperation.

Noul Harmony Meetings Held in 2022

- 4 regular meetings held
- Major agenda items: 10 items concerning necessary improvements to further stabilize the work of employees, discussion on our compliance policy and process, and a proposal related to business travel regulations among other items

HR policy and process free from discrimination and exclusion

Our non-discrimination policy specifies there should be no discrimination or exclusion on the grounds of gender, race, age, education level, or marital/parental status without justifiable reasons starting from the recruitment process to ensure that our hiring protocols are fair and competency-based. We also do our utmost to build fairness into our business environment to prevent discrimination based on gender, age and other factors irrelevant to work across our entire HR systems and processes concerning work assignment, promotion and compensation. We perform regular engagement surveys and corporate culture review surveys to monitor the presence of any unjustified discrimination in the workplace while identifying and making necessary improvements.

Establishing a quality management system

We follow reasonable criteria in determining compensation, such as the nature of an employee's duties, career experience and competency, and do not discriminate in pay based on gender. Our entry-level pay for new hires is determined by the same such criteria including competency and work-related experience irrespective of gender. Upon inspecting the average pay between incumbent male and female employees, we found that female employees earned approximately 70% of that of their male counterparts. However, this was not due to gender, but simply because the male pool of employees had an average of 14 years of experience, whereas the females had 10 years of experience.

Since our inception, we have paid above the legal minimum wage for hourly part-time and internship positions. We provide interns with pay pursuant to the living wage stipulated by Gyeonggi-do where we operate, and interns are provided with the same level of benefits as their full-time counterparts, apart from our welfare programs designed to promote long-term employment. Looking ahead, we will design our systems and culture to prevent discrimination on the grounds of type of employment and other factors in accessing the opportunities and benefits that we provide.

Our efforts to increase sensitivity to human rights

We consider statutory training conducted to prevent sexual harassment and improve awareness on disability in the workplace as a critical opportunity to raise our sensitivity to human rights. In fact, we invite field experts and activists as lecturers to provide participatory training to our team members so that such annual trainings do not remain performative but serve to raise their awareness. Our employees walk away from such trainings equipped with greater empathy as they encounter human rights issues in the workplace and explore better ways to address such issues. In 2022, our training to prevent workplace sexual harassment extended beyond a mere lecture and evolved into more of a workshop on gender sensitivity: preliminary assessments were made on our employees' gender-based sensitivity and our organizational culture, and our employees engaged in debates on the identified issues to explore necessary improvements in their perceptions and behaviors. We will continue to arrange various trainings and programs to help our team members become more sensitive about human rights issues and pursue actual change in their workplace behavior.

Our 2023 Plans

- Implement activities to improve the effectiveness of our grievance mechanism
- Provide regular training to grievance counselors
- Establish a human rights risk management process

Operating a medical devices quality management system in accordance with international standards

We recognize quality as key to our business operations in meeting customer requirements and stakeholder expectations, and fully commit to ensuring global market-leading quality and technology by effectively operating our quality management system in conformity with international standards. We have been certified to the international medical devices quality management system standards of ISO 13485:2016 and EN ISO 13485:2016 by the BSI (British Standards Institution), a global certification body, and continue to embed our quality management system that satisfies applicable international standards into our overall day-to-day product development and process management process. In 2022, we specifically focused on building our internal audit capacity to improve the consistency of our quality management system at all levels, and independently developed our in-house auditor training. This allowed us to nurture 11 internal auditors and associate auditors, and render our internal audit operations more systemic and effective than before. To maintain and develop our quality management system in line with international standards and stakeholder requirements, we will further bolster our sustained and self-directed monitoring and improvement in addition to third-party audits.

Taking the risk-based approach to product development and process management

To ensure the effective operation, maintenance, management, and improvement of our quality management system, we take the risk-based approach to product development and process management. Risks are identified and then verified for their severity and likelihood of occurring in developing products and managing processes, and five different risk control measures are taken for identified risks.

1 Establish a process handling procedure	2 Set quality forms	3 Appoint the process manager	4 Define and grant qualifications for the process manager	5 Conduct training and exercise
41 cases	14 cases	14 cases	1 cases	30 cases

In 2022, 91 risks were identified, and risk controls were placed on all identified risks. In doing so, we mitigated the probability of risk occurrence on all 91 identified risks through risk controls, and verified that they were all within the set acceptable range.

- Risk assessment results (Apr. 2022) : Identified and controlled 56 risk items
- Risk assessment results (Dec. 2022) : Identified and controlled 91 risk items

Health and Safety

Establishing a CS Process for prompt customer feedback management

Our company-wide CS process has been up and running since August 2022 to swiftly address and systematically manage customer feedback. Our CS process was designed to explore appropriate solutions from the customers' perspective. It is from this perspective that issues are defined and their severity is determined to create better results than simply receiving and handling customer complaints. Our CS process takes into account the following:

- **Quantitative analysis** : Quantitatively analyze customer complaints for their severity and frequency.
- **Priority-based response** : Prioritize customer complaints based on quantitative analysis results to manage and respond to such complaints.
- **Participatory workflow** : Operate a workflow to internally share the process of handling customer complaints and feedback to comprehensively integrate internal feedback from varying viewpoints.
- **Database development** : Apply the Fault Tree Analysis (FTA) approach in labeling customer complaints and feedback based on their major symptoms and causes; populate such symptoms and causes into a database to identify varying causes behind the same symptom; use this database in the pre-product development phase to prevent the reoccurrence of the same issue and mitigate risk.

Our CS Process helps us take action to address customer complaints and feedback within 24 to 72 hours. Product repairs are also completed within one to two weeks upon receiving them. As of March 2023, all consumer complaints were handled through corrective action. Given that our CS process is still under development in its foundational phase, our current focus is on ensuring stability and trust among customers in product quality and customer service aspects by quickly collecting and improving any shortcomings identified in the execution of this process.

Our 2023 Plans

- Monitor process and product risk management and prepare risk management reports
- Develop internal/external CS policies
- Conduct ISO 13485 audits on miLab™ BCM and miLab™ CER

Phased reinforcement of our health and safety management system

We proactively abide by health and safety laws and regulations to prevent workplace injuries and provide a safe and pleasant workplace for our team. We also establish and implement internal health and safety standards proportionate to the size of our company and our specific conditions. To cater to the health and safety requirements of the Serious Accidents Punishment Act which took effect in January 2022, we updated our health and safety management system which was developed in accordance with the Industrial Safety and Health Act. This improvement process was implemented in partnership with our legal affairs department which performed regulatory analyses on the Serious Accidents Punishment Act, by performing gap analyses by the safety management department, developing improvement measures and action plans, and making semi-annual assessments. This allowed us to improve our system to satisfy all legal requirements pursuant to the Act.

We develop health and safety management plans at the start of each year according to our health and safety management system, and implement health and safety activities. These include work environment measurement, risk assessment, health and safety training, and the operation of the Workplace Health and Safety Committee. Our top management also regularly evaluates health and safety personnel for their health and safety activities and performance to ensure our health and safety management system remains effective.

Health and safety management activities that increase employee engagement

Noul is a venture business in its growth phase, and our health and safety management system is still being developed. We stand firmly behind the premise that a safe, injury-free workplace directly depends on a culture of safety that runs through individual and organizational levels beyond system arrangements. As such, we always underscore the importance of employee participation in overall health and safety activities.

● **Operation of the Workplace Health and Safety Committee**

Noul’s Workplace Health and Safety Committee deliberates and decides on health and safety matters to accurately identify workplace risk factors and effectively prevent workplace injuries through employee participation and cooperation pursuant to the intent of applicable laws and regulations.

Composition	8 members in total (4 management/4 employee representatives)
Key agenda items of 2022	<ul style="list-style-type: none"> · Establishing plans to respond to the Serious Accidents Punishment Act, planning regular risk assessments for 2022, opening a bulletin board or a communication channel to post the decisions made, improving safety risk factors and hazards, complying with the LOTO work procedure in performing non-routine work at the manufacturing facility · Conducting H2 workplace measurement, confirming the implementation of precision safety inspections on research labs, stipulating and reviewing health and safety management regulations, conducting Q4 health and safety training by inviting external lecturers, performing work assessments on health and safety professionals
Operation	<p>Held regular meetings each quarter (shared deliberation and activity outcomes across the board)</p> <p>Held meetings on an as-needed basis when discussion items arose (risk assessment, safety issue and others)</p>

● **Implementing programs that increase access to health and safety**

To encourage employees’ participation in health and safety activities and better communicate with them in this regard, we opened a health and safety activity channel within our in-house messenger program to share the outcomes and progress of the decisions made by the Workplace Health and Safety Committee. We operate a health and safety quiz program to raise health and safety awareness, and display the summary of key health and safety regulations, health and safety rules, and safety promotion posters on our in-house bulletin board and in areas frequented by employees to draw our team’s attention to and enhance their awareness on safety in their day-to-day routine.

● **Providing health and safety training and healthcare support**

We provide our employees with regular training, new hire training and special training to help them assimilate health and safety knowledge and recognize the importance of safety. Our health and safety manager and supervisor are required to complete more regular and refresher training hours than applicable regulations require. Furthermore, regular workplace measurements are made to ensure hazardous substances are managed below the set exposure threshold in the workplace, and employees handling hazardous materials receive special health check-ups to prevent work-related illnesses.

Conducting risk assessment and improving hazards/risk factors

Noul regularly investigates potential hazards and risk factors in the workplace to assess their risk levels, and take appropriate action when a risk exceeds the acceptable range to ensure that such risk does not lead to any injury or illness. Risk assessments are made on all work areas within Noul’s premise – research labs, production sites, material warehouses, offices, and laboratories – as well as the activities undertaken in such areas.

In 2022, the first risk assessment was made on our research labs in line with their expansion and relocation. With our health and safety manager serving as a general manager, risk assessment plans were developed, risk assessment criteria were set and risk assessment was conducted accordingly while proper improvement measures were defined and implemented to address those hazards and risk factors that exceeded the permissible range. Such risk assessments allowed us to verify the safety level of our new research labs, and corrective action was taken for hazards/risk factors to eliminate seven potential hazards and risk factors that could potentially affect the health and safety of our team. Our next step will be to improve the maturity of our health and safety management system on an on-going basis in line with our improvement plans, and focus on potential high-risk cases that could occur in the workplace in providing health and safety training. We will also supplement our feedback collection process to fully reflect the voice of working-level employees in conducting risk assessment.

Our 2023 Plans

- Upgrade our health and safety goal and management guidelines to better align them with our corporate mission
- Supplement our internal health and safety management system assessment criteria
- Provide health and safety training with a focus on actual cases
- Supplement the employee feedback collection process in conducting risk assessment

Sound and Sustainable Governance



Noul believes that establishing sound and transparent decision-making and internal control systems is key to proving the legitimacy of our business conduct to stakeholders. As such, we identify governance requirements and stakeholder expectations to gradually bolster Board-driven, transparent, and sound decision-making and integrate sustainable business practices into our decision-making system and overall organizational operation.

Sound Governance

- Improve the independence, expertise and diversity of the Board
- Facilitate the operation of the Board
- Strengthen internal/external controls
- Protect shareholder rights and bolster stakeholder communication

Sustainable Governance

- Sustainable decision-making system
- Sustainability performance management
- Individual/organizational sustainability capacity-building
- Expand stakeholder communication channels

Sound Governance

Improving the independence, expertise and diversity of the Board

Noul's Board of Directors is operated in accordance with our Board operational regulations, Articles of Incorporation and applicable laws, and is mandated to deliberate and decide on matters stipulated by applicable laws and the Articles of Incorporation, matters delegated by the Annual General Meeting of shareholders, and important matters concerning our basic policy and business execution. Our Board of Directors consists of three inside directors and two outside directors as of December 2022. The Board is chaired by our founder and CEO David Lim to ensure stable operations and responsible decision-making following our IPO. While we intend to maintain the current structure in the short-term given our current phase of growth, business conditions, and investor trust, we will continue to improve our governance to support the independent and transparent operation of the Board all while remaining enterprising as a venture company over the mid-to-long term. We ensure that each director is provided with sufficient information prior to making decisions to enable the Board to effectively oversee and hold in check our business operations, and guarantee respective directors their right to freely express their distinctive perspectives and share their expertise.

To promote independent and transparent Board operations, we appointed two outside directors in August 2021, who provide us with objective oversight and advice on our business conduct based on their expertise. Seon Jee Lee has over 20 years of experience in the field of law, and contributes to our decision-making process with her objective advice to help us minimize legal risk on key management issues while systematically advancing compliance management. Seongsoo Jang is an expert in hematology diagnostics, and leverages his extensive experience and expertise gained in the medical field to provide expert advice for our key product development and overall research operation and to contribute to our decision-making process. Our outside directors may seek assistance from auditors, counselors and other professionals when deemed necessary pursuant to the Board operational regulations and applicable regulations and have the authority to demand that our CEO report to the Board concerning other directors and/or the work of other employees. Noul plans to establish and implement mid/long-term goals and action plans to bolster the independence, expertise, and diversity of our Board of Directors, and amend our Board operational regulations in reflection of our commitment to embedding independence, expertise, and diversity into the composition and operation of our Board in the mid/long-term. This, we believe, will render our decision-making to be truly led by the Board, and the decision therein to be transparent and sound.

Composition of the Board

Director	Name	Gender	Age Group	Date of Appointment	Area of Activity	Position/Experience
Inside director	David Lim	Male	30-50	2015.12.02.	General management	(Current) CEO, Noul (Previous) Managing Partner, SOL Invest (Previous) Manager, Partners Investment
	Peter Kim	Male	30-50	2015.12.02.	Law/patent/quality	(Current) CLO, Noul (Previous) Lawyer, Legal Affairs Team, KT (Previous) Senior researcher, Institute for Future Internet Technology Convergence, LG Electronics Inc.
	Justin Ahn	Male	30-50	2018.03.31.	Sustainability/HR organization	(Current) CSO, Noul (Previous) CSO, slowalk (Previous) Lead auditor, British Standard Institution (Previous) Senior researcher, POSCO Research Institute
Outside director	Seon Jee Lee	Female	50 and over	2021.08.23.	Legal/compliance advice	(Current) Lawyer, Kim & Chang (Current) Member, Public-Private Partnerships Deliberation committee, Ministry of Economy and Finance
	Seongsoo Jang	Male	50 and over	2021.08.23.	Medical diagnostics technology advice	(Current) Professor, Department of Laboratory Medicine, Asan Medical Center, University of Ulsan, College of Medicine (Current) President, Korean Society of Hematology (Previous) President, Korean BioChip Society

Facilitating the operation of the Board

We pursue Board-centered management as one of the key components of responsible business conduct. Given that the size of our business is small, it is sometimes challenging to establish systemic independence and fulfill the expertise requirements of the Board to the level of large or mid-sized businesses. Still, we move forward to strengthen the operational process under the current Board structure and facilitate the Board's day-to-day operation. Regular Board meetings held on a quarterly basis serve to report and discuss key management issues as well as deliberate on official agenda items to help outside directors better understand our business conditions. When urgent agenda items are raised, ad-hoc meetings are held to engage in sufficient deliberations prior to arriving at decisions. In 2022, eight Board meetings were convened – four regular and four ad-hoc meetings – and two outside directors attended all such meetings to provide their objective oversight and advice based on their expertise for our business operations. Since 2022, we have further upgraded our communication activities in addition to Board meetings: meetings were held for top management including the CEO and outside directors to freely discuss key pending management issues when necessary, and discussions were arranged between outside directors and Noul's key leadership positions to promote a detailed understanding and communication on product development and business execution.

Board Operation and Attendance in 2022

Meetings Held	Decision Item	Information Item	Attendance
8 meetings	11 items	2 items	100%

Bolstering internal/external controls

While Noul bears no obligation to introduce internal accounting controls pursuant to Article 8 (1) of the Act on External Audit of Stock Companies, we have preemptively established our internal accounting management system in 2020 and have since gradually aligned this system to improve its operational effectiveness and feasibility. In 2022, this system was assessed for its design and operational status for the fiscal year 2022 to verify the adequacy of company-wide and process-specific control activities and to compensate for vulnerabilities. No critical vulnerability was identified in regard to materiality as a result of the tests that were conducted on company-wide and process-specific control activities, and we received unqualified opinion from Samil PwC, an independent auditor. Furthermore, we regularly review the operational effectiveness of our internal accounting management system to supplement identified shortcomings and make this system more effective. For instance, the introduction or modification of major accounting estimates is followed by the meticulous review of their implications, and their calculation details should be approved by the competent person mandated to grant approval to prevent the error of estimation through this rigorous review process.

In terms of employee awareness improvement and risk management, our annual company-wide Noul Work Ethic Training covered the appropriate scope of reimbursable expenses and the expenditure execution process. As we have worked preemptively to date to establish accounting soundness in a way that surpasses legal requirements, we will conduct internal training and appropriately operate and improve our internal accounting management system to maintain accounting soundness. This will ultimately bolster our internal control system on an ongoing and phased-in manner. Since our IPO on the KOSDAQ market in March 2022, Noul has been disclosing quarterly and semi-annual reports in conformity with Financial Services Commission standards pursuant to the Financial Investment Services and Capital Markets Act. As our listing further underscores the importance for our financial statements to be credible, we had Samil PwC perform external audits on the Key Audit Matters that were defined as items that could potentially cause the greatest impact on our financial statements. Unqualified opinions were issued from the audits in accordance with the Korean International Financial Reporting Standards (K-IFRS).

Protecting shareholder rights and bolstering stakeholder communication

Since our KOSDAQ listing in March 2022, we have fully committed to making swift and accurate disclosures on our financial conditions and key business activities as stipulated by applicable laws and Korea Exchange regulations to protect the rights and interests of our shareholders and stakeholders. To this end, we received disclosure system consulting from the Korea Exchange in September 2022. This consultation is provided to KOSDAQ-listed companies, and we used it to review and supplement our vulnerabilities for each key disclosure item. To make sure all shareholders are equally provided with corporate information, we issue voluntary disclosures as well as periodic and timely disclosures on our major business conditions while publishing and disclosing our sustainability report in July 2022 to guarantee our shareholders the right to know and reach out closer to stakeholders. In 2023, we hosted the Annual General Meeting of shareholders during a different period than what the Korea Exchange deems usual so that more shareholders could attend our AGM and duly exercise their shareholder rights. Despite our best-possible efforts on multiple fronts, we recognize that Noul is still in its early stages of establishing a company-wide system to protect shareholder rights and communicate with stakeholders. This is why we will aim to identify varying basic requirements expected of listed companies and integrate them into our internal process in the short-term while gradually establishing a more rigorous process that will be required for sustainability. This will ultimately bolster shareholder rights and stakeholder communication in line with our growth stage.

Our 2023 Plans

- Establish goals and programs to bolster the independence, expertise, and diversity of the Board
- Reinforce the internal training system to maintain the soundness of our accounting operation
- Ensure the credibility of our financial statements by appropriately operating the internal accounting management system

Governance for Sustainability

Sustainability decision-making system

It was soon after we started our business that Noul appointed the Chief Sustainability Officer (CSO) to head our company-wide sustainability operations. Our CSO, as a member of top management and the Board of Directors, is mandated to fulfill his/her responsibility and authority to always consider sustainability perspectives in all decisions made across the board. The CSO handles Noul's sustainability issues including economic, environmental, and social ones, and directly reports such issues to the Board when deemed necessary. This ensures that our decisions are made from the vantage point of sustainability. This can range from product development and business planning to corporate culture and public communications, and such decisions are executed in a systemic and impactful way. The CSO is also responsible for analyzing and summarizing Noul's economic, social and environmental activities and achievements and reporting the outcomes to the Board for its approval as stipulated in the Articles of Incorporation. In 2022, our CSO provided the sustainability report outlining our business operations and activities undertaken for the preceding fiscal year as well as our social accomplishments to the Board and gained approval.

Sustainability performance management

We independently developed our sustainability self-assessment checklist and have been applying it since 2021 in regularly identifying our company-wide progress towards sustainability and improving our sustainability performance accordingly. In 2022, our mid/long-term sustainability improvement plan was developed based on two-year assessment results so that we could take a more strategic and systemic approach to sustainability performance improvement. This plan was prepared with the sustainability department's lead along with six working-level departments participating from respective sustainability areas including compliance, HR organization, and information security functions. It will be subject to annual reviews and adjustments for its feasibility as it will need to adjust to our sometimes unpredictable growth journey as a venture company. In the first half of 2023, we will establish a company-wide ESG risk management process and align ESG risk management with the scope of sustainability performance management to identify, manage, and improve sustainability issues in a more preemptive and integrated way.

Individual and organizational sustainability capacity building

At Noul, our progress towards sustainability will be primarily driven by integrating sustainability viewpoints in our overall efforts to create value in our own distinctive way rather than by engaging in public communications or social-giving activities. It is from this perspective that we operate 'Sustainability 101' developed as our in-house sustainability training program to raise each team member's sustainability awareness and encourage them to live the value of sustainability of their own accord in their daily and professional lives. Sustainability 101 is mandatory for all our employees to complete at least once: a total of six rounds of lecture-format training are provided on

the concept and cases of sustainability, and employees apply their learnings in selecting sustainability topics of interest and create their own in-house project. This encourages trainees to contemplate their workplace life and job roles with sustainability in mind and become a part of our pursuit towards real-world improvements to eventually generate a highly satisfying work experience. Initiated in 2021, Sustainability 101 has resulted in a range of projects to date in creating sustainable in-house spaces, reviewing eco-friendly materials, and measuring GHG emissions in the workplace. In 2022, we initially intended to offer three rounds of training a year, but we reduced it down to one due to the change made to our sustainability organization. In 2023, we plan to provide three rounds of training a year, with the first being completed in the first half of the year. The following illustrates the key outcomes from the first round of training conducted in 2022 and 2023 respectively.

Sustainability 101 Training Outcomes in 2022

- 12 trainees attended and fully completed the training
- Conducted 288 hours of training in total
- Undertook 4 sustainability improvement projects
 - Launch an in-house water saving campaign
 - Analyze the environmental benefits of the in-house cafeteria 'Noul, With You'
 - Analyze Noul's current discharge of medical waste and propose possible improvements
 - Open an in-house sustainability communication channel to facilitate the sharing of sustainability best practices

Sustainability 101 1st Round Training Outcomes in 2023

- 15 trainees attended and fully completed the training
- Conducted 360 hours of training in total
- Undertook 4 sustainability improvement projects
 - Propose ways to recycle spent coffee grounds generated from 'Noul, With You'
 - Propose ways to collect and recycle products
 - Propose possible applications for fair trade
 - Establish measures to protect the data privacy of sample providers as well as guidelines to abide by research ethics

In building organizational capacity at the departmental level, we operate sustainability workshops developed based on department needs in 2022. The first sustainability workshop was held in December 2022 for our research department that heads government project undertakings and future-driven research efforts to engage in wide-ranging ideas to apply sustainability perspectives in developing next-generation technology and conducting product research. Going forward, we will analyze the effectiveness of our in-house sustainability training programs for their improvement, and expand department-level participatory programs to take a sustainability-driven approach to our overall value chain from product planning to development, manufacturing, business and operation.



Expanding stakeholder communication channels

Since November 2022, we have published monthly stakeholder newsletters. This initiative started with an aim to transparently share our major corporate developments with external stakeholders and pursue growth based on communication and engagement with varying stakeholders by providing timely information and collecting their feedback. These monthly newsletters update our stakeholders on the latest news on our development, business, and organizational operation along with key events and future plans.

All That Noul, our in-house newsletter first published in October 2022, serves to provide our team with updates on our overall operations and further facilitate cross-individual/ departmental communication and engagement. All That Noul embraces a breadth of topics covering latest corporate news, employee stories, various events and activities of Noul, and our corporate value and approach among others, and is published semi-monthly for all employees.

We will continue to operate regular communication channels to fully disclose our growth journey and key achievements with stakeholders and to reflect stakeholder feedback more broadly across our business operations.

Our 2023 Plans

- Improve our sustainability self-assessment checklist for systemic sustainability performance management
- Establish an ESG risk management process and implement risk management/improvement activities
- Expand our in-house sustainability training programs and department-level sustainability engagement programs



Responsible and Inclusive workplace

into our systems and culture. As a corporate citizen, we also consider social responsibility as an indispensable factor in each individual employees' work practices and organizational decision-making, and strive to evolve into a company that reaches out ever closer to varying stakeholders.

Diversity, Equity, Inclusion (DEI)

- DEI-driven systems and culture
- Activities to embed the value of diversity and inclusion
- 'Noul, With You', our in-house cafeteria employing baristas with disabilities
- Introduce Better Noul SIG as our shared interest group program

Capacity Development and Growth

- Facilitate a culture of mutual growth and encouragement through regular/frequent feedback
- Support training programs that help with expertise/capacity building
- OKR-based company-wide performance management

Employment and Work Environment

- Create jobs and monitor the quality of jobs
- Onboarding program for new hires
- Environmental improvement for work engagement and support for employee growth
- Create working conditions for work-life harmony

Diversity, Equity and Inclusion (DEI)

DEI-driven systems and culture

Since our founding, we have stipulated our commitment to respecting diversity and upholding human rights in our HR regulations and have progressed towards this commitment in institutional and cultural aspects. We make it explicit that our team members, upon being hired Noul, will be free from workplace discrimination on the grounds of gender, academic background, age, religion and other factors irrelevant to their job duties. We even go further to encourage equitable and inclusive policies and systems in their daily routine and professional life to help bring their unique individual backgrounds, experiences, and perspectives to eventually generate positive synergy at the organizational level. Our year-round internal trainings, events, case studies, and information sharing drive our team members to independently engage in communication and collaboration based on diversity, equity and inclusion. Such efforts serve as a constant reminder for our employees to respect diversity and inclusion. We are also aware, however, that there are multiple possible improvements that we can pursue in translating such elevated awareness into real-life implementation, in terms of expanding leadership opportunity for all female employees, creating a work environment that reflects individual diversity, and establishing a culture that respects diversity. It is with this in mind that we have shifted our focus from building awareness to strengthening implementation since the latter half of 2022 to put into motion the values of diversity, equity and inclusion in their truest sense.

Gender Proportions by Position (Mar. 2022 vs. Mar. 2023)

	2022		2023	
	Female	Male	Female	Male
Board of Directors	17%	83%	20%	80%
Executives	33%	67%	33%	67%
Mid-level Leadership	33%	67%	28%	72%
Employees	39%	61%	34%	66%

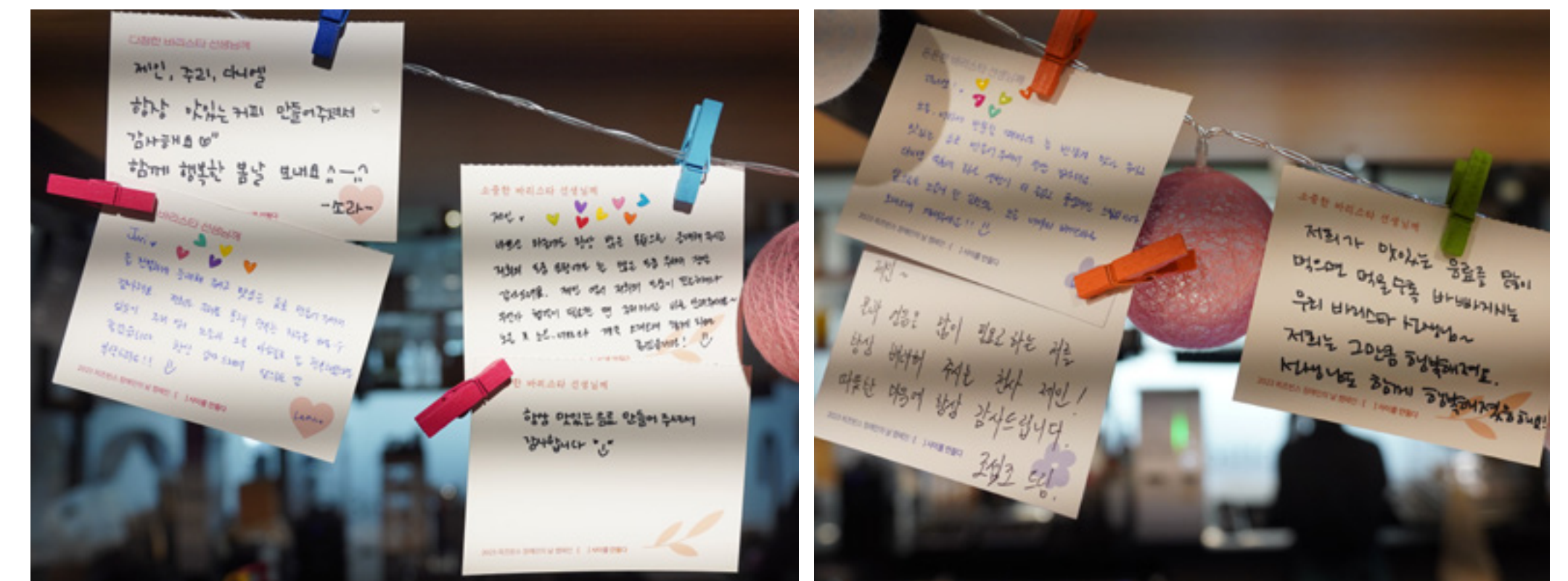
Activities to embed the values of diversity and inclusion

In December 2022, our in-house project to re-establish our core corporate values helped us define 7 Value Pairs under our company-wide core value framework, and one such pair defined is Diversity with Inclusion. At Noul, Diversity with Inclusion is not about merely embracing differences while recognizing diverse ideas and backgrounds but about taking a more proactive stance to generate synergy through inclusive attitudes. From 2023, we will develop specific plans to put this updated core value framework into action, and embody the values of diversity and inclusion as our pivotal standards governing individual behavioral norms and organizational operation.

In building the necessary cultural settings, we will include DEI content into Work Ethic Training, the company-wide mandatory training course conducted each year, to advocate that all our employees focus on relevant topics and advance DEI in their work routines and professional life. Each year, we celebrate International Women’s Day by hosting company-wide events voluntarily led by our employees to broaden their consensus on the overall topic of diversity as well as gender equality. Specifically, our in-house event held in commemoration of International Women’s Day 2023 featured the keynote speech delivered by our CEO titled ‘Noul’s efforts for diversity and our way forward’, along with a special lecture from our CSO entitled ‘Does gender equality benefit all – women, men and Noul?’. The event marked a celebration as our team spent a meaningful day together and learning more about women’s rights and gender equality. The values of DEI are not only beneficial to all in their own right, but will ultimately boost our operational efficiency and corporate competitiveness, especially given our unique position in pursuing the convergence and innovation of diverse technologies. Looking ahead, we will continue to explore and seize opportunities to integrate the value of diversity and inclusion into our policies, systems, and culture.

‘Noul, With You’, our in-house cafeteria employing baristas with disabilities

In June 2022, we opened our in-house cafeteria named ‘Noul, With You’ in collaboration with HISBEANS, a social venture company, and hired two baristas with disabilities as its full-time employees. In so doing, we not only abide by the intent and requirements of the nation’s affirmative action mandate in hiring those living with disabilities, but also create a more inclusive statement in our daily routines. All our employees should bring their own tumbler at the café as a way to care for the planet earth. Our professional baristas offer high-quality coffees and beverages at affordable prices and Noul, With You is regarded as one of the most favorable perks we provide our employees.



Capacity Development and Growth

Introducing Better Noul SIG as our shared interest group program

Our Better Noul SIG program was launched in the first half of 2022 with an aim to transform the diverse ideas and perspectives of our team members into fuel that drives Noul’s healthy growth. This program also helps each individual lead the way in creating a pleasant and meaningful work environment. Under this program, employees with shared interests concerning their work routines and professional life come together to create a Special Interest Group or SIG, and freely engage in their own SIG during the designated activity period to identify and directly execute improvement ideas. An SIG can be created at any given time, and once approved by the Company, is freely operated under the leadership of its members to make any official improvement proposals. As of March 2023, a total of nine SIGs in the areas of ‘communication and collaboration’, ‘fearless corporate culture’, ‘career development’, ‘sustainability implement’ and others are actualizing their improvement ideas, both small and big, to improve working conditions and to create healthy and inclusive systems and culture.

Name of SIG	Topic	Participant (No. of persons)
Fearless, Total Honesty	Fearless organizational culture	5
The Voice		7
Make It Work	Effective communication and collaboration	12
Making a family-friendly Noul culture	Enjoyable and meaningful in-house activity planning	4
KIN		5
Making events enjoyable for all		8
Junior Career Jump	Career development for junior-level members	6
In Pursuit of Excellence	Working mindset and attitude	10
Use.Focus.again	Sustainability implementation	7

Our 2023 Plans

- Develop DEI (Diversity, Equity, Inclusion) policies and set DEI goals
- Plan and implement training programs to increase employees’ DEI sensitivity
- Support employee engagement activities including Better Noul SIG

Facilitating the culture of mutual growth and encouragement through regular/ad-hoc feedback

Noul operates regular/ad-hoc feedback programs aligned with our corporate philosophy and core value in place of a regular performance assessment system. First and foremost, our feedback programs not just serve as a tool for evaluation or performance appraisal but aim to help our members reflect on their competencies and attitudes through the lens of their colleagues and leaders so that they become the best version of themselves as a coworker and a member of team Noul. Our regular feedback program is operated on a quarterly basis and up to four times a year, and is categorized into 360-degree, 180-degree, and 90-degree feedback according to the scope of feedback targets and feedback methods. It is mandatory that all employees attend 360-degree feedback at the end of each year and 180-degree feedback at the close of the first half. Our 90-degree feedback is given in Q1 and Q3 of the year only to those employees wishing to receive such feedback.

Regular Feedback by Type

Type of Feedback	Period	Feedback Approach and Item
360-degree feedback	Every December	<ul style="list-style-type: none"> · Target: Employees working at Noul for 4 months or longer · Request leaders and colleagues with whom one worked for the past year to provide feedback on 17 quantitative items and 4 qualitative items
180-degree feedback	Every June	<ul style="list-style-type: none"> · Target: Employees working for 3 months or longer · Request 2 or more persons including one’s direct leader and colleagues of their own choosing to provide their feedback on six open-ended question items related to competencies and attitudes
90-degree feedback	Every March and September	<ul style="list-style-type: none"> · Target Employees wishing to receive feedback · Hand-pick one’s own feedback provider and write feedback questions themselves to autonomously implement the feedback process

Our Peer Feedback and Bonus programs for ad-hoc feedback enable employees to write and deliver real-time supportive feedback messages when they wish to express their gratitude, recognition, and encouragement to fellow colleagues in their daily routines and in professional life. Such feedback messages can be presented along with virtual Noul coins that we operate internally. Employees who accrue these coins for one year can turn them in and convert them into cash through bonus on an annual basis.

In 2022, ad-hoc feedback was exchanged among our team members on a total of 3,436 occasions, which resulted in 9,840 Noul coins given and taken. While regular feedback prioritizes personal and organizational growth, our Peer Feedback and Bonus programs primarily aim to facilitate a culture of trust and mutual cooperation through recognition and encouragement among members.

Our regular and ad-hoc feedback programs are joined by our top management. Under our regular feedback program, any Noul member may choose to provide anonymous feedback to any member of senior management they designate for six items and three open-ended question items required of Noul's management. They may also offer feedback to individual executives on an ad-hoc basis under our Peer Feedback and Bonus programs. Such feedback results serve as critical reference for our top management in reflecting on themselves and improving Noul's methods of business conduct.

Supporting training programs for expertise/capacity building

To deliver best-in-class product performance and build organizational capacity to this end, Noul is keenly interested in capacity-building training for our team and provides support accordingly. Our company-wide training programs are effectiveness-focused and are participatory in nature so that our employees take the initiative in identifying and implementing training opportunities and in developing and operating training programs. In terms of external training, we have made it a rule since early on that there be a minimum set of such nominal requirements as an applicant's career/position or training period/expenditure in determining the provision of training support. We also proactively assist our employees in investing their time and expenses when it is deemed necessary and beneficial to their work competency.

In 2022, we supported external training on 69 occasions in total, including data engineering and production management capacity building training. We also invite experts with a breadth of knowledge from outside the company to host in-house seminars, and empower our team members and departments to independently plan and hold training programs and seminars for their colleagues. In 2022, our QMS department provided in-house training on the importance of quality in the medical devices industry, and our HR department and employee volunteers jointly planned and implemented a training program to bolster our company-wide common competency.

In 2022, we upgraded our employee-led training from a one-off program into a company-wide one, and established an annual internal training system spanning overall research and development – software, hardware, AI, device design, and clinical pathology – as well as strategy and operations – strategic planning, finance, HR organization, and marketing. Our internal training program went live in early 2023 and implemented 14 courses as of the first half of 2023 in the areas of research & development and production process to help our employees better understand our industry and our business areas in general. We aim to provide a total of 24 courses by the end of 2023. In 2023, we plan to make up for vulnerabilities identified while operating our training program and to provide training materials in video data format and build Learning Materials Storage to make our in-house training content more accessible. In terms of leadership capacity-building, we will systematically plan and implement a leadership 1:1 mentoring program and other leadership training programs and strengthen our Leadership Probation program.

OKR-based company-wide performance management

Since 2021, we have implemented OKR (Objectives and Key Results) introduced as our company-wide performance management system to closely align our organization from department-level work all the way to our corporate mission and to encourage our team to take the initiative with clear individual purposes and priorities. Our OKR operation is driven by a hybrid format pairing both top-down and bottom-up approaches: company-level OKR are defined at leadership meetings, and each department sets their own OKR in alignment with company-wide goals and takes action accordingly. We also encourage employees to set joint OKR at the department level rather than at the individual level to minimize competition among individuals and departments while effectively aligning all departmental goals towards our corporate mission to further drive communication and collaboration.

Building on the results of the pilot run for OKR in the second half of 2021, we focused on the optimization of OKR in reflection of our distinctive conditions and organizational characteristics to upgrade our OKR performance management program in 2022. The company-wide OKR setting – OKR implementation – OKR assessment and reflection program was operated on two occasions in the first and second half of 2022 respectively, which served to strengthen our OKR capabilities incrementally across the board and internalized the CFF (Conversation, Feedback, Recognition) approach at the department level. We are still in the process of integrating OKR into our company-wide performance and organizational management system, and there are areas of improvement in multiple aspects, including alignment between corporate OKR and departmental OKR, objectivity of OKR result measurement, and effective setting of OKR that require cross-functional collaboration. In 2023, we aim to focus on improving OKR and CRF to improve their operational effectiveness to build a performance-driven culture promoting the mutual growth of Noul and our team.

Our 2023 Plans

- Implement and improve our internal training program to bolster company-wide common competency
- Provide training materials in video data format and build Learning Materials Storage
- Implement a leadership 1:1 mentoring program

Employment and Work Environment

Job creation and job quality monitoring

As of the end of 2022, Noul’s total headcount was 119 persons, up nearly by 14% from the previous year. We welcomed a number of business professionals for planning and commercializing our new products as well as R&D experts for accelerating our efforts to develop new innovative technology and products. Meanwhile our total turnover amounted to 26% in 2022. This includes the turnover of short-term part-time employees and interns whose contracts were terminated. In fact, the turnover declines to 9% when only voluntary turnover is counted. As it was the case in the previous year, we provided short-term part time work and internships in 2022 to meet our needs for temporary experimentation and production and this resulted in a relatively high turnover attributable to contract ending. As our product development and mass-production stabilizes, we will reduce our reliance on short-term employment to create a stable employment environment in line with our mid/long-term plan.

Onboarding program for new hires

At Noul, we expect all our team members to become autonomous and self-directed in conducting business in line with our clear mission, value, and philosophy. This not only lies at the core of our work approach but also drives our onboarding process for new hires. Our onboarding program consists of different induction courses led by our People team, top management and respective departments. People team’s induction begins with introducing Noul and covers our basic policies and processes that new hires need to know to perform their work and function as a member of the team Noul. Induction by top management has been on-going since our early days and members of our senior management directly conduct training in their own fields to assist new hires in acquiring an in-depth understanding of our business and philosophy as well as the intent and significance of our key policies. Leaders of each department also

<Noul’s Onboarding Program>

Induction Program	Hosting and Implementation	Induction Program	Hosting and Implementation
Noul’s business model and roadmap	CEO	About Noul Noul’s HR and welfare systems	People manager GA manager
Noul’s mission, values, and principles	CSO	Guides on the Noul organization and corporate life essentials IT policy and system guides	IT manager
Noul’s legal affairs and security policies	CLO	Departmental OKR, R&R and work assignment	Leader of the associated department

elaborate on the roles and responsibilities of new recruits and Noul’s expectations in terms of departmental objectives and work approaches. Our overall onboarding process focuses on helping new members clearly understand our value system and motivating them to develop a high level of responsibility and ownership during the onboarding period. In the second half of 2022, we independently reviewed the effectiveness of our onboarding program to identify necessary improvements from the perspective of the member experience, and will make these improvements within the first half of 2023.

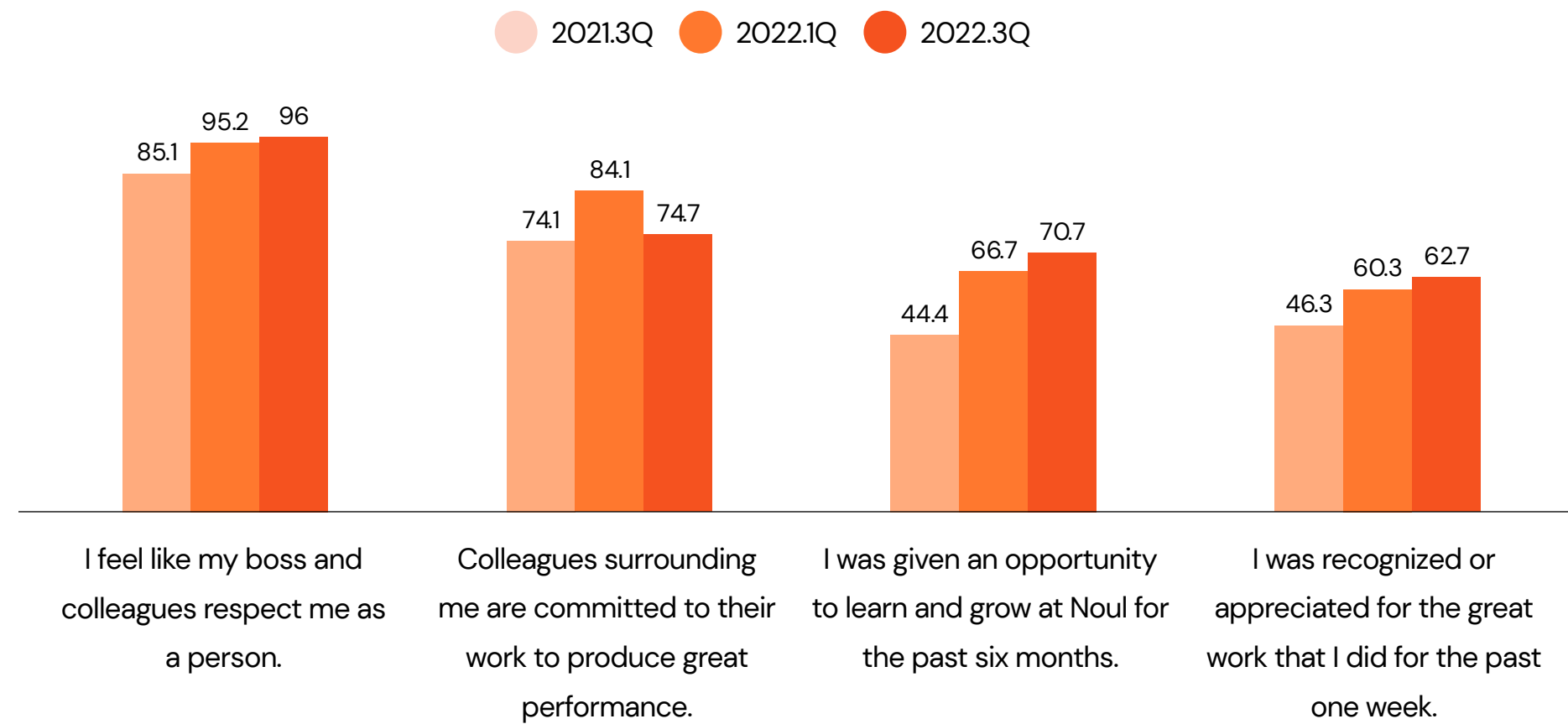
Environmental improvement for work engagement and support for employee growth

In Q1 and Q3 each year, we conduct Engagement Surveys to understand our employees’ feedback on their work engagement, contentment, and our overall organizational operation. The survey performed in Q3 2022 revealed that our members prioritized ‘my colleagues’, ‘meaning and value of my work’, and ‘level and quality of my work’ in their work life by the order of importance. Our employees also showed relatively high satisfaction with their professional life at Noul, as demonstrated in such categories as ‘culture that respects the dignity of members’ and ‘work engagement of my colleagues’. Meanwhile, corporate support for career growth and recognition and encouragement of work performance were pinpointed for improvements. Other such areas requiring improvement efforts concerned expected communication and collaboration when different departments and experts from software, hardware, bio, and AI functions work together.

Key Results of the Engagement Survey 2022

I’m satisfied with..	It’s regrettable that..
<ul style="list-style-type: none"> · The culture that respects employees · The interest in and open dialogue for growth and development · The autonomous culture driven by responsibility 	<ul style="list-style-type: none"> · Recognition and compliments on performed work is lacking. · Support for systemic career growth is insufficient. · There are communication and collaboration inefficiencies between departments.

Time-series Change in Engagement Survey Results (Q3 2021~Q3 2022)



Each Engagement Survey is followed by a summary of the results, which is shared at Creative Meetings that serve as our company-wide town hall meeting, and the implementation of improvement plans developed by collecting additional feedback on each issue. To encourage recognition and praise for excellent performance, we have bolstered CFR (Communication/Feedback/Recognition) and facilitated real-time feedback since 2021 along with OKR implementation, which resulted in gradual increases in positive responses on recognition and praise between Q3 2021 and Q3 2022. To ensure that our organizational growth leads to individual career growth, we are also planning and implementing employee career development programs in line with our business scale and growth cycle to provide our team with broader growth support.

Creating a work environment for work-life harmony

We pursue ‘work-life harmony’ over ‘work-life balance’: while the latter separates work and life to strike a balance between the two, the former is more flexible in reflecting the different needs along an employee’s lifecycle, career growth pathways, work styles, and living conditions under the framework of the Labor Standards Act. As such, we provide work arrangements that offer our employees flexibility and autonomy in terms of working hours & locations, along with the use of holidays. This helps employees to fully engage in their work, produce exceptional performance and contribute to Noul’s growth all while allocating sufficient time to care for their children and family, engage in self-development and enjoy their hobbies. In the event our employees are pressed to take care of their children at home, we allow them to bring their kids to work. In fact, we have arranged a room for nursing mothers equipped with lactation and diaper exchange devices and a child-friendly space where kids can enjoy various activities. The sum of such institutional and cultural efforts earned us the family-friendly business designation by the Ministry of Gender Equality and Family in December 2022. Going forward, we will continue to create a working environment that promotes work-life harmony for our team members by providing autonomous working conditions and encouraging the use of maternal and parental leave.

- Family-friendly business designation in December 2022 (valid for 3 years)
- Return to work after maternal/parental leave: 100%
- Use of reduced working hours during pregnancy: 4 cases
- Use of reduced working hours during parenting period: 1 case

Our 2023 Plans

- Implement 1:1 mentoring to support employees’ career growth and bolster our onboarding program
- Monitor working hours and make necessary improvements for the work-life harmony of our members
- Pursue improvements to create a more pleasant and rewarding work environment



Protecting the Planet

Under the assertion that no business on earth is free from causing at least some environmental pollution and climate change, Noul has been taking eco-friendly actions, both in large and small ways, from day one to embed the depth of our commitment to environmental responsibility into our corporate DNA. Currently, our environmental management remains focused on regulatory compliance in our primary business operations of product development and manufacturing as our environmental impact is not sizable given our organizational scale and no explicit demand has been raised from external stakeholders. Following years of product development, we now plan to initiate full-scale manufacturing and sales and our environmental impact is set to increase over the mid-to-long term as a result. Taking into account our growth plan, Noul aims to establish our system and process step by step to advance environmental management from the mid/long-term perspective.

Green Transition of Our Work Environment

- Independently measure GHG emissions and reduce power consumption of our manufacturing facility by 19%
- Opt for the use of personal tumblers to avoid 16,576 disposable cups
- ‘Use.Focus.Again’, our employee-led green initiative

Green Transition of Our Products and Processes

- Pursue a paperless quality management system as an eco-friendly work process
 - Improve our manufacturing process to reduce waste generation
-

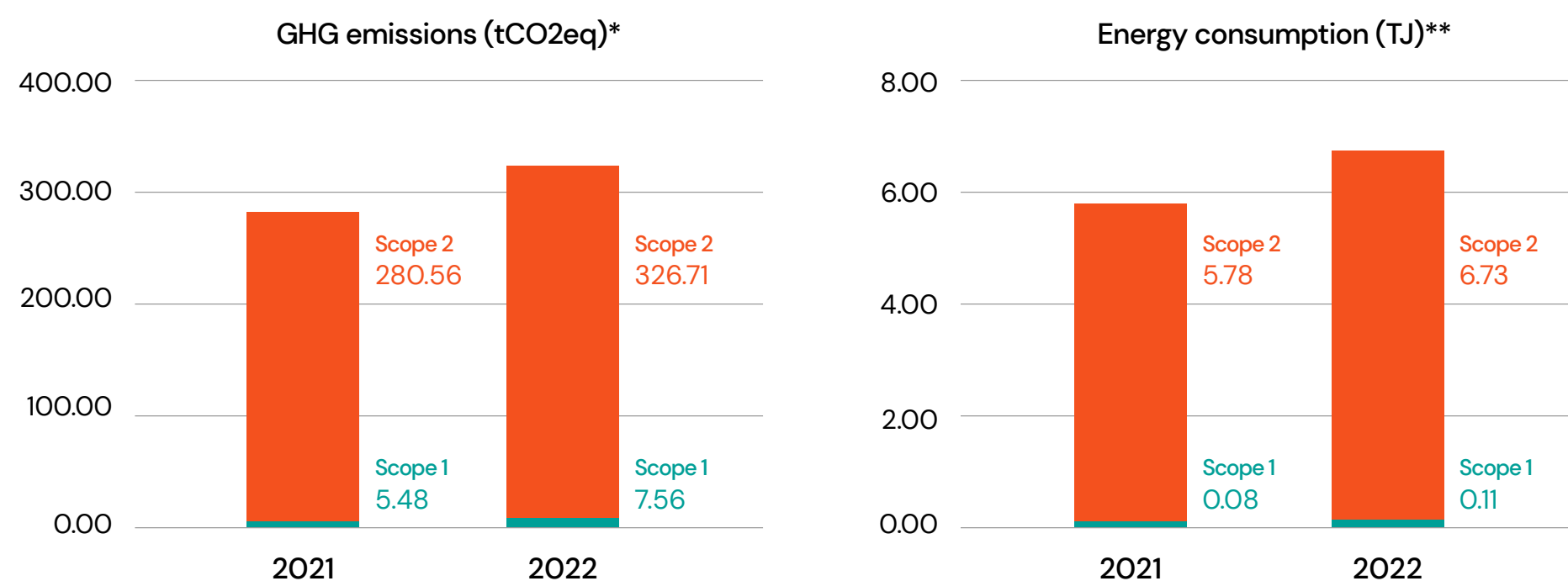
Green Transition of Our Work Environment

Independently measuring GHG emissions and reducing the power consumption of our manufacturing facility by 19%

We have independently calculated our GHG emissions in reference to international standard protocols and have been regularly monitoring our GHG emissions since 2021. Our GHG emissions rose by 11% (33.24tCO₂eq) in 2022 year-on-year: direct Scope 1 emissions amounted to 7.56 tCO₂eq and indirect Scope 2 emissions to 326.71 tCO₂eq. Indirect Scope 2 emissions generated from power consumption account for 98% of our total GHG emissions, and the breakdown of these indirect emissions shows that GHG emissions from our office and manufacturing facility operations each represent 53% and 47% of the total. In 2022, our GMP-compliant manufacturing facility was expanded and the growth in our organizational scale resulted in increases in office spaces, which inevitably resulted in increased office power consumption. Also, we added the amount of electricity that we use as a tenant at our office building to Scope 2 emissions calculation to improve our data measurement methodology, which naturally resulted in a rise in our GHG emissions.

Noul's GHG Emissions in 2022

Noul	GHG Emissions (tCO ₂ eq)*	Energy Consumption (TJ) GHG Emissions
Scope 1	7.56	0.11
Scope 2	326.71	6.73
Total	334.27	6.84



*Carbon Dioxide equivalent (CO₂eq.): GHG emissions are converted into the representative GHG of carbon dioxide, and are calculated by multiplying the emissions by the associated GWP (Global Warming Potential).

**Tera Joule: A unit of energy in the International System of Units

Noul's GHG Emissions Measurement Data

• Scope of Organization

- Offices (research facilities), manufacturing facilities, and vehicles in their entirety owned by Noul Co., Ltd.
- Address: 6/9/10F, 338, Gwanggyojungang-ro, Yongin-si, Gyeonggi-do, Korea

• Emission Source

Scope	Calculate emissions by identified emission source
Scope 1	(mobile combustion) Corporate vehicles owned by Noul in 2022 Documentary evidence for emissions: fuel efficiency
Scope 2	(indirect emissions) Electricity bills and consumption (kWh) Documentary evidence for emissions: power bills

• Calculation Method

- Guidelines on GHG/Energy Target Management Operation and Others (Ministry of Environment, 2016)
- Voluntary GHG Inventory Development Guidelines and Calculation Tools for SMEs (Ministry of Environment, 2016)
- Used the base emissions factor specified in the IPCC National Inventory Guideline 2006

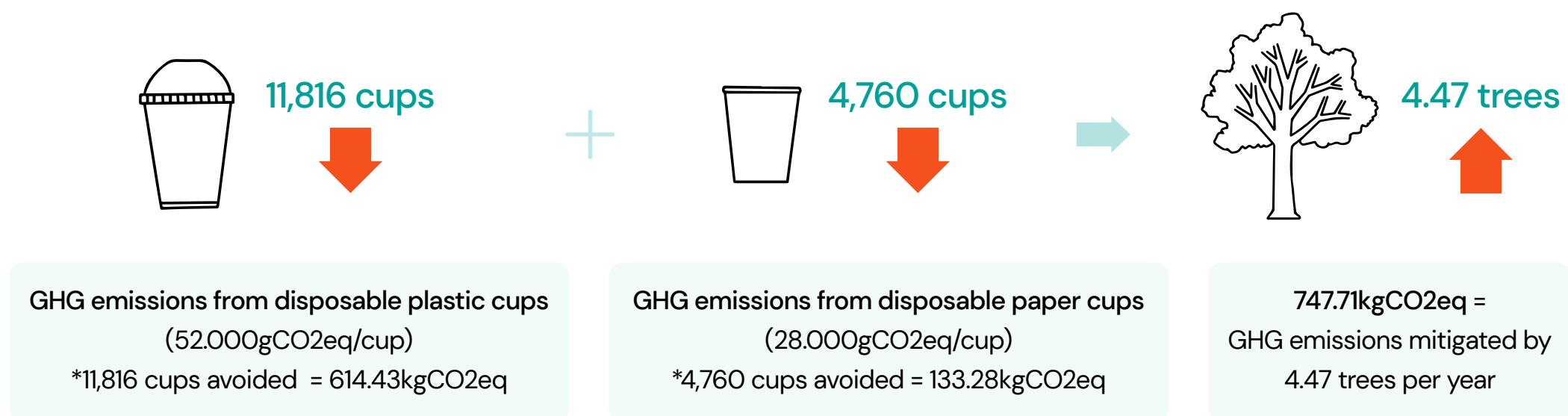
It is worth noting that the power consumption of our manufacturing facility in the Scope 2 category showed a y-o-y 19% reduction due to the improved process efficiency of our manufacturing facility and our proactive power conservation activities. With the production department taking the lead, power conservation plans were developed and relevant departments engaged in monthly power saving activities in line with these plans in 2022. Key improvements include the deployment of power automation software for production machinery to automatically shut down the machine room when machines are left idle and the installation of inverters for air-conditioning equipment and adsorption towers to increase air conditioning capacity by 30% and effectively reduce our power consumption in the process.

To mitigate our office GHG emissions, we first pursue energy-saving measures available in our day-to-day operations. In 2022, our information security department implemented an automatic screen brightness control system for our meeting rooms, wherein if the display screen is left inactive for too long, the screen automatically dims. Also, our employees initiated an office lights-out campaign during lunchtime which has been extended to all levels. Such small and consistent efforts add up to tangible results in energy savings.

In spite of such self-directed efforts, our power consumption is on the rise in line with our rapid growth of organizational scale while our organizational capacity is not fully established yet to implement systemic activities for climate change adaptation. As such, we integrated phased improvement plans for GHG emissions management and environmental management in our mid/long-term sustainability improvement roadmap defined in 2023. By taking into account the environmental impact generated from our business operations, we will develop GHG emissions reduction plans and systematically pursue the green transition of our work environment.

Opting for reusable tumblers to avoid 16,576 disposable cups

We strive to set cultural settings for all employees to use less disposables in our day-to-day work routines. Upon joining Noul, our new hires are provided with a welcome package containing a tumbler, eating utensils, and an eco-friendly bamboo toothbrush. All employees dining at Noul, With You, our in-house cafeteria operating since June 2022, are mandated to use their tumblers to reduce the waste of disposable cups, creating the right condition for our team to effortlessly mitigate carbon emissions in the workplace. Most of our team members fully implement our corporate policy to this end, and the use of tumblers has become an integral part of our corporate routine across the board. Such company-wide endeavors allowed us to avoid 4,760 disposable paper cups and 11,816 disposable plastic cups in 2022, reducing nearly 747.71kgCO₂eq* of carbon emissions that could have been caused by the use of disposable cups.



Data aggregation period: Jun. 1, 2022 – Dec. 31, 2022

Reference: Disposal cup GHG emissions reduction intensity (Korea Environment Corporation, Mar. 2021)

‘Use.Focus. Again’, our employee-led green initiative

Facilitating Sustainability 101 as our company-wide mandatory sustainability training and SIG (Special Interest Group) as our shared interest employee group activity, we motivate our employees to pursue necessary improvements, both large and small, to bring about meaningful change in the workplace. ‘Use.Focus.Again’ was launched as an SIG implementing green initiatives to promote resource circularity in 2021: members of a project team grouped together for Sustainability 101 training continued with their activity even after the completion of the training based on their shared interest in the environment and resource circularity to eventually establish an official SIG in 2022. ‘Use.Focus.Again’ engages in a broad array of resource circularity activities within Noul, including but not limited to implementing Trash Attack to inform our team members of our waste sorting and recycling status, introducing the proper way to sort and recycle waste, and operating Noul Salon as an in-house offline flea market.



Q. How did ‘Use.Focus.Again’ first begin at Noul?

A. The name Waste Neutralization was first inspired by the notion of carbon neutrality that we learned about in Sustainability 101 training. At that time, we were mainly interested in how we could reduce waste. Over time, our interests broadened from waste reduction to a more efficient use of resources. Thus, we updated our name to reflect our activities: ‘Use.Focus.Again’, which means we should focus on how we use resources, and the ‘again’ in the name recognizes our second iteration of such evolving efforts as a special interest group.

Q. What have you been doing thus far?

A. First, our Trash Attack campaign was created to help our employees understand how much waste Noul generates. Each month, two employees are selected to work together with ‘Use.Focus.Again’ members to monitor office wastebins to ensure that waste is properly sorted and discharged. The monthly waste discharge data are analyzed, and discharge status and meaningful data are organized and presented at bi-monthly company-wide meetings. Besides, the types of waste that are not properly sorted are identified, and our team informs employees how to better sort waste on our in-house messenger twice a week.



Use.Focus.Again

Gosh, would this be considered food waste as well?

Life hacks for sorting and recycling common food waste at Noul
 -(Beverages offered at Noul, With You) Lemons and grapefruits are food waste
 -(Snack) Banana – Peels are food waste but the tip is considered general waste



Use.Focus.Again

How to properly recycle paper boxes?

Pause for a moment to ensure your personal data is safe!
 Make sure you remove the invoice and taping before discarding paper boxes!

At the end of 2022, we hosted the Noul Salon to facilitate the trading of used goods among employees. Nearly 80% of the sales proceeds generated through the Noul Salon were voluntarily donated to install microbial food waste treatment devices in the workplace. We are impressed at how a small group of employees create an environmental trend by simply trying something new, and we are doubly impressed at how their environmental improvement initiative was self-directed and implemented without any outside help from the Company.

Q. Do you have any know-how to continue with ‘Use.Focus.Again’ activities?

A. Our SIG is joined by seven members from diverse functions such as strategic planning, development, manufacturing, and communications. When we gather as members, we converse about so many issues that our meeting often runs over time. We all share a common interest, are on the same page with issues, and understand each other’s concerns.
 Sometimes, we worry about how our colleagues may perceive our activities. For instance, when we need to regularly inform them on how to sort their waste through our in-house messenger, it may seem as if we are nagging them unnecessarily. When this happens, we encourage each other as a group and remind ourselves of our overarching goal, and this rather motivates us to unleash our ‘Let’s Do It’ spirit. In fact, none of our coworkers displayed any resistance to our activities so far. This just goes to show that there are so many of us who actually care a great deal about preserving the environment.

Q. What are your future plans?

A. We will continue with our Trash Attack campaign and our communications regarding proper waste sorting and recycling methods through our in-house messenger. In particular, we have a goal for All Noulans to join our Trash Attack at least once.
 We will also continue with our Noul Salon, an in-house offline flea market, along with activities to introduce eco-friendly office supplies and encourage their use and educate people on how they can reduce waste while increasing recycling. We would like to delve into the unintended side effects created by consumption and make a meaningful difference for the environment.

Our 2023 Plans

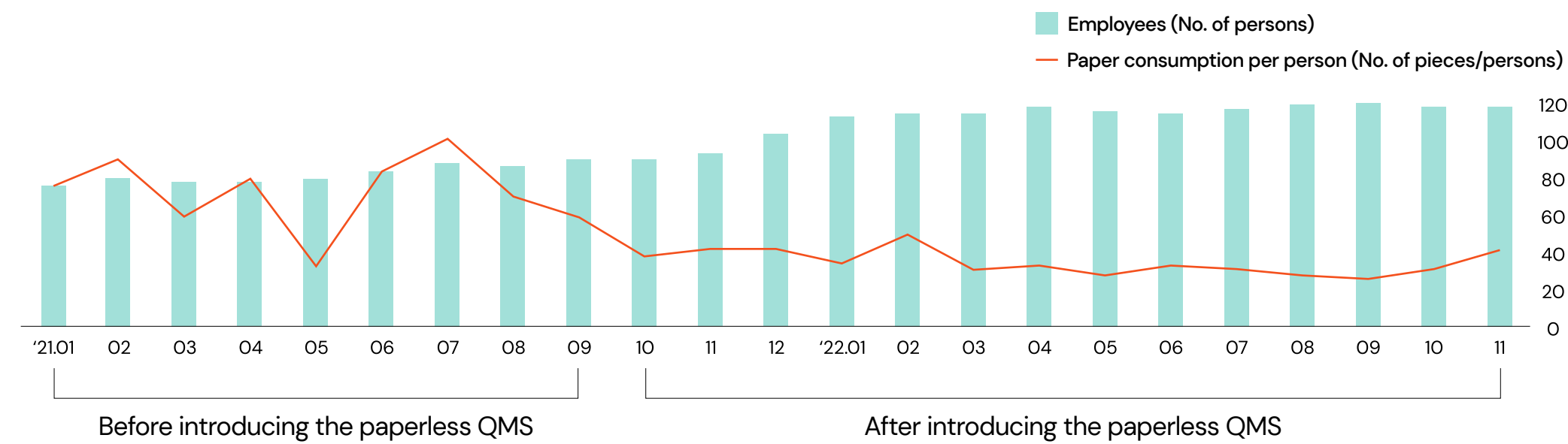
- Improve our GHG emissions measurement methodology
- Systematize our pollutant discharge data management
- Pursue improvements to reduce power consumption and waste generation in the workplace

Green Transition of Our Products and Processes

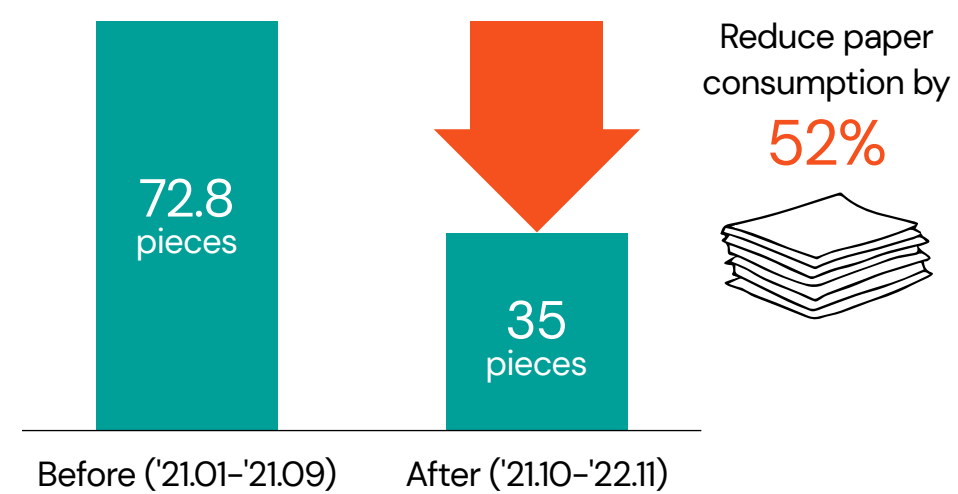
Pursuing a paperless quality management system as an eco-friendly work process

We are advancing a Paperless Quality Management System (Paperless QMS) to establish eco-friendly work processes. Conventional QMSs consume a sizable amount of paper across their overall operations, in printing out documents, having them manually signed, and distributing their copies to other departments. Our QMS department led the way in transitioning to a greener work process all while abiding by applicable laws and regulations. The department helped us finalize relevant processes and operational methods, verify the effectiveness of this new system, and finally embrace a paperless QMS in October 2021. Presently, our paperless QMS is operated in a way that replaces quality documents and records with their electronic forms, uses e-signature, and avoids generating hard copies. Following the introduction of the paperless QMS, our average per-person paper consumption declined by 52% and our overall paper consumption fell significantly. To make our operations more convenient and our work processes greener, we plan to develop paperless QMS work manuals, extend the scope of paperless applications, and continue with awareness building training.

Average paper consumption of employees



Average paper used per employee before and after introducing the paperless QMS



Improving our manufacturing process to reduce waste

To reduce waste generated from our cartridge production, we have developed and applied a new cartridge component since October 2022. This helped us achieve a 68% reduction in hazardous waste produced in the cartridge disposal process. Noul's cartridge top plate consists of solid reagents, a cap patch to fixate reagents by type, and a cartridge top to secure the cap patch. Previously, the entire cartridge upper plate had to be discarded as hazardous waste due to chemical solid reagents. To resolve this issue, our manufacturing department developed a component to separate the cap patch containing solid reagents from the cartridge upper plate. The application of this separator device enabled us to dispose only of the parts contaminated by reagent solutions and to recycle the remaining cartridge components. This cut the amount of waste generated per cartridge by more than half from 18.6g to 6g, to eventually reduce hazardous waste generated from the cartridge disposal process by 68% than before.



Our 2023 Plans

- Shift to e-documentation for batch manufacturing records on all our products to reduce paper consumption
- Increase the proportion of recycled materials for products and packaging

Appendix

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Sustainable Development Goals (SDGs)

As a corporate citizen, Noul joins in the effort to achieve the UN Sustainable Development Goals (SDGs) by conducting business responsibly and developing diagnostic testing solutions that improve access to healthcare. Our overall business activities as well as our business operations directly/indirectly align with each of the SDGs, and this is summarized in the table below. SDGs provide pivotal milestones for us to reach in advancing sustainability management and we will monitor the socioenvironmental impact of our business operations on an on-going basis. Monitoring results, in turn, will inform our efforts to continually expand our positive impact while mitigating any negative impact on stakeholders.

Level of Impact	DIRECT POSITIVE	INDIRECT POSITIVE	NO IMPACT	POTENTIAL NEGATIVE	DIRECT NEGATIVE
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*Indicating the level of impact on the SDGs was informed by the Sustainable Development Goals section of Nudie Jeans' sustainability report 2021.

UN SDGs	관련 활동
1.5 Reduce social vulnerability to natural/man-made disasters	<ul style="list-style-type: none"> + Leverage miLab™ to help the resilience of the poor and those in vulnerable situations to respond to disasters caused by infectious diseases + Leverage miLab™ to increase resilience to disasters and infectious diseases caused by disasters
-	-
3.2 Reduce deaths of children under 5 years of age 3.3 End communicable diseases 3.4 Prevent non-communicable diseases 3.8 Achieve universal health coverage	<ul style="list-style-type: none"> + miLab™ MAL enables quick and accurate malaria diagnostic testing to help eradicate malaria + miLab™ CER provides improved access to automated testing to help in the early detection of cervical cancer + miLab™ BCM provides improved access to general blood tests

4.4 Provide vocational skill building training 4.7 Education for sustainable development	<ul style="list-style-type: none"> + Provide employees with capacity building programs + Provide leadership capacity building programs + Provide all employees with mandatory sustainability training programs
5.1 Ban discrimination against women 5.5 Ensure women's participation and opportunities for leadership	<ul style="list-style-type: none"> + Stipulate policies to promote gender equality and women's rights + Endeavor to establish systems and a culture at all levels to promote gender equality + Employee training to embed respect for human rights + Establish a non-discrimination policy to ensure gender is not factored in recruitment and promotion
6.3 Minimize water pollutants 6.4 Improve the efficiency of water use	<ul style="list-style-type: none"> + Develop eco-friendly NGS (Next Generation Sequencing and Immunostaining) technology to reduce the consumption of staining reagents required for diagnostic testing by 1/100 compared to liquid staining as well as the generation of wastewater to zero in the staining process - Need for systemic management of water pollutant discharge and water consumption
7.3 Improve energy efficiency	<ul style="list-style-type: none"> + Endeavor to improve the efficiency of energy use at manufacturing facility - Need to reduce energy consumption and transition to renewable energy
8.5 Create high-quality jobs for people with disabilities and youth 8.7 Ban child labor 8.8 Protect workers' rights	<ul style="list-style-type: none"> + Abide by the affirmative action to employ people with disabilities + Certified as a Great Employer by Gyeonggi-do + Stipulate human rights promotion policy + Endeavor to establish systems and culture at all levels to uphold human rights + Operate a dedicated channel to submit grievances and public interest disclosures - Need to manage supply chain sustainability due to potential adverse impact concerning child labor and workers' rights protection due to the lack of supply chain sustainability management

	<p>9.5 Bolster science and technology research</p>	<p>+ Invest in R&D on next-generation technology</p>
	<p>10.2 Promote inclusion of all 10.3 Ensure equal opportunity and reduce inequalities 10.4 Adopt wage policies for equality</p>	<p>+ Establish a non-discrimination policy to ensure gender is not factored in recruitment and promotion + Pursue non-discrimination and non-exclusion in our HR policy and process + Match intern pay with the living wage threshold of Gyeonggi-do, provide equal welfare and benefits to both interns and full-time employees</p>
	<p>-</p>	<p>⊕</p>
	<p>12.1 Sustainable consumption and production programs 12.4 Chemicals and hazardous waste management 12.5 Waste reduction 12.6 Integrate sustainability action plans into the reporting cycle</p>	<p>+ Gradually transition to recyclable materials for products and packaging - Manage chemicals and hazardous waste + Opt for tumblers in the workplace and provide waste sorting and recycling guides + Develop waste reduction technology + Regularly report sustainability implementation plans and improvement results internally and externally - Need to increase the use of recyclable materials for products and packaging - Need to calculate and reduce waste discharge for waste discharge management - Need to manage supply chain sustainability for potential adverse impact in the environmental sector due to the lack of supply chain sustainability management</p>

	<p>13.2 Integrate climate change measures into policies and strategies 13.3 Improve education and awareness-raising on climate change adaptation</p>	<p>+ Measure GHG emissions (Scope 1 & 2) - Reduce power consumption in the workplace to mitigate CO2 emissions + Develop and implement mid/long-term sustainability improvement plans for climate change adaptation + Provide employees with climate change adaptation training - Need to establish programs to reduce GHG emissions - Need to define and calculate Scope 3 emissions</p>
	<p>-</p>	<p>⊕</p>
	<p>15.2 Promote sustainable management of forests</p>	<p>+ Introduce FSC-certified paper for miLab™ packaging step by step - Need to reduce paper consumption across the entire work process while paper consumption is falling through the introduction of the paperless QMS</p>
	<p>16.5 Reduce corruption and bribery</p>	<p>+ Provide compliance and ethics training - Operate a compliance-related whistleblowing channel to report corruptive practices and others - Need to bolster the compliance system continuously due to the potential occurrence of corruption</p>
	<p>17.16 Enhance global partnerships 17.17 Encourage public, public-private, and civil society partnerships</p>	<p>+ Established public partnerships in Cameroon, Ghana and across Africa + Cooperate with public/private international healthcare partners for research & development and market entry</p>

Noul Sustainability Fact Sheet

Summary of consolidated financial results

(Unit : USD 1K)

Item	Term 8	Term 7	Term 6
GAAP	K-IFRS	K-IFRS	K-IFRS
	31-Dec-22	31-Dec-21	31-Dec-20
[Current assets]	11,105	10,853	9,010
· Trade receivable	315	306	108
· Inventories	2,104	1,585	670
· Other current assets	8,687	8,962	8,232
[Non-current assets]	9,294	5,985	5,294
· Investments	0	0	0
· Property, plant and equipment	8,655	5,539	4,949
· Intangible assets	202	159	176
· Other non-current assets	437	287	169
Total assets	20,399	16,838	14,304
[Current liabilities]	5,099	11,256	2,241
· Trade payables	17	102	0
· Short-term borrowings	3,428	1,012	1,103
· Other current payables	1,655	10,142	1,138
[Non-current liabilities]	6,308	4,016	23,682
· Long-term borrowings	0	0	0
· Other non-current payables	6,308	4,016	23,682
Total liabilities	11,407	15,271	25,924
[Issued capital]	4,519	3,745	3,070
[Capital surplus]	40,216	24,632	3,525
[Elements of other stockholder's equity]	554	373	59
[Other Comprehensive income/loss accumulated amount]	4	2	2
[Retained earnings]	(36,301)	(27,185)	(18,276)
Total equity	8,992	1,566	(11,620)
	Jan ~ Dec, 2022	Jan ~ Dec, 2021	Jan ~ Dec, 2020
Revenue	419	1,289	250
Operating income(loss)	(12,100)	(9,995)	(6,157)
Consolidated profit (loss)	(10,589)	(10,759)	(7,604)
Basic earnings (loss) per share (Unit : USD)	(1)	(1)	(1.1)
Diluted earnings (loss) per share (Unit : USD)	(1)	(1)	(1.1)
* Current exchange rate was applied to balance sheet components, and average exchange rate was applied to income statement components.			
Current Exchange Rate(won/USD)	1,267.30	1,185.50	1,088.00
Average Exchange Rate(won/USD)	1,291.95	1,144.42	1,180.05

Environmental Performance

Category	Subcategory	2022	Unit
GHG	Total GHG emissions	334.27	tCO2e
	Direct (Scope 1)	7.56	
	Indirect (Scope 2)	326.71	
Energy	Energy consumption	6.84	TJ
Water	Water consumption	531	Ton
Waste	Chemical waste discharge	2922.6	Kg
	Pathological waste	998	Kg
	General medical waste	1913.5	Kg
Environmental Training	Training on sustainability	12	Persons
		144	Hours

Compliance and Ethics

Category	Subcategory	2022	Unit
Environmental non-compliance	Penalties and non-monetary sanctions imposed for environmental non-compliance	0	Cases
Governance non-compliance	Penalties and non-monetary sanctions imposed for governance non-compliance	0	Cases
Social non-compliance	Penalties and non-monetary sanctions imposed for social non-compliance	0	Cases
Compliance and ethical non-compliance	Violation of compliance and ethics including corruptive practices at work, power harassment, sexual harassment, and bullying	0	Cases
Corruption	Total incidences of corruption	0	Cases
Grievance reporting	Incidence of grievances including workplace/sexual harassment	1	Cases

Social Performance

	Category	2020		2021		2022		
		Number of Persons	Percentage	Number of Persons	Percentage	Number of Persons	Percentage	
Employment	Total employees (y-o-y increase)	70 (37%) *74 when registered executives are included		100 (41%) *104 when registered executives are included		116 (15%) *119 when registered executives are included		
	Type of employment	Full-time	56	80%	83	83%	106	89%
		Contract	14	20%	17	17%	10	8%
	Type of work	Manufacturing	9	13%	13	13%	9	8%
		Office	24	34%	40	40%	51	43%
		R&D	37	53%	47	47%	56	47%
	Gender	Female	29	41%	40	40%	40	34%
		Male	41	59%	60	60%	76	64%
		Other	0	0%	0	0%	0	0%
	Leadership	Female	6	25%	7	35%	7	30%
		Male	18	75%	13	65%	16	70%
		Other	0	0%	0	0%	0	0%
	Age	Youth (under 34)	29	41%	41	41%	40	34%
34~50		37	53%	55	55%	72	60%	
Over 50		4	6%	4	4%	7	6%	
Recruitment and Turnover	Recruitment	Total new hires	26		41		34	
		Ratio of female new hires	12	46%	12	29%	8	24%
			14	54%	29	71%	26	76%
	Turnover	Total turnover (persons/percentage)			30	30%	30	26%
		Full-time			9	9%	10	9%
		Contract			21	21%	19	16%

	Category	Description	2020		2021		2022	
			Persons (completion rate)	Hours	Persons (completion rate)	Hours	Persons (completion rate)	Hours
Training	Occupational health and safety training	1) Safety manager : 8hr 2) Safety personnel : 16hr 3) Safety supervisor : 16hr 4) All employees : 12hr 5) New hires : 8hr 6) Researchers/ workers handling special substances : 16hr	74 persons (100%)	1,038	104 persons (100%)	1,482	118 persons (100%)	2,000
		Anti-sexual harassment (diversity)	70 persons (100%)	105 (1.5 hours/person)	100 persons (100%)	105 (1.5 hours/person)	119 persons (100%)	238 (2 hours/person)
	Improvement in perception on disability	70 persons (100%)	105 (1.5 hours/person)	100 persons (100%)	105 (1.5 hours/person)	118 persons (100%)	118 (1 hour/person)	
	Personal data privacy training	70 persons (100%)	84 hours (1.2 hours/person)	100 persons (100%)	120 hours (1.2 hours/person)	119 persons (100%)	142.8 (1.2 hours/person)	

	Category	2020		2021		2022	
		Persons	Persons	Persons	Persons		
Maternal and paternal rights	Employees who took materiality leave (male/female)	1 (female)	Persons	2 (male) 1 (female)	Persons	2 (male) 3 (female)	Persons
	Employees who took parental leave (male/female)	0	Persons	2 (female)	Persons	1 (male) 2 (female)	Persons
Workplace Safety	Cases of occupational injuries	0	Cases	0	Cases	0	Cases
	Occupational injury rates	0	%	0	%	0	%

- Family-friendly business designation in December 2022 (valid for 3 years)
- Certified as a Great Employer in Gyeonggi Province (valid until Jul. 9, 2023 / first certified in 2019 and re-certified in 2021)
- Certified as a company which pays for interview expenses

About This Report

Purpose

As we drive our growth in line with our management philosophy of sustainability, we publish sustainability reports to periodically review our corporate activities and achievements from the economical, social, and environmental aspects and to disclose the results to stakeholders. Our annual sustainability reports help us identify our sustainability accomplishments and necessary improvements at all levels and transparently communicate them with wide-ranging stakeholders to elevate our corporate value and stakeholder trust over the long haul.

Reporting Principle

Prepared in reference to the GRI (Global Reporting Initiative)
Standards for sustainability reporting

Reporting Boundary

All domestic operations and the subsidiary in Switzerland(consolidated)
Financial data: Prepared in accordance with K-IFRS in a consolidated basis

Reporting Period and Cycle

Jan. 2022 ~ Dec. 2022 (including a portion of the performance data generated in the first half of 2023)
Annual (first report published in 2020)

Report Publication on the Web

Web Link

Publishing Month and Lead Team

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