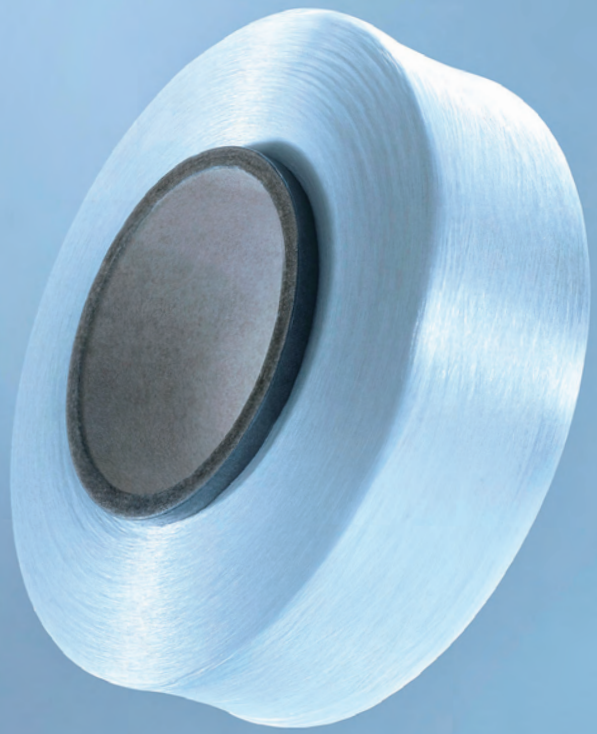
ROICA™

ADVANCED FIT FOR LIVING



ROICA™ Sustainability Report 2025

ROICA Division

AsahiKASEI

MESSAGE from the Senior Executive Manager

Toward a Sustainable Future with Our Customers through ROICA™

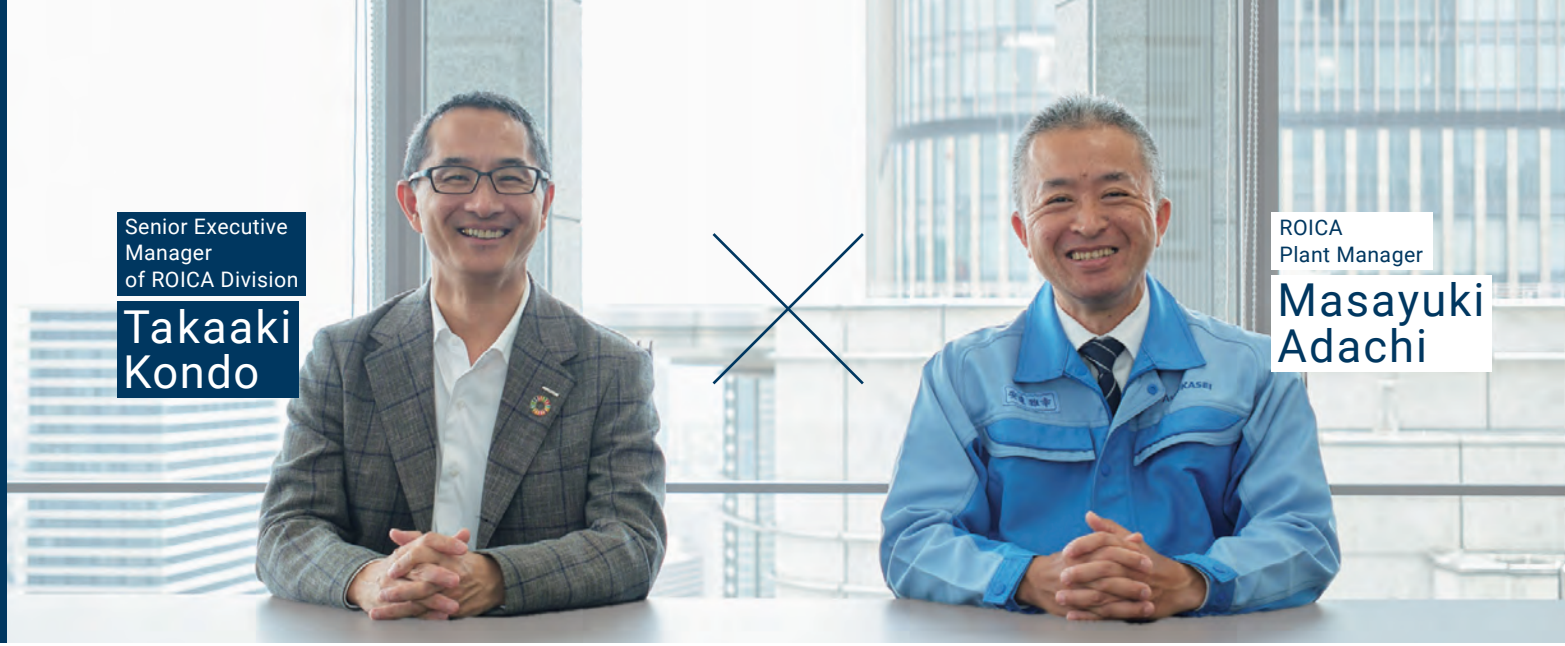
ROICA™ celebrated its 50th anniversary of commercial production in 2021 and published its first sustainability report in 2023. With continued refinement based on valuable feedback, we are pleased to present the 2025 edition. We would like to express our sincere gratitude for your generous support.

In recent years, the frequency of major global events—political, economic, security-related, and environmental—has increased. As we enter 2025, issues such as tariffs, regional conflicts, and wars continue to create uncertainty and make it difficult to predict the future.
To sustain and grow our business in this uncertain world, ROICA™ is committed to enhancing the quality, functionality, and service of our core products. At the same time, we are focusing on developing and creating products and businesses that contribute to the value, continuity, and environmental impact reduction of the entire supply chain. We sincerely ask for your continued support and cooperation.

Senior Executive
Manager of
ROICA Division

Special Interview

Co-creating a Sustainable Future and Taking on Challenges for the Next Generation with Our Customers



What are your aspirations as the new Senior Executive Manager and Plant Manager?

Kondo: It has only been six months since I became the Senior Executive Manager, but I feel a great sense of responsibility, especially as I assumed this position at a time when ROICA™ has passed 50 years since the start of commercial production and is now beginning to take steps toward the next 50 years.

Adachi: I believe this is the first time in our history that both the Senior Executive Manager and the Plant Manager have changed at the same time. In that sense, I also feel that this moment carries a special significance.

Kondo: It is said that 2025 will be a critical year for the textile industry. While there is still room for growth, our ability to respond to changes will be tested. Achieving both differentiation and globalization will be essential for future growth. As ROICA™, I would like to further refine our core competencies while also advancing new developments and initiatives.

Adachi: As a plant, we also want to take on the challenge of firmly fulfilling our role as the core base for the development and production of the ROICA business.

Manufacturing based on the uniqueness and sustainability of ROICA™

Kondo: ROICA™ has performed in the global spandex market not by scale, but through unique functions and value. Functionality is not just an “added value,” but forms the core of “product value,” and nowadays it is even regarded as a “solution to social issues.” In this sense, I believe its importance is very high and increasing. Regarding sustainability, our goal is to develop products that reduce environmental impact throughout the entire supply chain.

Adachi: We have entered an era where “functionality” is directly linked to environmental and social value, and “circular functionality” is now required. In this sense, I believe that ROICA™ is expected to enter a new phase, creating products that can contribute to society and our customers, and that they can truly experience. Once again, I want to engage in manufacturing to earn further trust. Developing entirely new products that have never existed before is also a challenge for us.

What is your approach considering the unique challenges of being a secondary material?

Kondo: Except for special cases, ROICA™ does not become the main material, but I recognize it as a unique material that provides added functions—mainly stretch—even at low blend ratios. In our customers’ production processes, it plays an important role as a stretch material, and I believe it is important to continue sales and marketing activities to promote the value of ROICA™.

Adachi: Because ROICA™ can add secondary performance to stretch, I feel that customer expectations are high. Through the technical services and technical support system that ROICA™ excels at, we can continue to support our customers’ manufacturing.

What is your vision for the future of ROICA™?

Kondo: Stretchability is now indispensable in today’s world, and the needs of global customers are expanding and changing every day. ROICA™ will continue to respond to these needs by leveraging our unique technology, product capabilities, and global network.

Adachi: As a plant, I believe it will become even more important to further enhance our product capabilities and technical strength, as well as to deepen our dialogue with customers. I want to continue striving to make sure that ROICA™ can always meet the needs and earn the trust of our customers.

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*This report is based on data and results up to fiscal year 2024 (April 2024 – March 2025).
*Words and phrases with underlines are explained in detail on the glossary page.

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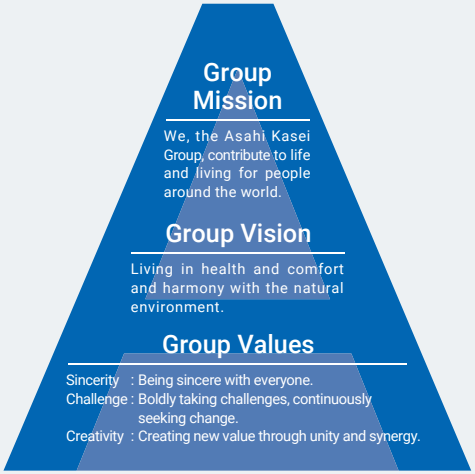
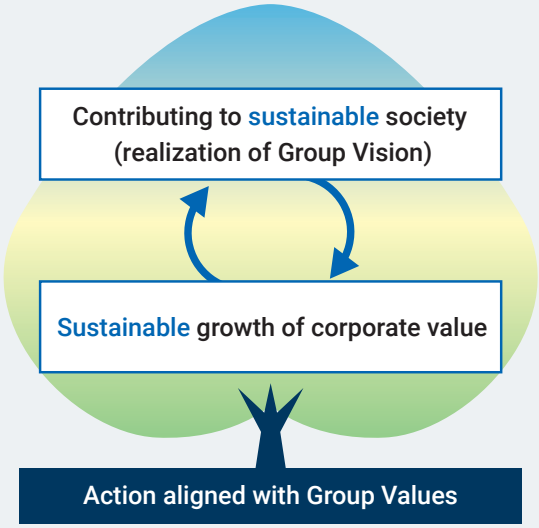
The Asahi Kasei Group conducts corporate activities to provide new value to society through the realization of our Group Vision: “living in health and comfort” and “harmony with the natural environment.” We aim to achieve two mutually reinforcing aspects of sustainability: contributing tosustainable society and sustainable growth of corporate value.

Asahi Kasei Group Philosophy

Creating for Tomorrow



Two aspects of sustainability for Asahi Kasei



Asahi Kasei Sustainability Site ▶ https://www.asahi-kasei.com/sustainability/about_sustainability/

As we look ahead to 2050, we can expect to see a variety of social issues. We believe that we will be able to help resolve these issues while expanding our business opportunities. ROICA™ is advancing initiatives in line with the sustainability goals of our Group, and we recognize that reducing greenhouse gas (GHG) emissions from our own business activities toward carbon neutrality is an essential challenge. ROICA™ has set its own targets for GHG emissions reduction and is actively working toward them.

ROICA™ will continue to collaborate with our customers to offer solutions that align with the today’s market needs and that can contribute to society with our pride.

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ENVIRONMENT

ROICA™ has set a target to reduce GHG emissions from its business activities by more than 60% by 2030 (compared to FY2013), and is working together with both domestic and overseas plants to achieve this goal. By setting concrete annual numerical targets and specific action plans, we are taking a step-by-step and reliable approach toward achieving our objectives.

GHG Emissions Reduction Targets —Compared to FY2013—

Asahi Kasei Group

by 2030 — 30% or more reduction

Challenge to reduce by 4 million tons

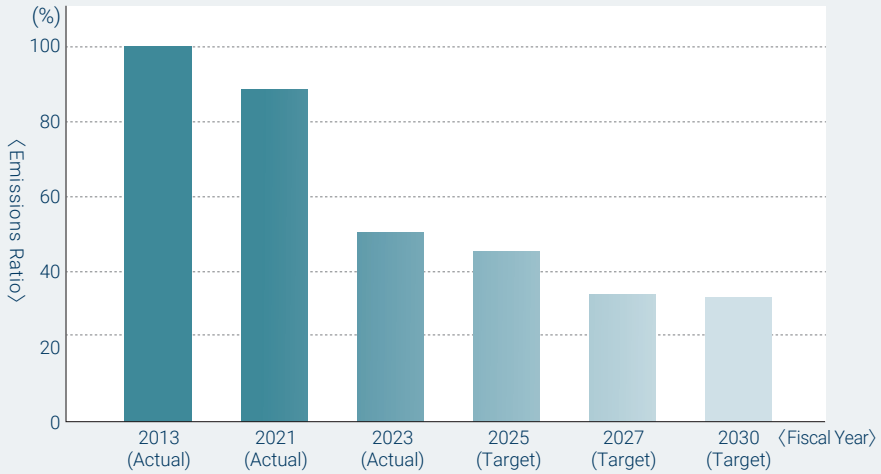
▼

by 2050 — Carbon neutral (aiming for zero emissions)

ROICA Business

by 2030 — 60% or more reduction

Trends and Targets for GHG Emissions Ratio in the ROICA Business —Compared to FY2013—



- Reduction amount: Calculated from GHG emissions at domestic and overseas plants*1
- Actual results for FY2021 and FY2023 are calculated in-house (excluding the non-consolidated Taiwan plant)
- The figures may vary depending on the production volume of the fiscal year

*1: Direct greenhouse gas emissions by businesses themselves(fuel combustion, industrial processes) and indirect emissions from the use of electricity, heat, and steam supplied by other companies.

ROICA™ is driving efforts to achieve its targets with transparency, focusing on the transition to low-impact energy and capital investments for energy reduction.

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Responding to Climate Change

ROICA™ is working to strengthen its response to climate change, aiming to reduce GHG emissions by more than 60% by 2030 compared to FY2013. At the same time, we have started initiatives utilizing biomass raw materials by adopting the mass balance approach. Furthermore, we are focusing not only on the manufacturing process but also on reducing emissions at the raw material procurement stage. Going forward, we will further promote these initiatives to realize a sustainable society.

Reduction of Our Own GHG Emissions*1

Optimization of Equipment Operation

All employees are working together to contribute to GHG reduction. We have been optimizing the operation of large-scale equipment within the process and exploring operations that minimize utility usage. In addition, we are making steady efforts such as turning off unnecessary equipment during temporary production shutdowns.

Improvement of Production Efficiency

We are working to further reduce losses in production. Through small group activities by employees, we identify the causes of losses that occur during production and implement countermeasures. This also contributes to improving production yield. To encourage these improvement activities, we hold internal presentation meetings to raise awareness.

Contribution to Society's GHG Emissions Reduction*2

Clarification of Issues through LCA (Calculated by Cradle-to-Gate)

As ROICA™, we have initiated the calculation of CFP and water resources from the mining of raw materials at the manufacturing stage to the product shipment and are consistently striving to reduce environmental impacts. We started the calculation in Japan in FY2022 and at overseas plants in FY2023.

Building Our Own CFP Automatic Calculation System

We are building an automatic calculation system from factory data to accelerate CFP calculations and enable assessments by yarn type.

*1：Direct greenhouse gas emissions by businesses themselves (fuel combustion, industrial processes) and indirect emissions from the use of electricity, heat, and steam supplied by other companies.
*2：Indirect emissions from raw materials used, logistic of raw materials, and waste disposal.

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ROICA™ prioritize our response to climate change and environmental issues, as well as its preservation activities, in accordance with the Asahi Kasei Group's policies. Our production sites in Japan and overseas obtained ISO 14001 certification for environmental management system. We have implemented a management system at each site, conducting internal audits and receiving audits by the certifying organizations to ensure its effectiveness. Especially in fiber & textile activities, managing waste, wastewater, exhaust emissions, and other pollutants is important. We have established a comprehensive system to appropriately handle these emissions, promote recycling, and regulate the disposal of waste outside of our production sites.

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Waste Reduction

Recycling wastes

Reuse of raw materials

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02

Water Resources Preservation and Management

Reuse of cooling water

Prevention of soil and groundwater contamination

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Air Pollution Prevention

Curbing VOC emissions

Curbing fluorocarbons leakage

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04

Chemical Substance Management

Curbing chemical substances emissions

>>> P.11

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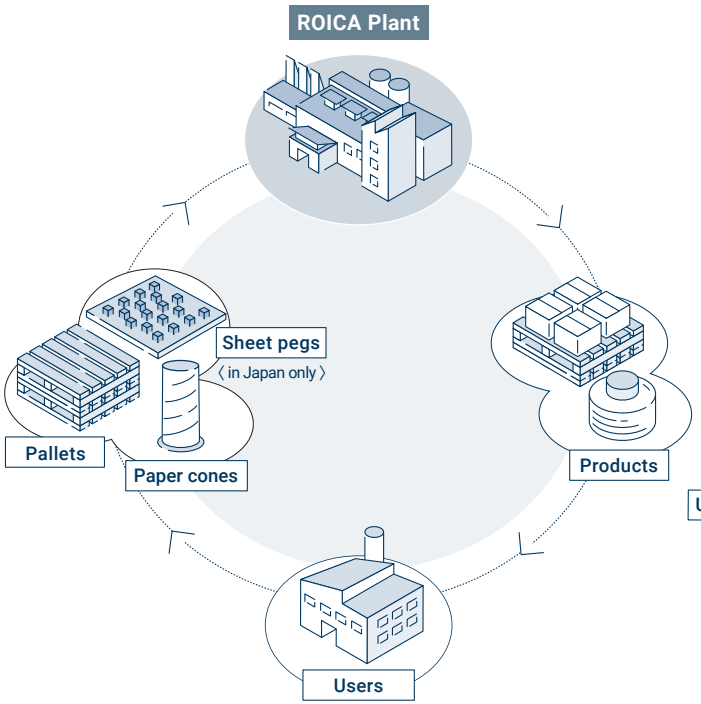
Waste Reduction

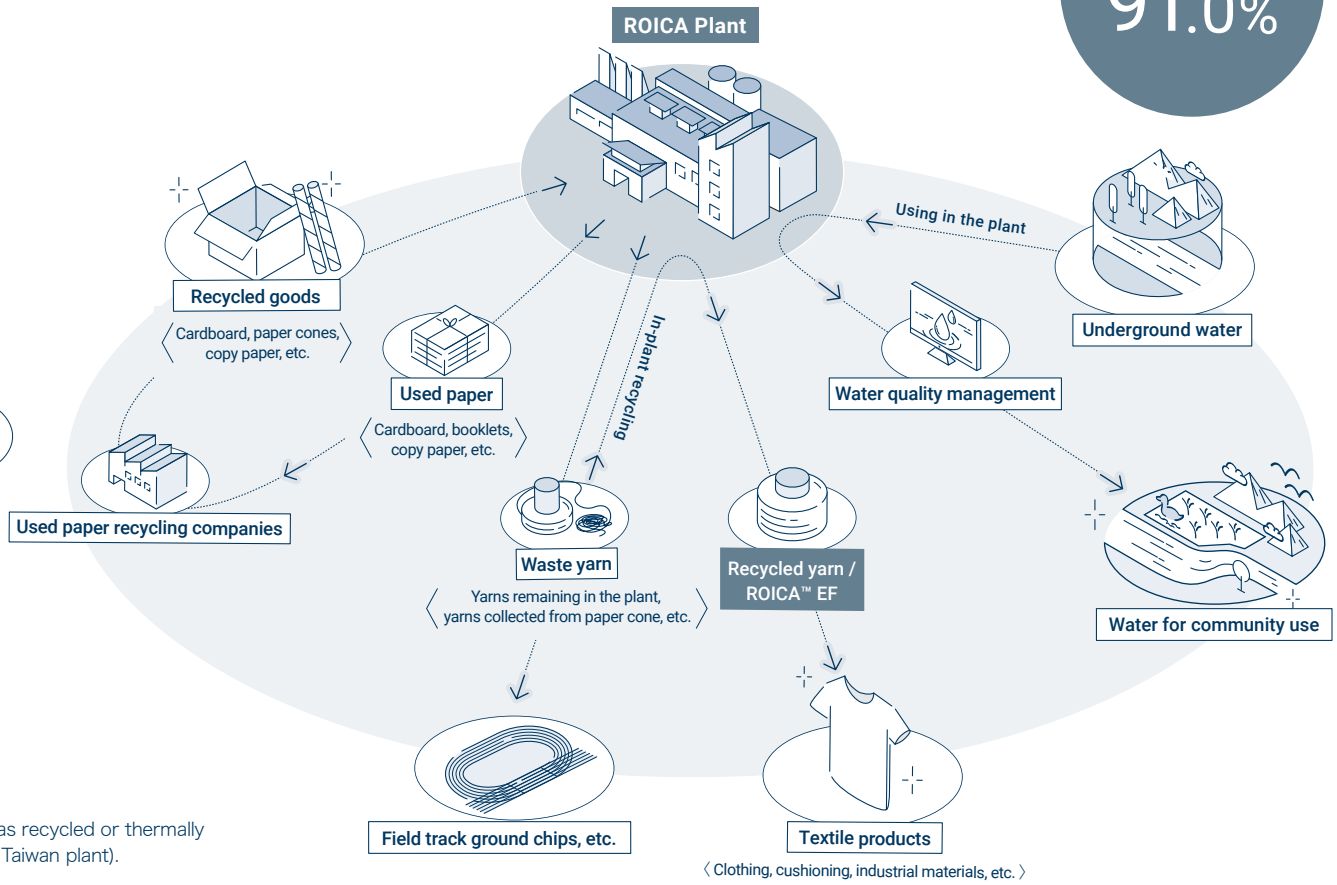
ROICA™ is working to reduce all types of waste generated through its business activities, aiming to reuse all industrial and business waste from its plants as resources. To date, we have actively promoted the reuse of surplus yarn, as well as the recycling and reuse of waste oil and packaging materials. As a result, the overall recycling rate (including thermal recycling) for our business, both in Japan and overseas, reached 91.0%*1 in FY2024.

Reuse



Recycling

〈 Recycling Rate 〉
91.0%



*1 : The percentage of total waste at domestic and overseas plants that was recycled or thermally recycled (according to our own survey, excluding the non-consolidated Taiwan plant).

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Water Resources Preservation and Management

ROICA™ is engaged in the reuse and recycling of water resources at its domestic and overseas plants, promoting the conservation of water environments in accordance with local regulations. Wastewater is monitored and managed 24 hours a day, and a system has been established to respond quickly and appropriately in the event of any trouble. Aiming for sustainable production activities and harmony with nature, we continue to make improvements on site and raise employee awareness.

Factory Waterways Inhabited by Fish (Japan Plant at Moriyama)

At the Moriyama Plant in Japan, cooling water used within the plant is confirmed to be of acceptable quality before being discharged into public water areas via in-plant waterways. Many fish and aquatic plants inhabit these waterways, and we are careful to avoid any impact on the natural environment while striving for water reuse and recycling. We have maintained "zero wastewater trouble" for both discharged and sewage water. To prepare for any potential wastewater issues, we have strengthened our measures by doubling online monitoring equipment and installing new emergency storage tanks in addition to existing wastewater storage facilities, ensuring sufficient time for detection and response.

Wastewater Treatment Facility (Taiwan Plant)

At the Taiwan Plant (FAS*1), we are always working to make effective use of water resources, in addition to complying with government environmental protection laws and policies. Specifically, we have achieved reductions and reuse of valuable water resources through improvements to steam piping and cooling systems. We also introduced high-efficiency water-saving technologies and rainwater collection equipment, and promoted the reuse of cooling water. We are also working to raise awareness of water conservation among employees through educational activities, optimize operations with a smart real-time monitoring system, and enable immediate detection and response to issues in daily operations. Furthermore, wastewater from the plant is treated with advanced purification technology, and organic and inorganic substances are separated for wastewater management. Through these initiatives, we strive for sustainable resource management and environmental conservation, aiming for harmony between corporate activities and nature.

*1:FAS: Formosa Asahi Spandex Co., Ltd.

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Air Pollution Prevention

Exhaust Gas Absorption Equipment (Thailand Plant)

At the Thailand Plant (TAS*1), we are working to control air pollution by utilizing the physical properties of organic solvents used in product manufacturing and introducing equipment for cooling recovery and water absorption recovery. Furthermore, to minimize the environmental impact of solvent decomposition products (amine compounds) that cause odors, vent exhaust gases are treated with a wet scrubber, resulting in a significant reduction in odors. Water containing organic compounds is biologically treated by microorganisms in the plant's wastewater treatment facilities, and after confirming that it meets wastewater standards, it is transferred to the wastewater treatment facility within the industrial complex. Through these efforts, we strive to minimize the release of chemicals outside the plant and thoroughly consider the environment.

*1: TAS : THAI ASAHIKASEI SPANDEX CO., LTD.

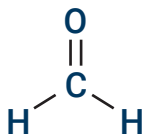
Chemical Substance Management

For all chemicals used at ROICA™, we comply with the requirements of legal regulations, agreements, and voluntary standards in terms of product safety, occupational safety, security disaster prevention, and environmental impact.

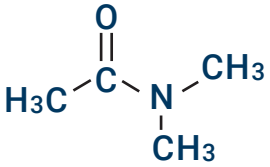
We continuously aggregate the emissions of PRTR-regulated chemical substances*2 and the leakage of fluorocarbons. Going forward, we will further strengthen equipment management and aim to reduce unexpected emissions.

Examples of PRTR-regulated substances related to atmospheric emissions handled by ROICA™

Formaldehyde



N,N-Dimethylacetamide



Both the plant and the development department conduct risk assessments*3 for all chemical substances handled, inform workers on-site about the risks of exposure to chemicals, and manage chemicals to prevent any health impacts.

*2 : PRTR-regulated chemical substances: Substances subject to the "Pollutant Release and Transfer Register." The PRTR system requires factories and business sites handling hazardous chemicals to identify and report (register) the amount of each chemical released into the environment or transferred as waste, and the government publishes the results.

*3 : Risk assessment: A process for evaluating various risks in specific situations or activities and taking appropriate measures. Generally, it proceeds through the steps of "identification," "evaluation," "control," and "monitoring." It is conducted in various fields such as business and projects and is an important method for minimizing risks.

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SOCIETY

Our Group places great importance on engagement with society in all business activities. Through initiatives such as strengthening safety, building sound relationships with the supply chain and local communities, and respecting human rights and diversity, we fulfill our corporate social responsibilities. ROICA™ aims for continuous business growth by providing products that society demands and contributing to society, working together with customers to achieve harmony with society.

[Corporate Social Responsibility] ROICA™ conducts its business activities in accordance with the standards set by Asahi Kasei.

Occupational Safety

Occupational Safety Reporting Meeting

At the China warp knitting and dyeing plant (HAT*1), an annual safety performance review and a meeting to share disaster prevention goals and policies for the following year are held for all employees. Each month, the number and causes of occupational accidents are reviewed, providing an opportunity to reconsider thorough safety management and the elimination of accidents. In FY2025, in addition to ongoing activities, we are implementing multifaceted initiatives such as monthly themed focus activities and events to check safety knowledge in quiz format, aiming to raise safety awareness among all employees and achieve zero occupational accidents.

*1 : HAT : Hangzhou Asahikasei Textile Co., Ltd.

Process Safety

Emergency Response Training for Disasters

At the Mailiao plant area of the Taiwan plant (FAS*2), a "Joint Disaster Prevention Drill" was conducted in collaboration with the Yunlin County Government in the first quarter of 2025. In this drill, the FAS plant acted as a representative and demonstrated the response procedures in the event of a disaster. The drill assumed the occurrence of complex accident disasters within the Mailiao plant area, and each plant practiced a series of procedures including prompt emergency response to process abnormalities and fires, safe shutdown, external reporting, and rescue operations. Going forward, through such drills, we aim to build a safe, effective, rapid, and well-coordinated response system by collaborating smoothly and quickly with government agencies, companies, and partner organizations.

*2 : FAS : Formosa Asahi Spandex Co., Ltd.

Quality Assurance

Quality Education

At the China plant (HAS*3), every November is designated as "Quality Month," during which various educational activities are conducted to raise quality awareness among all employees. Quality is the foundation of corporate activities, and this serves as an opportunity to reaffirm its importance. Activities include reiterating the company' s quality assurance policy, education on quality management and internal systems based on ISO, soliciting quality improvement proposals and recognizing outstanding suggestions to raise awareness on the shop floor. In addition to promoting small group quality control activities, understanding of quality is deepened through supplier visits. Through these initiatives, each employee proactively engages with quality, thereby strengthening trust with customers.

*3 : HAS : Hangzhou Asahikasei Spandex Co., Ltd.

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We aim for a mutually reinforcing cycle of sustainability consisting of contribution to a sustainable society and sustainable enhancement of corporate value, by creating a synergy among the success and growth of each individual, enhanced job satisfaction and motivation, and a strong and vibrant organizational culture, which will lead to the realization of employee well-being and the increased and enhanced productivity of our Group. ROICA™ is also actively engaged in these initiatives on a global scale.

Running Charity Event

As part of its corporate social responsibility and employee wellness efforts, Asahi Kasei Europe (AKEU*1) participates in "B2Run," one of Europe's largest corporate running events. In 2024, ten employees completed the 6km course at the Düsseldorf event. A portion of the participation fees was donated to DKMS Deutschland, a non-profit organization supporting blood cancer patients, creating a system where sports contribute to social good. By joining as a team, employees not only improve their health and raise awareness of wellness, but also foster cross-departmental communication and a sense of unity. We will continue to take part in such activities to promote employee well-being and contribute to a sustainable society.

*1 : AKEU : Asahi Kasei Europe GmbH

Recognition for Healthy Workplace

Formosa Asahi Spandex Co., LTD (FAS*2) in Taiwan has long been dedicated to creating a safe and healthy work environment. In 2024, it was recognized by the Yunlin County Government as an "Outstanding Workplace for Health Promotion." This award reflects the tangible results of its efforts in employee health management and work-life balance. Since 2010, FAS has earned the "Healthy Workplace Certification" from the Health Promotion Administration for five consecutive terms, achieving the highest level of excellence among the three-tier system. It is one of the few companies in the Yunlin region to maintain this certification for over 15 years. FAS also promotes health awareness and workplace culture through initiatives such as personalized health guidance based on regular checkups, strengthened smoking regulations, and support services for smoking cessation. As a model for health-oriented management, FAS will continue striving to build a sustainable workplace.

*2 : FAS : Formosa Asahi Spandex Co., Ltd

Team-Based Walking Challenge

ROICA™ actively participates in Asahi Kasei's walking initiative "&well," a service provided by Mitsui Fudosan, as part of its health management and workplace vitality efforts. This program supports daily wellness by tracking steps via a smartphone app and member website. It encourages healthy habits by visualizing lifestyle patterns and promoting walking through mutual encouragement among team members. The initiative also includes fun elements such as team competitions for step counts and prize giveaways, making health promotion an enjoyable experience.

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Human Resources Development and DE&I

Guided by our core belief that "everything starts with people — people are our most valuable assets," our group has been cultivating a positive corporate culture and striving for both employee growth and corporate advancement through actions aligned with our “Human Resources Prnciples,” established in 2006.

Lifelong Growth of Diverse Individuals + Co-Creation Power to Shape the Future

Lifelong growth through continuous challenge and development

Co-creation power that expands and connects diversity

Enhancing Management Capabilities to Empower Individuals and Teams

- Strengthening management support (360-degree feedback, KSA, elective training programs)
- Developing executive and next-generation leadership talent

Fostering a Positive Cycle Between Autonomous Career Awareness and Organizational Growth

- ► Utilizing programs such as “CaMP” and “CLAP”
- ► Enhancing career development support measures
- ► Promoting active roles for senior employees

Promoting the Success of Diverse Talent (DE&I)

- ► Achieving gender balance
- ► Strengthening the operation of the advanced professional system
- ► Supporting the success of global talent
- ► Promoting cross-functional connections

The foundation of all these efforts lies in physical and mental well-being and open, dynamic communication.

Human Rights

Respect for human rights is the basis of all activities of our group. We believe nothing is more important than for diverse people to enjoy vibrant lives while respecting each other's individuality and human rights. We are committed to respecting the human rights of all stakeholders throughout our activities and business value chain.

ROICA™ promotes these values based on our group’s priciples, while also advancing diversity, equity, and inclusion. Under the banner of One ROICA™, we foster a sense of belonging and drive our business forward. We are committed to creating a safe and secure workplace environment not only for those directly involved in the ROICA™ business, but also for all stakeholders.

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Raw Material Procurement

Our group is committed to building a responsible supply chain that considers both environmental and human rights impacts, while promoting the sustainable sourcing of raw materials. To enhance transparency and reliability across the supply chain, we conduct a CSR questionnaire every two years for domestic suppliers in Japan. In fiscal year 2023, we achieved an almost 100% response rate. Based on the results, suppliers are evaluated on a four-tier scale from A to D. For those rated C or D, we request compliance with our Supplier Guidelines and provide educational support as needed. Moving forward, we plan to expand these initiatives to overseas suppliers as well.

In addition, we strictly adhere to internal regulations on export control to contribute to international peace and security. We also comply with relevant laws such as the Subcontract Act and the Antimonopoly Act, ensuring fair and transparent business practices.

Technical Service

To build trust with our customers, we visit production sites directly—covering processes such as yarn processing, weaving/knitting, dyeing, and sewing—to provide practical and attentive support for any challenges. Through close collaboration with on-site teams, we grow together with our customers and pursue higher-quality manufacturing.

Center for Advanced Technology of Fibers and Textiles

The ROICA R&D Department is based at this center, which serves as a core hub for research and development in the textile field. It brings together professionals with advanced expertise and experience. We invite domestic and international companies and brands to tour the facilities and engage in technical exchanges. In addition to developing unique fabrics and processing technologies, we promote joint development of textiles and products with our partners. The center also supports physiological evaluations through product wear testing, flexibly responding to diverse technical needs. By balancing practicality and innovation, we help create sustainable value.

Technical Support

In addition to Japan, our factory in Thailand also provides its own technical support (TS) function. With support from the mother factory in Japan to strengthen technical capabilities, we offer flexible and detailed assistance to customers in Thailand. By responding promptly and accurately to customer needs—not only in terms of quality but also service—we aim to enhance customer satisfaction and build stronger relationships of trust.

*1: TAS : THAI ASAHIKASEI SPANDEX CO., LTD.

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At ROICA™, we actively promote knowledge sharing and technical collaboration across our global sites to enhance operational quality. In addition to strengthening internal collaboration, we place great importance on continuous communication with stakeholders—including customers and business partners—to deepen mutual understanding and build trust. Moving forward, we will continue to foster cross-organizational cooperation and engage in dialogue with external stakeholders to pursue more sustainable and value-driven business operations.

Participation in Occupational Safety and Health Sharing Activities

Formosa Asahi Spandex Co., Ltd. (FAS*1) in Taiwan actively participates in occupational safety and health initiatives organized by the Labor and Youth Development Division of the Yunlin County Government. Participating companies are primarily major manufacturers in the region, and each shares its initiatives and engages in discussions to drive further improvements. The collective goal is to achieve zero accidents across the region, which employs approximately 60,000 people.FAS also takes part in awareness sessions held two to three times a year, specialized training for specific job categories, and approximately 450 annual factory visits for safety guidance. These efforts contribute to raising internal safety awareness. We will continue to prioritize regional collaboration and communication as we remain committed to supporting these activities.

*1 : FAS : Formosa Asahi Spandex Co., Ltd.

Employee Trip to Phuket, Thailand

The warp knitting and dyeing plant (HAT*2) in China recently held its first employee trip in several years, following a pause due to the COVID-19 pandemic. Approximately 170 participants, including family members, joined the trip to Phuket, Thailand. Surrounded by nature and beautiful scenery, employees enjoyed various activities and sightseeing, allowing them to relax and recharge from their daily work.The trip also provided valuable opportunities for communication among employees and their families, contributing to a more positive and engaging workplace environment. We continue to value such opportunities for employee interaction as part of our efforts to foster a better working culture.

*2 : HAT : Hangzhou Asahikasei Textile Co., Ltd.

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As a global brand, ROICA™ places great importance on maintaining strong ties with local communities and actively engages in regionally rooted initiatives. In addition to contributing to society through business activities, we proactively address social issues such as environmental conservation, educational support, and community coexistence, aiming to help build a better future. Through these ongoing efforts, we strive to remain a trusted and valued brand in the eyes of society.

Participation in Local Cultural Events

Thai Asahi Kasei Spandex Co., Ltd. (TAS*1) in Thailand participates annually in cultural events organized by the city of Laem Chabang, which aim to preserve traditional Thai culture. This year, employees joined students and local residents in a rice planting experience—an important cultural practice in Thailand. After the planting, participants gathered to enjoy local dishes and harvested rice, creating a meaningful opportunity for community bonding. Through this activity, employees deepened their understanding of local culture and reaffirmed their connection with the community. We will continue to contribute to cultural preservation and regional engagement.

*1: TAS : THAI ASAHIKASEI SPANDEX CO., LTD.

Blood Donation Activities

Our group regards blood donation as an important part of its CSR efforts. We believe that each employee' s voluntary act of donating blood can help save lives. Long-time contributors are recognized for their efforts, and we actively promote awareness and participation within the company. Members at the Moriyama Plant also take part enthusiastically in these activities.

Support for Local Firefighters

Hangzhou Asahikasei Spandex Co., Ltd. (HAS*2) in China expresses gratitude for the disaster prevention and emergency response efforts of the local public fire department by donating beverages. Every early summer, over 100 boxes of sports drinks, mineral water, and carbonated beverages are provided to support firefighters working in hot conditions. This initiative began with the simple desire to offer support to those serving the community, and we hope that this small act will grow into a larger circle of goodwill. We plan to continue this activity in the future.

*2: HAS: Hangzhou Asahikasei Spandex Co., Ltd.

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ROICA™ believes that creating a society where people of all generations can continue learning leads to vibrant communities and a sustainable future. In addition to supporting education for children and youth, we actively promote learning opportunities for older generations as well.By collaborating with local educational institutions and organizations, we share knowledge and experience, foster intergenerational exchange and mutual understanding, and aim to build communities where everyone can live with vitality. ROICA™ will continue to invest in initiatives that connect people, communities, and the future through learning.

Developing the Next Generation Through Social Engagement

Asahi Kasei Europe (AKEU*1) supports the development of future talent by offering internship opportunities. In January 2024, three students from Lessing-Gymnasium (LG*2) in Düsseldorf, Germany joined our internship program. Over two weeks, they received hands-on guidance from our experts in engineering plastics, materials analysis, and IT.This initiative not only nurtured interest in technology but also strengthened our relationship with LG. In addition to our long-standing judo workshops, this program expanded our collaboration into the field of education. We will continue to foster global talent development through internships and educational partnerships.

*1 : AKEU : Asahi Kasei Europe GmbH *2 : LG : Lessing-Gymnasium, Düsseldorf

Participation in Elderly School Programs

Thai Asahi Kasei Spandex Co., Ltd. (TAS*3) values its connection with the local community and continues to support activities for senior citizens. Employees bring food and heartfelt gifts to share with participants, creating warm and joyful events.These activities are part of the “Elderly School” program, held three to four times a year during special occasions such as Songkran (Thai New Year), New Year, and graduation ceremonies. TAS participates in two of these events annually. Each session offers a variety of programs that promote physical, mental, and social well-being, helping seniors enjoy fulfilling and meaningful experiences.This initiative reflects TAS’ s commitment to enhancing the welfare of older generations while contributing to the community and fulfilling its social responsibility.

*1: TAS : THAI ASAHIKASEI SPANDEX CO., LTD.

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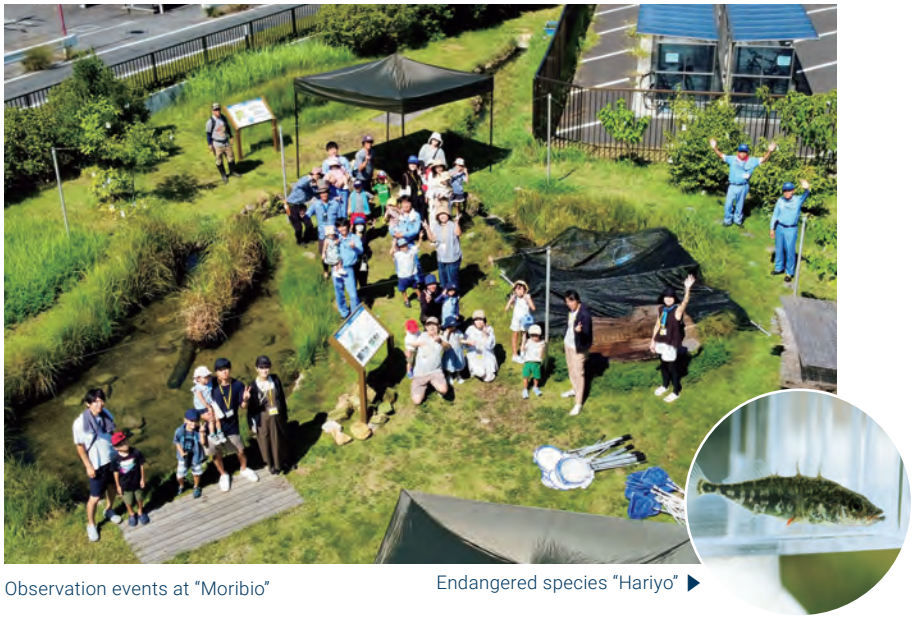
At ROICA™, we conduct our business activities in accordance with the Group's "Guidelines for Biodiversity Conservation," striving to minimize our impact on biodiversity and promote the sustainable use of biological resources. We also raise employee awareness of biodiversity through environmental safety education and other initiatives, encouraging business practices that consider biodiversity.Furthermore, when introducing or changing raw materials, we use a "Business Activities and Biodiversity Relationship Survey" to investigate the "country of origin of raw materials," "processors/manufacturers," and "primary vendors (such as trading companies)," ensuring there are no issues.



Observation events at "Moribio"

Endangered species "Hariyo" ▶

The Moriyama Plant utilizes groundwater as industrial water. After being used as indirect cooling water for equipment, the groundwater is monitored for water quality and then discharged into nearby rivers. The discharged water from the Moriyama Plant is also used for agricultural purposes, serving as an essential resource for local agriculture and aquatic life. Based on this background, we launched biodiversity conservation activities themed around "water," which is deeply connected to both biodiversity and our business, starting in fiscal year 2010. From fiscal year 2015, we began ex-situ conservation activities for the endangered freshwater fish "Hariyo*1," and from fiscal year 2016, we started dragonfly conservation activities in collaboration with companies and communities in Shiga Prefecture.

*1 : Hariyo is a freshwater fish found only in Shiga and Gifu Prefectures. Its habitat has been lost due to the decrease in spring water, river improvements, and development, making it an endangered species.

Within the Biodiversity Lake Biwa Network, each company selects a dragonfly species to protect; our company is engaged in the conservation of the "Maiko Akane," a dragonfly inhabiting wetlands. We are also working to establish stable populations by expanding "container biotopes" and releasing eggs. In addition, the Biodiversity Lake Biwa Network regularly holds exhibitions and events at the Lake Biwa Museum, providing opportunities for local residents to learn about our initiatives and the importance of biodiversity conservation. We will continue our conservation activities at "Moribio" and through the Biodiversity Lake Biwa Network, actively promoting biodiversity conservation.

Social Activities Exhibition at Lake Biwa Museum

"Maiko Akane" ▶
inhabiting wetlands

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BRAND INFORMATION

History of ROICA™ Sustainability

ROICA™ has a history spanning over 50 years since the start of production in 1971. Throughout this journey, we have faced various challenges, setbacks, and changes, but have always moved forward without fear of taking on new challenges. This history is also one of working together with stakeholders, striving to create better products through mutual effort, and aiming for coexistence with society and the environment through our business activities. Moving forward, we will continue to pursue sustainable business activities without compromising on our advanced technological capabilities and stable quality.

1971
- Start of commercial production

1994
- Acquisition of ISO 9001 certification

1997
- Acquisition of ISO 14001 certification

1998
- Acquisition of OEKO-TEX Standard 100 certification

2016
- Launch of ROICA™ EF
- Acquisition of GRS certification (until 2019) — the world's first for spandex

2017
- Acquisition of Cradle to Cradle certification (ROICA™ V550)

2021
- 50th anniversary of ROICA™
- Introduction of LCA (Cradle-to-Gate calculation)
- Acquisition of OEKO-TEX Standard 100 certification (ROICA™ EF)

2022
- Start of ROICA™ EF production (Thailand, Taiwan)
- Acquisition of RCS certification (Moriyama, Thailand)

2023
- Publication of ROICA™ Sustainability Report
- Introduction of ROICA™ Mass Balance Approach
- Acquisition of REDcert² certification (until 2024)

2025
- Acquisition of ISCC PLUS certification (Taiwan)

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Digital Transformation Initiatives

Launched in 2022 as a smart factory project, the RAPS PROJECT (ROICA™ Advanced Production System) continues to progress steadily, with tangible results now emerging. In particular, efforts to digitize operational data and enhance “visualization” have enabled real-time monitoring of on-site conditions, greatly contributing to improved operational efficiency and early detection of issues. The promotion of DX (Digital Transformation) and smart factory initiatives is not merely a reform of business operations, but a crucial element driving the shift toward sustainable corporate management, and is deeply connected to ROICA™’s sustainability strategy.

Smart Factory Project

RAPS PROJECT

(ROICA™ Advanced Production System)

- Active data acquisition is advancing the digitization of daily management data.
- Digitized data is visualized using Microsoft Power BI®, making it accessible to everyone in the factory.
- The use of visualized data in operations is progressing.
- In 2024, the project received the “Factory Management Award” at the “GOOD FACTORY Awards” hosted by the Japan Management Association.

Steps for Executing the RAPS PROJECT

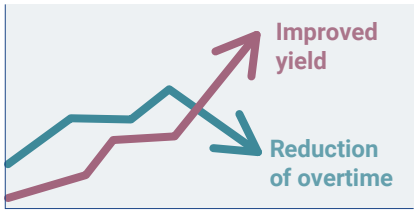
- Step 1 Digitize data
- Step 2 Collect data and achieve visualization
- Step 3 Analyze data to improve productivity
- Step 4 Execute manufacturing strategies based on prediction and forecasting

Challenges of the RAPS PROJECT

The goal is to simultaneously solve three challenges:

People	Develop personnel who can handle data on a daily basis
Data	Establish a platform that enables the use of all types of data
Organizational Culture	Build a self-sustaining system through the cycle of expectation → execution → achievement

The aim is to create a system where those who actually use data in the factory drive digitalization!



Effects Already Seen from Smart Factory Initiatives

- Significant contribution to improved yield
- Reduction of overtime through operational efficiency

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Product Initiatives for Sustainability

As a company, we are being asked how we face and act on environmental issues to realize a sustainable society. ROICA™ aims to create valuable products for the next generation by incorporating processes and materials that reduce environmental impact. We are also taking a long-term approach, considering the entire supply chain starting from the selection of raw materials.

ROICA™

We are promoting initiatives to reduce environmental impact and encourage the use of sustainable raw materials. For example, by utilizing biomass-derived raw materials and allocating them through the mass balance approach, and further using renewable energy (electricity), it is possible to reduce the CFP (Carbon Footprint of Products) for the relevant grade. We will continue to pursue initiatives in raw material procurement that contribute to CFP reduction.

The Taiwan Plant has acquired ISCC PLUS certification.

ROICA™ EF

We produce recycled stretch fiber by collecting and partially reusing pre-consumer waste yarn, which was conventionally discarded during the yarn production process. ROICA™ EF, created through this initiative, can reduce CFP by 29% compared to regular yarn production*. Moreover, this recycled stretch fiber maintains the same basic properties as regular yarn, achieving both environmental consideration and quality.

*Calculated for a recycling rate of 58% in 2024.

ROICA™ V550

As part of our efforts to realize synthetic stretch fiber that is degradable in nature, we produce stretch fiber with biodegradability. While general spandex does not show degradation, ROICA™ V550 slowly degrades into CO_2 and water (100% degradation has not been confirmed; approximately 50% degradation confirmed after 24 months, measured by OWS*1). In addition, it has acquired Cradle to Cradle Material Health Gold certification, demonstrating high environmental safety.

Adopted as a material for staff uniforms at EXPO 2025 Osaka, Kansai, Japan

*1: OWS : Certification body – Nomec OWS

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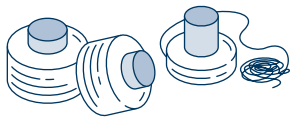
Recycling Initiatives

ROICA™ is actively engaged in material recycling. By reusing yarns that were conventionally discarded, partially as raw materials, we strive to make effective use of resources, improve energy efficiency, and contribute to the reduction of CFP (Carbon Footprint of Products).

Production Process of Recycled Stretch Fiber "ROICA™ EF"

❶ Waste yarn

yarns remaining in the plant, yarns with nonconformity, etc.

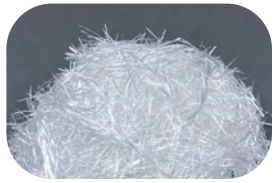


❷ Separation of paper cones

removal of excess materials

❸ Cutting

finely chopped for easier melting

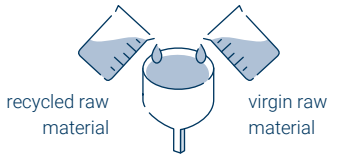


❹ Dissolution

melting

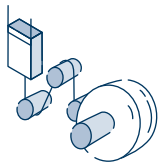
❺ Raw material blending

mixing raw materials



❻ Spinning

yarn production

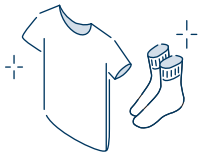


❼ Yarn products

birth of ROICA™ EF

❽ Textile products

clothing, industrial materials, etc.



Compared to regular yarn production, yarn containing 58% recycled raw materials can reduce CFP by 29% (calculated using 2024 data)

*The above CFP value is calculated from raw material extraction to shipment from our factory.

Silver Prize Award as Excellent Resource Circulation Company

The Taiwan Plant (FAS*1) was selected as an "Excellent Resource Circulation Company" by the Taiwan Environmental Protection Administration, which recognizes companies dedicated to domestic resource circulation and environmental sustainability. The production of ROICA™ EF was highly evaluated, resulting in the receipt of the Silver Award.

*1: FAS : Formosa Asahi Spandex Co., Ltd.

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ROICA™ Certification

As the importance of sustainability continues to grow, brands are increasingly expected to address environmental and social issues and to operate their businesses in a responsible manner. We believe that objectively assessing and demonstrating our initiatives and activities as a brand is essential for global brand development and for earning the trust of our stakeholders. ROICA™ has obtained certifications for its various unique yarns and at both domestic and overseas plants.

*The certification differs depending on each factory and yarn. *Usage of certification logo on fabrics and garments must be followed by each certification body guideline.

Certifications acquired by each plant

Japan

ISO 9001

JQA-QMA16697

ISO 14001

JQA-E-90093

China

ISO 9001

0350216Q30451R1M

ISO 14001

0350216E20242R1M

Thailand

CERTIFIED ISO 9001 ISO 14001 ISO 45001

ISO 9001 TH 018928

ISO 14001 TH 020198

ISO 45001 TH 017417

Taiwan

ISO 9001

TW07/03556

Certificates

ISO 14001

TW13/10313

Certificates

ISO 45001

TW17/00487

Certificates

International Sustainability & Carbon Certification (ISCC)PLUS

Mass balance certification for circular materials

ISCC International Sustainability & Carbon Certification

ISO 9001：Quality Management System / ISO 14001：Environmental Management System / ISO 45001：Occupational Health and Safety Management System

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Certifications acquired for products

ROICA™

OEKO-TEX Standard 100, Class1

Textile product safety certification
(clearing the standard for babies and children)

OEKO-TEX STANDARD 100 13.HJP.27480 Hohenstein www.oeko-tex.com

〈 Japan,China 〉

OEKO-TEX STANDARD 100 16.HTH.88174 Hohenstein www.oeko-tex.com

〈 Thailand 〉

OEKO-TEX STANDARD 100 24.HTW.55643 Hohenstein www.oeko-tex.com

〈 Taiwan 〉

ROICA™ EF

OEKO-TEX Standard 100, Class1

Textile product safety certification
(clearing the standard for babies and children)

OEKO-TEX STANDARD 100 21.HJP.70983 Hohenstein www.oeko-tex.com

〈 Japan 〉

OEKO-TEX STANDARD 100 22.HTH.33855 Hohenstein www.oeko-tex.com

〈 Thailand 〉

OEKO-TEX STANDARD 100 24.HTW.92524 Hohenstein www.oeko-tex.com

〈 Taiwan 〉

Recycled Claim Standard (RCS)

Verification of recycled materials in products

RECYCLED BLENDED claim standard ©TextileExchange

TE-00055526 〈 Japan 〉
RCS Certified by IDFL

RECYCLED BLENDED claim standard ©TextileExchange

TE-00030663 〈 Thailand 〉
RCS Certified
by Clean Globe

RECYCLED BLENDED claim standard ©TextileExchange

TE-99970357 〈 Taiwan 〉
RCS Certified by IDFL

ROICA™ V550

OEKO-TEX Standard 100, Class1

Textile product safety certification
(clearing the standard for babies and children)

OEKO-TEX STANDARD 100 22.HJP.76725 Hohenstein www.oeko-tex.com

〈 Japan 〉

Cradle to Cradle Certified®
Material Health Gold version 4.0

Standards for circular materials aiming
for a production–consumption–production cycle

material health CERTIFIED cradle to cradle gold version 4.0 C2CCERTIFIED.ORG

[OEKO-TEX® Label Check]

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APPENDIX

Certification Glossary

Certification	Explanation	Certification	Explanation
ISO 9001	An international standard for quality management systems. Obtaining this certification proves that an internationally recognized quality management system has been established. It is the most widely used management system standard, with over 1 million organizations in more than 170 countries worldwide. ***The ISO mark design varies depending on the certification body.**	**Cradle to Cradle** **Material Health** **Gold Version4.0**	Also known as C2C certification. An international environmental certification conducted by EPEA. It evaluates whether products are designed and manufactured in an environmentally friendly way throughout their life cycle. There are five ranks (Basic, Bronze, Silver, Gold, Platinum) and five categories including Material Health.
ISO 14001	An international standard for environmental management systems (EMS) established by the International Organization for Standardization (ISO). It is a framework for companies and organizations to manage their environmental impact and improve environmental performance. ***The ISO mark design varies depending on the certification body.**	**ISCC PLUS**	ISCC stands for "International Sustainability & Carbon Certification." It is an international certification system for companies and organizations that manufacture products using sustainable raw materials such as biomass and recycled materials. Obtaining ISCC certification proves that the certified products provided by the company or organization are sustainable, using renewable resources or raw materials.
ISO 45001	An international standard for occupational health and safety management systems. It provides a framework for organizations to prevent work-related injuries and illnesses and to provide a safe and healthy workplace. By implementing ISO 45001, organizations can build and continuously improve their occupational health and safety management system. ***The ISO mark design varies depending on the certification body.**	**REDcert²**	A certification system that proves how much renewable raw materials have replaced conventional resources (such as fossil resources) in the manufacturing process of chemical products. It can be applied at all stages from raw material production and processing to biofuel production. ***Currently not acquired by ROICA™.**
OEKO-TEX Standard 100	An international environmental label that guarantees the safety of textile products. It is granted only to products that pass strict tests for more than 350 types of harmful chemicals. It is highly trusted worldwide and is an important certification for ensuring textile product safety.	**GRS**	Abbreviation for Global Recycled Standard. An international certification that guarantees the quality and sustainability of recycled products in terms of recycled material content, supply chain traceability, and social, environmental, and chemical aspects. It applies to products containing 20% or more recycled materials, and 50% or more recycled materials are required for label display. ***Currently not acquired by ROICA™.**
RCS BLENDED	Abbreviation for Recycled Claim Standard. An international third-party certification standard that tracks the use of recycled materials and verifies the content ratio of recycled materials. It is a tool to properly manage the amount of recycled material throughout the supply chain and guarantee how much recycled material is used in the product.		

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Terminology Glossary

※The page indicates where the term is mainly used.

Page	Term	Explanation
4	**Sustainability vision**	A statement describing future outlooks, aspirations, or goals related to sustainability. It clarifies the desired or ideal state for the future.
6	**GHG**	Abbreviation for Green House Gas. A general term for greenhouse gases such as carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. Usually expressed as CO_2 equivalent.
7	**LCA**	Abbreviation for Life Cycle Assessment. A method for quantitatively evaluating the environmental impact of a product or service throughout its entire life cycle (from raw material procurement, production, distribution, use, disposal, to recycling) or at a specific stage.
	Cradle-to-Gate	Refers to the stage from raw material procurement to production within the life cycle stages of raw material procurement, production, distribution, sales, use/maintenance, and disposal/recycling.
	CFP	Abbreviation for Carbon Footprint of Products. A system that displays the amount of greenhouse gas emissions, converted to CO_2, throughout the entire life cycle of a product or service, from raw material procurement to disposal/recycling, in an easy-to-understand way.
8	**VOC**	Abbreviation for Volatile Organic Compounds. A general term for organic compounds (chemicals) that are highly volatile and become gaseous in the atmosphere.
9	**Thermal recycling**	A recycling method that recovers heat generated during waste incineration for use in power generation or heat supply.
11	**PRTR**	Substances covered by the "Pollutant Release and Transfer Register." The PRTR system requires factories and business sites handling hazardous chemicals to track and report the amount released into the environment and transferred as waste for each chemical, with the results published by the government.
	Formaldehyde	A colorless gas with a pungent odor. It may be contained in furniture, building materials, adhesives for wallpaper, paints, etc.
	N,N-dimethylacetamide	An organic compound abbreviated as DMAc.

Page	Term	Explanation
11	**Risk assessment**	A method for identifying and eliminating or reducing potential hazards or harmful factors in the workplace.
15	**DE&I**	A concept combining Diversity, Equity, and Inclusion.
	Human rights due diligence	Ongoing efforts by companies to identify and assess risks of human rights violations in their business activities and supply chains, and to prevent or mitigate those risks.
16	**CSR**	Abbreviation for Corporate Social Responsibility. The responsibility that companies should fulfill as members of society.
20	**Container biotope**	An observation container biotope installed in “Moribio”.
	Moribio	A biotope located at the Moriyama Plant. A place in nature where living things reside. All places that support the lives of living things, regardless of size, are biotopes.
23	**Digital transformation**	Abbreviated as DX. Transforming companies and enhancing competitive advantage through the use of data and digital technology.
	Smart factory	A factory that manages operations based on digital data, utilizing technologies such as AI and IoT.
	Microsoft Power BI®	A business intelligence (BI) tool provided by Microsoft that collects, analyzes, and visualizes data to support business decision-making.
24	**Mass balance approach**	Also called mass balance method or material balance method. A method of allocating the characteristics of a particular raw material to a portion of the product, according to the input amount, when it is mixed with other raw materials during processing and distribution.
	Renewable energy	Energy that is always present in nature, such as solar, wind, and geothermal, unlike fossil fuels like oil, coal, and natural gas, which are finite resources.
	Pre-consumer	Materials supplied for material recycling without being used by consumers.

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ROICA™

ADVANCED FIT FOR LIVING

ROICA™ Sustainability Report 2025

[Published by ROICA Division, November 2025]

S55Y291 First Edition

AsahiKASEI