Spiber

Sustainability Impact Report

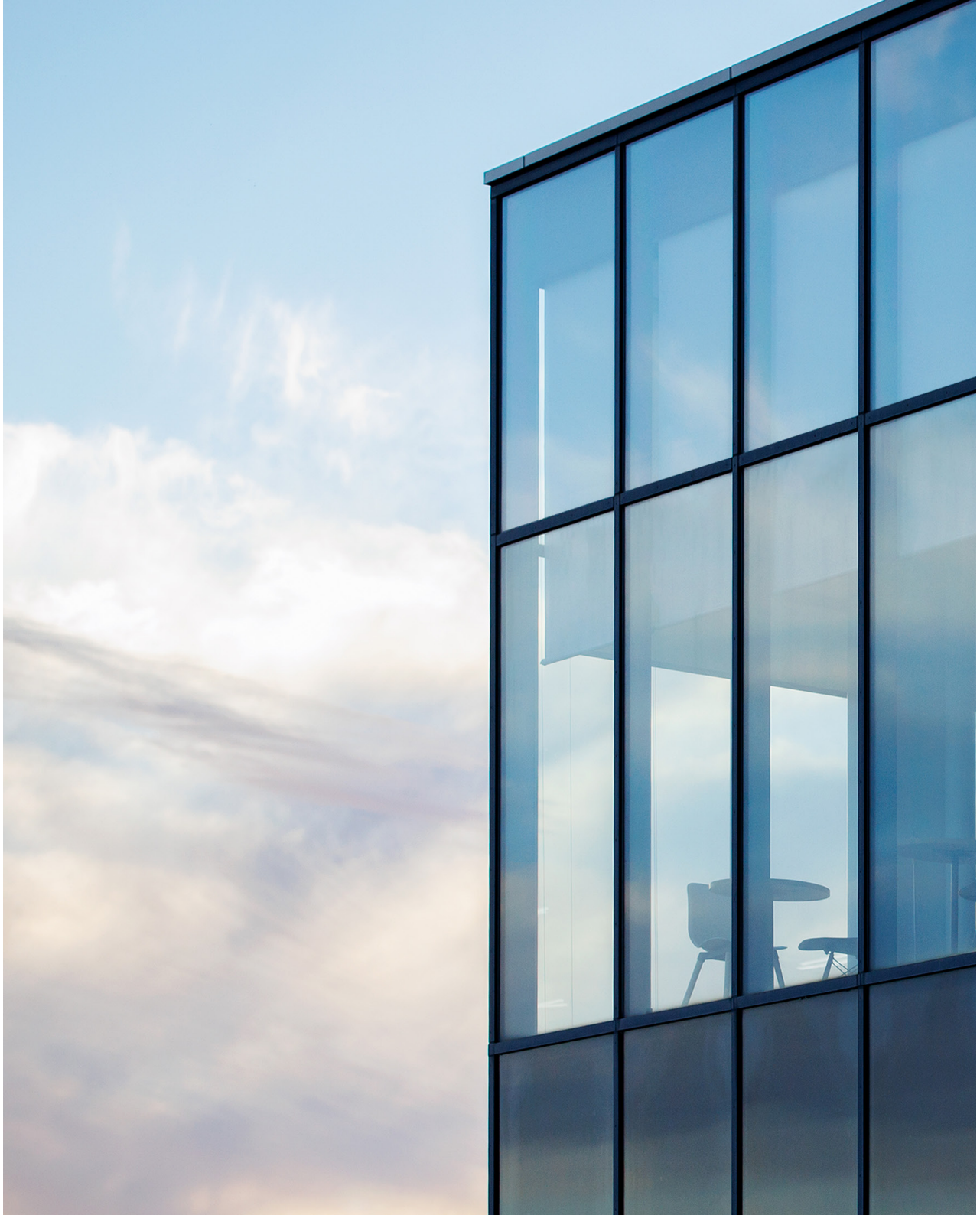
2022

Contents

About this report

Welcome to Spiber's first sustainability impact report. Data contained within this report covers our activities throughout the 2021 calendar year unless otherwise noted, with some activities covered up to June 2022, including those undertaken at our headquarters and R&D facilities in Japan, at our polymer production facility in Thailand, and through our strategic partnership in the USA. We are working towards aligning with the Global Reporting Initiative (GRI) and plan to report in accordance with GRI in our future reports.

Any comments or questions about our sustainability approach and reporting should be directed to our inquiry form:
https://spiber.inc/en/contact/



Message from our Co-founder

Protein materials to **lead the transformation toward a circular economy**

Spiber aims to contribute to the global transformation toward a more circular economy through innovative protein-based material solutions.

It has been reported that humanity consumes more than 100 billion tonnes of material per year, of which a mere 8.6% ends up being recycled, and that shifting to a circular economy could allow for a 39% reduction in global greenhouse gas (GHG) emissions.[1]

Conventional solutions for recycling usually require items to be separated or sorted by material type before they can be broken down, processed and reused. However, many products that are being manufactured today are designed using combinations of multiple types of materials that cannot easily be separated. For example, many fabrics used in garments are made by blending polyester and cotton, or wool and nylon, etc. Even t-shirts made of 100% cotton fabric often still use polyester for sewing threads, tags, and polyurethane around the neck. Such product designs lead to an abundance of items that cannot easily be recycled, which end up being disposed of through combustion or in landfills.

Items in the natural and biological world are very different from this. In a natural ecosystem, there is no such thing as waste because all living things are based on the same universal building blocks and are designed to circulate within the ecosystem of the biosphere. In this miraculous, massive system, protein materials play a core role. Harnessing protein materials for use in industrial applications represents an important step forward for advancing circularity. We believe Spiber has an important role to play in the development and advancement of a next-generation, protein-based industrial ecosystem.

[1]Circularity Gap Reporting Initiative, Circularity Gap Report 2021

Contribute to sustainable human well-being

Spiber's goal is to help create a sustainable society in which each and every person is respected, cared for, and has the chance to experience both happiness and fulfillment. In other words, our purpose is to contribute to the sustainable well-being of humanity. If we believe there is something important for us to do toward that end, we are willing to do our best to achieve it, whether the scope be global or local, and whatever be the types of resources that may be demanded. We are extremely proud of the consistent dedication our team has shown to this goal since the inception of our company.

Every one of Spiber's business initiatives have been driven by this goal. By creating environmentally friendly materials and helping the world transition toward a more circular economy, we see Spiber playing an important role in enhancing the sustainable well-being of humanity.

True well-being for all means nothing less than achieving world peace. While this seems like an impossible goal, we nevertheless have faith that humanity may one day see its accomplishment. Much as we draw inspiration and courage from the achievements of those who have walked the long road of history before us, we at Spiber resolve to continue our unceasing efforts to serve as a bridge between the world of today and a brighter future for those who will share our planet after us.

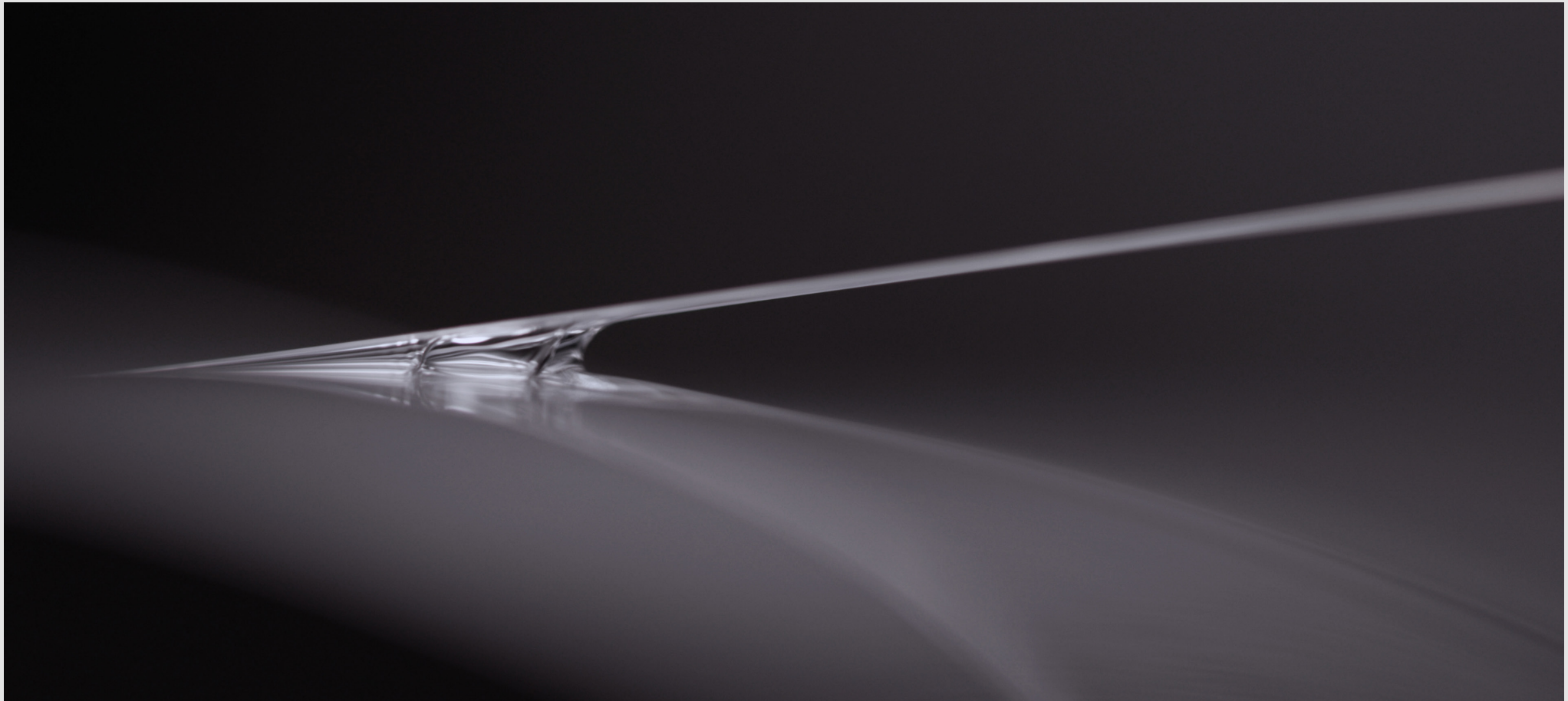
To all the stakeholders who continue to make the pursuit of our mission a possibility, I offer my sincerest thanks.

Kazuhide Sekiyama
Spiber Co-founder and Representative Executive Officer

About Spiber

About Spiber Inc.

Established in September 2007, Spiber Inc. is a biotechnology start-up headquartered in Tsuruoka, Japan that is driven by the purpose of its existence: to contribute to sustainable human well-being. Spiber strives to provide solutions for our society to shift toward a circular economy by utilizing cutting-edge synthetic biology, polymer science, and material science for the development of novel protein materials known as 'Brewed Protein™'.



Brewed Protein™

Brewed Protein materials are the protein fibers, films, and other types of polymer materials manufactured using Spiber's proprietary fermentation (brewing) process. Made from plant-derived sugars as primary raw ingredients, Brewed Protein materials offer a solution to address increasing market demand for animal-free, plastic-free alternatives to conventional materials. Spiber has developed a proprietary technology platform that enables it to iteratively optimize the design of its materials at the molecular level. Their unique, customizable nature allows the properties and functionalities of Brewed Protein materials to be tailored to suit the needs of a wide range of applications across various industries. Spiber is now on the brink of scaling production. Our first commercial-scale fermentation plant in Thailand began production in 2022, and Brewed Protein fiber production using polymers produced in the USA is scheduled to begin in the near future. Both the Thailand and USA polymer production plants are strategically located close to agricultural cropland for our key feedstocks (sugarcane in Thailand and corn in the USA) and will be ramping up their scale of production over the coming years.

With our initial focus on fibers for the apparel and textile industry, downstream processing of polymers into fibers will take place at our spinning facility in Tsuruoka and other existing spinning factories owned and operated by third parties. Additionally, we are in pursuit of opportunities to apply our technology platform and various types of Brewed Protein materials as solutions in other markets, including mobility, food, cosmetics, packaging, and pharmaceuticals.

Spiber in brief

Headquarters:
Yamagata, Japan

Number of employees[2]:

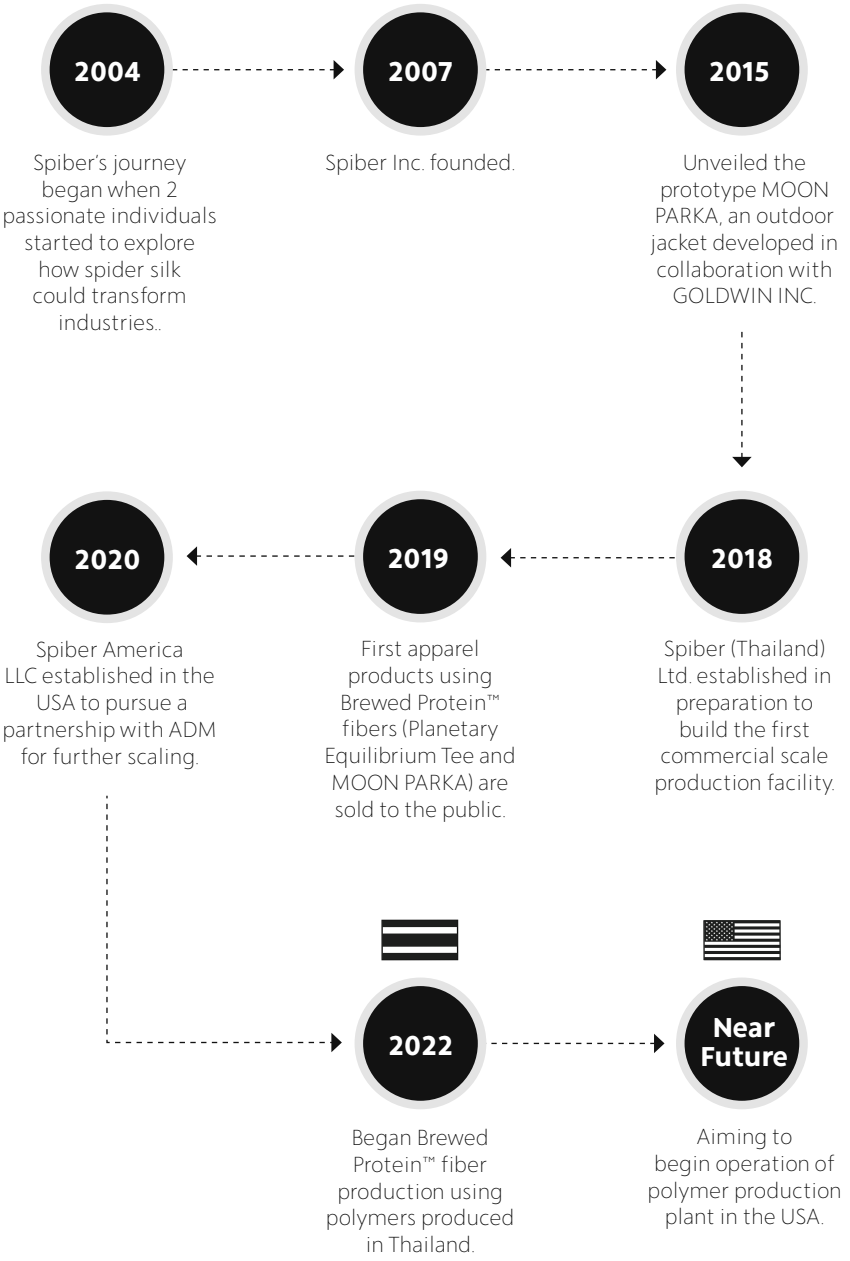
Spiber Inc: 257
Female 115 (45%)
Male 142 (55%)
Contract 9 (4%)
Permanent 248 (96%)

Spiber (Thailand) Ltd: 35
Female 16 (46%)
Male 19 (54%)
Contract 1 (3%)
Permanent 34 (97%)

Spiber America LLC: 6
Female 2 (33%)
Male 4 (67%)
Contract 0 (0%)
Permanent 6 (100%)

Global (total): 298

[2] As of December 31st, 2022

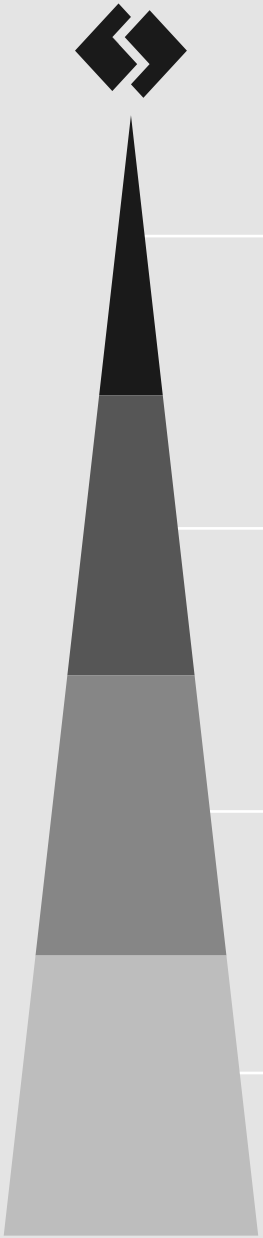


VISION, MISSION, AND VALUES

Spiber was founded on a mission: to contribute to sustainable human well-being. Put another way, our ultimate aim is to help create sustainable happiness for all humanity. To this end, we strive to provide solutions to the global-scale issues currently threatening society—such as the climate crisis, resource depletion and environmental pollution—through our business activities.

As humanity builds a more sustainable society, we are forced to reckon with an undeniable fact: we currently have extremely limited options for closed-loop materials that are derived from renewable feedstocks and are biodegradable.

Brewed Protein™ materials are a disruptive, revolutionary solution created through microbial fermentation. These materials are a compelling new option for designers and creators looking to support a brighter, more sustainable future. This ambition to sustainable transformation was built into our company from the start.



GOAL

MISSION

METHODOLOGY

A SOLUTION

The Spiber vision

Goal: Contribute to sustainable human well-being

Our ultimate goal is to contribute to sustainable human well-being. Spiber aims to achieve this through long-term thinking and conducting business in the best interest of society.

Mission: Find true solutions to latent and significant social demands

The well-being of our future society can only be molded if both latent and significant social demands such as the climate crisis and the transition to circular economies, food shortages and improvements to our social systems are addressed now.

Methodology: Business with science/ technology/ art/ design

We believe interdisciplinary innovation and experimentation are integral to finding solutions for the betterment of our society.

A solution: Innovative platform of protein materials

Our primary solution is to develop revolutionary protein materials, which are plant-based and can be broken down into biological nutrients and reused.

Our sustainability strategy

Our sustainability strategy

Sustainability is central to our mission. Faced with the reality of a world with limited resources, we are devoted to developing new materials which we believe can have transformational impact on society.

Our work to unlock the potential for industrial use of protein materials has led us to develop Brewed Protein™ fibers. These nature-inspired, plant-based materials that can be biodegraded, or can be broken down into nutrients for reuse, have the potential to close the loop in supply chains, and to enable circularity. We see our work to develop innovative protein materials as a route to overcome social issues. We are building industry-wide partnerships because we see collaboration as a powerful approach to magnify our impact. We are committed to supporting and nurturing the talented and creative individuals who drive our agenda forward, and to enable our organization to contribute to society through the creation of transformational solutions.

We believe that truly impactful solutions need to be built based upon businesses with high standards of integrity. Accordingly, we are working to minimize our operational footprint through cleaner energy procurement and raw materials produced using regenerative agricultural principles, while also striving to ensure high standards of sustainable sourcing and human rights throughout our value chain, including the well-being of our own employees.

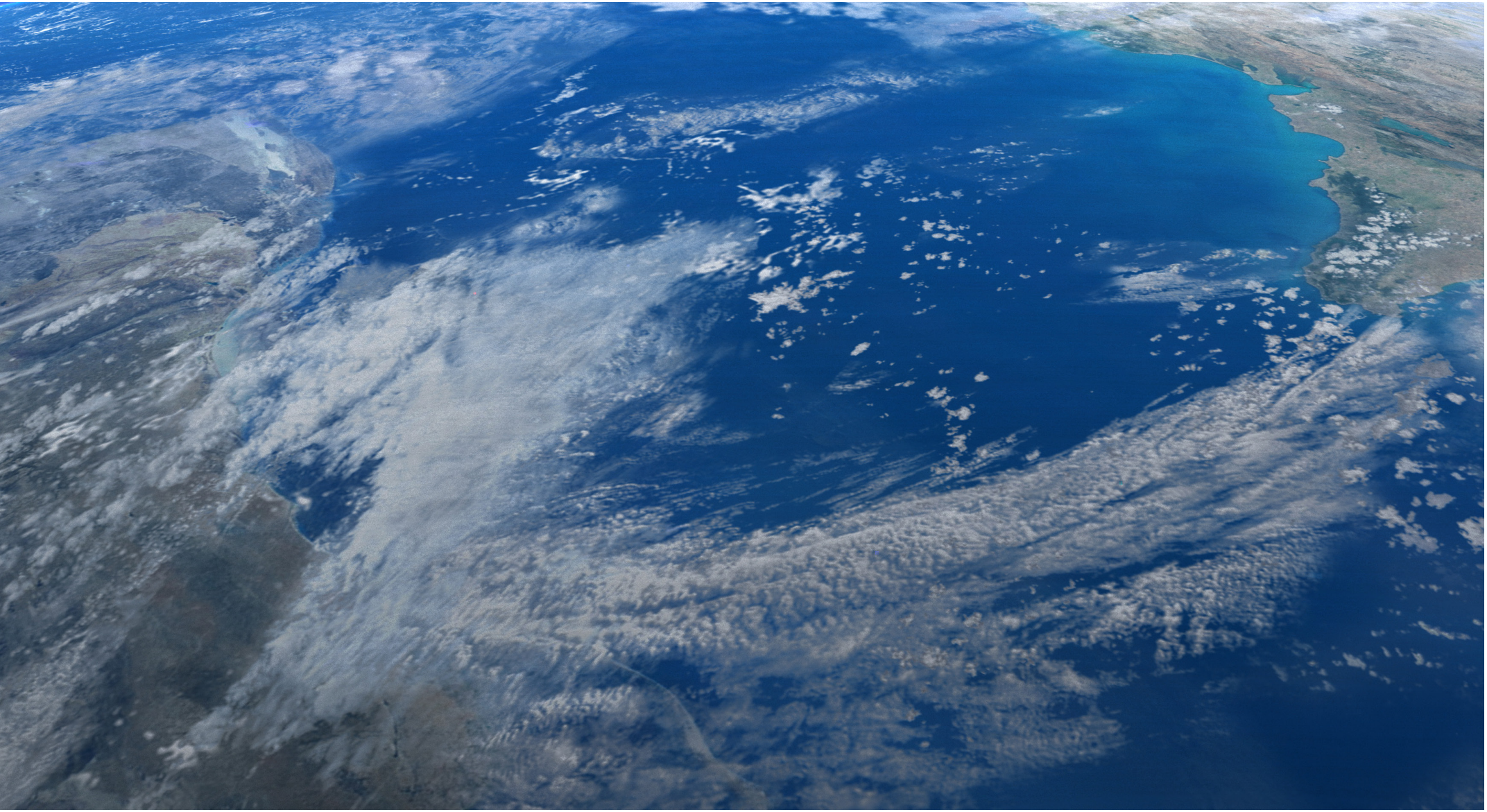
To demonstrate our commitment to best practice in social, environmental, and governance topics, we are aiming to achieve B Corp status as early as 2024, certifying our high standards of performance, accountability, and transparency. In addition, we are aiming to disclose our sustainability activities aligned with the GRI standards within 2023.

To help frame our sustainability strategy, we developed the concept of 'Impact = Innovation + Integrity'. This encompasses the topics most material to Spiber and our ambitions and intended actions for the future. An overview of our material topics can be found in the Appendix.

IMPACT = INNOVATION + INTEGRITY

	Pillar	Vision	Goal
IMPACT = INNOVATION + INTEGRITY 	**IMPACT** Transformational impact	Revolutionize industries with solutions inspired by nature. From biobased, biodegradable textiles to meat alternatives, we contribute to humanity's shift toward a more sustainable society.	▶ Scale production to provide alternative, sustainable materials to customers globally ▶ Contribute to creating a circular, zero waste economy through closed-loop production of biobased biodegradable material
	INNOVATION Sustainable materials Innovative teams	Expand the range of circular materials through our technological innovation, and enable closed-loop ecosystems for such materials through development of partnerships. A highly motivated workforce that strives for change drives this vision with interdisciplinary teamwork. This culture further attracts global innovators who strive to build a sustainable society.	▶ Push global industries toward a circular economy ▶ Achieve Net Zero by 2035 ▶ Use 100% non-edible feedstocks ▶ Create an equitable and inclusive culture in our company and contribute to a more equitable society ▶ Transform the foundation of employee-company dynamics and search for better solutions for our future society through innovative pay practices
	INTEGRITY Responsible operations Resilient organization	Our materials are supported by responsible operations, commitment to low-impact renewable practices, and founded on governance with shared core values and philosophies.	▶ 100% sustainably sourced ingredients and electricity

Impact



Impact

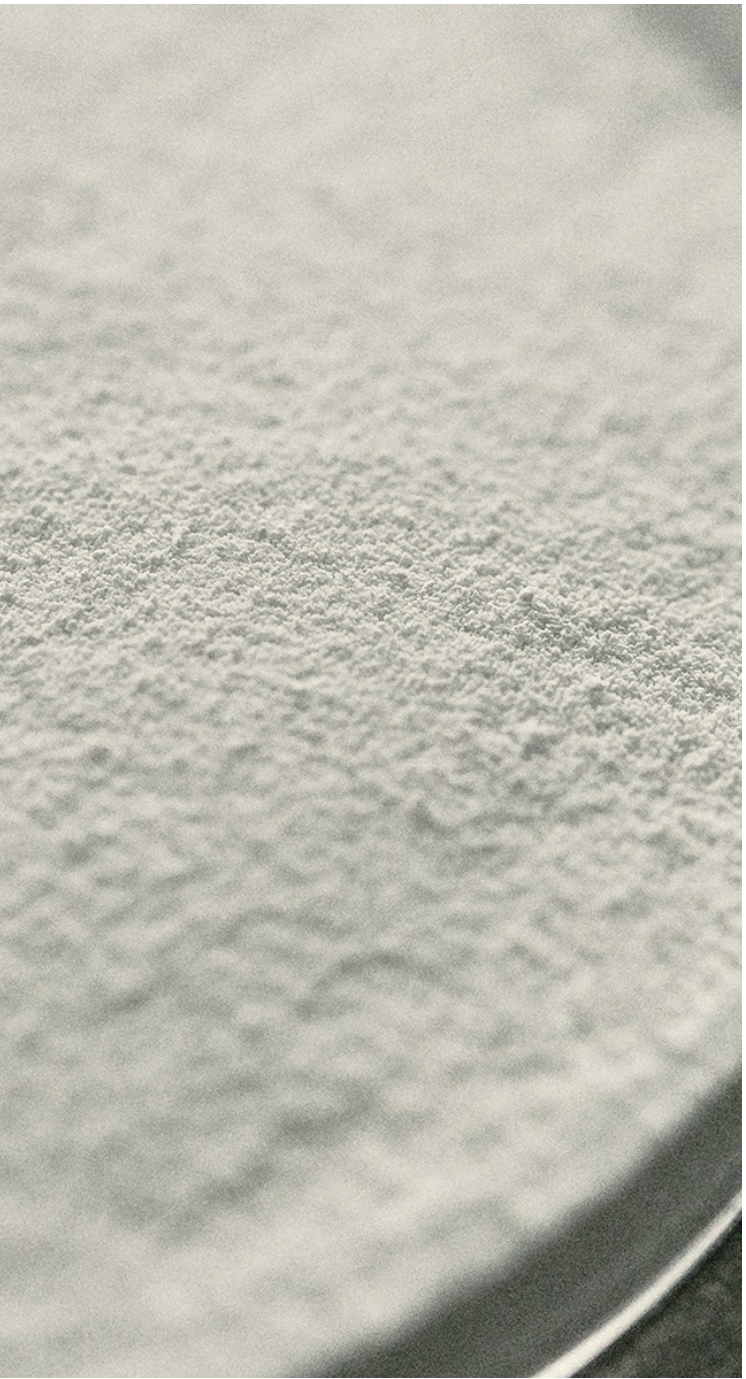
Our vision is to revolutionize industries with solutions inspired by nature. From biobased and biodegradable "Biosphere Circular" textiles to alternatives to animal products, we strive to contribute to humanity's shift toward a more sustainable society by mastering proteins.

We will achieve this through our growth plans, by scaling our production, pushing our innovation, and delivering our unique materials to market.

Progress to date	Short-term goals (by 2024)	Steps/activities for achievement	Future ambitions
Built and started operation at first commercial-scale protein production plant in Thailand	Scale production of fibers to provide alternative, sustainable textile materials to customers globally	▶ Increase production capacity of Spiber materials ▶ Develop sustainable alternatives to animal products ▶ Develop closed-loop ecosystem for Biosphere Circular materials	Contribute to creating a circular, zero waste economy through closed-loop production of biobased, circular materials for a wide range of applications

"Biosphere Circular: materials and products that can be broken down into nutrients and used as feedstock for fermentation, including cellulose-based materials (which can be broken down into glucose) such as cotton, linen, and rayon fibers, and protein-based items (which can be broken down into amino acids) such as wool, silk, and Brewed Protein™ fibers."

"Biosphere Circulation: a resource circulation ecosystem utilizing biobased and biodegradable end-of-use or waste materials (such as bagasse, end-of-use textiles, etc.) as raw materials which are broken down into nutrients (sugars and amino acids), and used as feedstock for microbial fermentation to produce Brewed Protein™ polymer or other fermentation products."



Transformational impact

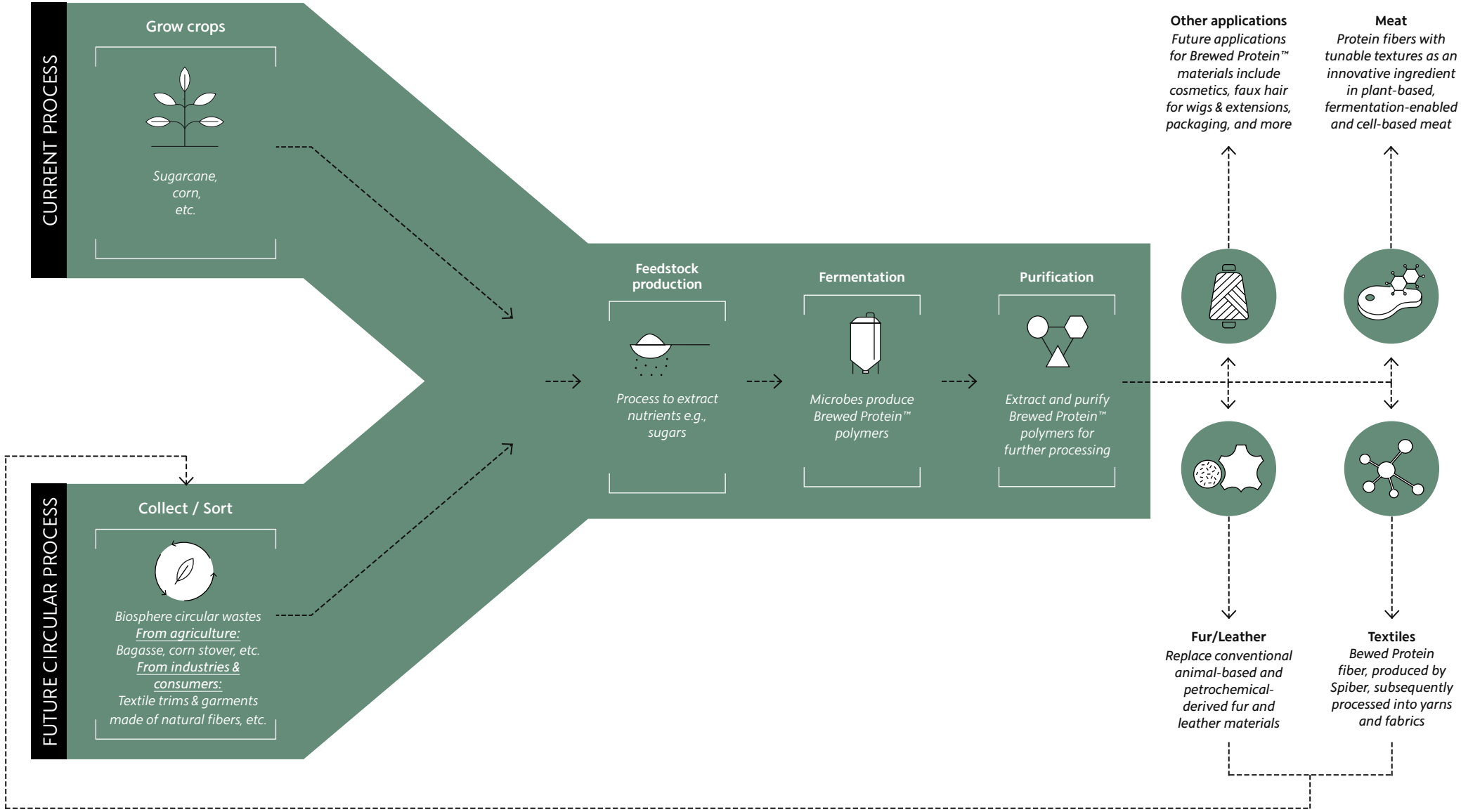
Spiber's Brewed Protein™ polymer is a revolutionary material produced through a process of microbial fermentation that is based on renewable plant-based ingredients rather than non-renewable petrochemicals as the primary feedstock. There are several exciting ways Brewed Protein™ materials can be used.

Our initial focus is on applications in textiles for the apparel industry, where our fibers offer alternative solutions to conventional animal-based, plant-based, and synthetic fibers. Additionally, we see opportunities for use of our materials in cosmetics, transportation, meat alternatives, packaging, pharmaceuticals, and other industries.

Our plan to scale

Until recently, Spiber's efforts have been primarily focused on research and development. We are now in a new phase, in which we are scaling our production to offer Brewed Protein™ fibers to a broad range of customers. Production is underway at our Thai plant, with the plant in the USA—run by our strategic partner ADM—following closely behind. Brewed Protein™ polymer production capacity will be ramping up at both facilities in the coming years, and as our business grows, we intend to further expand capacity in order to maximize our positive impact on the world.

Brewed Protein™ material production process[3]



[3] Illustration inspired by Biofabricate's "Diagram 12. Biofabricated Ingredient Material Production Example A".

An alternative to animal-derived materials

We believe that Brewed Protein™ materials that have a soft and luxurious touch will serve as a powerful and creative alternative to animal-derived materials such as cashmere, with the potential benefit of significantly reduced comparative environmental and animal welfare impacts. When compared to cashmere production, we believe Brewed Protein™ production emits fewer GHG emissions, requires less water, and causes 97% less land-use related harm.[4]

Brewed Protein™ fibers in use

To advance the practical application of Brewed Protein™ materials in the outdoor sector, we began collaborative research with GOLDWIN INC. in 2015. This partnership resulted in the Planetary Equilibrium Tee, a blend of Brewed Protein™ fibers with cellulose, and the MOON PARKA jacket made from Brewed Protein™ fibers, both launched by The North Face brand which is owned by GOLDWIN INC. in Japan.

A recent joint project from this partnership is "The Sweater", made of Brewed Protein™ fibers blended with wool. This traditional outdoor item launched by the Goldwin brand embodies a new style of sustainable production, combining materials from the natural world with Brewed Protein™ fibers.

[4] Based on Spiber's ISO 14040/14044 compliant comparative LCA study. Highlights of critically reviewed LCA results can be found on Spiber's website.

OUR PEOPLE TALKING ABOUT IMPACT

Jacob Hauser

Material Design Section

My team utilizes chemistry to explore the untapped potential of Brewed Protein™ polymers. Chemical modification of Brewed Protein™'s molecular structure provides direct control over its physical properties. By exploiting this relationship, we can optimize its processability under various conditions, selectively promote desirable characteristics for specific applications, or impart completely new properties altogether. Additionally, our research into novel materials based on Brewed Protein™ polymers has shown that combining Brewed Protein™ polymers with complementary materials can lead to new materials with significantly improved mechanical properties. This development has great potential for expanding the capabilities and applications of Brewed Protein™ polymers. To ensure the new materials align with Spiber's commitment to sustainable well-being and support our vision of Biosphere Circulation, our focus is to develop methodologies which use materials derived from renewable feedstocks to yield biosphere-compatible products designed for degradation.

Rita Chuang

Food Innovations Team Manager

In the past five decades, the global population increased by 230%, while meat consumption increased disproportionately by 450%.[5] One of the ways to meet the rising demand for a quality protein similar to animal-based meat is to create "meat" directly from plants or other novel protein sources. My team explores frontier applications of our protein materials for meat. Brewed Protein™ polymer can be transformed into powerful, innovative materials that are great for replacing not only animal-derived textiles but also animal-based foods. This adaptability is possible because the commonality between the three is "protein-based." Through cutting-edge microbial fermentation, protein polymer science, and food technology, our team develops protein fibers with tunable textures as an innovative ingredient in plant-based, fermentation-enabled, and cell-based meat. This project in the alternative protein space fits into Spiber's bigger scheme of providing disruptive technological solutions to climate change, pollution, and food shortages. It also demonstrates Spiber's dedication to contributing to sustainable well-being for all through systemic social and economic change.

Benjamas Chanpuek

Spiber (Thailand) Ltd. | Production leader

My team is responsible for the mass production of Brewed Protein™ polymer to serve as the raw material of Brewed Protein™ fibers. We also research and develop manufacturing methods and related technologies, including fermentation and purification processes, to improve production efficiency and reduce environmental impact. Spiber (Thailand) operates the first industrial-scale plant of the Spiber Group, which presented a huge challenge for our team to launch. Expanding from pilot scale to industrial scale takes work. We have made many improvements and troubleshooting to overcome the problems along the way. So far, in the first several months of operation we have produced some dozens of tons of Brewed Protein™ polymer, and we continue to improve productivity and reproducibility and support the production of various proteins in the future. Our team's responsibility is not only to mass produce Brewed Protein™ polymer. We also expect to be a model for further expansion of our global production facilities and provide training and education services on production technology and methods to other plants worldwide.

[5] Ritchie H, Roser M. Meat and dairy production. Our World in Data. 2017 Aug 25.

Innovation

Innovation

Our vision is to expand the range of sustainable materials through our technological innovation, closed loop systems, and key partnerships.

Innovation is the beating heart of our business. We are committed to continuing to develop and push Brewed Protein™ materials to do more for a wider range of industries. Given that innovation is not possible without the talented people who drive our business, we are firmly committed to helping our team thrive and reach their full potential during their time at Spiber.

Material topics	Progress to date	Short-term goals (by 2024)	Steps/activities for achievement	Future ambitions
Circularity	Proof of concept of turning textile waste into sugar for fermentation feedstock	Publish the first version of our design guideline for Biosphere Circular products by end of 2023	▶ Implement partnerships for collection of Biosphere Circular feedstocks and processing into nutrients ▶ Quantify the environmental benefits of biosphere circularity to inform consumers and policy makers	Push global industries toward a circular economy
Greenhouse gas emissions (GHG) & energy	Measuring baseline emissions intensity through a critically reviewed cradle-to-gate Life-Cycle Assessment (LCA) study[6]	Create a mitigation plan by 2024 to reduce emissions intensity to 10 kg CO_2 equivalent per kg Brewed Protein™ fiber by 2029[7]	Implement plan in design of next generation production facilities	Achieve Net Zero by 2035
Diversity, equity & inclusion (DEI)	Formed a provisional DEI working group	Form an official DEI committee led by senior management and define activities to promote the diversity of Spiber's workforce	Bring ratio of women in management positions (senior manager level and above) at the Spiber Group to at least 30%[8] by 2025	Create an equitable and inclusive culture in our company and contribute to a more equitable society
Sourcing	Tested non-edible feedstock (bagasse)	Identify potential non-edible feedstocks	▶ Develop processes to utilize various types of agricultural waste and by-products as feedstock ▶ Replace at least 50 tons (dry weight) of sugarcane sugar with non-edible, biomass-based sugar as feedstock annually for Brewed Protein™ polymer production in Thailand by 2026	100% non-edible feedstocks

[6] Spiber's ISO 14040/14044 compliant LCA study has been critically reviewed by a panel of third-party experts. Highlights of critically reviewed LCA results can be found on Spiber's website.

[7] Our Scope 1 and 2 GHG emissions and further information on our reduction activities can be found from page 41.

[8] Current ratio of women in management positions within the Spiber Group is 11% as of November 2022.

SUSTAINABLE MATERIALS

The ingredients we use in our production affect the impact our materials can have. By committing to source sustainable inputs and to ensure responsible practices in our supply chain, we believe we can maximize the positive impact of using Brewed Protein™ materials over traditional materials in a variety of applications.

Innovating for greater impact: Toward circular feedstocks

Our Brewed Protein™ materials are making their way toward an increasing number of target markets, but we are still on the way in our journey to innovate and reduce the environmental impact of our production process. For example, we currently rely on sugarcane-derived sucrose and corn-derived glucose as our primary fermentation feedstocks in Thailand and the USA, respectively. Although we work hard to support sustainable agriculture practices in these supply chains, we recognize that corn and sugarcane are ultimately food crops, and that some externalities associated with agriculture cannot be avoided.

Accordingly, we aim to shift toward increasingly circular supply chains over the coming years. The cellulose in sugarcane bagasse or discarded textiles, for example, can be broken down into sugars that can be used by our microbes to produce Brewed Protein™ materials. Although it will be a considerable challenge to develop the technologies necessary to utilize these resources in a cost-effective manner, we see it as an opportunity to challenge existing paradigms and help drive innovation throughout the field of sustainable biomanufacturing.

Dope dyeing technology

Alongside the environmental benefits offered by Brewed Protein™ fibers as compared to conventional fibers, we also seek and pursue opportunities that will allow us to minimize footprints throughout the value chains for production of finished products that use our materials. We have developed the capacity to create dope-dyed fiber—made by mixing dye into the Brewed Protein™ polymer solution before spinning into colored fibers. Once we complete implementation of this process at commercial scale, we will be able to offer pre-colored fibers which can then be used to create colored spun yarns and fabrics without requiring a subsequent dyeing process. Currently, thousands of synthetic chemicals are required to fabrics for the apparel and textile industry.[9] A report by the United Nations Environment Program (UNEP) found that fabric dyeing is the second largest polluter of water globally causing severe damage to marine life and aquatic ecosystems.

[9] United Nations Environment Programme, Putting the brakes on fast fashion

Biodegradability

With an estimated 500,000 metric tonnes of microplastic discharged each year from laundry wastewater,[10] companies and consumers are rightly concerned about the impact of synthetic fibers. In light of this, we have demonstrated that unfinished Brewed Protein™ fibers biodegrade in marine environments and undyed Brewed Protein™ fabrics completely disintegrate in soil. The marine water test was carried out under ASTM D6691 using the OxiTop system, while the fabrics disintegration test was carried out in natural soil under ambient conditions in a laboratory scale test. In addition, unprocessed Brewed Protein™ yarn can biodegrade within 30 days in seawater.

[10] European Environment Agency, Microplastics from textiles: towards a circular economy for textiles in Europe

Product safety

Product safety is our top priority. The use of Brewed Protein™ fibers in textile products has been confirmed to be safe through evaluations including third-party dermal irritation and sensitization tests. As we continue to develop new materials and products, we are committed to ensure that every product that we launch will meet relevant industry standards of product safety.

Intellectual property

Our business is built upon a proprietary technology platform that allows us to create various Brewed Protein™ materials. We vigorously protect our intellectual property to maintain our competitive position. We have over 160 patents[11] covering a wide range of inventions related to the design, production, modification, manufacturing, and processing of Brewed Protein™ materials.

Partnerships

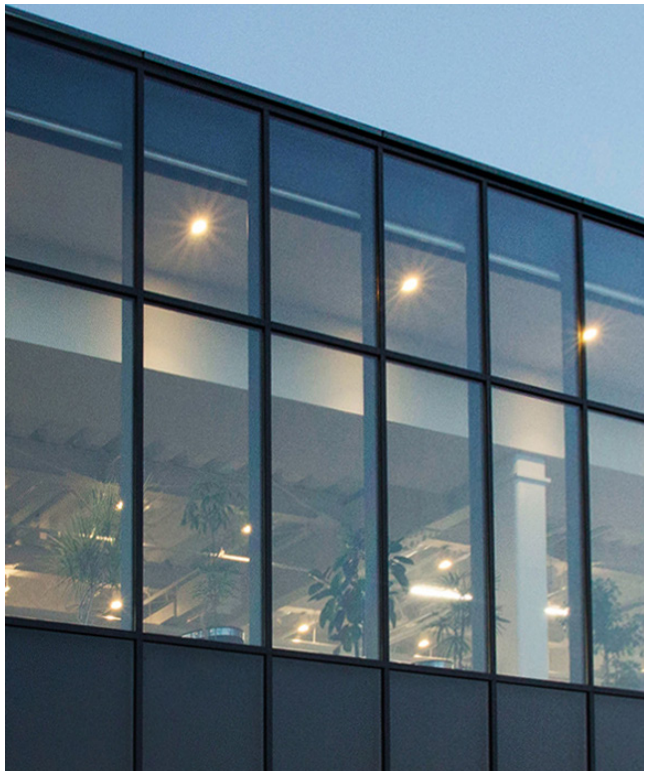
Partnerships help us validate what we are doing and grow faster than we could otherwise. A key strategic partnership in production at this stage is with ADM, who are using their expertise in large-scale fermentation technologies and extensive agricultural supply chains to produce Brewed Protein™ polymers in the USA.

We also partner with industry bodies and customers to understand market needs and meet best practices. We will continue to identify partners and engage in further collaborations moving forward.

[11] 162 patent families including pending and unpublished applications, of which 41 have at least one granted patent as of November 2022.

INNOVATIVE TEAMS

Since the beginning of our journey when co-founders Kazuhide Sekiyama and Junichi Sugahara shared the initial vision that became Spiber, through the years spent in research, development, and scaling our production, all of the progress we have had as an organization has happened thanks to the talent, ambition, entrepreneurship, and innovation of our people. We firmly believe that a diverse team with rich backgrounds and expertise is an enabler to both social and technological innovation.



Attracting and retaining talent

We are using a multifaceted approach to attract and retain a talented and diverse group of people. As a result, as of November 2022 we employ over 300 employees worldwide who have a total of 13 different nationalities, and our global voluntary employee turnover in 2021 was 4.3%.

Reward

Employees at our headquarters in Japan and subsidiaries in Thailand and the USA all decide their own salaries and share the decision openly within each company.

Our salary system, which could be viewed as a sort of social experiment, requires participants to consider the meaning of core concepts such as wages, labor, value, results, and fairness. While this experience may sometimes be challenging, we believe that participation in our system presents an important opportunity for growth and self-development. It creates a sense of empowerment and ownership, while also encouraging entrepreneurship and self-determination.

As we have ambitions to gradually expand the areas within our supply chains where living wages are ensured, our salary system is a starting point toward this vision, allowing each individual in our company to define their salaries with consideration of the balance between their own needs and the sustainability of our company.

Employee engagement

Understanding what matters most to our colleagues is extremely important, so we conduct regular employee engagement to get feedback and ensure we are doing the most we can to make sure our team members are happy.

During feedback meetings that are conducted several times a year, any Spiber employee can discuss their interest in working in other fields and request cross-team duties or transfers. If the request is in the best interest of the individual and the company, the employee can receive support to work in other fields even if they do not have experience.

We also conduct employee surveys every three months focusing on different topics such as mental health, well-being, and employee satisfaction. Depending on the results, our Personnel Management Section and Human Resources Section may follow up with employees to provide any necessary support.

Working environment

We have established a flexible working environment, including fully-remote working and the option to work for a reduced number of hours, allowing us to increase employee retention and diversity of the people we hire. We also provide support to ensure and respect the work life diversity of those employees who choose to work in this manner. Additionally, we promote local hiring, regardless of educational background, as well as hiring talented individuals from around the world. Individuals who relocate to Japan from other countries upon joining are fully supported by our staff during their move to our Tsuruoka headquarters.

Spiber's salary system

Throughout the years, societies have come up with standardized measures and criteria such as experience, role, position, and age to determine how individuals should be compensated for their work. Most people in our society do not question these measures and have come to accept them as normal practice. At Spiber, however, we are constantly searching for the best ways to operate, which has led us to invent and continuously improve our own salary system.

Since 2015, we have applied a distinctive and transparent salary system[12] where our group employees in Japan, Thailand and USA choose their own salaries. This novel salary system pushes each individual at Spiber to openly raise fundamental questions towards society—how do we define work or wages, what does it mean to be treated and assessed fairly, and what balance do we want in life. Additionally, this system helps us to address factors in gender pay gap and ensures every employee receives at least a living wage.

[12] Social Salary Setting at Spiber: https://www.hbs.edu/faculty/Pages/item.aspx?num=57865

Diversity, equity, and inclusion (DEI)

We strongly believe that there is great strength to be found in diversity. Accordingly, we seek to foster an inclusive workplace where all employees feel comfortable and valued and are provided with equitable access to the same opportunities. We acknowledge that not everyone is born under similar circumstances. We consider this when thinking about true fairness, and we act accordingly.

We believe this is the duty of those that have the ability and capacity to do so.

We have a roadmap to promote DEI and increase diversity in our business, with a key target to have 30% women in managerial positions by 2025 at Spiber as a group.

Building on this goal, we plan to accelerate our broader DEI initiatives in 2023-2024, including:

- Create a Diversity, Equity and Inclusion policy, applicable to the Spiber Group, led by senior management
- Create and run a DEI committee
- Provide DEI training to raise awareness and help create a more inclusive culture
- Introduce a program for employees with disabilities to ensure equity of access to recruitment, career development, promotion, training, and other employment opportunities for all staff
- Introduce DEI considerations to the recruitment process

Yamanoko Childcare Center

Bridging infrastructural gaps between Spiber and Spiber employees, work and life, and education and society is another pillar of our inclusion strategy. This is the reason why we operate Yamanoko Childcare Center, a day-care center for children aged 0–5 years old, where the children spend the day with nature and creativity.

The center was set up with support from the Japanese government. Spiber has been investing roughly ¥30 million per year in its operations, in addition to having invested considerable time and effort to ensure that the center has the right people and resources for it to be appropriately managed.

Yamanoko's education program emphasizes access to varied learning opportunities as well as the development of social skills and problem-solving abilities at an early age, aiming to enhance children's well-being and sense of connection with nature and the world we live in.

The presence of the center allows working parents to return to work more easily after the birth of their child, which is particularly important for working mothers and is necessary to help achieve greater gender equality in the workplace, an area in which Japan currently lags. Although running a childcare center poses many new daily challenges, with our goal of sustainable human well-being in mind and the potential for positive impact on our community, we intend to continue improving the center's infrastructure and provide the best education for our community's children.

Yamanoko is primarily used by families of Spiber and partner company employees, providing childcare for working parents. In May 2022, 47 families were using the center, with 61 children spending a combined total of 95,000 hours at the center in a year.

Community engagement

We are a member of the Tsuruoka Science Park community, a growing "town" supported by Yamagata prefecture and Tsuruoka city, involving research institutions, educational institutions, private companies, and citizens. The park pushes to strengthen the local bioscience community, materialize the vision of creating social value, and vitalize the local economy. We are also involved in local education programs, as Spiber employees frequently present at local high schools and offer tutoring services to local students.

OUR PEOPLE TALKING ABOUT INNOVATION

Hiroyuki Nakamura

Molecular Creation Section | Project Manager

I'm a member of the Molecular Creation Section, where we design and evaluate our next generation of proteins. We also conduct a wide range of research and development to establish the protein design methodology itself. The work at my team involves collecting and analyzing structural proteins from nature, learning from them to understand the relationship between protein design and material characteristics, and using this knowledge to create new protein designs that aim to enable desired functionalities and productivity. In order to make mass-scale industrialization of protein materials a reality, we need to develop technology that allows us to freely design materials that meet the requirements of end products. The protein designs that we create at Spiber will continue to change and improve as we make new discoveries. As a researcher, I take great pride in being at the forefront of this evolutionary process of design adaptation.

Tomoko Nagao

Yamanoko Childcare Center Director

The Nursery Section of the Culture & Environment Division operates Spiber's two company nurseries (Yamanoko Childcare Center and Yamanoko Childcare Center Home) based on Spiber's philosophy of maintaining personal well-being within a circular, sustainable society. Yamanoko's aspiration is for the people who attend our nursery to live in their unique way while also fostering a keen awareness that they are part of a global, circular ecosystem. Practicing this ambition and finding happiness in the moments can in itself be considered the "pursuit of well-being." We continually think about what our corporate philosophy means through the lens of "personhood" and comprehensively consider what a "place to live" or a "community" mean for all people, from children to adults. After all, people are the ones who go out and build a better society, so when I look ahead to the next several decades, I sense a wealth of possibility in both our materials business as well as our efforts to raise the next generation.

Yoshimi Tanaka

Human Resources Section Manager | Salary System Committee Member

Our Salary System Committee implements ongoing improvements to Spiber's unique salary system, in which each person decides their own salary, and salary amounts are publicly visible within the company. How do you share limited resources while balancing the value of your contributions and the company's financial situation? We tackle heavy questions: What are salary, labor, evaluation, and achievement? For that matter, what is true "fairness?" This radical system pushes each of us to grow. Through that growth, we break through preconceived notions and foster new mindsets that allow us to consider and develop better systems for the future.

Integrity

Integrity

Creating operations that uphold our values—using resources wisely and embedding company values into our culture and ways of working.

Our materials are supported by responsible operations, committing to low-impact renewable practices, and founded on governance with shared core values and philosophies.

Material topics	Progress to date	Short-term goals (by 2024)	Steps/activities for achievement	Future ambitions
Greenhouse gas emissions (GHG) & energy	Measured and sharing our direct GHG emissions	Measure and disclose our carbon footprint including both direct emissions and those from our supply chain	▶ Supply chain GHG emissions screening ▶ Process and feedstock optimization ▶ Calculate and report carbon intensity, energy used and % renewable energy used	Use 100% renewable electricity through direct use and support for construction of new facilities for renewable electricity generation aiming for 2025, and at the latest by 2027
Sourcing	Created Spiber's Sustainable Sourcing Policy	▶ Define and identify strategy to source sustainable materials ▶ Identify risks within supply chains through Human Rights Impact Assessment (HRIA) by 2023 Q2	▶ Increase number of suppliers that adhere to our Sustainable Sourcing Policy ▶ Increase traceability within our supply chains ▶ Implement methods and activities to reduce social and environmental impact within our supply chains	100% sustainably sourced materials

RESPONSIBLE OPERATIONS

Greenhouse gas emissions (GHG) & energy

Climate change is a crisis that all of humanity must respond to robustly and swiftly. We are committed to playing our part and will measure our company's carbon footprint and disclose it through an internationally recognized framework (e.g. CDP or TCFD) for the year 2022 (reporting in 2023) onward. Additionally, with the aim to be Net Zero by 2035, we are looking for the most effective framework to work toward this goal while growing our business and impact.

We have measured our Scope 1 and 2 carbon footprint for the first time and have carried out a high-level scope 3 screening process based on financial data to understand which parts of our supply chain have the greatest impact. Since we were not yet engaged in commercial production in 2021, these numbers will change significantly for 2022. We will continue to measure and monitor our footprint as our plants begin operation and our business grows, with the aim of decoupling growth from carbon emissions.

We plan to set a clearly defined emissions-reduction pathway to futureproof the business. This will be based on reducing carbon emissions intensity[13] for our product to safeguard our growing company. We believe a sharp focus on the carbon intensity of our products will drive further innovation, boost investor confidence, and provide greater resilience against climate-related impacts and regulation.

GHG emissions footprint[14]

Tonne CO_2e				
Scope category	**Total**	**Japan**	**Thailand**	**USA**
Scope 1	1,290	857	427	5
Scope 2	3,720	1,119	2,601	0
Scope 1+2	**5,010**	**1,976**	**3,028**	**5**

[13] Emissions intensities to be calculated by cradle-to-gate LCA.

[14] GHG footprint boundaries: our footprint includes Spiber Inc., Spiber (Thailand) Ltd and Spiber Americal LLC sites. The calculation was done in accordance with the GHG Protocol with advisory from an external consultant.

Increasing renewable electricity

We are aiming to purchase renewable energy in the USA through a virtual power purchase agreement (VPPA) which will create new renewable electricity generation equivalent to our global consumption. In tandem, we are continuing to reduce energy use and planning to source lower impact energy wherever possible in a meaningful way. Due to the size of our facilities compared to our energy demands, it is not possible to generate sufficient renewable electricity on-site. Through a VPPA, we would be able to commit to long-term financial support of new renewable electricity facilities equivalent to our energy usage.

In Thailand, because of current government regulation on electricity, we are not able to use any off-site power purchase agreements to meet our renewable electricity needs or purchase renewable electricity in a way that would have any real impact on the world today. Thus, we decided to re-focus our "environmental impact" budget on obtaining a larger VPPA in the USA that would cover our global electricity usage. According to today's international norms, we cannot count the renewable electricity we support in the USA against our electricity usage in Thailand in our carbon footprint. For this reason, we have not yet set a renewable energy commitment; however, we have started working with international organizations to engage the Thai government on creating new ways that companies in Thailand can make significant impact through renewable energy investments.[15]

We are also considering an additional onsite PPA or VPPA to cover our energy usage in Japan. Although our energy usage in Japan will be a small fraction of our global energy usage once we scale up our production volumes, we believe that where possible, regional options with additionality possess the most value for society.

[15] Signatory on non-binding Letter of Intent for Clean Energy Demand Initiative between Government of Thailand and private sector.

Lower carbon vs. animal-derived materials

In parallel with scaling production, we are carrying out Life-Cycle Assessments (LCA) of Brewed Protein™. This will be an ongoing process, though preliminary results show that Brewed Protein™ fibers have lower associated carbon emissions than animal-derived alternatives such as cashmere or merino wool. Based on our LCA, the climate change impact from Brewed Protein™ fibers will be 50% less than Mongolian cashmere as produced today, based on our Thai operation, and over 75% less after the implementation of renewable electricity in production.

As well as lower carbon emissions, our LCA[16] shows that making Brewed Protein™ fibers also uses less water. Brewed Protein™ fiber production uses 94% and 86% less water and creates 97% and 86% less land-use related harm than production of Mongolian cashmere and Australian merino wool, respectively. While Brewed Protein™ fibers show lower water consumption, carbon emissions, and land use, the LCA does show an increased environmental impact in some other areas compared to equivalent animal-derived products. This includes higher consumption of petroleum products and higher toxicity. These impacts come from chemicals used in agriculture for our sugar feedstocks, harvest and burning practices from sugarcane agriculture in Thailand, as well as higher use of process chemicals, electricity, and thermal energy in our production processes. We are responding to these issues, with plans in place to make improvements as we scale production, including supporting the construction of new renewable electricity facilities and pursuing partnerships to implement sustainable and regenerative agriculture practices.

Compared to Mongolian cashmere, Brewed Protein™ fibers use 94% less water and does 97% less habitat damage.[17]

[16] ISO 14044 compliant comparative cradle-to-gate LCA study based on pre-production data for Brewed Protein™ and secondary source information for Austrailian merino wool and Mongolian cashmere. Comparative values based on full-scale production of polymer in Thailand and fiber spinning in Japan and using PEFCR guidance version 6.3 allocation factors; water use is scarcity weighted. Harm from land use is based on species richness loss.

[17] Based on Spiber's ISO 14040/14044 compliant comparative LCA study using ReCiPe 2016 (H) Land Use [annual crop equiv-yr] and PEF allocation for co-products of goat rearing. Highlights of critically reviewed LCA results can be found on Spiber's website.

Water stewardship and biodiversity

Water is a precious, shared resource, and we seek to use it responsibly by reducing consumption, reusing water where possible, and improving the quality of wastewater.

We closely monitor wastewater quality in our facilities. To help us manage water and other environmental impacts in our directly operated facilities, we will implement quality and environmental management systems certified to ISO 9001 and work towards ISO 14001 environmental management certification, respectively to ensure our systems, policies, processes, and objectives are robust and provide the necessary controls. Responsible agricultural practices in our feedstock sugars supply chains also seek to minimize biodiversity damage.

Other environmental goals

We will measure our baseline impacts and set goals for impact reduction for eutrophication, water use, and toxicity impacts of our production. We have identified these as areas of concern through our LCA, and the textile and apparel industry have also identified these as areas of concern for the industry as a whole.

Sustainable and circular

Our two Brewed Protein™ polymer manufacturing sites are situated close to areas where key raw materials are grown: corn in the USA and sugar in Thailand.

Sugarcane sourcing in Thailand

We want to ensure transparency and traceability throughout our supply chain, and to be an advocate for high standards of labor practices and well-being as well as supporting regenerative agriculture practices. In Thailand, all the sugar we buy is supplied by members of the sustainable sugarcane platform Bonsucro, which aims to reduce the environmental and social impacts of sugarcane production.

Corn sourcing in the USA

In the USA, our strategic partnership with ADM gives us ready access to plant-based dextrose from corn for use as a feedstock. From the first year of production, some of the corn will be sourced from growers implementing regenerative agricultural practices including cover crops and reduced tillage, which improve water quality and biodiversity and reduce GHG emissions. Emissions reductions and soil carbon sequestration will be calculated using Field to Market's platform, and we will pursue ISCC certification. We will employ this method for an increasing proportion of the corn in subsequent years, targeting 100% within five years and report on progress such as the coverage of volume through this method in addition to the positive environmental impact.

Sourcing and human rights

Spiber is committed to choosing raw materials that have minimal environmental footprints or trust-worthy certifications, and to identify and purchase from the most responsible suppliers. Where needed, we aspire to engage with value chain partners to create supply chains we are proud to source from. We have developed a Sustainable Sourcing Policy which we are implementing through dialogue with our suppliers. Our Sustainable Sourcing Policy follows a Human Rights Due Diligence (HRDD) approach for preventing and mitigating adverse human rights impacts, including measures on how to tackle grievances in the supply chain.

We intend to select suppliers and business partners that share our vision. During the first stages of supplier selection, we have a screening process in place in which we assess any past or ongoing environmental, social, or governance (ESG) incidents related to the supplier or business partner. As we scale up production and have more concrete partnerships and supplier contracts in place, we plan on strengthening our supply chain management practices by conducting periodic evaluations of facilities and operations that provide goods or services to our company and ensuring compliance with our policy through questionnaires and direct engagement.

As we strengthen our supply chain management, we plan to act upon the issues mentioned in our Sustainable Sourcing Policy. We will conduct a Human Rights Impact Assessment (HRIA) to identify and prioritize human rights risks and will take action to mitigate key threats.

To strengthen our approach as production scales, we plan to:

- Ensure our suppliers implement sustainability-related commitments or have plans to close potential gaps
- Identify and prioritize risks within supply chains through Human Rights Impact Assessment (HRIA) by 2023
- Provide training for suppliers across the supply chain to ensure transparency and adherence to our policy
- Implement and communicate an anonymous grievance mechanism that can be used by all stakeholders

Health, safety, and well-being

Health, safety, and well-being management is ingrained in our business, with a well-established near-miss reporting system. We are pleased to report there have been no serious incidents recorded since the company was founded, and just seven minor incidents have been reported during this time.

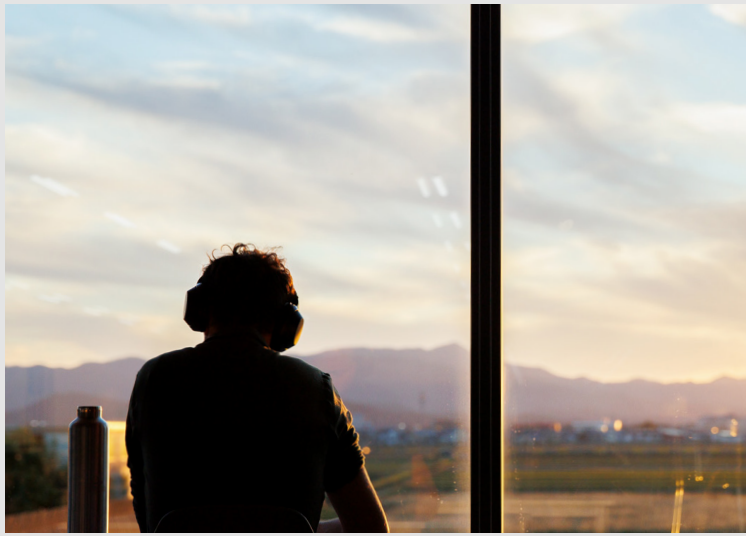
The COVID-19 pandemic has taken a huge toll on our society and has pushed our health and safety management processes further. Procedures are in place to prevent transmission of COVID-19 in the workplace, while striving to preserve the flexibility needed to run our business. This includes avoiding travel where possible, implementing remote working options, providing and stipulating the use of PPE and sanitizers, implementing social distancing, performing regular temperature checks, and installing humidifiers to prevent the spread of viruses.

Our health and safety focus will continue at our production sites and will include initiatives such as appropriate training (including qualifications) in key areas such as the handling of acids, organic solvents, hazardous materials, and toxic substances, as well as countermeasures against static electricity.

We conduct monthly health check hearings, a health assessment and dialogue with each employee three times a year, and periodic health checkups and stress assessments. As we continue to grow our business, we will strive to further strengthen health, safety, and well-being at Spiber. In addition, we require that all employees undertake a semi-annual check-up quiz regarding genetically modified organism testing to further assure employee health and safety.

Next steps:

- Develop and improve guidelines on health and safety to raise awareness of its importance, prevent accidents from occurring, and outline the measures that should be taken in the event that any incidents do occur.
- Create resources on colleague mental health and well-being, to raise awareness and support employees who may be struggling.



RESILIENT ORGANIZATION

Governance and business ethics

We are committed to setting high standards for our employees and to establishing an operating framework that exercises appropriate oversight of responsibilities at all levels with key governance characteristics. We have constantly been improving our organizational structure in order to optimally balance the agility required by our status as a growing company with demonstrated high integrity achieved through rigorous and appropriate management practices.

Our executive vice presidents oversee activities throughout all divisions which helps ensure that the right people, including senior management, have input into the right areas of the business at the right time, enabling greater agility and quicker decision making. Executive officers, executive vice presidents, and division and office managers then gather and discuss impacts, initiatives, and priorities through weekly senior management meetings and executive meetings conducted twice a month.

There are various committees including the Compliance & Risk Management, Environmental Protection, Health & Safety, and Intellectual Property Committees, which all report directly to the Executive Officers (see page 50) and are tasked with ensuring that the Board of Directors' procedures and operations align with the company's governance ambitions, corporate values, and external compliance demands.

The Compliance & Risk Management Committee is responsible for overseeing enterprise risk management and mitigation through a regulatory lens (including environmental, social, operational, IT, compliance, and reputational risks). The existence of these committees ensures coverage of a range of topic areas and helps us to manage risks effectively.

We offer anonymous grievance mechanisms and a whistleblowing hotline for workers in our head office and supply chain, allowing workers to raise issues in a confidential manner at any time to an external party. Our non-retaliation policy and privacy for all employees means that the person who reports (i.e. the whistleblower) will be protected by law.

Compliance with laws and regulations

We recognize that our corporate governance structure will be critical for our success in meeting our goals and future priorities. Our approach to compliance is outlined in our Business Compliance Policy. Our policy reiterates the duty of directors, employees, and all officers to comply with relevant laws and keep abreast of social trends and changes in the environment related to those laws and regulations.

The policy focuses on the work environment and commitment to establish a personal compensation system, highlighting respect towards diversity, individuality, and personality. It also demonstrates our commitment to building a low carbon society and addressing environmental risk.

We plan to update this policy depending on stakeholder, social and environmental needs, and in alignment with our existing policies.

We are implementing several risk mitigation plans including crisis management training. Moreover, a Social Responsibility Communication Q&A is also being developed by our Public Relations team in collaboration with our Sustainability team to ensure the statements that we make are accurate and free from technical errors.

Cyber security

A robust approach to cyber security is essential to our company as we recognize the increased risks in an increasingly interconnected world.

We have implemented cyber security measures to avoid the operational risk and damage which would be caused by the loss or unauthorized disclosure of digital information. Our Information Security Management Regulations Plan covers all our sites and includes security systems for cloud-based platforms and internal premises. Company-wide cyber security is also discussed in the Compliance & Risk Management Committee.

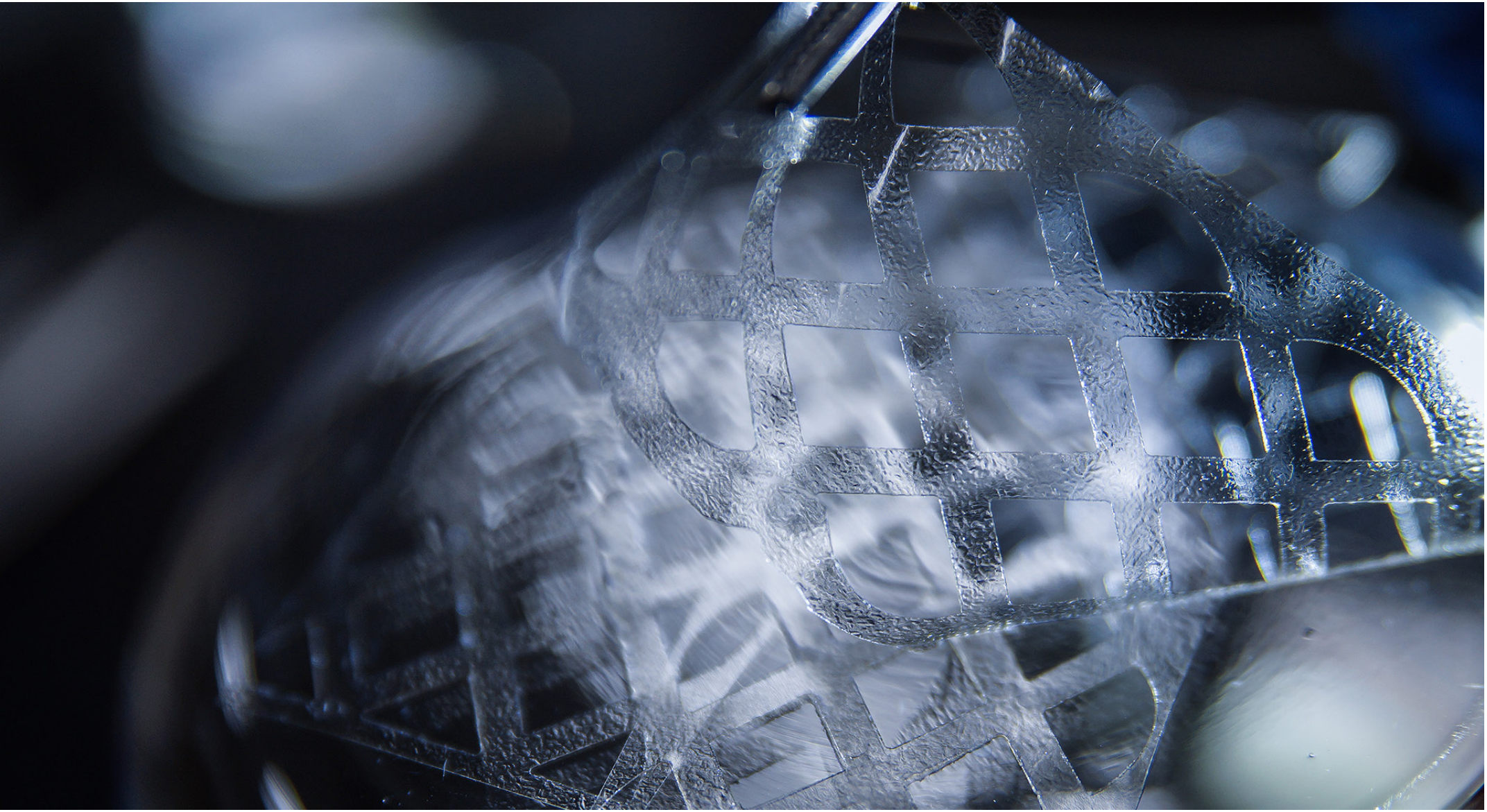
OUR PEOPLE TALKING ABOUT INTEGRITY

Sunita Darbe

Environmental Footprint Management Section Manager

My work at Spiber focuses on reducing our operations' environmental footprint. By carrying out Life-Cycle Assessment (LCA) and carbon accounting and through consultations with teams across the Spiber Group, our team tries to translate analysis into improvements. New technologies take time to optimize. For example, animal fibers have been used for thousands of years; petrochemical-based synthetics have been optimized for over a century. The processes and supply chain for making Brewed Protein™ fiber are brand new and can be improved rapidly with collaborative efforts both within the Spiber Group and together with our partners.

Appendix

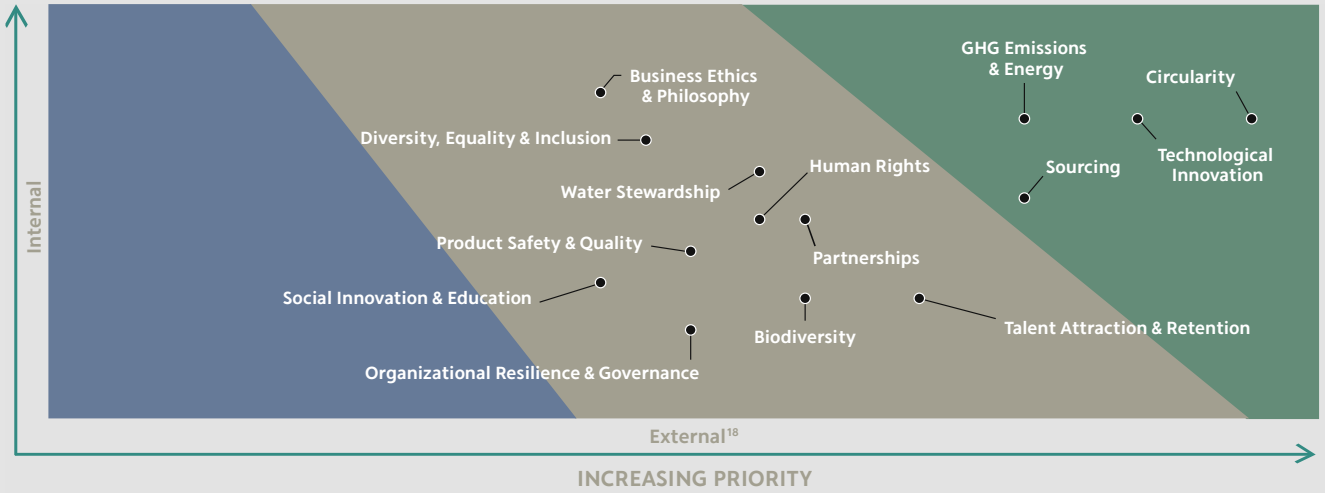


Appendix

Spiber's material topics

To define our strategy and establish our sustainability priorities, we conducted a materiality assessment with a leading sustainability consultancy. Together, we identified the key topics to cover based on sustainability frameworks such as the Global Reporting Initiative (GRI) and industry trend analysis.

We interviewed external stakeholders, including investors, customers, NGOs, consumers, and suppliers to better understand some of the key challenges in more depth and to help our internal leadership team better understand the business perspective, motivation, and strategy for the next few years.



The materiality assessment revealed the most important topics for us:

- **Technological innovation:** Using our revolutionary new materials to solve global challenges in the apparel industry and beyond
- **GHG emissions and energy:** Continually reducing the intensity of our materials, both in production and throughout our supply chain
- **Circularity:** Innovating to close the loop in apparel production
- **Sourcing:** Building our supply chain to enable lower environmental impacts and decent work via healthy partnerships with suppliers
- **Talent attraction & retention:** Recruiting diverse teams globally and creating transparent and innovative pay practices

[18] We interviewed slightly more external stakeholders than internal, therefore, the external view holds more weight in the results of the materiality matrix this year.

Stakeholder engagement

In addition to the materiality assessment, engaging with our diverse set of stakeholders helped to confirm the different needs and interests of our stakeholders and what their expectations are of Spiber:

Brands and consumers: *Develop textiles that circulate the apparel industry with their desirable aesthetics, touch, performance, and reduced environmental impact*

Suppliers and processing partners: *Build strong, trusted relationships*

Employees/colleagues: *Have pride in Spiber and the impact the business is having*

Investors: *Manage ESG-risks and opportunities well to maximize investment*

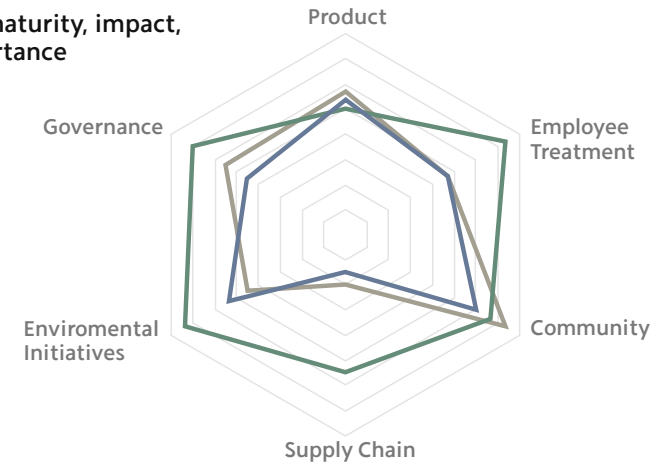
Influencers including NGOs: *Take leadership in the industry and maintain robust ESG practices*

Impact assessment

To understand the actual and potential impact of Spiber and Brewed Protein™ materials we commissioned a third-party impact assessment of our company and product.

The impact assessment reviewed Spiber's sustainability efforts and work to date using a methodology based on six key impact areas, inspired by the B Corp model: Product, Supply Chain, Governance, Employee Treatment, Community Activities, and Environmental Impact. This assessment began work to quantify our actual and potential impact and included recommendations to improve and maximise our impact over time, many of which we have adopted and communicated within this report.

Spiber's maturity, impact, and importance



Maturity: Spiber practices compared to common practice and best practice

Impact: actual (or potential) impact that Spiber is havingin this area

Importance: scale or importance of the impact (e.g. in terms of people helped or carbon saved)

Spiber and the Sustainable Development Goals

We are an ambitious, solution-driven business. We create products that will support the transition to a more sustainable world.

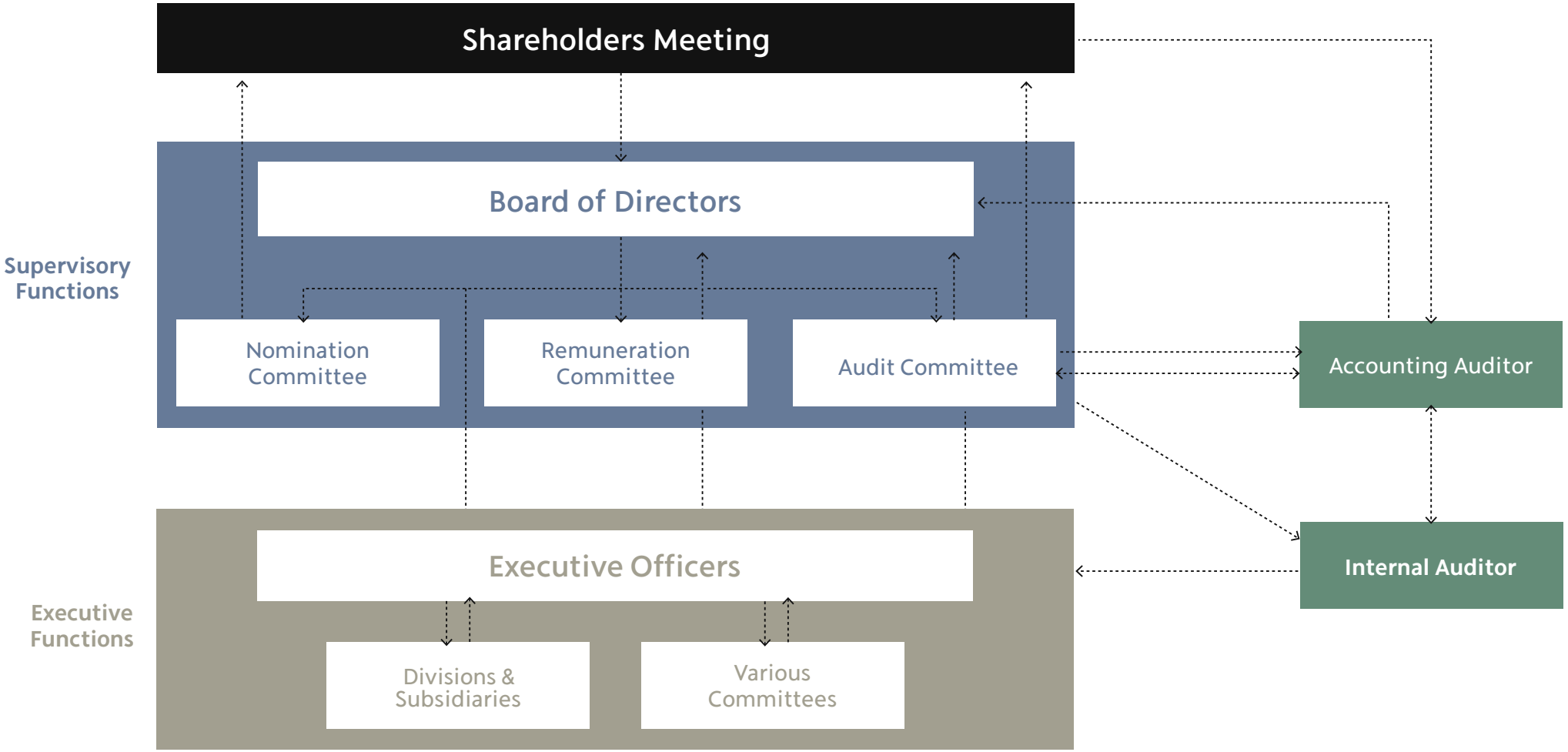
To better understand our role, we have mapped some of our main activities against the UN Sustainable Development Goals (SDGs). Governments, NGOs, and businesses around the world are taking action to achieve the 17 SDGs and support global sustainable development, and we are committed to doing our part to help deliver them as well. We have identified four goals where we can have the greatest impact, and our actions against these targets are outlined as follows:

Goals	How we contribute	Our progress to date	Our future actions
Goal 8: Decent Work and Economic Growth **8.2**: Achieve higher levels of economic productivity through diversification, technological upgrading, and innovation, including through a focus on high-value added and labor-intensive sectors	▶ Through research and development and scaling our production, Spiber is built on the talent, ambition, entrepreneurship, and innovation of our people and local communities ▶ Through our own living wage commitment and our engagement in the supply chain	▶ Policies developed in line with the International Labor Organization (ILO) conventions, the OECD Guidelines for Multinational Enterprises, the United Nations Guiding Principles (UNGP) on Business and Human Rights, and the United Nations Sustainable Development Goals (SDGs) ▶ Strong health and safety management and well-being initiatives including stress self-analysis survey ▶ Operating Yamanoko Childcare Center, the company childcare facility to help families with work/life balance	▶ Identify risks within supply chains through Human Rights Impact Assessment (HRIA) by 2023 Q2 and act upon any latent and salient human rights risks identified in the HRIA, such as the human rights risks revolving migrant workers and the provision of living wage ▶ Continue to promote gender diversity with gender statistics tracking and a target to bring the ratio of women in management positions (senior manager level and above) at the Spiber Group to at least 30% by 2025

Goals	How we contribute	Our progress to date	Our future actions
Goal 9: Industry Innovation and Infrastructure **9.1**: Develop quality, reliable, sustainable, and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	Innovation is core to our business, as shown by our product itself: the creation of bioprotein and the exciting opportunities in a range of industries	Spiber is a member of the Tsuruoka Science Park community, which pushes to strengthen the local bioscience community, materialize the vision of creating social value, and vitalize the local economy	▶ Continue to develop Biosphere Circulation program (see page 20), and continue research around resource circulation, and use of agricultural by-products as feedstock for production of Brewed Protein™ polymers ▶ Publish the first version of our design guidelines for Biosphere Circular products by the end of 2023
Goal 12: Responsible Consumption and Production **12.2**: By 2030, achieve the sustainable management and efficient use of natural resources	Our focus is on creating a more sustainable alternative to a range of materials. To deliver that we are building a responsible approach to all aspects of our business and supply chain	▶ Conducting research on the use of agricultural by-products and waste materials as feedstock ▶ Responsible sourcing processes in place including purchasing Bonsucro certified sugar, and implementing our Business Compliance and Sustainable Sourcing Policies	Introduce efficiency measures and recycling in our domestic and overseas production

Goals	How we contribute	Our progress to date	Our future actions
Goal 13: Climate Action **13.2**: Integrate climate change measures into national policies, strategies and planning	With the climate emergency ever more prevalent, we can incorporate climate resilient measures into our business from the start, and continue to ensure Brewed Protein™ fibers have low environmental impact	Conducted an LCA—Brewed Protein™ fiber production to have lower GHG emissions when compared to cashmere	▶ Disclose carbon footprint, including Scope 3 ▶ Create a mitigation plan by 2024 to reduce emissions intensity to 10 kg CO_2 equivalent per kg Brewed Protein™ fiber by 2029 as measured by cradle-to-gate LCA of fiber production ▶ Achieve Net Zero by 2035 ▶ 100% of the corn used to produce polymers at the USA plant will be from corn farmed using regenerative agriculture practices such as cover crops within five years

GOVERNANCE STRUCTURE



Spiber

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