

A worker wearing a yellow hard hat is seated in a control room, viewed from behind. The room is filled with multiple computer monitors displaying various data and graphs. The worker is operating joysticks on a control panel. The background shows industrial structures and a bright light source, possibly a furnace.

PROTERIAL

The Proterial Report 2024

Integrated Report



Proterial, Ltd.

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Information Provided by the Proterial Group

Information on how the Proterial Group creates value and achieves sustainable growth	The Proterial Group Report (Integrated Report)	
Information for various stakeholders	Company Profile	CSR Activity Report
Publication of detailed information and the latest information	<div>Proterial Website https://www.proterial.com/e/</div> <div>Corporation Information Product Information CSR Information</div>	
	Financial information	Non-financial information

Editorial Policy

Proterial has released integrated reports for all stakeholders, including shareholders and other investors since 2016 to deepen understanding among stakeholders about how the Group utilizes its strengths to create value for customers and achieve sustainable growth. Each report was edited referencing the International Financial Reporting Standards (IFRS)'s recommended International Integrated Reporting Framework and the Ministry of Economy, Trade and Industry (METI)'s Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation. In addition to the Proterial Group Report (Integrated Report), we provide information to our various stakeholders as shown in the chart above. We also periodically update our corporate website with the latest information, including detailed information and news releases.



Review Period

FY2023 (April 1, 2023 to March 31, 2024)

Note: Where possible, the latest information is used at the time of publication.

Relevant Entities

Proterial, Ltd. and its consolidated subsidiaries

Note: In cases where information contained herein refers to a review period and/or relevant entities different from those stated above, this is pointed out accordingly.

Corporate Philosophy

Mission

Make the best quality available to everyone

Striving for the highest standards in our original technologies, products, processes, and people, we will bring new levels of value to customers all around the world.

質の量産

独創的な技術と、製品・ビジネスプロセス・人に関する高い質の追求によって、新たな価値を生み出し、世界の人々に広く提供していく

Vision

Leading sustainability by high performance

Through the creation of best-in-class materials, to be a company that solves individual customer issues and contributes to the prosperity and vitality of all.

持続可能な社会を支える高機能材料会社

お客さまの課題を解決する高機能材料の創造によって、持続可能な社会の実現に貢献し続ける企業となる

Values

Unfaltering integrity

We earn the trust of our customers and other stakeholders by being honest and sincere in our daily activities and by understanding our obligation to the people and communities we serve.

至誠

人や社会に対する責任を常に自覚し、日々のあらゆる活動に誠実に向き合う。約束を守る、正直に行動することを徹底し、私たちに関わる全ての人々の信頼と期待に応える

United by respect

Across our organization, we respect diversity and the free and independent exchange of opinions, learn from each other, and collaborate to achieve our common goal.

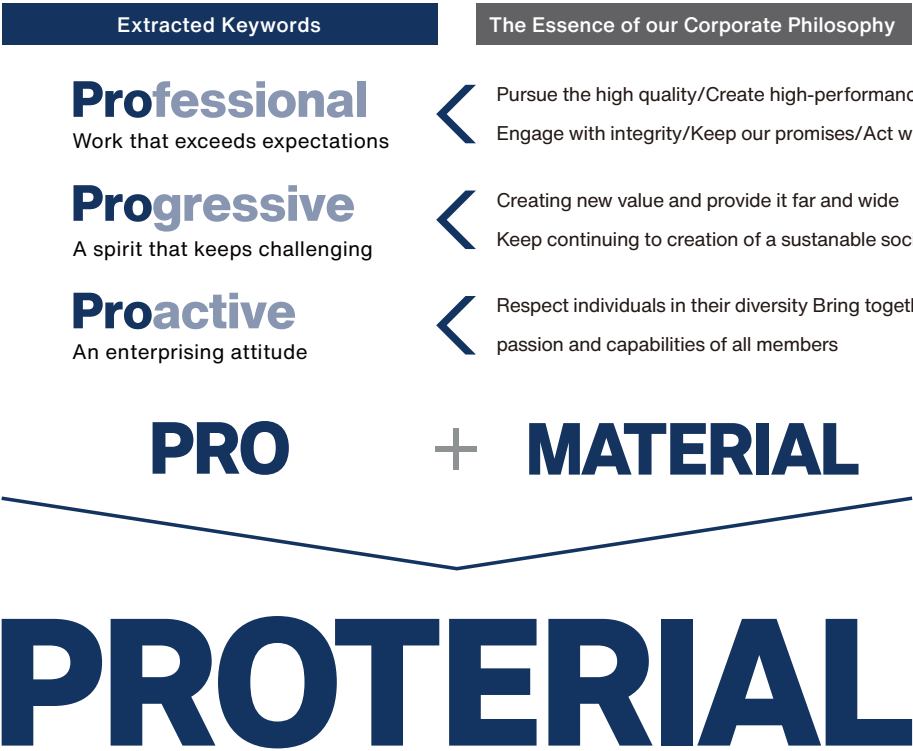
和則彊 (和すれば強い)

多様な個を尊重し、主体性をもって自由に意見を交わし合い、学び合い、共通の目的に向けてチーム全員の情熱と能力を結集することで成果を出す

About Proterial

The Thinking Behind our Company Name

The new company name, PROTERIAL, reflects the essence of our corporate philosophy, which consists of Mission, Vision and Values, combining pro- with the word material. Pro- represents our three pros: Professional—work that exceeds expectations; Progressive—a spirit that keeps challenging, and; Proactive—an enterprising attitude. Material refers to the high-performance materials that our original technologies produce and which underpin the three pros. With our focus on solving customer issues and bringing new levels of value, we promise to contribute to the realization of a sustainable society through the products and services that embody our philosophy.



Our Promise

Proterial produces world-class, high-performance materials for mobility, industrial infrastructure, and electronics.

Since 1910, we've brought together specialists of all kinds to improve our skills and technologies, reflecting our commitment to achieve the best possible quality in everything we do. Moving forward, we'll continue to elevate both our products and the processes and people that define them.

Only by conducting all our activities with unfaltering integrity can we meet the expectations and trust of the communities we serve. By creating new and ongoing value, we'll help customers realize innovation and contribute to a sustainable society.

With our professional determination, progressive intent, and proactive approach, we'll strive unceasingly to provide exceptional materials that pave the way to a brighter future.



01

Specialty Steel

The breakthrough is our proprietary TiN miniaturization technology that we have discovered through the structural and compositional control technology which we have continuously refined.

Through a continuous cycle of material creation that is ideally suited to the sophisticated demands and challenges of its customers and the perfection of these materials to a level that can be provided for mass production, Proterial has developed a succession of unique materials that boast high functionality and quality which are then deployed to new applications and new market domains. We will introduce special steel for which we are facing the challenge of full-scale entry into aircraft-related materials based on the development of CVT belt materials and the technology that is the result of a spiral of improvements through co-creation with customers, centered on our proprietary metal structural and compositional control technology.

Mission to make the best quality available to everyone by co-creation with customers

Structural and compositional control technologies forming the core of value creation

From high assessment of our material development capabilities to mass production of CVT belt materials



Proprietary TiN miniaturization technology
leading to the solution of difficult problems

Opening up a new future with structural
and compositional control technology

➔ **PRO+MATERIAL STORIES 01** For details on **Specialty Steel Materials**, see P 24

02

Soft Magnetic Materials

The world's first nanocrystalline soft magnetic material, created by combining materials and applied technologies cultivated through research and development, as well as through the passion of our researchers.

Nanocrystalline Soft Magnetic Material FINEMET® was commercialized for the first time in the world by Proterial in 1988. It has excellent characteristics and is making significant contributions to the miniaturization and energy saving of various electronic devices such as smartphones. However, the path has not been smooth; it has been built through structural and compositional control technologies centered on metals, and strong relationships with a wide range of customers.

**Solving social issues through
“needs-driven development”**

**About Nanocrystalline Soft Magnetic
Material FINEMET®**

**The DNA of an experimentation first
approach and the passion of developers
led to the development of a world first**



Production efficiency improvements and the needs of the times have aligned to take us to a new stage

Soft magnetic materials are becoming increasingly important for the realization of a decarbonized society

➔ PRO + MATERIAL STORIES 01 For details on Soft Magnetic Materials, see P 26

CEO's Message

**Completing reforms while drawing
a roadmap for the future.**

**We will seize global growth opportunities and
make great strides as a Green Enabler.**

Sean M. Stack

Representative Director, Executive Chairman, President and CEO

Cultivating a Corporate Culture based on our Mission, Vision and Values

2023 was the year we at Proterial embarked on a new journey. It was also a year in which we experienced major changes, including changing our company name and welcoming new shareholders (owners).

The Bain Consortium provided two areas of value. First, they have management resources and expertise in focus areas such as aircraft and electronics. Second, their perspectives have enabled us to sharpen our focus as we explore future business opportunities and review our business portfolio. I would also like to take this opportunity to once again thank our employees for embracing this major change and for their proactive participation.

2023 was a year in which the management team, employees, and owners all played their roles in establishing a clear outline for Proterial. Over the next few years, we will accelerate our transformation while implementing our management strategy and acquiring new lines of business to make Proterial a leader on the global stage.

We are also committed to building a corporate culture at Proterial that is based on our Mission, Vision and Values. Our customers and suppliers expect us to be a professional partner that can solve their problems with cutting-edge, innovative technology. We conduct business based on the three PROs in our company name: Professional (work that exceeds expectations), Progressive (A spirit that keeps challenging), and Proactive (An enterprising attitude).

I have adopted the following as my management motto: "A great culture beats a great strategy, but the two in combination is unbeatable." I fully understand that I have been assigned the important role of fostering a new corporate culture. One of the core values that defines our company culture is that we are accountable to each other. We are responsible for providing our customers with high-quality products and services. We must also take responsibility for what we say and produce results



CEO's Message

in the form of revenue and profits. We on the management team are also responsible for creating an appropriate working environment for our employees. My goal is to foster a corporate culture where everyone is accountable and takes responsibility for one another and feels empowered to act. Proper delegation of authority is essential to achieving this. We have many different business units, each with its own leader. They understand their businesses best, so it is my job as CEO to listen to them, delegate appropriately, and empower them to solve their own problems. Delegation and accountability give people a sense of ownership over the businesses they're engaged in. We will foster a corporate culture in which each employee takes initiative, understands the environment around them, and puts our corporate philosophy into practice.

Additionally, our top priorities as a management team are to protect the safety of our employees and ensure product quality. We also constantly encourage our employees to stop production if they notice even the smallest potential safety or quality deficiencies so that those deficiencies can be eliminated. A corporate culture that puts safety and quality first is fostered when all employees understand they have the authority and obligation to act in ways that protect safety and quality, and are empowered to act accordingly.

Strategic Pillars Paving the Way for Global Growth

We strive to become a leading global company built around people, operational excellence and growth as the pillars of our strategy.

With respect to our people, we will begin by thoroughly enforcing the principle that health and safety come first above all else. We will also focus on developing human resources by encouraging individual growth and autonomy. We can only achieve greater things by building the best teams and then strengthening the people who make up those teams. We will strive to create a positive and empowering workplace environment, and to select and develop the next generation of leaders.

Now, let me address operational excellence. We will build a world-class organizational management system that will serve as the source of Proterial's competitive edge. Our manufacturing processes are optimized and outstanding at each of our locations. Optimizing and standardizing these capabilities across the entire global Proterial Group will allow us to create an extremely robust manufacturing framework that no other company can match. In FY2023, we established our new Manufacturing Technology Headquarters as a core division, propelling us on our way to achieving Proterial operational excellence. (For details, see ➡ P.32)

If the right people and operational excellence can be achieved, then the conditions for growth are in place. Today's mobility sector and its associated infrastructure development are undergoing a global shift toward xEVs* at an accelerating pace. Our extensive lineup of unique, highly functional materials enables us to help our customers achieve their sustainability goals and gives us the opportunity to expand our market share in a variety of growing markets. By harnessing the power of our people and operational excellence with a global mindset, we believe we will grow even faster.

* xEVs: A collective term for electric vehicles (EVs), hybrid electric vehicles (HEVs), and plug-in hybrid electric vehicles (PHEVs).

We Clarified the Outline of our Business Trajectory for FY2023

We have reviewed management resource allocation and clarified the outline of our business trajectory for FY2023.

In December 2023, we announced the sale of Waupaca Foundry, Inc., a subsidiary that manufactures and sells iron castings for automobiles in North America. The sale was finalized in early 2024. We also sold Ward, Inc., a subsidiary that manufactures and sells piping equipment in North America, in February 2024. We also sold our piping equipment business, one of our oldest businesses, in August 2024. These three companies and businesses have contributed greatly to our business, but we decided to sell them because we believe they can develop and grow more under new ownership.

At the same time, we have made aggressive investments in our focus areas. We have world-class assets in the aircraft industry, such as our Yasugi Works, which is equipped with a 10,000-ton free forging press and a vacuum melting furnace, and our Okegawa Works, which is equipped with a large ring mill. We supply heat- and corrosion-resistant alloys for jet engine components to the aerospace industry, and we would like to expand our supply to even more customers around the world. The Ministry of Economy, Trade and Industry is currently leading an effort to build a strategic aerospace-related supply chain in Japan. Our company's investment in the process of melting and forging large nickel alloy aircraft forgings has been certified in the Ministry of Economy, Trade and Industry's supply security plan, under which we expect to receive subsidies of up to 7.5 billion yen. We intend to improve our production base and promote technological development to increase our presence in aerospace-related fields.

Additionally, silicon nitride and silicon carbide substrates are looking very promising in power electronics fields. They are important components of key devices installed in xEVs and are key to improving xEV performance. We expect significant growth to continue in the future, so we plan to continue making capital investments and promoting technological development while closely monitoring customer trends to further solidify our position as a player in these fields.

We have also promoted various measures and projects across the company aimed at improving management efficiency and increasing corporate value in the medium to long term.



CEO's Message



Through our strategic pricing project, we are introducing more rigorous and disciplined internal control processes for pricing. We have also promoted a mindset for recognizing how the technology and added value behind our products profits our customers, as well as setting prices commensurate with that value.

Through our Go-to-Market (GTM) project, we took stock of our capabilities and compared them with global benchmarks to evaluate the effectiveness of our business and identify gaps. We identified and evaluated strategic market opportunities that align with our technology and capabilities to determine where to prioritize our resources and funding. We will clarify opportunities and strengthen sales activities to further accelerate growth.

We are also focusing on a project to reduce procurement costs. We use internal and external best practices to optimize all processes as well as procurement costs, including raw material costs, outsourcing and repair costs, and logistics costs. We first implemented this project at a few locations to start, and we plan to expand it to other locations in the future.

Our 100-year History and Accumulated Assets are Essential to Rapid Corporate Growth

We have accumulated significant assets over our more than 100-year history, dating back to our founding in 1910. These assets include employees with diverse knowledge and skills, factory facilities all over the globe, and outstanding structure and composition control technologies, mostly for metals. Our human, manufacturing and intellectual capital has enabled us to build strong relationships with a wide range of customers. Our strategic pillars of people, operational excellence and growth realization will help us enhance these outstanding strengths and assets. We will grow globally by providing

superior value to our customers.

I call our company a Green Enabler. I call it that because the high-performance materials we provide are essential to helping our customers achieve their sustainability management goals, including reducing CO₂ emissions. For example, our products are used around the world in rare earth magnets for EV traction motors and as important components in power electronics for power supply circuits. Our high-performance materials help our customers innovate and resolve social issues. We know it is important to clearly explain the social value of our business so that all stakeholders understand it. (➡ See page 30-31 for information on providing environmental value as a green enabler).

Steadily Implement Medium-term Management Plan and Increase Corporate Value Globally

I will now address our outlook for FY2024 and beyond. We are currently formulating a new medium-term management plan, which we plan to complete this fall. The medium-term management plan will provide a clear roadmap for the future. Of course, this will also incorporate key product and technology roadmaps and productivity initiatives, providing detailed accountability for when we can deliver what innovations to our customers. We will review our progress against this plan each quarter and each fiscal year, and use it to take necessary measures. By establishing a corporate culture in which employees take individual responsibility for carrying out plans, I believe that in FY2028, the final year of the medium-term management plan, we will be able to congratulate each other on having achieved everything we set out to.

We are currently undergoing a major transformation. We thank all stakeholders for their participation in and commitment to this transformation.

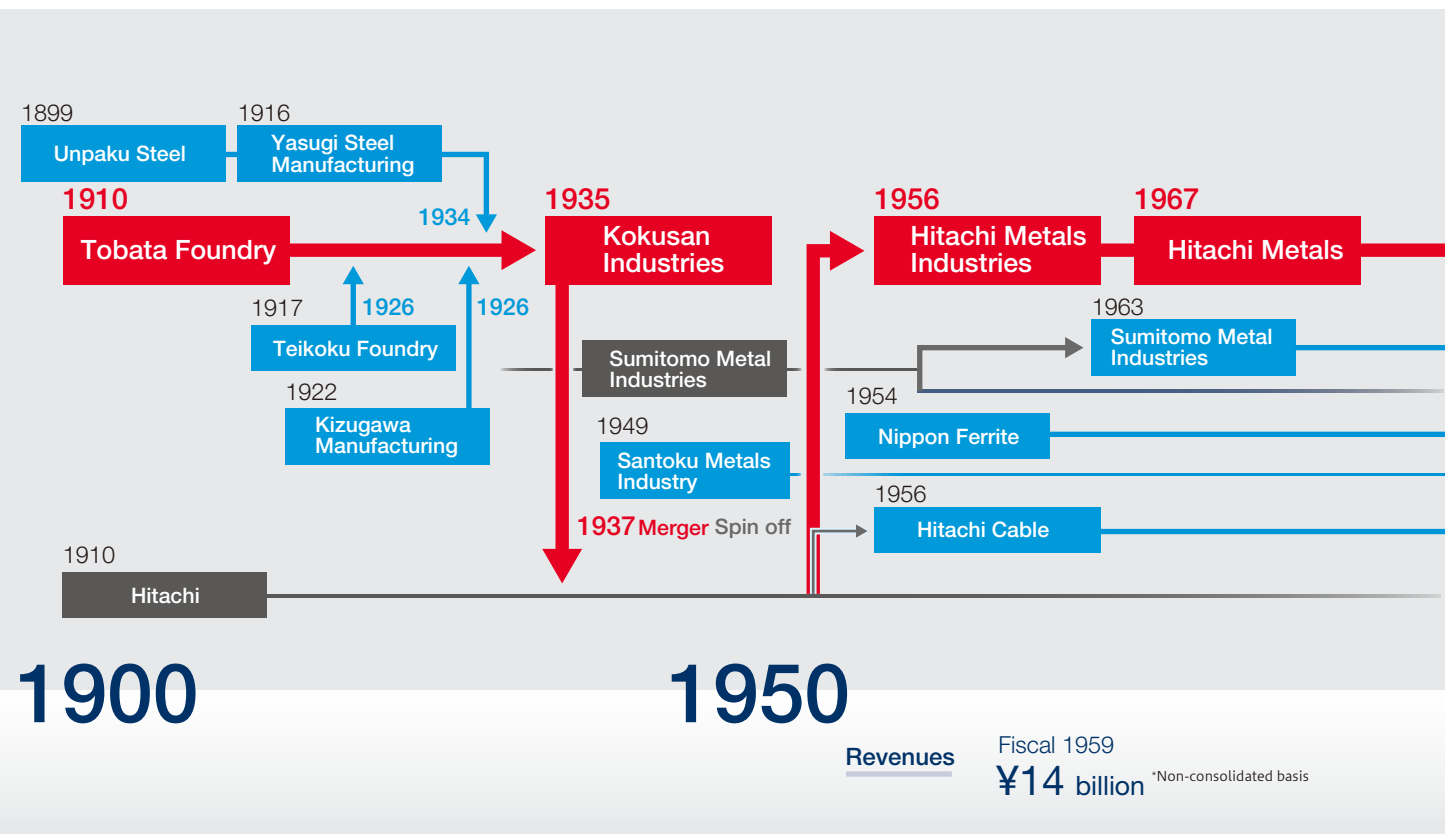
We will continue to increase our corporate value globally as a high-performance materials company that supports a sustainable society, and ask all stakeholders to look forward to our future development.

Personal History

1989	Bachelor of Business Administration, University of Notre Dame
1990	ABN AMRO Bank, specializing in the Metals and Mining Sector
1995	Master of Science (MS), Management J.L. Kellogg Graduate School, Northwestern University
1996	Vice President and Treasurer, Specialty Foods Inc.
2001	Vice President and Treasurer, Noveon Inc.
2004	Senior Vice President, and Treasurer and Head of Business Development Aleris Corporation
2006	Executive Vice President: Aleris Corporation President: Aleris Europe
2008	Executive Vice President and Chief Financial Officer Aleris Corporation
2014	Executive Vice President: Aleris Corporation President and CEO: Aleris Rolled Products North America
2015	President and CEO: Aleris Corporation
2016	Chairman and CEO: Aleris Corporation
2021	Business consultant
2023 Jan.	Representative Director, President and CEO: Proterial, Ltd.
2023 Apr.	Representative Director, Chairman, President and CEO: Proterial, Ltd.

Milestones in Creating Value

Since the founding of Tobata Foundry in 1910, Proterial has unwaveringly “made the best quality available to everyone” through quality mass production in accordance with the needs of our customers. The Group’s orientation for selected high-quality products has been passed down for over 100 years, and from very early on, we expanded into the global market with the goal of manufacturing a wide range of products, which are favored by our customers. These achievements allow us to continue to make the best quality available to everyone to this day and build a brand that has gained currency around the world. Our extreme pursuit of quality is passed down not only through the development of original products that form the essence of Proterial, but also through the development of our valuable human resources. By providing high-quality products and services to people around the world, the Group is contributing to the creation of a prosperous society.



1910 Tobata Foundry

At a time when a modernizing Japan relied on imports for almost all of its industrial goods, Yoshisuke Ayukawa acquired malleable cast iron manufacturing technology and established Tobata Foundry, the predecessor of Hitachi Metals. In 1912, the company began manufacturing Gourd brand-black heart malleable cast iron pipe joints. The company later began to make products for other uses including shipbuilding, railways, and spinning machines, and orders grew steadily as the superior quality of these products was recognized. Business areas were diversified through mergers with Teikoku Foundry, which at the time was producing steel for steel rolling, Kizugawa Manufacturing, a producer of fittings, and steelmaker Yasugi Steel Manufacturing.

1935 Kokusan Industries

As the business expanded to cover heavy industries in general, Tobata Foundry changed its name to Kokusan Industries.

1956 Hitachi Metals Industries

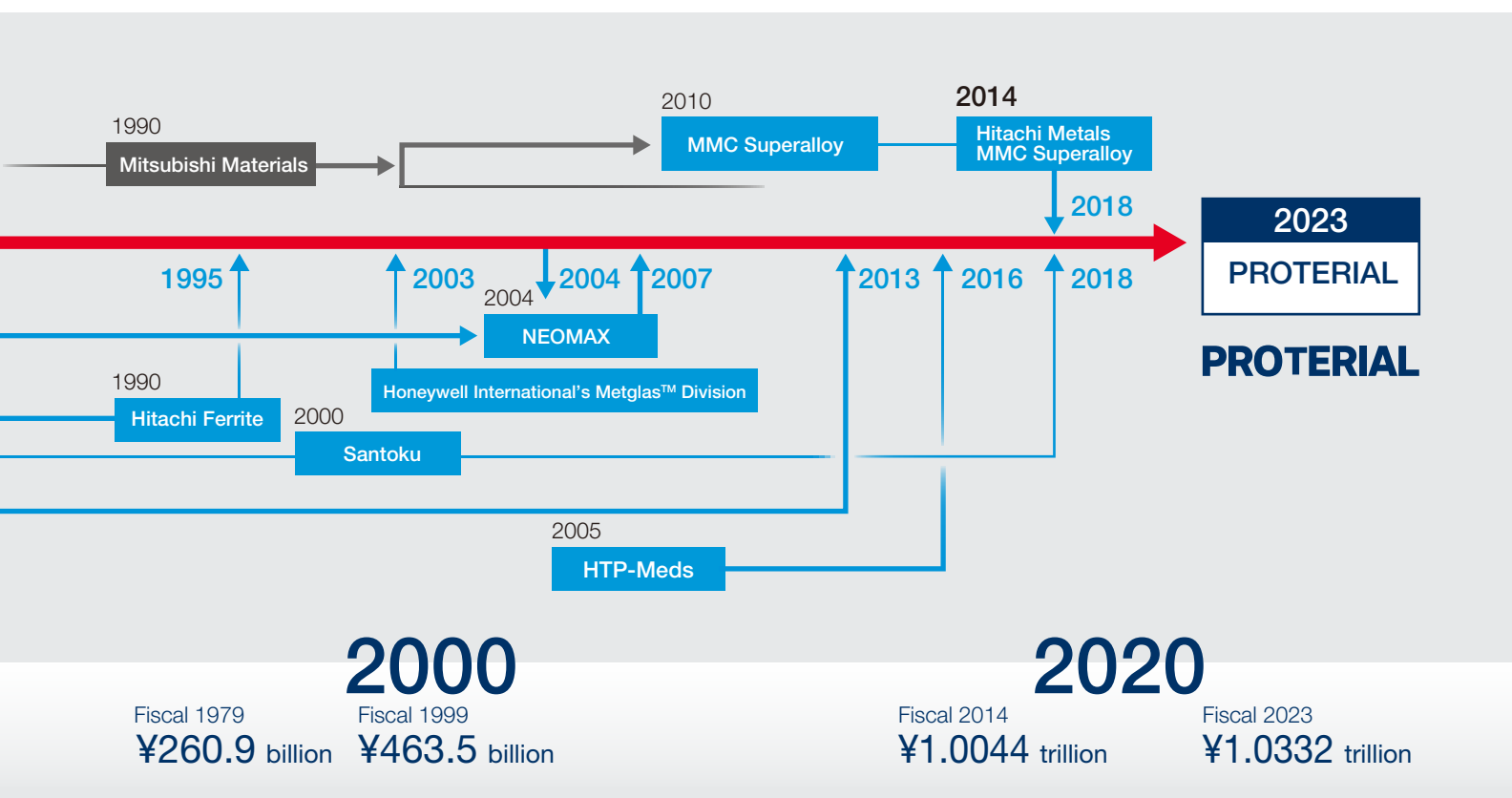
Hitachi transferred its metals business with five originally Tobata Foundry plants (Tobata, Fukagawa, Kuwana, Wakamatsu, and Yasugi) to establish Hitachi Metals Industries.

1967 Hitachi Metals

Hitachi Metals Industries changed its name to Hitachi Metals. Through creative monozukuri and proactive mergers and acquisitions, the company went through a succession of changes and grew to become one of the world’s leading materials manufacturers.

1995 Hitachi Ferrite

Merged with Hitachi Ferrite in 1995 to strengthen the soft magnetic materials business in response to increased demand for noise reduction in automobiles and electronics.



2003 Honeywell International's Metglas™ Division

Acquired the Metglas™ (amorphous metal materials) Division of Honeywell International of the United States. Strengthened the soft magnetic materials division as demand in the electronics segment grew for size and weight reductions, energy conservation, and electromagnetic noise reduction.

2007 NEOMAX

Established through the merger of the magnetic materials and applications operations of Hitachi Metals and Sumitomo Special Metals to manufacture high-performance neodymium magnets and ferrite magnets widely used in motors for automotive equipment and home appliances. With demand for automotive-use motors expected to grow, the merger was carried out in 2007 to integrate the magnetic materials businesses and to increase synergies.

2013 Hitachi Cable

Merged with Hitachi Cable, the Hitachi Group's electric wires and cable business, in 2013. As the pace of movement toward a low-carbon society accelerated, the merger was intended to create synergies in terms of technologies and sales in the automotive, electronics, and industrial infrastructure segments.

2014 Hitachi Metals MMC Superalloy

Made MMC Superalloy, with extensive experience and technological capabilities in aircraft parts, a subsidiary with a view toward global growth in core industries including aircraft and energy. Hitachi Metals' Okegawa Works established in April 2018.

2018 Santoku Corporation

Made a subsidiary to strengthen the production system for neodymium magnets and to optimize the material flow from raw materials to finished products.

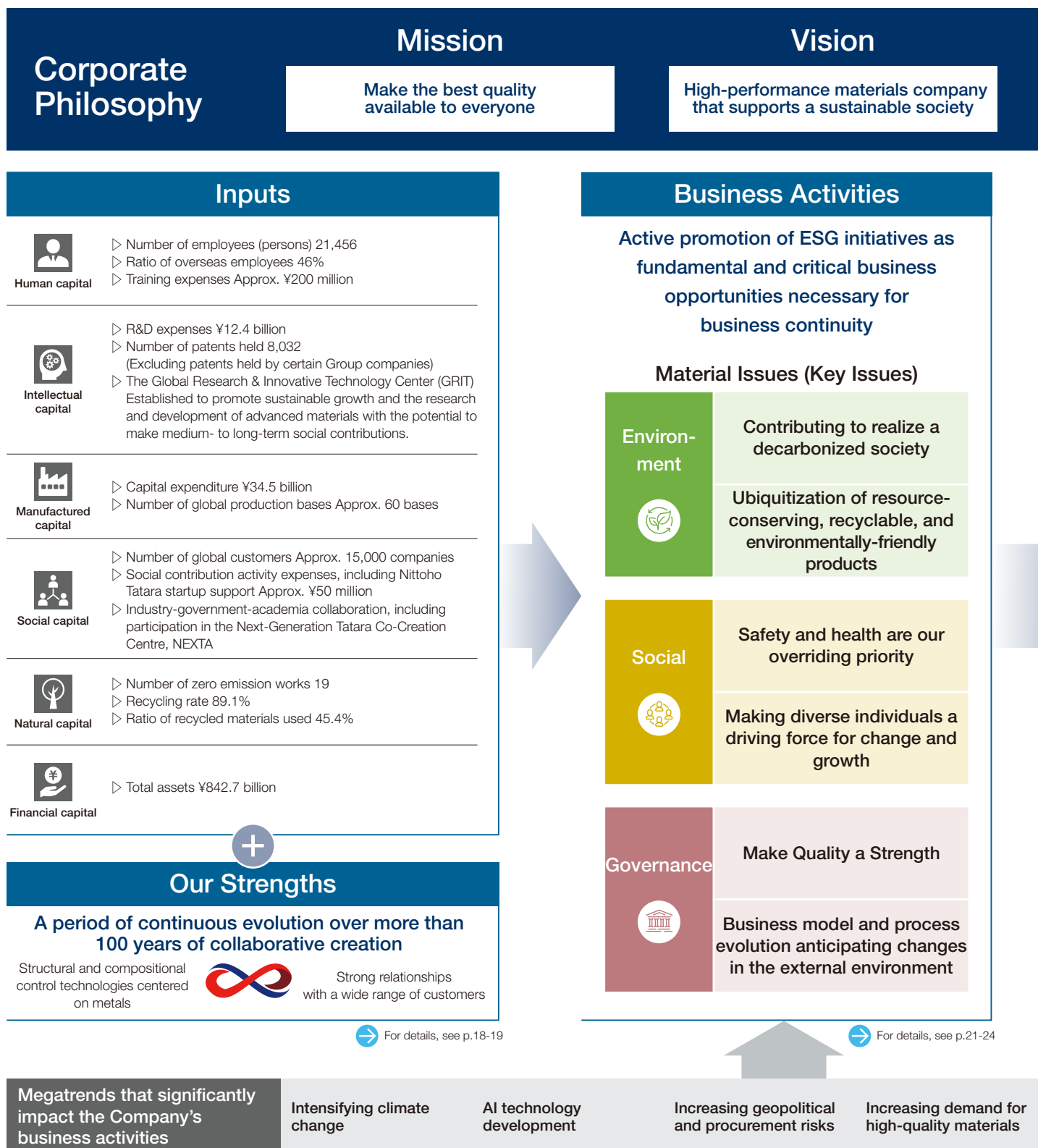
2023 Proterial, Ltd.

In January 2023, the Company's name was changed from Hitachi Metals, Ltd. to Proterial, Ltd. Moving forward, Proterial will continue to contribute to the realization of a sustainable society by providing high-quality products and services.

Value Creation Process

Value Creation Process That Embodies Our Corporate Philosophy

With the Group's Corporate Philosophy as the starting point, we seek to be a high-performance materials company that supports a sustainable society. We have created a great number of original product lines through collaborative creation. These achievements are made possible through our structural and compositional control technologies centered on metals and solid relationships with a wide range of customers developed over more than 100 years since the Group's founding. Leveraging these strengths, we are investing capital in our business activities, including human capital and manufactured capital, and expanding our business activities while fixing our attention on six ESG material issues.



➔ For details, see p.18-19

➔ For details, see p.21-24

We develop, manufacture and provide high-performance materials that contribute to solving our customers' issues in primarily the automobile, industrial infrastructure, and electronics sectors. Through these activities, we will continue to contribute to realizing a sustainable society and further connect them to our Corporate Philosophy. The Group will continue to proactively engage in solving social issues and support the realization of a sustainable society.

Values

➔ For details, see p.1

Unflinching integrity

United by respect

Output

Creation of high-performance functional materials that solve customers' issues

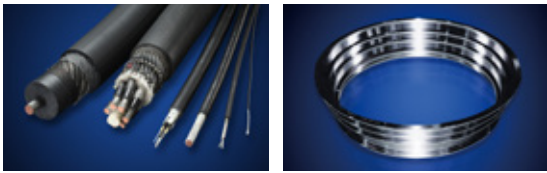
Providing products in three markets

Market segments

Automobile



Industrial Infrastructure



Electronics



➔ For details, see p.22-23

Outcomes

Continuing to contribute to the realization of a sustainable society

- Realization of a decarbonized society/circular society as a Green Enabler
- Stable supply of products essential to social infrastructure
- Sustainable growth for customers and the Group



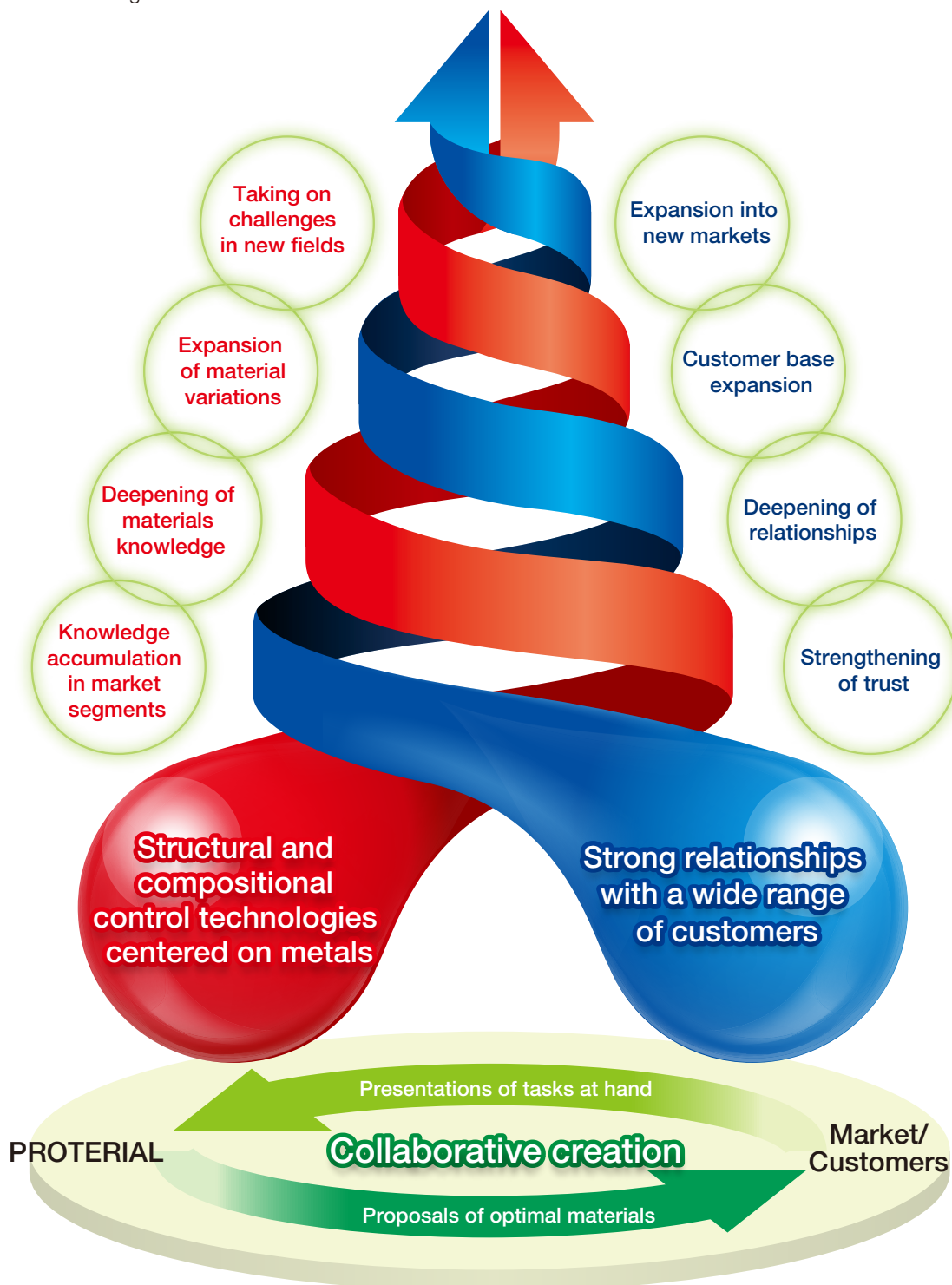
Insufficient human resources and competition for personnel

Public demand for stronger governance

➔ For details, see p.38

Proterial's Strengths of Value Creation

With its strengths lying in structural and compositional control technologies centered on metals and its strong relationships with a wide range of customers, Proterial has been providing products and services with high quality and functionality through collaborative creation with its customers. Continuing this cycle of collaborative creation will enable the accumulation of knowledge in market segments, the deepening of knowledge about materials, and the expansion of material variations. In our relationships with our customers, we will also deepen our relationships of trust through the collaborative creation process. In this manner, as these two strengths develop in concert with their synergistic effects, there will be possibilities to take on challenges in new material fields, expand into new markets, and expand the customer base while Proterial continues to move forward and grow.



Structural and compositional control technologies centered on metals

By continuing to refine our knowledge and technical capabilities in structural and compositional control technologies centered on metals, we are creating products that demonstrate the potential of materials to the fullest extent. Thoroughly committed to quality, we stably supply high-quality, optimal materials that exceed customer expectations.

- By continuing to meet the needs of world-class customers in a wide range of industries, making proposals as materials professionals based on the diversity of product lines and materials we have acquired, as well as a deep knowledge of our customers' industries.
- Developing highly functional, high-quality products by making full use of structural and compositional control technologies centered on metals, realizing mass production that maintains that high functionality and quality.

Strong relationships with a wide range of customers

We have engaged in business with top-class customers in a wide range of industries for many years.

Ongoing strong relationships with customers leads to opportunities for the collaborative creation of new materials.

- Building relationships with customers in a wide range of industries through materials and components that can be applied and developed for various purposes and possessing product lines with top-class global market shares.
- Deepening mutual understanding with customers and building long-lasting relationships by continuing to create products that meet our customers' challenges.



Main Business Partner Industries

Automobile manufacturing, automobile component manufacturing, mold manufacturing, aircraft manufacturing, industrial machinery, machine tools, home appliances and electronic equipment, communications, semiconductors, semiconductor equipment, IT equipment, steel, non-ferrous metals, construction, plant, electricity and gas businesses, rolling stock manufacturing, railway businesses, medical equipment, etc.

Number of Business Partner Companies, etc.

We do business with more than 15,000 companies (FY2022 actual results) in approximately 70 countries and regions around the world.

Examples of Collaborative Creation That Utilizes Our Strengths

The National Institute for Materials Science (NIMS) and four magnet manufacturers have launched the Materials Open Platform.

The Magnet Materials Open Platform (Magnet MOP) is a joint project between the National Institute for Materials Science (NIMS) and four magnet manufacturers, including Proterial. It was launched in May 2022 with the aim of developing high-performance permanent magnet materials that do not rely on rare elements.

The Magnet MOP aims to strengthen cooperation between industry and academia, and to develop tools that can quickly develop materials with the necessary characteristics for their intended use, by applying world-class microstructure analysis technology for magnet materials and data-driven research to material design and process optimization. In addition, in order to involve not only NIMS researchers but also university personnel, it is using a cross-appointment system to collaborate with university researchers, and working with a membership-based collaborative system called the "Magnet Partnership" to promote the exchange of human resources for research and development, as well as to exchange opinions with magnet user companies outside of the MOP, in addition to working to expand the scope of input toward setting new challenges in the future.

Proterial will contribute to strengthening the competitiveness of industry and the realization of a sustainable society by promoting applications in fields such as electric vehicles and industrial equipment through the development of high-performance magnet materials, while also reducing dependence on rare elements.



Examples of products created
as a result of our strengths



PRO + MATERIAL STORIES See "Specialty Steel (page 24-25)" and "Soft Magnet Materials (page 26-27)"

Proterial's Businesses

The Proterial Group is a material manufacturer with highly competitive core technologies for high-performance materials. With the world's top brands in its portfolio, Proterial engages in a broad range of businesses in the markets related to industrial infrastructure, automobiles, and electronics. Our business foundations are broad, and our business structure which is always responsive to the wide-ranging needs of society through the blending of technologies has been the driving force behind Proterial's growth.

Revenues

¥1,033.2 billion

Number of employees:

21,456

Specialty Steel	Molds and tool steel, automotive-related materials, razor and blade materials, precision castings, aircraft and energy-related materials, display-related materials, semiconductor and other package materials, battery materials
Rolls	Various rolls for steel mills, injection molding machine parts, structural ceramic parts, steel frame structure parts
Automotive Castings	High-grade ductile iron products [HNM™], cast-iron products for transportation equipment, heat-resistant cast steel parts for exhaust systems [HERCUNITE™], aluminum parts
Magnetic Materials	Rare-earth magnets [NEOMAX®], ferrite magnets, various other magnets and applied products thereof
Power Electronics Materials	Soft magnetic materials (amorphous metal materials [Metglas™] nanocrystalline soft magnetic materials [FINEMET®], soft ferrite), applied products thereof, ceramic products
Electric Wires	Electric wires for industrial and electric wires for equipment, electrical materials, processed cable products
Automotive Components	Automotive electrical components, brake hoses

* Revenues shown are those for the fiscal year ended March 31, 2024, and the number of employees shown reflects the situation as of March 31, 2024.



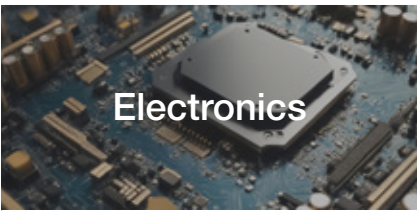
Industrial Infrastructure

Aircraft components, power generating equipment-related components, rolling stock components and other industrial equipment are all exposed to severe operating conditions. Our technologies, quality and product development capabilities, which were developed and proved over many years, have always been bringing innovation. We will continue to provide high-level reliability and innovation for infrastructure globally.



Automobiles

Proliferating eco cars and improving fuel economy and safety performance. We appropriately capture changes in environmental performance required for automobiles, thus relentlessly pursuing the evolution of all of our products. Ranging from traction motor components and exhaust system components to chassis components, we use our development and technological capabilities to support automobile manufacturing around the world.



Electronics

The fields of video/IT equipment, home appliances, batteries and medical devices are constantly evolving. Encompassing the entire process, from prototypes to commercialization and mass production, our production system allows us to meet our customers' diverse needs. We will continue to support the growth of society at large with high-performance components and materials.



Turbine cases



Molds and tool steel



CVT belt materials



Clad metals



Lead frame materials



Rolls for steel mills



Cast iron products



HERCUNITE™ heat-resistant cast components



NEOMAX® rare-earth magnets



NMF™ ferrite magnets



Metglas™ amorphous metals



Silicon nitride substrates



Electrical wire for rolling stock



Cables for industrial robots



Harnesses for electronic parking brakes

High-performance Materials for Realizing Customer Innovation

Focusing on structural and compositional control technologies centered on metals, the Proterial Group has created high-performance materials in collaboration with its customers. By reflecting the needs of our customers in every step from R&D to mass production, we help customers realize innovation. Moreover, this approach serves as the driving force for the sustained growth of the Group. By continuing to deliver unique, high-performance materials, the Group is working to solve social issues and secure sustainable growth.

xEVs

We play an important role in making xEVs smaller, lighter, more efficient, and more energy efficient. As a permanent magnet boasting the highest magnetic force in the world, the NEOMAX® neodymium magnet is contributing to improved performance and miniaturization with magnets developed by the Company in 1982. We have also started to propose the use of ferrite magnets that do not use heavy rare earths as a material for traction motors. Furthermore, we supply magnet wire, which is required to be highly efficient and reliable, for use in motors. Silicon nitride substrates, SiC epitaxial wafers, and FINEMET nanocrystalline soft magnetic materials are used in power semiconductors, which are key devices in xEV on-board chargers and other equipment. In addition, clad materials contribute to lighter, smaller and higher capacity lithium batteries. Proterial supports the evolution of xEVs with these high-performance materials.



Metglas™ Amorphous Alloy



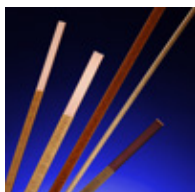
NMFT™ ferrite magnets



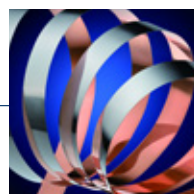
Silicon nitride substrates



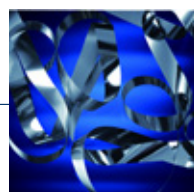
SiC epitaxial wafers



Magnet wire



Clad metals



FINEMET® nanocrystalline soft magnetic materials



NEOMAX® rare-earth magnets



Smartphones

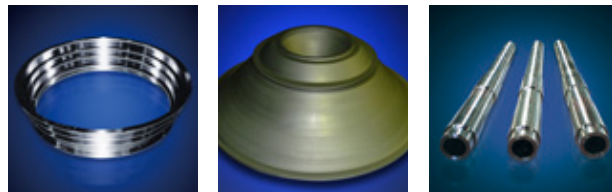
We are contributing to the realization of smartphones that are compact, lightweight, and power-efficient, while also being highly functional. Clad materials are used as heat sinks because they realize high strength and high thermal conductivity through the combination of stainless steel and copper. The nanocrystalline soft magnetic material FINEMET® contributes to noise reduction and also to highly efficient wireless charging. Rare earth magnets are used in speakers and vibration motors, contributing to size reduction.

Aircraft

The aircraft market is expected to broaden significantly over the medium- to long-term. With a view to the expanding market for aircraft engine components, we have made large investments in the past, including a 10,000-ton free forging press, a 24-ton vacuum induction melting furnace (VIM), and an 840-ton large ring mill. This is an area where the required level of technology, quality and management is extremely high, and it is also used in the H3 Launch Vehicle of the Japan Aerospace Exploration Agency (JAXA).



Aircraft engine components



Power Generation and Distribution

Proterial is the world's leading manufacturer of amorphous alloys, which are metals that do not have a crystalline structure. Amorphous alloys are used as core materials in distribution transformers, pole-top transformers, industrial transformers, and transformers for solar power generation and wind power generation, etc. Amorphous alloy transformers demonstrate one-third to one-fifth the iron loss (no-load loss) compared to transformers with grain-oriented electrical steel plate cores, and thereby contribute to reductions in power consumption. In recent years, significant anticipation has therefore been placed on their application to motor cores.

Hydrogen-related facilities

Reducing carbon dioxide (CO₂) emissions is an important issue, and we are focusing on the realization of a hydrogen society as a solution to this. We will contribute to the realization of a decarbonized society by proposing solutions to the challenges of its realization with a product lineup that supports the "making", "storing", and "using" of hydrogen-related equipment, such as hydrogen storage alloys, high-strength alloys, and hydrogen embrittlement-resistant materials.



Hydrogen storage alloy



High-strength alloys/high-oxidation-resistant alloys



Hydrogen embrittlement-resistant materials



Corrosion-resistant, hydrogen embrittlement-resistant additive manufacturing material



Honeycomb-shaped catalyst for the methanation reaction (Under development)

PRO+ MATERIAL STORIES –Main Story–

01 Specialty Steel

The breakthrough is our proprietary TiN miniaturization technology that we have discovered through the structural and compositional control technology which we have continuously refined.

Through a continuous cycle of material creation that is ideally suited to the sophisticated demands and challenges of its customers and the perfection of these materials to a level that can be provided for mass production, Proterial has developed a succession of unique materials that boast high functionality and quality which are then deployed to new applications and new market domains. We will introduce special steel with which we are facing the challenge of full-scale entry into aircraft-related materials based on the development of CVT belt materials and the technology that is the result of a spiral of improvement through co-creation with customers, centered on our proprietary metal structure and composition control technology.

1 Metal structural and compositional control technologies forming the core of value creation

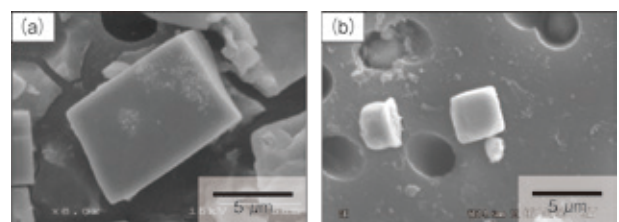
When conceiving of new products and businesses, the metal structural and compositional control technologies that we have built up over the years serve as a source of value creation. Relying on thermal treatment and additive element optimization, these technologies control the microstructures that determine the toughness, wear resistance, heat resistance, workability, and other characteristics of metals. By enhancing these structural and compositional control technologies, we are able to provide metals with a variety of characteristics, even when their chemical composition is the same. As a specialty steel product, continuously variable transmission (CVT) belt materials used in automobile engines also serve as an example of a component material that we developed by leveraging our structural and compositional control technologies. CVT belts are made by layering about ten flat belts of metal just seven to eight millimeters wide, and securely fabricating these belts into continuous strips, thereby functioning as the transmission to convey motive power from the engine to the tires. Power is transmitted via a belt rather than gears, meaning that there is no shock when changing gears, and they are characterized by good combustion efficiency because it is possible to change gears continuously in accordance with engine revolutions. Demand for these products has also been increasing as automobile manufacturers have been working to improve fuel efficiency. We currently boast the world's top share (Proterial estimate) of the market.



CVT belt materials

2 From high assessment of our material development capabilities to mass production of CVT belt materials

In the automobile domain, we have built collaborative relationships with Japanese automobile manufacturers through the development of highly complex specialty materials used under harsh environments as part of an effort that has primarily focused on forging materials for engine valves. The relationships of trust we have fostered have also served as the motivation for why our customers choose us as their development partner when conceiving new products. Since the 1990s, we have conducted development of technologies designed to constrain the growth of nitrides contained in metals (TiN) using our structural and compositional control technologies for the energy domain. The development of CVT belt materials was similarly triggered when a Japanese automobile manufacturer who recognized our materials development capabilities approached us about whether we could engineer a CVT belt material with a refined TiN grain. In order to obtain a fatigue strength that can withstand the more than 10 million rotations corresponding to the usage environment of automobiles, the material surface must be free from defects. Specifically, the structure must be controlled to ensure that the inside of the metal is devoid of contaminants to the greatest extent possible. In particular, larger TiN grains lower the fatigue strength of the metal. For this reason, we had to address the extremely challenging demand to constrain the size of the grains to less than 10 microns, about half the conventional grain size.

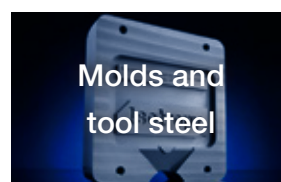


CVT belt material structure

What is Specialty Steel?

The term “specialty steel” is a general term for steel that has been adjusted by adding alloying elements to give it properties that are suitable for its intended use and required characteristics. While common steel is made primarily from iron and 2% or less carbon, specialty steel is made by adding special elements such as nickel and chromium or adjusting the composition in order to specialize characteristics such as hardness, wear resistance, heat resistance, and corrosion resistance.

Major Products



Molds and
tool steel



Industrial
equipment
materials



Aircraft &
energy materials



Electronic
materials

3

Proprietary TiN miniaturization technology leading to the solution of difficult problems

It took three years for our TiN miniaturization technology to reach the level of quality required by our customers. At the outset of mass-production, the acceptance rate for the TiN dimensional standard was only about 10%, yet we continued to develop the technology further in order to improve the yield. As we did so, we came face-to-face with a new challenge, namely that different samples would demonstrate varying TiN grain sizes and unstable quality, even at the same level of nitrogen content. However, we patiently evaluated and verified the production process, and eventually discovered that the TiN grain size correlated to the magnesium content of the material. Having identified the technological background, and having also analyzed the mechanisms, the way opened to stable mass production through quality control that actively utilized magnesium. Our CVT belt materials that help increase the fuel efficiency of automobiles have been adopted by many automobile manufacturers. We also addressed new demands from our customers, including detoxifying the impurities in the metals, based on the test results and knowledge we had acquired through our past technological developments, resulting in our product being installed in a growing number of vehicle models and becoming a mainstay product that has driven our sales upward since 2010.



Aircraft engine

4

Opening up a new future with organization and composition control technology

The TiN grain refinement technology we acquired through the development of CVT belt materials expanded in new ways. This included application as an aircraft-related material. As our next pillar of business, the Company has focused on developing aircraft-related materials indicating an outlook for market expansion over the medium- to long-term. We have steadily implemented measures to achieve growth, including the establishment of the joint venture Japan Aeroforge, Ltd., the introduction of a 50,000-ton hydraulic forging press, which is one of the largest in the world, as well as major investments (including investments certified by the Ministry of Economy, Trade and Industry's Supply Security Plan) at our Yasugi Works (Yasugi City, Shimane Prefecture) and Okegawa Works. As we made progress in these efforts, we received a request to develop a material for aircraft jet engine shafts in a way that applied the technologies for automobile CVT belt materials. Although the performance required of aircraft-related materials is vastly different from that of automobiles, control technologies established through our technological developments enabled stable control of fatigue strength, and we have also successfully deployed products at a relatively early stage in the aircraft market area.

In this way, structural and compositional control technologies have the great feature of being able to create different characteristics even with the same materials, and continuing to refine this technology has led to business development in new fields. We will continue to evolve our structural and compositional control technologies that maximize the potential of metals, thereby providing ideal materials that contribute to solutions for our customers' challenges.



Yasugi Works

PRO+ MATERIAL STORIES –Main Story–

02

Soft Magnetic Materials

The world's first nanocrystalline soft magnetic material, created by combining materials and applied technologies cultivated through research and development, as well as through the passion of our researchers.

Nanocrystalline Soft Magnetic Material FINEMET® was commercialized for the first time in the world by Proterial in 1988. It has excellent characteristics and is making significant contributions to miniaturization and energy saving of various electronic devices such as smartphones. However, the path has not been smooth; it has been built through structural and compositional control technologies centered on metals, and strong relationships with a wide range of customers.

1

About Nanocrystalline Soft Magnetic Material FINEMET®

FINEMET® is a nanocrystalline soft magnetic material developed for the first time in the world by Proterial. It is thin and ribboned with a unique nanocrystalline structure comprised mainly of iron, with additives of silicon, boron, and trace amounts of copper and niobium. By heat treating thin ribbons of amorphous (lacking crystalline structure) alloy, produced by the rapid quenching and solidifying of high-temperature molten material at a rate of approximately 1 million degrees Celsius per second, nano-sized (about 10 nm) crystal grains are created within the structure. It was generally believed that amorphous alloys had better magnetic properties than ordinary metals (those with a crystalline structure). However, Proterial discovered the surprising fact that the magnetic properties of a material could be dramatically improved through the use of nano-sized crystal grains, and in 1988 we became the first company in the world to commercialize a nanocrystalline soft magnetic material.

Until FINEMET® was commercialized, permalloy and cobalt-based amorphous alloys were used in power supplies and electronic circuits because of their superior soft magnetic properties compared to metals with common crystalline structures. Conventional soft magnetic materials had both advantages and disadvantages; for example, some had excellent permeability¹ but insufficient saturation flux density², while others had high saturation flux density but insufficient permeability. The introduction of FINEMET®, with its high saturation flux density, excellent magnetic permeability and low core loss³, has greatly contributed to the miniaturization and energy saving of smartphones and numerous other electronic devices.



Nano Magnetic Material FINEMET

2

The DNA of an experimentation first approach and the passion of developers led to the development of a world first

In the late 1970s, the development of new materials such as amorphous metals⁴ caught the world's attention. At the time, Proterial's Magnetic Materials Research Laboratory was also working to develop new materials for use in the electronics industry as a mainstay of future growth. The development of new magnetic materials is difficult, however, and practical application can be extremely challenging. This is because the properties of magnetic materials are related to phenomena at the atomic level, and the composition of such materials is subject to tens of thousands of permutations. As a result, repeated experimentation was really the only way to develop a product. And that experimentation uncovered a phenomenon that would later surprise the world. It was common knowledge that amorphous alloys generally crystallize when heat treated, resulting in deterioration of soft magnetic properties. However, in the course of repeated investigation in the early 1980s, our researchers recorded data that demonstrated better magnetic properties than those of amorphous alloys. Not overlooking this phenomenon, which was at first put down to experimental error, the company pursued the acquisition of a patent and establishment of a manufacturing process, and in 1988, succeeded in commercializing FINEMET®. This achievement was made possible by the strength of our experimentation-focused DNA and metal-centric microstructure and composition control technology.



FINEMET Common-mode choke cores/coils

Initiatives at the Next Generation Tataru Co-Creation Centre

The Next Generation Tataru Co-Creation Centre (NEXTA) was established at Shimane University as a facility that plays a central role in research and development and human resource development in the “Creation of a Global Base for Advanced Metals - Next Generation TATARU Project -”, a project involving industry, government and academia in Shimane Prefecture. The ultimate goal of the Centre is to create a “Next Generation Tataru Culture”, and it focuses on innovation and the improvement of metal materials. In addition to Proterial’s employees supervising the operations of the project and serving as vice director of the center, the Company is also participating in the “Mass Production of Amorphous Motor Cores” project in the field of soft magnetic materials.



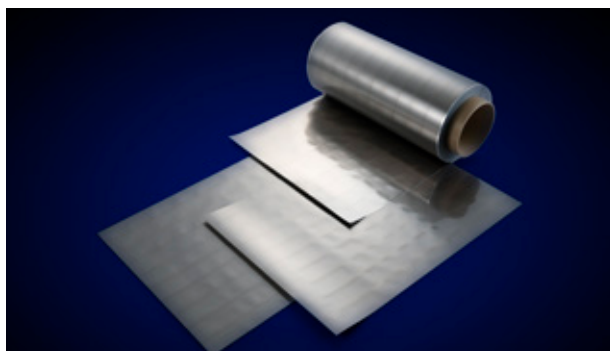
Photo provided by: Shimane University

3

Production efficiency improvements and the needs of the times have aligned to take us to a new stage

Following the commercialization of the nanocrystalline soft magnetic material FINEMET[®], however, there was not immediate, widespread demand. We knew its characteristics were overwhelmingly superior, but it was a product that was so far ahead of its time, it required some ingenuity in application. And small production volumes forced us to charge very high prices. In the 2000s, regulations on electromagnetic noise being tightened stimulated demand and increased opportunities for dialog with customers about FINEMET[®]’s applications. Nevertheless, with the price still high, there was no explosive uptake. However, we foresaw the global desire for our product based on conversations with customers, and with repeated improvements to nanostructure control technology and manufacturing equipment, we managed to greatly improve production efficiency. In 2008, smartphones began to be equipped with wireless charging functionality, leading to a sharp increase in demand for FINEMET[®]. Then the trend toward EVs in Europe producing stricter electromagnetic noise regulations further fueled the material’s success.

FINEMET[®] has come to be used as a soft magnetic material far more widely than any other material. So although it took some ten years for the technology and applications needed for its full utilization to catch up, FINEMET[®] has at last become indispensable.



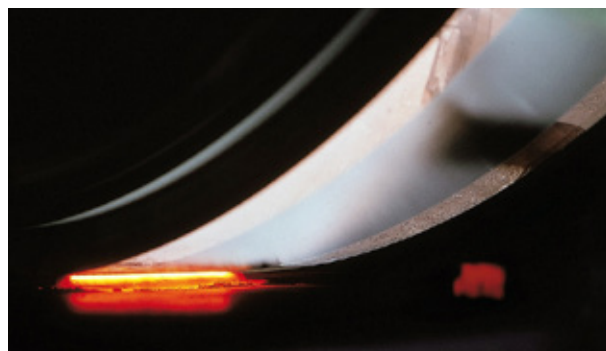
Magnetic shield

4

Soft magnetic materials are becoming increasingly important for the realization of a decarbonized society

Today, across a variety of fields, there is a trend toward making devices that are more energy efficient, more compact, more lightweight, more functional and less emissive of noise. For such applications, soft magnetic materials are becoming even more important. In particular, with its significant features of both high saturation flux density and permeability as a soft magnetic material coupled with low core loss, we project that the applications of FINEMET[®] will continue to expand. Proterial will go on helping to solve social issues by providing soft magnetic materials such as FINEMET[®] that can contribute to the realization of a decarbonized society.

- *1 Permeability: This is a measure of the ease with which magnetic flux can pass through a magnetic material. The magnetic permeability of FINEMET[®] is equivalent to that of Co (cobalt)-based amorphous materials.
- *2 Saturation flux density: This is the maximum magnetic flux density that a magnetic body can hold. When magnetic saturation occurs, inductance decreases rapidly and excess current flows, causing abnormalities and malfunctions in devices and circuits. The saturation flux density of FINEMET[®] is equivalent to that of Fe (iron)-based amorphous materials.
- *3 Core loss: The core loss of FINEMET[®] being less than 1/5 that of Fe-based amorphous materials and equivalent to that of Co-based amorphous materials leads to energy savings.
- *4 Amorphous metal: A solid metal that does not have a crystalline structure. While ordinary metals have a crystalline structure with atoms arranged in an orderly fashion, amorphous metals have an irregular atomic arrangement, and have high wear resistance, high hardness, high magnetic permeability that allows magnetic energy to pass through easily, and high magnetostriction that converts electromagnetic energy into mechanical energy.



Manufacturing FINEMET

Providing Environmental Value As a Green Enabler

Working to provide environmental value at each stage of the manufacturing process as a green enabler, we recognize our role in enabling customers to reduce their environmental impact through our products as a business opportunity. To provide value as a green enabler, we are working to (1) manufacture products using processes that reduce environmental impact, and to (2) develop environmentally friendly products.

1 Development of environmentally friendly products

As a green enabler, we promote contributions to society through the provision of environmentally friendly products. As an environmentally friendly company, Proterial develops products not only from the perspective of reducing the environmental burden during product use but also from the perspective of giving consideration to resource recycling during the manufacturing process. As an initiative to create environmentally friendly products, we are promoting efforts to implement environmentally friendly design assessments in accordance with the IEC62430 international standard at the start and completion of development in the R&D phase. Involving the use of environmental assessment sheets to evaluate the environmental impact at each product life cycle stage during the R&D and product development phases, environmentally friendly design leads to environmentally friendly products after commercialization.

Product development geared toward reduced environmental impact

Growing importance of strengthening CO₂ reduction and energy saving measures and accelerating the introduction and expansion of renewable energy toward a decarbonized society

In moving toward a sustainable society, the need to move away from mass production/consumption socio-economic activities and shift swiftly to a circular economy that makes efficient use of limited resources

Proterial's Technologies/Products



Environmental value that can be provided (from a development perspective)



Fields in Which Contributions are Being Made



* xEV: A collective term for electric vehicles (EV), hybrid electric vehicles (HEV), and plug-in hybrid electric vehicles (PHEV).

Product development geared toward reduced environmental impact



Amorphous alloy contributes to energy saving in power transformers

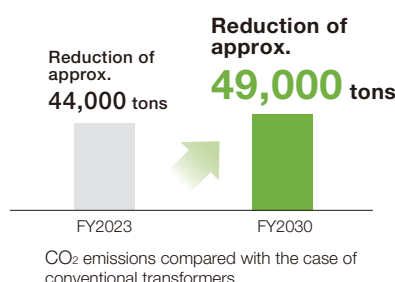


Metglas™ amorphous alloy ribbon



Core materials for amorphous transformers

Power transformers lose power even when in standby mode. To solve that problem, since 2003 we have been providing Metglas™, an amorphous alloy that reduces standby power consumption to about one-third of that of conventional core materials (such as electromagnetic steel sheets) used for transformers. By providing core materials for amorphous transformers, the Proterial Group is aiming to contribute to reducing CO₂ emissions* by approximately 50,000 tons per year (compared with the figure for conventional magnetic-steel transformers). In March 2020, we developed a new amorphous material called MaDC-A™, which will contribute to further improving transformer efficiency.



* Based on shipment volume and difference in transformer energy loss, according to Indian standards. For the CO₂ emission coefficient, we used the IEA's World CO₂ Emissions from Fuel Combustion (2017).



Developed an amorphous alloy laminated adhesive ribbon for motor cores



Amorphous alloy laminate adhesive ribbon

While amorphous alloys can significantly reduce iron loss, mass production is limited to the axial gap type*¹ due to their high hardness and thin material. In response to this challenge, Proterial developed a technology for continuously laminating and bonding multiple amorphous alloy ribbons for radial gap type*² motor cores. Our unique bonding technology has achieved a high packing density of over 90%, enabling lamination without compromising the magnetic properties of the amorphous alloy. It is contributing to the popularization of motors using amorphous alloys by solving the problem of thinness and the challenges presented in the punching process by optimizing the mold material.

*1 Axial gap type: A motor with a stator sandwiched between two disk-shaped rotors.

*2 Radial gap type: A type of general-purpose motor in which the stator surrounds a cylindrical rotor.



Neodymium magnets contribute to the popularization of xEV vehicles



NEOMAX® neodymium magnets

In 1982, our company (Sumitomo Special Metals at that time) invented the neodymium magnet, the magnetic force of which is much stronger. Generally, as the magnetic force of the magnet gets stronger, the performance of the motor gets higher, and the motor can be designed to be smaller and lighter. In particular, in regard to the technological evolution of xEVs*, the magnet plays an important role as an indispensable material enabling motors to be smaller, lighter, more efficient, and more energy efficient. As a permanent magnet boasting the highest magnetic force in the world, the Company's NEOMAX® neodymium magnet is contributing to the improved efficiency and miniaturization of xEV traction motors and generators by providing high-performance neodymium magnets.

Supply volume of magnets for xEVs (FY2023) Approx. **750,000 units*** * Figure is Proterial estimate



Used ferrite magnet motors to confirm that an output of over 100 kW, which is necessary for application to BEV and PHEV traction motors, could be achieved



Rotor equipped with a ferrite magnet

With the growing demand for neodymium magnets used in the traction motors and generators of xEVs, there is a concern that there will be an increase in the resource risk of heavy rare earths, which are particularly limited in supply. In this context, Proterial tested and evaluated a prototype of the high-performance ferrite magnet motor stone (NMF™-15)* and verified that it can be used in BEVs and PHEVs, with an output of over 100kW. Since ferrite magnets have higher electrical resistance than neodymium magnets, they also contribute to the suppression of eddy current loss during high-speed motor rotation, and can be expected to contribute to solving issues faced by customers such as reducing resource risk and controlling costs.

* Proterial's proprietary material that exhibits the world's highest level of magnetic properties for mass-produced ferrite magnets (as of June 2023, according to Proterial's research).

Providing Environmental Value As a Green Enabler

2

Manufacture and provision of products through processes that reduce environmental impact

We recognize that it is essential to make efforts to reduce environmental impact not only in our own company but also in the value chain. Measures we are advancing include the reduction of CO₂ emissions and of the resources used in each process, the promotion of recycling, and reduction in the use of harmful substances. We are focusing on these initiatives as we believe that products manufactured in processes that reduce the environmental impact indirectly contribute to reducing the environmental impact in the value chains of our customers who use those products. We also made our Scope 3 calculations based on this belief. Going forward, we will proceed with studies on managing CO₂ emissions under Scope 3 based on these calculation results.



We give priority to business partners who are working proactively on environmental conservation as well as to materials that have a low environmental footprint, such as recycled materials.

Main Initiative

Expanding the use of recycled raw materials

Examples

- Iron scrap
- Waste from cutting magnets
- Amorphous metals, etc.

Results (FY2023)

Amount of recycled materials used
505 thousand tons

We are engaged in the research, development, and design of products and services that can provide environmental value and lead to sustainable growth and social contribution.

Main Initiative

- Promoting the development of environmentally friendly products that contribute to decarbonization and reduction of energy use over the product life cycle
- Conducting environmentally friendly design assessments, etc. during new product development

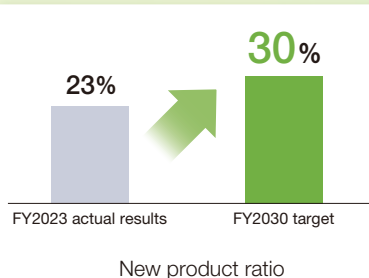
➡ See page 23 for details

Examples

- Developed an amorphous alloy laminated adhesive ribbon for motor cores (page 29)
- Used ferrite magnet motors to confirm that an output of over 100 kW, which is necessary for application to BEV and PHEV traction motors, could be achieved. (page 29)

Results (FY2023)

New product ratio 23%



In addition to energy-saving measures, such as optimizing processes and layouts and improving energy efficiency, we are promoting the deployment of renewable energy.

Main Initiative

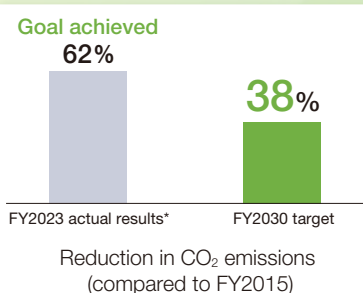
- Expanding the deployment of renewable energy
- Promotion of energy saving

Examples

- Installation of one of the largest photovoltaic panel installations in Japan
- Use of alternative coke

Results (FY2023)

Reduction in CO₂ emissions
62% compared with FY2015



* CO₂ emissions in fiscal year 2023 significantly improved compared to the previous fiscal year due to the impact of business portfolio revision, among other things.

Providing Environmental Value As a Green Enabler

1

Development of environmentally friendly products

2

Manufacture and provision of products through processes that reduce environmental impact

Distribution/Sales



Promoting manufacturing that takes life-cycle assessment (LCA) into consideration, we are also working to reduce environmental impact in distribution and sales operations.

Main Initiative

Reduction of impact caused by transportation

Examples

- Use of low-emission vehicles
- Improvements to load efficiency
- Reduction of transportation frequency
- Shortening of transportation routes
- Promotion of modal shift

Results (FY2023)

Improvement rate for reducing the use of energy for transportation by **14.3%** compared with the previous fiscal year

Product Use



These products include materials that are essential for xEV manufacturing, materials that reduce power loss, and materials that contribute to the long service lives of our customers' products and components.

Main Initiative

By their use of our environmentally friendly products, we are contributing to resolving our customers' environmental issues and those in society as a whole.

➔ See page 29 for details

Recyclable (Including recovery)



We are actively working on recycling that leads to the effective use of limited resources and to a reduction in the CO₂ emissions generated during the manufacturing process.

Main Initiative

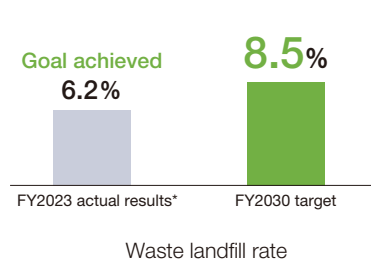
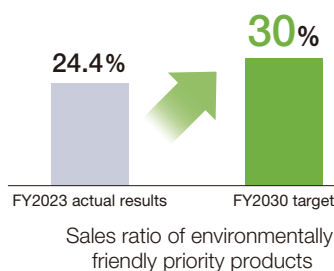
- Material recovery and reuse
- Product recovery and reuse

Examples

- Collection and reuse of cutting waste generated on production lines
- Recovery and reuse of amorphous materials, a major product

Results (FY2023)

Improvement rate for reducing the amount of waste, valuables, etc. generated **47.0%** compared with FY2010



Promotion of Operational Excellence

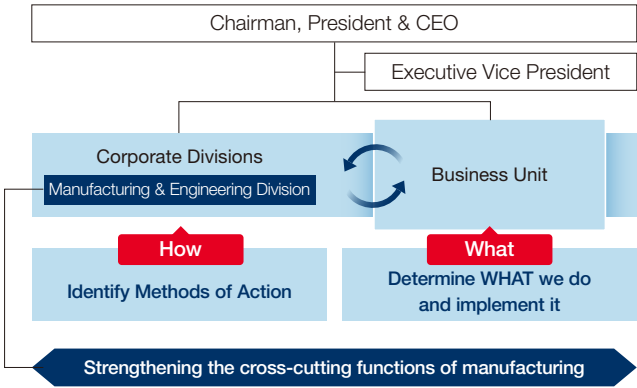
Proterial has practiced outstanding manufacturing on an individual product, business, and site basis. In order to further advance this manufacturing, we transitioned to a business unit structure in 2023 and established the Manufacturing & Engineering Division. These reforms will enable us to precisely capture market changes and needs on a global basis, as well as to better address market needs through standardized and optimized manufacturing practices across the globe. Working in concert, the business units and corporate departments will achieve operational excellence and deliver high-quality products to more customers throughout the world than ever before.

1 Coordination between Business Units and the Manufacturing & Engineering Division

Proterial is involved in a wide range of business domains, which are respectively facing rapid and ongoing changes in the intentions and needs of the customers with whom the Company directly engages, the end users of products, and society as a whole.

The business units are directly overseen by the CEO, while each unit addresses its respective market and competitive environment, customer needs, and technology trends, and executes growth strategies by allocating resources more rapidly and flexibly. Moreover, the business units will engage more fully in communication with customers than ever before, and enhance their proposal capabilities and speed, all while energizing collaborative creation with customers.

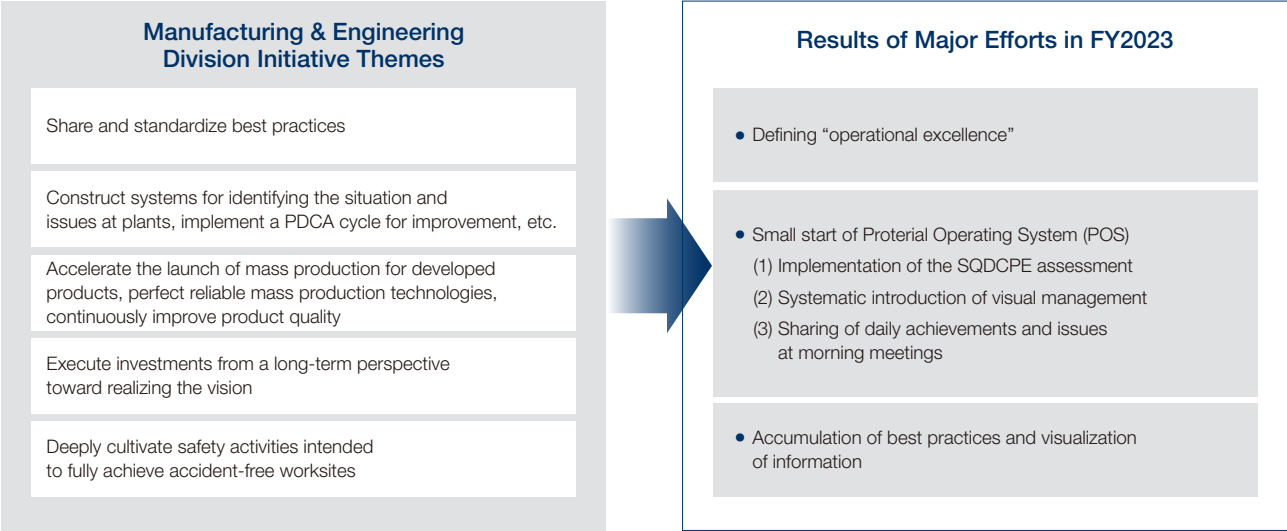
The corporate divisions are divided by function. Each division has expertise in their respective function and support the autonomous business operations of each business unit, while also promoting the efficiency and sophistication of management across the company as a whole through cross-cutting initiatives.



2 Standardizing and optimizing manufacturing

The Manufacturing & Engineering Division will go beyond manufacturing itself to play a role that horizontally links the manufacturing activities of each business unit from every facet involved in manufacturing, including safety, capital investment, and environmental compliance. The Manufacturing & Engineering Division will therefore take the lead in sharing best practices and

promoting the standardization and optimization of manufacturing process control, improvement methodologies, and other aspects on an international scale. In addition, it will establish a structure for implementing a PDCA cycle that includes identifying issues at each manufacturing site, while formulating and executing action plans for improvements.



Message from the General Manager, Manufacturing & Engineering Division

We will refine our plant operations to the cutting edge in order to achieve operational excellence.

At Proterial, we refer to the state of having various indicators for plant operations properly managed and ensuring competitive superiority as “operational excellence,” and we are promoting the introduction of the “Proterial Operating System (POS)” to achieve this. POS is a mechanism designed to ascertain and confirm the situation in which each plant is placed and the direction that they should ideally be taking, and to take action to improve the issues faced by each site by means of standardized procedures. We manage plant operations using numerical targets (KPIs), and take corrective action for KPIs that require improvements, always aiming to maintain a competitive advantage in the market.

We began creating this system by identifying the components of excellence and organizing the KPIs that needed to be ascertained. When trying to improve a plant, it is first necessary to recognize our current situation. We created a check sheet for the SQDCPE* assessment that includes “safety”, which is the top priority in plant operations, “quality”, “delivery”, and “cost”, in addition to “people”, “environment” and “equipment”, and conducted trials at multiple plants.

As the next step, we are working on visual management that everyone can share and see, in order to set KPIs necessary for self-management on shop floors. We are promoting the visualization of plant operations by setting goals that have been broken down into layers such as plants, divisions, and workplaces, and sharing information in a one-stop manner from the entire plant through to each division and each person in charge. We started small at the Yasugi Works, Ibaraki Works, and Yamazaki Works. We are constantly refining our activities with the aim of firmly linking the goals of plants with the goals and activities

of each division, and of making them activities that can be shared across the company while also responding flexibly to the situation at each site.

As the trial progresses, changes are also being made on shop floors. Now that the results are visible, various improvement activities are being carried out more efficiently. Being able to see the connections between the activities you are currently engaged in and what they lead to is also rewarding for employees and I think provides a driving force for corporate growth.

Going forward, we will refine POS and create conditions where each plant is managed on a common platform, with the aim of achieving “operational excellence” as soon as possible.

* SQDCPE: Safety, Quality, Delivery, Cost, People, Environment, Equipment



Constituent Elements of Proterial Operating System (POS)

SQDCPE assessment		Evaluate the current conditions and formulate an improvement plan
Systematic visual management		Define and implement the content to be managed for each level
Implementation of visual management	(1) Goal map	Top-down deployment of plant policies and goals to clarify priorities, and link plans to departments, sections, and shop floor activities
	(2) KPI tracking	Track the status of activities using numerical values and manage them until the goal is achieved
	(3) Project tracking	Share the progress of improvement project plans and manage them until they are achieved
	(4) Morning meetings	Share and manage daily achievements and issues
Best practices		Deploy leading-edge cases at other sites
Reorganizing the company-wide and plant education system		Promote continuous human resource development

R&D Activities & Achievements

The Proterial Group is focusing on creating new products and new businesses aimed at realizing a sustainable society. We are promoting R&D DX that uses digital technologies such as AI and Materials Informatics (MI) to tackle solving our customer's challenges, as well as manufacturing DX for achieving safe, high-quality workplaces that do not rely on people. We are conducting joint research with cutting-edge global research institutions in order to accelerate these efforts.

Key Themes and Achievements of Research and Development

The themes and key achievements of research and development are as follows. These achievements are anticipated to contribute to environmental and social issues such as product-weight reduction, fuel efficiency and energy conservation, and decarbonization in industrial infrastructure and electronics-related fields as well as automotive related fields, where the shift to electrification (xEV*) is expected to continue.

Area	Key Themes and Achievements
New Materials and New Businesses	<p>Development of innovative materials that contribute to solving social issues, development of innovative production technologies that utilize AI and robotics, fusion of advanced analytical technologies and AI/MI technologies that revolutionize materials development across the entire company</p> <p>Key Achievements</p> <ul style="list-style-type: none"> • Developed a technology that reduces CO₂ emissions by more than 20% when manufacturing cathode materials for lithium-ion batteries • Developed and commenced sales of ADMUSTER™-YAG™350AM, a high-hardness maraging steel additive manufacturing material • Developed ADMUSTER L61P powder, which uses Al6061, an aluminum alloy in the Al6000 series that enables metal additive manufacturing (joint development with the Singapore Institute of Manufacturing Technology, a research institute of Singapore's Agency for Science, Technology and Research) • Developed our own MI platform, D2Materi™.
Specialty Steel Products	<p>Development of materials, manufacturing methods, and related technologies for high-grade specialty steels, various rolling mill rolls, and metal 3D additive manufacturing for the fields of molds and tools, electronic materials, industrial equipment materials, aircraft and energy-related materials, etc.</p> <p>Key Achievements</p> <ul style="list-style-type: none"> • Development of high-hardness, high-corrosion-resistant steel for blades • Developed titanium alloy foil for flexible displays
Functional Components and Equipment	<p>Development of high-grade ductile cast iron products, heat-resistant cast steel for exhaust parts and ceramic honeycomb filter</p>
Magnetic Materials and Applications/Power Electronics	<p>Development of high-performance magnets, high-frequency parts and materials for information terminals, amorphous metal materials, nanocrystalline soft magnetic materials, various other magnets and ceramic products, and their applied products</p> <p>Key Achievements</p> <ul style="list-style-type: none"> • Established technology for NMX™-G1NH, a high-performance rare earth magnet that greatly reduces the amount of heavy rare earths used • Verified output exceeding 100kW, which can be applied to the traction motors of BEVs and PHEVs, using a ferrite magnet motor • Developed Laminated Bonded Amorphous Alloy Ribbon for Motor Cores • Developed "MS-FH" a Highly Heat-Resistant Magnetic Shielding Sheet
Electric-wire Materials	<p>Development of materials, manufacturing process technology and connection technology related to various electric wires and Magnet wire for industrial, vehicle/automotive, equipment, medical, etc., as well as electrical components and hoses for automobiles, industrial rubber, etc.</p> <p>Key Achievements</p> <ul style="list-style-type: none"> • Applied the D2Materi™ materials informatics platform to the development of cable insulation materials • Developed the new GT-SNNS170 trolley wire and deployed it on the JR Shikoku Seto-Ohashi Line

Global Research & Innovative Technology Center (GRIT)

GRIT is Proterial's corporate research institute that works on creating new products and businesses aimed at realizing a sustainable society, without being constrained by existing products or businesses. We are promoting forward-thinking R&D and innovation with the aim of solving social issues.



* xEV: A collective term for electric vehicles (EV), hybrid electric vehicles (HEV), and plug-in hybrid electric vehicles (PHEV)

Awards for Inventions

May 2023	Invention of a steel annealing method that does not utilize a furnace wins Asahi Shimbun Award at 2023 National Invention Awards
October 2023	Invention of highly reliable insulating silicon nitride substrates and circuit substrates receives the Tottori Prefectural Governor's Award at the Chugoku Region Invention Honors for FY2023
October 2023	"New mold material for plastic molding," which combines rust resistance with thermal conductivity, receives the Shimane Institute of Invention and Innovation Chairperson's Award in the Chugoku Region Invention Honors for FY2023
November 2023	Silicone sheath with superior sliding properties and its application product receives the Minister of Education, Culture, Sports, Science and Technology Award at the Kanto Region Invention Honors for FY2023

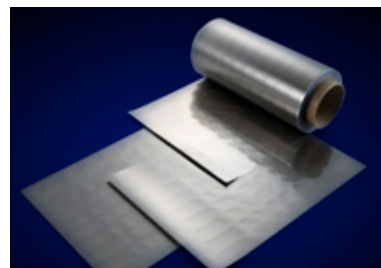
Ichimura Prize in Industry

March 2024	Received the Contribution Prize at the 56th Ichimura Industrial Awards for "Trolley Wire System with Fiber Optic Warning Function."
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Examples of Research and Development

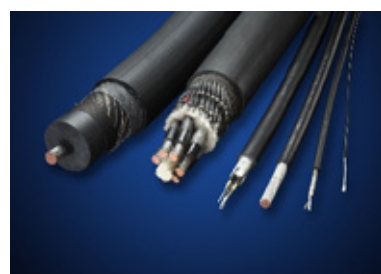
Developed MS-FH, a high heat-resistant magnetic shield sheet

We have developed MS-FH, a new high-heat-resistant magnetic shield sheet that improves the heat resistance of the MS-F magnetic shield sheet, which uses the Nanocrystalline Soft Magnetic Material FINEMET®. In addition to having a higher heat resistance of up to 130°C, which is 50°C higher than the existing product, the thickness of the sheet has been reduced by approximately 40% compared to the existing product, contributing to making electronic devices smaller and lighter.



Applied the D2Materi™ materials informatics platform to the development of cable insulation materials

We have successfully applied our proprietary MI platform, D2Materi to the development of cable insulation materials. We have also used D2Materi in the development of actual cable insulation materials for rolling stock, and have confirmed that it greatly improves the speed of development of insulation material formulations.



Developed titanium alloy foil for flexible displays

Proterial Metals, Ltd. (wholly owned by Proterial, Ltd.) has developed a titanium alloy foil for the back panels of flexible displays, which are attracting attention as a way to increase the screen size of smartphones. We focused on a titanium alloy (Ti-15-3-3-3), which is more flexible than stainless steel, and is non-magnetic and lightweight even after cold working, and developed it to improve durability, succeeding in developing a titanium alloy foil that is more durable than stainless steel when bent repeatedly, and that can reduce the bending radius to about two-thirds the size.



Intellectual Property Activities

Basic Policy and Strategy

The Proterial Group promotes the protection and strengthening of intellectual property through efficient intellectual property strategies and intellectual property activities that are coordinated with business and R&D, in line with business formats and new product development and deployment. By formulating and implementing an intellectual property strategy that facilitates business growth and the promotion of research and development, we will contribute to the realization of a high-performance materials company that supports

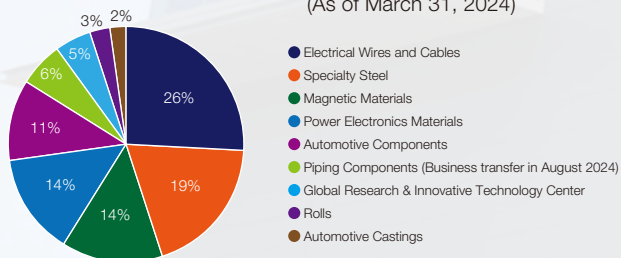
a sustainable society. We are working to ensure the flexibility of our business by steadily acquiring intellectual property rights in Japan and overseas through our research and development activities, and by ensuring the implementation of a defense strategy that ensures the confidentiality of our know-how. We also respect the intellectual property of others and conduct thorough investigations to ensure that we do not infringe on the rights of any third party.

Building a Patent Portfolio

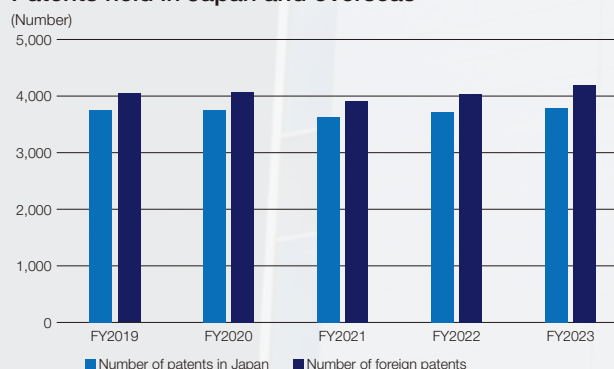
In order to promote highly effective patent strategies in line with our business strategies, we are working to build and utilize an optimal patent portfolio for each business unit. In addition, we are constantly reviewing our portfolio of patents in light of our

global expansion, and more than half of our patents at present are overseas patents. We will continue to work on building a highly effective patent portfolio.

Percentage of patents held by business unit
(As of March 31, 2024)



Patents held in Japan and overseas



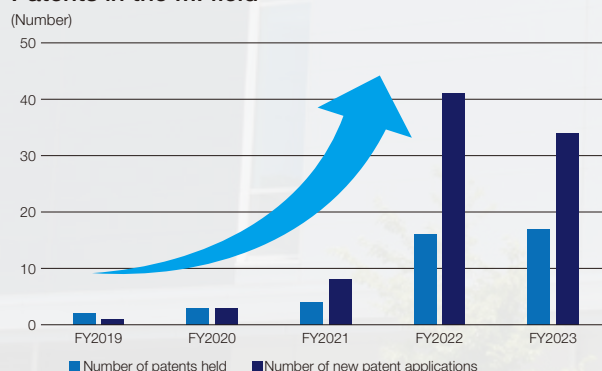
Initiatives for Intellectual Property Activities

We support the execution and growth of business from the perspective of intellectual property activities through the continuous strengthening of patent applications, the construction of a patent portfolio, and clearance activities that prevent infringement of the intellectual property rights of third parties, and we are accumulating much intellectual asset in our focus areas.

The Group is also actively pursuing research and development in the fields of AI and materials informatics (MI), and in recent years, we have steadily accumulated intellectual property through patent applications and rights acquisitions, which we use as a source for future business while also aiming to increase the efficiency of materials development. By combining materials science and information science, we will make use of the intellectual capital we have accumulated to date, and we will further strengthen our business by accelerating and evolving the development of materials that meet our customers' needs.

Furthermore, by incorporating advanced methods into the analysis of material performance, composition, and processes, we will explore materials and conditions with new characteristics and features that

Patents in the MI field



are not constrained by conventional knowledge, and we will also strategically consider the protection and utilization of intellectual property as we engage in intellectual property management.



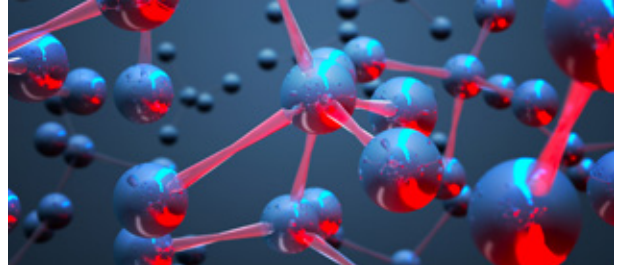
Megatrends

Megatrends that significantly impact the Company's business activities include the following. In addition to our Corporate Philosophy, we have identified material issues (key issues) based on these changes in social issues.



Intensifying climate change

- Global warming has the potential to significantly impact society and the economy. Environmental consciousness is increasing.
- As demand for energy increases, especially in developing countries, the shift to clean energy is accelerating.
- As a result of such changes in the external environment, the market for environmentally-friendly products and services will expand. There will be a growth of clean mobility and an emphasis on waste reduction and recycling.



Increasing demand for high-quality materials

- There are growing needs from customers for the application and development of new materials due to the electrification of automobiles, development of medical technologies, etc.
- Providing products and services that meet these changes in the business environment and needs is attracting increased emphasis.



AI technology development

- The spread of robotics, AI, and machine learning will enable labor saving.
- Expansion of 3D printers will revolutionize production and manufacturing methods.
- Efficiency in production and manufacturing will increase through greater productivity due to the use of these technologies.



Insufficient human resources and competition for personnel

- Risks including insufficient human resources and intensified competition for personnel are growing due to a shrinking working age population.
- Improving efficiency through labor savings and acquiring human resources by increasing corporate value will become critical.



Increasing geopolitical and procurement risks

- In recent years, risks in procurement have been growing due to geopolitical risks and competition for rare metals.
- Measures such as control of difficult-to-obtain raw material will become necessary.



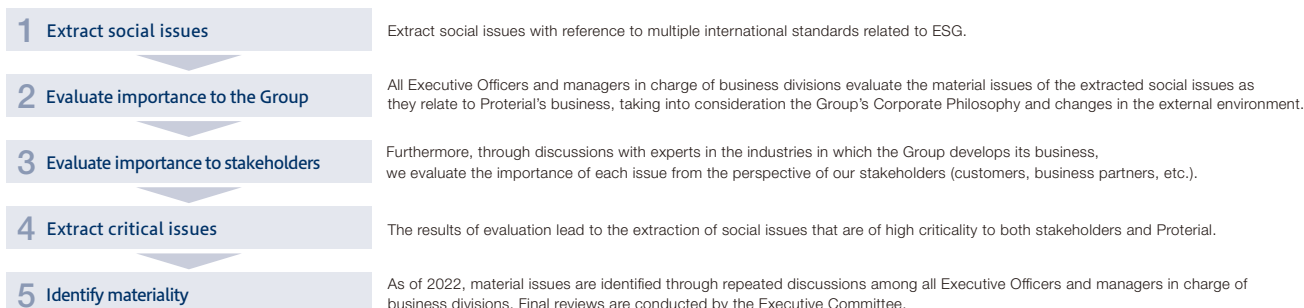
Public demand for stronger governance

- Corporate transparency is growing in importance, and how it is handled affects reputational risk.
- Promotion of transparency of corporate activities will be important.












Material Issues

Proterial's ESG activities in 2022 largely targeted six specific material issues (critical challenges). In identifying these material issues, we began by selecting social issues and then extracting critical challenges based on an evaluation of their importance to the Company and its stakeholders. Building on the aforementioned, material issues were identified through repeated discussions among all Executive Officers and managers in charge of business divisions with final reviews conducted by the Executive Committee.

Process of Identifying Material Issues






Material Issues (Key Issues)

Material Issues	Description	Related external environmental changes (opportunities and risks)	Related SDGs
 Environment	Contributing to realize a decarbonized society	Opportunity Increase in momentum to promote carbon neutrality among customers, suppliers, governments, etc., as climate change becomes more serious. Risks More stringent regulations on greenhouse-gas emissions, higher prices for clean energy due to increased energy demand and geopolitical risks, etc.	 
	Ubiquitization of resource-conserving, recyclable, and environmentally-friendly products	Opportunity Expansion of the market for environmentally-friendly products through the promotion of environmental initiatives in customer industries, growing momentum for waste reduction and recycling, development of new material technologies, etc. Risks Increased demand for recycled resources, competition for rare metals, soaring resource prices and challenges in procurement due to geopolitical risks, etc.	 
	Safety and health are our overriding priority	Opportunity Development of robot technology for hazardous work, etc. Risks Lack of business successors due to intensified competition for human talent, outbreaks of infectious diseases, occurrences of natural disasters, etc.	 
	Making diverse individuals a driving force for change and growth	Opportunity Increase in importance and social momentum for work style reform due to intensifying competition for human talent, etc. Risks Insufficient human resources due to intensified competition for personnel, etc.	
 Social	Make quality a strength	Opportunity Increase in society's interest in quality assurance, technological advances in measures against internal fraud, etc. Risks —	
	Business model and process evolution anticipating changes in the external environment	Opportunity Increase in customer demand for resilience to changes in the external environment (e.g., stable supply), development of related technologies (e.g., new materials, R&D technologies), etc. Risks Increase in geopolitical risks, outbreaks of infectious diseases, occurrence of natural disasters, etc.	
 Governance			

Material Issues/Major Measures/ Key Management Indicators

Along with setting major measures to respond to the six material issues identified for the environment, society, and governance, the Group has set indicators to manage the progress of major measures. We are implementing steady measures to achieve the target values of these key management indicators by FY2030.

Through achieving these targets, we aim to greatly increase our corporate value as a materials company that leads sustainability by high performance, along with developing superior competitiveness at the top level of industries.

Material Issues			Major Measures
 Environment	Contributing to realize a decarbonized society	P.42	Expansion of deployment of renewable energy and promotion of energy saving
	Ubiquitization of resource-conserving, recyclable, and environmentally-friendly products	P.28	Expansion of environmentally-friendly products that contribute to decarbonation and reduction of energy use over the product lifecycle
			Expanding the use of recycled raw materials
 Society	Safety and health are our overriding priority	P.50	Promotion of activities to disseminate basic rules (ironclad rules) to prevent accidents and make facilities intrinsically safe
	Making diverse individuals a driving force for change and growth	P.52	Reflection of employee survey results in management
			Thorough implementation of diversity and inclusion
 Governance	Make quality a strength	P.54	Data collection without human intervention
			Expansion of activities to minimize and control variation in the 4Ms (huMans, Machines/equipment, Materials, and Methods)
			Fostering of KAIZEN promoters ⁶
	Business model and process evolution anticipating changes in the external environment	P.43	Thorough implementation of actions with integrity at the core
		P.43	Promotion of comprehensive risk assessment and countermeasures through risk management
		P.54	Diversification of procurement sources in response to changes in the procurement environment
		P.34	Acceleration of R&D and realization of safe, high-quality production through DX

*1. Energy consumption unit: Energy consumption divided by sales

*2. Environmentally-friendly priority products: Selected products that are being expanded in terms of business strategy and contribute highly to solving environmental issues such as climate change and effective use of resources. To strengthen environmentally-friendly products, we are currently studying definitions of management indicators, target values, and strategies to achieve them.

*3. Frequency rate of occupational accidents: Number of fatalities and injuries due to occupational accidents divided by total number of actual working hours x 1,000,000 (number of accidents per 1 million working hours in a calendar year).

*4. Number of serious accidents: Serious accidents include fatalities, serious injuries equivalent to fatalities (disabling injuries of Severity 7 or higher), and accidents in which three or more persons are injured at the same time.

*5. Ratio of positive evaluation of engagement indicators: Positive response rate of employee survey sustainable engagement indicators. Changes to the survey framework and target questions for engagement indicators in FY2022. With plans to review survey methods, target values are not presented.

*6. Non-consolidated data.

Meanwhile, the responsible executive officer oversees the setting of related targets as well as the planning and implementation of measures for these critical challenges. Matters relating to the achievement of these targets and plans are reported to and deliberated by the Executive Committee, which is presided over by the Representative Director, President and CEO, and managed through reports to the Board of Directors as appropriate.

Key Management Indicators	FY2022 results	FY2023 results	Targets for FY2030
Reduction in CO ₂ emissions (compared to FY2015)	31% (Emissions:1,913 kt-CO ₂)	62% ^{*12} (Emissions:1,062 kt-CO ₂)	38% (Emissions:1,723 kt-CO ₂)
Amount of renewable energy deployed	483 MWh/year	8,354 MWh/year	35,000 MWh/year
Energy consumption rate Improvement rate (compared to FY2015) ^{*1}	20%	39%	14%
Sales ratio of environmentally friendly priority products ^{*2}	22.4%	24.4%	30%
Waste landfill rate	10.1%	6.2%	8.5%
Improvement rate of water use (compared to FY2010)	33.8%	29.6%	38.5%
Occupational accident frequency ^{*3}	0.45	0.33	0.15
Number of serious accidents ^{*4}	2	0	0
Ratio of positive evaluation of engagement indicators ^{*5}	71%	76%	TBU
Diversity in recruitment ratio (women, foreign nationals, career hires) ^{*6}	66.3%	62.0%	50% or more
Ratio of female manager's ^{*6}	2.2%	2.4%	5.0%
Diversity ratios at the executive level positions (women, foreign nationals, career hires) ^{*6}	35.7%	40.0%	30% or more
Percentage of automatic inspection and testing	28%	15%	100%
Major quality incident index ^{*7}	0.4	0.2	0
— ^{*9}	—	—	—
Ratio of positive evaluation of compliance awareness, etc. ^{*10}	84%	—	90% or more
— ^{*9}	—	—	—
Number of items required for source diversification	11	10	0
Manufacturing lead time (Compared to FY2022) ^{*11}	Base Year	—	50%
New product ratio ^{*12}	23%	23%	30%

*7. Major quality incident index: Index of accidents that caused serious damage to customers' bodies or property, or serious damage to society (including violations of laws and regulations), with FY2020 set as 1.

*8. KAIZEN: Activities aimed at improving productivity and quality through continuous streamlining of production sites or company operations

*9. Indicators that are not suitable and those with a non-disclosure policy are indicated with "—".

*10. Ratio of positive evaluation: Changes to the survey framework and engagement indicator target questions in FY2022.

*11. Manufacturing lead time: Percentage decrease in the time from the start of manufacture to the delivery of products for priority products. FY2022 figures are used as the benchmark.

*12. New product ratio: Ratio of sales of new products to consolidated sales revenue. New products are registered as those that open up new markets or new applications, or have significantly improved performance. A product that has been generalized three years after registration as a new product is removed from the register.

*13. Effect of measures including portfolio revision decreased significantly.

Contributions to the Realization of a Decarbonized Society/Ubiquitization of Resource-conserving, Recyclable, and Environmentally-friendly Products

Proterial Group's Response to Climate Change

Disclosure Based on TCFD Recommendations (July 29, 2024)

1. Response to TCFD Recommendations

As countries around the world intensify their efforts to address climate change in accordance with the Paris Agreement, the Japanese government announced in October 2020 its policy goal of reducing emissions of greenhouse gases, as typified by carbon dioxide (CO₂), to virtually zero by 2050. Accordingly, companies are expected to be more proactive than ever in their efforts to transition to a decarbonized society.

The Group considers the impact of climate change on its business as one of our most important management issues, and we believe that enhanced disclosure of climate-change-related information is a key factor in building a relationship of trust with our stakeholders. Accordingly, in June 2021, we registered our support for the TCFD* Recommendations, and in accordance with the TCFD Recommendations, the Group will

continue to enhance our disclosure of information on the impact of climate change on our business activities. Going forward, we will also continue to respond to the disclosure standards of the International Sustainability Standards Board (ISSB) and the Sustainability Standards Board of Japan (SSBJ).



* The Task Force on Climate-related Financial Disclosures (TCFD) was established by the Financial Stability Board (FSB) in 2015 in response to requests from the G20 for climate-related disclosures. The TCFD published its final report in June 2017, in which it recommends companies to disclose items related to climate change-related risks and opportunities.

2. Governance

In April 2010, the Proterial Group established the Group Basic Policy on Environmental Preservation to clarify the Group's unified approach to environmental management. In June 2021, we registered our support for the TCFD Recommendations, and in August of that year, following a report to the Board of Directors, we established a new environmental policy named "Aiming for Green Growth While Taking Risk as Opportunity."

The Proterial Group Environmental Committee (Group Environmental Committee, hereinafter) has been established as a framework for promoting environmental activities such as climate-change countermeasures. The Group Environmental Committee is chaired by the Environment Executive Officer, and its executive office is the Environmental Strategy Department, Manufacturing & Engineering Division. Its activities are promoted in cooperation with the environmental managers of each business unit, business sites, and group companies. The Group Environmental Committee is responsible for developing environment-related regulations,

setting targets for reducing environmental impact, and confirming that activities are appropriate and effective.

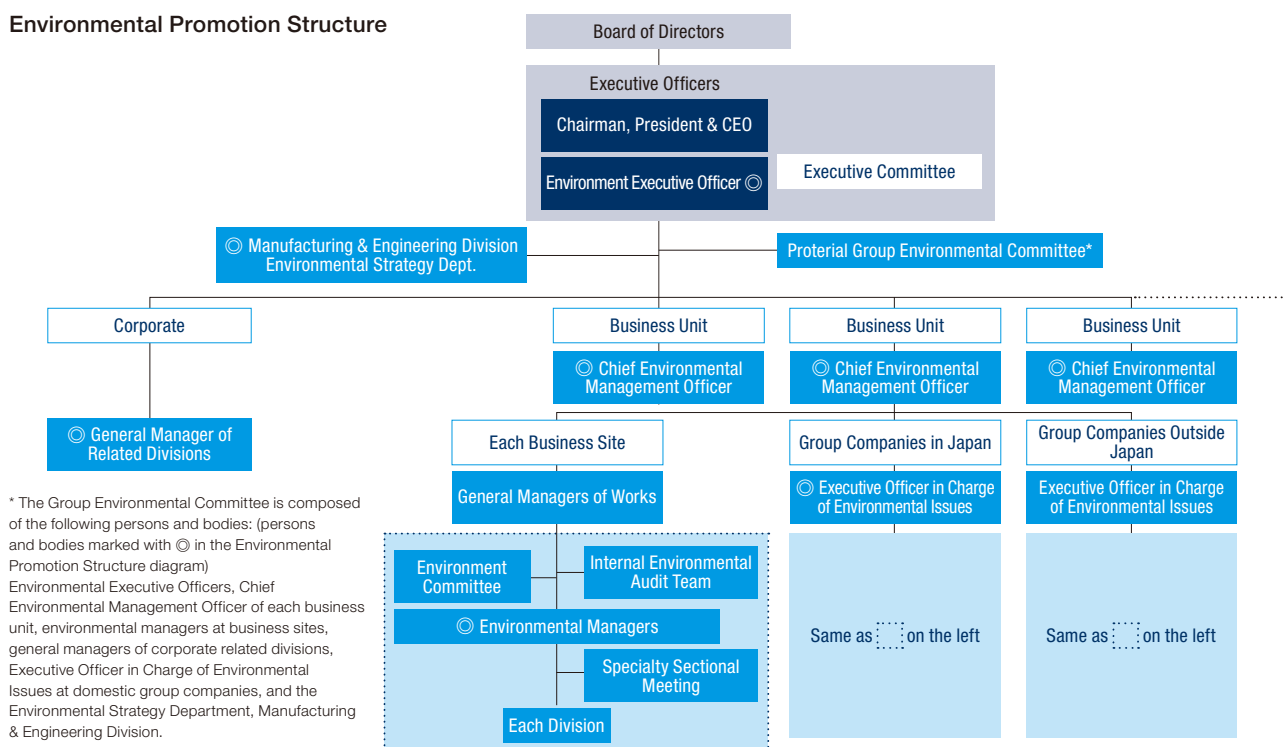
Policies and targets concerning environmental activities are discussed and set by the Group Environmental Committee as annual environmental action plans. With regard to climate change countermeasures, the Environmental Action Plan sets targets for CO₂ emissions within the Group. On the basis of those targets, energy-saving activities and the use of renewable energy are being promoted at each manufacturing site. The status of CO₂ emissions is monitored regularly, and the Group Environmental Committee meets once a year to share the results of the previous fiscal year, the status of numerical targets for the current fiscal year, and major initiatives to promote continuous improvement of activities.

In addition, the status of efforts toward environmental issues, including climate-change measures, are reported twice a year to the Executive Committee and the Board of Directors, where important issues related to climate change are also deliberated and decided.

Status of reporting and decision-making on important climate-change-related items in FY2023

Month/Year	Important issues related to climate change	Meeting body
April 2023	Membership of the GX League	(President's decision)
May, June 2023	Environmental strategy and status of initiatives (initiative results for FY2022, initiative policy for FY2023, update of TCFD disclosure content (review of scenarios and Scope 3 disclosure))	Executive Committee, Board of Directors
October, November 2023	Environmental strategy and status of initiatives (initiative status for FY2023, setting of GX League targets)	Executive Committee, Board of Directors
January 2024	<ul style="list-style-type: none"> Revision of company regulations (review of responsibilities of officers in charge of environmental issues, etc.) Support and participation in Keidanren Declaration for Biodiversity 	Executive Committee

Environmental Promotion Structure



Roles in the Promotion Structure

■ Environment Executive Officer

The executive officer in charge of manufacturing and technology is in charge as an Environment Executive Officer who is well acquainted with environment-related issues and exercises overall control through the Group Environmental Committee.

■ Proterial Group Environmental Committee

Deliberates and determines policies, targets, etc. related to environmental management activities within the Group.

■ Chief Environmental Management Officer

Oversees environmental management activities within the business units.

■ Environment Committee

Deliberates and determines policies, targets, etc. related to environmental management activities at each business site.

■ Environmental Managers

Take responsibility for and promote environmental-management activities of each business site.

3. Strategy (Scenario Analysis)

The Group conducted “scenario analysis” to clarify the risks and opportunities posed by future climate change and to develop business strategies to reduce risks and expand opportunities. While we recognize that scenario analysis should cover the entire group, including the supply chain, FY2022, we conducted

an analysis of our domestic business. In FY2023, we reevaluated our domestic business in line with the transition to the new system. In FY2024, we conducted analysis that included major overseas operations.

■ Scenario-analysis process

Scenario analysis—consisting of the four steps shown in Figure 1—aims to assess (i) financial and business impacts under different scenarios and (ii) resilience of the Group strategy in regard to climate-related risks and opportunities.

■ Assumptions for scenario analysis

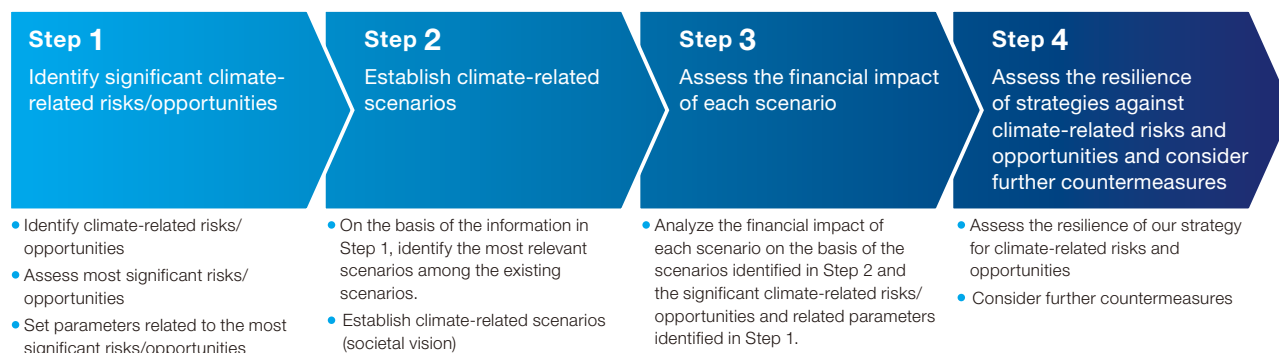
Scenarios: Refer to the “below 2°C scenario” for transition risks and opportunities and the “4°C scenario” for physical risks.
 Target businesses: FY2022: Advanced Components & Materials Division (Domestic sites) and Advanced Metals Division (Domestic sites)
 FY2023: Each division (Domestic sites)
 FY2024: Each division (Domestic sites and major overseas sites)
 Target Fiscal Year: Impact by 2030

■ Reference scenario

Classification	Main reference scenario
Below 2°C scenario	<ul style="list-style-type: none"> IEA World Energy Outlook 2020. Sustainable Development Scenario IPCC RCP2.6
4°C scenario	<ul style="list-style-type: none"> IEA World Energy Outlook 2020. Stated Policy Scenario IPCC RCP8.5

Contributions to the Realization of a Decarbonized Society/Ubiquitization of Resource-conserving, Recyclable, and Environmentally-friendly Products

■ Scenario-analysis steps (figure 1)



The following table shows the results of our review of the risks and opportunities posed by climate change

Classification		Type	Content	Business/financial impact			Our response
				Specialty Steel	Roll	Automotive castings	
Risk	Transition	Policy/ regulations	Increased production and operating costs due to tighter regulations on carbon pricing (CP), including carbon taxes, taxes on fuel and energy consumption, and emissions trading.	Medium	Medium	Medium	Currently, we are working towards improving energy consumption per unit of production by 1% or more per year by promoting various energy-saving measures (LED lighting, replacement and introduction of high-efficiency equipment) and productivity improvement measures. Aiming to become carbon neutral by 2050, we plan to actively promote fuel conversion and introduction of renewable-energy facilities (installation of solar panels) as additional measures to achieve the 2030 CO ₂ reduction target.
			Increased procurement risk due to strengthened CP regulations for raw materials.	Medium	Small	Small	As for principle raw materials, we will strengthen surcharges and cultivate new suppliers. From the perspective of life-cycle assessment (LCA), we will increase the utilization ratio of scrap (which generates low CO ₂ emissions) and nurture new suppliers
		Technology	Increase in operating costs due to capital investment involved in the introduction of manufacturing processes (electrification and alternative fuels) to meet decarbonization requirements.	Small	Small	Large	When introducing new manufacturing processes, we will examine equipment specifications with the aim of reducing its impact on operating costs
		Market	Decreased demand for peripheral components of internal combustion engines owing to the expansion of xEVs and decrease in sales due to excessive competition with competing xEV suppliers.	Medium	Small	Large	As for capturing demand for components of automotive internal-combustion engines, we will target the commercial-vehicle and agricultural/ construction-equipment fields
	Decrease in sales due to delays in responding to customer requests for decarbonization and lost opportunities to expand new sales.		Small	Small	Medium	As for reducing CO ₂ emissions from manufacturing processes, we will continue to promote both energy conservation and renewable energy, and we will focus on how to respond to customer requests for decarbonization.	
	Physical	Acute and chronic	Orders and sales decreased owing to delays in delivery accompanying the suspension of operations caused by natural disasters due to abnormal weather.	Small	Small	Large	We will systematically improve our production systems in anticipation of extreme weather events.We will expand the BCP system and refine the action manual for emergencies.

Classification		Type	Content	Business/financial impact				Our response
				Magnetic materials	Power electronics	Electric wires	Automotive components	
Risk	Transition	Policy/ regulations	Increased production and operating costs due to tighter regulations on carbon pricing (CP), including carbon taxes, taxes on fuel and energy consumption, and emissions trading.	Medium	Large	Small	Medium	We are reducing CO ₂ emissions by promoting various energy-saving measures (e.g., LED lighting and renewal/introduction of high-efficiency equipment) and measures to improve productivity. From now onwards, aiming to achieve our CO ₂ reduction target for 2030, we will actively promote fuel conversion and purchase of renewable electricity as well as the introduction of renewable energy (i.e., installation of solar panels).
			Increased procurement risk due to strengthened CP regulations for raw materials.	Small	Medium	Medium	Small	As for principle raw materials, we will work to strengthen surcharges and cultivate new suppliers. In the magnet business, we will continue to develop materials that use fewer heavy rare earth elements and introduce them to the market. In the electric wire business, we will reduce the amount of copper used by improving productivity, develop and commercialize aluminum alloy conductor cables, and further expand the ratio of recycled copper.
		Technology	Increase in operating costs due to capital investment involved in the introduction of manufacturing processes (electrification and alternative fuels) to meet decarbonization requirements.	Small	Small	Small	Small	When introducing new manufacturing processes (e.g., introduction of the latest energy-saving technologies), we will examine equipment specifications with the aim of reducing their impact on operating costs. And the increased costs will be passed on to sales prices.
		Market	Decreased demand for peripheral components of internal combustion engines owing to the expansion of xEVs and decrease in sales due to excessive competition with competing xEV suppliers.	Small	Large	Small	Small	We will reduce costs by introducing high-efficiency equipment, improving productivity, and procuring parts locally.
			Decrease in sales due to delays in responding to customer requests for decarbonization and lost opportunities to expand new sales.	Small	Large	Small	Large	We will improve the ratio of renewable energy use by promoting introduction of renewable energy and selecting electric power companies with high RE power-generation ratio.
	Physical	Acute and chronic	Orders and sales decreased owing to delays in delivery accompanying the suspension of operations caused by natural disasters due to abnormal weather.	Small	Medium	Medium	Large	We will systematically improve our production systems in anticipation of extreme weather events. We will expand the BCP system and refine the action manual for emergencies.

Contributions to the Realization of a Decarbonized Society/Ubiquitization of Resource-conserving, Recyclable, and Environmentally-friendly Products

Classification	Type	Content	Business/financial impact			Our response	
			Specialty Steel	Roll	Automotive castings		
Opportunity	Resource efficiency	We will increase sales by increasing product value through efficient production and efficient use of materials and energy.	Small	Small	Small	To achieve the 2030 CO ₂ reduction target, we plan to promote energy-saving measures through fuel conversion for industrial furnaces and boilers, introduction of high-efficiency equipment and waste heat utilization, and actively promote further introduction of solar power generation facilities. We will also proceed with PR activities relating to our efforts and achievements.	
	Source of energy	We will increase sales by improving customers' supplier selection evaluation through decarbonization efforts.	Small	Small	Small	We will promote CO ₂ reduction by introducing renewable energy and switching to carbon-neutral fuels.	
	Products/ services	We will increase sales by developing and launching environmentally friendly products onto the market.	Large	Small	Small	We will promote new orders and increase market share of target products by shortening development lead times and reducing costs of environmentally friendly products. We will continue to expand sales of environmentally friendly products, which are expected to be in greater demand in the future. <ul style="list-style-type: none">• Mold materials that provide longer service life• Materials for various industrial machinery, undercarriage parts, and exhaust-gas filters that contribute to improved fuel efficiency and reduced emissions by cars• Aerospace products that are expected to improve fuel efficiency of airplanes• Battery materials (clad products) and power-semiconductor materials for use in batteries and other products	
Classification	Type	Content	Business/financial impact				Our response
			Magnetic materials	Power electronics	Electric wires	Automotive components	
Opportunity	Resource efficiency	We will increase sales by increasing product value through efficient production and efficient use of materials and energy.	Small	Medium	Small	Medium	To achieve the 2030 CO ₂ reduction target, we plan to promote various energy-saving measures (LED lighting, renewal and introduction of high-efficiency equipment, etc.) and productivity-improvement measures while promoting fuel conversion and introduction of renewable energy (i.e., installation of solar panels). We will also proceed with PR activities relating to our efforts and achievements.
	Source of energy	We will increase sales by improving customers' supplier selection evaluation through decarbonization efforts.	Small	Small	Small	Small	We will reduce electricity consumption by improving productivity and increase the utilization rate of renewable energy.
	Products/ services	We will increase sales by developing and launching environmentally friendly products onto the market.	Large	Large	Small	Medium	We aim to expand sales by developing products that contribute to a low-carbon society. <ul style="list-style-type: none">• Various products for xEVs (high-performance magnets, SiN, SiC, magnet wires, automotive electrical components, etc.)• Amorphous alloy (MaDC-A) that contributes to higher efficiency of transformers

xEV: A collective term for electric vehicles (EV), hybrid electric vehicles (HEV), and plug-in hybrid electric vehicles (PHEV).

Definition of assessment of business/financial impact

Large: cost or effect is equal to or greater than 5% of sales*¹

Medium: cost or effect is equal to at least 1% but less than 5% of sales*¹

Small: cost or effect is less than 1% of sales*¹

*¹ Net sales of target businesses

As described above, in response to the assessment of domestic sites disclosed in October 2023, we have reverified the response to risks and opportunities for each business, including major overseas sites, and we have confirmed that our environmental strategy is resilient.

4. Risk Management

The Group has established a Risk Management Committee (RMC) under the supervision of the Chief Risk Control Officer (CRCO) executive officer. The function of the RMC is to identify various risks surrounding the Group, and comprehensively manage risks by summarizing the status of controls against those risks and assessing and weighting the degree to which they manifest and their level of impact. Risks related to climate change identified by the Group Environmental Committee, corporate departments, and business divisions are reported to the RMC together with other risks as one of the risks related to environmental regulations. The RMC meets twice a year to share the status of risk controls and related monitoring results, and to report to the Executive Committee.

Risk management structure

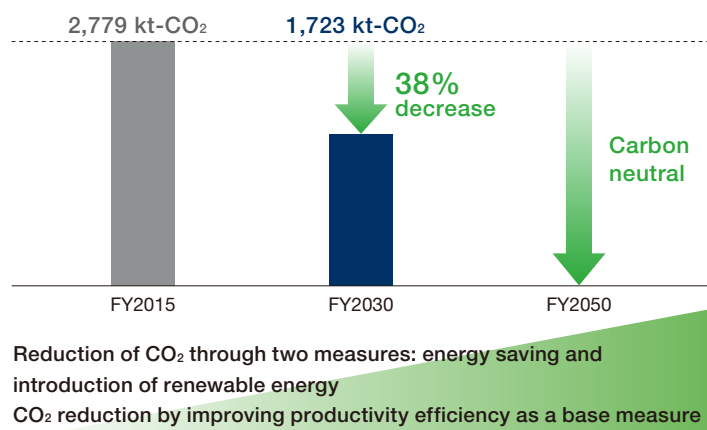


5. Indicators and Targets

■ About Scopes 1 and 2

The Group has set the Scopes 1 and 2² targets for CO₂ emissions as shown in the illustration below. In promoting carbon neutrality, we will continue our conventional energy-saving activities while striving to improve processes such as capital investment, convert to alternative fuels for melting furnaces, heating furnaces, and other manufacturing processes, develop technologies based on carbon-free fuel, and introduce renewable energy.

Target for CO₂ emissions (whole Group)



^{*2} Scope 1: Direct emissions of greenhouse gases by business operators themselves (fuel burning and industrial processes)
 Scope 2: Indirect emissions associated with use of electricity, heat, and steam supplied by other companies

Group-wide Scope 1 and 2 results

Target	FY2021	FY2022 ^{*3}	FY2023 ^{*4,*5}
Scope 1	876	818	234
Scope 2	1,340	1,096	828
Scope 1 + Scope 2	2,216	1,914	1,062

^{*3} CO₂ emissions (Scopes 1 and 2) in FY2022 have been certified by a third party.

^{*4} CO₂ emissions (Scopes 1 and 2) in FY2023 are being verified by a third party as of July 2024.

^{*5} CO₂ emissions in FY2023 significantly decreased compared to the previous fiscal year due to the impact of business portfolio revision, among other things.

Contributions to the Realization of a Decarbonized Society/Ubiquitization of Resource-conserving, Recyclable, and Environmentally-friendly Products

About Scope 3

The Company calculated CO₂ amount for Scope 3 Categories 1 to 7 and 13 according to “Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain.” CO₂ emissions in FY2023 totaled 2,287 kt-CO₂, of which “Category 1: Purchased Goods and Services” accounted for the largest share (77.7%).

Group-wide Scope 3 aggregated results

Category	Category description	FY2021		FY2022		FY2023	
		Emissions [kt-CO ₂]	Ratio [%]	Emissions [kt-CO ₂]	Ratio [%]	Emissions [kt-CO ₂]	Ratio [%]
1	Purchased goods and services	1,746	74.1	1,787 ^{*6}	76.5	1,778 ^{*7}	77.7
2	Capital goods	115	4.9	106	4.5	115	5.0
3	Fuel and energy related activities not included in Scopes 1 and 2	412	17.5	391	16.7	348	15.2
4	Upstream transportation and distribution	38	1.6	24	1.0	21	0.9
5	Waste generated in operations	27	1.1	11	0.5	9	0.4
6	Business travel	4	0.2	3	0.1	3	0.2
7	Employee commuting	12	0.5	12	0.5	11	0.5
13	Downstream leased assets	2	0.1	2	0.1	2	0.1
Total		2,356	100.0	2,336	100.0	2,287	100.0

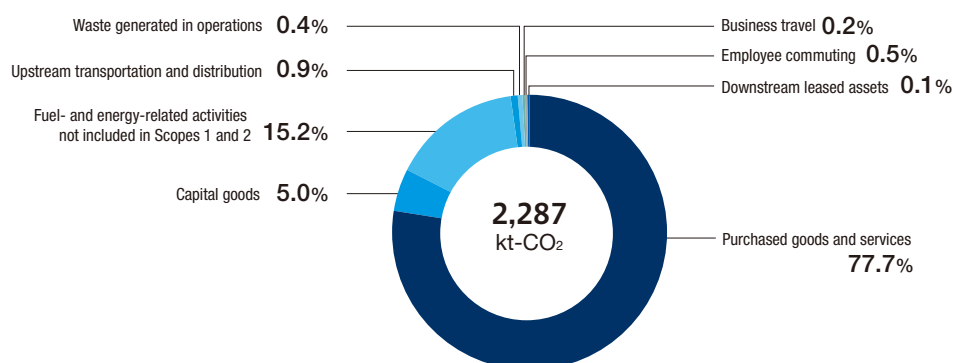
^{*6} CO₂ emissions (Scope 3 Category 1) in FY2022 have been certified by a third party.

^{*7} CO₂ emissions (Scope 3 Category 1) in FY2023 are being verified by a third party as of July 2024.

Scope of data: Categories 1 to 7 (excluding Category 4) and Category 13 are figures for the whole Group. Figures in Category 4 are based on domestic operations only. Calculation method: FY2021, FY2022: Ministry of the Environment DB3.1 and IDEA database Ver. 3.2 were used.

FY2023: Ministry of the Environment DB3.4 and IDEA database Ver. 3.3 were used.

Scope 3 FY2023 results



Executive compensation

Compensation for our Executive Officers is based upon the achievement of annual targets. From FY2022, we have added the Group's CO₂ emissions target as an evaluation item for climate-change response. We have also applied this indicator to management staff, and we are working on carbon-neutrality measures as it's an important issue facing our business operations.

Internal carbon price

To promote CO₂ reduction, we have added the concept of “internal carbon pricing” to our internal regulations related to capital investment. In detail, we set a carbon price (8,000 yen/t CO₂) based on the total amount of CO₂ emissions after capital investment, and the effect of the CO₂ reduction of the capital investment is calculated as profit. The concept has been implemented since October 2021, and as a result of the carbon price review, we have decided to maintain the price with reference to the carbon taxes, carbon credits, and procurement prices of renewable energy, both in Japan and overseas. We will continue to review the carbon price periodically.

Topic Expanding the deployment of renewable energy

The Proterial Group is working to expand its introduction of renewable energy, as well as promoting energy-saving activities, in order to contribute to the realization of a decarbonized society and to promote carbon neutrality.

FY2023, we introduced captive use photovoltaic power generation, mainly using the TPO/PPA model (Third Party Ownership/ Power Purchase Agreement) as shown in the table below.

Installation location	Installation site	Panel capacity (kW)	Annual power generation (thousand kWh/year)	CO ₂ emissions reduction (t-CO ₂ /year)
Moka City, Tochigi Prefecture	Moka Works, Casting Technology Research Laboratory	1,333	2,500	1,100
Kumagaya City, Saitama Prefecture	Kumagaya Works	9,970	11,500	5,100
Hai Duong Province, Vietnam	Proterial Vietnam Co., Ltd.	4,900	5,500	4,000
Hitachi City, Ibaraki Prefecture	Toyoura Plant of Ibaraki Works	1,700	1,947	900

The TPO/PPA model is a scheme in which a solar power system is installed by a company that owns and manages solar power generation equipment (power sales contractor) on a site, roof, or other space provided by the owner of a facility, and the generated electricity is provided to the power consumer of the facility (facility owner) for a fee. This has the advantage of enabling the facility owner (Proterial) to use renewable energy on a large scale while reducing risk by off-balancing its solar power generation.

In addition, we have also installed solar power generation systems at our Yasugi Works (530kW) and Kyushu Techno Metal, Ltd. (100kW) through our own investment, and we have installed solar power generation systems with a total panel capacity of approximately 17,000kW and an annual power generation capacity of approximately 22,500MWh (reducing CO₂ emissions by approximately 11,300t) as of FY2023.

The Proterial Group is aiming to have an annual capacity of power generated by renewable energy of over 35,000MWh by FY2030.

Furthermore, the Proterial Group is not only promoting solar power generation, but also the purchase of renewable energy, and is promoting activities to achieve the carbon neutrality by 2050.



Solar power generation facilities at Proterial Vietnam Co., Ltd.

Safety and health are our overriding priority

Having adopted Prioritizing the protection of safety and health above all else as one of our guiding principles, Proterial actively promotes activities to create safe, comfortable, and rewarding workplaces while nurturing healthy and energetic human resources in both mind and body. We have positioned prioritizing safety in an uncompromising manner to realize the safest possible workplaces as one of the core issues for management, where creating safe conditions will connect to People, Operational Excellence, and Growth as the three pillars of management.

Currently, we are engaged in eliminating major accidents, building a culture of safety, and creating healthy workplaces through health management as key health and safety measures. Similarly, we are working to create safe workplaces at manufacturing sites in Japan and abroad.

Building a Culture of Safety

As part of the Group's efforts to instill a culture of safety, we have held town hall-style meetings continuously since December 2018, where policies and views on safety are communicated by the President and feedback is received from the Group workplaces. These meetings, which our executives started participating in from FY2020 onwards, are held to obtain a wide range of opinions to reflect in our management policies. Meanwhile, at our manufacturing sites, we have been expanding the scope of our 2S-3F (Sort Out, Set in Order, Fixed Item, Fixed Quantity, and Fixed Location) activities as part of safety activities, and working to instill a culture of safety at the sites. In addition, from November 2020 onwards we started specialized level-based safety training for key employees differentiated by level (directors, business/plant managers, Group company presidents, production line managers, and staff in charge of safety) in order to cultivate human resources able to operate and manage health and safety activities in an

organization-wide and systematic manner. As of the end of FY2023, 61 specialized safety training sessions have been held, with 1,083 employees completing their training. Key employees involved in the training have got proactively involved in health and safety activities in their respective departments and have expanded on what they have learned during their specialized safety training. Through these efforts, we are carrying out continuous operation of our occupational health and safety management system that serves as our mechanism for instilling and re-establishing a culture of safety, and for operating and managing health and safety in an organization-wide and systematic manner.

In addition, we audit health and safety, confirm activities regarding the Proterial Group's key health and safety measures, verify compliance with the Company's rules and related laws and regulations, and provide health and safety training to supervisors.

Creating Healthy Workplaces through Health Management

The Proterial Group is working to build better physical and mental health among its employees. For example, we conduct stress checks on all employees and take measures based on the results. We are also focused on creating a more dynamic working environment by eliminating overwork through workstyle reform.

In June 2019, we released our first Health Management Declaration, and made a further Health Management Declaration in conjunction with our company name change in

January 2023. We will continue to steadily implement measures that enable employees to protect the safety of themselves and their coworkers, and to become involved in improving their own health of their own initiative. Several of these efforts include measures to prevent the spread of infections, initiatives to reduce smoking rates, stress checks, and health promotion activities at each works.

Health Management Declaration

Based on our corporate philosophy, we regard health and safety as an important management principle for the company's sustainable development and the happiness of each and every one of our employees, and we will actively promote activities to create safe, comfortable, and rewarding workplaces while nurturing healthy and energetic human resources in both mind and body.

I hereby reiterate my commitment to further work to ensure the safety of myself and my fellow workers and to encourage each of us to take the initiative in promoting our own health.

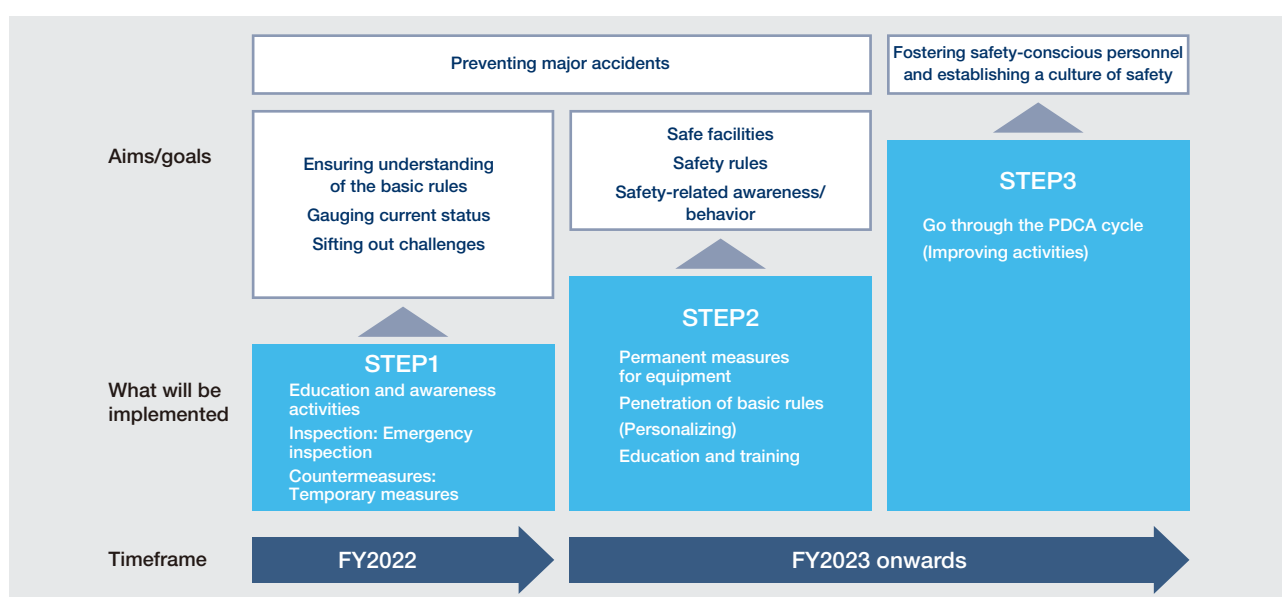
January 4, 2023
Proterial, Ltd.

Eliminating Major Accidents

Proterial's activities for instilling our basic rules (the Ironclad Rules), based on analysis of accidents, began in FY2022. FY2022, as Step 1, we carried out training and knowledge-building activities to ensure that employees understand the basic rules. We also carried out inspections and put in place countermeasures, and gauged the current status and sifted out challenges. From FY2023, while continuing to carry out the Step 1 initiatives, we will also put in place permanent measures for safety at facilities and work to instill the basic rules among employees, as Step 2. Finally, as Step 3, we will carry out the PDCA cycle for the above mentioned initiatives with the aim of fostering personnel who can behave safely at all times

and establishing a culture of safety in which all employees encourage each other to be aware about safety.

We are also pushing forward the improvement of facilities to ensure fundamental safety (permanent safety measures). We have thus far given top priority across the Group to safety measures to prevent employees being caught in spinning machinery or crushed by machinery. In FY2024, at the same time as continuing to prioritize safety measures to prevent employees being caught in/crushed by machinery, we have implemented safety measures based on risk assessments, starting with high-risk operations.



Certified as a Health and Productivity Management Organization

The Certified Health & Productivity Management Outstanding Organizations Recognition Program honors small, medium, and large enterprises, as well as other organizations, that engage in outstanding health and productivity management practices based on initiatives that align with the health issues of local communities and on initiatives for improving health that are promoted by the Nippon Kenko Kaigi. Having adopted prioritizing the protection of safety and health above all else as one of our material issues in management, Proterial actively promotes activities to create safe, comfortable, and rewarding workplaces while nurturing healthy and energetic human resources in both mind and body. As a result of these

efforts, Proterial was certified as a "2024 Certified Health and Productivity Management Outstanding Organization" in the Large Enterprise Category.

In addition, within the Proterial Group, seven companies (including Proterial) in the Large Enterprise Category and 12 companies in the SME Category were certified as 2024 Certified Health & Productivity Management Outstanding Organizations.



Proterial and Group Companies Certified under the 2024 Certified Health & Productivity Management Outstanding Organizations Recognition Program (by municipality, in Japanese alphabetical order)

Large Enterprise Category	SME Category	
NEOMAX Engineering Co., Ltd.	Tohoku Rubber Co., Ltd.	HCP Product, Ltd.
Proterial, Ltd.	Ibaraki Technos, Ltd.	Proterial FineTech, Ltd.
Proterial Specialty Steel, Ltd.	Tonichi Kyosan Cable, Ltd.	Santoku Corporation
Proterial Trading, Ltd.	Proterial Machinery, Ltd.	NEOMAX Kinki Co., Ltd.
Proterial Metals, Ltd.	Proterial Solutions, Ltd.	Proterial Ferrite Electronics, Ltd.
Proterial Precision, Ltd.	Proterial Hallow, Ltd.	NEOMAX Kyushu Co., Ltd.
Proterial Wakamatsu, Ltd.		

* Including special subsidiaries

Diversity and Inclusion

Proterial positions the thorough pursuit of diversity and inclusion as an important management strategy and is working on various measures.

Proterial Basic Policy on Diversity Management

1. We regard differences in gender, nationality, culture, and so forth as unique qualities of the individual, and we ensure diversity through measures such as promoting the career development of women and utilizing global human resources. Such approaches allow us to promote innovation and to enhance the flexibility and speed with which we respond to risks and changes.
2. We encourage the growth of the individual, enhance our ability to act as an organization, and reinforce the basis for sustained growth by engaging in active communication and the sharing of values.
3. We aim to become one of the world's top companies in the metal materials sector by designating diversity as a driver of growth, as we transform ourselves into a globally competitive business and challenge ourselves to meet new targets.



Proterial is also promoting diversity at the management level. As of April 1, 2024, our 14 executive officers included three foreign national executives. In addition, our Chief Executive Officer (CEO), Chief Financial Officer (CFO), Chief Human Resource Officer (CHRO), Chief Information Officer (CIO)/Chief Data Officer (CDO), Chief Transformation Officer (CTrO) and General Counsel (GC)/Chief Legal Officer (CLO)/Chief Risk Control Officer (CRCO) were appointed to their roles from outside Proterial in light of their track records and capabilities demonstrated to date, after being selected from a wide range of candidates who were optimal for the roles and responsibilities in question.

Proterial Action Policy on Diversity Management

Recognizing that human resources are the source of our competitiveness, Proterial has worked to enhance and strengthen its human resource development program, believing it is important to develop people able to take action at the global level at Proterial. Additionally, in our evaluation system, we are revising our seniority-based pay system and have incorporated diversity management as one of our manager evaluation metrics. We place great importance on the fact that our managers are responsible for providing the employees who report to them with equitable growth opportunities with an understanding of their values, restrictions they face due to life events and other causes, and their backgrounds, and for getting them actively involved in various measures and initiatives.

In addition, we support exchanges among our diverse employees and the realization of diverse careers through human resource exchanges both inside and outside the Proterial, the proactive hiring of experienced personnel, the utilization of the "My Challenge" internal free agent system which allows employees who want to expand their potential to transfer across business divisions or job categories, and the introduction of leave to allow employees to accompany spouses on overseas assignments.

Human Resources as the Source of Competitiveness

Proterial, which is moving ahead with global business expansion, recognizes human resources as the source of competitiveness. With this understanding, we will become a company where diverse human resources gather, test their opinions against others' views, and work with enthusiasm and pride.

Reflection of employee survey results in management

In aims of becoming a company where employees can work with enthusiasm and pride, we conduct a Survey of Employees each year to measure the percentage of favorable responses given for indicators such as engagement. After reporting the results to top management, the outcomes of discussions with top management are then reflected in improvement measures.

Human Resource Development Programs

Proterial is striving to enhance and strengthen its human resource development programs linking OJT and OFFT, so that employees can develop their expertise, enabling them to actively seek out challenges and take actions to achieve success or solve problems, and to become shining examples for the Company

who can make themselves indispensable to their organization.

■ Nurturing the next generation of human resources

We identify at an early stage the human resources who will take responsibility for management in the next generation and enhance training programs for them. The training programs include cross-divisional personnel rotations and extra- challenging assignments, as well as OFF-JT, which includes external training.

■ Global recruitment and development of human resources

As our business rapidly globalizes, we are accelerating efforts at global regional headquarters in Europe, the U.S., China, and the rest of Asia, to employ and cultivate human resources who will be future executive candidates. We are also pushing ahead with the early cultivation of future executive candidates who can play active roles globally, through overseas business training and global training for employees in Japan, active hiring of foreign nationals, including international students, and promotion of locally hired staff at Group companies outside Japan into positions of responsibility.

Promoting the Participation and Advancement of Women in the Workplace

After initially holding interviews with women in career-track positions during 2015, Proterial began conducting initiatives to promote the development of careers among women. These initiatives have included holding the Women's Forum at which female employees of Proterial from different workplaces interact, introduce various careers, and discuss issues, dispatching employees to outside training, and actively hiring and promoting women. We also present PAPA APRON to employees who have reviewed the division of housework and childcare duties with their partners to encourage the involvement of men in housework and childcare. Similarly, we have engaged in other activities to raise awareness of unique women's health issues, including holding seminars on women's health.

Policy on Promoting the Participation and Advancement of Women in the Workplace

1. Achieved targets for the hiring ratio of women among newly hired graduates (career-track positions)
Technical positions: 10% or more Administrative positions: 40% or more
2. Support for retention
 - Career support to eliminate concerns (providing training, opportunities for exchange among women, etc.)
 - Awareness-raising for those in management-level positions
 - Enhancing systems relating to childcare and nursing care, and raising awareness of these (Promotion of participation in housework and childcare by men)
 - Promotion of diverse workstyles through workstyle reform (a work-

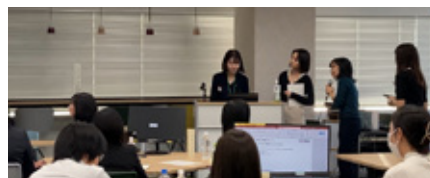
from-home system, satellite offices, etc.)

3. Promotion measures

- Achieved the target ratio of women in management-level positions: 5.0% in FY2030
- Made individual training plans and implemented training for selected candidates

Main initiatives

- Held the Proterial Young Women's Forum (networking event for employees in career-track positions)
- Survey and analysis of participation by women at Proterial
- Proactively dispatched employees to cross-industry exchange events and external seminars
- Presented PAPA APRON to male employees and the partners of female employees who have reviewed the division of housework and childcare duties with their partners
- Held unconscious bias seminars for those in management positions
- Held seminars on women's health
- Held parent support seminars
- Introduced family support leave (5 days of paid leave)
- Introduced a childcare mini-MBA welfare plan



Eruboshi Certification

Certification based on the Act on Promotion of Women's Participation and Advancement in the Workplace (Women's Participation Promotion Act)

The Eruboshi Certification is awarded by the Minister of Health, Labour and Welfare to companies that formulate and file action plans for the participation and advancement of women and carry out excellent initiatives to execute these plans. Companies are evaluated on a three-level scale, in accordance with the number of evaluation criteria they satisfy. In May 2020, Proterial was certified for Stage 3, having met all evaluation criteria.



Promotion of diverse workstyles

We believe that it is essential to create an environment where diverse employees can share different values and ideas, pursue highly productive workstyles and approaches to their jobs, and realize a sense of fulfillment and personal growth in their work. Accordingly, we have continued to steadily improve operational efficiency and promote and establish work with no restrictions on time or location by pursuing ICT measures, allowing all employees to have real job satisfaction and feel truly comfortable at work.

In FY2023, the total of annual actual working hours of back-office workers was 2,016, with the paid annual leave uptake rate standing at 77%, representing substantial improvements over the figures for FY2016 (when annual actual working hours stood at 2,245 and the paid annual leave uptake rate at 48%), and highly productive workstyles are being instilled.

Main initiatives

- Promoted satellite offices, mobile work, a work-from-home system, and flex work
- Introduced a work-from-home system that eliminates the need to send employees on remote assignments away from their families by enabling employees to mainly work from home, if they desire
- Set out working hours in visual form and provided workstyle training for managers
- Specified common Company-wide rules for email and meetings, and enhanced ICT infrastructure such as file sharing systems and communications tools
- Shared information related to operational improvements such as using RPA and shifting to paperless operations
- Implemented 1 on 1

Composition of Workforce (Non-consolidated)

	FY2020 (ending March 2020)	FY2021 (ending March 2021)	FY2022 (ending March 2022)	FY2023 (ending March 2023)	FY2024 (ending March 2024)
Number of employees	7,022	6,623	5,889	5,754	5,759
Male	6,215	5,826	5,068	4,927	4,931
Female	807	797	821	827	828
Ratio of female employees (%)	11.5	12.0	13.9	14.4	14.4
Average age (years)	43.4	43.4	44.2	44.4	45.0
Average service (years)	18.8	20.1	19.2	19.2	20.5
Number of female managers	19	19	20	24	29
Employment ratio of people with disabilities* (%)	2.26	2.27	2.36	2.42	2.46

* Including special subsidiaries.

Make Quality a Strength

Quality Assurance Activities

In response to the inappropriate numerical values stated in an inspection report announced on April 27, 2020 (“quality compliance problem”), we have devised measures to prevent recurrence of such a problem as a top priority and are doing our utmost to implement those measures so that such a problem will never happen again. Based on the recognition that quality is an important management issue for the Proterial Group to enhance its corporate value and achieve sustainable growth over the medium to long term, the Group has set Quality as a Strong Point as one of our six material issues. Aiming to provide our customers with a stable supply of high-quality products, we will work together to thoroughly implement measures to prevent recurrence of quality compliance problems and to make quality a strength of our Group that differentiates us from our competitors.

Establishment of the Quality Committee

On April 1, 2023, we established a new Quality Committee consisting of two external experts and the Chief Quality Officer (CQO). Prior to that, the Quality Compliance Committee (active from April 1, 2021 to March 31, 2023) had been responsible for implementing recurrence prevention measures and verifying their effectiveness, etc., however, the Quality Committee was established in order to take over these activities and to add “offering guidance and advice from an expert standpoint on overall quality activities” to its activities.

The activities of the Quality Committee are intended to conduct assessments from an objective perspective regarding the Group’s overall quality activities, including quality compliance activities, and also create mechanisms and management to prevent the recurrence of quality compliance problems, build corporate culture, and revitalize quality-control and quality-assurance activities. Specifically, the Corporate Quality Assurance Division coordinates activities to prevent the recurrence of quality compliance problems, in addition to quality control and quality assurance activities, and

reports to the Quality Committee, which provides guidance and advice on the Company’s activities.

Organizational Association Chart



Summary of activities to prevent the recurrence of quality assurance issues

Quality-compliance education

The Proterial Group designates April as Quality Compliance Month and April 27 as Quality Compliance Day every year, and in conjunction with Quality Month in November, which is a nationwide initiative, we take these opportunities to reaffirm our commitment to quality activities by all employees.

Previously, Quality Month was only a domestic initiative, however, we added overseas bases to the scope of the initiative from FY2023, and we have been promoting quality compliance education as a global activity. In FY2023, we conducted video-based education

on the themes of “Putting Sincerity into Action” (April) and “Making Quality Our Strength (Importance of Strengthening the QMS)” (November). In order to evaluate the effectiveness of the education, we continuously monitor the level of understanding through questionnaires to the participants, and analyze the opinions of the participants, the results of which are reported to the Quality Committee and the Executive Committee. We will continue to revise content to make it more effective, and will implement education in a way that raises the awareness of quality compliance.

Changing the Corporate Culture and Attitudes to Focus on Quality

To enhance our employees’ understanding of quality compliance and ensure the effectiveness of reform, the CEO, CQO, and other layers of management send out messages on quality compliance and hold town-hall style meetings on quality on an ongoing basis. The purpose of the town-hall style meetings is to share the importance of quality compliance and acting with sincerity, as well as to listen to the problems and concerns directly from the front line, and to plan and implement solutions by involving the relevant parties in the resolution of these.



Dialog between the CQO and quality-assurance managers at a town-hall style meeting

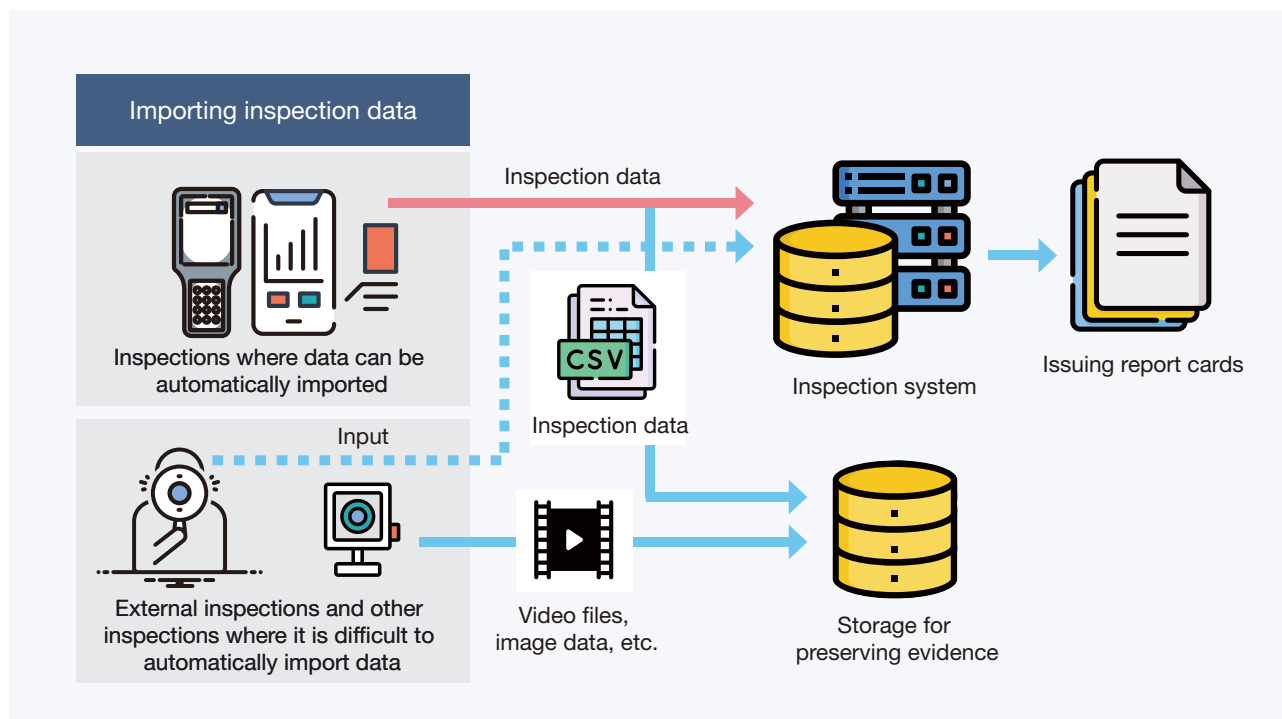
Securing the inspection system

Securing the inspection system means establishing a system that automatically imports measured values from measurement equipment to a PC, automatically determines whether a product passes or fails on the basis of that measurement data, and automatically prepares a report to be submitted to the customer. That automated system is in stark contrast to the conventional one that involves human intervention such as writing the measured values on a special form by hand or entering them into a PC during the inspection process. Moreover, it eliminates the need to write down the measured values and the occurrence of operational errors such as incorrectly writing or mis-typing the measured values. It also improves

inspection efficiency by eliminating the need to write down the measured values on special paper or input them into a computer.

We have been systematically working to upgrade and modify measurement equipment at each site, and plan to complete the introduction of these measurement equipment during FY2024 with the intention of finishing data input by the first half of FY2025.

Furthermore, we will also build a system to store images and videos as digital evidence for inspections where data cannot be obtained, such as in the case of visual inspections, and use this as a check against inappropriate behavior, in order to reduce the risk of quality compliance problems occurring.



Holding International QA Meeting

The Proterial Group has organized the International QA Meeting since November 2021 for the purpose of stimulating communication, sharing information and best practices related to quality assurance and quality control, and discussing the establishment of a globally unified QMS system. These meetings are attended by the quality-assurance managers from Group companies around the world and by employees involved in quality assurance in Japan.

The fifth International QA Meeting, held in January 2024, was

divided into three regions: Southeast Asia and South Asia, East Asia, and North and Central America. Six case studies were shared and discussed, including on the quality assurance activities being promoted at each site as well as process improvements. We will continue to hold the International QA Meeting as a forum for global dialog on quality with the aim of invigorating the quality activities of the entire Proterial Group.

Establishment of the Quality Help Desk

In June 2022, we established the Quality Help Desk, which allows employees to discuss their concerns regarding quality within the company with peace of mind. The Quality Assurance Unit, serves as the contact point for employees that still find it difficult

to make a decision even after repeated dialog and consultation at their workplace. Moreover, the Help Desk will enhance the understanding of quality activities within the Proterial Group by offering advice and by working to solve problems.

CSR-Conscious Procurement

The Proterial Group procures materials from suppliers around the world, including various countries and regions. While remaining aware of our social responsibility and its impact, we have formulated our procurement policy with the aim of practicing fair and impartial procurement activities and, with the cooperation of many suppliers, engage in procurement that takes CSR into consideration.

Raising Awareness of the Proterial Group Sustainable Procurement Guidelines

We published the Proterial Group Sustainable Procurement Guidelines on our website in January 2023. While based on the latest standards that have been acknowledged worldwide, the Guideline was created by encompassing a wide range of CSR concepts recognized as a company's social responsibility, including respect for human rights, consideration of the environment, fair trading and ethics, occupational health and safety, product quality and safety, information security, and social contributions. When a clear violation is discovered among any procurement partner, the Guideline stipulates that corrective measures must be taken. When starting a new business relationship, we request compliance

with our Sustainable Procurement Guidelines, and, at the same time, we conduct corporate surveys on bribery risks based on the Proterial Group Compliance Program (PGCP) to strengthen our screening of suppliers. FY2023, we conducted a questionnaire survey of our key suppliers to make them aware of the Proterial Group Sustainable Procurement Guidelines and to check the status of their compliance with them.



Proterial Group Sustainable Procurement Guidelines
First edition, 2023 Procurement Division, Proterial, Ltd.

Response to Globalization

The Proterial Group is striving to establish a global procurement network while augmenting our procurement base. We are working to support the optimization of procurement activities overall while enhancing CSR risk management and increasing concentration and consolidation of purchasing across the Group. We have also set up Global Procurement Offices (GPOs) in four locations—Europe, the United States, Asia, and China—where we are promoting transparent procurement activities from optimal suppliers worldwide, at the same time as strengthening governance at our overseas Group companies. As part of this, since FY2019 we have been pushing forward the standardization of procurement operation criteria for overseas Group companies, and in FY2023 worked to embed these standards through auditing and guidance carried out by GPOs.

Responsible Mineral Procurement

In July 2010, the United States enacted the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), out of concern that minerals mined in the Democratic Republic of the Congo (DRC) and surrounding countries could become fund sources for armed groups, designating the following four minerals (3TG) as conflict minerals: tantalum, tin, tungsten, and gold. The region covered by the EU Conflict Minerals Regulation,

passed in July 2017, was expanded to include Conflict-Affected and High-Risk Areas (CAHRAs) when it came into force in January 2021. In recent years, there have been growing concerns about other aspects, including serious human rights violations and environmental pollution, in addition to conflict. In the wake of such developments, the Proterial Group announced the Conflict Minerals Procurement Policy in September 2013 and the Proterial Group's Policy for Responsible Mineral Procurement in January 2023. In coordination with industry groups, the Proterial Group has clarified that it is working to ensure responsible procurement that does not contribute to conflict and human rights violations, and is accelerating efforts in coordination with industry groups to enhance the transparency of its supply chain.

To carry out responsible procurement, we conduct activities including surveys using the Conflict Minerals Reporting Template (CMRT) and other tools published by the Responsible Minerals Initiative (RMI), to specify the countries of origin and smelters of the minerals used in the supply chain, and request suppliers to procure minerals from smelters that are compatible with the Responsible Minerals Assurance Process (RMAP). Up to now, no cases of armed groups being funded or problematic uses of minerals have been found.

Periodic Audits of Operation

Acquiring correct and legal knowledge of operations is indispensable during procurement transactions. Utilizing online and other means, we provide our procurement specialists at business offices with training about laws and regulations. Additionally, all offices and Group companies in Japan perform annual mutual audits of operations. The auditors are procurement managers

from offices and Group companies, and executives from the Head Office. In FY2023 as well, we performed mutual audits for all offices and Group companies to monitor whether operations were being conducted in accordance with laws and internal regulations as well as with Company regulations.

Green Procurement

The Proterial Group procures products with a minimal environmental footprint from procurement partners which are working proactively on environmental conservation activities. In 1998, Hitachi Metals issued the Green Procurement Guidelines to share with our suppliers our views on environmental considerations, including the prevention of global warming, the recycling of resources, and the conservation of biodiversity and ecosystems. Since then, we have repeatedly revised these guidelines in response to the latest laws and chemical regulations and have

notified our suppliers of the latest information. In addition, in June 2021, we endorsed the TCFD recommendations; going forward, we will take up initiatives on reducing our environmental footprint (reduced resource consumption, reduced energy consumption, recycling and appropriate management of various chemicals contained in products), keeping in mind not only compliance with the law and responding to demands from our customers but also the transition towards a low-carbon society.

Procurement BCP Initiatives

We engage in procurement BCP activities as preparation against risks that could halt our business, including earthquakes, wind and flood damage, and other natural disasters, as well as new infectious diseases, fires, and power outages. We are working to

minimize procurement risk by diversifying and decentralizing our sources of procurement, while asking our key suppliers to have their own BCP measures in place.

Respect for Human Rights

The Proterial Group stipulates respect for human rights in the “Proterial Group Code of Conduct and the supplementary Proterial Group Human Rights Policy”. Our basic stance is to respect the rights of all persons involved in our business operations, and make all possible efforts to avoid infringing such rights.

The Proterial Group Human Rights Policy in Practice

We formulated the “Hitachi Metals Group Human Rights Policy” in December 2013 which was subsequently revised into the “Proterial Group Human Rights Policy” in January 2023. This policy recognizes the human rights stated in the “International Declaration of Human Rights and in the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work” as representing the minimum starting point for such rights. It clearly

states that the Proterial Group pursues measures to observe the international principles of human rights. Specifically, we will implement human rights due diligence and appropriate education on the basis of the “UN Guiding Principles on Business and Human Rights”, while strictly observing the laws of the regions and countries in which we do business.

Initiatives on Human Rights Due Diligence

Human rights due diligence refers to defining and assessing impacts on human rights, taking action to prevent and redress negative impacts, and continually validating the effects of such actions. The Proterial Group will assess the actual and potential impact on human rights resulting from the business activities of the Company, our value chain, and develop countermeasures based on ranking human rights risks in terms of their “seriousness and

likelihood of occurring”, while putting countermeasures in place based on the level of priority.

We study priorities and countermeasures, including assessments by the procurement divisions regarding the impact on human rights in our supply chain, and assessments by the human resources divisions regarding the impact on the human rights of employees.

Human Rights Educational Activities and Harassment Prevention Efforts

We regularly use e-learning to conduct human rights education and training for each level of employee to systematically raise awareness of human rights. In addition, we established various harassment hotlines to incorporate the “Proterial Group Human Rights Policy” into all of our activities. As our business activities

expand rapidly on a global basis, we will enhance human rights awareness and support measures to prevent abuses of human rights based on differences of religion or nationality, the presence or absence of disabilities, gender, or other factors.

Efforts to Strengthen Global Human Rights Risk Management

In April 2021, we established the “Human Rights Risk Management Committee” as part of our efforts to strengthen global human rights risk management. Through these activities, we will promote sound management of human rights risks.

Corporate Governance

Overview of Corporate Governance

Details on corporate organs

Following the capital restructuring by the new partners in the form of a consortium of companies led by Bain Capital in January 2023, Proterial laid out a policy of utilizing the new partners' financial strength, knowledge, and expertise within the Company's management to make large-scale

investments and implement reforms in response to changes in the market environment. With the aim of making decisions and implementing management strategies based on this policy more quickly and flexibly, our company has established a corporate governance system as a Company with Audit & Supervisory Board. The details of each organ are as follows.

- a. The Board of Directors is an organ with purposes to make decisions on the Company's business execution and supervise the execution of duties by Directors and Executive Officers, and holds the authority to decide matters provided in the Articles of Incorporation of the Company and the Board of Directors Rules as well as in laws and regulations. As of the filing date of this document, the Board of Directors consists of the following six Directors

Representative Director	Sean M. Stack
Representative Director	Kazuya Murakami
Director	Yuji Sugimoto
Director	Masashi Suekane
Director	Joseph Robbins
Director	Hidemi Moue

- b. The Auditors abide by the audit policies established by the Audit & Supervisory Board, and attend the Board of Directors and other important meetings, for example, in order to audit the execution of duties by the Directors. The Auditors consist of the following three individuals (two of whom are Outside Auditors), who together form the Audit & Supervisory Board.

Full-time Auditor	Masakatsu Hibata
Auditor (part-time)	Shunsuke Nakahama
Auditor (part-time)	Takumi Yoshikawa

- c. Along with introducing an Executive Officer System, the Company established the Executive Committee to ensure that the Representative Director, who consecutively serves as President and CEO, makes decisions on and executes business operations in compliance with laws and regulations and the Articles of Incorporation, as well as more efficiently. Important matters regarding decisions on business operations delegated to the Representative Director, who consecutively serves as President and CEO, by the Board of Directors are first deliberated by the Executive Committee, which is composed of Executive Officers ranked Managing Executive Officer or above. Following these deliberations, the President and CEO makes a decision. The Executive Officers consist of the following 16 individuals.

Chairman, President & CEO	Sean M. Stack
Executive Vice President	Kazuya Murakami
Managing Executive Officer	Tony I. Cha
Managing Executive Officer	Yutaka Nakashima
Managing Executive Officer	Hisaki Masuda
Executive Officer	Ryoichi Aita
Executive Officer	Randy Ahuja
Executive Officers	Yoshihiro Anmo
Executive Officer	Katsura Ishikawa
Executive Officer	Hiroaki Inuyama
Executive Officer	Toru Taniguchi
Executive Officer	Natsuki Tokubuchi
Executive Officer	Kenji Minegishi
Executive Officer	Hajime Murakami
Executive Officer	Motohide Mohri
Executive Officer	Toru Yamamoto

The Company has introduced an Executive Officer System. The names, titles, and responsibilities of each Executive Officer are as follows.



Sean M. Stack

Representative Director,
Chairman, President and CEO



Kazuya Murakami

Representative Director,
Executive Vice President



Tony I. Cha

Managing Executive Officer, CFO,
General Manager, Finance Division



Yutaka Nakashima

Managing Executive Officer,
CHRO, General Manager, Human
Resources and General Administration
Division



Hisaki Masuda

Managing Executive Officer,
CSPO, General Manager, Strategy
Planning Division



Ryoichi Aita

Executive Officer,
CQO



Randy Ahuja

Executive Officer,
Director and Co-President,
Proterial America, Ltd. and
Chairperson, Proterial Europe GmbH



Yoshihiro Anmo

Executive Officer
CIO and CDO



Katsura Ishikawa

Executive Officer,
General Manager, Marketing
and Sales Division



Hiroaki Inuyama

Executive Officer,
GC (General Counsel), CLO (Chief Legal
Officer), CRCO (Chief Risk Control Officer),
General Manager, Legal Division



Toru Taniguchi

Executive Officer
General Manager, Manufacturing &
Engineering Division



Natsuki Tokubuchi

Executive Officer
CTrO



Kenji Minegishi

Executive Officer
General Manager, Magnetic Materials
Business Unit



Hajime Murakami

Executive Officer
CTO, General Manager, Research and
Development Division,
General Manager, Global Research and
Innovative Technology Center



Motohide Mohri

Executive Officer,
General Manager,
Specialty Steel Business Unit



Toru Yamamoto

Executive Officer,
Executive Officer,
Chairperson and President,
Proterial (China), Ltd.

CEO: Chief Executive Officer
CFO: Chief Financial Officer
CHRO: Chief Human Resource Officer

CSPO: Chief Strategy and Planning Officer
CQO: Chief Quality Officer
CIO: Chief Information Officer

CDO: Chief Digital Officer
CTrO: Chief Transformation Officer
CTO: Chief Technology Officer

Non-Financial Data

	FY2023	FY2022	FY2021	FY2020	FY2019
Environmental e-learning attendance rate (%)	99.9	99	97	92	—
Environmental auditor development training sessions (times)	1	1	1	1	2
Sales of key environmentally conscious products (million yen)	251,242	250,765	200,121	163,004	178,479
Sales ratio of environmentally friendly priority products (%)	24.4	22.4	21.2	21.4	20.2
Energy consumption converted into crude oil (kl/year)	507,210	966,617	1,011,641	915,129	1,035,053
CO ₂ emissions (kt-CO ₂) ^{*1}	1,062	1,913	2,216	1,995	2,319
CO ₂ emissions per production unit (t-CO ₂ /million yen)	1.373	1.71	2.351	2.619	2.631
Total waste and valuables generated (thousands of tons/year)	241	758	824	761	879
Waste and valuables generated per production unit (tons/million yen)	0.310	0.677	0.824	0.999	0.974
Recycling rate (%)	89.1	81	77.4	76.7	74.6
Recycling volume (tons)	192,037	634,633	615,212	568,586	641,068
Final disposal volume (tons)	21,948	149,052	180,075	172,688	218,456
Number of business offices achieving zero emissions (final disposal rate below 0.5%) ^{*2}	19	17	14	19	17
Water consumption (thousands of m ³)	10,782	14,737	11,602	11,349	12,186
Water consumption per production unit (m ³ /million yen) ^{*3}	10,436	13.171	12.307	14.901	13.826
Amount of chemical substances released into the atmosphere (tons)	254	182	86	88	235
Percentage of positive engagement indicator evaluations in employee awareness surveys (%) ^{*4}	76	71	56	59	53
Diversity in recruitment ratio (non-consolidated) (%) ^{*5}	62.0	66.3	50	11	34
Ratio of women among newly hired graduates (career-track positions) (technical positions) (non-consolidated) (%) ^{*6}	8.3	6.3	7	8	10
Ratio of women among newly hired graduates (career-track positions) (administrative positions) (non-consolidated) (%) ^{*6}	14.4	35.7	60	33	36
Ratio of women in management positions (non-consolidated) (%) ^{*7}	2.4	2.2	1.8	1.5	1.4
Ratio of women in career-track positions (non-consolidated; full-time) (%)	5.7	5.8	6.3	5.3	4.8
Number of women in career-track positions (non-consolidated) (persons)	124	116	112	106	101
Total annual working hours (non-consolidated/back-office workers) (hours) ^{*8}	2,016	2,056	2,078	2,028	1,980
Occupational accident frequency ^{*9}	0.33	0.45	0.30	0.23	0.27
Number of employees (persons)	21,456	26,496	27,771	28,620	29,805
Number of employees (non-consolidated) (persons)	5,759	5,754	5,889	6,623	7,022
Number of employees (non-consolidated; male) (persons)	4,931	4,927	5,068	5,826	6,215
Number of employees (non-consolidated; female) (persons)	828	827	821	797	807
Average age (non-consolidated) (age)	45.0	44.4	43.9	43.4	43.4
Average years of service (non-consolidated) (years)	20.5	19.2	20.8	20.1	18.8
Number of female managers (non-consolidated) (persons)	29	24	20	19	19
Employment ratio of people with disabilities (non-consolidated) (%)	2.46	2.42	2.36	2.27	2.26
Investment in new safety-related construction for facilities (thousand yen)	1,072,432	1,122,199	1,161,402	1,044,988	864,910
Attendance at human rights-related training (persons)	—	—	14,150	6,623	7,022
Number of Directors (persons)	6	6	5	5	6
Number of female directors (persons)	0	0	0	0	1

*1. In Japan, the power company CO₂ emissions coefficient is based on the power supplier emissions coefficient, announced by the Ministry of the Environment, while outside Japan, it is based on the IEA World Energy Outlook 2022 Edition country-specific conversion coefficient.

*2. As of FY2011, the definition of "zero emissions" is a final disposal rate below 0.5%.

*3. Water per production unit = (Water consumption) ÷ (Volume of activity: Numerical values indicating the scale of business activities, such as revenues, etc.)

*4. The percentage of positive engagement indicator evaluations in employee awareness surveys represents the non-consolidated figures up to FY2019

*5. The diversity recruitment ratio represents the rate of foreign nationals, women and mid-career hires among all hires for planning roles

*6. Ratios of newly hired graduates show the year of hiring activity for each fiscal year. (For example, the hiring ratio for FY2020 generally shows hiring activity targeting March 2021 graduates.)

*7. The ratio of women in management positions is the percentage of women in management and those working as professionals (non-consolidated; currently working as managers or professionals).

*8. Total annual working hours are the average annual working hours of back-office workers (non-consolidated; including managers and professionals).

*9. Frequency rate of occupational accidents: Number of fatalities and injuries due to occupational accidents divided by total number of actual working hours x 1,000,000 (number of accidents per 1 million working hours in a calendar year).

Participation in ESG-related initiatives and external evaluations



The Task Force on Climate-related Financial Disclosures (TCFD) is a framework for companies to disclose financial information on their climate change efforts and impacts. The Company expressed its endorsement of the TCFD recommendations in June 2021 and began disclosing information based on the TCFD recommendations in May 2022.



The Company joined the TCFD Consortium in July 2022.



The Green Transformation League (GX League) was established as a forum for companies to collaborate with industry, government, and academia in pursuit of Japan's carbon neutrality by 2050 goal along with economic growth. Companies contribute to the reduction of greenhouse gas emissions and at the same time aim for a virtuous cycle between the economy, the environment, and society. Proterial endorsed the GX League concept in September 2022 and has been participating in the GX League since 2023.



Put forward by an international non-profit organization, the Carbon Disclosure Project (CDP) is a system that allows companies to disclose information on their environmental initiatives and impacts. Proterial has entered in the areas of climate change and water risk, and is evaluated every year. In 2023, we received a "B" rating for both climate change and water risk.



Proterial received the highest level of Eruboshi certification on a three-level scale for its excellent initiatives to promote the participation and advancement of women.



Proterial was certified under the Large Enterprise Category as part of the 2023 Certified Health & Productivity Management Outstanding Organizations Recognition Program, which recognizes corporations that engage in outstanding health and productivity management practices.



EcoVadis Sustainability Ratings are an independent and highly reliable platform that evaluates more than 125,000 organizations and companies in 180 countries around the world. Proterial received a "Bronze" rating (top 35% of companies evaluated) in January 2024.



In February 2024, Proterial joined the Initiative based on the Keidanren Declaration for Biodiversity by. We support the Keidanren Declaration for Biodiversity and Guideline, and promote global manufacturing while paying consideration to the conservation of biodiversity.

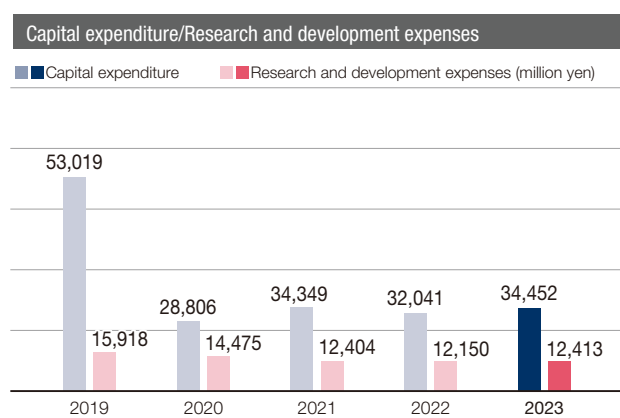
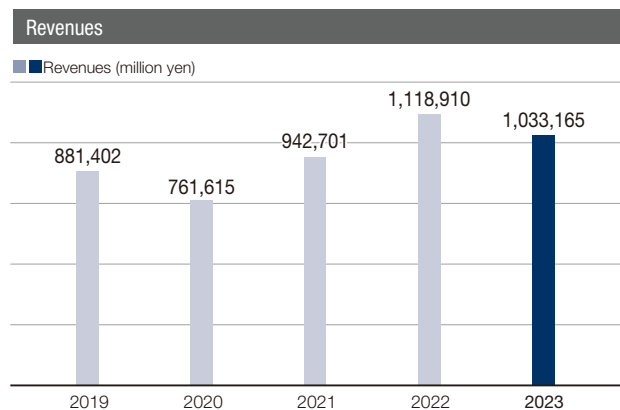
Financial Data

	(million yen)					
	FY2023	FY2022	FY2021	FY2020	FY2019	FY2018
	IFRS ¹	IFRS	IFRS	IFRS	IFRS	IFRS
For the period						
Operating results:						
Revenues	1,033,165	1,118,910	942,701	761,615	881,402	1,023,421
Cost of sales	—	952,091	807,516	666,246	755,947	851,029
Selling, general and administrative expenses	—	117,738	108,376	100,346	111,072	120,965
Adjusted operating income (loss) ² or adjusted operating losses (-)	—	49,081	26,809	(4,977)	14,383	51,427
Other income	—	5,702	18,018	9,726	8,599	10,667
Other expenses	—	15,967	18,132	53,962	62,108	19,652
Operating income (loss) or adjusted operating losses (-)	—	38,816	26,695	(49,213)	(39,126)	42,442
Income (loss) before income taxes or losses before income taxes (-)	—	43,338	32,740	(50,588)	(40,614)	43,039
Net income (loss) attributable to shareholders of the parent company or net losses attributable to shareholders of the parent company (-)	—	23,285	12,030	(42,285)	(37,648)	31,370
Cash flows:						
Cash flows from operating activities	—	43,969	29,851	52,586	105,958	66,582
Free cash flow	—	13,410	23,479	54,777	49,540	(29,665)
Increase (decrease) in cash and cash equivalents	—	(48,449)	25,306	56,986	1,255	(13,814)
Capital expenditure	34,452	32,041	34,349	28,806	53,019	95,389
Depreciation and amortization	—	47,667	46,531	50,407	55,180	50,901
Research and development expenses	12,413	12,150	12,404	14,475	15,918	18,604
At the end of the period:						
Total assets	—	1,064,575	1,069,695	972,249	977,766	1,099,252
Equity (net assets)	—	196,274	531,118	492,118	522,853	595,211

*1 IFRS: The Company has adopted the International Financial Reporting Standards (IFRS) for the Consolidated Financial Statements in the Annual Securities Report since the fiscal year ending March 31, 2015.

*2 Adjusted operating income : Operating income (loss) excluding other income and other expenses as an indicator to provide a true view of the condition of the Group's business without the effects of business restructuring, etc.

	FY2017	FY2016	FY2015	FY2014
	IFRS	IFRS	IFRS	IFRS
	988,303	910,486	1,017,584	1,004,373
	803,607	731,153	819,433	793,517
	119,566	113,350	122,090	126,446
	65,130	65,983	76,061	84,410
	5,401	14,070	36,416	21,303
	24,205	11,786	12,523	21,306
	46,326	68,267	99,954	84,407
	46,985	66,016	96,233	86,391
	42,210	50,593	69,056	70,569
	39,133	89,391	115,742	108,983
	(35,947)	53,527	83,595	(4,767)
	(84,499)	19,111	41,271	(7,443)
	91,786	63,843	59,602	51,474
	46,138	43,039	42,927	39,917
	17,749	17,971	19,121	20,903
	1,058,832	1,040,390	1,033,311	1,083,450
	570,192	548,746	504,675	476,176



Corporate Data

Company name	Proterial, Ltd.
Head Office address	Toyosu Prime Square, 5-6-36 Toyosu, Koto-ku, Tokyo 135-0061 TEL 0120-603-303
Founded	1910
Established	1956
Website	https://www.proterial.com/e/

Disclaimer regarding forward-looking statements

This report contains forward-looking statements about the Company and the Group. All such statements are based on analyses and judgments using information available when this report was prepared, and thus may include risks and uncertainties due to changing economic circumstances, market conditions, and the like. Please note the possibility that actual results may differ from the Company's forecasts. This report was compiled based on information deemed reliable by the Company. Accordingly, such information's accuracy and integrity cannot be guaranteed.

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PROTERIAL

A female worker in a white Proterial uniform and cap, wearing gloves, is focused on inspecting a clipboard. She is positioned in a factory or laboratory setting, with a large magnifying lamp illuminating her work area. The background shows industrial equipment and a clean, organized environment.A close-up view of a robotic arm holding a small, glowing blue component, viewed through a circular opening. The component is illuminated with a bright blue light, creating a strong contrast with the darker surroundings. The background is a blurred industrial setting with blue and white tones.

Proterial, Ltd.

www.proterial.com/e/