



Intellectual Property **2023** Report

Contents

1 Feature Stories

- 1-1. Message from Outside Director...3
- 1-2. FEC Group's Value Creation Process...7
 - Case Example (1) Infrastructure Laser™...9
 - Case Example (2) Rakuraku Aluminum Cable™ System...11

2 Topics

- Topic (1) FEC Wins Invention Award at 2023 National Commendation for Invention...14
- Topic (2) FEC Cosponsors the 1st NIKKEI IP and Intangible Assets Symposium...15
- Topic (3) FEC Chairman Delivers Keynote Speech at Global Intellectual Property Strategy Forum 2024...15

3 Intellectual Property Analysis Report

- 3-1. Intellectual Property Portfolio...16
- 3-2. Intellectual Property Governance: Promotion Framework...17
- 3-3. Risk Minimization: Intellectual Property Risk Management..19
- 3-4. Chance Maximization: IP Landscaping...19
 - Column Intellectual Property Activities on Group-Global Basis...21

4 Pre-Financial Information/Data

- 4-1. Intellectual Property Portfolio... 22
- 4-2. What We Do at Our Activity Bases... 23
- 4-3. Intellectual Property Education System... 24
- 4-4. Awards System...24
- 4-5. Sustainability Indicator (IP Landscaping Implementation Rate)... 25

Introduction

I would like to welcome you to the FEC Group intellectual property report. This report provides information on the framework for promoting our intellectual property management, as well as our activities to enhance the utilization of intellectual assets in FEC Group's value creation process.

With 10 years of work experience in the Intellectual Property Department of FEC, I have come to view whole pictures of businesses from three perspectives: business, law, and technology. Today, such a view is provided by IP landscaping. I have been using this approach to management since before I was appointed as president. And these experiences have made up my belief that build competitive advantages.

FEC Group has set the goals of "maximizing profits from existing businesses" and "building a foundation for creating new businesses" in our 2025 Medium-term Management Plan. And as part of Vision 2030, we aim to be an indispensable corporate group that provides solutions to social issues.

In the course of achieving these goals, we will disclose the technical and business results of our corporate activities and obtain exclusive rights to them, or we will keep them undisclosed and make the most of such know-how in our own businesses. These activities form an important part of our foundation for management. And, IP landscaping, which incorporates and analyzes such information to develop business strategies, have been becoming more important. We are working actively on these activities through co-creative efforts among the entire FEC Group.

I hope this intellectual property report will provide you with a better understanding of the intellectual property management of FEC Group.

July 2024
President and
Representative Director
Hideya Moridaira



1 Feature Stories

1-1. Message from Outside Director

IP landscaping can be an useful business intelligence tool that provides objective information for enhancing strategies. Outside Director Yukiko Yabu expects that the “aggressive intellectual property management” with IP landscaping will assist Board discussions and decision-making and will become a pillar of sustainable growth.

Turning pre-financial capital, such as intellectual properties and intangible assets, into valuable financial capital

Ohkubo In our Group’s Integrated Report 2022, you gave your message, “I regard human resources as pre-financing capital that leads to the creation of future financial value,” and I totally agree with your message. Intellectual property is pre-financial capital that is linked to actual finance in the future. However, I believe the process of converting it to actual finance is difficult to implement.

Yabu Intellectual property does not create actual value unless it is utilized, and it does so only when commercialized. In my opinion, utilization and management of intellectual property designed to allow the intellectual property, although it may not be currently part of actual financial capital, to yield financial value a few years later are important.

Needless to say, it is very important for us as a manufacturer to undertake a mission and have a sincere attitude to offer products that are of value to our customers and society. It is natural that we receive profits for our contribution to the world and accept compensation commensurate with the value we created. And I suppose we should ponder how we can use our technological strengths to meet our customers’ expectations in a timely manner from an intellectual property perspective as well.



Yukiko Yabu
Outside Director

I had worked as an engineer for five to six years after joining Panasonic. I am a named inventor of some patents and won external awards for my work there. At that time, I had to focus on applying for as many patents as possible. However, inventions and patents are valued by the world only after they are commercialized with competitive advantages gained and profits produced. In the 1980s, I came to realize that in the future, software such as control methods would be of as great significance as products, or visible things. Now we are in the 21st century, and we have seen the ratio of tangible assets to intangible ones has completely reversed. With the growing importance of brands, data, and design as intangible assets, the challenge now is to effectively hold and utilize intellectual property as our rights.



Michio Ohkubo
Senior Fellow / General Manager,
Intellectual Property Department

I also believe corporate executives need to be aware of marketing. Marketing is all about exploring the needs of a target market, creating value, delivering it to customers, and making profits from it. The “value” here is determined by our customers and society, not by us. We keep creating products that make our customers happy and that they crave, which will in turn build a trusted brand. It seems to me that, in this volatile, uncertain, complex, and ambiguous (VUCA) era, the question of why we produce has been becoming more important to think about than the question of how we produce. We should anticipate potential values and joys of our customers and offer more and more proposals to meet them. Corporate executives, and employees as well, need to adapt their way of thinking and their motivation to this change.

Human resources development starts with a mindset of ownership

Ohkubo Our intellectual property activities have been solely based on the idea of protecting our business in terms of what we call risk minimization, the level of functional strategy. Over the past few years, we have been putting more emphasis on considering how we use IP landscaping as a main tool and build such an intellectual property strategy that supports our business strategies and gives us competitive advantages. Now we have the IP landscaping implementation rate that is set to monitor whether IP landscaping is being used for business environment analysis. In the course of these efforts, we, as a corporate division responsible for managing our strengths, have clearly presented the concept of intellectual asset management at a Board of Directors meeting. In addition, we have made it clear that the value creation process of our Group includes human resources development, strength building, and value creation. And let me emphasize here that our strengths lies first and foremost in our human resources. I know you gave your messages in the Integrated Report 2022, “I am hoping that these engineers themselves consider the development subjects needed for society based on our technologies, discover new business opportunities from the front lines, and intensify efforts to commercialize and earn profit from them.” I’m sure your message there was really about human resources development.

Yabu When it comes to human resources development, to give an example of R&D, it should be based on the enthusiasm for accomplishing the goal of, like, “we will use this technology to deliver value to our customers.” In my opinion, having a mindset of ownership is incredibly important. Otherwise, we will not be able to overcome opposition from around us to make our dreams come true. We have to be courageous, too. In that sense, those who delve into something or who stand out somewhat are adequate. We should also be able to articulate our own thoughts and intentions logically and persuade others, or be able to accept what others say and listen to them honestly. If we cannot communicate to others why we are developing this or why we adopt that technology, we will not be able to make these reasons understood by those around us, and will end up with nothing. It is such a waste of good ideas if we cannot dig deeper into them with everyone. It is also important for us to be in an environment where we are able to discuss freely, both inside and outside the company. I feel that young employees today have a strong desire to work hard at solving social issues and I am eagerly anticipating they come up with new, concrete ideas.



And from my experience, new inventions and innovative solutions do not come from in-house. It is important to go outside the company and talk to customers who are employing our technology and products in a variety of ways. Although there is plenty of information available on the Internet, we cannot tell if it is true or not. After all, we need to talk with people in person in the field to gain a deeper understanding of their issues and needs. In some cases, we might receive negative feedback from our customers. However, talking with customers involved in cutting-edge technologies and those from other industries can help us gain new insights.

Ultimately, R&D staffs should also pay attention to and take care of the outcomes of their R&D until these outcomes are commercialized or turned into business. We have to get to a point where the research and business divisions work together so seamlessly that they can share a sense of satisfaction and trust. The members of our Intellectual Property Department should be part of this process, supporting the research and business divisions until their outcomes are successfully commercialized.

IP landscaping, a tool for providing objective information to reinforce our strategy

Ohkubo As for marketing, which you mentioned earlier, I think business-oriented thinking is important in promoting IP landscaping activities. For example, we have once delivered a lecture on IP landscaping to a sales division’s employees, and I think it was a great benefit for them to realize that they could learn so much

from analyzing patents. In addition, when development divisions implement IP landscaping, they analyze not only competitors' but also customers' information. Analyzing customers' patents allows the division to have a glimpse of what their customers are looking for and their strategies. So we believe that using IP landscaping to discover values that customers may not be aware of is also a very important approach.

Yabu I think it is necessary that we can use objective pieces of information obtained from IP landscaping to study our management and business strategy. I hope that you implement IP landscaping so that we can use the resultant patent analysis, competitor and market analysis, future forecast, and other information in our strategy discussion to determine whether our current strategies are successful, what our strengths and weaknesses are, and what kind of companies we should partner with. There have been times when we believed we could succeed with a particular technology, only to find upon careful analysis that it was not the case at all. So I suppose that the roles of IP landscaping include bolstering the certainty of the hypotheses by making sure they are more objectively supported.

Thus, producing at least a single outcome, even if it is a minor one, is important. Information regarding IP landscaping should be presented not only at each business division for discussion, but also at Board of Directors meetings and other meetings, where we discuss our 2025 Medium-term Management Plan (2025 Mid-term Plan) and FEC Group Vision 2030, to be understood by internal and external executives. I hope this be done in an agile manner. While discussion on management targets such as the IP landscaping implementation rate is important, in-depth discussions on our strategy are more essential. The business division should take an initiative of this activity, and the Intellectual Property Department should exercise its leadership and work together to form one team with business divisions to that effect. Intellectual Property Department staffs will increasingly be required to be able to assess and evaluate whether a particular technology is commercializable or whether it includes an intellectual property of future value. I hope to see everyone accelerate the processes of creating new business models and launching businesses through the tool of IP landscaping.

Ohkubo As you mentioned, I believe those who employ IP landscaping must take the initiative and make it their own concern. In our company, the Intellectual Property Department always collaborates with business divisions in our creation processes. Intellectual Property Department staffs work together with business divisions through repeated dialogs. They do not just take the results of IP landscaping and have business divisions review them. The elements that are needed in such process include communication skills, the ability to understand business, to say nothing of the ability to closely analyze patents. And I feel the diversity of the team in addition, which includes people in charge of the technology and people in charge of the market, will contribute to improved results of IP landscaping. The business divisions are proud of and confident in their technologies and familiar with the market, but in some cases, the results of IP landscaping have eliminated such biases.

Use IP landscaping to make more accurate management decisions and pursue aggressive intellectual property management

Ohkubo While our Group has financial targets such as ROIC and FVA, many other companies seem to feel it difficult to link the value of intangible assets with financial indicators. As I mentioned earlier, we have the IP landscaping implementation rate as an indicator of the value of intangible assets. However, this is not directly linked to financial indicators. Thus, our challenges include presenting an indicator capable of assisting our stakeholders in understanding the value of our intangible assets.

Yabu As I mentioned in the Integrated Report 2022, one of the central pillars of the 2025 Mid-term Plan is to build a foundation for creating new businesses, which requires mid- to long-term evaluations of those new businesses.

This requires us to put in place a system designed to evaluate bold attempts, separately from ROIC and FVA. New businesses should be evaluated over a longer term, not in the short term. I hope that IP landscaping



provide information that serves as decision-making inputs on how these new businesses will eventually lead to our corporate value. In the past, a patent only related to a component or product. Currently, our business areas have expanded from components to products, systems, networks, and solutions, haven't they? In this situation, it is important to determine in which area we should hold intellectual property and which area of business is profitable. And I believe IP landscaping can serve this purpose as well. In recent years, service experiences such as engineering services are more valuable than goods, and we must determine in which area value is added and what the sources of the value are. Once this has been done, we can reform our portfolios in a prompt manner. I believe that corporate executives' better understanding of the usefulness of intellectual property information for decision-making for sustainable growth will motivate both the R&D and intellectual property divisions. And we should communicate these activities to our stakeholders as well.

Ohkubo Some companies have been using IP landscaping to expand their intellectual property's mission to include corporate value creation. The Intellectual Property Department intends to present what it wants to be as an organization that promotes IP landscaping as we facilitate internal co-creations with various divisions.

Yabu Board of Directors meetings or other meetings will use objective inputs of future forecasts and analysis results provided by IP landscaping for discussions and decision-makings. And as an outside director, I will monitor the results of this process. This will help to instill the importance of intellectual property governance. Looking at general marketing information alone is not sufficient, and I believe using IP landscaping to such information should enable forward-looking, more sophisticated decision-makings. Since expectations for IP landscaping are thus high, the accuracy of the information and the level of proficiency must be improved all the time to make it truly usable. The thoughts, sensibilities, and leadership of those who carry it out will also matter more. Our Intellectual Property Department is diverse in terms of area of expertise and gender. I hope we can demonstrate the effectiveness of IP landscaping by taking advantage of such diverse human resources and organizational capabilities. I hope that the Intellectual Property Department work beyond its existing framework, with such spirit and confidence that they will get the entire company involved and take the lead. Again, we should aim for IP landscaping serving as a key business intelligence tool that assist us in determining our strategy. Such tool will broaden and deepen intellectual property's mission in corporate value creation in the future. I look forward to your efforts for aggressive intellectual property management as one of the key pillars of sustainable growth.

Ohkubo Since Kobayashi, our Chairman of the Board, assumed the position of vice chairman of the Intellectual Property and Intangible Asset Management Forum in October 2022, we have been sending out our messages, such as "Intellectual property is at the core of management" and "Minimize risk and then maximize chance." President Moridaira, taking over these messages, has added the slogan, "Build competitive advantages through intellectual assets." Based on the perception that intellectual assets are a source of corporate value, we will continue to promote understanding and discussion among our directors, and will contribute to the creation of new business models and value by utilizing IP landscaping. Thank you very much for your time today.



1-2. FEC Group's Value Creation Process

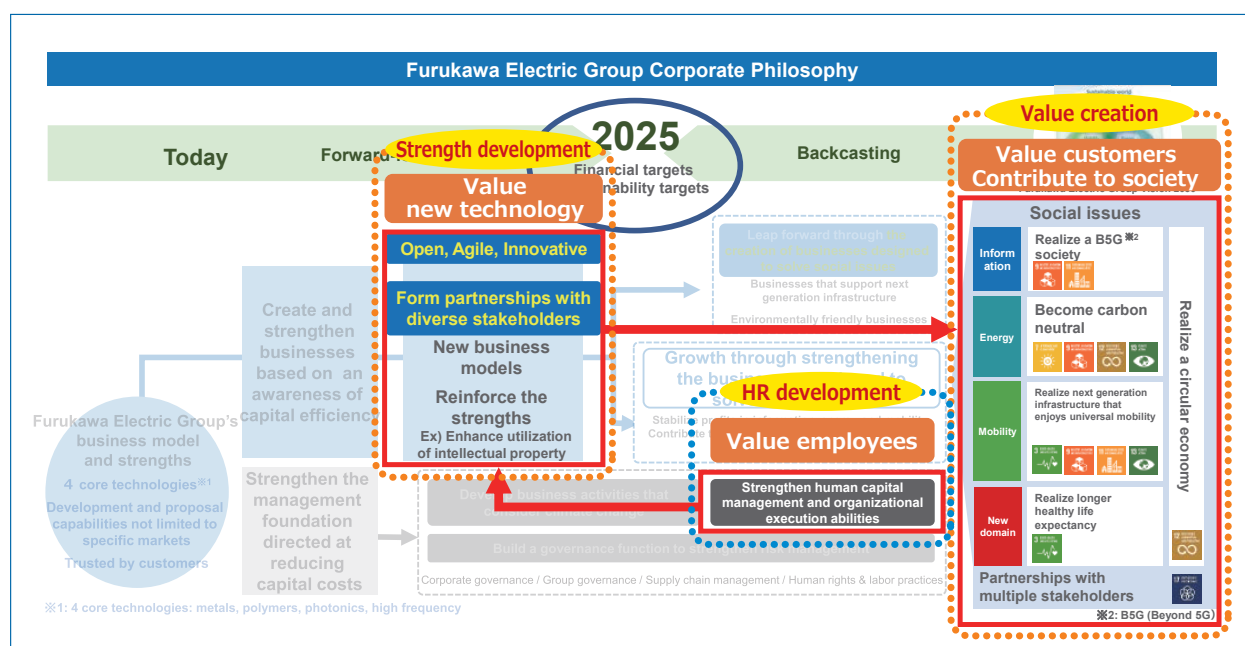
The year 2024, marks the 140th anniversary of FEC Group' foundation since Ichibei Furukawa, the founder of the Furukawa Group, introduced the latest technologies from Western countries into the mining industry and started an electric cable business based on his wish to brighten Japan.

"Value employees, value customers, value new technology, and contribute to society." These are the words that we have inherited as DNA from our founder.



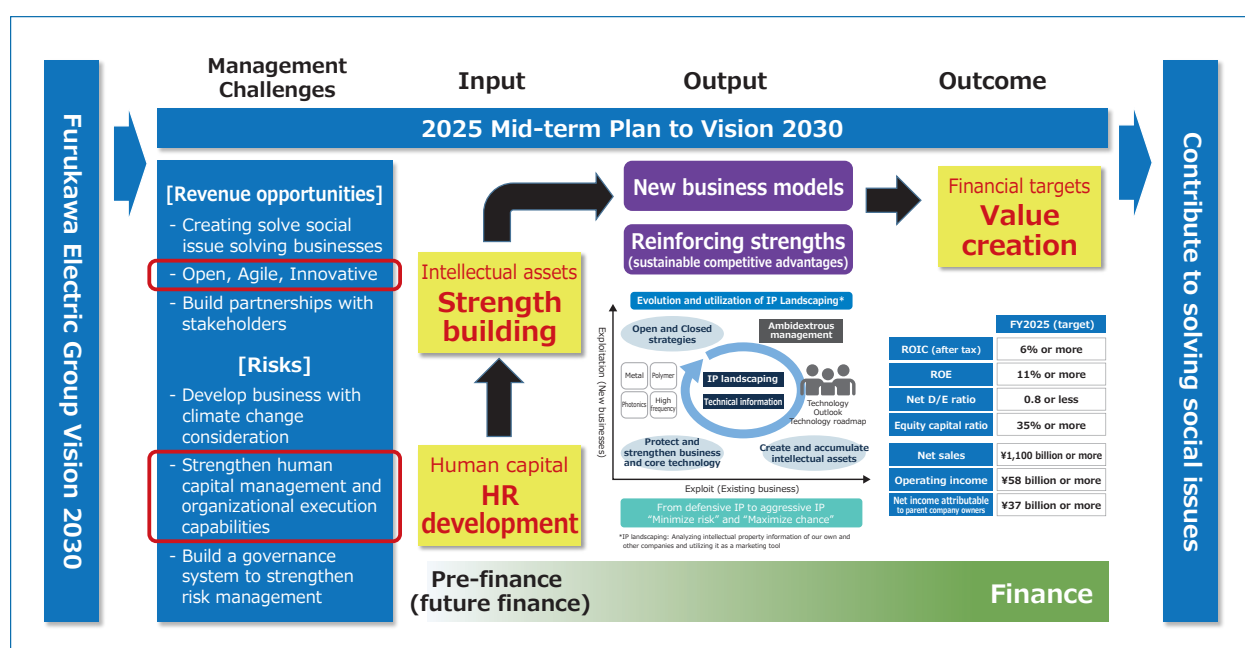
To realize Furukawa Electric Group Vision 2030, we are determined to become an indispensable company for solving social issues. The three important things valued by Ichibei Furukawa direct us: "Value customers" and "contribute to society"; To contribute to society, "value new technology," namely, reinforce the use of intellectual assets; To "value new technology", "value employees," namely, reinforce human capital and organizational execution abilities. These words represent the basic concept of our intellectual property management promotion. As such, we have to make the most of our intellectual properties such as patents and know-how, as well as other assets forming our strengths, including human assets, organizational capabilities, and customer networks. These are the principles that we believe very essential as we strive to solve social issues.

And we believe that the founder meant by his word "value employees" "human resources development," by "value new technology" "strength building," and by "value customers and contribute to society" "value creation."



FEC Group has defined its important management challenges (materialities) to achieve Vision 2030. Referring to these materialities (see the figure below), first, the item of “strengthening human capital management and organizational execution abilities” in the risk materiality is represented by “human resources development.” The “human” here can be rephrased as human capital. Second, the item of “Open, Agile, Innovative” in the revenue opportunity materiality is represented by “strength building.” The “strength” here can be rephrased as intellectual assets generated by the human capital. Third, as we strive to build new business models through open innovation, co-creation with external partners, and enhanced use of our Group’s strengths including our intellectual assets, we use IP landscaping (which will be described later), link our Group’s intellectual assets with society’s needs, and thus accelerate the creation of new businesses. This process is represented by “value creation.” We believe following this process will lead us to the achievement of the financial targets of the 2025 Mid-term Plan and Vision 2030, and ultimately to the resolution of social issues.

Here, we perceive human capital for “human resources development” and intellectual assets for “strength building” as *pre-financial* information—future finance that will lead to finance for value creation—, not as simple “*pre-financial* information” with a literal implication that they are not financial. And we are fostering internal awareness of the importance of *pre-finance* (*future finance*) through discussions with top management, board members, and others.



In this Intellectual Property Report 2023, we report two case examples of utilizing our Group’s intellectual assets: IP landscaping for Infrastructure Laser™ business and the value creation process in Rakuraku Aluminum Cable™ business.

Case Example (1)



Illustration of
Infrastructure Laser™ system

Infrastructure Laser™ System

The Infrastructure Laser™ system, a surface treatment solution based on our technologies that have been cultivated in the field of industrial lasers, is designed to improve the efficiency of maintenance work such as the removing rust and/or coatings from infrastructures. Unlike conventional chemical-based surface treatment method or blasting method using abrasive materials sprayed onto the surface of an object, the laser-based surface treatment method does not generate grinding dust. Thus, the system can provide solution to the problems of aging infrastructures and diminishing workforce in a manner that reduces environmental impacts and improves workplace health.

Since 2023, we have commercialized a compact laser maintenance system ideal for maintenance work such as paint removal from rail cars. The system is equipped with a lightweight, hand-held laser head (less than 2 kg in weight) that can be safely operated with one hand, enabling easy handling in maintenance facilities. The system enables about seven times faster maintenance work than conventional mechanical tools. In addition, the system neither damage steel materials of the infrastructure being treated even with the uses of a continuous-wave fiber laser light source nor does it generate noise and vibration during treatment.

To meet our customers' request for products capable of withstanding outdoor and other harsh environments, we will pursue product designs for use in areas with heavy salt damage, such as shipyards and harbors, and for marine vessels. We will also expand our product lineups of the laser processing systems that allow still faster surface treatments such as rust and/or coating removal. We will continue to provide solutions to the problems of aging infrastructures and to the challenges to longer service lives of various infrastructures by improving the efficiency of infrastructure maintenance works and workplace health and by reducing environmental impact.

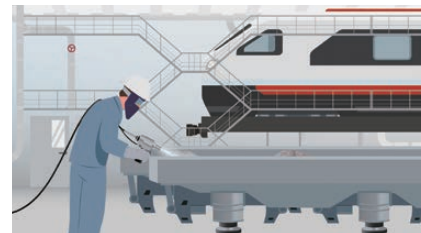
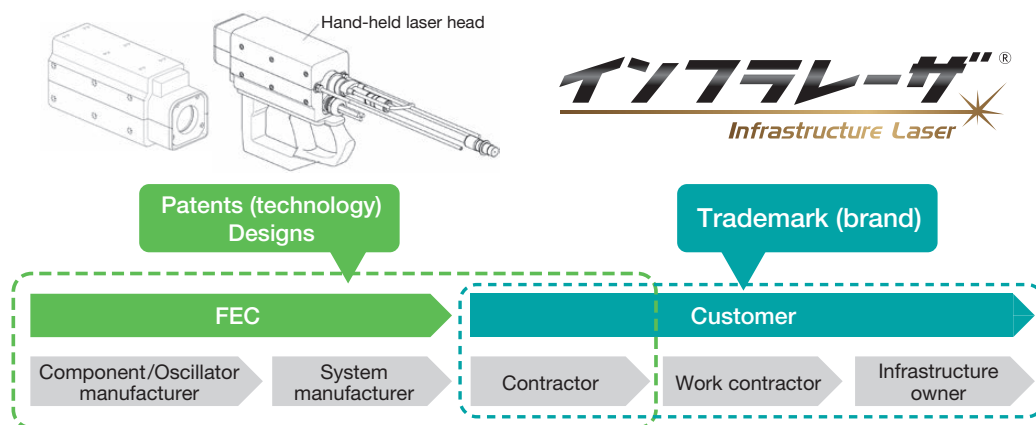


Illustration of
maintenance work

IP landscaping to reinforce our strengths

In applying semiconductor laser technologies cultivated in the telecommunications technology area to industrial applications to develop Infrastructure Laser™ system, we have conducted IP landscaping to formulate a development strategy. The IP landscaping has enables us to have updated information on the status of our target business areas, and to secure intellectual property rights that will increase our business competitiveness as we enter new markets. The IP landscaping has allowed us to analyze patents and markets to gather macroscopic information that could not be obtained directly from customer feedbacks, and has allowed us to secure desired intellectual property rights in our target business areas that will make our technology more appealing to our customers. The strategy that we formulated here has resulted in a comprehensive range of patent and design patent applications in the system area that will serve to maintain our first-mover advantage over our potential competitors such as system manufacturers.



Utilizing our intellectual properties in the business value chain

In particular, we appreciate a brand as an important intellectual asset that allows our customers to recognize our product's value. Thus, we created the logo of Infrastructure Laser™ and obtained trademark rights for it. This brand name suggests the idea that it is a “laser” used in relation to the “infrastructure” underlying society, and reflects our wish for it to be a “laser” as “infrastructure” that will support society for many years to come. The logo of the brand uses Japanese *katakana* characters to express a sense of security, reliability, and familiarity. The gold line and English alphabet letters in the logo, which convey the impression of a laser beam, express our wish that maintaining infrastructure with our lasers will bring brilliance to the infrastructures to be treated, global environment, and everyone involved. The graded colors also evoke high quality and a notion of “connecting colors” thereby expressing the idea of “connecting” the infrastructures to coming generations as well as “connecting” people with each other.

To “connect” our partners with our technologies, we have opened the Infrastructure Laser Lab, a base for co-creating optimal systems with our customers, at FEC's Chiba Works. The Infrastructure Laser Lab is equipped with a high-power fiber laser oscillator and an experiment system that is capable of flexibly moving a laser head (laser irradiation unit). The Lab enables our partners who visit there to conduct elemental experiments to determine if our laser processing system is effective for their purpose by using samples of a wide range of sizes and shapes they have bring in.



Infrastructure Laser Lab
to reinforce our strengths

Experiment space in Infrastructure Laser Lab

Our traditional business model has been to provide products through communications with our customers. We believe that, as we shift from a current to an ideal strategy, IP landscaping has given us an awareness that such Lab offers service experiences to our customers in a manner that enables us to provide the customers with new values, additional to our products themselves, in a more prompt way. New businesses such as the Infrastructure Laser™ system require more emphasis to be put on integrating R&D and marketing. And we will be using IP landscaping as a tool to promote communications between R&D and marketing.

■ See the following websites for details:

News release pages: https://www.furukawa.co.jp/release/2022/kenkai_20221130.html (in Japanese)
https://www.furukawa.co.jp/release/2023/dev_20230126.html (in Japanese)
Dedicated website: <https://www.furukawa.co.jp/infra-laser/> (in Japanese)

Words from our engineer

Business Innovation Design Dept.,
Social Design & New Business
Development Dept.,
Global Marketing Sales Div.

Ryosuke Nishii



I believe Infrastructure Laser™, which treats surfaces with a laser, has the potential to improve infrastructure maintenance work, which is perceived as demanding, dirty, and dangerous. Indeed, we receive a lot of positive feedback from our customers, saying that Infrastructure Laser™ has enabled faster work with less workload.

The intellectual property activity this time has made me realize once again that intellectual property is important not only to protect our own technology but also to ensure that our customers can use our products with peace of mind.

I will continue to facilitate broader use of Infrastructure Laser™ and contribute to the improvement of the workplace environment of infrastructure maintenance jobs.

Words from our IP Dept. staff member

Intellectual Property Dept.,
Research & Development Div.

Masahiko Sagawa



It was a great excitement for me to have been involved in the creation of new business together with business and development divisions. In particular, I was able to witness the very creation of a brand for a new business, and I felt that joy came slowly later and filled me for a while. FEC has contributed to infrastructure development through the manufacturing of electrical and optical cables since its foundation in 1884. I am proud that this brand name is easily understood by our customers and is a perfect fit for our company, which is one of the few Japanese manufacturers capable of consistently manufacturing high-power fiber lasers used in laser processing, ranging from internal components to fiber lasers oscillators.

Inspired by the ideas and wishes reflected behind the Infrastructure Laser™ logo, I believe the Intellectual Property Department should play a role of connecting people with each other. I will continue to engage in communications with the divisions through our intellectual property activities.

Case Example (2)

Rakuraku Aluminum Cable™ System

The Industrial Cable & Power Cable Accessories Division's business strategy to achieve the 2025 Mid-term Plan is to "implement strategic growth investment in target segments (social infrastructure, domestic renewable energy, disaster prevention and mitigation, and next-generation infrastructure) and achieve both business expansion and capital-efficient management." *Rakuraku Aluminum Cable™* System is one of the Division's major products, and we are utilizing intellectual assets as our strength to promote value creation in this business area.

Rakuraku Aluminum Cable™ System represents FEC Group's product lines of *Rakuraku Aluminum Cable™*, a high-performance, low-voltage aluminum conductor CV cable featuring its *lightweight*, *easy-handling*, and *flexibility* qualities. The Cable adopts aluminum conductor to reduce weight to approximately 50% of conventional CV cables with copper conductors of the same size. The Cable also adopts an improved insulation material that allows the sheath to be stripped off significantly more easily than with conventional CV cables, not only at room temperature but also at low temperature environments. In addition, the Cable uses a new conductor configuration devised to achieve three times the flexibility of conventional CV cables. These features of the *Rakuraku Aluminum Cable™* have enabled labor-saving operations, for example, in carrying cables (including unloading, moving, and turning cable drums), installing cables (including unrolling, pulling, extending, and straightening cables), and processing cable ends (including winding cables and stripping sheaths off the cable).



Rakuraku Aluminum Cable™ System

F-ALCON™: a word coined by combining "aluminum conductor" with "free," meaning "free from construction hassles and problems"

Human resources to support intellectual assets

Material research, product development, and manufacturing of aluminum conductor CV cables are conducted through co-creation between the engineers of FEC and Furukawa Electric Industrial Cable Co., Ltd. (FEIC). At the same time, sales, business development, and public relations activities are carried out through co-creation between dedicated teams from multiple companies, including Showa Furukawa Cable Co., Ltd. (SFCC). We have established Japan's first aluminum crimp connection technology by combining our long-refined connection technology for aluminum conductors with technologies possessed by terminal manufacturers.

FEIC is a company specializing in industrial cables that has consistently responded to society's needs in the industrial cable business, inheriting Furukawa Electric's technology and traditions developed and preserved for over a century.

Website: <https://www.feic.co.jp/en/>

SFCC is a manufacturing and sales company established in 2020 by integrating the sales divisions of SWCC Group and FEC Group, both of which handle general-purpose electrical wires for the electric construction equipment market.

Website: <https://www.swcc.co.jp/sfcc/> (in Japanese)



FURUKAWA ELECTRIC INDUSTRIAL CABLE



Showa Furukawa Cable Co., Ltd.

Strength development through the creation of intellectual assets

The intellectual assets that constitute our strengths are material development technologies, as well as conductor connection and cable manufacturing technologies we have refined in our existing business. As a pioneer in electrical wires, we have accumulated technological know-how within the Group. In addition, we are pursuing Open and Closed strategies, in which our product design and technologies are being protected with dozens of patent and design rights in Japan to build barriers to entry. At the same time, we are encouraging the use of terminals and other connecting components from other companies in order to expand the market. We are also aiming to build the Rakuraku Aluminum[®] brand by acquiring a number of trademark rights for our products and whole systems.



Interview

Industrial Cable & Power Cable Accessories Div.,
Backcast Group for Electric Energy System

Hiroshi Sakurai (right)

— In 2022, your division have won the FEC Group's intellectual property activity award under the President's Patent Awards for your technology branding activity for *Rakuraku Aluminum Cable*[™] System. Your activities were highly commended because of your technology branding activity that involved a combined use of intellectual property rights, including not only patents but also designs and trademarks. Tell me how you feel about your activity.

Sakurai I am glad to hear that our activity so far has been highly commended. The *Rakuraku Aluminum*[™] brand provides customers with safety and peace of mind by integrating everything from cables to the necessary equipment and installation services. The brand has been highly acclaimed in the market. No other company ensures quality not only in individual products but also in the combinations of products and services. And this is what makes our products different, what has led our business to steady growth.

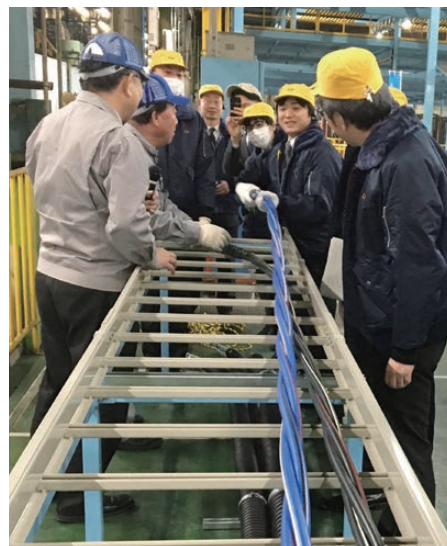
The *Rakuraku Aluminum*[™] brand is built upon the cooperation of several divisions, including manufacturing, sales, and public relations, as well as R&D and intellectual property activities. Terminal and terminal block manufacturers who work with us also play a role in the brand. The thoughts of many people, both inside and outside the company, support our current growth. Now, we aim to unite the persons and organizations involved in the *Rakuraku Aluminum*[™] brand into an "asset" that will be used to solidify our market position and achieve further expansion of sales. My personal goal is to dye all construction sites throughout Japan in blue, the color of the sheath of *Rakuraku Aluminum Cable*[™].

Technical Skills Training Center to reinforce our strengths

To spread the use of aluminum conductor cables and expand their market, it is important for us to help our customers use the product in a correct way so that they can recognize full effectiveness of our product. To this end, we have been offering installation workshops to provide support programs for acquiring skills of treating aluminum terminals, which is more difficult than treating terminals of copper conductor cables. FEIC has established the Technical Skills Training Center in its Hiratsuka Plant, which is equipped with facilities for hands-on experience in such tasks as cable extension and connection to panels. The Center is visited not only by electrical contractors who install cables but also by many building owners and designers. The Center has received favorable reviews from visitors, saying that the workshop help them know what the products' features are and visualize situations in which *Rakuraku Aluminum Cable*TM are used on-site.



*Rakuraku Aluminum Cable*TM Technical Skills Training Center



Hands-on experience for extending cables

Providing such on-site training programs in installation workshops is unparalleled by other companies. It is highly appreciated by our customers and is now forming one of the reasons of choosing our products. We are also focusing on public relations activities through exhibitions, news releases, a dedicated website, and advertisements. These have resulted in an increasing number of inquiries from customers. We will undertake ongoing business activities to lead the industry as a pioneer in aluminum electrical wires.

*Followings are registered Japanese trademarks of FEC: "F-ALCON"(English letters).

■ See the following websites for details:

News release page: https://www.furukawa.co.jp/release/2020/ene_20200330.html (in Japanese)

Dedicated website: <https://www.rakuraku-alumi.com/#features> (in Japanese)

Utilize intellectual assets to create value

Since its deployment in the renewable energy market chiefly for solar power plants, *Rakuraku Aluminum Cable*TM has increased its sales steadily. In addition, registered with the New Technology Information System (NETIS) administered by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) of Japan, *Rakuraku Aluminum Cable*TM has entered in the road infrastructure field.

In May 2023, *Rakuraku Aluminum Cable*TM was adopted for low-voltage trunk lines for SAGA Arena in Saga Prefecture, Japan, contributing to labor saving in wire extension work. In November, Sampo Japan Insurance Inc. and Sampo Risk Management Inc. began offering a service to recommend *Rakuraku Aluminum Cable*TM to their customers who have been affected by copper wires thefts from photovoltaic power generation facilities, incidences which have been frequent in recent years.

We will promote widespread use of aluminum electrical wires to contribute to solving serious social issues such as labor shortages and aging of the workforce, which together are referred to as "the Year 2024 problem" in Japan. We will continue to develop our business to achieve our sales target of 2.5 billion yen in FY2025.

2 Topics

Topic (1)

FEC Wins Invention Award at 2023 National Commendation for Invention

Our patented invention on cross-linking technology (Japanese patent No.6,219,268), titled “Method for Producing Heat-Resistant Resin Composition, Heat-Resistant Resin Composition Produced by Method for Producing Heat-Resistant Resin Composition, and Molded Article Using Heat-Resistant Resin Composition,” has received the Invention Award at the National Commendation for Invention held by the Japan Institute of Invention and Innovation.

The invention relates to a new cross-linking method of a resin that enables the blending of filler with a high degree of freedom, and the resin composition produced by the method. Using the resin composition manufactured based on this invention for cable jacketing material enables the manufacture of excellent electrical wires with multiple excellent properties, including heat-resistance, strength, flexibility, resistance to external damages, and workability.

Currently, FEC employs the resin composition embodying this invention for jacketing material of electrical wires in electronic devices, automobiles, and industrial power cables. In the future, we will expand the use of this patented resin composition to electrical wires used in the renewable energy domain, including solar power and wind power, and to products other than electrical wires, such as tubes, packing, and automobile interior materials as well.



Interview

Technology Development Div., Furukawa Electric Industrial Cable Co., Ltd.
Masaki Nishiguchi (right)

Optical Fiber & Cable Products Div., Electronic Appliance Wire Dept., FEC
Arifumi Matsumura (left)

— This is the first time in a long time that we have received the National Commendation for Invention. We can say this is truly as a result of our valuable R&D people nurtured through “human resources development” having “built strengths” as they came up with the inventions and having “created value” as they contributed to the development of industry. What were your thoughts and difficulties you have experienced in these development and intellectual property activities?

Nishiguchi I started the development with the desire to evolve existing technologies and solve manufacturing site problems such as equipment and processing costs. Our goal was set at the beginning, but I had to develop the process from scratch. Since I expected this was going to be a long-term project, I asked Mr. Matsumura, who is younger and tougher than me, to join the project from the initial stage and we have worked closely together as a team.

Matsumura It took us a while to find out the best process after repeated trial and error. Once we found a path toward a solution, we could proceed promptly from patent application through product development to product launch.

Nishiguchi The invention that won the award was a basic invention and it took time for us to prepare the patent specification for it. In addition, we could also acquire patents on surrounding improvements and modifications as we learned the skills required to patent the invention. We now have a strong patent portfolio serving as entry-barriers to our competitors, and we believe this will contribute to future growth in sales and profit of this product.

■ See the following FEC news release page for details:

https://www.furukawa.co.jp/release/2023/kenkai_20230530.html (in Japanese)

Topic (2)

Cosponsorship for the 1st NIKKEI IP and Intangible Assets Symposium

On October 2, 2023, the first NIKKEI IP and Intangible Assets Symposium was held. The symposium was one of the official events at PRI in PERSON, the world's leading responsible investment conference which brings together investors from around the world. The symposium featured a panel discussion on intellectual property and intangible assets as a source of corporate value, titled "Japan Revives through Aggressive IP and Intangible Asset Management" for creating corporate value. The FEC Chairman Kobayashi participated in the discussion as vice chairman of the Intellectual Property and Intangible Asset Management Forum.

In the symposium, the participants engaged in a lively discussion on utilizing intellectual properties and intangible assets to build business models, investing for sustainable growth, and generating a virtuous circle of management to create sustainable businesses.

■ See the [Nikkei Sustainable Forum page in Nikkei Channel](https://channel.nikkei.co.jp/sustainableforum2023/231002sustainableforum_03.html) for details:

https://channel.nikkei.co.jp/sustainableforum2023/231002sustainableforum_03.html (in Japanese)

Topic (3)

FEC Chairman Delivers Keynote Speech at Global Intellectual Property Strategy Forum 2024

On January 25, 2024, the Global Intellectual Property Strategy Forum 2024 was held jointly by the Japan Patent Office and the National Center for Industrial Property Information and Training (INPIT). The FEC Chairman Kobayashi gave a keynote speech titled "Ventures to 'Intellectual Property at the Core of Business Strategies': Risk Minimization to Chance Maximization."

FEC Group has incorporated in its value creation process toward 2030 the three important things valued by our founder: human resources development; strength building, and value creation. Kobayashi conveyed a message that FEC Group,

in line with such value creation process and under the slogan of "Intellectual property is at the core of our business strategies," has established a promotion system under the Board of Directors in an attempt to transform our corporate intellectual property activities from risk minimization oriented (for stabilizing business) to chance maximization oriented (for expanding business opportunities) through the use of IP landscaping. He concluded his speech with his hope that all Japanese companies, Team Japan, position "intellectual property at the core of their business management" and build and implement their intellectual property strategies to maximize their chances.

■ See the [Global Intellectual Property Strategy Forum page at the INPIT website](https://www.inpit.go.jp/katsuyo/gippd/forumkokunai/) for details:

<https://www.inpit.go.jp/katsuyo/gippd/forumkokunai/> (in Japanese)



3 Intellectual Property Analysis Report

3-1. Intellectual Property Portfolio

FEC Group has positioned intellectual properties, such as patents and know-how, and intellectual assets forming our strength, which include our human assets, organizational capabilities, and customer networks, as important management resources. To make the most of such intellectual properties and assets, we have formulated our Group's basic policy with the three pillars listed below, under which we promote intellectual property activities on a group global basis, integrating business, R&D, and intellectual property.

Three Basic Policies

1	Reinforcing management and business strategy planning capabilities by IP Landscaping	Reinforce management and business strategy planning capabilities by IP Landscaping that incorporates, analyses and utilizes intellectual property information into strategy planning processes.
2	Utilizing intellectual assets with Open & Closed strategies	Strengthen business competitiveness by: using Open and Closed strategy to utilize intellectual assets; and then, running an activity cycle of creating and accumulating intellectual assets and protecting business and core technology, while using IP landscaping to analyze environments for change.
3	Stabilizing business by reducing intellectual property risks	Identify four kinds of frequent risks of significant impact: infringement risk, technology outflow risk, contract risk, and counterfeit risk. Stabilize business by continuously reducing such risks.

Based on this basic policy, our intellectual property activities are conducted to achieve FEC Group Vision 2030 and SDGs, from the two perspectives of risk minimization (for stabilizing business) and chance maximization (for expanding business opportunities).

1 Risk minimization

We protect our proprietary differentiating technologies with intellectual property rights and technical know-how to minimize business risks.

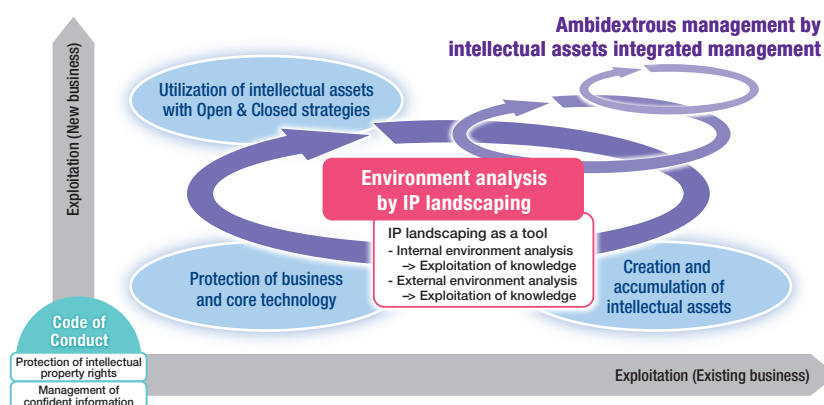
In order to enhance social issue solving businesses and achieve growth, we will develop and make the most of our intellectual property portfolio on the basis of detailed competitor analysis in the information, energy, and mobility sectors, providing support for the maximization of revenue from our existing businesses toward 2025 while focusing on capital efficiency.

2 Chance maximization

We seek new business fields and business models by using IP Landscaping which analyzes the environment of competition and market based on intellectual property information of our own and other companies.

To realize a leap forward through the creation of social issue solving businesses, we will promote the use of IP landscaping in the area of next-generation-infrastructure supporting businesses and environmentally friendly businesses, providing support for the development of foundations for creating social issue solving, new businesses that we aim to launch by 2030.

To contribute to the realization of a truly prosperous and sustainable society through continuous technological innovation, we will establish this IP landscaping as a tool for ambidextrous management (management that takes as its two wheels, "Exploitation," which exploits existing business, and "Exploration" which develops new business). In such IP landscaping, we will utilize internal environment analysis for the Exploitation and external environment analysis for the Exploration.

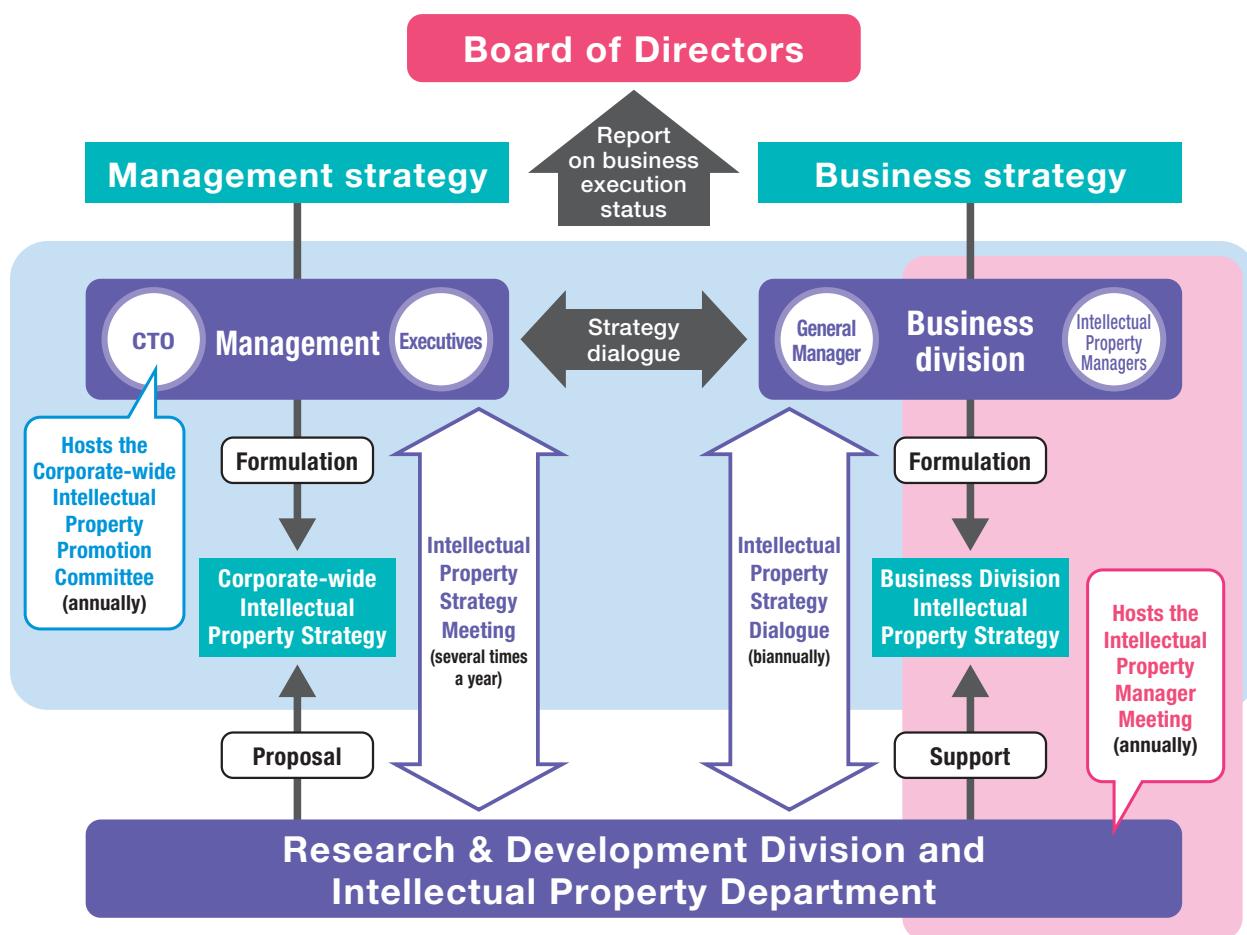


3-2. Intellectual Property Governance: Promotion Framework

Our Group has established the Corporate-wide Intellectual Property Promotion Committee, which is chaired by the General Manager of the Research & Development Division. This committee determines corporate-wide intellectual activity policies and promotes activities led by intellectual property managers who are assigned to each business and research division.

Corporate-wide intellectual property strategies are proposed and reported to executives who supervise business execution—including the President—at an Intellectual Property Strategy Meeting hosted by the General Manager of the Research & Development Division. Activities aligned with the corporate-wide intellectual property strategies are determined at an Intellectual Property Manager Meeting hosted by the Intellectual Property General Manager. Intellectual property strategies of individual business divisions are subject to co-creation and shared with business division general managers through Intellectual Property Strategy Dialogues hosted by the Intellectual Property General Manager.

Such business execution statuses are regularly reported to the board of directors.

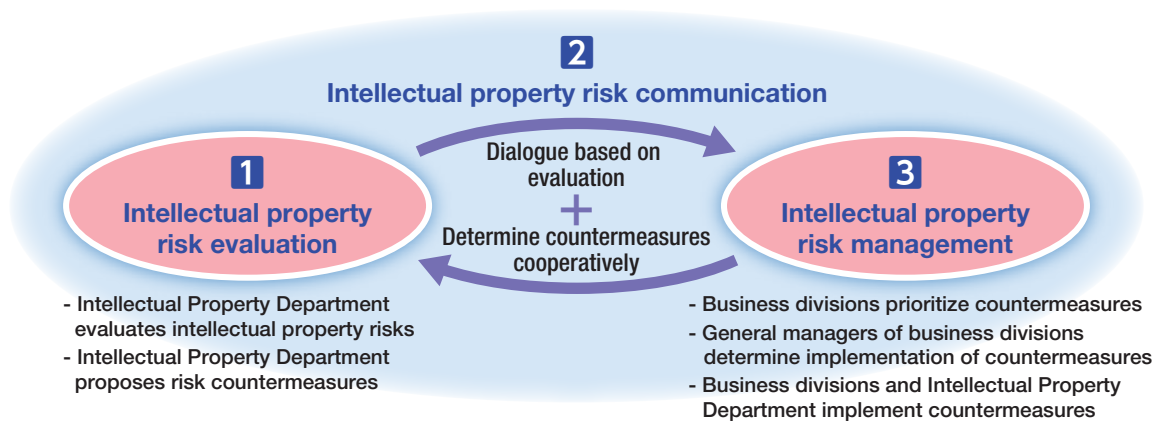


3-3. Risk Minimization: Intellectual Property Risk Management

The Furukawa Electric Group's Code of Conduct stipulates two actions: (1) protection of intellectual property rights and (2) management of confidential information.

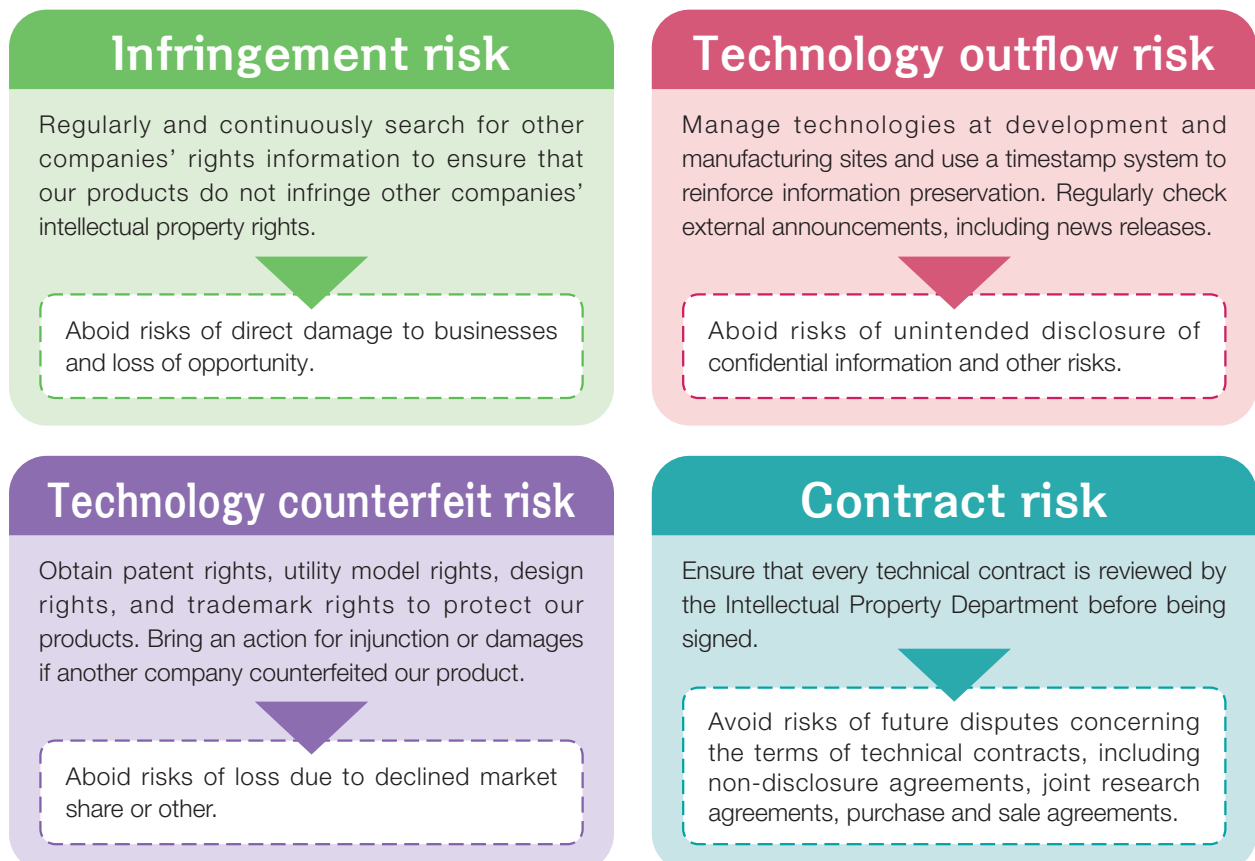
In accordance with the Code of Conduct, we make sure that the intellectual property portfolios are built and utilized based on detailed competitor analysis and the promote activities to globally reduce intellectual property risks, such as activities to prevent technical information outflow.

As a system for such risk minimization, we implement intellectual property risk management procedure that consists of three steps which are shown below:



In the step of intellectual property risk evaluation, each priority product of business divisions subject to intellectual property activities is visually evaluated from the viewpoints of whether: (1) an intellectual property portfolio has been built to prevent any disruption to the business; (2) any rights of other companies are not infringed by the product; (3) countermeasures for technical know-how leakage are being implemented for the product; and other viewpoints.

We define the following four categories to classify intellectual property risks and continuously call attention to risk management to stabilize business execution.

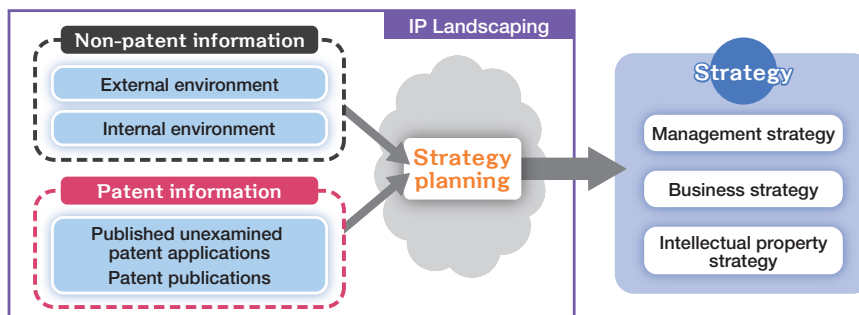


3-4. Chance Maximization: IP Landscaping

The Furukawa Electric Group lists “Reinforcing management and business strategy planning capabilities using IP Landscaping” as the first pillar of its intellectual property strategy.

To promote activities to seek new business fields and business models, we analyze the competitive environment and market environment using the intellectual property information of our own and other companies.

As a tool for such chance maximization, we implement this IP Landscaping in the following process.

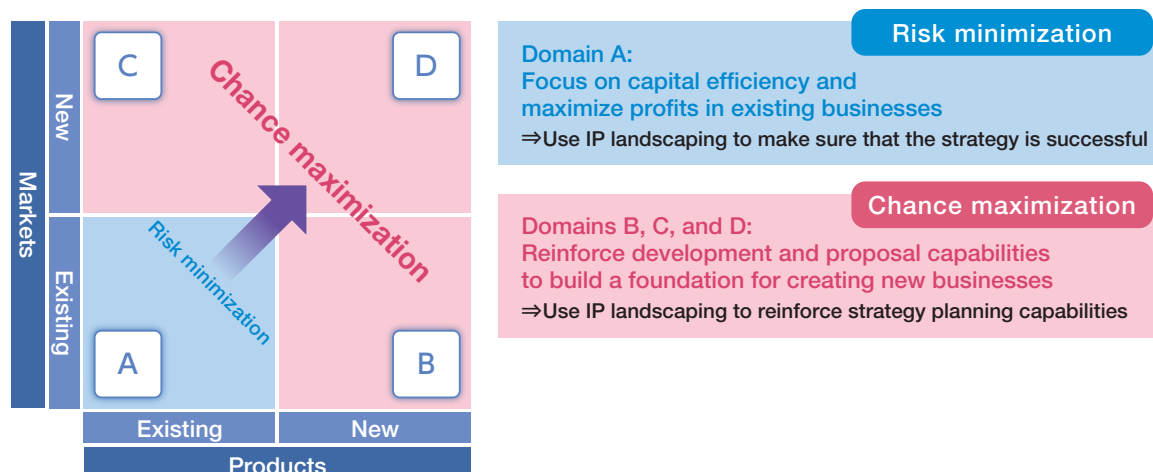


We started this approach in 2019, and in 2021, we have established a dedicated section in the Intellectual Property Department that utilizes IP landscaping to propose strategies for new business development through co-creation with business divisions, including forecasting market trends and analyzing the value needed by our customers.

Since 2022, we have the IP landscaping implementation rate set as a sustainability indicator for revenue opportunities. The data is presented later in this report. This ratio is considered as an indicator that confirms the management is being conducted in accordance with the chance maximization policy requiring intellectual assets to be properly employed.

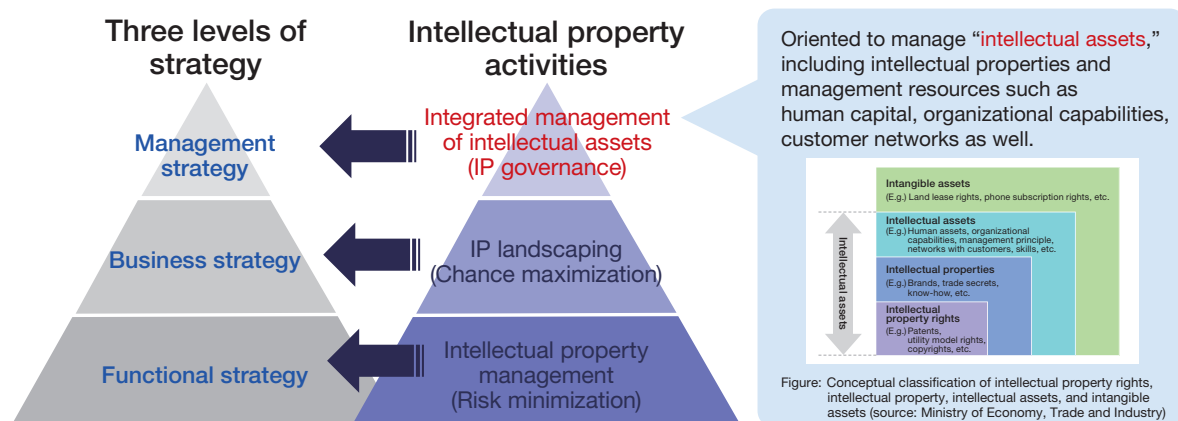
The results of IP landscaping are reported regularly at the Intellectual Property Strategy Meetings with executives, the Intellectual Property Strategy Dialogues with general managers, and the Board of Directors meetings.

Referring to the figure below, with respect to a business falling within the domain A relating to existing markets and existing products, we should focus on capital efficiency to maximize profits from the business. To this end, we use IP landscaping and make sure that our strategy is successful. With respect to new businesses falling within either of the domains B, C, and D relating to new markets and/or new products, we should reinforce our development and proposal capabilities to build a foundation for creating such new businesses. To that end, we use IP landscaping and reinforce our strategy planning capabilities. Thus, we make full use of IP landscaping from the perspective of not only risk minimization but also chance maximization.

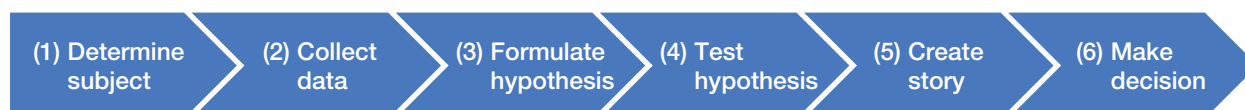


Developing strategies by using IP landscaping requires conducting not only external environment analysis over relevant patents and scientific or technical papers but also internal environment analysis over relevant internal documents such as know-how in order to identify our strengths and weaknesses and better understand target business areas. IP landscaping has been providing us with objective information that enables us to identify our strengths and weaknesses and to make sure that our strategies are successful.

In our view, conducting internal environment analysis in IP landscaping contributes to the Exploitation in ambidextrous management, which, here, refers to exploiting existing intellectual assets in existing businesses. Such “exploitation of knowledge” requires integrated management of the intellectual assets.



Decision-making utilizing IP landscaping activities



As shown in the above figure, IP landscaping activities generally consist of following steps: (1) determining a subject; (2) collecting data necessary for analysis; (3) formulating a hypothesis for the subject; (4) collecting more data to test the hypothesis; (5) creating a story based on the hypothesis; and (6) communicating the story to the organization for decision-making.

In step (2), internal information is collected, mainly through communication with key persons in the company, so as for an organized set of information, which is to be presented in steps (3) and (4), to clarify our strengths and assist decision makers in formulating strategies in an objective manner. In step (5), any insights gained from the analysis are assimilated into a story, for “exploitation of knowledge.”

IP landscaping activities will end only after the output is reported to decision makers, such as general managers of business divisions, in step (6). This allows for regular opportunities to have communication between the decision makers and the Intellectual Property Department.

Note that steps (3), (4), and (5) require not only data analysis skill but also marketing skills. So in order to enhance our hypothesis formulating ability, we engage in developing human resources who have a high level of business acumen and an expertise in digital technology that enable them to formulate a strategy out of various kinds of data.

Intellectual Property Activities on Group-Global Basis

As part of our educational activities to raise awareness of intellectual property, we provide intellectual property trainings individually tailored to the requests of overseas group companies and the circumstances in each country. In 2023, one such training was held at Furukawa Electric Institute of Technology (FETI) in Hungary. The training was attended by approximately 30 trainees who are R&D staffs from European

group companies and trainers who are intellectual property department staffs of FEC and OFS (US). The training included classroom lecture sessions on such topics as IP landscaping, trade secret management, and defense based on prior commercial use, and a group work session on Open and Closed strategy.

To reduce intellectual property risks for the entire Group, we provide intellectual property trainings at OFS and FEL (Brazil), and in addition, we also provide trainings focused on the technology outflow risk at each of our manufacturing sites.

We will continue to promote intellectual property education on a group-global basis.



“IP-Day”: an intellectual property training tailored for European subsidiaries

The intellectual property training program designed specifically for our R&D sites in Europe, *IP-Day* as we call it, started in 2016 as a joint training program with Trocellen (Germany) and has been continuously provided at FETI since 2017. The last year’s intellectual property training in Europe was the fifth of such *IP-Day*. The *IP-Days* have covered so far a wide variety of topics on intellectual property, including infringement risks, contract risks, preparing patent applications, and Open and Closed strategies.

Trocellen manufactures and sells cross-linked polyolefin foams and processed cross-linked polyolefin foams, providing solutions for a variety of industries, including automotive, construction, leisure, and professional sports.

Website: <https://trocellen.com/>



FETI contributes to R&D in the FEC Group in many fields of technology development for materials, devices, and production processes.

Website: <https://www.feti.hu/>



A message from Mr. Kováts, CEO, FETI

Intellectual property is an important asset for companies involved in research and development, and educating researchers on how to handle intellectual property is an essential part of protecting innovation in such organizations. Without proper knowledge of intellectual property, researchers who have created new technologies and processes may inadvertently disclose the company’s trade secrets, leading to a loss of intellectual property right. Providing intellectual property education allows researchers to understand the confidential nature of intellectual property and how to protect the intellectual property. Providing intellectual property education also promotes innovation, because researchers who are aware of intellectual property protection know that their creations are valued and protected, and thus have higher motivation for innovation. Moreover, providing intellectual property education helps to avoid infringing other company’s intellectual property rights. If researchers have sufficient knowledge of intellectual property laws, they are less likely to infringe other company’s rights, resulting in fewer legal disputes. They can better navigate through existing intellectual property rights of our own and other companies as they develop new products and technologies.

We appreciate the ongoing intellectual property training provided to FETI engineers by FEC’s Intellectual Property Department. Providing intellectual property education to researchers helps promote innovation and reduces risk, and brings business growth. And I believe that human capital investments such as intellectual property education are essential in today’s competitive business environment.

4 Pre-Financial Information/Data

4-1. Intellectual Property Analysis Report

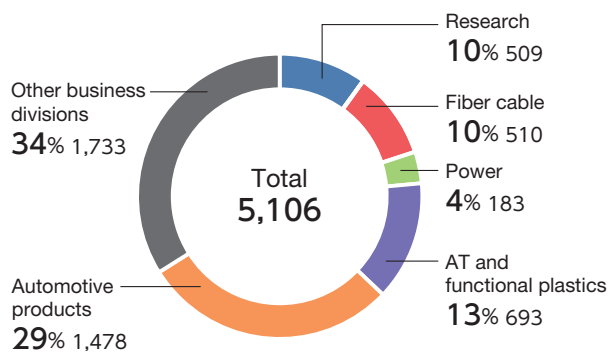
We strive to minimize business risks by protecting our group's proprietary technologies that differentiate our products from those of other companies with intellectual property rights and technical know-how.

To achieve growth by reinforcing social issue solving businesses, we build an intellectual property portfolio based on detailed competitor analysis in the information, energy and mobility sectors. We thoroughly utilize this portfolio to maximize the revenue of existing business, with a focus on capital efficiency toward 2025.

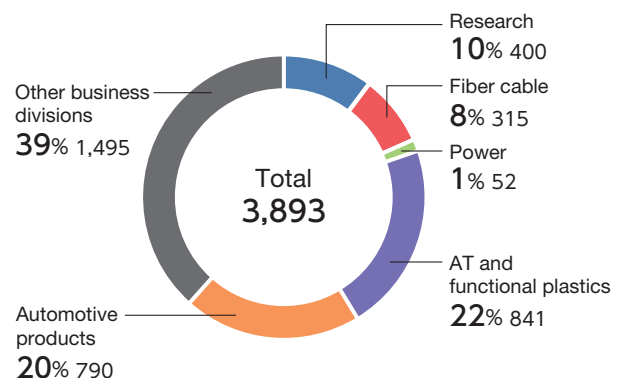
Expand the intellectual property portfolio

Approximately half of the intellectual property rights (patent rights, utility model rights, design rights, and trademark rights) held by Furukawa Electric belongs to a portfolio relating to either optical fiber cables (Optical Fiber and Cable Products Div.), power cable systems (Power Cable Div.), wire harnesses (Automotive Products Div.), or tape for semiconductor manufacturing (AT and Functional Plastics Div.). In these businesses, we will implement Open and Closed strategy for the intellectual property and stabilize business execution by reducing intellectual property risks.

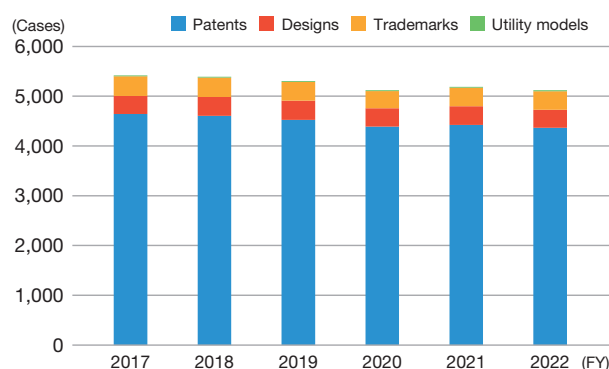
Number of domestic intellectual property rights held



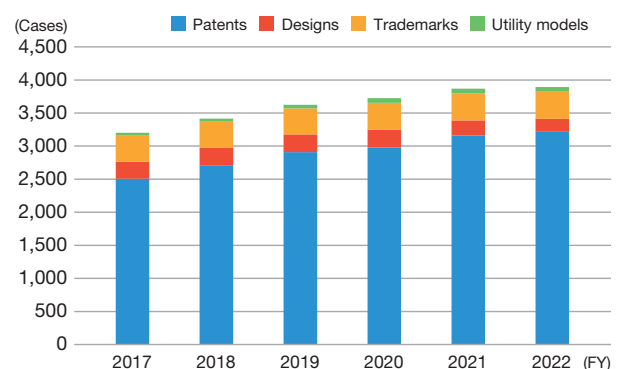
Number of foreign intellectual property rights held



Number of rights held in Japan



Number of foreign rights held



Intellectual property (patent) data

		Patents	FY2018	FY2019	FY2020	FY2021	FY2022
Furukawa Electric	Number of patents held in Japan	Cases	4,605	4,523	4,388	4,423	4,364
	Number of patents held overseas	Cases	2,712	2,910	2,976	3,160	3,225

* The increase or decrease in the number of patents includes the results of abandonment of rights for cost efficiency reason which is done periodically.

4-2. What We Do at Our Activity Bases

FEC's bases for intellectual property activities (Yokohama, Chiba, Hiratsuka)

- **Intellectual Property Managers**
(assigned to each business unit and research laboratory)
- **Intellectual property education**
- **Patent awards, invention compensation, etc.**

Furukawa Electric assigns an Intellectual Property Manager to each business unit and research laboratory, and implements a three-part strategy of business, research and development, and intellectual property, led by a team consisting of members from the business units, research centers, and intellectual property departments. The Intellectual Property Department has three offices in Japan and works in close daily communication with business divisions and research laboratories.

Intellectual property education is organized and continuously implemented in-house. We encourage inventions through patent-award and invention compensation and other means.



FEC Group's bases for intellectual property activities (USA and Brazil)

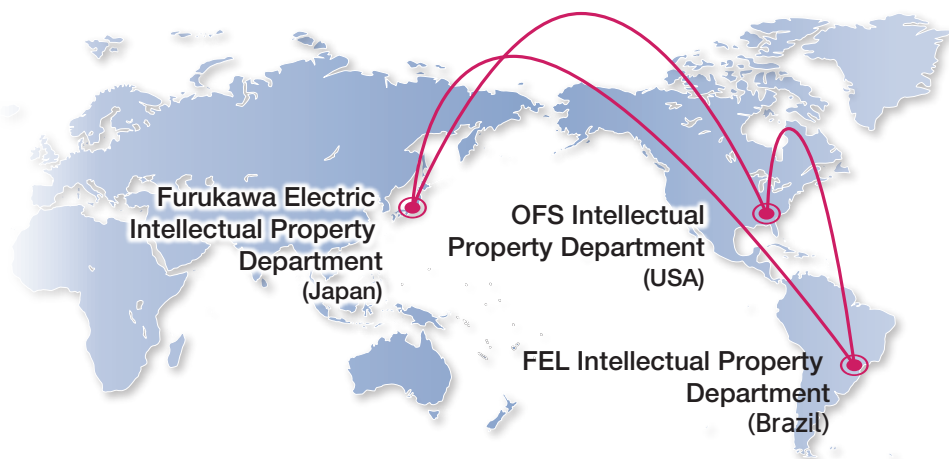
- **Designated persons in charge of intellectual property activities**
(domestic and overseas group companies)
- **Promoting intellectual property activities**

We share Furukawa's intellectual property policy across all group companies in Japan and overseas.

Each domestic group company has a designated person who promotes intellectual property activities in cooperation with Furukawa's Intellectual Property Department.


Furukawa's Intellectual Property Department also interacts with the Intellectual Property Departments of OFS (USA) and FEL (Brazil) and holds regular meetings.

In addition, we are promoting intellectual property activities throughout the Group by providing intellectual property education tailored to each company's needs and providing patent-award for domestic and overseas group companies.



4-3. Intellectual Property Education System

To improve skills of individuals, we provide training to gain a better appreciation of the importance of intellectual property and enable strategic intellectual property activities. That includes:

- Five training courses that allow trainees to systemically learn the knowledge they need according to their work experience
 - Lectures by leading experts in the field of intellectual property
 - Proprietary e-learning materials that allow trainees to learn at any time
 - Basic training for sales divisions
- 

For overseas group companies, we provide individual training sessions tailored to local conditions and needs to raise awareness of the intellectual property. We also regularly deliver an intellectual property newsletter (IP-Newsletter) to all group companies to raise awareness of intellectual property risks and assist them in promoting their intellectual property activities.



Education program	Content	New employee	Middle-level employee		Managerial employee	Management
		Technical, Administrative	Technical	Administrative		
(1) Introductory course	Outline of intellectual property system	←→				
(2) Prosecution basic course	Patent application		←→			
(3) Prosecution advanced course	Prosecution practice and foreign application		←→			
(4) Contract basic course	Basics of contract		←→	→		
(5) Intellectual property management course	Strategy planning and Use of IP Landscaping				←→	
Lecture by intellectual property expert	Lecture by invited outside lecturer		←→	→	←→	→

4-4. Awards System

We have the President's Patent Awards system to increase motivation for outstanding intellectual property activities that will lead to the growth of our Group. The Patent Awards include:

- Invention Award, for patents of recognized high value; and
- Intellectual Property Activity Award, for outstanding intellectual property activities such as strategic patent application activities and the confidential technical know-how protecting activities.

The Patent Awards is a divisional award of the President's Awards which includes various other divisional awards such as Technology Awards, Sales Division Awards, ESG Awards, and Health and Safety Activity Awards. The President's Awards have been applied for every year by overseas group companies, and awards ceremonies of the President's Awards have been global opportunities for technology exchange, where participants can share their achievements with each other.

Award	Candidate	Evaluation	FY2022
Invention award	Excellent patent award	Patented inventions recognized as having high value.	2
Intellectual property activity award	(1) Strategic application activity division	Divisions that strategically filed patent applications by conducting searches for and analysis of patents of ours and other companies.	1
	(2) Technical know-how proposal activity division	Divisions that proposed concealment of technical know-how, which is recognized as having high value.	1
	(3) Counterfeit product countermeasure activity division	Divisions that achieved outstanding results with countermeasures for counterfeit products using trademark rights, design rights, and copyrights.	None

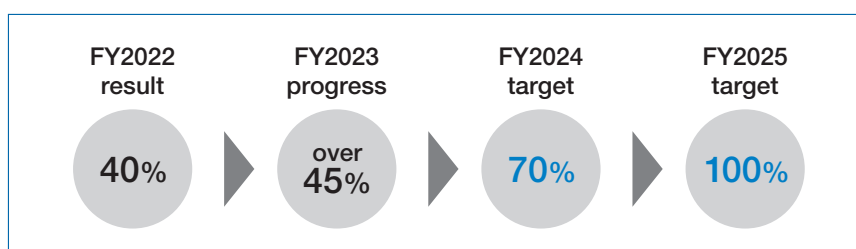
4-5. Sustainability Indicator (IP Landscaping Implementation Rate)

To leap forward through the creation of social issue solving businesses, we will use IP landscaping in the field of next-generation-infrastructure supporting businesses and environmentally friendly business, providing support for the development of foundations for creating new businesses toward 2030.

We have a sustainability indicator target of 100% implementation rate set in the year 2025 for the business-reinforcing, new-business-creating projects defined as of the year 2022.

The business-reinforcing, new-business-creating projects here include those in the existing business fields such as fiber optic cables, power cable systems, in which we intend to maximize profits toward 2025 while focusing on capital efficiency; and those in new business fields such as green LP gas, in which we intend to establish a foundation for creating new businesses which we intend launch by 2030.

Indicators and Targets



On issuing the Intellectual Property Report 2023

Viewing intellectual assets as future finance, FEC Group have been pursuing intellectual property activities designed to support, in terms of both risk minimization and chance maximization, strength building through the creation and utilization of intellectual assets. In this year, to make our new president's slogan "building competitive advantages through our intellectual assets" come to life, we are striving to create a process to make our intellectual-asset-backed strength visible and to convert such strengths into valuable assets.

This report contains case examples of our value creation process, which we have defined as human

resources development, strengths building, and value creation. We hope this report will provide you with a better understanding of how we strive to create corporate value through our intellectual property activities .

July 2024
Senior Fellow, General Manager,
Intellectual Property Department
Michio Ohkubo





Drawing on more than a century of expertise in the development and fabrication of advanced materials, we will contribute to the realization of a sustainable society through continuous technological innovation.



Intellectual Property Report **2023**

FURUKAWA ELECTRIC CO., LTD.

Intellectual Property Department