

Intellectual Property Activities Supporting the Achievement of Furukawa Electric Group Medium-term Management Plan 2022-2025



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1. INTELLECTUAL PROPERTY STRATEGY OF FURUKAWA ELECTRIC GROUP ~“Defensive Intellectual Property” and “Proactive Intellectual Property”~

Furukawa Electric Group has adopted the basic policy of defining and utilizing the intellectual assets as an important management resource. With the trinity management of business, research and development (R&D), and intellectual property, we promote group-wide and global intellectual property activities¹⁾. (Figure 1)

On approaching Furukawa Electric Group Medium-term Management Plan 2022-2025 (2025 Mid-term Plan), in FY2022 being the first year, Intellectual Property landscaping (IP landscaping) has been centered on our intellectual property activities. That is, we are aiming to contribute to building competitive advantages for Furukawa Electric Group, with the creation and accumulation of intellectual assets to be used in each business area based on an Open & Close Strategy along the protection of our business and core technologies using the accumulated

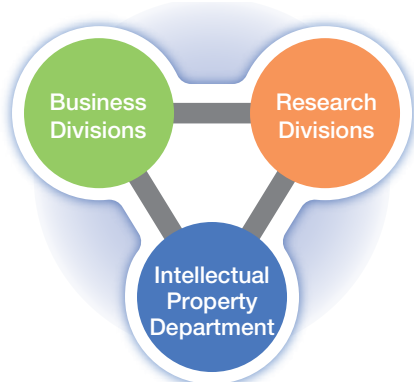


Figure 1 The trinity management of business, research and development, and intellectual property.

intellectual assets, through the reliable implementation of market environment analysis with the IP landscaping.

In the following sections while touching on the history of Furukawa Electric Group, we will outline “Proactive intellectual property” making a full use of the IP landscaping which means the IP activities will aim for Chance Maximization, breaking from a “defensive intellectual property” which is aiming at Risk Minimization.

2. FURUKAWA ELECTRIC GROUP’S DNA ~“Intellectual Assets” and “Human Capital” Connected by Three Valuable Things~

2.1 Intellectual Assets Supporting Innovation Since the Company Foundation

The Company was founded in 1884 when our parent companies, Yamada Cable Works and Honjyo Copper Smeltery were established, and this year marks the 138th anniversary of its foundation. Yoshichi Yamada, the founder of Yamada Cable Works, was an outstanding inventor who acquired Japan’s first patent for the electric wires. In 1892, he obtained two patents for the covered wires (Figure 2).

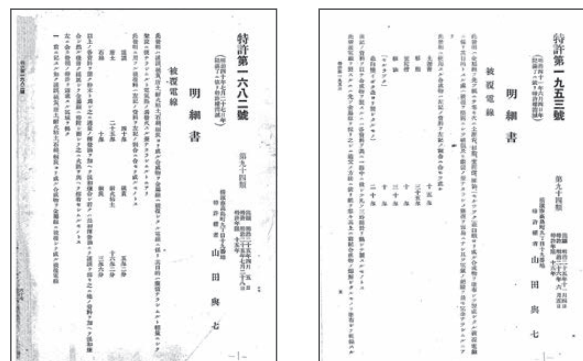


Figure 2 Yoshichi Yamada’s patents for the covered wires (No.1682 and No.1953, 1892).

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Ichibei Furukawa, the founder of Furukawa Group, introduced the latest technologies from Europe and the United States to the mining industry. And focusing on innovations such as the inventions of Yoshichi Yamada, he started the electric cable business based on his wish to “brighten Japan”.

The founder, Ichibei Furukawa, has mentioned “Value employees, Value customers, Value new technology, and Contribute to society” which we have inherited as a part of our DNA. “Value new technology” is in other words, cherish and protect the intellectual assets obtained through the development of new technology. This is Furukawa Electric Group’s basic philosophy to approach the intellectual property. Regarding this basic stance, some examples are introduced below.

- Electric wire and cables

“Value new technology” is also derived from the phrase “Innovate new technology”. Since 1920, when the Company was established, foreign technology was actively introduced and many new products were developed using what is now called open innovation. After that, the number of patents acquired also increased sharply, after entering the Showa era. During this period, record-breaking products were developed one after the other, including insulated cables, power cables that were increasingly compatible with ultra-high voltages, and communication cables. In addition, the Company received a patent license related to power cables from a Dutch company, and jointly took orders with Sumitomo Electric and Fujikura through mutual licensing of the patent license. Then the development of an environment to “Value customers” was promoted, also products to “Value new technology” were created.

- Optical fiber

Patents have an important role in the optical fiber R&D in Furukawa Electric Group, which boasts the world’s top class. In the 1960s, when R&D of optical fiber for communication was intensified, Professor Nishizawa of Tohoku University applied for a patent on the concept of optical fiber (but Japan Patent Office rejected it). Later, in the 1970s, Corning in the United States announced the practical application of optical fiber for communication, the Company also started research at the Central Research Laboratory. The Company received a patent license related to the optical fiber technology from Corning, in this case as well, it has been relicensed to Sumitomo Electric and Fujikura. This also eloquently represents the DNA of “Value new technology”.

2.2 Human Capital as the Driving Force for Promoting Intellectual Property Activities

Toward the achievement of 2025 Mid-term Plan, and beyond along with the achievement of Furukawa Electric Group Vision 2030, we will firmly inherit the DNA of “Value customers and Contribute to society” and we are firmly determined to become an indispensable company for solving social issues. For this purpose, “Value new technology”, that is, strengthen the use of intellectual property,

and at the same time, “Value employees” that is, strengthen human resources and organizational performance are extremely important. We believe that the use of intellectual assets born from human capital is essential to solving social issues. In 2021, Japan’s Corporate Governance Code was revised, and oversight and disclosure of human capital and intellectual property were included. This is exactly the founder’s thoughts, “Value employees” and “Value new technology”.

We conduct training to gain a better appreciation of intellectual property and enable strategic intellectual property activities, leading to improve the skills of individuals.

- Five training courses that provide systemic learning of necessary knowledge based on the work experience of each individual
- Lectures by experts who are active in the field of intellectual property
- Specifically designed e-learning materials that allow learning around the clock
- Intellectual property basic training for sales divisions (from FY2020)
- IP Landscaping seminars for technology divisions (from FY2021)

For overseas affiliates, we provide individual training sessions aimed at raising awareness while taking into consideration their local circumstances or requests. We also regularly provide an intellectual property publication (IP-Newsletter) to all Furukawa Electric Group companies to inform them of intellectual property risks and other concerns with the goal of encouraging them to conduct intellectual property activities.

3. FROM “DEFENSIVE INTELLECTUAL PROPERTY” TO “PROACTIVE INTELLECTUAL PROPERTY” AND TO “AMBIDEXTERITY”

3.1 “Defensive Intellectual Property” With Open and Close Strategies

In the long history of Furukawa Electric Group, the opportunity for enhancing intellectual property activities as part of business activities dates back to a patent infringement lawsuit in the information and communication field in the early 2000s. At the same time, in the midst of great changes in management strategy and business strategy with the acquisition of OFS in the United States, intellectual property activities centered on “defensive intellectual property”, which uses patents as armor and shields for stable business operations, has become the keystone of the strategy. “Defensive intellectual property” means nothing less than the promotion of Risk Minimization activities to protect Furukawa Electric Group’s unique specificity technology based on Open & Close strategy.

On the other hand, in the era of globalization and digitalization, as represented by the fourth industrial revolution that has begun to be called in the late 2010s, the movement to actively use intellectual property to change

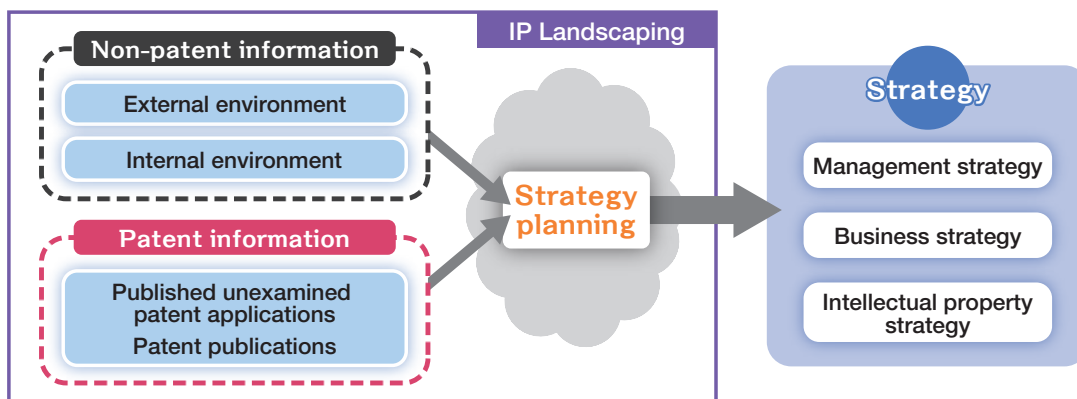


Figure 3 Intellectual property landscaping.

the game has been activated. The best example of this movement is the management method called the IP landscaping which uses intellectual property information to formulate management and business strategies (Figure 3). The opportunity for this movement was the article in the morning edition of the Nikkei dated July 17, 2017, titled “Intellectual property analysis in the core of management”, which introduced the IP landscaping, and Intellectual Property Personnel Skills Standard Version 2.0²⁾, published by The Japan Patent Office in April of the same year and which incorporates the IP landscaping. Furukawa Electric Group was quick to adopt the IP landscaping philosophy. Creation of business opportunities, such as the competitive environment analysis and utilization for each strategy formulation, in other words, the Chance Maximization activity was implemented as one of the “proactive intellectual property” component and Furukawa Electric Group tried to put into practice.

3.2 “Proactive Intelligent Property” with the IP Landscaping

Taking 2017 as an opportunity, in addition to the “Defensive intellectual property” for the stabilization of business operations, “Proactive intellectual property” aiming at business enhancement and new business creation was set up as a company-wide policy for intellectual property activities. Specifically, using the IP landscaping, we are exploring where gaps exist in our business, how we can promote our technical strength, where we should target the market, and what our customer’s jobs are, etc. through multi-directional investigation and analysis in patent information and marketing information from a macro and micro perspectives. In FY2022, the “IP landscaping implementation rate” has been set as a sustainability index for Furukawa Electric Group’s profit opportunities, and the IP landscaping is being dynamically utilized to achieve 2025 Mid-term Plan and Furukawa Electric Group Vision 2030 (Table 1, Figure 4).

3.3 “Ambidexterity” with the IP Landscaping

We believe that the IP landscaping is a very effective method for “Ambidexterity³⁾” in an age of rapid digitalization. Ambidexterity is a management theory that advocates the importance of balancing “Constant improvement of business (Exploitation)” and “Action for new busi-

Table 1 Sustainability indicator: The IP landscaping implementation rate.

Indicator	Result	Target	
(Sustainability indicator)	FY2021	FY2022	FY2025
Furukawa Electric Group, the IP landscaping implementations for business enhancement and new business creation themes*1	17%	30%	100%*2

*1 The themes for business enhancement and new business creation include themes related to “Maximize profits in existing businesses through a focus on capital efficiency directed at 2025” (Optical fiber and cable, Power cable systems, and others) and “Build a foundation for creating new businesses by 2030” (the bipolar lead-acid storage battery, and others).

*2 This means that all the business enhancement and new business creation themes for FY2022 have been implemented.

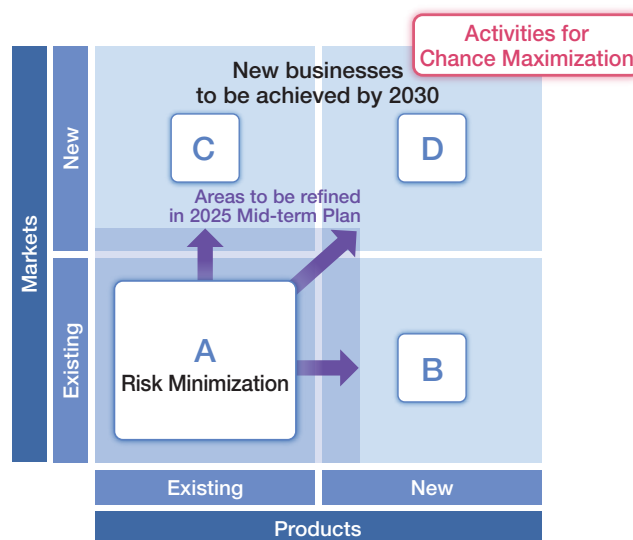


Figure 4 From defensive to proactive: Development of the IP landscaping shown in the Ansoff Growth Matrix.

ness (Exploration)”. Visualizing internal management resources, such as four core technologies of Furukawa Electric Group, through the IP landscaping utilizing digitalization technology will be the driving force for “Exploitation”. Furthermore, visualization of public information such as the market information in the IP landscaping is an effective means of “Exploration”. We believe that the daily implementation of the IP landscaping throughout Furukawa Electric Group and the strategic use of intellectual assets are a thrust based on “Ambidexterity” (Figure 5).

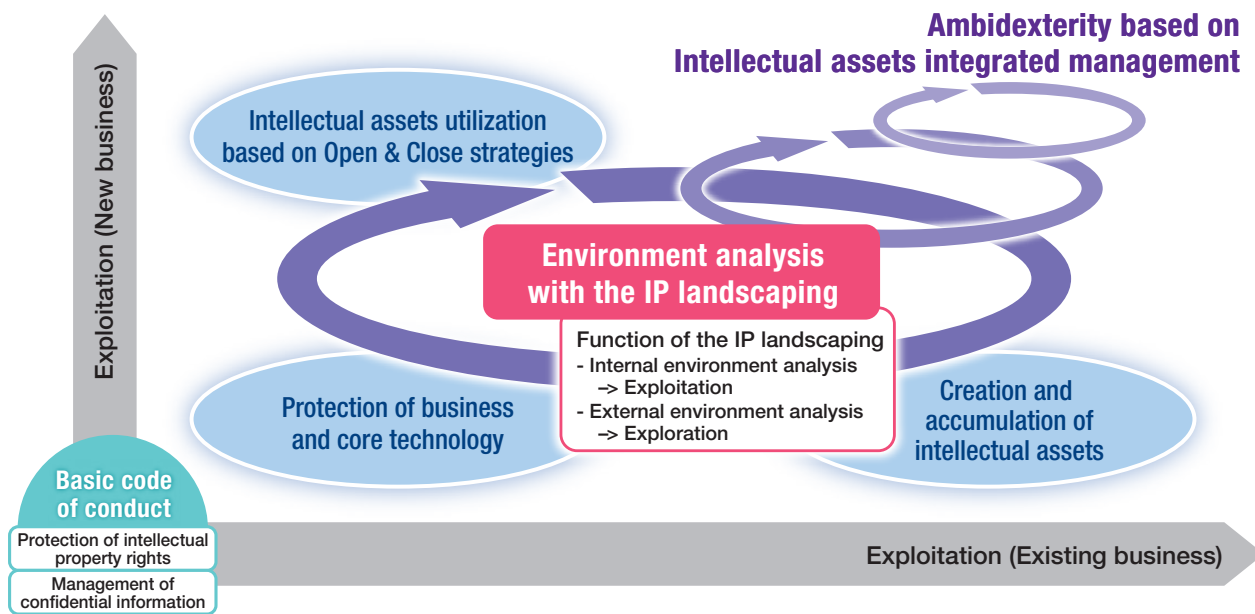


Figure 5 Furukawa Electric Group's Intellectual Property Cycle.

4. CONCLUSION

In 2019, Furukawa Electric Group set the motto issued by President Kobayashi “Intellectual Property is at the core of the Business Strategy” (Figure 6), and aspiring intellectual property management that utilizes intellectual property as an important management resource. “Intellectual Property is at the core of the Business Strategy” is the word that expresses the passion of the Company Founder’s message “Value new technology” which is one of the three valuable things. Toward the achievement of this motto, we are confident that we will surely be able to contribute to build competitive advantages, to improve corporate value, and to solve social issues, through the continuous promotion of intellectual property activities from the standpoint of both Risk Minimization and Chance Maximization.

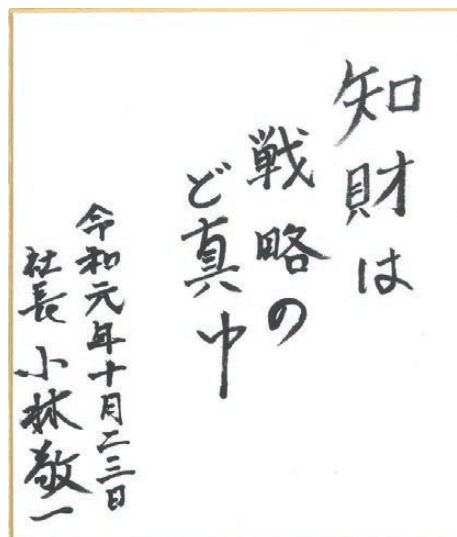


Figure 6 Signature board with President Kobayashi motto.

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