

R&D (Innovation) Strategy

Source of Value Creation

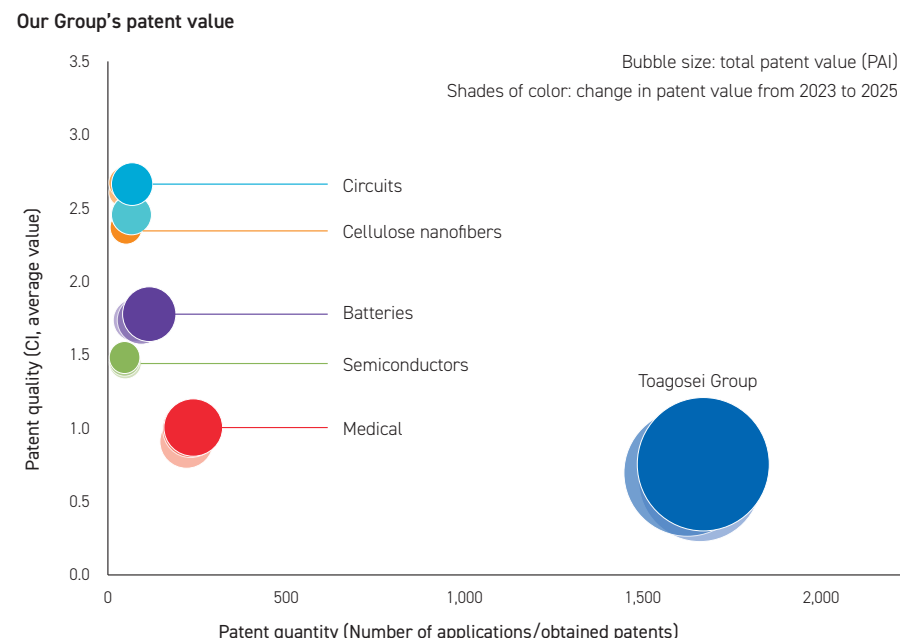
The patent value supporting our business competitiveness

Our Group is strengthening the patent portfolio that serves as the source of competitiveness by advancing R&D and rights acquisition in key focus areas aligned with our business strategy. In this section, we first present an overview of the patents held by our Group, then use lithium-ion battery (LiB) binders as a specific example to illustrate the relationship between patent value and business results.

Overview of patents held by our Group

Our Group is steadily increasing the number of valid patents while continuously working to improve patent value. Although patent value generally tends to decline over time, our Group's patent value is rising, and we are strengthening our patent portfolio in terms of both quality and quantity.

In 2025, patent quality has shown improvement compared to the previous year in circuits, semiconductors, batteries (mobility), and medical technologies, and these are enhancing the Group's patent value.



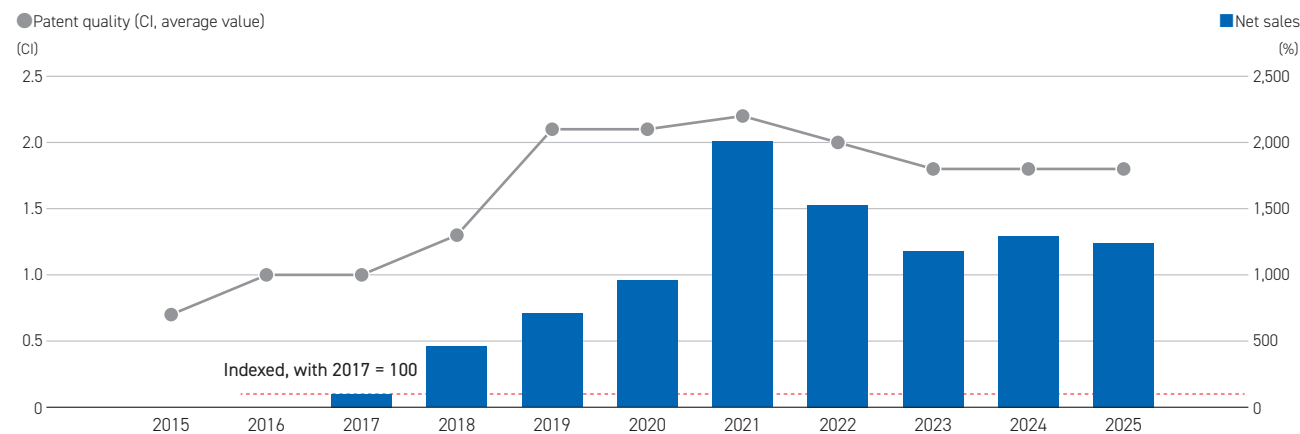
*Prepared by our Group using LexisNexis® PatentSight+, a patent analysis tool of LexisNexis Intellectual Property Solutions, USA. The shades of color show the transition of patent value from 2023 (light) to 2025 (dark) (patent value at the end of each year 2023, 2024, and 2025). Competitive Impact (CI): an average value index per patent family calculated by multiplying the technical value calculated based on the number of citations by the market value calculated based on the status of country application/rights. Patent Asset Index (PAI): total patent value obtained by multiplying average CI by the number of patents.

Relationship between patent value and business results for LiB binders

The strengthening of the patent portfolio described above can also be clearly seen in LiB binders, one of our key focus areas.

In the LiB field, as anode materials become more advanced, the importance of the binders that support them is also increasing. Our Group has continuously pursued R&D and rights acquisition for LiB binders. As a result, patent quality has improved since 2018. Although patent quality declined due to changes in citation trends from later-filed patents and shifts in patent portfolio composition from 2021 to 2023, it has generally remained stable since 2023.

Trends in patent value and sales for LiB binders



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Although an increase in patent value does not immediately translate into sales, it promotes understanding of our Group's technical capabilities and IP strategy and contributes to expanding opportunities for dialogue and collaboration with customers. Although multiple factors such as market conditions and adoption trends influence sales trends, these IP activities form one of the foundations supporting the expansion of the LiB binder business.

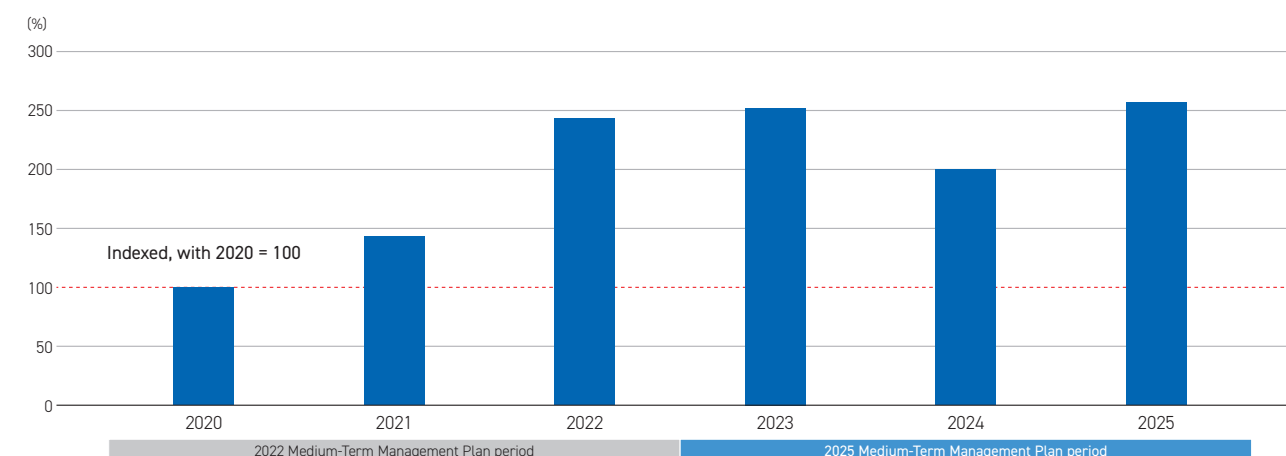
Going forward, we will continue to create high-quality inventions, protect and utilize rights, and enhance business value and corporate value.

Expansion of co-creation with external partners

Our Group is strengthening the foundation of competitive advantage by enhancing our patent value while continuing to promote open innovation that utilizes external knowledge and technologies. In addition to product adoption through collaborative development starting from customer challenges, we are accelerating initiatives from technology exploration to commercialization by leveraging knowledge gained through collaboration with academia and venture companies.

The number of collaborative research and development contracts is on an upward trend, and collaboration with external partners is steadily expanding. "Aron cure," a hemostatic agent, is an example of a product that has been commercialized through these efforts. Going forward, we will continue to explore new businesses through co-creation with external partners.

Trends in the number of collaborative research and development contracts (Indexed, with 2020 = 100)



Human capital development

Our Group is strengthening investment in people while working to create a system that continuously promotes R&D and new business exploration. From the perspective of providing diverse challenges and growth opportunities, we are expanding opportunities for research staff to engage with external knowledge by dispatching them to universities and research institutions, accepting internship students from universities, and making presentations at academic conferences and submitting papers. We are also enhancing our global collaboration capabilities through support for language learning and training programs at overseas research institutions.

Furthermore, by combining IP education with researcher education, we are promoting the development of human capital who can consistently take charge of everything from the creation of research results to the acquisition and utilization of rights. We are strengthening the organization's overall growth capability by developing a support system that leverages the flexible thinking of our young researchers, enabling them to proactively propose and drive research topics while collaborating closely with those around them.



Training utilizing generative AI

Our Group is expanding the information gathering and research education that has been conducted annually mainly by research departments. In recent years, while incorporating the IP landscape approach that provides an overarching view of markets, technologies, and intellectual property, we are expanding training on research and proposal support utilizing generative AI to relevant departments. By utilizing generative AI in researching markets, technologies, and applications, and for drafting proposals aimed at customer acquisition, we are accelerating the initial stages of new business exploration and proposal activities.

We are also sharing specific input methods, description examples, and points to note in order to alleviate concerns about the use of generative AI. All output from generative AI is manually verified and supplemented before use, allowing us to achieve both higher-quality proposals and faster operations.