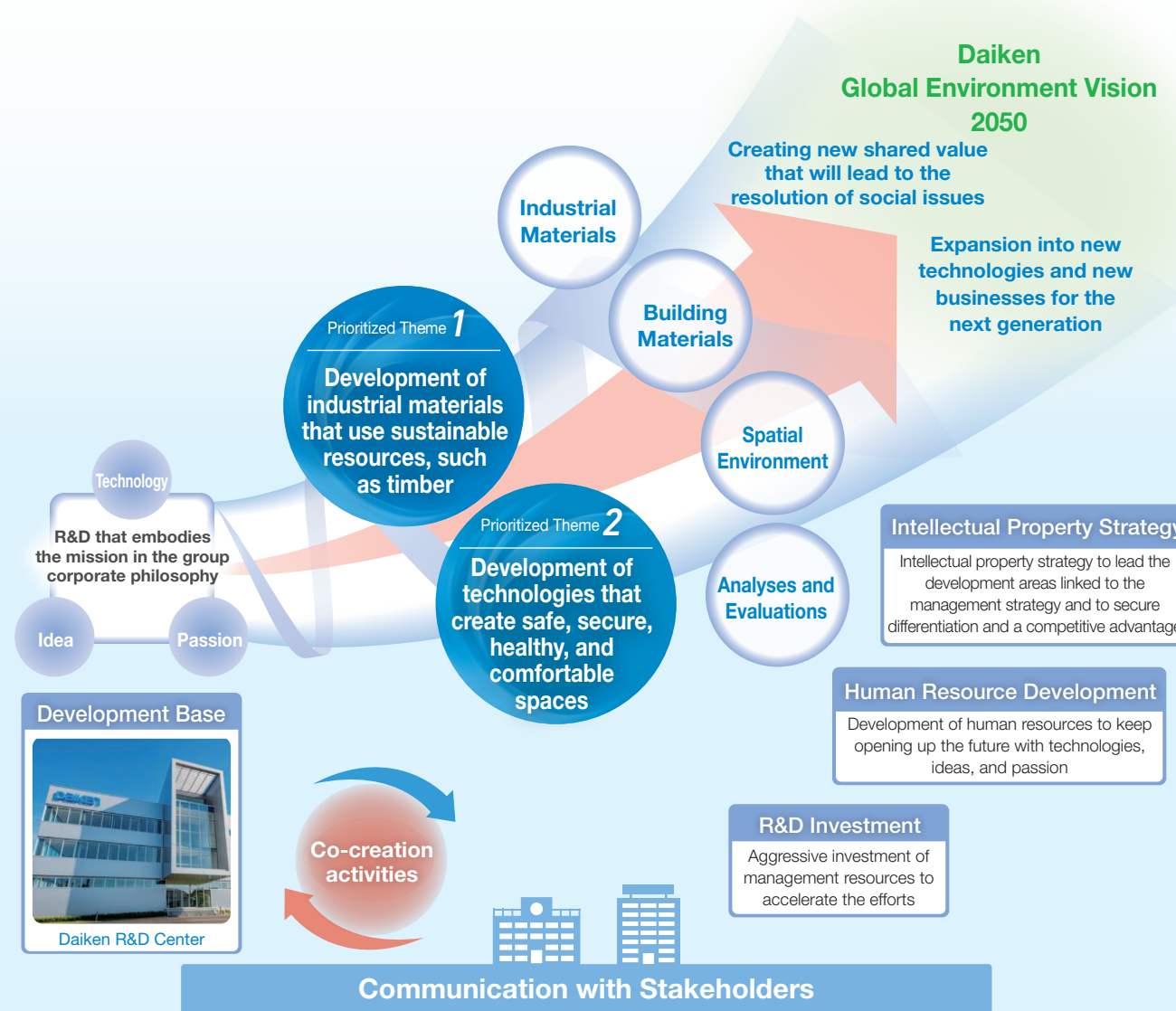


# Research and Development

The Daiken Group has positioned development of industrial materials using sustainable resources, such as timber, and technological development to create safe, secure, healthy, and comfortable spaces centering on the R&D center as the priority themes and has been proceeding with research and development aimed at creating new shared value that will lead to the resolution of social issues and expansion into new technologies and new businesses for the next generation. In addition, to speed up the far-sighted research and development and expand the domains, we proactively put effort into the co-creation activities with various stakeholders.

## Policy

- Development of new technology for the resolution of social issues, business expansion by aggressively using co-creation (open innovation), and the creation of new business toward the new generation
- Nourishment of a culture that admires and supports challenges by creating a mechanism to be able to challenge new business areas



## Development of Technologies

### Prioritized Theme 1

#### Development of industrial materials that use sustainable resources, such as timber

Daiken has been accelerating not only the research and development of industrial and building materials that effectively use timber but also the research and development aimed at challenging a new area without being bound by conventional ideas and the initiatives toward commercialization. Above all, as part of the initiatives for the high-degree application of timber, we have been proceeding with the development of technology to utilize cellulose nanofibers (CNF) that are fibrillated timber at the nano-level under the joint research with a university and collaboration with a company. If we can establish the technology to use CNF that has strength and workability, it will become possible to expand into the domain where plastics, metals, and other materials have been conventionally used. With this, the possibility as a product from a new perspective in the market and area that our group aims to expand into will widen and we will be able to significantly contribute to the realization of a sustainable society.

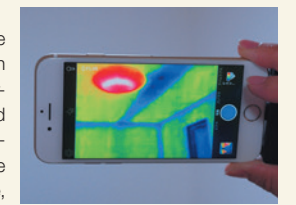


Strength test

### Prioritized Theme 2

#### Development of technologies that create safe, secure, healthy, and comfortable spaces

In addition to the pursuit of the possibilities of industrial materials, we have been proceeding with research and development to give a new function to industrial and building materials. We grasp the spatial environment based on the assay evaluation technology, delve into it from the perspectives of the temperature, humidity, and sound environment that are essential when people spend time comfortably, and at the same time, we conduct assay evaluations toward making responses to harmful substances, such as asbestos and formaldehyde. While further saving of energy in buildings is required toward the realization of a decarbonized society, we also have been focusing on research projects concerning temperature and humidity to simultaneously pursue the comfortableness of livelihood and the reduction of consumption energy by the functions of industrial and building materials. While performance that people require for spatial environment changes with times, by always thinking what performance will be necessary in the future and proceeding with technology development of functional building materials, we will realize the creation of a safe, secure, healthy, and comfortable space.



Thermal image measurement

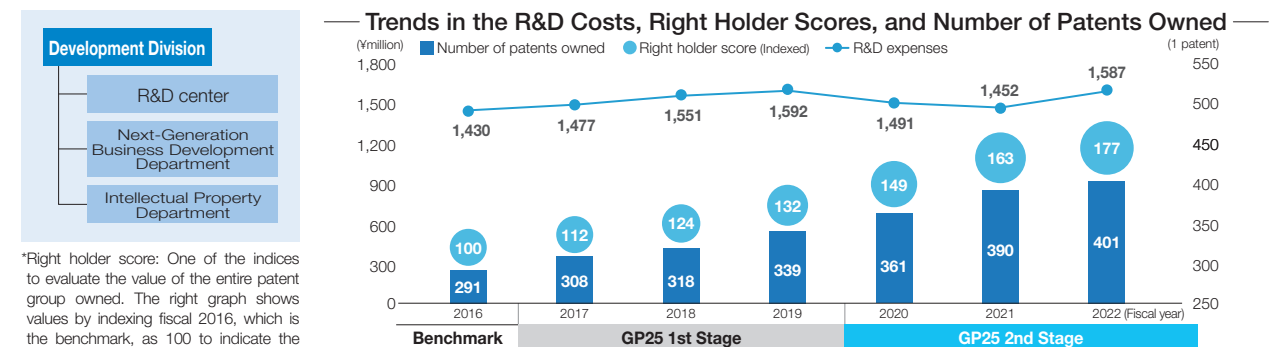
## R&D Theme

The R&D Center works on Ecology and Improvements in the Quality of Space in four sectors and promotes R&D that will contribute to a sustainable society.

<h3>Industrial Materials</h3> <p><b>Further improvement of the existing industrial materials and development of industrial materials that will become a key to capturing new markets</b></p> <ul style="list-style-type: none"> <li>● High functionality of the wooden boards and inorganic boards</li> <li>● Wood building material utilization development in the new field</li> <li>● Technology development to use unused resources</li> <li>● R&amp;D of industrial materials for new markets other than building materials</li> </ul>	<h3>Building Materials</h3> <p><b>Development of new secure and safe building materials that will be needed by society in the future</b></p> <ul style="list-style-type: none"> <li>● Development of environment-conscious building materials</li> <li>● Development of high functional paints and painting technology</li> <li>● Development of new construction technique for building materials</li> <li>● Adding a high value to wood building materials</li> </ul>
<h3>Spatial Environment</h3> <p><b>Development of spaces and building materials that will realize a comfortable life</b></p> <ul style="list-style-type: none"> <li>● Development of energy-saving and indoor environment improvement technologies</li> <li>● Analysis by simulation of the thermal, humidity, and cross-ventilation environment</li> </ul>	<h3>Analyses and Evaluations</h3> <p><b>Various measurements and analyses of spaces and building materials using the expertise cultivated in R&amp;D</b></p> <ul style="list-style-type: none"> <li>● Measurement of air quality</li> <li>● Sound insulation performance evaluation</li> <li>● Building materials' heat generation test</li> <li>● Asbestos analysis</li> </ul>

## Organizational structure toward the enhancement of intellectual property strategies and investment of management resources

In starting the new medium-term management plan GP25 3rd Stage from fiscal 2023, we have newly established the development division toward the acceleration of the initiatives for new businesses, new technology development, and product development. R&D center, which is the core of technology development, and next-generation business development department, which is responsible for crystallization of new businesses toward the next generation are under the division and to increase the linkage with the intellectual property strategies, we departmentalized the intellectual property department and enhanced our organizational structure. To make the research and development capabilities, which are the sources of Daiken Group's strength, robust, we proactively invest management resources and lead to the medium- to long-term corporate value improvement.



\*Right holder score: One of the indices to evaluate the value of the entire patent group owned. The right graph shows values by indexing fiscal 2016, which is the benchmark, as 100 to indicate the changes over the years. Created by using Patent Result Co., Ltd.'s Biz Cruncher.

### Companies and Manufacturers

- Expansion of business domains and creation of joint development themes by technology exchanges
- Matching between the technological seeds and needs

### Universities and Research Institutions

- Joint development and comprehensive partnership

### Customers and Suppliers

- Deepening their understanding of our products and quality
- Enhancement of the relationship of trust

### Students/Recruitment

- Work experience through internships
- Interactions with the generation that will bear the future

### Local Community

- A company that is loved by the local community
- Cooperation with a municipality

### Within the Company

- Enhancement of cooperation, sharing of issues, and discussions of development themes
- Acquisition of a way of thinking necessary for capability development as well as research and development

Creation of new businesses  
Expansion of the existing businesses