Introduction

Sagamihara Innovation Gate Activities

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1 Introduction

Since its foundation, KYB has weathered countless waves of change over the course of its more than 100-year history. However, the company now faces an era of rapid and unprecedented change. Amidst the dizzying shifts in everything including technology, values, and social structures, we must "change" ourselves rather than "preserve" the status quo.

This "change" does not simply mean beginning something new. It also involves intentionally connecting with external sources to encounter the cultures and ideas of other industries, thereby making our thinking flexible and loosening rigid conventions.

As a result, we can develop new ideas and values that broaden our potential for new products and services.

One way to facilitate these changes is "co-creation" beyond the organization's framework. One method of co-creation is open innovation.

This report introduces our open innovation activities and discusses their significance and potential in the rapidly changing era.

2 Involvement in the Sagamihara City Project

2. 1 Project Overview

Sagamihara City, home to our Sagamihara Plant, has a history of economic development through factory recruitment. The city continues to possess distinctive regional characteristics, including advanced technological capabilities and robust industrial foundations. Many manufacturers and R&D bases are concentrated within its borders. Against this backdrop, the city aims to create new industries and build sustainable communities by leveraging its local resources.

Sagamihara City is promoting an innovation creation project that leverages these regional characteristics and capitalizes on the planned construction of the Kanagawa Prefecture Station (tentative name) for the Maglev Chuo Shinkansen, which will be located in front of Hashimoto Station in Midori-ku. The project aims to increase the value of the area surrounding the station and revitalize the local economy. To achieve this, the city is implementing various measures to revitalize local industries and create new value. One such activity is the Sagamihara Innovation Gate (SIG).

SIG is a program that supports companies located in the city in creating new businesses through open innovation with companies both inside and outside the city. Each year, Sagamihara City selects four host companies from those that apply within the city. The city then matches each host company with one partner company recruited from across Japan. The selected host companies collaborate with Sagamihara City for over a year to develop business models and conduct demonstration tests with their partner companies through co-creation. Throughout this process, the city supports them to facilitate co-creation between companies and promote the revitalization of local industries and the creation of new value.

In addition to the SIG initiative, FUN+TECH LABO (pronounced "Fantastic Labo") (Photos 1 and 2) has been established in front of Hashimoto Station as a hub for a wide range of innovation creation activities, including startup support and the promotion of industry-academia collaboration. This facility was established in collaboration between Central Japan Railway Company (JR Central) and Sagamihara City and is operated by JR Central. It is a place where various stakeholders, including companies, research institutes, and local residents, can interact, hold events and workshops, and engage in discussions to gain new ideas and insights.

These initiatives are significant measures to strengthen urban functions and promote the sustainable growth of local industries in anticipation of the opening of the Maglev Chuo Shinkansen.

2. 2 Reasons for Participation

KYB has developed a business model centered on *Monozukuri*, or manufacturing, by leveraging its strengths as a manufacturer. However, as societal and market needs have become more diverse and

sophisticated, our next growth strategy is to create service-oriented businesses that provide experiences and value itself, not just products.

We recognized that our existing internal resources and knowledge were insufficient for advancing such a transformation in many areas, and that encountering new perspectives, technologies, and business models was indispensable for us. It was in this context that we encountered SIG.

The purpose of SIG is to encourage collaboration among regional companies and bring together knowledge from different industries and fields to co-create new value. This matched our aim. Additionally, SIG's support includes the involvement of eiicon Inc., a company with extensive knowledge of open innovation, as the secretariat. This robust, professional support system was a major factor in our decision to participate in SIG.

Furthermore, our participating in SIG has given us the opportunity to attend events hosted by FUN+TECH LABO. We have gained new insights and connections by interacting with various local individuals. These external connections allow us to exchange information and learn about the cultures and values of other companies and industries. These connections are gradually changing our corporate culture and mindset. Through open innovation, an attitude of co-creation beyond our company's boundaries is taking root. We recognize this as an important step in our future transformation.

Photo 1 Exterior of FUN+TECH LABO
(photo courtesy of JR Central)

Photo 2 Discussion at FUN+TECH LABO
(photo courtesy of JR Central)

3 Examples of Open Innovation Activities

3. 1 Sagamihara Innovation Gate 2023

During the 2023 fiscal year, we focused on creating value through open innovation under the theme of "Sumado®," (meaning "smart road"), which was a new service we were developing at the time. Sumado® was designed to help local municipalities develop road repair plans by efficiently identifying deteriorating roads under their control. The service uses a system that attaches our acceleration sensors and data loggers to existing municipal vehicles, such as road patrol cars, to collect vibration data while driving. This data is then used to estimate road surface irregularities and cracks.

This technology leverages our unique strengths. As a shock absorber manufacturer, we have decades of experience studying the relationship between vehicle vibration and road surface condition.

In addition to estimating road surface conditions, we visualized the surrounding environment using a community monitoring service based on drive recorder footage, together with our co-creation partner company via SIG. Through this combined service, we aimed to create more comprehensive value to municipalities' road maintenance operations.

3. 2 Sagamihara Innovation Gate 2024

During the 2024 fiscal year, we developed a new service concept utilizing our proprietary oil condition sensor technology based on the theme of "achieving predictive maintenance of hydraulic equipment." The oil condition sensor measures changes in electrical parameters in response to hydraulic fluid deterioration.

It is estimated that approximately 60% of hydraulic equipment failures are due to hydraulic fluid deterioration. Using the oil condition sensor to measure changes in the condition of the hydraulic fluid enables maintenance operations, including oil replacement, to be performed before a failure occurs.

However, maintaining an entire piece of hydraulic equipment requires measuring not only the condition of the hydraulic fluid, but also electric and mechanical factors.

Through SIG co-creation with a partner company possessing strengths in vibration sensors, image sensors, and AI-based data analysis, we conducted a demonstration test combining vibration sensors. By approaching the detection of mechanical anomaly signs in addition to sensing oil condition, we explored the possibility of comprehensively capturing the state of hydraulic equipment. Photo 3 shows the demonstration test for technical verification. At the Basic Technology R&D Center, we conducted the test using a hydraulic test bench machine and a combination of our oil

condition sensors and the parter company's vibration sensors. We performed fundamental experiments to identify changes in equipment condition based on the properties of the hydraulic fluid.

This activity enabled us to determine a common technical direction for sophisticated predictive maintenance and lay the groundwork for future development.

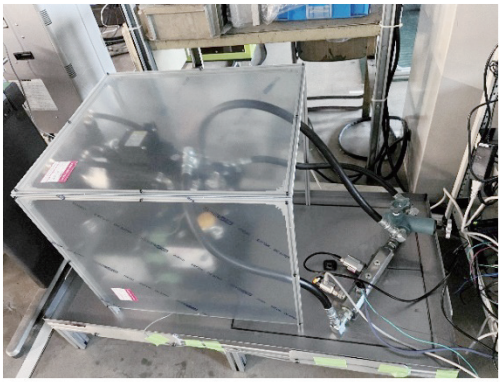

Photo 3 Demonstration test in progress

3. 3 Community Building with SIG Participating Companies

While SIG activities mainly focus on co-creating new business value between our company and our partner companies, they also provide valuable opportunities for host companies in Sagamihara City participating SIG to expand their lateral connections.

Specifically, host companies have held plant tours and technical exchange meetings with each other. Through cross-industry dialogues and information sharing, they share their perspectives and awareness of challenges, gaining new insights and knowledge. These repeated exchanges have steadily deepened mutual understanding and trust, building relationships where companies can easily consult across boundaries.

Companies that participate in SIG come from various industries, including mechanical, chemical, and food. Our Sagami Plant has also invited other host companies and Sagamihara City personnel to tour the manufacturing floor and the KYB Museum. These tours allowed them to deepen their understanding of our business and technologies. They have also steadily increased the population related to open innovation in the region.

Thus, companies with common ground connect through SIG, recognizing each other's strengths and cultivating a foundation for creating innovation throughout the region.

The author refers to this effect over the entire region as the "widespread value" of open innovation. As more companies and organizations within the region understand open innovation, an environment that facilitates innovation naturally develops. Eventually, this will return new opportunities and benefits for our company over time. These opportunities and benefits may be indirect and limited, but they have reliable value. That's why we would like to continue emphasizing these activities and further expanding the circle of community-rooted co-creation.

3. 4 Outreach Classes at Local Elementary Schools

In addition to co-creation with partner companies, we conducted outreach classes at elementary schools in Sagamihara City. Through collaboration with FUN+TECH LABO stated in Section 2.1, we introduced our technologies and products to the students. During these classes, children had the opportunity to physically interact with our products and experience the joy of creation and the potential of technology. To facilitate this experience, we asked the children to draw a picture of their dream future city under the theme of "if you were an inventor, what kind of future city would you create?" This theme was chosen because KYB was founded by an inventor.

The children also participated in brainstorming sessions, working in groups to share ideas about what they want to see in the future city and what would be enjoyable. The brainstorming produced various ideas (Photo 4). These ideas were sorted into product concepts, which the corresponding groups presented. The presentations provided further opportunities to imagine more specific images of the future (Photo 5).

Through this activity, the children expressed their aspirations and dreams in their own words. This gave us an opportunity to rethink the significance and societal value of technology.

We originally launched this activity for a simple reason: the iconic color of FUN+TECH LABO is similar to the KYB *Asobiba* (playground) booth concept we exhibited at the Japan Mobility Show 2023 (Fig. 1). Sometimes things start moving from such a tiny spark. These phenomena can occur precisely because the foundation for creating innovation has been established in the community.

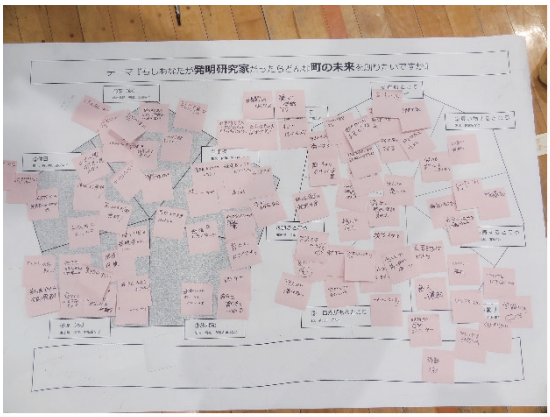

Photo 4 A lot of ideas of children

Photo 5 Examples of product concepts children want to realize in the future

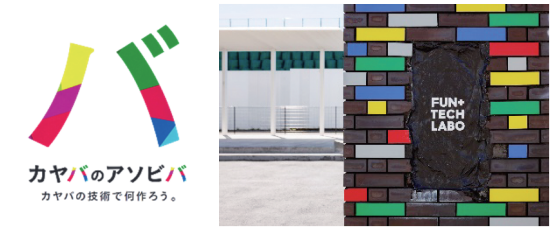

Fig. 1 Color coincidence between two initiatives that triggered collaboration

3. 5 External Outreach of Activities

We also had the opportunity to introduce our company's open innovation initiatives to external individuals.

In May 2025, we presented some of the SIG open innovation activities, as well as the activities described in this report, at TECH HUB YOKOHAMA (Photo 6).

Established in 2024. TECH HUB YOKOHAMA is a base for supporting technology-based startups in Yokohama City. Located in the Minato Mirai district in the city, the facility operates in collaboration with Venture Café Tokyo, the domestic branch of Venture Café, an international community of innovators. It is a place where a number of innovators gather and where regular events are hosted.

On the day of the presentation, we collaborated with host companies participating in SIG. We presented Sagamihara City's widespread open innovation activities to a large audience, raising awareness (Photo 7).

Photo 6 TECH HUB YOKOHAMA

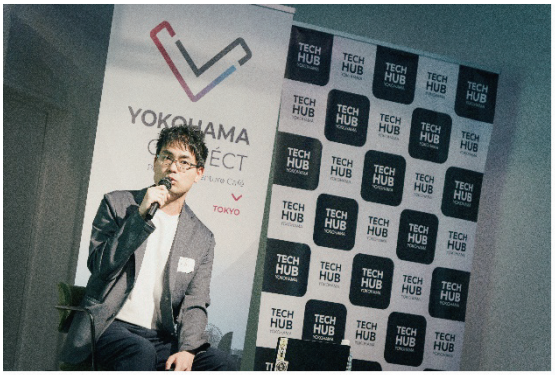

Photo 7 Presentation of open innovation activities

4 Potential of Open Innovation

4. 1 Diverse Value Created by Open Innovation

Open innovation produces new products and businesses through co-creation with partner companies. However, this direct value is not the only benefit of open innovation.

As you know, open innovation involves intentional collaboration with other companies and organizations, which inevitably expands interactions with external entities. As described in Section 3.3, this initiative went beyond simple co-creation between companies to develop a regional human network. This fosters an environment where technology, knowledge, and talent intersect.

Activities such as plant tours and technical exchanges with host companies within the city may seem limited to information sharing. However, these interactions foster an attitude of mutual learning that transcends the corporate boundaries and yield repeated site-based dialogues. These outcomes can eventually raise the level of the technological foundation of the entire region.

Furthermore, our outreach classes in collaboration with elementary schools provide children with opportunities to learn about our company's technology and recognize the presence of creative

companies in their region. In this sense, this activity is significant in developing future regional innovators and could be considered an initiative to enhance our company's presence and encourage talent to return to the region. We believe that the initiative can generate long-term, widespread value.

4. 2 Accelerating Product Development

The term "open innovation" often conveys the idea of "starting with something great within a large framework." Consequently, some people may avoid it for reasons such as "We don't have the resources for that," or "We're too busy."

However, open innovation does not necessarily involve new development on a large scale. Rather, it is also an effective approach for starting small with limited resources. You can launch development projects that you were unable to work on by collaborating with external partner companies to complement areas or resources beyond your reach.

For example, you can start a minimal project by repurposing existing products or technologies, integrating your own resources, and formulating a minimum viable product (MVP). An MVP is the minimum configuration needed to verify user value and technical feasibility.

When a corporate organization establishes such a development framework, its members can address new areas with a lower psychological barrier and work on initiatives more flexibly and promptly.

In this way, development projects that were previously postponed with the excuse of waiting for internal resources can start quickly. Open innovation can also be expected to accelerate development.

5 In Closing

"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change."

This phrase is a modern interpretation of Darwin's theory of evolution and was popularized by management scholar Leon C. Megginson.

Since its establishment in 1919 as the Kayaba Research Center, KYB has introduced numerous products to the world. In 1950, amid the postwar recovery period, the company developed a telescopic shock absorber through co-creation with an automotive manufacturer of the time. This precursor to today's automobile shock absorbers already embodied the spirit of open innovation.

In this rapidly changing modern age, we are returning to our roots and advancing once again as "those who can adapt" through open innovation. It is our challenge to revive the DNA of our founder, who was also an inventor, in the modern age and build a bridge to the future.

Furthermore, we are working to cultivate a culture that facilitates innovation beyond corporate boundaries throughout the region. Through the outreach classes for children and the co-creation with regional companies, we will develop future innovators who will bring pride and vitality to the community. We believe that repeating these initiatives will extensively change society.

Author

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