

Technotalk

Contributing to Social Innovation through Global Creation and Use of Intellectual Property

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Hitachi operates its Social Innovation Business globally, providing safe and secure social infrastructure enhanced by IT. The Social Innovation Business, in which Hitachi collaborates with customers to create new value by understanding and overcoming customers' management challenges and other societal challenges, requires an entirely new strategy for creating and utilizing IP, which is the source of value. In addition to reorganizing at a global level the R&D organization that provides the impetus for its Social Innovation Business, Hitachi is also seeking to globalize the IP management that is essential to utilizing its R&D achievements. Hitachi intends to continue strengthening its customer-driven R&D and IP management, and contributing to social innovation in various parts of the world.

Creating an Organizational Structure with a Stronger Focus on Customer-driven R&D

Watanabe: Hitachi has been pursuing its Social Innovation Business since 2009. Recently, I often hear the term “collaborative creation.” What is Hitachi’s Social Innovation Business based on collaborative creation like?

Kojima: Our Social Innovation Business involves not merely supplying superior equipment and systems, but providing solutions as “One Hitachi” by understanding customers’ challenges and societal challenges and employing the technologies, products and services that Hitachi Group possesses. This Social Innovation Business includes energy, urban development, transportation, healthcare, water and resources, logistics, manufacturing and construction, and finance. All of these sectors are characterized by having various stakeholders with complex interrelationships, and in order to understand the management challenges that customers face, it is crucial to understand from the customer’s point of view what constitutes values for these stakeholders and other parts of society. I believe that, after sharing these values, working together with customers to create the solutions will lead to the growth of customers’ businesses and to the resolution of societal challenges.

Watanabe: So, you are saying that “collaborative creation” not only means collaborating with customers

to create value, but also includes revising organizational strategy and making various divisions within Hitachi Group cooperate with each other?

Kojima: We are working on strengthening group governance by seeking a deeper level of coordination in terms of creating customer value as well as efficiency. To go further, we use the term “collaborative creation” in a sense that includes working together not only with customers and group companies, but also with business partners and other players.

Watanabe: Does that mean a change in the role of research and development (R&D) and the approach you take to it? For example, I imagine it requires R&D teams to have contact with the customer right from the stage where you determine the challenges they are facing.

Kojima: Exactly. In the Research & Development Group where I work, we have a unique organization called the Design Division* where we have developed methodologies and tools for identifying challenges and sharing visions based on design thinking. It is also an important mission for R&D to identify challenges and to understand them along with creating new visions or concepts by utilizing these methodologies and tools in a customer-driven R&D approach. We are devoting our efforts to transforming our processes away from the conventional linear innovation model, which starts with basic research and applies the results of this research to development, design, manufacturing and sales to the new model of treating the customer’s situation as the

* Department name as of March 2015.

starting point and creating solutions together through collaborative creation. To strengthen these activities, we reorganized our global R&D structure on April 1, 2015, establishing a Global Center for Social Innovation in four regions around the world. We will provide the impetus for our Social Innovation Business by, for example, using Tokyo as our headquarters for the Asia-Pacific region with network links to key R&D centers in places like India and Malaysia, and by undertaking R&D work from the perspective of collaborative creation, utilizing design thinking methodologies and tools.

Role of IP Management in Collaborative Creation Business

Watanabe: If customer-driven R&D and collaborative creation are to be undertaken at a global level, does that mean the Intellectual Property Division will be called on to play a different role from what it has played in the past?

Suzuki: That's right. In product business supplying equipment and systems, the main roles of intellectual property (IP) include preventing competitors from entering the market and helping to maintain cost-competitiveness by acquiring license fees. In a collaborative business, on the other hand, the need to encourage partnerships with customers and collaborators requires utilizing IP in ways that have advantages for customers also, rather than in ways solely for Hitachi's benefit.

In collaborative creation business, customers and Hitachi are supposed to produce new solutions as "foreground IP," after the customers and Hitachi contribute their own "background IP" while maintaining a clear demarcation regarding which IP belongs to which partner. In the business, Hitachi utilizes its IP by, for example, attracting customers

with its patents as one of the advantages of engaging in collaborative creation with Hitachi, or using IP as a risk or return sharing tool when entering into a joint research or business contract with a customer.

Because IP management is more complicated in a collaborative creation business involving a large number of players compared with a product business, we need to perceive IP in broader terms than just patent rights. For example, an issue could arise of how to deal with knowledge, invention or ingenuity that requires deliberation whether to apply for patents and publish them as IP. Because these things also relate to business strategy, I expect the scope of activities will expand in the future beyond what has been thought of as IP in the past.

Watanabe: Certainly, it is important in collaborative creation businesses to adopt an open and closed strategy that includes sharing some IP with partners to encourage collaboration while also securing the source of your own competitiveness. Furthermore, it will be important to share "Intellectual Assets" that go beyond the scope of IP itself by, for example, sharing concepts and visions with partners and formulating rules and practices for allocating the business risk and return.

Suzuki: As you say, the appropriate management of know-how for which no patent application has been made, especially the customer's know-how, is particularly important in a collaborative creation business. In the case of a collaborative creation business involving big data analytics, how to handle raw data belonging to customers, the processed data, and the solutions created from it are potential issues that need to be considered.

IP contracts must follow rules for allocating risk and return based on concepts and visions shared with partners. To support collaborative creation businesses, the Intellectual Property Division intends



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Joined Hitachi, Ltd. in 1982, with roles that have included General Manager of the Central Research Laboratory and Hitachi Research Laboratory prior to his current appointment in 2014. Dr. Kojima is a member of The Institute of Electronics, Information and Communication Engineers (IEICE) and the Information Processing Society of Japan (IPSI).

to foster human resources with the capabilities needed to act as IP project managers able to understand the business environment and strategies and offer a one-stop service for the required IP support.

Establishing an R&D Organization Able to Deal with All Aspects of Innovation

Watanabe: The open and closed strategy also relates to the idea of open innovation. After reorganizing your R&D structure at a global level, what are your views regarding R&D strategies for collaborative creation and open innovation?

Kojima: The new Global Center for Social Innovation is required not only to understand and deal with both the manifest and latent needs of customers, but also to cut through accepted practices that are taken for granted, and work together with customers to achieve open innovation. Achieving this mission requires providing appropriate technical solutions to our various regional R&D organizations around the world. Because our businesses cover such a broad scope, we have diverse technical resources. To encourage the use of these capabilities and possibilities, we want to make them visible both inside and outside the company in the form of technical foundations and platforms. We are also rearranging our entire R&D operation from the following three starting points. The first is the customer-driven approach we have spoken of already. The second is to be “technology-driven,” which means treating technological innovation as a starting point. The third is to be “vision-driven,” meaning that we take inspiration from our vision of the future. These three elements are essential to our Social Innovation Business, which involves working with customers on the collaborative creation of value

so that we can bring innovations to society.

Watanabe: This means extending the scope of R&D compared to the past to become an organization that deals with all aspects of innovation. What will be the role of IP in such an organization?

Suzuki: While there remain some areas where we are still finding our way, IP staff have embarked on knowledge-accumulating activities by working in collaborative creation business projects, identifying the issues and other areas in need of further study from an IP perspective through initiatives that include participating in meetings and other discussions with researchers, operational departments, customers, and others. We are also working to share our own knowledge with researchers and staff who deal directly with customers at operational departments in order to increase their IP and contract literacy.

Inclusion of IP Management in Globalization

Watanabe: So both broadening the footprint of IP and ingraining it at a strategic level are essential to the further expansion of the Social Innovation Business.

Suzuki: To achieve this, it will be necessary to change the mindset of the Intellectual Property Division. My personal view is that the Intellectual Property Division needs to play an IP consulting role, and not just be an in-house patent law firm. In addition to our skills related to patents, business literacy will also be essential for collaborative creation businesses. One such activity is our involvement at the frontlines of collaborative creation businesses that I have already mentioned. We are going to undertake more comprehensive activities with an organization established within the Intellectual Property Division



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Joined Hitachi, Ltd. in 1978, with roles that have included General Manager of IP Business Development Division, Intellectual Property Group, Vice President Intellectual Property at Hitachi Global Storage Technologies, Inc. (now HGST, Inc.), and Deputy General Manager, Intellectual Property Group prior to his current appointment in 2011.

that correspond to R&D's Global Center for Social Innovation.

Kojima: Given that competitive technologies and other know-how are the driving forces behind corporate growth, this current era in which we need to win out over intense global competition requires the full integration of R&D strategy, IP strategy, and management strategy. In order to work globally on collaborative creation activities with customers, we need to tie these three strategies more closely together, including not just a vision, but also such things as human resource development and the form of the organization.

Suzuki: While people have spoken about the importance of the integration of R&D strategy, IP strategy, and management strategy, there is a need to transform the progressive and consecutive relationship that these have had in the past into an organic overlay.

Watanabe: While I believe that achieving this requires a company-wide and global re-evaluation of the resource integration process, what are your views on dealing with globalization under an open and closed strategy?

Kojima: Because "local production for local consumption" is an important aspect of both our Social Innovation Business and collaborative creation businesses, a global regional strategy is very important. Increasing local autonomy (including augmenting R&D centers) to enable faster decision-making is essential. On the other hand, as we discussed earlier, it is also necessary to establish platforms for utilizing common Hitachi assets. For both R&D and IP, the challenge for the future is to create a well-balanced design that combines local autonomy and platforms.

Suzuki: IP management also needs to move away from the export model of the past of obtaining overseas patents that originate from R&D resources in Japan. However, this raises the problem that, if resources are scattered, we cannot make effective use of them at a global level. In the future, we also intend to focus on training and recruiting international staff who can support making optimal use of IP at collaborative creation businesses.

Watanabe: I can see the need for a paradigm shift in IP management as in other areas, and also globalization, so that Hitachi can make progress on its global collaborative creation activities with customers. I look forward to seeing Hitachi's extensive

IP contribute to society in different parts of the world through your Social Innovation Business.