

Strengthening the relationship between Intellectual Capital and Social Capital based on Yokogawa's Vision



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To make investments that will ensure sustainable growth, one must not only consider risk and return, but also impact. And to this end, it is vitally important to strengthen not only tangible assets, but also all intangible assets that have an impact on our business activities, and publicly disclose information on these assets. It is important to have a strong and sophisticated strategy for intellectual property as it is a key intangible asset, and toward this end one must consider the IP landscape, open vs. closed strategies, IP portfolio management, and IP organizational design. Moreover, consideration must be given to defense, offense, and co-creation. "Defense" is the protection of a business by establishing the own IP rights. "Offense" is the enhancement of corporate value through the acquisition and utilization of intellectual property based on an intellectual property portfolio management strategy. "Co-creation" refers to any jointly executed value creation activity undertaken for the purpose of creating shared value. At Yokogawa, we are looking ten years down the road as we take the initiative to solve problems faced by society and thus achieve our vision for a future in which individual industries and societies will function autonomously, but collaborate with each other and have a symbiotic relationship.

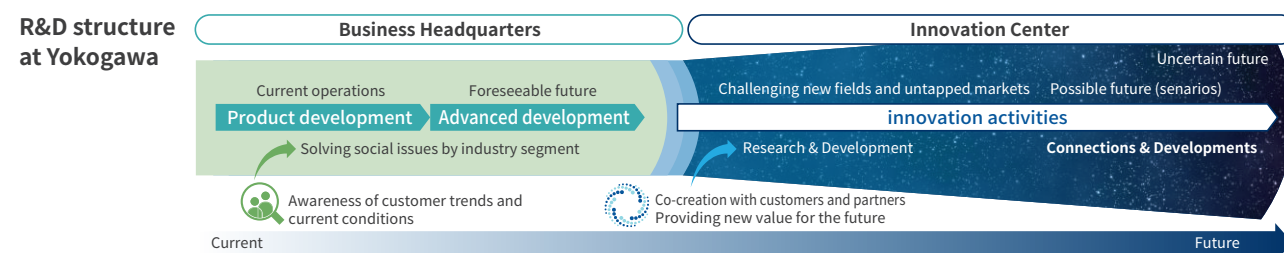
The system of systems (SoS) concept and our "Co-innovating tomorrow" corporate brand slogan are our starting points for the strengthening of collaboration with internal and external stakeholders. We believe that active and concerted action by all stakeholders, including other companies, members of the local community, and employees will help to make society more efficient. While acknowledging the importance of the trust, norms, and human networks that are the fabric of society, we will emphasize autonomy and symbiosis as we target the sustained creation of value and seek to present solutions to social issues.

Intellectual Capital Innovation (Research & Development)

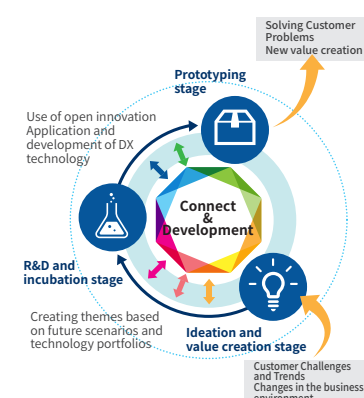
Yokogawa's research & development (R&D) includes product development and advanced development activities that resolve issues quickly in each industry segment based on customer trends and an awareness of the current situation. It also includes innovation activities whose goal is to quickly provide new value while looking ahead to the future through co-creation with customers and partners. The business headquarters is mainly responsible for the former, while the latter is primarily the task of the Innovation Center.

The mission of the Innovation Center is twofold:

1. Contribute to customers' value creation (co-creation) through the interconnection of internal and external organizations, including customers' organizations.
2. Devise innovative scenarios and incorporate them in research and development activities to nurture future businesses.



Connect & Development



Through its innovation activities, Yokogawa is creating sustainable value for customers based on a broader perspective and a deeper understanding of customer issues. The innovation creation process consists of the three stages shown on the left. In the ideation and value creation stage, future scenarios are developed from the challenges faced by customers, customer trends, and changes in the business environment. These scenarios are then incorporated into R&D themes.

In the R&D and incubation stage, we will leverage open innovation, intellectual property, and technology marketing to build concrete services and product images, and verify the value and feasibility of research themes. We will also apply DX technology to create new value.

In the prototyping stage, we listen to customers, returning to them many times throughout the PoC process to quickly and efficiently improve the completeness of the solution and create new value. These three stages of our innovation activities enable us to identify and resolve customer issues.

Yokogawa's R&D Strategy

The basic concept of Yokogawa's R&D activities is how to produce and utilize materials with specific functions, and how to develop and provide effective means for those functions.

The Innovation Center conducts R&D activities on three themes. Energy & Sustainability Innovation will contribute to the process automation industry by deepening and enhancing industry automation, which has been our core business.

Life Innovation and Material Innovation will not be an extension of Yokogawa's existing business, but a new field where we will take on new challenges.



Open Innovation Activities

Yokogawa is vigorously promoting open innovation, the use of external ideas and resources (e.g., advanced technologies, expertise, human resources), and collaboration with other parties for innovation. We are aiming to maximize the value provided to our customers by collaborating with other organizations. To search for the most suitable collaborative partner, we are working on collaboration with domestic and overseas universities and research institutes and utilization of a venture company introduction service. We are greatly expanding opportunities to promote co-innovation with external organizations, acquire cutting-edge technologies and the latest information at an early stage, and connect this to the creation of new business development. In addition, these open innovation activities, as well as the company-wide system and intellectual property activities that support them, received a high rating, and we won the 2023 Intellectual Property Achievement Award from the Commissioner of the Patent Office. Going forward, in addition to transforming existing businesses through digital transformation, we will focus on developing new markets through open innovation in the biotechnology, life sciences, water, ocean, and space fields.

International Standardization Activities

International standardization activities have a significant meaning in business strategy as one of the activities to ensure competitive advantage for a company through rule-making. Furthermore, they are also an important element of R&D strategy, as they determine whether the technology that is being invested will be accepted in the market.

In collaboration with its R&D and intellectual property strategies, Yokogawa is actively engaged in international standardization activities in various fields and is a member of many international standardization organizations, including IEC and ISO. Yokogawa prioritizes the enhancement of value for its customers and focuses on international standards that establish requirements for interoperability in telecommunication technologies and software. The Company's policy is to disclose its intellectual property if necessary or license it through licensing agreements.

Intellectual Property

In the intellectual property department, we have formulated and implemented new intellectual property strategies in light of the business environment that is undergoing major changes as IT/OT convergence advances. The intellectual property department is located in the marketing headquarters, with a system that allows alignment with each department such as R&D, brand, design, M&A, and alliances.

■ Formulation and execution of IP strategy

Acquisition of intellectual property by the company

Given that companies in the non-IA industry may become competitors, we put our focus on the creation and acquisition of rights for inventions in the IT/OT field based on our strategy on intellectual property portfolio management. To establish rights in the technical fields, we are proceeding with IP acquisition with a view to "aggressive" and while also eyeing to promote co-creation.

Acquisition of intellectual property from third parties

In order to create a more competitive business and create shared value, including co-creation goals, we are developing new business through M&A and open innovation, and are working to acquire intellectual property. We standardize IP due diligence and PMI operations for M&A and investment, and promote effective and efficient risk assessment and IP acquisition.

■ Building a system to strengthen intellectual property activities

Intellectual property DX conversion

We have introduced a new intellectual property management system (Anaqua), and are working to collaborate with external resources (patent law firms, etc.) in and outside Japan. By distributing Anaqua in our business divisions, we are strengthening our system for prompt and appropriate management.

Clarification of decision-making body

It has been announced that the IP department will make decisions independently regarding the handling of company's intellectual property. Expediting decisions on the prosecution and abandonment of rights, it has become possible to strengthen our intellectual property portfolio based on information from a variety of areas, such as market and business, in addition to existing information.

Intellectual Property Achievement Award

Yokogawa received the 2023 Intellectual Property Achievement Award from the Commissioner of the Japan Patent Office. The key points of the award were: 1) open innovation initiatives, 2) technology development in collaboration with approximately 180 institutions, and 3) promotion of bioeconomy-related business in collaboration with start-up companies and research institutes. Yokogawa promotes initiatives for co-creation that make effective use of the intellectual property system and leads the realization of a sustainable society.



From left: Mr. Tsuyoshi Abe, Senior Vice President, Yokogawa Electric Corporation; Mr. Koichi Hamano, Commissioner of the Japan Patent Office; Hitoshi Nara, President, Yokogawa Electric Corporation; and Yokogawa members