Innovation Exploring Initiative HQ (IXI)

Rising to the Challenge of Creating a Better Society through Innovation

Results during VG2020 Period

The Innovation Exploring Initiative HQ (IXI) is an organization established in 2018 to anticipate new rapidly emerging social issues, including the trajectory of the ongoing technological evolution as well as social needs likely to emerge in the near future, and to be a source of new businesses corresponding to the opportunities and challenges inherent in these developments. In the four years since its establishment, we have achieved not only the visible result of an enriched and substantial portfolio of themes with new business viability, but also a solid foundation (organization, processes, human resources) for sustainably generating and executing high-potential projects.

Executive Officer
Senior General Manager,
Innovation Exploring Initiative HQ

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Enrichment of Portfolio of Themes Steadily Creating New Avenues for Business Growth
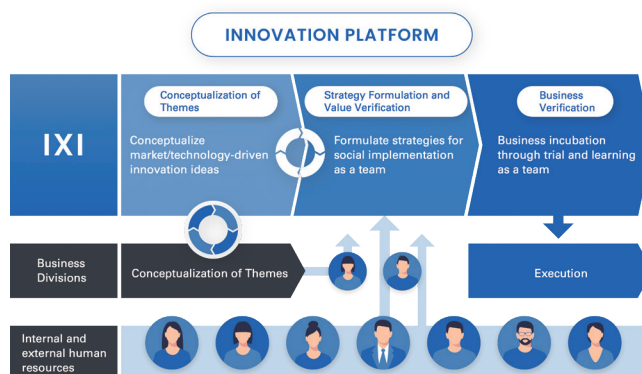
Over the past four years, more than 30 exciting themes have been conceptualized and verified. Currently, three themes, namely "agri-automation business," "elderly care business," and "on-site data utilization support business," have already advanced to the business validation (trial launch) phase, followed closely by several themes in the customer value verification (proof of concept) phase.

Continually Evolving Organization Attracting Enterprising People

IXI aims to become an organization where enterprising people from inside and outside the company aspiring to create innovation driven by social needs with their energy and talent inspire one another to keep solving social issues through business. Organizationally, "OMRON's group-wide innovation platform" is key to the success of this approach. In line with the establishment of a personnel system for IXI, including open recruiting and voluntary application for transfer to IXI and project-based open recruiting so that personnel participate in projects while holding concurrent positions at other organizations, IXI attracts many people from both OMRON's business divisions and head office divisions. Moreover, many people from outside OMRON who share IXI's vision are participating too. We have thus laid the organizational foundation of IXI, which consists of about 100 people with diverse skills and values who are eager to demonstrate their respective strengths and maximize results in a collaborative endeavor.
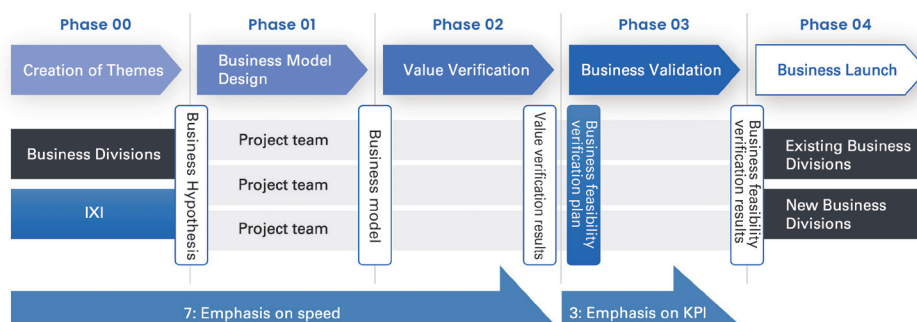

Establishing a New Business Creation Process with High Reproducibility

A major impediment to the creation of new business is the difficulty in selecting the right theme. And even once the theme has been decided, it is unclear who is to have the responsibility and authority, and to what

extent, and how to judge the right time to launch the business. Thus, it is difficult to determine the criteria for investment, or in other words to determine which themes should be pursued and which should be canceled, leading to a much slower pace of business creation and declining investment efficiency.

It is crucially important that senior executives, managers, and frontline personnel have a shared recognition of the actual difficulties and are able to discuss issues using a common language. Mindful of this, IXI focused on establishing a highly reproducible new business creation process through iterative "trial and learning" applicable to multiple business themes. The "7:3 Principle," an approach to business creation conceived by OMRON founder Kazuma Tateishi is the linchpin of this process. Essentially, Tateishi's idea is that "if there is a 70% chance of success, be bold and give it your best shot, but at the same time always think about how to deal with the remaining 30% risk." The process emphasizes both "speedy on-site execution" and "investment and risk-control in management." In the phase corresponding to "7," speed, notably the avoidance of devoting excessive time and investment in identifying possibilities, is emphasized. IXI proposes a new business domain it aims to create, formulates a hypothesis, and sets a theme, and carries out testing of the business model hypothesis and verification of customer value. If the results of the verification indicate a certain degree of probability, then in the phase corresponding to "3," decisive investment will be made in the carefully examined possibility to grow the business while controlling risk.

IXI's business creation process is eminently practical. It has become the common language in which senior executives, managers, and on-site personnel tackle the issues. It is a powerful tool.

▌Development of Human Resources to Drive Business Creation and Group-wide Innovation

IXI emphasizes "business creation as a team," with the team consisting of diverse people with diverse strengths. This is because as the business creation stage progresses from "conceptualization," and

"hypothesis testing" to "business validation," diverse capabilities and skills are required. With these diverse human resources, our focus is on developing "architects" who repeatedly test hypotheses, identify intrinsic value for customers, and shape a business model. In four years, more than 60 "architects" have refined their skills through promotion and execution of themes and devoted themselves to new business creation. IXI has become a pool of talented people capable of driving innovation. Today, several people who used to work for IXI are engaged in various businesses of the OMRON Group where they are leading innovation.
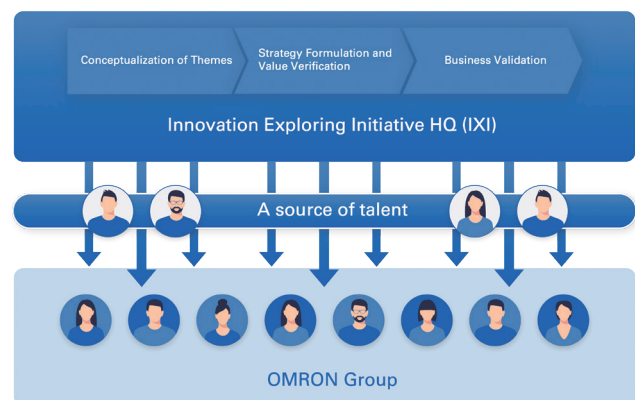
Further Evolution under SF2030: Maximizing Abilities to Create Innovation Driven by Social Needs

During the period of VG2.0, we have established a firm foundation (organization, processes, human resources) for continuously creating new businesses and sustainably generating and executing exciting themes. Under SF2030, we are committed to further strengthening this foundation as non-financial value of OMRON, and at the same time, creating multiple profit-making businesses to contribute to the next stage of OMRON's growth.

IXI will tackle five new business fields under SF2030, namely, "data-driven healthcare," "automation for food production," "support for achieving carbon neutrality of manufacturing industry," "support for DX of manufacturing sites," and "decent work." These all contribute to resolution of the three social issues addressed by OMRON under SF2030: "achievement of carbon neutrality," "realization of a digital society," and "extension of healthy life expectancy." IXI refers to the overview of business opportunities of each new business field as the "business architecture" and maps business hypotheses for each field onto it. The above-mentioned "agri-automation business," "elderly care business," and "on-site data utilization support business" currently in the businessfeasibility verification (trial launch) phase are themes corresponding to the business architecture of "automation for food industry," "data-driven healthcare," and "support for DX of manufacturing sites," respectively. As well as aiming to develop these three business themes into profitable businesses at an early stage, we will also verify other business opportunities mapped onto each business architecture as alternatives and will create groups of businesses of appropriate scale in each of the five new business fields. The nine years covered by SF2030 will be a period of rapid change towards an autonomous society that OMRON envisages. A society in which both economic growth and harmony between the global environment and social structure and will be propelled by cooperation and collaborative creation with many enterprises and stakeholders. We will share what IXI has learned and the organizational ability it has cultivated so far not only inside the OMRON Group but also with parties outside the OMRON Group to create innovation driven by social needs.

How IXI Will Rise to the Challenge of Achieving a Better Society

With respect to the three social issues to be addressed by OMRON under SF2030, namely, "achievement of carbon neutrality," "realization of a digital society," and "extension of healthy life expectancy," IXI will tackle five new business fields: "data-driven healthcare," "automation of food production," "support for achieving carbon neutrality of manufacturing industry," "support for DX of manufacturing sites," and "decent work." While deepening and expanding the commercialization themes in these five fields, IXI will continue to enrich and review its portfolio of themes.

● Data-driven Healthcare

In the healthcare field, "extension of healthy life expectancy" and "realization of a sustainable healthcare system" are two goals universally desired. As society becomes more mature, the issues they involve become more pressing and yet the difficulty of achieving both goals simultaneously becomes starkly apparent. In a healthcare ecosystem consisting of various medical and healthcare data, we are accumulating vital data of consumers and patients in their everyday lives. We will combine these data with the medical and healthcare data, such as health insurance claims and health check-up data, which OMRON does not possess, to provide preventive solutions for chronic illness and for worsening conditions so as to achieve value through data-driven healthcare.

(Case of Business Validation)

In collaboration with local governments, the Elderly Care Business Department is promoting business validation of elderly care solutions to offer new value empowering caregivers on the front line and helping the elderly stay healthy and active, thus reducing the need for long-term care. OMRON concluded a partnership agreement with Oita Prefecture in 2020. The demonstration projects, which started in four cities and towns, have expanded to cover 12 cities and towns. Moreover, OMRON started a joint research project with Komatsu City, Ishikawa Prefecture in October 2021, and concluded a business partnership agreement with Osaka Prefecture in April 2022.
We aim to achieve social implementation of our solutions for "extension of healthy life expectancy" in collaboration with local governments that are confronting various issues.

● Automation for Food Industry

As people become more affluent, greater food safety and security as well as better taste become more important values for them. Producers of agricultural products, livestock, etc., strive daily to meet these consumer needs for food. However, since food production depends on experience and it takes time to become an expert, and since the price paid for high-value-added products is not adequately distributed to the producers, people working in primary industry are leaving for other industries, resulting in labor shortages. This is a social issue that poses a threat to the sustainability of food production.
We will provide food production with "digital solutions" utilizing automation and data. By increasing the "production" and "management" capabilities of producers, we will transform the production of food into a "profitable" industry creating high added value and contribute to its sustainability.

(Case of Business Validation)

First, the Agri-automation Business Division is offering agricultural cultivation support solutions in the Chinese market. These solutions enable unskilled farmers and farm laborers to achieve agricultural production comparable to that of skilled farmers, focusing on fruit and vegetable crops such as mini-tomatoes and strawberries in organic and low-agrochemical cultivation that requires agricultural technology and is difficult for the unskilled.
Currently, many projects are in progress with several Chinese partner enterprises.

● **Support for Achieving Carbon Neutrality of Manufacturing Industry**

As a principal climate change countermeasure, "achieving carbon neutrality by 2050" has become a pressing societal goal. Given this context, it is crucially important that companies fulfill their social responsibilities. Manufacturing industry is urged to achieve carbon neutrality by overcoming issues, such as insufficient renewable energy, sharply rising prices, and the cost burden associated with the introduction of a carbon tax, while continuing the pursuit of higher quality and further productivity improvement. To achieve carbon neutrality, not only is management's strong commitment essential, but also the establishment of an environment where on-site workers autonomously and continuously work toward achievement of the goal. We intend to provide comprehensive solutions to the complex set of issues faced by manufacturing industry. This will involve supporting companies' autonomous and ongoing efforts to achieve carbon neutrality by leveraging our field knowledge cultivated in the Industrial Automation Business and the energy control technology cultivated in the Energy Solutions Business. We are currently creating core themes capable of capturing diverse needs.

● **Support for DX of Manufacturing Sites**

Many companies are investing in DX of "management." However, not only DX of "management," but also DX of "on-site" will be essential to increase organizational productivity and maximize business output. DX of "workplaces" entails workplace innovation that identifies the powerful triggers for improvement that exist within daily on-site activities by utilizing data and applies those triggers in value creation. On the basis of the vast amount of on-site data, the involvement of all on-site workers in innovation will lead to DX of "management."

We provide solutions for DX of "workplaces" as well as a mechanism linking "workplaces" and "management." We support workplace innovation so that everyone at workplaces can easily utilize data, turn data into value, and become a source of innovation.

(Case of Business Validation)

The Sensing Data Trading Market (SDTM) Business Department is carrying out business validation of on-site data utilization support solutions focusing on customers in manufacturing industry. With a view to the future data trading society, we are providing solutions that enable utilization of on-site data, such as data linkage between specific companies and data distribution among numerous unspecified stakeholders. We currently provide services to customers in a broad range of manufacturing industry, including automotive parts, machinery and electrical products, electronic components and devices, materials and processed materials, semiconductor-related equipment, food, cosmetics, and consumer goods. We are challenging to further expand our services.

● **Decent Work**

Decent work refers to "dignity, equality, a fair income and safe working conditions."

As people's values become more diverse along with increasing affluence, they desire more high-quality products to satisfy individual needs. At the same time, many workplaces where these products are made continue to operate on a labor-intensive model, reliant on low-wage workers. Hence, employment-related social issues, such as human rights issues in the supply chain and economic inequality, have come to the fore. If workers are able to tap their own potential and act autonomously, they will be recognized as more than labor; but they will be creators of added value.

We will empower manufacturing workplaces with new capabilities through automation, liberating business enterprises and their workers from the labor-intensive model, thereby contributing to the creation of decent work.

(Example of Collaborative Creation)

We are currently focused on "sewing automation." We are targeting value creation at manufacturing sites for automotive-related products, such as car seats, air bags, and seat belts, as well as for apparel such sports shoes. During this process, we are carrying out technology and customer value verification. In January 2022, we started joint development of production automation prototype with MATSUYA R&D Corporation to mitigate the effect of labor shortages. We are rising to the challenges of resolving labor shortages and providing decent work for everyone regardless of age or gender.