Initiatives for Creating New Businesses

Smart Stream Business

Nobuyuki Sema
Executive Officer
In charge of Smart Stream Business

My Purpose

"To open a door to a world we have never seen before, for those important to us and to pass on to the next generation."

Solutions for addressing issues in the power market

Currently, with increasing demand for replacement of large numbers of power equipment and cables installed during Japan's period of rapid economic growth, as well as the increase in equipment for renewable energy promotion, three issues are coming to the forefront: skill transfer, operational efficiency, and safety.

Therefore, we have introduced "SICONEX," a lightweight and compact connector for power cables that realizes significant shortening of work periods and easy installation. Furthermore, facing difficulties in securing construction personnel, we launched "SICOPLUS" in 2021, which incorporates a training program for SICONEX connection work, realizing open access to connection work techniques and addressing both project demand and workforce retention.

Additionally, in the Smart Stream Business launched in 2023, we aim to solve the three challenges in the electricity market—skill transfer, operational efficiency, and safety—by utilizing digital tools, shifting from conventional manufacturing to solutions using digital tools.

Progress in FY2024

● Deployment of AVR / ADItor / ADTPS for skill transfer

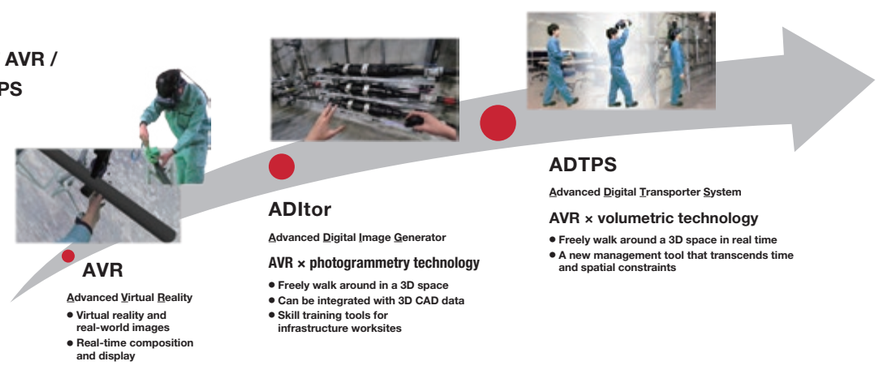
Because video can convey overwhelmingly more information than text, it is an extremely effective tool for skill acquisition. With recent technology, if a learning environment can be provided in virtual spaces that closely simulate real-world experiences, its effectiveness will be further enhanced. Therefore, in April 2024, we merged with ACW-DEEP Inc., a company possessing technology related to AVR (Advanced Virtual Reality), and have developed effective video solutions for skill acquisition. We have a proprietary AVR system that allows real-time compositing and display of real-world data captured with RGB-D cameras and VR (Virtual Reality) space.

We have developed ADItor (Advanced Digital Image Generator), which combines AVR and photogrammetry technology that generates high-resolution 3D images from multiple images. By realistically reproducing worksites, such as underground manholes or inside substations where entry is normally prohibited, and enabling confirmation from any position or perspective, we are able to realize digital tools effective for skill transfer.

Further, we have developed ADTPS (Advanced Digital Transporter System), which combines AVR with volumetric technology that generates 3D images with human and object movements from video data. Volumetric technology, which is already in practical use for video productions such as sports events, is a large-scale system that combines tens to hundreds of cameras with data processing equipment to synthesize massive amounts of video data. In contrast, our ADTPS constructs 3D spaces using as few as three RGB-D cameras and combines them with real-world space via AVR technology. With a communications environment, it enables users to be virtually transported in real-time to remote spaces, like a "door to anywhere."

These AVR systems are not just for skill transfer; keeping in view the potential for business reforms that transcend temporal and geographical constraints, we will continue to pursue further advancements.

Expansion of AVR / ADItor / ADTPS



● Traceability management of onsite operations through remote support

"SICOREMO" is a system that enables real-time remote support via wearable cameras and a dedicated smartphone application. Even workers with little experience can proceed with on-site tasks under the guidance of skilled engineers, enabling increased accuracy and swiftness in decision-making. Furthermore, since the construction status can be recorded as video, it is possible to shift from management by reports to management by video, enabling more accurate and reliable traceability.

● Application of disaster prediction AI for health and safety activities

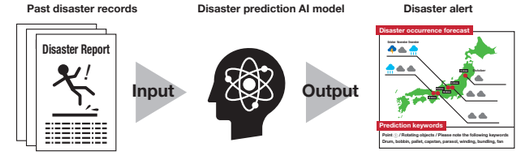
Health and safety activities aimed at eradicating industrial accidents are issues that face every company. To address this, various initiatives such as daily TBM-RKY, safety patrols, and safety education are being implemented with the aim of preventing recurrence.

However, these activities are conducted from the perspective of stopping incidents that have already occurred. In addition to conventional health and safety activities, our company proposes new safety activities based on proactive hazard alerts utilizing disaster prediction AI.

The disaster prediction AI system uses historical disaster reports as training data, and the AI analyzes work content and environment, outputting work with a high risk of occupational accidents. This enables objective hazard alerts that are not influenced by human subjectivity.

In FY2024, we conducted joint verification with Tohoku Electric Power Network Co., Inc. and Hokuriku Electric Power Transmission & Distribution Company, using this AI prediction technology. We will continue to expand data input and enhance prediction accuracy, contributing to the eradication of industrial accidents as a system that raises safety awareness at worksites.

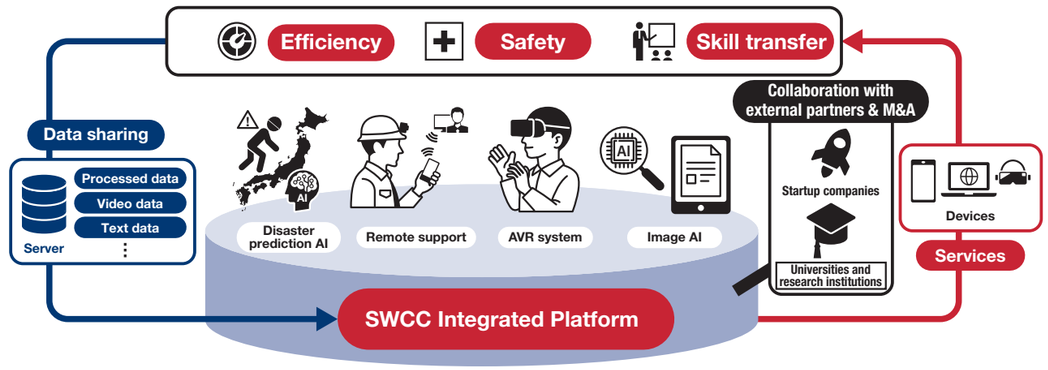
Concept of disaster prediction AI model



2025 Business Developments and Vision for 2030

In FY2025, we will build the "SWCC Integrated Platform," a platform-type service that enables these individual services to be linked together and utilized in an integrated manner. In addition, we will introduce new digital tools such as image recognition AI and electronic forms, and expand into new market areas such as healthcare and education, aiming for it to become a new pillar of the SWCC Group's business by 2030.

Concept of the SWCC Integrated Platform



Organizations that create new businesses

The Smart Stream Business Promotion Office consolidates functions such as planning, public relations, and development, creating a system that can promptly and flexibly reflect customer feedback and market trends throughout the entire organization.

Furthermore, by collaborating with startup companies and research institutions such as universities to constantly adopt cutting-edge knowledge, as well as supplementing insufficient resources through partnerships with external companies and M&A, we will flexibly expand our business.

"Innovating new ideas today. Becoming the norms of tomorrow." We hope you look forward to the future development of the Smart Stream Business.

Tatsuro Sano
Head of Smart Stream Business Promotion Office

My Purpose

"To be someone who believes in the strengths of colleagues, brings them out, and leads them to successful experiences."

Initiatives for Creating New Businesses

DX Promotion Strategy to Maximize Digital Value

Hengwei Shen
SWCC Corporation
Executive Officer
Head of the Digital Innovation Promotion Office

My Purpose

"Continuously shaping the ordinary through the power of digital technology"

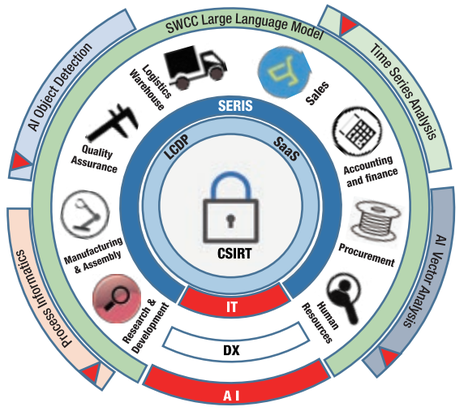
Maximizing Digital Value

Based on the SWCC Purpose, I am convinced that DX promotion is the optimal means to achieve transformation efficiently and at low cost. This presentation will introduce our DX strategy and concrete initiatives, focusing on the use of low-code development tools and generative AI.

Overall picture of the digital strategy and promotion structure

Our digital strategy is based on the fundamental policy of "maximizing digital value," and consists of three layers: IT system construction, promotion of AI utilization, and DX promotion. To realize this strategy, we have adopted a two-layer IT and AI structure, balancing top-down and bottom-up approaches. The IT layer includes standard systems (outer ring) and low-code development tools (inner ring), while the AI layer comprises conventional AI tools (outer ring) and generative AI (inner ring).

With this structure, we foster digital leaders in each division who solve their own challenges through a bottom-up approach, while also advancing company-wide core system renewal through a top-down approach. In terms of organizational structure, we recognize the importance of human resources in DX promotion, and plan to strengthen organizational initiatives as well as increase the ratio of IT personnel by reinforcing our IT system.



Field-led DX promotion using low-code development tools

We are actively promoting the use of low-code development platforms (LCDP) to solve department-level challenges that cannot be fully addressed by core systems. An LCDP is an environment where business applications can be developed using an intuitive GUI (Graphical User Interface) even without specialized programming knowledge. This offers advantages such as improved development speed, addressing shortages of development personnel, promoting business-led development, and reducing the burden of security measures. Since around 2021, we have promoted "decentralization," where field staff develop applications to address their own challenges, and the use of these systems continues to expand steadily.

1. S-Alert System (risk management)

This is a system for centralized management of dispersed information, such as quality, safety, and information security. In a situation where related departments, reporting requirements, and access rights are intricately intertwined, the Risk Management Department built the system using low-code development tools on its own, keeping implementation costs low and launching the system within a short period of several weeks.

2. Logi-Smartphone (logistics information sharing system)

This system eliminates lengthy wait times when customizing standard systems in the logistics department, enabling users to customize data imported from standard systems by themselves. This has transformed the logistics department into one that actively leverages digital technology.

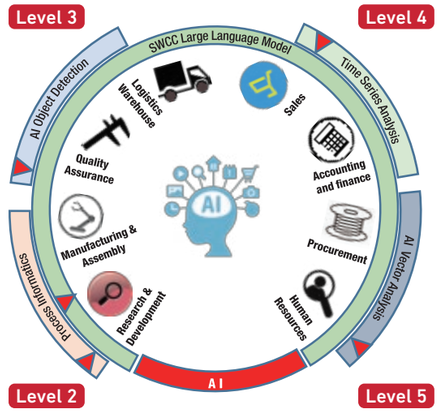
3. Construction workload visualization system

This is a system built and operated collaboratively by the Sales, Manufacturing, and Construction Divisions eliminating information gaps between departments and improving operational efficiency. The scale of operation is steadily expanding, as evidenced by an increase in user registrations from the Manufacturing Division. These examples are similar to a "citizen development" approach, where employees familiar with operations autonomously promote digitization using no-code or low-code solutions. We will continue to expand participation in technology communities and further enhance the skills of participants.

In-house development and strategic utilization of generative AI

We are advancing the in-house development and utilization of generative AI to maximize the use of advanced AI technology across our entire Group. In particular, we aim to "promote efficiency and labor-saving and pursue workstyle transformation," and are driving the development of our proprietary generative AI model "SWCC_GPT." First, to promote employees' understanding of generative AI and make effective use of internal expertise and knowledge, we conduct in-context learning tailored to the needs of each department, and promote individual customization and specialization.

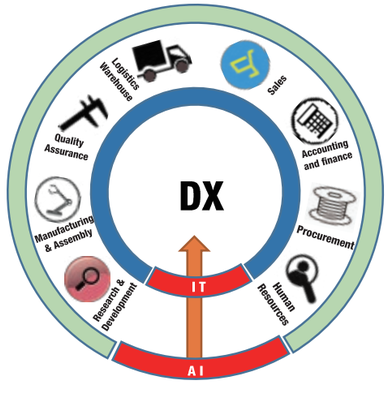
Entering 2025, we have significantly enhanced the processing capacity of our in-house generative AI server, resulting in a response speed about 10 times faster compared to 2024, enabling rollout to departments with a large number of users. The reason we are committed to in-house development of generative AI is not just to obtain answers from AI, but to continually analyze what challenges employees face, what concerns they have, and what they seek from generative AI, thereby discovering value beyond generative AI itself.



The use of generative AI has facilitated know-how sharing and improved operational efficiency. Going forward, we plan to roll out internal AI use sequentially from Level 1 (Chatbots: advanced search and language processing), to Level 2 (Reasoners: advanced analytics), Level 3 (Agents: advanced voice and video processing), Level 4 (Innovators: advanced prediction and creation), and Level 5 (Organizations: advanced psychological analysis). Noteworthy outcomes include extracting and weighting key issues for the achievement of the Mid-Term Management Plan through advanced analytics at Level 5, and planning in-depth analysis of sales activities as horizontal deployment, aiming to establish highly value-added data analysis methods. In addition, AI-based occupational accident prediction, which started in 2023, has also begun to show positive results.

Future outlook and sustainable value creation

Our company aims to continue promoting DX through the development of IT systems and the utilization of AI, thereby establishing a competitive business advantage that can respond to rapid changes in the business environment. To this end, the "ideal state" is the integration and effective use of various information and records, utilization of LCDP and AI, and business control based on system information. We will systematically promote the integration of IT and FA networks; digital collaboration between systems, equipment, and people; and strengthening of IT/DX personnel. In the field of generative AI, we plan to utilize insights gained from psychological structure analysis to conduct in-depth analysis of sales activities and expand into market trend analysis. AI-based disaster prediction is also beginning to show results, and we will continue to further improve its accuracy.



Our DX promotion is not merely about operational efficiency, but an important means to realize our company's purpose. We believe that achieving transformation and continuously creating new value through digital technology is our true mission. We will continue to uphold our decentralization strategy and maximize DX value by leveraging IT and promotion of AI. By doing so, we will establish our position as a leading company in this era of change and achieve sustainable growth in corporate value.

DX Promotion Policy	
	・Identification of IT challenges in each department and improvement of problem-solving capabilities ・Development of IT talent and creation of appropriate evaluation systems ・Support for new product/service creation and business model transformation
	・Strengthening involvement in our Management Strategy ・Maximizing digital value through integration of IT and AI

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Further evolution of “Keyspider” toward corporate governance

1. Reasons for attention

IGA (Identity Governance and Administration) is attracting attention as a key component for IT environment development and corporate governance. This is because of the growing need to clearly manage “who has access to what and with what permissions” in response to increasing security threats, stricter compliance requirements, and the diversification of IT usage models.

2. Challenges with compliance

As companies gain more employees and systems, IT infrastructure control and management become more complex. With growing security threats, appropriate management of IDs and access rights is difficult, and compliance remains a challenge. Especially with the spread of cloud usage and diversified work styles, it has become difficult to respond using traditional systems.

3. AXIO’s strategy

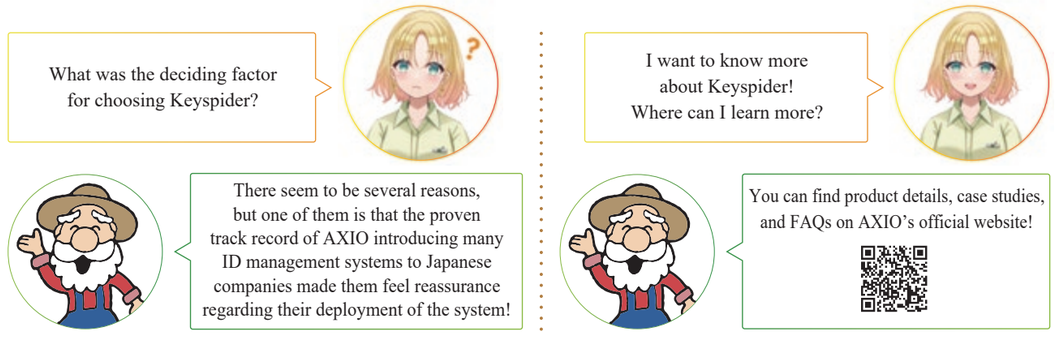
As a solution to growing security threats and stricter legal regulations, our ID management platform service “Keyspider” is available. Keyspider is a platform that consolidates ID information, applies rules, and enables effective operation. The advanced version, “KeyspiderPlus,” expands IGA functions to provide even more sophisticated system integration and lifecycle management. KeyspiderPlus enables effective ID governance, supporting enhanced corporate governance through solutions to issues such as information leakage and regulatory compliance. With a strategy centered on Keyspider, we strongly support our customers in strengthening ID governance through partner collaboration and the functional enhancement of KeyspiderPlus.

Keyspider case study

Nomura Real Estate Holdings, Inc.

Nomura Real Estate Holdings, Inc. implemented Keyspider to improve the efficiency of ID management and strengthen security governance across its complex organization of 22 companies and approximately 8,000 people. As a result, flexible ID management accommodating concurrent duties became possible. ID management operational efficiency improved by roughly 50%, and operational costs have been significantly reduced.

https://www.axio.co.jp/case/c_identity/c_id_cloud/c_id_nomura_corporation.html



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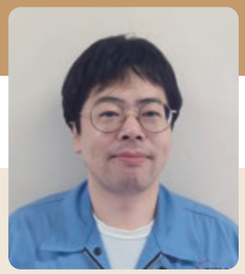


Intellectual property strategy for the Solutions Business

Yusuke Kondo
Intellectual Property Information Department

My Purpose

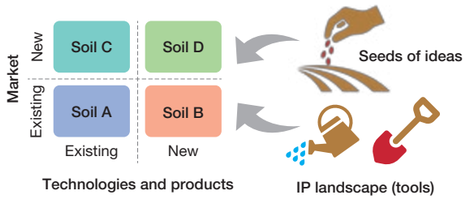
“Facing technology and society, I want to create a future where connections through intellectual property are the norm.”

Toward the creation of the Solutions Business

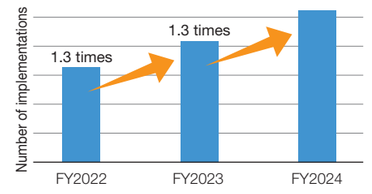
We are working to strengthen our Solutions Business by providing proposals and services to solve the issues our customers face. One of our initiatives is to combine our existing core technologies with digital technologies such as AI and DX to provide new value. By leveraging the research and analysis capabilities of our Intellectual Property Department, which is well-versed in intellectual property information, together with the strong technical capabilities and market information of our business divisions, we aim to create significant synergy. Through initiatives involving cross-departmental collaboration, we will generate inventions related to the Solutions Business by integrating core technologies and digital technologies such as AI/DX, build differentiated intellectual property portfolios, and aggressively pursue intellectual property strategies in the Solutions Business.

● Blooming the seeds of ideas

At our company, the business divisions and Intellectual Property Department share information and communicate in an environment that fosters the generation of ideas and the creation of Intellectual Property. Therefore, we have established an environment where we can sow the seeds of ideas and let them bloom. However, the creation of inventions related to the Solutions Business is not yet fully developed. To address this, we are planning initiatives to generate more ideas in collaboration with the business divisions, inviting entries from them and moving forward together. Currently, we are at the stage of beginning collaborations with divisions that show high interest in inventions related to AI/DX, prompted by intellectual property education. The choice of which environment to let the ideas bloom in is made based on Ansoff’s growth matrix. Specifically, we cultivate the ground by using analysis cases such as market trends and application explorations through IP landscape, and find the most suitable environment for each idea. Then we plant the seeds of ideas, and again use an IP landscape to choose suitable tools for those ideas, nurturing them to sprout. The number of IP landscape initiatives has increased about 1.3 times in FY2023 and continues to grow steadily. One reason is the increase in cases where visualizing and analyzing intellectual property information has led to filings that strengthen the intellectual property portfolio in each business. As such cases become more plentiful, it becomes easier to choose tools that fit the ideas and environments. Additionally, the increased interest from business divisions serves as a motivation for them to participate. We are advancing our efforts with the goal of creating a virtuous cycle in which the enrichment of cases and collaboration with business divisions reinforce each other.



Change in number of IP landscape initiatives



● Talent development to cultivate the seeds of ideas

To promote the creation of inventions related to the Solutions Business, it is also important to foster talent who can cultivate ideas. For engineers, we provide intellectual property education focused on inventions related to AI and DX. Through intellectual property education, we have begun collaborating with business divisions that are highly interested in generating ideas using AI and DX. We also encourage our intellectual property members to obtain qualifications as “Intellectual Property Analysts.” In addition, we are advancing collaborations with external experts and participation in external organizations, creating opportunities to incorporate objective opinions. Our goal is to train talent who are not only experts in intellectual property, but who can also leverage intellectual property in strategic corporate management.

Image of talent development initiatives