

System Integration

Digital Systems & Services

#Carbon Neutral #Supply Chain Transformation #Innovation Creation #Co-creation and Open Innovation #Generative AI #Block Chain/NFT

#IoT/Data Utilization #Digital Solutions

1. Participation in Demonstration Project for Making Carbon Credits Easier to Use

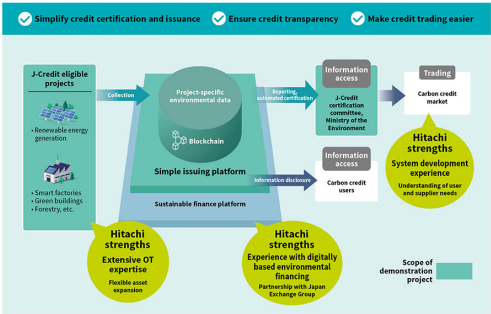
With the goal of creating a sustainable society, programs have been made available over recent years for using mechanisms such as carbon credits to monetize the value added by the environmental initiatives of corporate, local government, and other organizations.

Hitachi has participated in a demonstration project for digitalizing the certification and issuing of J-Credits by Japan's Ministry of the Environment\*. This has involved the use of Hitachi's sustainable finance platform, the Green Tracking Hub, to establish a simple issuing platform that facilitates the collection, verification, and reporting of data from facilities covered by the system. In addition to automating the assessment of CO<sub>2</sub> reductions from electricity generation measurements collected by Internet of Things (IoT) sensors, the system's scope also extends to recording this information on a blockchain and data interconnectivity with the J-Credit Scheme Registration System. By simplifying the previously manual certification and issuing procedures, this is helping to increase the supply of J-Credits.

Drawing on the knowledge acquired from the certification and issuing of J-Credits and the development of a trading system for the Tokyo Stock Exchange's carbon credit market, the intention is to develop a comprehensive scheme that covers all aspects of carbon credits, from issuance to redemption.

\* Hitachi participated as a partner of Deloitte Tohmatsu Consulting LLC, the organization contracted by Japan's Ministry of the Environment to undertake the FY2023 demonstration project for use of digital technology in the J-Credit Scheme.

[01] Demonstration project for digitalizing the certification and issuing of J-Credits

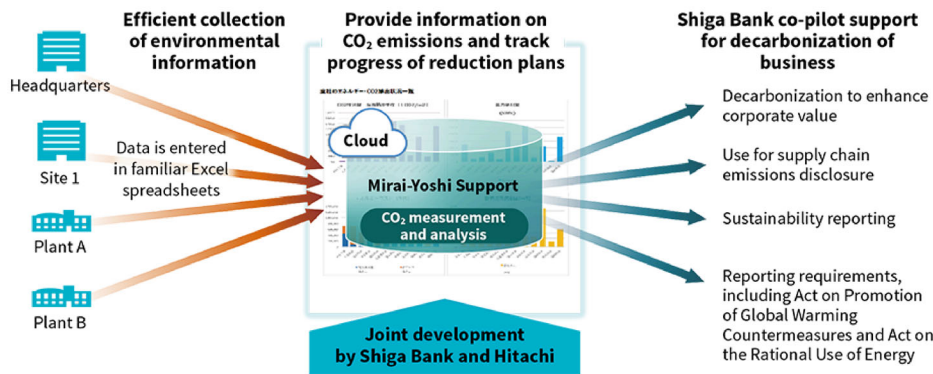


2. Shiga Bank and Hitachi Collaboration on CO<sub>2</sub> Emissions Management

To help achieve carbon neutrality by 2050, Shiga Bank, Ltd. and Hitachi launched a collaboration in January 2023 for supporting decarbonization by small and medium-sized enterprises. Along with the joint development of the Mirai-Yoshi Support tool for CO<sub>2</sub> emissions management, Shiga Bank has also launched a new banking service that provides comprehensive support for business decarbonization, from entry to exit strategy.

The Mirai-Yoshi Support tool is based on Hitachi's EcoAssist-Enterprise service for environmental information management, a cloud service that is designed with functions and ease-of-use that suit small and medium-sized enterprises. By entering details for each site into purpose-designed Excel\* spreadsheets, information can be provided on CO<sub>2</sub> emissions for the entire company, showing emission trends and progress toward reduction targets as well as enabling the management of reduction plans. Shiga Bank also provides its partners with a tool for CO<sub>2</sub> emissions management that tracks progress and uses this information to guide them through every step along the way, from setting reduction targets and formulating reduction plans to plan implementation and monitoring.

\* See the list of "Trademarks."

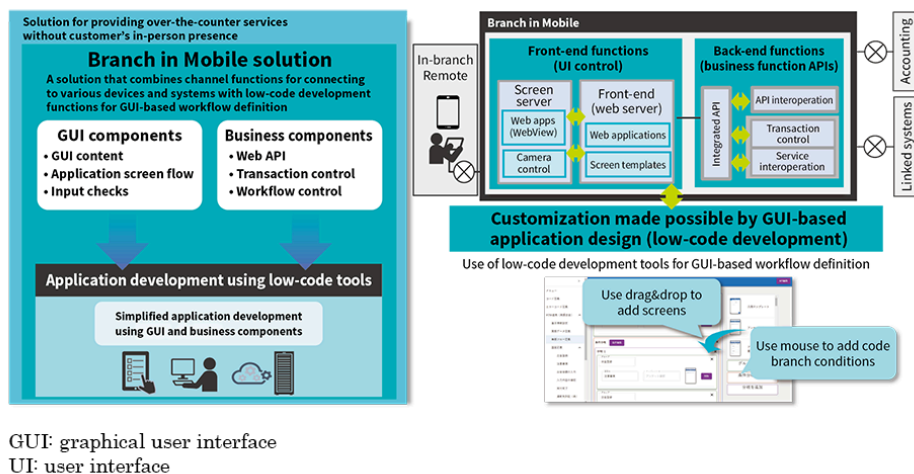


### 3. “Branch in Mobile” Solution for Combined Online and Real-world Channel Alternative to Face-to-face and Branch Visits

With rising demand for doing banking online without the need for in-person transactions, the number of bank and other financial institution customers who visit branches is falling. This is creating an urgent need for banks to accelerate their digital shift and to transform themselves into businesses that do not operate face-to-face with their customers. This makes it important for banks to make the most of their consulting capabilities to strengthen their branch network, with further cost optimization and the provision of services with high added-value that can only be delivered by people.

The idea behind the Branch in Mobile software package is to deliver the same services as a real-world bank branch through a mobile device. It can be used to expand the availability of self-service options that do not require an in-person visit to a branch, featuring web-based app screens and application programming interface (API) functions together with low-code development tools for in-house customization. These tools include numerous templates suitable for commercial development and can speed up operational efficiency gains by allowing bank staff to customize banking services for themselves. The software can also provide banks with considerable assistance in their operational reforms and the boosting of efforts in key areas such as improvements to sophisticated and specialized consulting services.

[03] System block diagram of Branch in Mobile



### 4. Multilingual Dialogue Platform for Automating Interaction with Customers

In recent years, the COVID-19 pandemic and a shrinking workforce due to the low birthrate and aging population have brought rising demand for ways of interacting with customers that do not require their physical presence. In response, Hitachi has incorporated speech synthesis and digital chat functions into a multilingual dialogue platform that also features speech recognition and translation to create a voice-based service for automating interaction with customers using an artificial intelligent (AI) operator.

The multilingual dialogue platform automates in-person customer interactions by creating scenarios for the tasks to be automated. It can be used to facilitate mutual understanding with people from overseas. By providing unified management of the analysis and collation of customer interaction records, the platform also has potential applications in business process improvement.

Future plans involve further improvements to speech recognition accuracy and making the platform easier to use as a voice-based chat service, including through the development of automated response functions in foreign languages and integration with an image recognition engine to enable transactions requiring identity verification to be handled without the customer being physically present.

## 5. Global Zero Trust Security Implementation Support

When it comes to supporting the adoption of zero trust security for global operations\*, Hitachi is able to draw on its experience of operating businesses outside Japan to provide one-stop support for the security of office automation (OA) systems at customers' overseas workplaces. This assists with the introduction of such security services, covering everything from concept development to full system design and operation. While the zero trust security market has seen rapid growth driven by trends such as the shift to the cloud and the growing prevalence of remote work, companies face the following challenges when they attempt to extend zero trust security measures devised by their Japan head office to overseas sites.

- (1) Understanding of existing IT practices and configurations at overseas sites
- (2) Gaining agreement from overseas sites to adopt measures from the Japan head office
- (3) Updating of design and privacy notices to comply with national laws
- (4) On-site implementation at sites with inadequate IT skills
- (5) Provision of 24-hour/365-day operational support in the relevant languages

This service has systematized the deployment process based on experience from adoption in more than 20 different countries. It enables trouble-free global rollouts with tailored support that draws on this accumulated knowledge.

\* [https://www.hitachi.com/products/it/society/product\\_solution/telecom/infrastructure/zerotrust.html](https://www.hitachi.com/products/it/society/product_solution/telecom/infrastructure/zerotrust.html)

## 6. Participation in Green x Digital Consortium Proof-of-Concept Experiment with CO2 Data Linkage

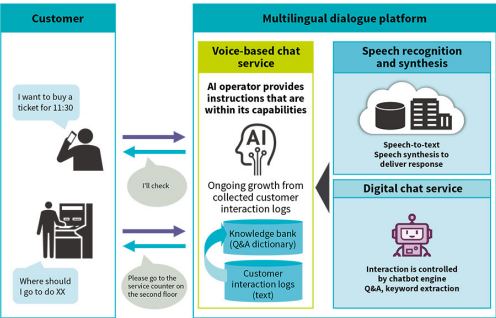
A trial organized by the Green x Digital Consortium with participation by Hitachi Solutions, Ltd. has verified the viability of coordinating data from across a supply chain and collating the CO2 emissions for all of the companies involved. This cutting-edge initiative is a first for Japan.

Impetus for this initiative came from the growing importance of progress on achieving carbon neutrality in order to create a sustainable society. The proof-of-concept experiment used a CO2 visualization framework (a methodology for calculating CO2 emissions) and a technical specification for data coordination that conform to the Partnership for Carbon Transparency (PACT) Pathfinder Framework of the World Business Council for Sustainable Development (WBCSD)\*. The successful outcome of the proof-of-concept experiment and the resources it produced have the potential to serve as a basis for calculation methodologies and technical specifications that will feature in full-scale adoption by Japanese companies of CO2 emissions accounting and supply-chain-wide data linkage. Hitachi Solutions' role in the initiative was to build expertise in the implementation of technical specifications and knowledge for the accurate calculation of companies' own CO2 emissions and the smooth exchange of this data.

(Hitachi Solutions, Ltd.)

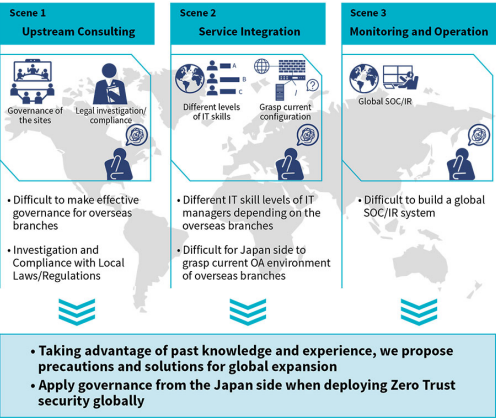
\* Guidelines for the calculation and exchange of product-level carbon emissions data for entire value chains announced by the WBCSD at the Conference of the Parties of the United Nations Framework Convention on Climate Change.

### [04] Automation of interaction with customers



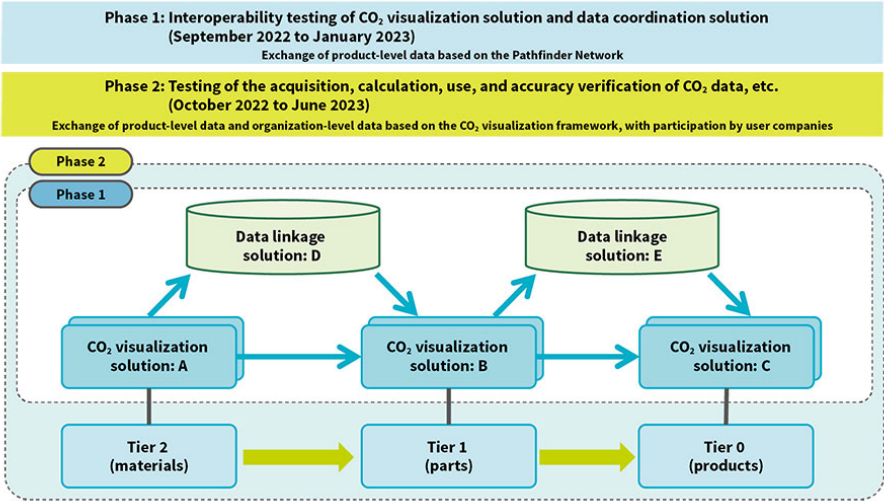
Q&A: question and answer

### [05] Challenges of global Implementation of Zero Trust Security



SOC: Security Operation Center  
IR: Incident Response

[06] Overview of phase 1 and phase 2 of Green x Digital Consortium proof-of-concept experiment



\* This figure was prepared by Hitachi Solutions, Ltd. based on the final report for Phase 2 of the proof-of-concept experiment by the Visualization Working Group of the Green x Digital Consortium (in Japanese).



# Hitachi Review

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