HITACHI

Hitachi Advances Strategic Alliance with Google Cloud to Empower Frontline Workers with Field-Specific AI Agents

Leveraging Gemini Enterprise to boost productivity and address labor shortages in social infrastructure industries

Tokyo, October 10th, 2025, Hitachi, Ltd. (TSE:6501, "Hitachi") has been working to improve productivity through AI utilization, software modernization, and enhanced customer service under its strategic alliance with Google Cloud[1]. Now expanding into the OT (Operational Technology) domain, Hitachi will develop and utilize AI agents to accelerate operational transformation for frontline workers in social infrastructure sectors such as energy, railways, and manufacturing lines.

Gemini, a multimodal AI, is designed to simultaneously understand and process various formats—text, images, audio, and video—making it highly compatible with frontline tasks that require accurate handling of physical information such as products and equipment. By utilizing Gemini Enterprise, even users without specialized knowledge can create AI agents to execute specific tasks via no-code interfaces, streamlining workflows.

Hitachi has established the "Agent Factory" as its AI agent development environment. By leveraging Google Cloud technology, Hitachi will enhance this environment to enable simpler and faster development of AI agents tailored to specific on-site tasks and applications.

This can be achieved by leveraging Google Cloud's advanced AI technologies together with Hitachi's deep domain knowledge and data governance expertise cultivated over many years. Even complex on-site processes and highly confidential data can be safely utilized, making it easier to apply AI to frontline workers' tasks—an area where AI adoption has traditionally been challenging. Notably, applying Gemini Enterprise to frontline operations represents a highly advanced initiative and a key driver in realizing the vision of Hitachi's Lumada 3.0.

Going forward, Hitachi will adopt a "Customer Zero" approach, focusing first on internal implementation. The company will work to create a variety of use cases within the Hitachi Group using Google Cloud, while also promoting the democratization of AI agents—empowering employees to develop solutions themselves using no-code tools, based on the expertise gained through these efforts. In particular, Hitachi's subsidiary, GlobalLogic Inc. ("GlobalLogic"), is a key global partner of Google Cloud and a launch partner for Gemini Enterprise, actively driving the deployment and adoption of Gemini Enterprise both internally and externally. Hitachi will accelerate value creation by integrating GlobalLogic's technology and expertise. Through the democratization of AI agents, Hitachi aims to foster an environment where new ideas for technology and operational improvements can emerge from the ground up. Hitachi will then offer these proven outcomes and field-driven innovations as part of HMAX to customers facing similar challenges, contributing to the enhanced sustainability and safety of social infrastructure.

*1 [Hitachi and Google Cloud Announce Strategic Partnership to Accelerate Innovation and Productivity with Generative AI : May 28, 2024](#)

Background

In recent years, field operations such as maintenance and manufacturing that support social infrastructure have faced urgent challenges including worsening labor shortages and the aging of skilled technicians, making technology succession critical. Based on the strategic alliance announced in May 2024, Hitachi is driving corporate innovation and productivity by combining its deep domain knowledge in the social infrastructure business with Google Cloud's world-class AI and tools.

Jun Abe, Executive Vice President of Hitachi, Ltd., General Manager of the Digital Systems & Services Division, stated: "Hitachi views AI not merely as a tool, but as a partner that extends human capabilities. We are very pleased that our strategic alliance with Google Cloud has steadily advanced employee productivity and accelerated innovation. Looking ahead, we aim to extend these achievements into the OT domain, creating frontline environments where workers can collaborate with AI, stay energized, and focus on creative, high-value tasks. Under our Inspire 2027 vision, Hitachi has positioned the evolution of Lumada to version 3.0—driven by the fusion of domain knowledge and AI—as a key enabler of a 'Harmonized Society.' This initiative, leveraging advanced AI technologies from Google Cloud such as Gemini Enterprise alongside Hitachi's deep domain expertise, is a symbolic step toward that goal. As One Hitachi, we will continue working together across the group to fully harness the power of AI and build a better future."

Additionally, **Hiroyuki Koike, Managing Director, Customer Engineering, Google Cloud Japan** states: "To solve complex business challenges with generative AI, companies need advanced technology and the expertise to successfully implement it across the organization. Through our strategic partnership with Hitachi, we will provide customers with the necessary technologies and resources to optimally build, implement, and manage every phase of their generative AI projects."

Use cases

As part of its initial rollout, Hitachi has begun a technical proof-of-concept at Hitachi Power Solutions Co., Ltd., a group company specializing in maintenance services for the energy and industrial sectors. One focus area is the inspection of vacuum circuit breakers (VCBs), critical components housed within power distribution panels. These inspections typically involve multiple technicians and carry a risk of human error—such as incorrect bolt alignment, misconnected capacitor wiring, or missed removal of discharge clips. To address these challenges, Hitachi is exploring the use of AI agents
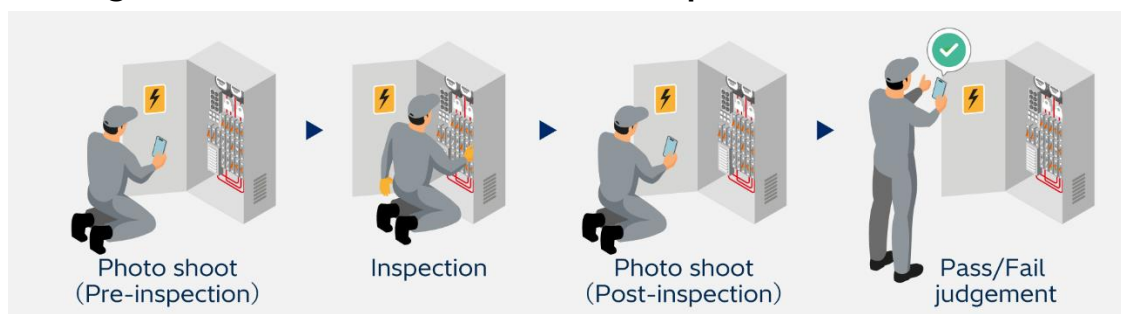
powered by Gemini Enterprise at its maintenance training center. The goal is to digitize and enhance restoration checks that were previously conducted using paper-based checklists, improving both reliability and operational efficiency.

In this proof-of-concept, Hitachi is testing whether AI agents can compare images taken before and after maintenance work to verify proper restoration. Maintenance staff simply upload the images, and the AI agent provides alerts if any issues are detected. This approach is being considered for inspections across thousands of units annually, which currently require multiple technicians and final checks by experienced inspectors. By introducing AI agents, Hitachi aims to improve the accuracy of double-checks, reduce oversight, and enhance both the quality and efficiency of maintenance operations.
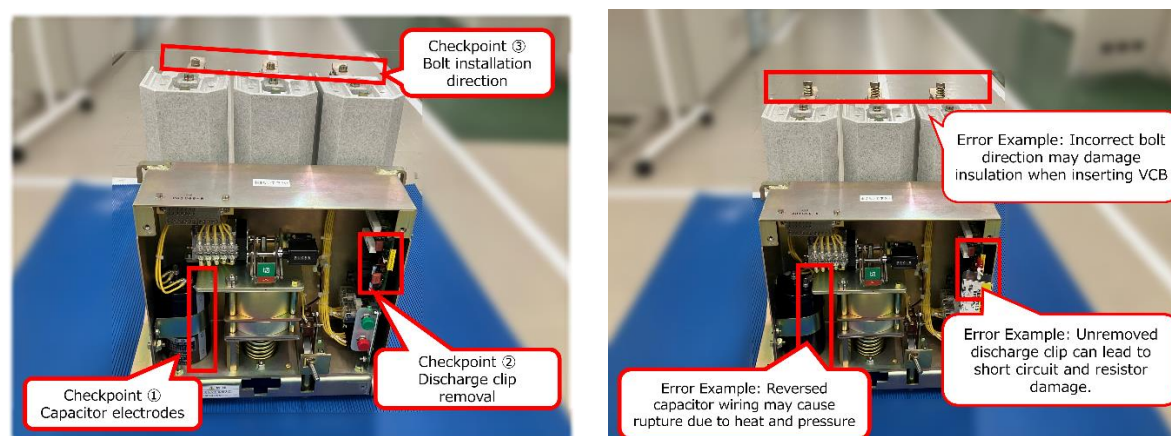
The AI agent for this verification was designed by inputting essential inspection points, past failure causes, and important notes as natural language prompts, and then feeding it several examples of correct and incorrect post-work images. While initial setup may require support from an AI expert, the specifications are simple enough for on-site staff to handle subsequent adjustments and trials. Hitachi believes this low barrier to entry is essential for the democratization of AI agents.

Going forward, Hitachi will also explore AI agents that use video data to check in real time if work procedures are being followed correctly, providing timely warnings about deviations or dangers. Hitachi will also take on the challenge of automatically generating reports from video footage, aiming to facilitate the transfer of on-site skills and knowledge and further reduce workloads.

●AI Agent Utilization: Work Process Concept

Photo shoot (Pre-inspection) ▶ Inspection ▶ Photo shoot (Post-inspection) ▶ Pass/Fail judgement

●Image Comparison for Preventing Omissions in Restoring Conditions

Checkpoint ③ Bolt installation direction
Checkpoint ② Discharge clip removal
Checkpoint ① Capacitor electrodes

Error Example: Incorrect bolt direction may damage insulation when inserting VCB
Error Example: Unremoved discharge clip can lead to short circuit and resistor damage.
Error Example: Reversed capacitor wiring may cause rupture due to heat and pressure

About Hitachi, Ltd.
Through its Social Innovation Business (SIB) that brings together IT, OT(Operational Technology) and products, Hitachi contributes to a harmonized society where the environment, wellbeing, and economic growth are in balance. Hitachi operates globally in four sectors – Digital Systems & Services, Energy, Mobility, and Connective Industries – and the Strategic SIB Business Unit for new growth businesses. With Lumada at its core, Hitachi generates value from integrating data, technology and domain knowledge to solve customer and social challenges. Revenues for FY2024 (ended March 31, 2025) totaled 9,783.3 billion yen, with 618 consolidated subsidiaries and approximately 280,000 employees worldwide. Visit us at www.hitachi.com.