

## R&D Vision 2026

# AI-driven advances in Lumada 3.0 and the next stage of social innovation through innovative technologies

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Innovation & R&D

On the occasion of the publication of *Hitachi Technology 2026*, I would like to express my sincere appreciation for your continued support of the Hitachi Group.

In recent years, in addition to existing societal challenges such as the increasing severity of natural disasters associated with climate change and the acute labor shortages arising from aging demographics and declining birthrates, new challenges are also emerging from the complex interplay of geopolitics and technological innovation. These include economic security risks stemming from the competition for technological leadership and disruptions to the supply chains of critical resources, as well as the erosion of information reliability and structural changes to industry brought about by advanced artificial intelligence (AI). As a result, uncertainty in people's daily lives and in economic activity has reached unprecedented levels. It is precisely in times such as these that valuing empathy and collaborative creation with diverse stakeholders, and applying innovation to overcome societal challenges, becomes more important than ever.

In 2025, Hitachi launched a new management plan entitled *Inspire 2027*. This plan aims to realize a society in which the environment, well-being, and economic growth are in harmony by transforming society through innovation. To achieve this, Hitachi will accelerate its transformation into a digital-centric company through the growth of its Lumada business while also pursuing sustainable growth by cultivating a One Hitachi premium across its business activities.

Hitachi has expanded its Lumada business by capitalizing on its combined strength in information technology (IT), operational technology (OT), and products. Advanced forms of AI, including generative AI, agentic AI, and physical AI, have progressed rapidly in recent years and now serve as key enablers empowering Lumada. We refer to this evolution as Lumada 3.0. In particular, by leveraging our partner ecosystem, we are expanding and deploying *HMAX™ by Hitachi* solutions that apply AI, to drive innovation in societal infrastructure. As core technologies underpinning business growth, we are training advanced AI on domain knowledge and vast volumes of data derived from digital assets, while also building our Integrated World Infrastructure Model (IWIM), which brings together a portfolio of physical models, simulations, and other such resources accumulated over time. By developing guardrail technologies essential for ensuring safety in mission-critical systems and combining them with designs that enhance user acceptance, we are accelerating the pace of innovation in societal infrastructure.

In 2025, we established the Strategic Social Innovation Business (SIB) Business Unit to deliver new societal innovation through One Hitachi. The SIB unit is accelerating the development of solutions that meet market needs, including eMobility solutions and environmentally conscious cooling solutions for data centers, for which demand is rising rapidly due to explosive growth in AI usage.

To address further future challenges, we are backcasting from potential breakthroughs in science and technology to identify forthcoming turning points. We are also leveraging AI for science to develop innovative technologies for quantum computers, space sensing, synthetic biology, and nuclear fusion. In doing so, we are building an ecosystem that brings together partners, startups, academia, and other stakeholders, as we work to establish the pillars for the next societal innovation.

Hitachi was founded by Namihei Odaira at a time when modernization was bringing dramatic change to Japan. Now, more than a century later, society and industry are once again undergoing profound transformation driven by geopolitical shifts and technological innovations such as advanced AI. Under the banner of One Hitachi, we will continue to take on these challenges in accordance with our corporate mission of “contributing to society through the development of superior, original technology and products.”

*Hitachi Technology 2026* introduces a broad range of topics, from technologies that support the mission-critical performance of societal infrastructure to future technologies identified by backcasting. As we pursue innovation in collaboration with our customers, we invite you to look forward to Hitachi Group’s continued rollout of new technologies and to sustained business growth that contributes to realizing a harmonized society.



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