



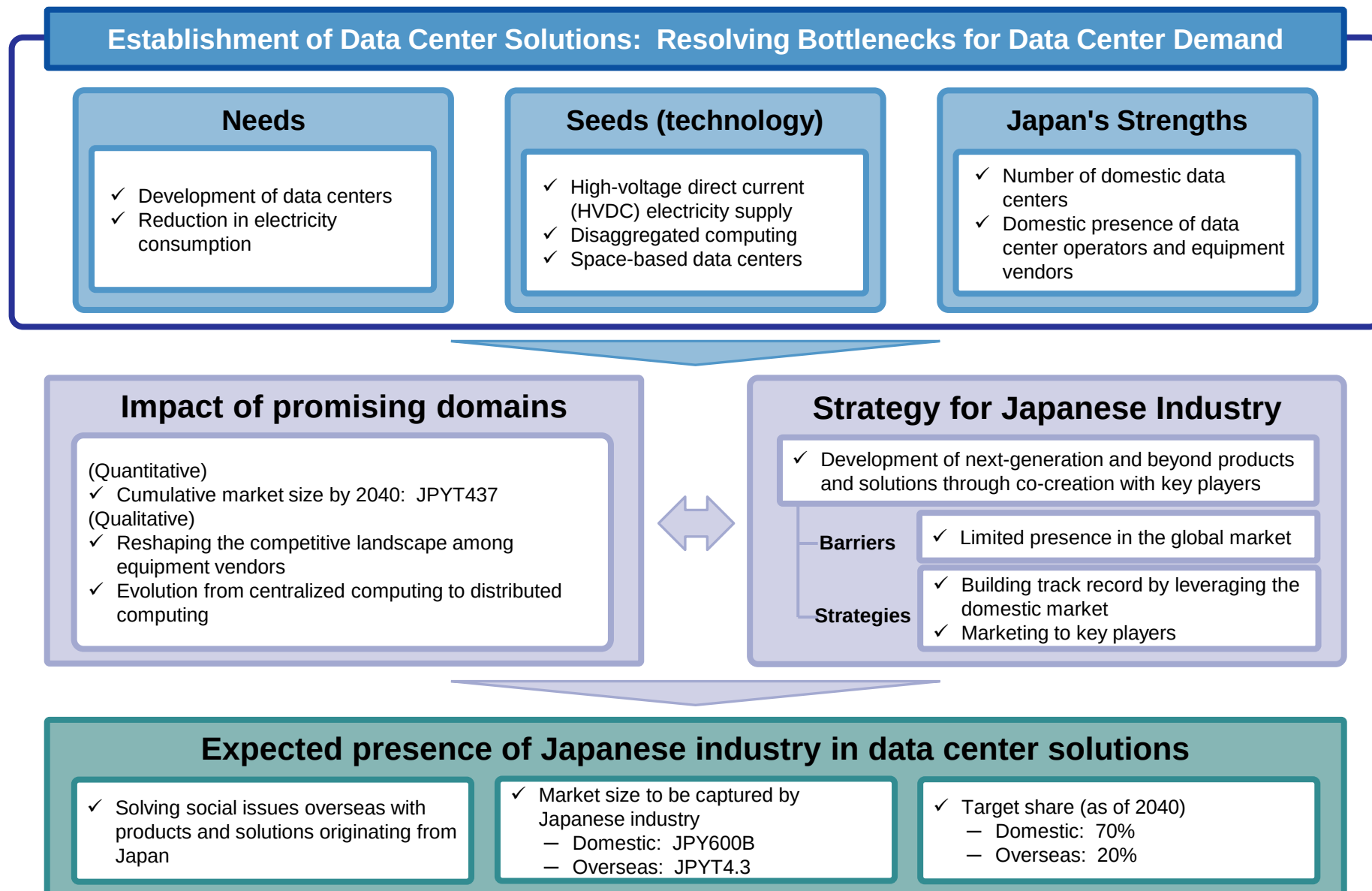
Data Center Solutions

Action plans for Japanese companies to reclaim ground

March, 2026

Industry Research Department
Mizuho Bank

Strategy for capturing the data center solutions market and the expected presence of Japan in 2040



Source: Compiled by Industry Research Department, Mizuho Bank, Ltd.

Form the consortium necessary for building data center solutions and aim for a long-term comeback

■ Background and Issues

- In response to the rising needs for utilization of generative AI and IT, data centers that serve as computing infrastructure are increasing. However, their massive consumption of electricity and water has become a social issue, and new solutions are required.
- This momentum presents significant business opportunities for providers of equipment and solutions for data centers. However, the presence of Japanese companies remains limited compared with their European and U.S. competitors, necessitating the identification of strategies to break through the current situation.

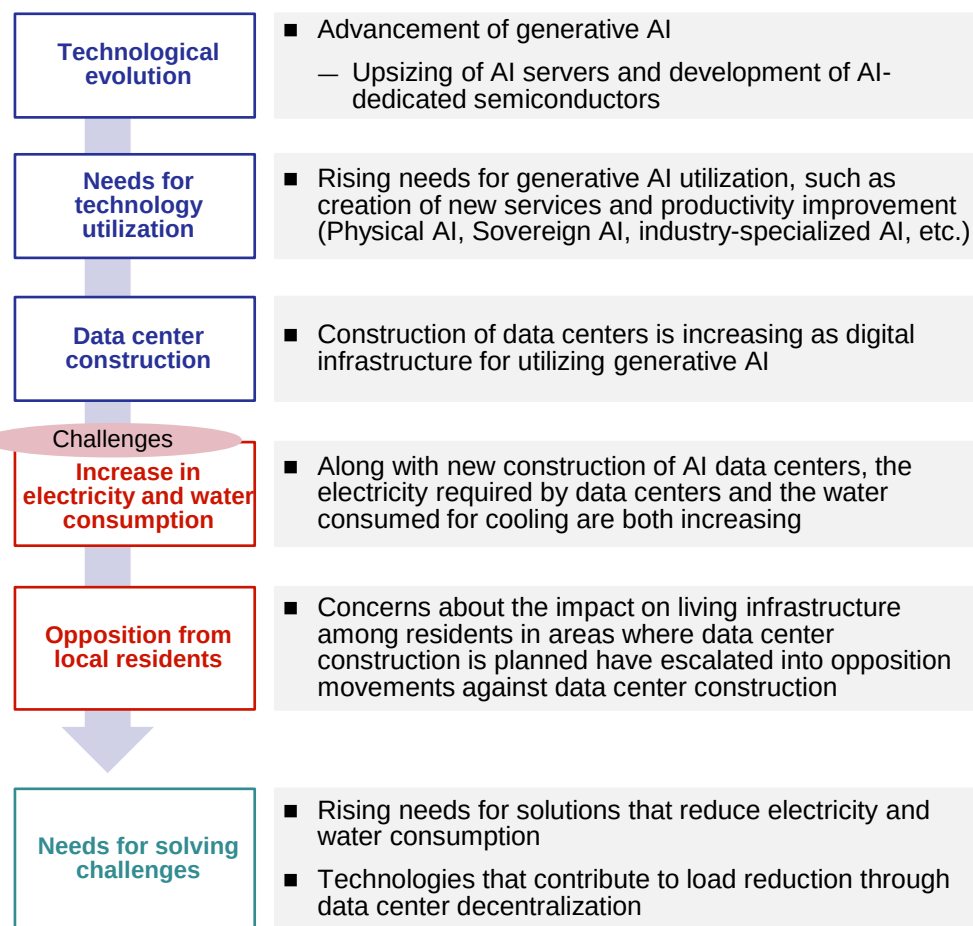
■ Summary

- Among the challenges, electricity shortage in particular has become an urgent issue. The IEA has indicated that data center electricity consumption could expand to approximately 2.3 times the 2024 level by 2030, and a wide range of technologies are being developed to address electricity shortages.
- For example, if HVDC electricity supply, currently under R&D, is realized, electrical efficiency is expected to improve through reduction of transmission losses. While such structural changes will disrupt incumbent vendors, they will also create business opportunities for new entrants.
- Along with the proliferation of digital services such as generative AI, data center demand is expected to continue expanding. Viewed as facility equipment CAPEX, the market size is expected to reach approximately JPY18T by 2030, driven by an increase in new data center construction.
- Japan has data center numbers at the global top-10 level and is home to many related companies such as facility equipment manufacturers and operators. However, the global market presence of providers of equipment and solutions remains limited.
- This is considered to stem from the fact that, on an individual-company basis, Japanese companies have yet to sufficiently meet the KBFs of AI data centers, and that collaboration with companies serving as the "epicenter" of architectural change remains insufficient.
- Benchmarking against France's Schneider Electric reveals that the company has established a solid position as a data center solutions vendor through M&A driven by a thorough problem-solving orientation.
- To compete with such rivals at an early stage, one potential strategy is for multiple major vendors in areas such as electricity supply and cooling systems to form a consortium spanning R&D, manufacturing, and sales. By complementing each other's product lineups and maintenance frameworks to build a track record through domestic projects, feeding back into R&D the insights gained from those projects regarding issues faced by key technology vendors, and deploying the developed next-generation products and solutions through the consortium's sales network, Japanese companies should aim to reclaim ground by realizing such a virtuous cycle.

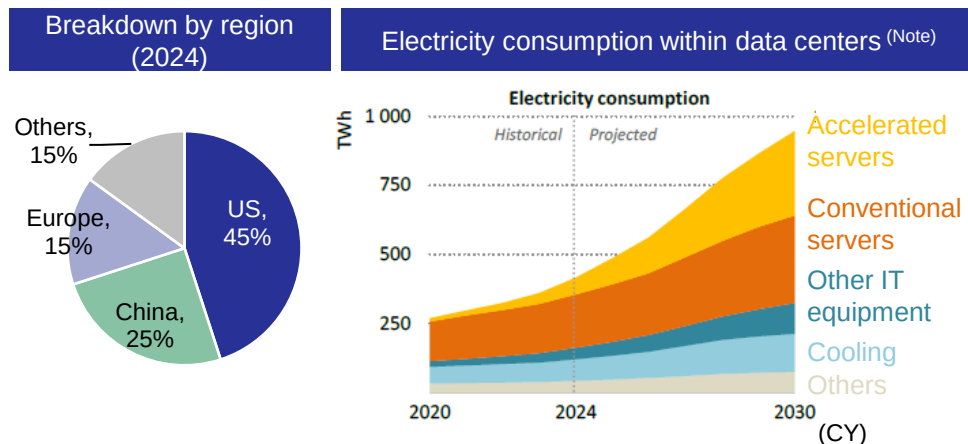
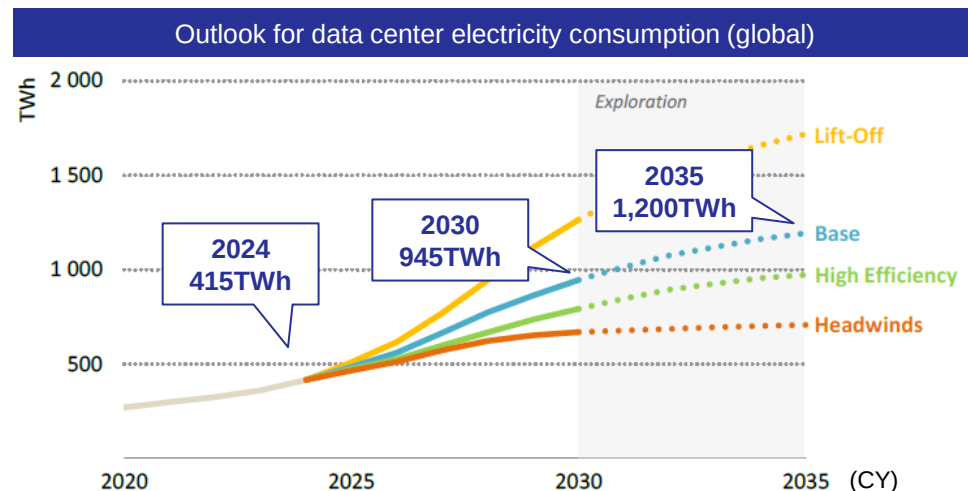
Data centers are essential facilities for digital society, but face social issues

- While data center construction is progressing, the massive consumption of electricity and water has become a social issue, and new solutions are required
- The IEA indicates that electricity consumption is increasing primarily in the U.S., China, and Europe, with the potential to expand to approximately 2.3 times the 2024 level by 2030

Background and Challenges Driving Data Center Demand



Projected data center electricity consumption by scenario, from IEA "Energy and AI (2025)"



Note: Factors of electricity consumption in the Base case

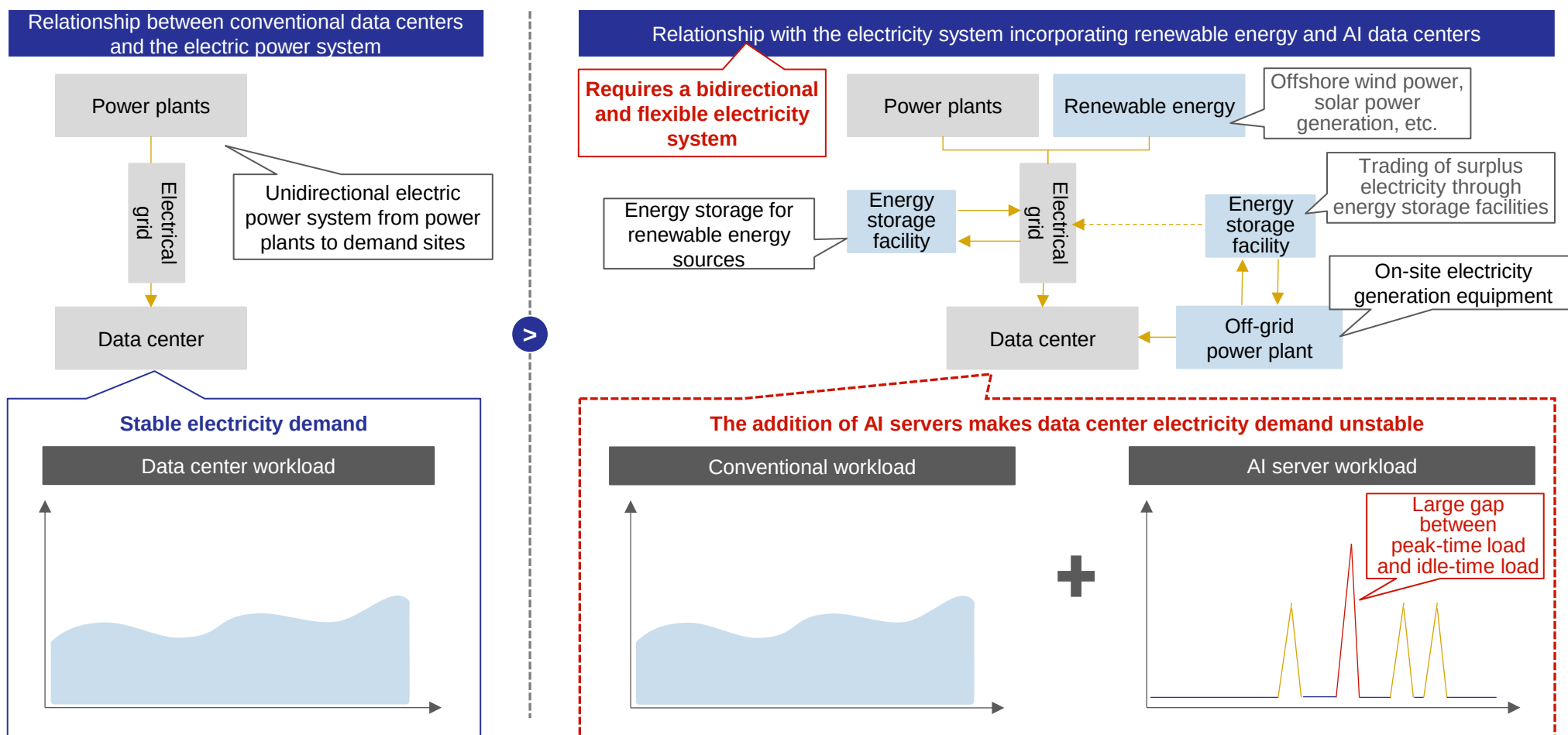
Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on IEA "Energy and AI (2025)."

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd.

AI data center servers affect not only total electricity consumption, but also supply-demand balance

- The previously unidirectional relationship between power plants and electricity consumption sites has grown more complex with the proliferation of renewable energy and data centers.
- AI server workloads exhibit a large gap between idle-time and peak loads, serving as a factor that increases the difficulty of adjusting supply-demand balance.

Electric power infrastructure and data center electricity demand



Source: Compiled by Industry Research Department, Mizuho Bank, Ltd.

Data Center Solutions

Needs

Solutions are being explored in the U.S. To address increasing loads on the electric power grid while also promoting AI infrastructure development

- Investment in AI infrastructure, including data centers and energy, is being promoted in the U.S. through deregulation and expedited permitting, while challenges remain regarding the impact of large-scale electricity demand on electric power grid reliability and electricity rates.
- Against this backdrop, construction of flexible data centers that balance AI growth with electric power grid sustainability is also advancing.

Initiatives by Stakeholders for AI Infrastructure Development

Stakeholder	Purpose	Action
Federal government	Promotion of AI infrastructure investment	Executive Order
	Deregulation	AI Action Plan
State	Expedited permitting	State law
	Establishment of interconnection rules for large-scale loads	
Electric utility ISO ^(note 1) RTO ^(note 2)	Development of electric power sources	IRP ^(Note 3)
	Cost burden shift to large-scale electricity consumers	Rate plan setting
Private Companies (DC / equipment)	Response to increased demand	Capital investment
	Reduction of loads on the electric power grid, etc.	Technology development

In parallel with the promotion of data center and energy-related investment and deregulation, steps are being taken to address challenges associated with large-scale load growth.

Note 1: ISO: Independent System Operator
Note 2: RTO: Regional Transmission Organization
Note 3: IRP: Integrated Resource Planning
Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Case Study: Power-Flexible AI Data Centers

Challenge	Large-scale, rapid load growth on the electric power grid from data centers → Risk of leading to reliability risks for the electrical supply network
Response Case	Design of power-flexible AI data centers
Overview	"Aurora AI Factory" (96 MW scale) to be built in Virginia
Partners	NVIDIA, Emerald AI, EPRI, Digital Realty, PJM
Features	■ Connecting real-time grid needs with data center operational controls ■ Aligning AI computing with grid needs improves utilization of the existing electric power grid and mitigates grid load during peak demand.
Technology	■ Coordination achieved by connecting Emerald AI's GridLink platform with NVIDIA's AI stack integration software
Significance	<u>Solution balancing AI growth with electric power grid sustainability</u>

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Development of various technologies is making progress toward addressing electricity shortages

- Development is advancing across a wide range of technologies, from long-established technologies such as HVDC to applications in new domains such as space-based data centers.

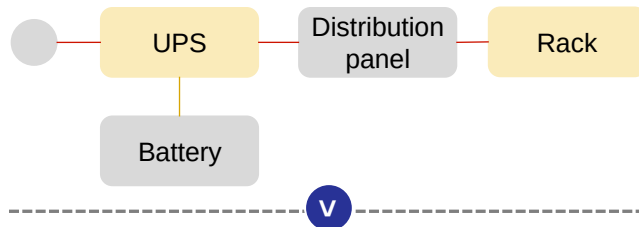
Technologies addressing social challenges and their electricity consumption reduction effects

High voltage direct current (HVDC) electricity supply

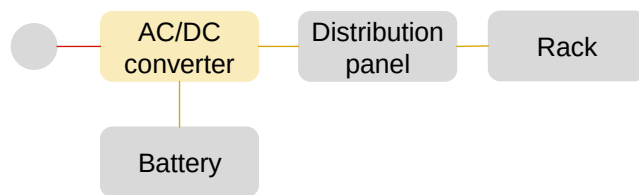
- Within data centers, electric power supply systems incur electricity losses through repeated conversions between direct current and alternating current before delivering electricity to IT equipment; reducing conversion losses thus reduces electricity consumption.

— : AC (alternating current) — : DC (direct current) ■ AC/DC: conversion point

(AC electricity supply)



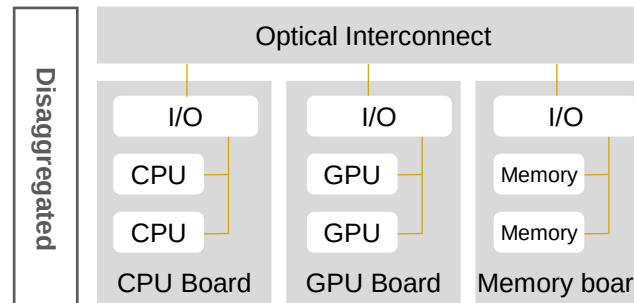
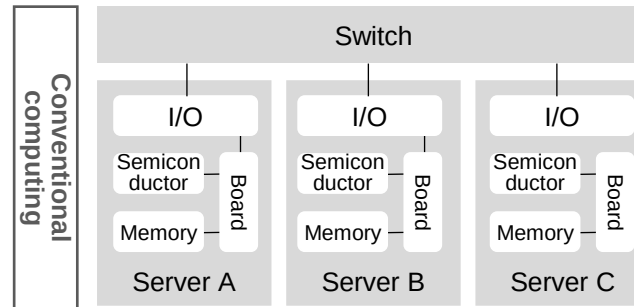
(DC electricity supply)



Electrical efficiency improved by +5% through reduction of transmission losses (Note 1)

Disaggregated computing

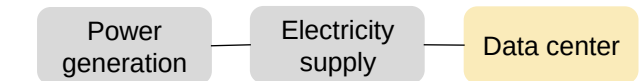
- Computing resources operate on a per-server basis, resulting in excess electricity consumption; disaggregated computing aims to reduce unnecessary electricity consumption by operating only the equipment required for each function.



Server system electricity consumption: -20% (Note 2)

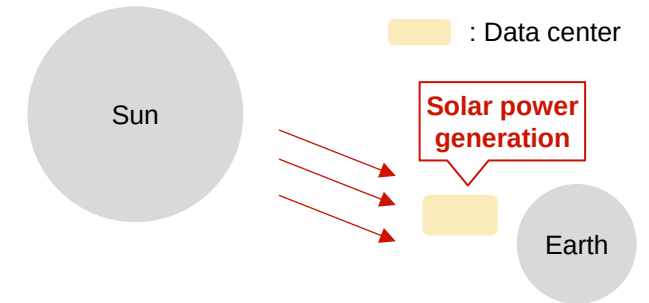
Space-based data centers

- Data centers consume terrestrial electricity, contributing to electricity shortages; by situating data centers in space and utilizing solar-derived electricity in outer space, terrestrial electricity consumption is reduced.



Thermal power
Hydropower
Nuclear power
Renewable energy (solar, wind)

Transmission and distribution network
On-site



Terrestrial electricity consumption: -100%

Note 1: By directly converting the 13.8 kV AC grid voltage to 800 VDC at the data center entry point, intermediate conversion stages are eliminated and overall system electrical efficiency is improved.

Note 2: Target reduction value for the entire server system.

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Implementing new architectures creates business opportunities

- R&D on HVDC electricity supply within data centers is advancing through NVIDIA and OCP ^(Note) with broader societal deployment expected from the next generation onward.
- Against this backdrop, Schneider aims to expand its business by developing sidecar-type power racks compliant with both NVIDIA and OCP standards at an early stage.

Architectural changes within data centers

NVIDIA and OCP advancing HVDC as the de facto standard

NVIDIA

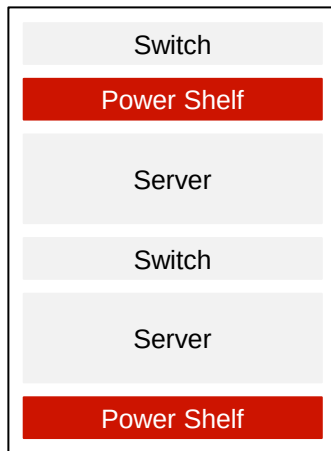
- **800 VDC electricity supply** is planned to be introduced in the next-generation server rack system "Kyber."

OCP

- The OCP Mt. Diablo project, led by Meta, Microsoft, and Google, is driving standardization toward achieving **±400 V electricity supply** supporting up to 1 MW per rack.

Conventional rack configuration

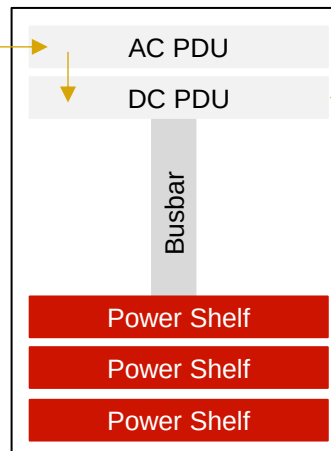
NVL72



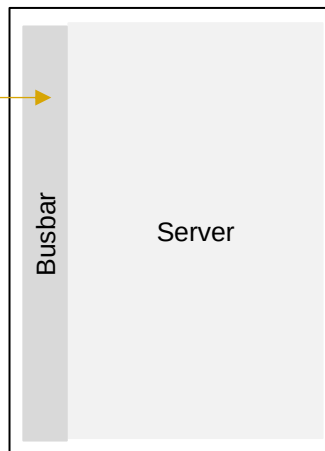
Separation of
IT rack and
power rack

HVDC rack configuration

Power rack



IT rack



Application of HVDC necessitates structural changes not only in rack configurations but across the entire electricity supply system.

→ This disrupts incumbent vendors while creating business opportunities for new market entrants.

Note: Open Compute Project: A nonprofit community that open-sources hardware designs and specifications for data center servers, storage, and networking equipment.
Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Schneider's approach

Trend

Increasing electricity consumption of AI servers → Limits of conventional electricity supply systems

Application of HVDC

NVIDIA and OCP promoting the adoption of HVDC

Product development

Developing solutions compatible with the electricity supply systems promoted by NVIDIA and OCP

800 VDC
(NVIDIA-promoted)

±400 VDC
(OCP-promoted)

Power rack

Schneider

GTM

Plans are in place to launch products, provide reference designs, and release technical specifications ahead of **NVIDIA product releases, enabling engineers and data center operators to formulate deployment plans.**

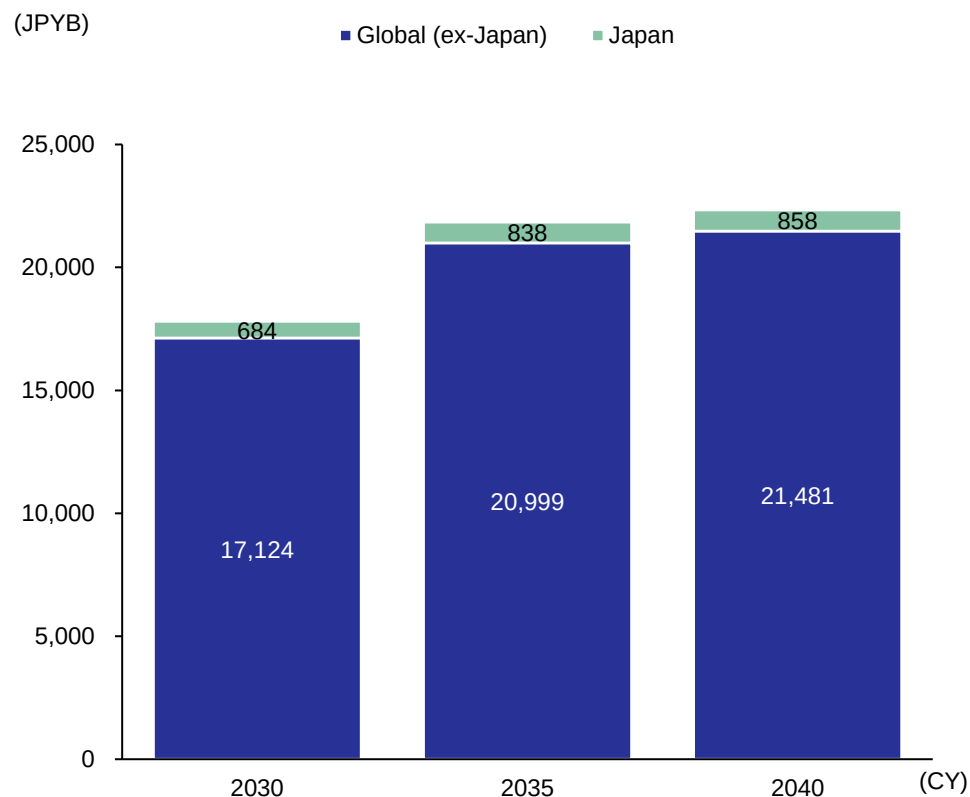
Future positioning

User-oriented GTM strategy also contributes to forming market positioning.

Steady growth is expected in the data center facility equipment market as data centers continue to expand

- Demand for the underlying data centers is expected to continue expanding in line with the spread of digital services such as cloud services and generative AI.
- Viewing market size on a CAPEX basis (Note), the market is expected to reach approximately JPYT18 in 2030 driven by increasing new data center construction, and while electricity consumption growth at data centers is projected to slow during 2030–2040, CAPEX-based market size is forecast to remain at JPYT21–22 per year.

DC facility equipment market size (CAPEX / annual flow)



(Calculation basis)

- Market size is defined as CAPEX (facility equipment) within total DC investment.
- Based on IEA's "Energy and AI (2025)" forecasts for data center electricity consumption (Wh) through 2035, data center capacity (W) was calculated assuming an 80% load factor and a 70% DC utilization rate.
 - The IEA forecast assumes a CAGR of 14.7% for 2024–2030 and 4.9% for 2030–2035; however, factoring in supply constraints in electricity and facility equipment, the electricity consumption (Wh) figure for 2030 was revised downward for the purposes of this estimate.
 - Electricity consumption (Wh) for 2040 was calculated by applying the rate of decrease from the 2024–2030 CAGR to the 2030–2035 CAGR (on the revised basis) horizontally to the 2035–2040 period.
- The 2030 market size (annual flow) was derived by multiplying the increase in data center capacity (W) over 2024–2030 by the development unit cost (\$12/W) to calculate cumulative CAPEX (building + facility equipment) for the period, then dividing by the number of years to obtain annual CAPEX. The same methodology was applied for 2035 and 2040.
- Of the above CAPEX (building + facility equipment), facility equipment is assumed to account for 75%, and CAPEX (facility equipment) was calculated accordingly.
- Market size for Global (excl. Japan) and Japan was calculated by multiplying global market size by Japan's share of global data center electricity consumption.

Note: CAPEX covers new investment in facility equipment only and does not include replacement investment.

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on IEA, "Energy and AI (2025)" and other publicly available information.

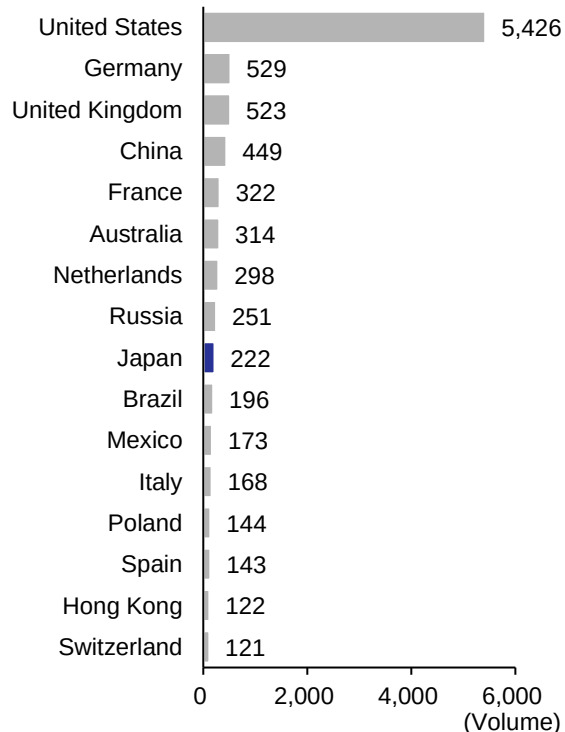
Japan has a significant number of data centers and is home to numerous vendors supplying data center equipment

- Japan has a number of data centers ranking among the global top 10, and hosts numerous related companies including manufacturers of data center equipment (IT equipment and facility equipment) and data center operators.
- Many Japanese companies also have a strong presence in electronic components used in AI data centers and servers.

Japan's strengths

Japan ranks 9th globally by number of data centers

Number of data centers by country (as of March 2025)



Numerous Japanese vendors capable of supplying products for data centers

Japanese companies with products for data centers

	Product	Major japanese vendors
Electricity systems	HVDC	Hitachi, Ltd.; Mitsubishi Electric Corporation; Toshiba Corporation
	Electricity transmission, substation, and receiving/distribution systems	Hitachi, Ltd.; Mitsubishi Electric Corporation; Toshiba Corporation; Fuji Electric Co., Ltd.
	Circuit breakers and switchgear	Mitsubishi Electric Corporation; Fuji Electric Co., Ltd.; Hitachi, Ltd.
	UPS	TMEIC; Fuji Electric Co., Ltd.
	BBU	Panasonic Energy Co., Ltd.
IT equipment	Servers and storage	Hitachi, Ltd.
	HDD	Toshiba Corporation
Cooling systems	Room air conditioning	Daikin Industries, Ltd.; Mitsubishi Electric Corporation
	CDU	Panasonic Air-Quality & Air-Conditioning Company; Daikin Industries, Ltd.; Mitsubishi Electric Corporation
	CRAH	Sinko Industries Ltd.; Daikin Industries, Ltd.
	Chillers, turbo chillers, and cooling towers	Mitsubishi Heavy Industries, Ltd.; Daikin Industries, Ltd.; Shinko Industries Ltd.

Many Japanese companies demonstrate a strong presence in electronic components used in AI data centers and servers

Japanese companies developing and selling electronic components for data centers and servers

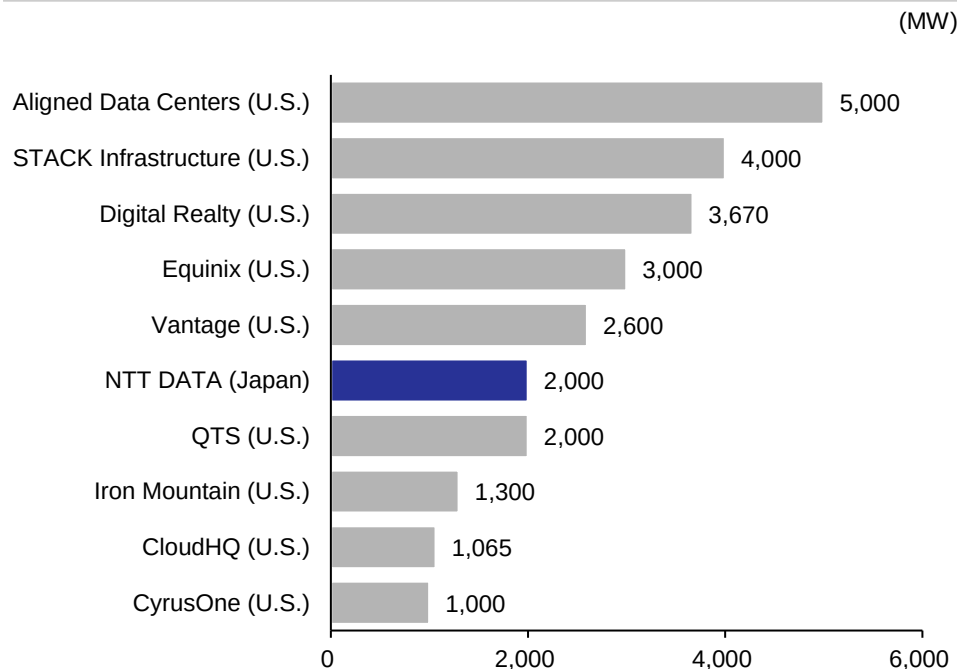
Company	Product examples
Taiyo Yuden Co., Ltd.	MLCC
Tamura Corporation	Transformers, reactors
TDK	Inductors, MLCC
Nidec Corporation	Water cooling module-related products
Nichicon Corporation	Conductive polymer capacitors
Nippon Chemi-Con Corporation	Conductive polymer capacitors
Nihon Dempa Kogyo Co., Ltd. (NDK)	Crystal oscillators
Panasonic Industry Co., Ltd.	Conductive polymer capacitors; MEGTRON (multilayer substrate material)
Fujikura Ltd.	Optical fiber cables, connectors
Furukawa Electric Co., Ltd.	Water cooling modules
Murata Manufacturing Co., Ltd.	MLCC

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on Ministry of Internal Affairs and Communications, "White Paper on Information and Communications in Japan (2025 Edition)," Data Compilation (Part II, Chapter 1, Section 8), and other publicly available information.

Japanese companies' presence in the global market remains limited

- Data centers are a capital-intensive business domain, and only a small number of Japanese companies possess the financial strength and operational foundation to scale globally.
- In the facility equipment segment covering electric power and cooling, companies with a strong global presence are predominantly from Europe and North America.

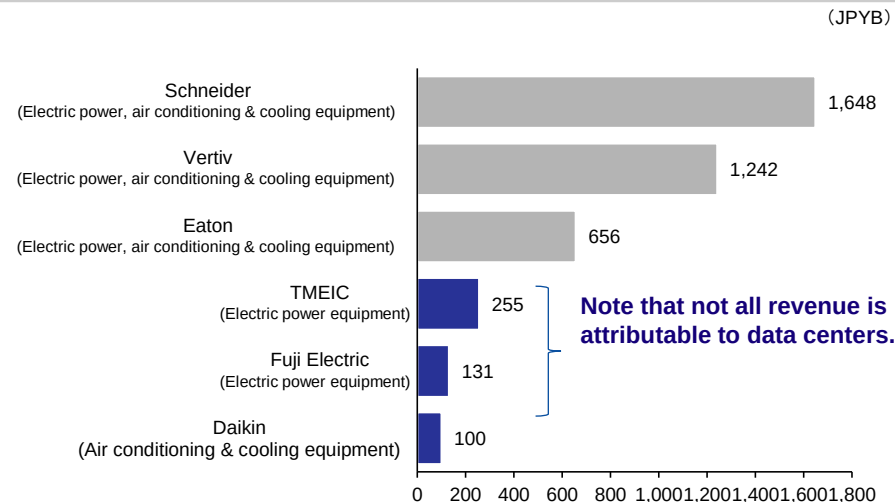
Operating capacity of major data center operators (as surveyed on March 10, 2026)



Note: This survey covers major DC operators that disclose capacity metrics and does not encompass all players. Note also that capacity definitions and disclosure timing vary across companies, and figures may partially include DCs under construction or in planning. This data is intended solely as a reference for gauging scale.

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Data center-related revenue of Western and Japanese companies (FY2024)



Schneider	Revenue of the "Data Centers & Networks" segment
Vertiv	A company specializing in products and solutions for data centers; total company revenue adopted.
Eaton	Calculated as total company revenue × data center revenue ratio (17%).
TMEIC	No segment-level disclosure available; total company revenue adopted.
Fuji Electric Co., Ltd.	Revenue of the "Facilities & Power Systems" subsegment within the "Energy" segment adopted.
Daikin	Revenue of approximately JPYB100 for the "North America Data Center Cooling Business" in FY2025, taken from the "Business Strategy Briefing for the Data Center Market" materials dated November 27, 2025.

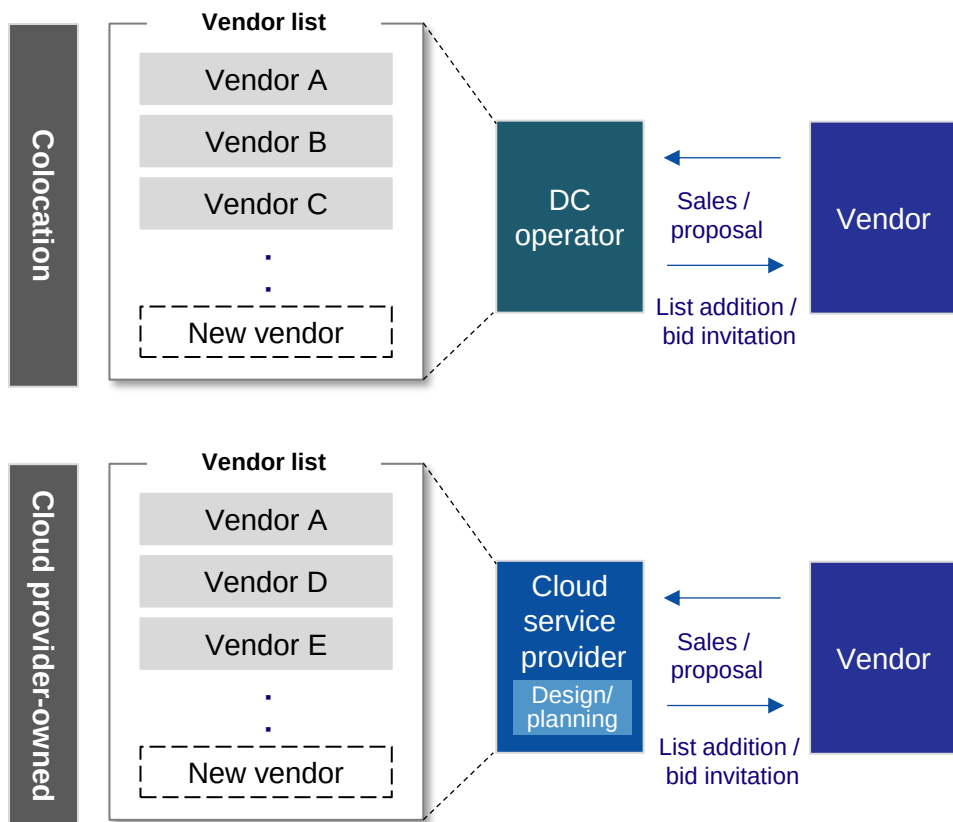
Note: Daikin figures are for FY2025 only. Exchange rates applied: JPY180/EUR for Schneider; JPY155/USD for Vertiv and Eaton.

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on IR materials of each company.

Reason for limited presence (1): current inability to adequately satisfy AI data center KBFs

- Since the Key Decision Maker differs depending on the data center ownership structure, vendors must be added to the proprietary vendor lists maintained independently by data center operators and cloud service providers, and proceed through individual bidding processes for each product.
- Furthermore, as requirements extend beyond product quality to encompass lead times to delivery and maintenance capabilities in each area where data centers are located, Japanese companies need to further advance the development of their product and service offerings.

Key decision makers for facility equipment



Note: Purchasing decisions for IT products within server racks are made primarily by cloud service providers.

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Key buying factors for facility equipment and the degree to which Japanese companies satisfy them

KBF	Reason for importance	Degree to which Japanese companies satisfy the KBF
Product quality and reliability (Quality)	✓ DCs are mission-critical facilities, where ensuring uninterrupted operation is the primary requirement.	✓ Quality of Japanese products is generally well-regarded, though this varies by product (energy efficiency, durability, etc.).
Lead time to delivery (Delivery)	✓ AI data center players are exposed to intense development competition and need to bring DCs online as quickly as possible.	✓ Varies by country; few operators globally cover all major DC markets.
Maintenance support (After Maintenance)	✓ DCs are mission-critical facilities, where response within tens of minutes to one hour may be required when problems arise.	✓ Same as above.
Product lineup available from a single vendor	✓ AI data centers have limited operational track records globally, and DC operators without in-house engineering expertise may prefer to entrust facility equipment — including electricity and cooling systems — to a single vendor.	✓ Players with strengths in individual electric power or cooling equipment exist, but no single vendor offers a full product lineup.
Provision of added value (e.g., EPC functions)	✓ Same as above.	✓ Same as above.
Price (Cost)	✓ Of lower importance compared to the above criteria in AI data centers, though lower cost is always preferable.	✓ Varies by product, but no significant difference from overseas competitors is assumed.

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Reason (2) for limited presence: insufficient collaborative relationships with companies at the epicenter of architectural change

- NVIDIA, at the core of current data center architectural transformation, plans to adopt 800VDC as its next-generation architecture while targeting 1,500VDC. Japanese companies appear among its partner firms, though only partially.
- In terms of depth of collaboration as well, Japanese companies' relationships with NVIDIA fall short compared to their European and U.S. competitors.

Nvidia's partnerships toward 800VDC

Category	Key companies collaborating with NVIDIA
Semiconductors	- Infineon Technologies (Germany) - Innoscence (China) - Navitas (U.S.) - Onsemi (U.S.) Renesas (Japan) ROHM (Japan) - STMicroelectronics (Switzerland) - Texas Instruments (U.S.) , etc.
Electrical Components	- Delta (Taiwan) - LITEON (Taiwan) , etc.
Electric Power Systems	- ABB (Switzerland) - GE Vernova (U.S.) Hitachi Energy (Japan) Mitsubishi Electric (Japan) - Schneider Electric (France) - Siemens (Germany) - Eaton (U.S.) - Vertiv (U.S.) , etc.
System Integrators	- Foxconn (Taiwan) - Supermicro (U.S.) - Quanta (U.S.) - Wiwynn (Taiwan) , etc.

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Examples of deep collaborative relationships with NVIDIA

NVIDIA — ✕ — Schneider

- ✓ In June 2025, **France's Schneider Electric announced a collaboration with NVIDIA to conduct research and development on electricity, cooling, control, and high-density rack systems**, and to advance next-generation AI data centers in Europe and beyond.
- ✓ Schneider Electric had previously co-developed reference designs spanning electricity to cooling as an NVIDIA-certified CDU vendor, and this initiative further accelerates that collaboration.

NVIDIA — ✕ — Eaton

- ✓ In July 2025, U.S.-based Eaton announced a **collaboration with NVIDIA on the transition to high-voltage direct current (HVDC) power infrastructure in AI data centers, with the aim of jointly developing design best practices, reference architectures, and electricity management solutions for NVIDIA's next-generation rack-scale system "Kyber."**
- ✓ Through collaboration with NVIDIA, Eaton aims to build solutions that optimize both gray space ^(Note) and white space ^(Note)

Note: Gray space: Space within a data center allocated to power supply equipment and cooling infrastructure.
White space: Space within a data center allocated to IT equipment such as servers and storage.

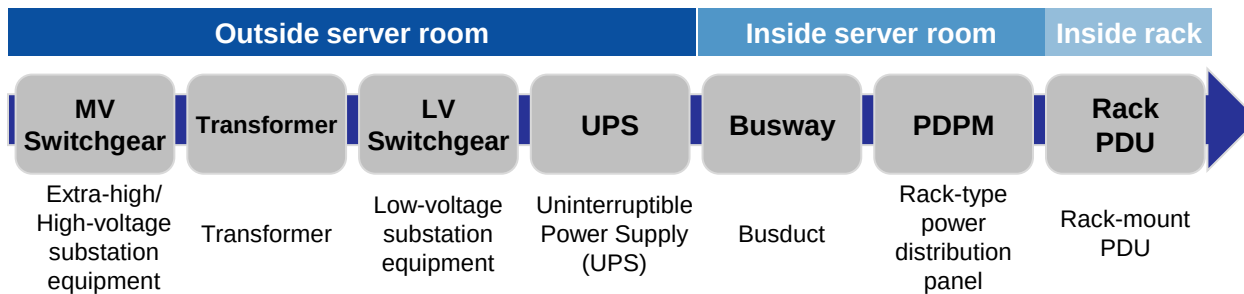
Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Schneider expands business in data center solutions

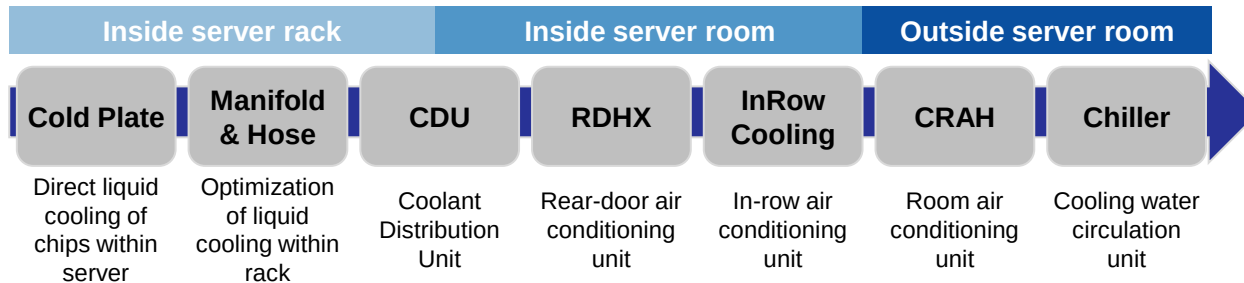
- Schneider's strategy is to offer a comprehensive lineup of facility equipment spanning electricity supply to cooling: "Grid to Chip," which delivers electricity supplied from the grid efficiently to the chip, and "Chip to Chiller," which dissipates heat generated at the chip efficiently to the chiller.
- Through the acquisition of U.S.-based APC, then the world's largest UPS manufacturer, in 2007, Schneider entered the Data Center Solutions business in earnest and steadily expanded its performance.

Schneider's strategic concept and product lineup for data center solutions

Grid to chip Delivering electricity supplied from the grid efficiently to the chip



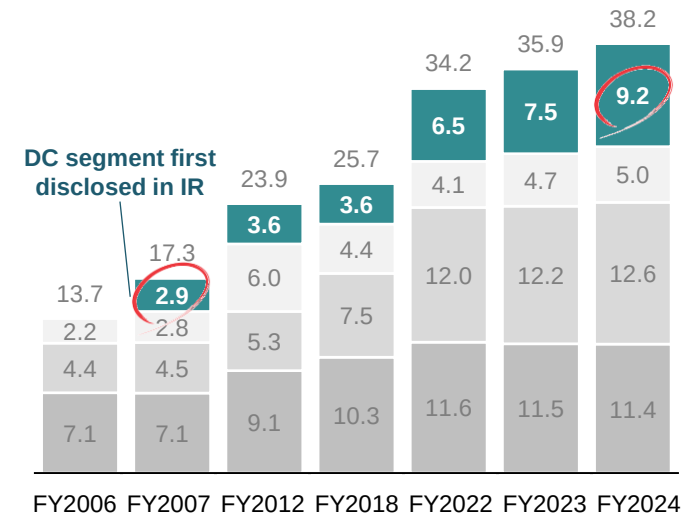
Chip to chiller Dissipating heat generated at the chip efficiently to the chiller



Trends in schneider's revenue by end market

(EURB)

■ Building ■ Industry ■ Energy & Infra ■ DC & Networks



Simply assembling a product lineup is insufficient, as it leads to competitive bidding on individual project bases. What matters is understanding the strategic intent behind how Schneider has expanded its facility equipment lineup.

Note: PDPM: Power Distribution Power Module; CDU: Coolant Distribution Unit; RDHX: Rear Door Heat Exchanger; CRAH: Computer Room Air Handling Unit

Source: Both figures compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Schneider established a firm position as a solutions vendor through a thorough problem-solving orientation

- Following the acquisition of APC in 2007, Schneider accelerated M&A activity in facility equipment and solutions for data centers.
- Both the strategic rationale behind the APC acquisition and the subsequent capability-complementing strategy were consistent expressions of a customer problem-solving orientation, which ultimately enabled the development of deep relationships with key technology vendors.

Key M&A transactions by schneider to strengthen DC solutions

Year	Target	Acquisition price	Business description	Contribution to DC business (intent)	Category
2024	Motivair Corp	\$850m	✓ Liquid cooling, advanced thermal management solutions	✓ Liquid cooling technology, thermal management solutions	Cooling
2017	Asco Power Technologies	\$1,250m	✓ Automatic transfer switches, quick connects, power control systems	✓ Improved availability and reliability of IT equipment through electric power redundancy	Electricity supply
2013	Electroshield TM Samara	\$329m	✓ Electricity distribution, automation management	✓ Medium/high-voltage electricity distribution and substation equipment ✓ Central Asia sales channels	Electricity supply
2011	Lee Technologies	n.a.	✓ UPS, air conditioning systems, generators	✓ Operational optimization of cooling systems, energy efficiency know-how	Cooling
2010	Uniflair	n.a.	✓ Air cooled chiller, water cooled chiller, inrow cooling	✓ Water-cooled solutions for DC cooling	Cooling
2008	Xantrex Technology	\$427m	✓ Power electronic products and system solutions	✓ DC (direct current) electricity supply technology ✓ Strengthening North American business base	Electricity supply
2007	APC	\$5,703m	✓ UPS, rack and accessories, power distribution	✓ DC electricity supply infrastructure (UPS, rack peripherals) ✓ Full-scale entry into North America	Electricity supply

Note: Schneider does not in practice distinguish between M&A transactions that strengthen Data Center Solutions and those that do not; the above represents a partial selection. "Contribution to DC Business" includes some estimation.

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Key points of schneider's M&A activity to strengthen DC solutions

Strategic rationale behind the APC acquisition

(Context at the time)

- At the time of the APC acquisition in 2007, Schneider was unable to foresee the subsequent rise of AI data centers; however, it anticipated that electrical power density **per rack would continue to increase and that electrical power management and cooling would become critical challenges going forward**, and therefore sought to enter the IT industry.
- As Schneider was little known in the IT industry at the time, an inorganic approach was considered necessary.

(Acquisition objectives)

- At the time, APC was focused on the server room and concentrated on small- to medium-sized enterprise solutions, with leading IT infrastructure companies such as Cisco, HP, and Dell among its clients.
- Schneider's objective was to acquire not only physical infrastructure capabilities but **also insights into the challenges facing its target customer industries**.

Capability-complementing strategy following the APC acquisition

(Problem-solving-oriented capability-complementing strategy)

- Following the APC acquisition, as electrical power density per rack increased, it became apparent that APC's existing In-Row cooling solutions were insufficient to meet demand, leading Schneider to acquire Uniflair — a water-cooled solutions provider — in 2010.
- **By proactively identifying the challenges facing target customer industries and expanding its portfolio to address those challenges, Schneider established a position as the first call for companies at the epicenter of technological and architectural change — i.e., key technology vendors.**

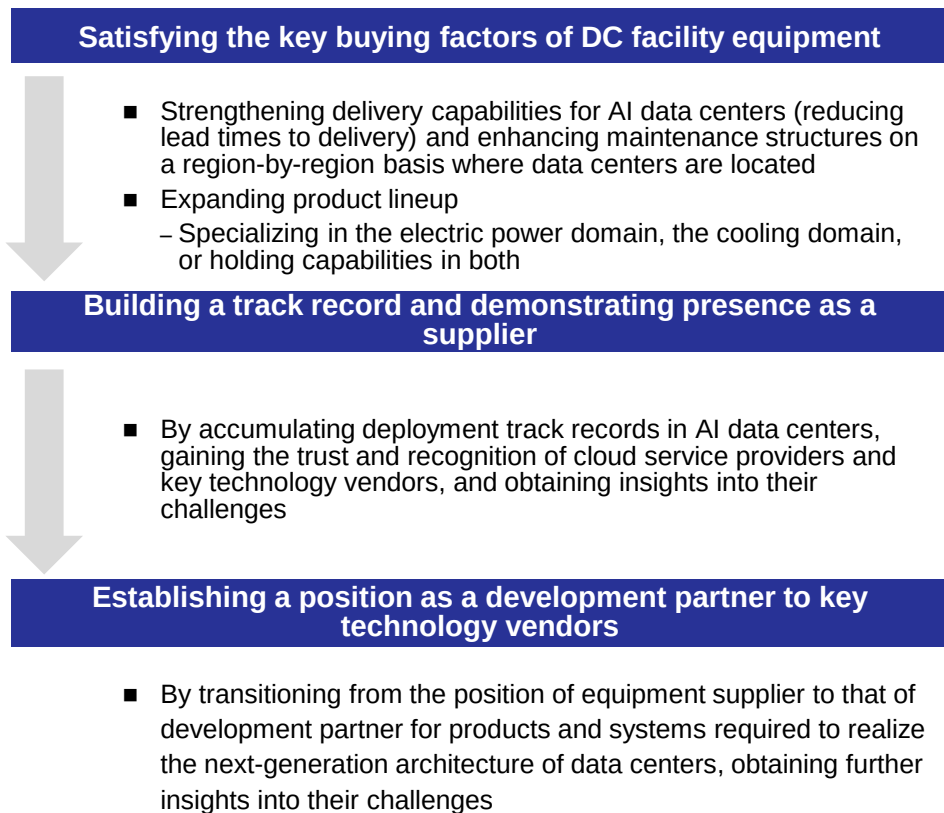
As a result, Schneider has deepened its relationship with NVIDIA — a key technology vendor in the AI data center space — to the point of jointly developing reference designs.

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

It is critical to transition from an equipment supplier to a development partner for key technology vendors

- To build AI Data Center Solutions including facility equipment, companies must satisfy the Key Buying Factors (KBF) required of DC facility equipment while building a track record — ultimately aspiring to move from a position as an "equipment supplier" to that of a "development partner."
 - Non-public insights into the challenges and technology roadmaps held by key technology vendors — obtainable through involvement in actual projects and development partnerships — serve as a source of competitive advantage.

Strategy for Japanese companies to pursue



Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Image of challenges surrounding AI data centers

	Near term AI data center ramp-up and emergence of challenges	Medium to long term Maturation of data centers as public infrastructure
Electricity generation / electricity supply	✓ Shift in electricity supply method driven by increased rack density (800V HVDC) ✓ Delays in grid connection ✓ Procurement constraints on facility equipment ✓ Increased temporary on-site electricity sources	✓ Implementation of 800V HVDC ✓ Increase in inference data centers ✓ Grid coordination on the demand side ✓ Proliferation of on-site carbon-free electric power sources such as small modular reactors
Cooling	✓ Standardization of next-generation cooling systems (liquid cooling, immersion cooling, etc.) ✓ Emergence of water constraints ✓ Response to refrigerant regulations	✓ Tightening of regulations on water consumption ✓ Mandating of waste heat utilization across wider areas

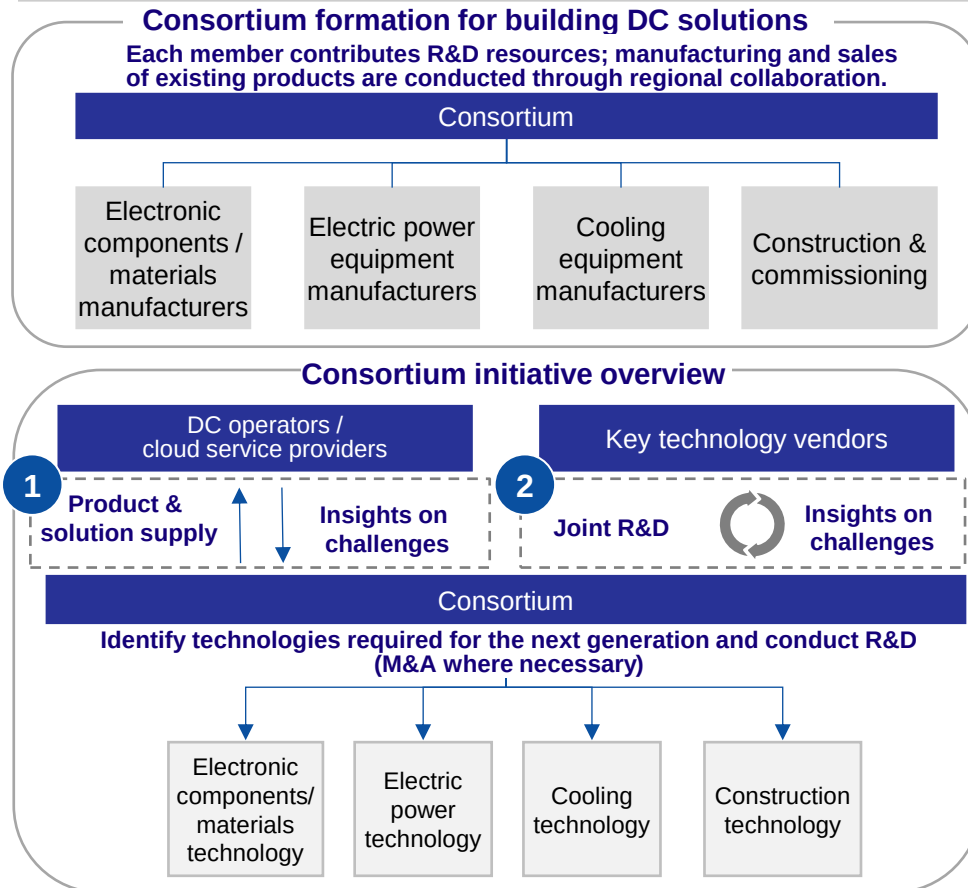
Among the many challenges (the above list is illustrative) viewed from a medium- to long-term perspective, obtaining insights into the challenges that key technology vendors consider priority areas for action, and into their technology roadmaps (non-public), serves as a source of competitive advantage.

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Form a consortium necessary to build data center solutions and stage a long-term comeback

- Multiple major domestic vendors form a consortium spanning research and development, manufacturing, and sales, and through initiatives such as bundled delivery of electrical and cooling equipment and the standardization of maintenance structures for each equipment type, satisfy KBF requirements while building a track record through domestic projects.
- By feeding the insights obtained back into research and development, and deploying the resulting next-generation products and solutions through the consortium's sales network, Japanese companies aim to stage a comeback in the DC facility equipment and solutions space.

Consortium formation and initiative overview for building data center solutions



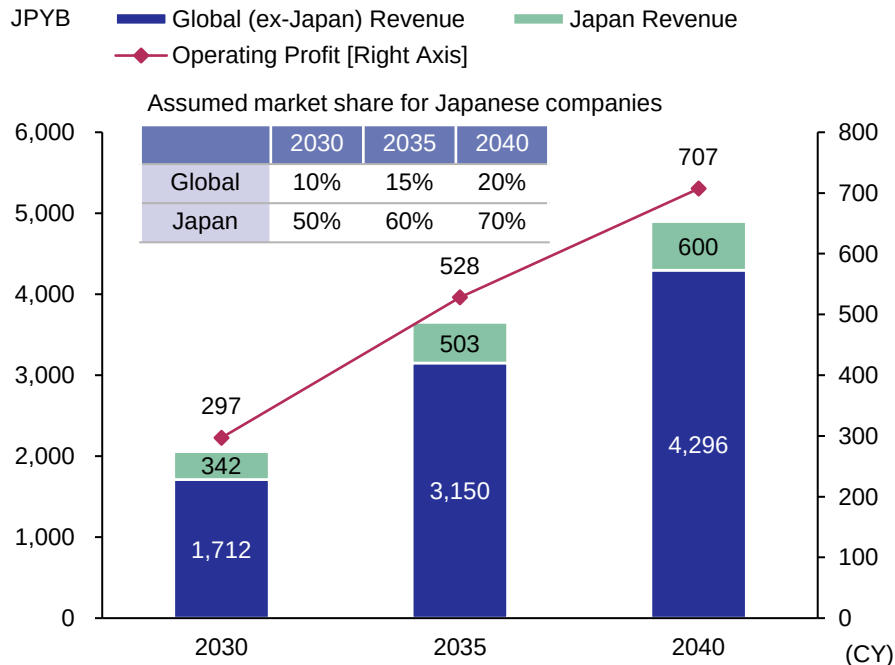
Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.



A comeback by Japanese companies would lead to the capture of new business areas

- If the consortium's efforts prove successful and Japanese companies secure a meaningful share of the data center facility equipment market while achieving operating profit margins on par with European and U.S. competitors, there is a possibility of generating annual revenue of approximately JPYT5 and operating profit of approximately JPYB700 by 2040.
- Benchmarking against Western competitors, the cumulative investment required for Japanese companies to achieve annual revenue of approximately JPYT5 by 2040 is estimated at JPYT1.3. As data centers represent critical national infrastructure, and as an enhanced presence of Japanese companies in the equipment market contributes to economic security and national wealth, government support — such as subsidizing a portion of the investment — is expected in addition to private-sector self-help efforts.

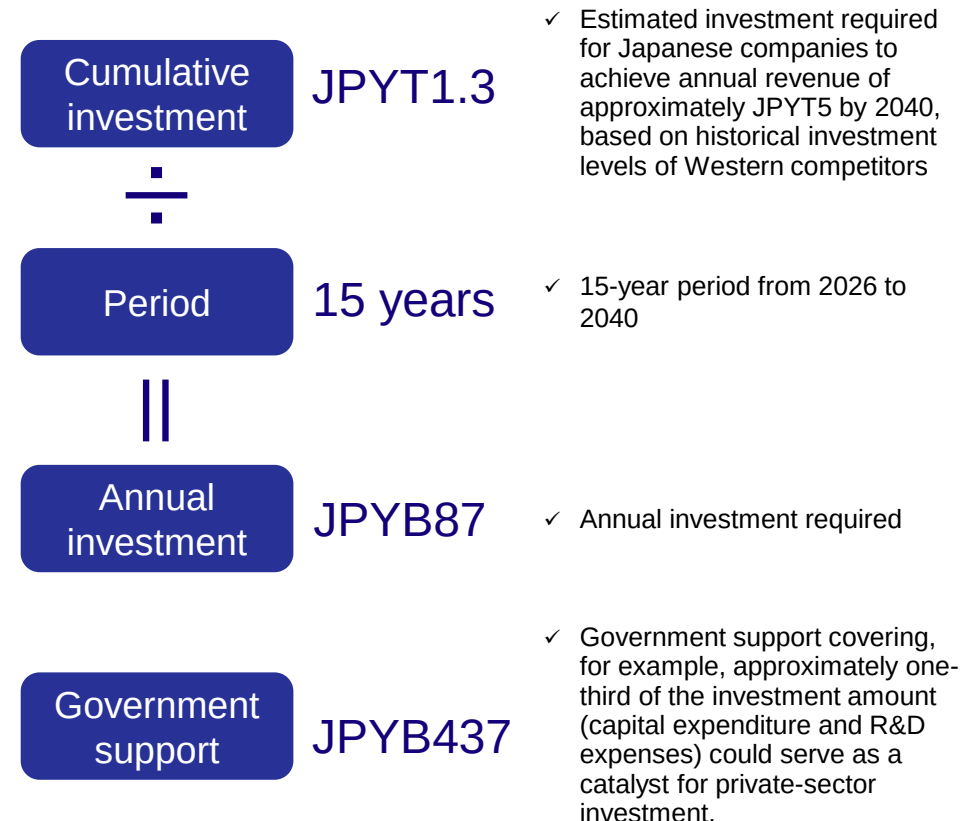
Revenue and operating profit expected to be captured by Japanese companies (single-year flow)



Note: Calculated by multiplying the DC facility equipment market size on p.8 by the assumed market share for Japanese companies. As the useful lives of facility equipment vary, replacement investment is not factored in. Operating profit margin is assumed at approximately 14%, based on the Western competitors used as a benchmark.

Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. Based on IEA "Energy and AI (2025)" and other publicly available information.

Investment amount and government support required to capture expected revenue and profit



Source: Compiled by Industry Research Department, Mizuho Bank, Ltd. based on publicly available information.

Industry Research Department	Telecom, Media and Technology Team	Tomoki Fujimoto	tomoki.fujimoto@mizuho-bk.co.jp
		Hisanori Matsuo	
	EMEA Research Team	Hiroyuki Adachi	Hiroyuki.Adachi@mizuhoemea.com
	Americas Research Team	Daisuke Hidaka	daisuke.hidaka@mizuhogroup.com

Mizuho Industry Research／80 2026

Published March 31, 2026

© 2026 Mizuho Bank, Ltd.

This document has been prepared solely for the purpose of providing information. This document is not recommendation for sales. This document has been prepared based on information believed to be reliable and accurate. The Bank accepts no responsibility for the accuracy or appropriateness of such information. Upon using this document, if considered appropriate, or if necessary, please consult with lawyers, CPAs and tax accountants. This document may not be altered, reproduced or redistributed, or passed on to any other party, in whole or in part, without the prior written consent of Mizuho Bank, Ltd.

Edited / issued by Industry Research Department, Mizuho Bank, Ltd

1-3-3 Marunouchi, Chiyoda-ku, Tokyo ird.info@mizuho-bk.co.jp