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Japan Renewable Energy Corporation  
Morgenrot Inc.

## **JRE and Morgenrot team up to provide GPU cloud services from solar-powered data center**

Japan Renewable Energy Corporation ("JRE"; headquartered in Minato-ku, Tokyo; Kazuhiro Takeuchi, President and CEO) and distributed cloud computing solutions provider Morgenrot Inc. ("Morgenrot"; headquartered Chiyoda-ku, Tokyo; Hiroataka Inoue, Representative Director, CEO) have agreed that JRE will provide a data center facility using renewable energy for GPU Cloud business by Morgenrot. The data center will be designed and built by MIRAIT Corporation ("MIRAIT"; headquartered Koto-ku, Tokyo; Toshiki Nakayama, President and CEO).

Growth in cloud services is one of the key factors behind the recent explosive increase in the volume of data. This in turn has led to increase in electric power consumption in data centers, creating an urgent demand for improved energy efficiency and greater use of renewable energy to reduce CO<sub>2</sub> emissions. Data centers tend to be concentrated in large metropolitan areas, dispersed distribution across regional areas is required as a way to improve disaster-resistant and reliability.

In this project, a containerized data center constituted of 40 AMD and NVIDIA servers will be installed at the JRE Nagano Omachi Solar Power Plant in Omachi, Nagano prefecture, which has been in operation since April 2022. Morgenrot will use the new data center to accommodate an anticipated massive increase in end user demand for GPU cloud services, particularly with respect to image processing, AI and machine learning applications. The data center will be designed and built by MIRAIT, a developer with many years of experience and abundant knowledge of communication infrastructure, with completion expected in October 2022.

The new data center will have priority access to power generated by the JRE Nagano Omachi Solar Power Plant during the day, while in the evenings, power will be supplied by JRE's fully-owned subsidiary JRE Trading Corporation (JRET), which purchases power from renewable sources on the non fossil fuel value trading market. As such, it will operate as a 100% green data center with zero CO<sub>2</sub> emissions. The server cooling system will use water drawn from an on-site well, with no CFCs involved. Thus, the data

center represents an exceptionally energy-efficient and environmentally-friendly installation.

Both JRE and Morgenrot will continue to work across industrial boundaries to construct new business models that will lead to decarbonization of critical infrastructure, thereby promoting the transition to a carbon-neutral society.

#### About JRE

Founded in 2012 with a mission "Changing the world with renewable energy." With the understanding of the local community, JRE currently has some 60 renewable power plants (including solar, wind and biomass) either in operation or under construction, plus a number of large-scale offshore wind farms and other projects at the planning stage. JRE is committed to addressing environmental and social challenges through renewable energy and working towards a decarbonized and fully sustainable society.

<https://www.jre.co.jp/english/>

#### About Morgenrot

Morgenrot was founded with a mission to create "green computing power" infrastructure for a digital society, specifically by building green data centers throughout the world, employing distributed computing technology and powered by renewable energy combined with the supply of surplus power. By providing a better way for cutting-edge businesses to access computing power, Morgenrot promotes environmentally conscious digital infrastructure that generates better outcomes for all humankind.

<https://jp.morgenrot.net/>

#### About MIRAIT

Founded in 1944, MIRAIT Corporation has been contributing to the development of society through building communication infrastructure and electrical systems for more than 70 years, with a strong focus on social innovation through ICT in recent years. MIRAIT Corporation supplies a range of advanced technologies and services in the field of communication networks and electrical installations.

<https://www.mrt.mirait.co.jp/>

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## Project overview

### JRE Nagano Omachi Solar Power Plant

Name	JRE Nagano Omachi Solar Power Plant
Installed Capacity	2,442.9 kW
Planned output (annual)	3,500,000 kWh
Design, procurement and construction	MIRAIT Corporation
Servers	Morgenrot Inc.
Power station operational	April 1, 2022
Data center construction start	May 2022
Data center operational	October 2022

## Project model

