

February 1, 2023
NGK INSULATORS, LTD.
Ricoh Company, Ltd.

NGK and Ricoh Start Operations at Joint Venture NR-Power Lab Co., Ltd.

NGK INSULATORS, LTD. (“NGK”) and Ricoh Company, Ltd. (“Ricoh”) announced today that they have started operations at NR-Power Lab Co., Ltd. (“NR-Power Lab”), the two companies’ joint venture in the electric power business.

NR-Power Lab will provide services to promote the widespread adoption of renewable energy, which is essential to achieving carbon neutrality. These services will be provided by combining NGK’s control technologies for storage batteries*¹, such as its proprietary large-capacity NAS[®] batteries, and Ricoh’s renewable energy distribution record platform*², which uses its proprietary digital technologies.

NR-Power Lab seeks to commercialize the following at an early stage:

➤ **Virtual Power Plant (VPP) service**

A VPP uses digital technology to perform integrated control of various energy resources, functioning like a power plant. These resources include electricity generated through renewable energy sources, electricity for charging and discharging storage batteries, and electricity consumed by facilities and homes. This service will comprehensively regulate the supply-demand balance of electricity, and contribute to the stable and efficient use of renewable energy since the amount of electricity generated from renewable energy varies with the weather and the seasons. Supplying balancing capacity to the energy balancing market—where power (balancing capacity) is traded to eliminate the supply-demand gap for electricity—will also be considered.

➤ **Digital electricity services**

New electricity services that offer higher added value will be provided by using digital technologies such as blockchain technology and electricity data obtained through IoT technology. Efforts will be made to achieve the decarbonization of communities and companies and to support their introduction of renewable energy. This will be done through the supply of solutions such as energy-efficient equipment, energy management, and the maintenance and operation of solar power generation facilities.

NGK and Ricoh have both joined RE100^{*3} and have been running a trial renewable energy tracking project^{*4} since May 2022. Through new businesses that integrate both companies' existing technologies and expertise, the two companies will support the widespread adoption and introduction of renewable energy and contribute to realizing a sustainable society.

*1 NGK's storage batteries:

NAS battery for energy storage <https://www.ngk-insulators.com/en/product/nas.html>

ZNB, zinc rechargeable battery <https://www.ngk-insulators.com/en/rd/>

*2 Ricoh's renewable energy distribution record platform:

Application of blockchain technology to the renewable energy field

https://www.ricoh.com/technology/tech/089_blockchain

*3 RE100:

A global initiative that aims for corporations to cover the electricity used in their business activities with 100% renewable energy

*4 NGK and Ricoh's trial project:

November 12, 2021: NGK and Ricoh to Start Trial Renewable Energy Tracking Project

https://www.ngk-insulators.com/en/news/2021/20211214_2.pdf

■ Overview of the Joint Venture

Company name	NR-Power Lab Co., Ltd.
Location	22-8, Chikusa 2-chome, Chikusa Ward, Nagoya, Aichi Prefecture, Japan Inside Nagoya Life Science Incubator (NALIC)
Representative	Yuichi Nakanishi, Representative Director and President
Business activities	Business development related to VPP services and digital electricity services
Capital	40 million yen
Investment ratios	NGK INSULATORS, LTD. 51.0% / Ricoh Company, Ltd. 49.0%
Start of operations	February 1, 2023
URL	https://nr-power-lab.jp
Employees	11 (as of February 1, 2023)

■ **Corporate logo of NR-Power Lab Co., Ltd.**



The corporate logo depicts NGK (N) and Ricoh (R) combining their strengths and harnessing New Resources and immense Power to accelerate the realization of carbon neutrality.

■ **Message from Yuichi Nakanishi, Representative Director and President of NR-Power Lab Co., Ltd.**

My name is Yuichi Nakanishi. I have been appointed as the new company's president.

Since their founding, NGK and Ricoh have developed various businesses that contribute to solving environmental issues in Japan and overseas to realize a sustainable society.

NR-Power Lab will strive to solve issues associated with spreading renewable energy, which is essential to realizing a decarbonized society. We will do so by combining the strengths of both NGK and Ricoh and harnessing their physical assets, digital technologies, and services. Through these efforts, NR-Power Lab aims to contribute to realizing a sustainable society. Specifically, at an early stage, we will ambitiously commercialize two businesses, VPP services and digital electricity services. The first business, VPP services, regulates electricity supply-demand balance through integrated control of various energy resources with IoT technology. The second business, digital electricity services, provides new value to society by harnessing power generation and usage data.

Our mission statement is "Be ambitious. Bring together wisdom from many sectors to find solutions for the next generation." With this goal in mind, we intend to solve problems through open innovation.