

Sep 16, 2026

Technical Exchange Held at the Numazu Plant to Advance the Practical Deployment of Joint Green Ammonia Research with South Africa

Researchers from the Republic of South Africa and Japan Participating in the SATREPS Project
“Development of New Ammonia Synthesis System using Renewable Energy and Hydrogen”
Visit N.E. CHEMCAT

N.E. CHEMCAT CORPORATION (Head Office: Minato-ku, Tokyo; President and Representative Director: Axel Pilgrim) supports in the Science and Technology Research Partnership for Sustainable Development (SATREPS) project, “Development of New Ammonia Synthesis System using Renewable Energy and Hydrogen,” jointly promoted by the Japan Science and Technology Agency (JST) and the Japan International Cooperation Agency (JICA) under a contractual arrangement..



Researchers and engineers from the Republic of South Africa participating in this project recently visited the Numazu Plant of N.E. CHEMCAT. In preparation for the future installation and operation of a bench-scale plant in South Africa, the visitors reviewed commissioning activities and discussed technical challenges associated with the project.

During the visit, participants shared progress in research and development, exchanged views on technical issues related to the practical deployment of green ammonia production technology, and toured research and manufacturing facilities. The visit further strengthened collaboration toward future demonstration and implementation activities.

Project Overview

This research project was selected in FY2021 under SATREPS as “Development of New Ammonia Synthesis System using Renewable Energy and Hydrogen” and is being jointly conducted by research

institutions in Japan and the Republic of South Africa. The Japanese Principal Investigator is Prof. Kenichi Aika, Visiting Professor at National Institute of Technology, Numazu College, while the South African Principal Investigator is Prof. Dmitri Bessarabov, Professor at North-West University.

Through collaboration between Japan and South Africa, the project aims to develop green ammonia production technology by combining South Africa's abundant solar and wind resources and expertise in water electrolysis with Japan's strengths in ammonia synthesis technology. The ultimate objective is to demonstrate the production of green ammonia from renewable energy by installing a bench-scale ammonia synthesis plant in South Africa that integrates technologies from both countries.

The bench-scale plant was temporarily installed at N.E. CHEMCAT's Numazu Plant in January 2026 and is currently undergoing commissioning tests to optimize operating conditions and identify technical challenges. During this visit, discussions focused on commissioning progress and technical issues in preparation for the future installation and operation of the plant in South Africa.

Statements

SATREPS Principal Investigator

Prof. Kenichi Aika

Visiting Professor, National Institute of Technology, Numazu College

"It was truly inspiring to witness the operation of the pilot-scale ammonia synthesis system, capable of producing several kilograms of ammonia per day and featuring innovative catalyst and process technologies. By integrating this system with the water electrolysis technology developed at North-West University in South Africa, we hope to accelerate its path toward commercialization."

I would like to extend my heartfelt appreciation to all stakeholders in Japan and South Africa for their invaluable support and collaboration."

Representative of the South African delegation

Dr. Neels Le Rou

Project Leader

"By observing the plant in operation and discussing practical aspects with the N.E. CHEMCAT experts, the team gained essential knowledge that will be directly applied during the disassembly, shipment, installation, commissioning, and operation of the pilot plant in South Africa. The NWU (North-West University) team was extremely impressed by the professionalism, technical expertise, and commitment demonstrated throughout the training programme. We are sincerely grateful for the support, hospitality, and knowledge shared during the visit, which has provided the team with the confidence and technical understanding required to successfully establish and operate the green ammonia pilot plant at NWU. Thank you very much."

N.E. CHEMCAT CORPORATION

Masatoshi Yoshimura

Executive Officer and General Manager, Research & Development Center

"As part of the SATREPS project, we have been granted the opportunity to install an ammonia synthesis bench-

scale plant at our Numazu Plant and to validate the catalyst and process technologies developed in Japan. While this marks the first step toward future implementation and commercialization, we would like to express our sincere appreciation to Professor Aika and all members of the SATREPS program for providing us with this valuable opportunity.

Through continued collaboration within the SATREPS framework, including with our South African partners, we will further advance catalyst improvement, scale-up and mass production technologies, as well as process development, with the aim of achieving practical implementation of this technology in the future “.

About N.E. CHEMCAT CORPORATION

N.E. CHEMCAT CORPORATION develops, manufactures, and sells process catalysts, auto exhaust catalysts, fuel cell catalysts, and related products, while also conducting precious metal recovery and refining. Through research and development of next-generation energy technologies, including hydrogen and ammonia technologies, the company is committed to contributing to the realization of a sustainable society.

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[Representative] Axel Pilgrim, President & Representative Director

[Established] April 1964 [Capital] JPY 3.4235 billion

[URL] <https://www.ne-chemcat.co.jp/eg/>

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