

21st September 2023

Announcement of New Team-composition for "Development of Large Flow Rate, High Pressure, High Efficiency Liquefied Hydrogen Boosting Pumps"

Torishima Pump Mfg. Co., Ltd. (hereinafter referred to as "Torishima") has formed the research-team for the Development of Large Flow Rate, High Pressure, High Efficiency Liquefied Hydrogen Boosting Pump (hereinafter referred to as "the Project")".

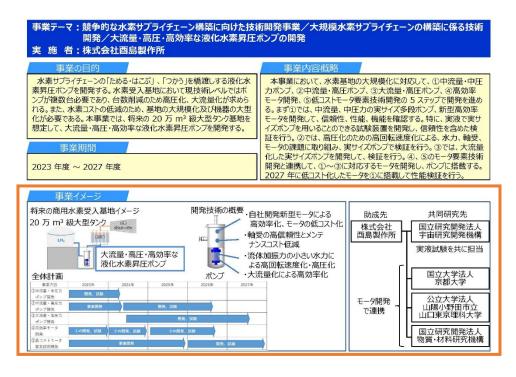
The Project has been officially adopted and subsidized by the Japanese Government Body, NEDO (New Energy and Industrial Technology Development Organization), as part of the Japanese Government initiative for the "Development of Technologies for Building a Competitive Hydrogen Supply Chain & Development of Technologies for Large-scale Hydrogen Supply Chain Establishment".

The Project aims to develop a liquefied hydrogen boosting pump that bridges the "Storage, Transportation, and Utilization" of the hydrogen supply chain toward a hydrogen-based society that realizes carbon neutrality. Specifically, assuming a 200,000 m3 class large tank base to accommodate a larger scale hydrogen receiving terminal, Torishima will develop suitable new "Pumps" and "Motors" simultaneously from FY2023 to FY2027.

Torishima is responsible for the research and development of pumps, while JAXA (Japan Aerospace Exploration Agency) will support conducting the performance test. For motors, Torishima will collaborate its development with Kyoto University, Sanyo-Onoda City University, and NIMS (National Institute for Materials Science).

By bringing together the technologies and expertise developed by Torishima and these organizations, we commit ourselves to contributing to realizing "Large-scale hydrogen supply chain" as an "Essential Service Provider to the Society".

NEDO official document (Japanese only)



This is the English version of the NEDO official document translated with Torishima's responsibility

| The Image of Hydrogen Receiving Terminal in the Future with 200,000 m3 class large tank Gas Turbine Vaporizer Boosting Pump for Liquefied Hydrogen with Large Flow Rate, High Pressure, and High Efficiency | | | Overview of Technology to be developed in-house Motor: higher efficiency & low cost components Bearings: high reliability & low maintenance cost Pump: new hydraulic design with low fluid excitatio force to achieve high speed & high pressure Pump: larger flow rate to achieve high efficiency | | |
|---|---|---|---|---|--|
| Development of | FY2023 | FY2024 | FY2025 | FY2026 | FY2027 |
| 1. Medium flow rate, medium pressure pump | Development, Verificatio | n | | | |
| 2. Medium flow rate, high pressure pump | Element Developmen | t De | velopment, Verification | | |
| 3. Large flow rate, high pressure pump | | | Development, Veri | fication | |
| 4. High-efficiency motors | Development, Element test of "1" pump. | Development, Element test of "2" pump. | Development, Element test | of "3"pump. | |
| 5. Elemental technologies for low-cost motors | | Element Development | | Development, ' | Verification |
| Recipient of subsidies | Kyoto University Sanyo-Onoda City | Exploration Agency (JAXA | , → Collabora | n for Actual Test with ition in the Motor De | n 197 - Store and a store of the |