

■ Progress to date

1. Phase 01 July 2020 to January 2021

KDDI conducted the basic demonstration testing of an immersion cooling data center in Taiwan. The test was carried out on a containerized data center inside a 20-foot container, with the new immersion cooling technology used in combination with outside air-cooling. The test yielded a PUE of 1.09.

2. Phase 02 June 2021 to March 2022

KDDI, MHI and NESIC successfully conducted demonstration testing of an immersion cooling system to liquid-cool the IT components of a data center contained in a small container. Compared to a conventional data center, energy consumption was reduced by 43% and a containerized data center with a PUE of 1.07 was achieved.

June 21, 2021 Press Release

KDDI, MHI and NESIC issued a press release (in Japanese only) announcing the start of demonstration testing targeting use of immersion cooling in a small data center. The testing, aimed toward achieving decarbonization, will demonstrate how immersion cooling of servers reduces energy consumption.

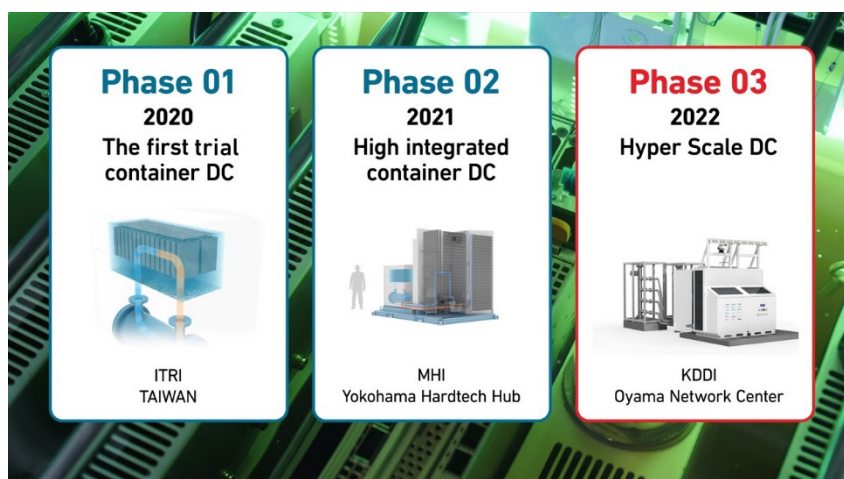
March 29, 2022 Press Release

A press release (in Japanese only) announced successful achievement of a 43% reduction in energy consumption of a containerized data center incorporating liquid-cooled servers. The system underwent trial operation at KDDI's Oyama Technical Center (TC) aimed at commercialization in FY2024, to contribute to decarbonization.

3. Phase 03 April 2022 to March 2023

KDDI, MHI and NESIC successfully conducted demonstration testing of a hyper-scale immersion cooling data center, its IT components liquid-cooled, at KDDI's Oyama NC, achieving stable operation. Compared to a conventional data center, energy consumption was reduced by 94% through liquid cooling of the servers. A PUE of 1.05 was achieved.

Through the efforts made to date, data center scale has steadily increased and PUE gradually lowered. Going forward, further development will continue toward the achievement of fully sustainable immersion cooling data centers.



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