

JS Technology Verification Program certifies "Energy-saving and Easy O&M DHS Wastewater Treatment Technology"

JS Technology Verification Program, which has been running since 2013, aims to support domestic private companies' global business expansion.

This time, the program has verified "Energy-saving and Easy O&M DHS Wastewater Treatment Technology" developed by SANKI ENGINEERING CO., LTD. as a technology adaptable overseas through a year validation period.

JS will have a ceremony giving certificate to SANKI ENGINEERING on March 28, 2022.

SANKI ENGINEERING demonstrated "Energy-saving and Easy O&M DHS Wastewater Treatment Technology" for a year in Khon Kaen, Thailand. JS has verified the technology's validity for its treatment performance, etc., based on the demonstration data.

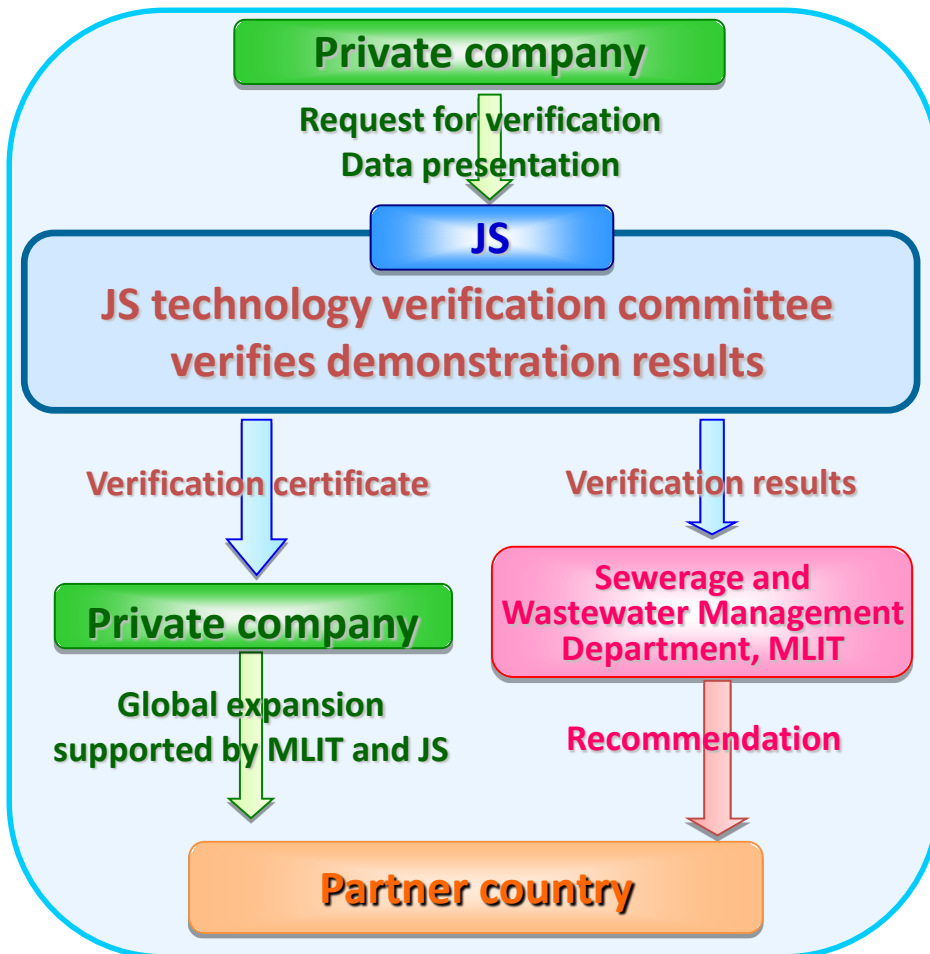
JS will open the verification results to continuously support the technology's each phase of planning, design, construction, and O&M in association with the Ministry of Land, Infrastructure, Transport, and Tourism (MLIT).

JS Technology Verification Program

JS Technology Verification Program aims to support domestic private companies' global business expansion. In 2022, the program verified DHS technology for Thailand.

- Applicant: SANKI ENGINEERING CO., LTD.
- Energy-saving and easy O&M DHS wastewater treatment technology
- Target: Thailand
- Demonstration site: Khon Kaen city
- Confirming party: Japan Sewage Works Agency

Process flow chart of global technology verification



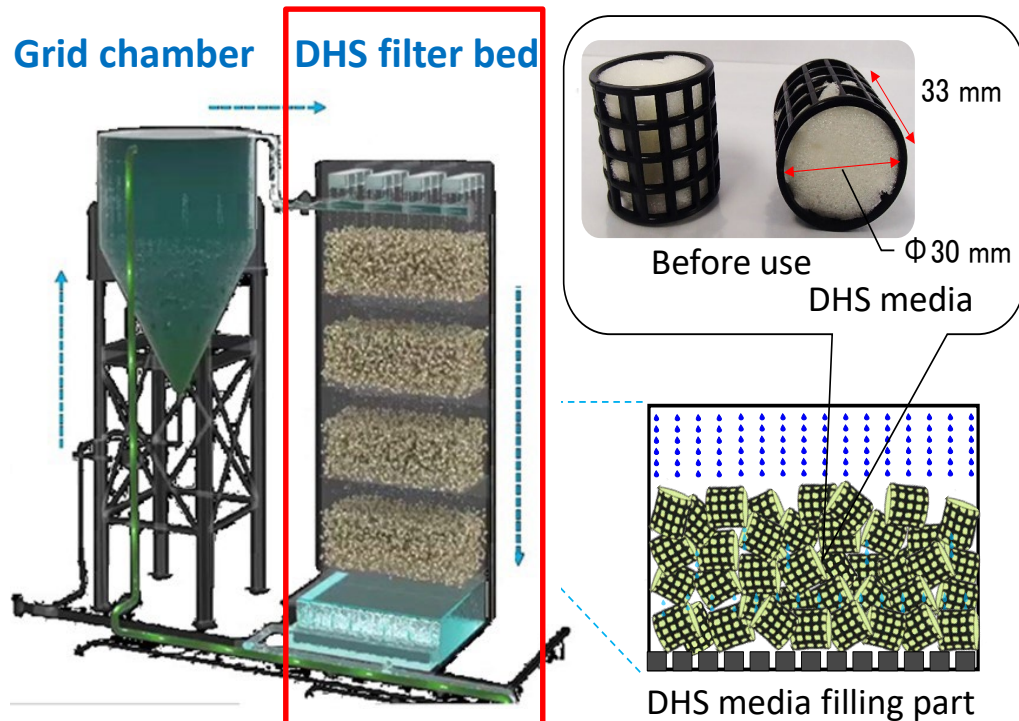
Verification items	Verification method
① Treatment performance	Results of the water quality analysis acquired at demonstration
② Sludge generation	
③ Unit power consumption	Model design calculation of 1,500m ³ /day based on the demonstration
④ Footprint	
⑤ O&M performance	Demonstration results



Appearance of the demonstration facility in Khon kaen city

DHS(Down-flow Hanging Sponge): A trickling filter adopting sponge carriers has an innovative refine compared to the existing trickling filters.

- **Stable treated water quality:** Standard design inflow quality satisfied discharge standard in Thailand.
- **Low sludge generation:** Long sludge retention time at DHS filter bed makes low sludge generation.
- **Energy-saving:** Requiring no aeration. Only lift pumps and ventilator to DHS filter bed need electricity.
- **Space-saving:** Smaller footprint than the OD process
- **Labor- saving:** Less equipment than the OD process makes O&M easy.



Scope of the technology verification

Application conditions

(1)Water temperature

Demonstration in Thailand: 25°C and over all the time

Actual scale in Japan: Treatment performance changes at above or below 20°C

⇒ Performance may decrease below 20°C

(2)Influent quality

Mixing much oils and fats degrades DHS treatment performance⇒Need to consider setting up such as grease-trap

(3)Treatment capacity

Assuming medium to small-scale WWTP

(Model calculation of 1500m³/day)