

HydroSuction Dredge

Miwa Dam, Japan

Challenge

Miwa Dam is Japan's principal test facility for sediment management technologies. Due to highly erodible geological formations, the reservoir receives some of the country's highest sediment loads, resulting in rapid loss of storage capacity. Japan's Ministry of Land, Infrastructure, Transport and Tourism (MLIT) initiated a full-scale demonstration to evaluate efficient reservoir dredging technology for nationwide application.

The project served as a reference demonstration for future reservoir sediment management in Japan.



SediCon HydroSuction Dredge during full-scale demonstration



Sediment discharge during testing

Solution

SediCon, together with its Japanese partner Khowa Engineering Co. Ltd., designed and supplied a full-scale HydroSuction Dredge equipped with a high-efficiency water jetting system. The dredge was developed to remove sediments ranging from fine silt to stones up to 280 mm while maintaining continuous, gravity-driven operation.

The system was demonstrated during January and February 2010, confirming the dredging capacity and demonstrating reliable continuous high-production operation.



Project Location

Project facts

Client: Khowa Engineering Co. Ltd. / MLIT
Project: Miwa Dam Demonstration
Location: Nagano Prefecture, Japan
Technology: HydroSuction Dredge
Application: Full-scale technology demonstration
Demonstration: January–February 2010

Results and benefits

- Successfully demonstrated at full scale
- Removes material up to 280 mm
- Handles silt, wood and stones
- Verified continuous operation
- Selected by Japan's MLIT
- Evaluated for nationwide application

For more than 30 years, SediCon has developed and supplied proprietary sediment handling technologies from Trondheim, Norway. Our solutions for reservoirs, intakes, desanders and tunnels have been successfully implemented in hydropower projects in more than 20 countries across five continents.