



LISIE AND PENDULAR DREDGING

RELEASE OF THE BOTTOM OUTLET ZMUTT DAM

PROJECT TITLE

Zmutt Dam



CLIENT

Hydro Exploitation

LOCATION

**Zermatt,
Switzerland (CH).**



YEAR OPERATION

2025



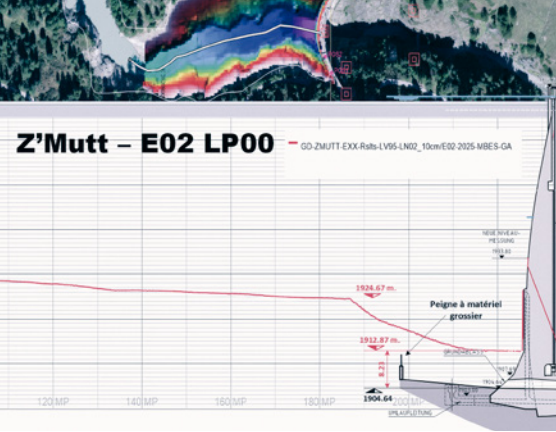
PROJECT OVERVIEW

The Z'Mutt Dam is an arch dam with a capacity of 800,000 m³, fed by the Bis and Schali glaciers. It is located in the canton of Valais at the end of a remote valley beneath the Matterhorn, at an altitude of approximately 2,000 meters.

The project initially involved pumping 1,000 m³ and releasing the bottom valve. The construction site was particularly demanding and complicated due to the highly varied nature of the sediments, as well as the remoteness from any human infrastructure and the very limited access, which required the use of helicopter transport—already constrained by the altitude.

TECHNICAL APPROACH & IMPLEMENTATION

The project involved between 6 and 15 people over a period of 7 months, working 24 hours a day, 7 days a week, after which the bottom valve was released. The operation required combining different sediment management methods: submersible and Lisie pumping systems, grab crane operations, pendulum pumping, and the use of explosives.



The operation was further complicated by heavy snowfall and unpredictable weather at this altitude, as well as by massive and diverse sediment deposits, including rock blocks, wood, sand, and silt.

The pendulum pumping system was eventually implemented, allowing a peak throughput of approximately 900 m³/h with a slurry concentration ranging from 10 to 50%, resulting in a final volume of around 50,000 m³.

« A monumental project, both in scale and working conditions. Z'Mutt showcases Watertracks teams' exceptional ability to undertake extraordinary projects by combining expertise and knowledge related to water, depth, the mastery of specialized equipment, engineering, mechanics, as well as organization and persevering work under highly challenging conditions. »

RESULTS & PERFORMANCE

- > **50,000m³** dredged sediments.
- > About **6,000** dredging hours.
- > **66m** work deepness.
- > **Work day and night, 7/7.**
- > **Zero** accidents.