

BAYWEI M1

A New Era in Underwater Surveying: Minimal Setup, Maximum Insight

M1 Multibeam sonar

The tiny Baywei M1 multibeam sonar is ideal for rapid underwater structure and terrain assessment. This sonar delivers real time data with no post processing.

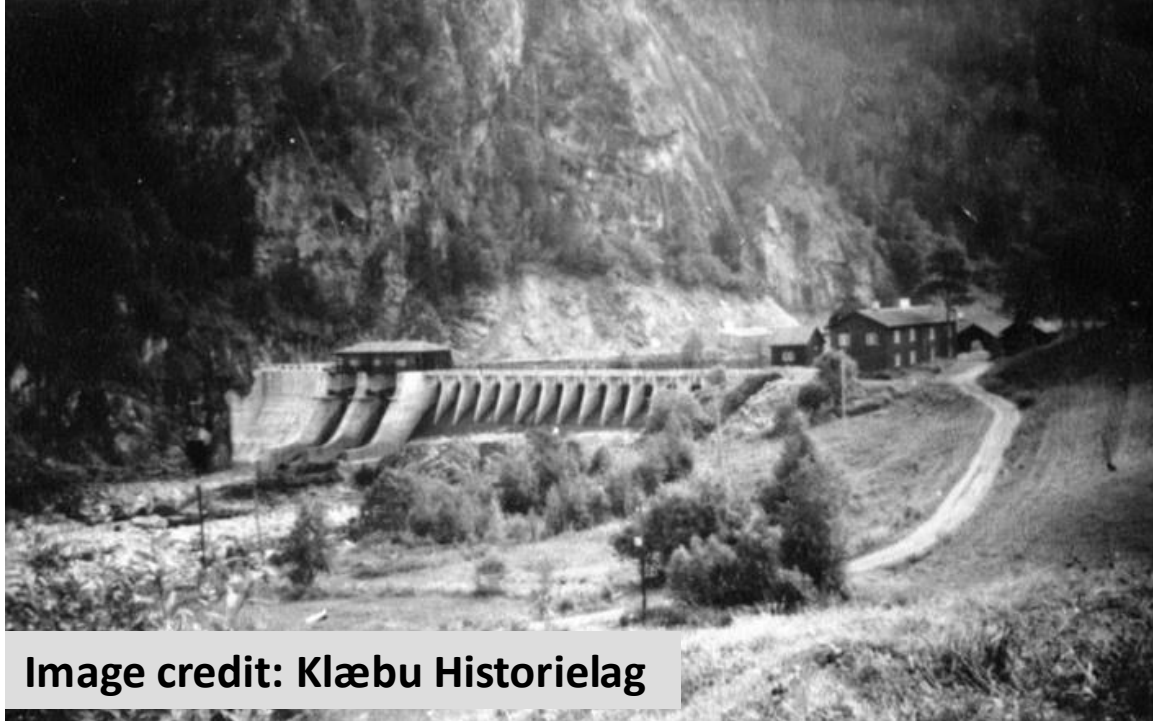
FEATURES

- High quality shallow water bathymetry for geo-, and hydrospatial professionals
- Direct XYZ point cloud data export, - compatible with CAD, CloudCompare, and more
- Real-time 3D visualization via onboard app
- Lightweight, modular design, - fits on any small boat, USV or ASV
- No topside box needed
- Integrated IMU in sonar head, - no offset measurements required
- No need for sound velocity casts
- No need for processing software
- Requires only a standard power source, mounting pole and survey laptop



Survey at Hyttfossen, Norway

Hyttfossen, 1946



Historical context meets next-generation underwater survey capabilities.

Hyttfossen has powered Norwegian industry since the 1920s. With its current dam structure dating back to 1949, the location also hides the submerged remains of the original 1924 dam — a rarely visible piece of hydroengineering history. The survey mission aimed to capture both current structures and the buried past, delivering geo-referenced 3D point cloud data in real-time, - using the small and lightweight Baywei M1.

The Survey Set-up

The survey setup was done with an improvised on-site generated mounting arrangement. One pole with antennas used for position acquisition on one end and M1 attached to the other.



Mobility and off-the-grid- capabilities

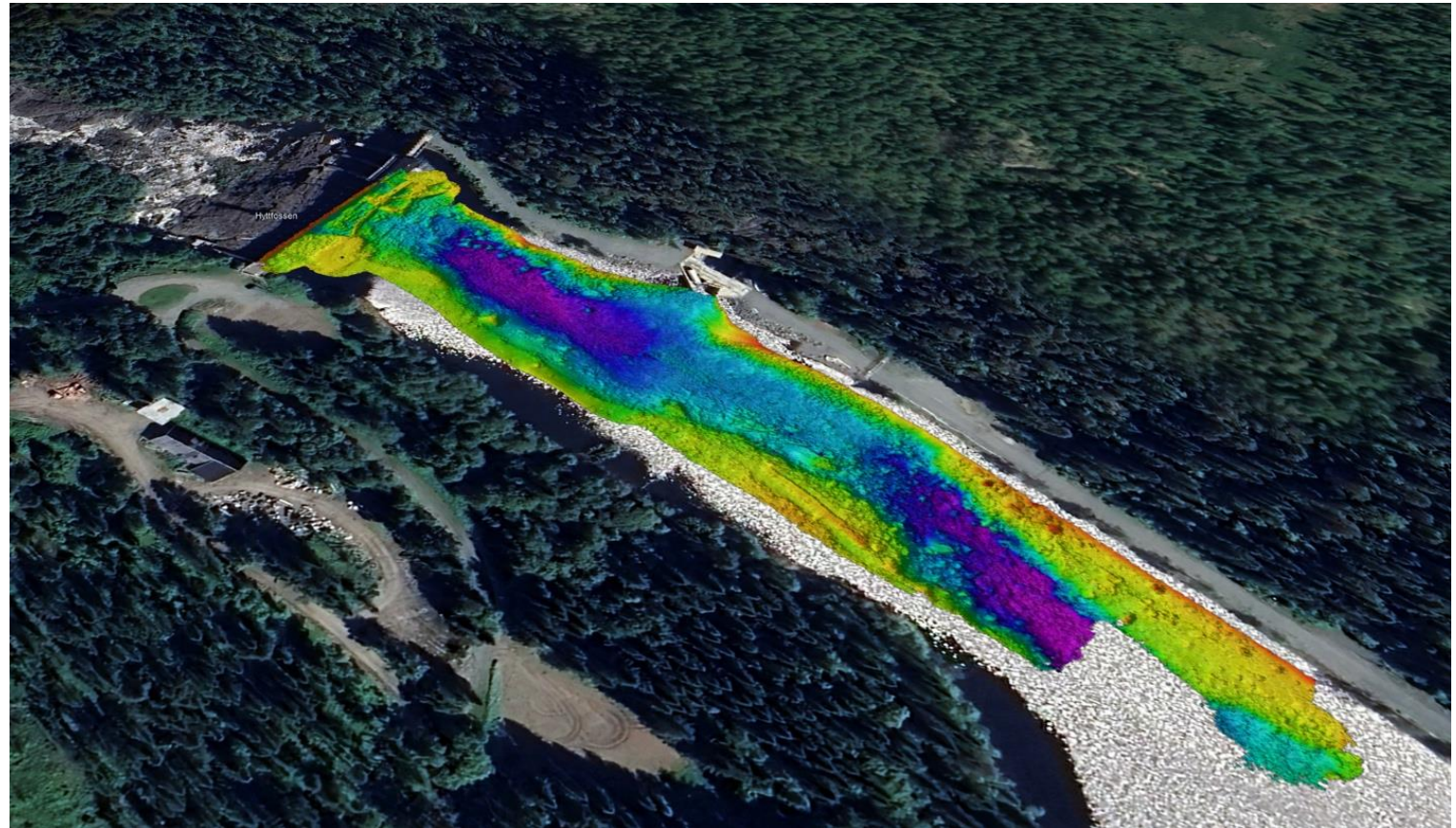
**Full survey done in a
small dinghy**



Survey Results

Results: Seeing what was once hidden

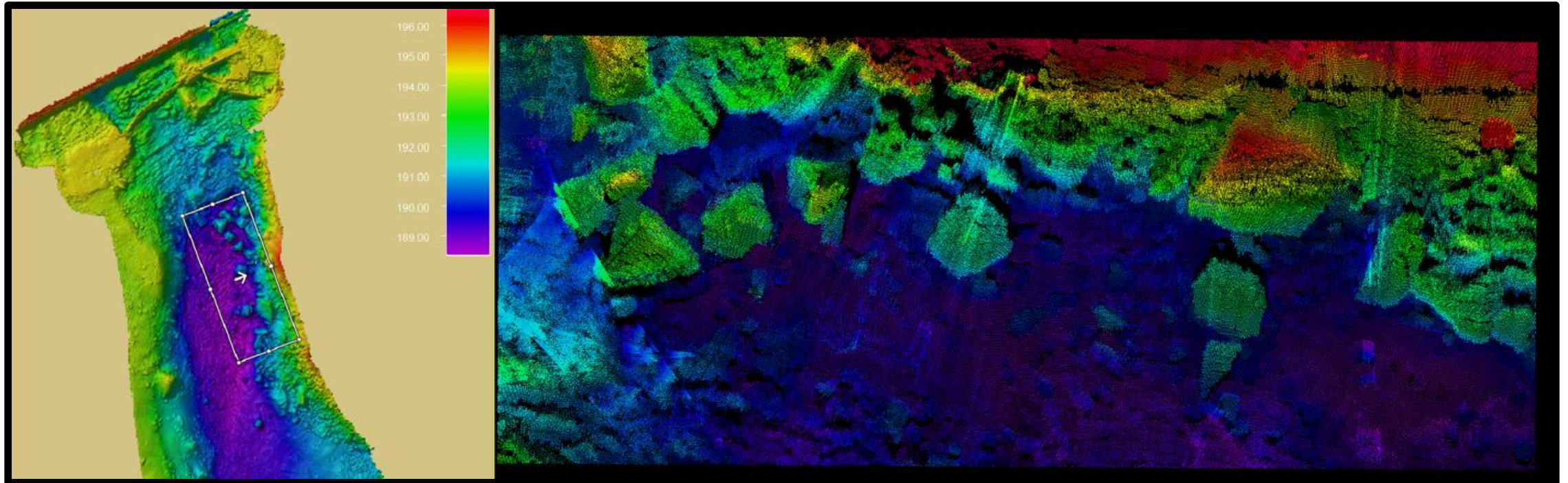
Despite the small hardware size, the Baywei M1 multibeam system produced strikingly detailed bathymetric maps. Notably, it revealed the outlines of the submerged first-generation dam, long lost beneath the water line. Rock formations, structural features, and sediment distribution were captured in vivid detail, enabling rapid assessment and evaluation.



Survey Results

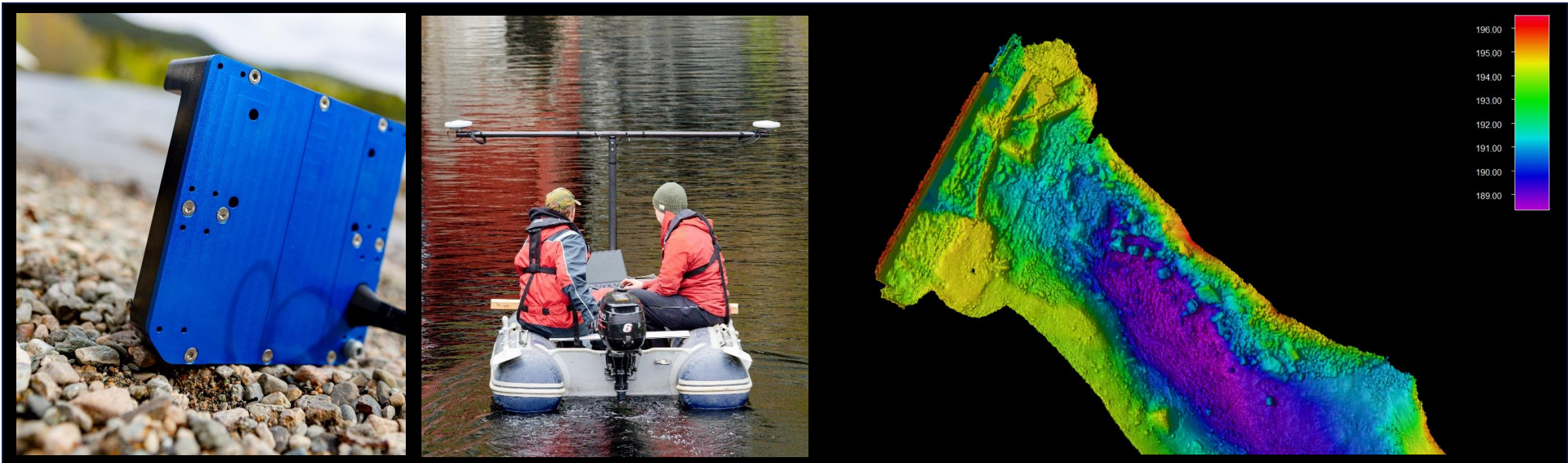
Conclusion: Lowering the barrier to precision surveying

This deployment at Hyttfossen showcases a clear shift in hydrographic workflows. With Baywei M1, underwater data collection is no longer limited to expert teams or large vessels. Anyone with a small boat, a laptop, and a few minutes of setup can deliver professional results.



Data showing rock structures in front of the dam

Baywei M1 – Rethinking multibeam sonar systems for the real world



Baywei M1

Surveying

Data results showing new and submerged old dam