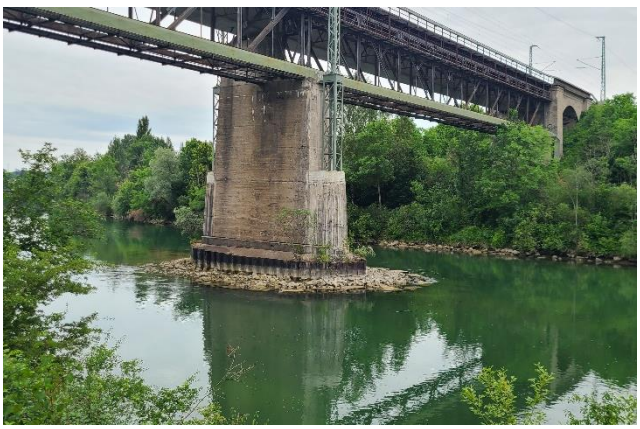
CEE HydroSystems™

CASE HISTORY

CEE-LINE™ Delivers Trustworthy Shallow Water Bridge Survey Data

After experiencing unsatisfactory performance from some basic pole mounted echo sounders, surveyors working in Upper Bavaria, Germany turned to the CEE-LINE™ for their on-water surveys. Working in the Trimble data collection environment surveying mainly on bridge scour projects, datasets generated using the CEE-LINE™ were consistent, repeatable and trustworthy.

In Southern Germany, surveyors at Ingenieurbüro Saam GmbH were looking for a reliable echo sounder to pair up with their Trimble GNSS equipment. The company specializes in bridge surveying and had tested several basic pole mounted echo sounders in recent years; none had fully met their expectations. After contacting CEE HydroSystems, Dipl.-Ing Michael Saam decided to try out the CEE-LINE™ kit for use on a new electric zero-emmisions inflatable boat to be used for hydrographic surveys. Compatibility with Trimble Access™ field software was a crucial requirement for the CEE-LINE™.



Rail bridge river crossing surveyed with CEE-LINE™.

While many surveys would be conducted using GNSS positioning, for bridge surveys it was important that operation with a Trimble S7 total station was also possible.

CEE-LINE™ echo sounder with pole mount kit.

With the echo sounder connected to the TSC3 data collector, the collector USB port provides power and the data port receives the 10Hz digital depth soundings. There is no battery to charge and no requirement for pairing devices with Bluetooth. When in operation, the NMEA echo sounder survey style is selected and continous topo points are acquired while navigating along the survey route.

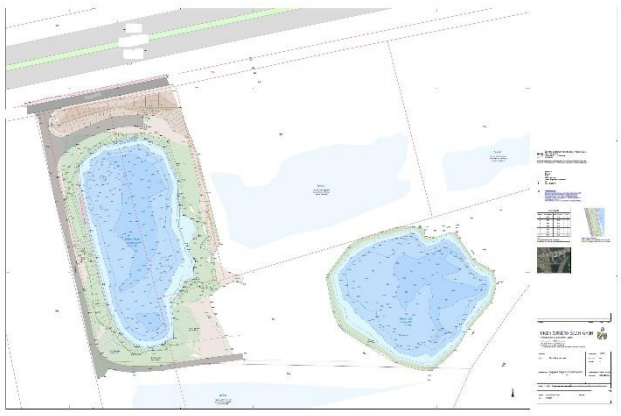
The main benefit of the CEE-LINE™ was the consistency in readings especially in very shallow water. Particularly when using a simplified acquisition method based on GNSS software it is important that the echo sounder is reporting consistent depths not affected by spurious reflections from nearby bridge structures or hard highly reflective bottom surfaces.

Projects completed include scour surveying / damage of slopes from high water, epoch comparison filling and cutting, and groundwater lakes and river reconstruction. On the topic of the echo sounder performance after working on several surveys Michael said:

"Only a low number of artifacts (mostly when quite shallow), very fine! I'm very happy having finally found a reliable equipment for water hydrographic surveying – thanks to CEE Hydro!"

Trimble total station used for some bridge surveys.

The move to newer TSC data collectors in the future such as TSC7, TSC5, TSC510 is supported by alternate cable and communication options, to keep Ingenieurbüro Saam GmbH surveying.



CEE-LINE™ Pond survey in Southern Germany.