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The GeoSwath Plus from Kongsberg GeoAcoustics

The GeoSwath Plus sonar allows wide swath bathymetry and side scan data to be collected from small vessels of opportunity in water depths up to 200m beneath the transducers. The system was designed to meet the need for a wide swath sonar capable of high productivity surveys in very shallow waters, and in the shallows can achieve swath widths over 12 times water depth. Below you will find some examples of how GeoSwath sonars are ensuring safer waters worldwide.



Italy:

Pangea Srl was contracted by the power company Enel SPA to perform bathymetric surveys of the many small hydroelectric dams (some as small as 30m across) located in the Lazio and Abruzzo regions. Their GeoSwath sonar provided full coverage mapping along with co-registered side-scan images for structure inspection. With the GeoSwath most of the ancillary sensors are integrated into the transducer V-Plate, saving space and mobilisation time and allowing pre-calibration of the sensor offsets.



Australia:

HydroSurvey Australia, the hydrographic arm of Flinders Ports, used their GeoSwath on the trailerable vessel 'Felix' to survey Lake Burragorang (behind Warragamba Dam) near Sydney. This dam has a total storage volume of approximately 2 million megalitres, making it one of the largest domestic water supply dams in the world. The GeoSwath provided total bottom coverage, giving the volume of sedimentation since construction and providing a baseline for future studies.

China:

The Yellow River is over 5,300 km long and has an annual silt load of up to 3.91 billion tonnes. The Xiaolangdi Dam provides flood prevention, ice control, fresh water, and hydroelectric power (5.1 billion kWh/year). The huge sediment load leads to rapid siltation and requires regular controlled opening of the dam floodgates; a GeoSwath sonar deployed on a small survey launch enables these operations to be planned more efficiently and safely.



Li Zhen, Senior Engineer for the **Xiaolangdi Water Resource Construction Administration**, said *"The GeoSwath has given us improved survey efficiency with lower costs, making possible the measurement of sedimentation using regular full coverage sonar mapping. We get accurate digital terrain models of the whole dam, from shore to shore, and this has proved very valuable in allowing us to plan sediment clearance works well in advance, when they are needed."*



Germany:

Heuvelman Ibis is a civil engineering contractor specializing in public tender projects, particularly in dredging, piling, remediation, stone-protection schemes, dike rehabilitation and strengthening, as well as unexploded ordnance (UXO) detection and clearing. A recent river banking project in Germany included layer removal of perished slope protection and rebuilding with virtually zero tolerance; a GeoSwath sonar was used for all the survey work for the layering of the banks and associated dredging.



USA:

Cashman Dredging and Marine Contracting Co., LLC works on some of the most difficult heavy civil, marine, dredging and environmental projects in the world. A GeoSwath sonar was deployed on GE's Hudson River Dredging Project, one of the largest PCB removal operations ever. As many as 12 dredges operated simultaneously to remove over 230,000 cubic meters of contaminated sediment identified by the Environmental Protection Agency. On-line data quality control and rapid data turnaround were vital to the project's economic success.

THE FULL PICTURE

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