



Bathyswath-2 PSM

Permanent Siltation Monitoring for water dam
reservoir (i.e. water intakes)

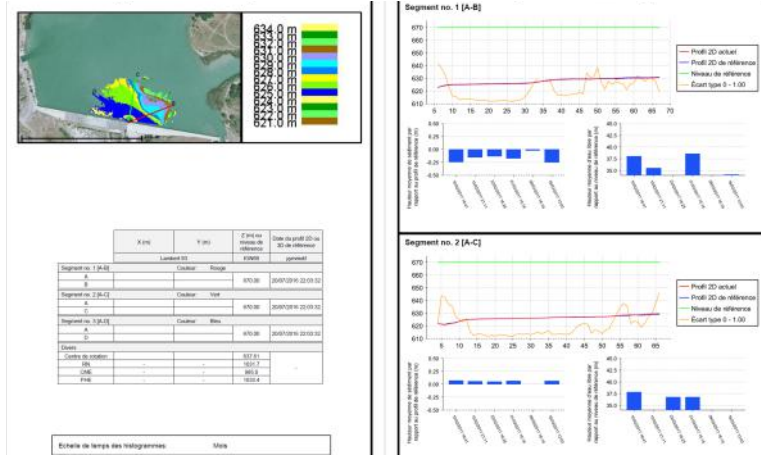
AUTOMATED DEPTH SCAN



Automatic reports

The automatically-created reports include:

- Key site information,
- Colour-depth map of the scanned area,
- Graphs of depth change.



Features

This scanning sonar system is :

- Remotely monitored and controlled through 3G/4G wireless mobile or wired communications,
- User friendly web interface,
- Angular scanning head,
- Automatic processing and reporting.

Performance

Bathyswath-2 PSM is a fully-automated depth survey system. It is designed to be fixed to water dam reservoir walls (i.e. water intakes). It scans the bottom at pre-programmed intervals, processes the data, compiles a report in PDF format, and emails it out over 3G/4G mobile or wired communications channels. It compares the results of previous scans with the current one to assess the rate of change.

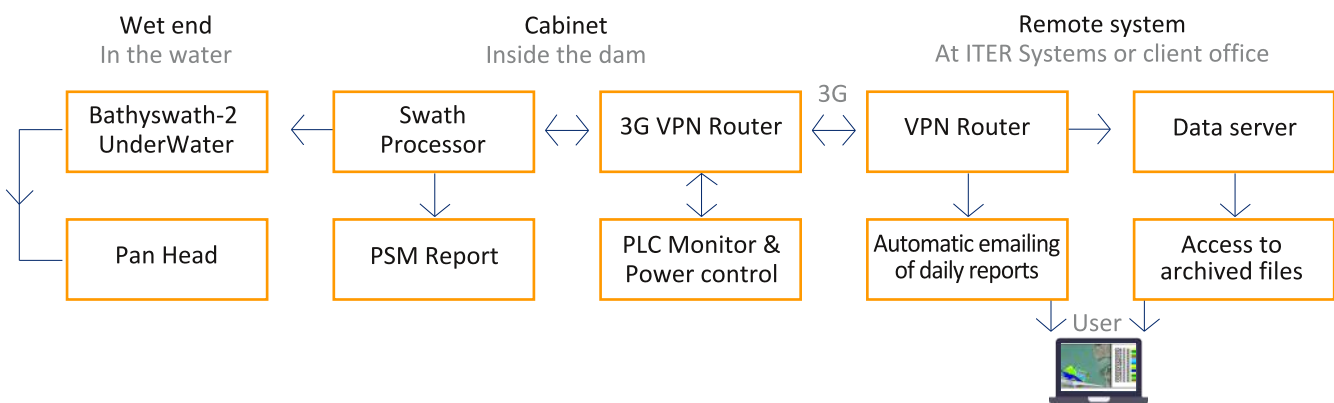
Components

The main parts of a Bathyswath-2 PSM are:

- A Bathyswath Underwater system fitted to a Pan Head,
- A cabinet inside the dam, with a computer running Bathyswath software and communications equipment,
- A remote computer system, which archives the data from each scan for analysis.

Coverage

Bathyswath sonars give a high range to depth ratio, typically 7 to 10 times depth. This means that the important parts of the lake bed can be scanned from a single fixed location.



A COMPLETE SOLUTION

Bathyswath Subsea Unit (SU)

The Bottle contains Transducer Electronics Module, power supply, cooling fan & Ethernet switch, Ellipse IMU and miniSVS Sound Velocity Sensor. The Subsea Unit is also composed of a 234kHz Transducer fixed at optional elevation angle. The Pan Head is an underwater rotator motor. It moves in accurately-positioned angular steps and gives feedback of angle to the software.

Cabinet

The cabinet is mounted inside or outside the dam and connected to the wet end by an umbilical cable. It connects to outside world by 3G mobile telephone, or to the local control room by wire and then to the ADSL Internet. A programmable logic controller is included to allow remote monitoring and control of system power, etc.

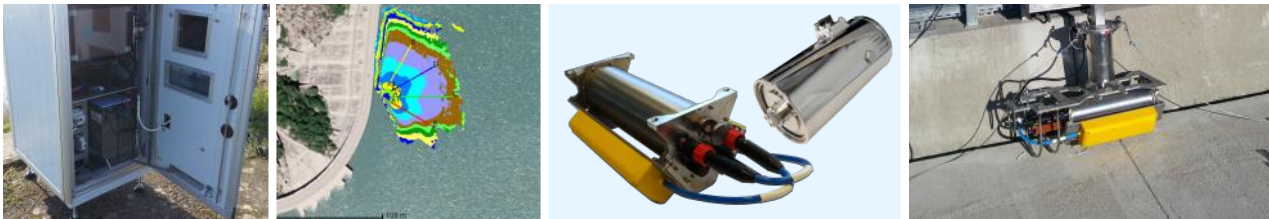
Software

The system is provided with a full suite of software to gather, store, process and send out the data. It includes:

- Bathyswath software to interface to the sonar hardware, collect, process and store the sonar data,
- Automation scripts to run the process at selected intervals,
- Report-generation software, autonomously creating user reports in English or French (other languages available on request),
- Data archiving and recovery for future analysis, using a secure web interface.

Communications

Secure communications with the system at the dam are provided with a virtual private network (VPN) using 3G/4G wireless or VDSL2 wired communications.



TECHNICAL SPECIFICATIONS

Sonar specifications (234kHz transducer)

Operational slant range (m)	200
Maximum slant range (m)*	300
Maximum height of transducers (m)	150
Along-beam resolution (cm)*	2
Azimuth beam width (2-way)	0.55°
Transmit pulse length	8.5 to 4300 μ s
Maximum umbilical cable length (m)	200
Bottle and transducer dimensions	192 x 290 x 660 mm; 26.6 kg
Pan Head dimensions	292 x 246 x 137 mm; 20.0 kg
Bottle depth rating (m)	2000
Frequency of scans	Selectable, up to every 20 minutes

* Refer to our Bathyswath technical information document (pdf) available on www.iter-systems.com.

"The quality of the data collected during the trial was high both in terms of coverage and resolution."
- Neil Crossouard - HR Wallingford survey specialist

FROM A TO Z



Sonar systems engineering.



Training on client's site or on lake in front of our premises.



Software development for our own products or for new interfaces with customers systems.



Remote technical support.

A WIDE RANGE OF APPLICATIONS



Marine services



Research



Environment



Natural resources



Archeology



Military REA

Bathyswath a brand of the company ITER Systems

ITER Systems is one of the world's most experienced team of developers of interferometric sonars. Its products are direct descendants of the world's first commercially available interferometric swath sonar system, developed into SWATHplus, which renamed Bathyswath in 2013. Bathyswath-2 was released in 2015, and Bathyswath-3 in 2019 gives yet another significant advance in performance and usability.

ITER Systems provides innovation, quality product at an affordable price, for the international market with high quality technical support. A team of specialized engineers are located in France and in England to answer all your needs.

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