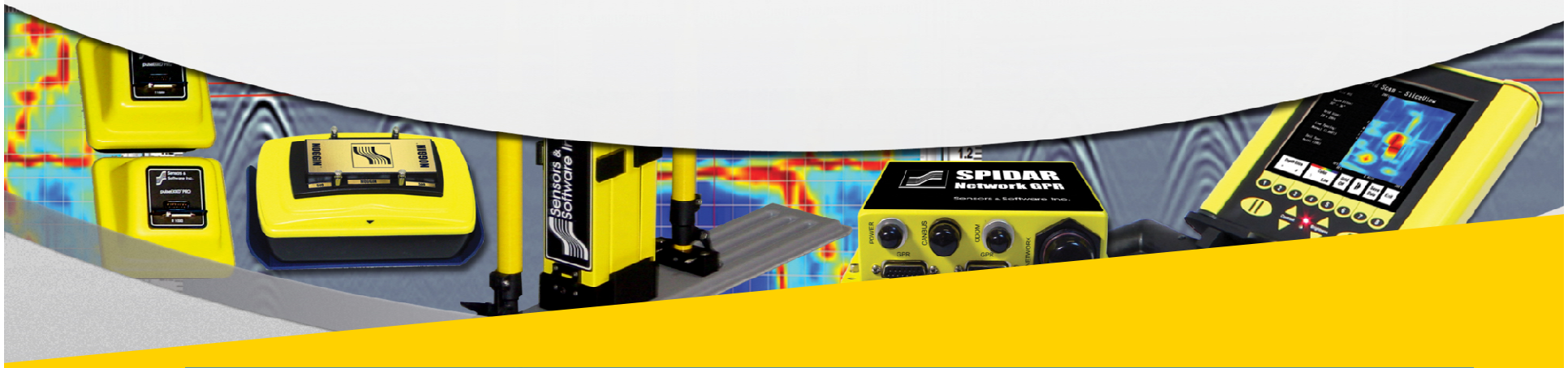
Sensors & Software



cost
EUROPEAN COOPERATION
IN SCIENCE & TECHNOLOGY

Action TU1208

Civil Engineering Applications of Ground Penetrating Radar

COST Success Story

Sensors & Software

A success story

cost
EUROPEAN COOPERATION
IN SCIENCE & TECHNOLOGY

Action TU1208
Civil Engineering Applications of Ground Penetrating Radar
COST Success Story

Sensors & Software

Company Overview

Sensors & Software

Sensors & Software

GROUND PENETRATING RADAR FOR RESEARCH & TEACHING

DEVELOPING FUTURE LEADERS AND INDUSTRY EXPERTS

ABOUT US

Sensors & Software – founded in 1988 - designs, manufactures, and delivers ground penetrating radar (GPR) systems from Canada to customers worldwide.
Understanding what lies beneath the surface of materials like soil, rock, rubble, pavement, concrete, water, ice and snow opens endless possibilities.
In 2015 we opened our European office in Germany.

Large scale archaeological research by Ludwig Boltzman Institute

Bathymetry Research by Eastern Connecticut University

About us……

Sensors & Software

Why we support Research & Academia

Dr. Peter Annan, CEO

One of the founders of Sensors & Software believes in "Scientific research is recognized worldwide."

He…

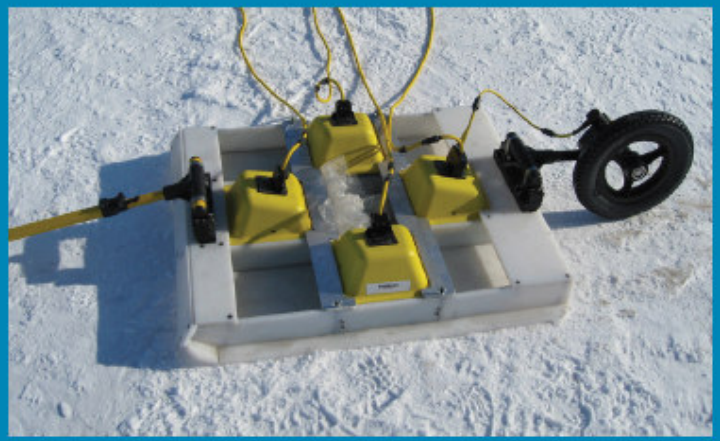
- Pioneered the development of GPR methods and instruments.
- Authored numerous scientific publications, patents, and technical reports
- Passionate about advancing the science & applications of GPR

Enhance your research & course curriculum with GPR

Leading researchers worldwide rely on our GPR products due to their unparalleled data quality and ability to withstand the most demanding field conditions.

We believe that giving students hands-on and real-world experience is invaluable for their future

Use your expertise and our GPR to build solutions for advanced research



Ice anisotropy research by Boise State University

Products

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For a broad range of applications

NOGGIN & pulseEKKO GPR Systems

- Flexible GPR systems
- Various antenna frequencies available
- Various deployment methods
- Data collection options

NOGGIN
Adaptable, high-performance GPR

- Noggin offers flexibility
- Solution for various applications requiring flexibility in frequency, configuration and/or data collection techniques
- High quality data, yet simple to operate

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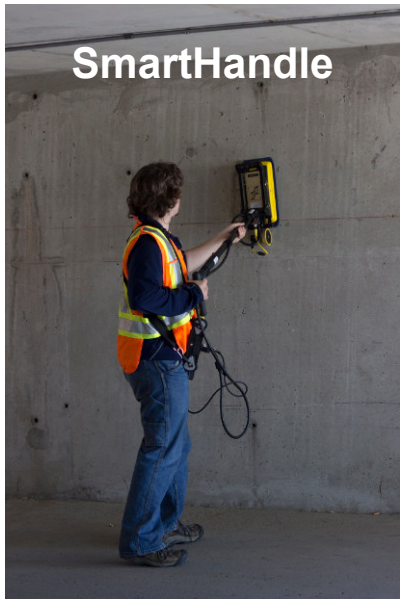
Deploy in any terrain



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Four Frequencies available

100 MHz

- Geology
- Stratigraphy
- Caves and Cavities
- Glaciers
- Geotechnical

250 MHz

- Shallow geology
- Shallow stratigraphy
- Shallow geotechnical

500 MHz

- Soil structure
- Ice
- Snow
- Archaeology

1000 MHz

- Fractures
- Mines
- Quarries

Ultra-wide band (UWB) GPR antennas

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SPIDAR Configuration
Build multi-channel systems

4-Channel 250 MHz

3-Channel 500 MHz

7-Channel 1000 MHz

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pulseEKKO
For the GPR Professional

- Flexible systems & data collection options
- Advanced data collection – CMP, WARR, Transillumination
- Widest range of antennas available (12.5 MHz to 1000 MHz)
- Borehole

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pulseEKKO Configurations

Bistatic

SmartCart

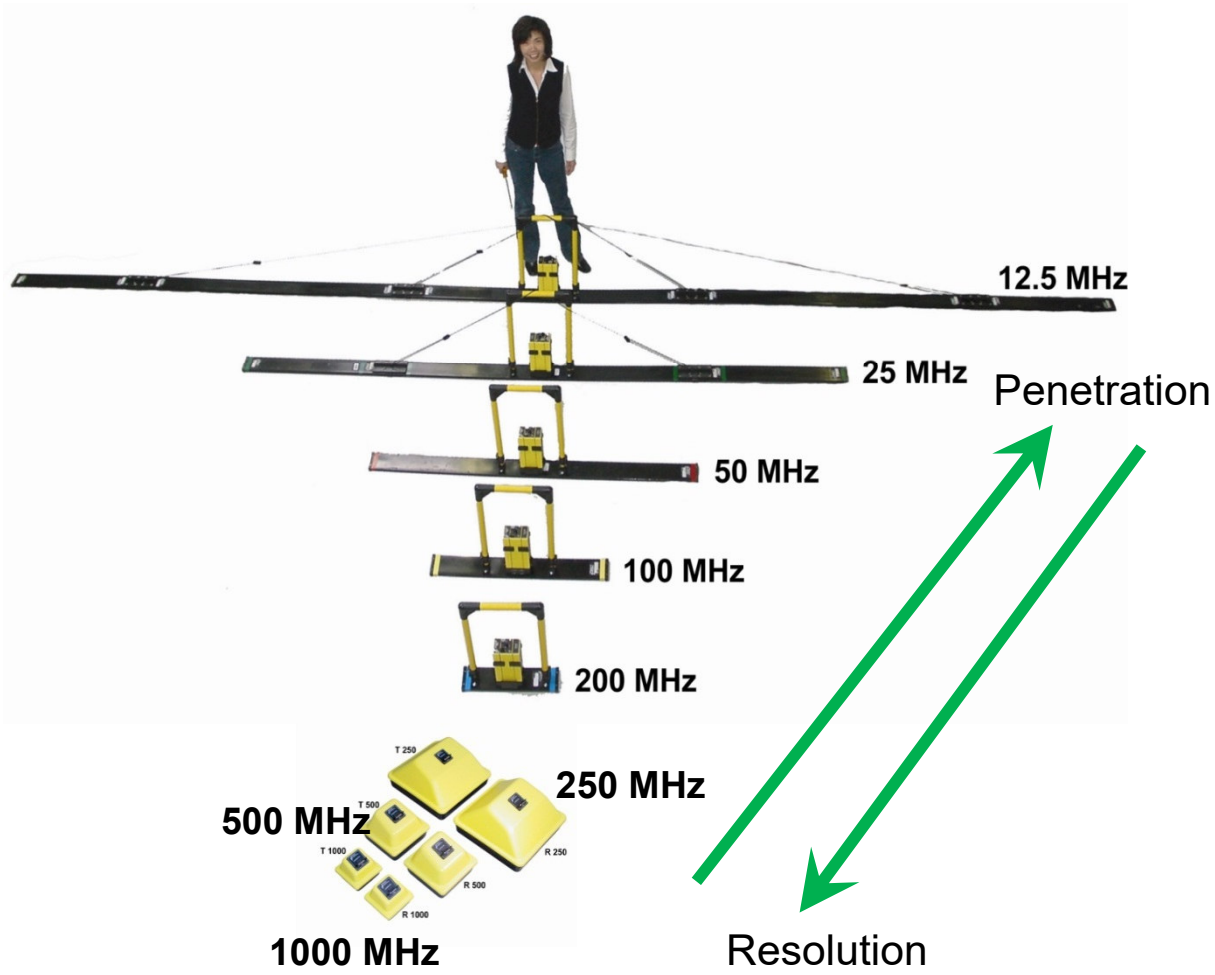
SmartChariot

SmartTow

One-Man

Sensors & Software

pulseEKKO PRO Antenna Frequencies



Freq. (MHz)	Typical Application
12.5	Glaciology
25	
50	Geology
100	Utility Locating
250	Archaeology
500	Forensics
1000	Roads Concrete

Sensors & Software

Advanced surveys

CMP

WARR

Transillumination

Borehole

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SPIDAR Configuration

Build multi-channel systems

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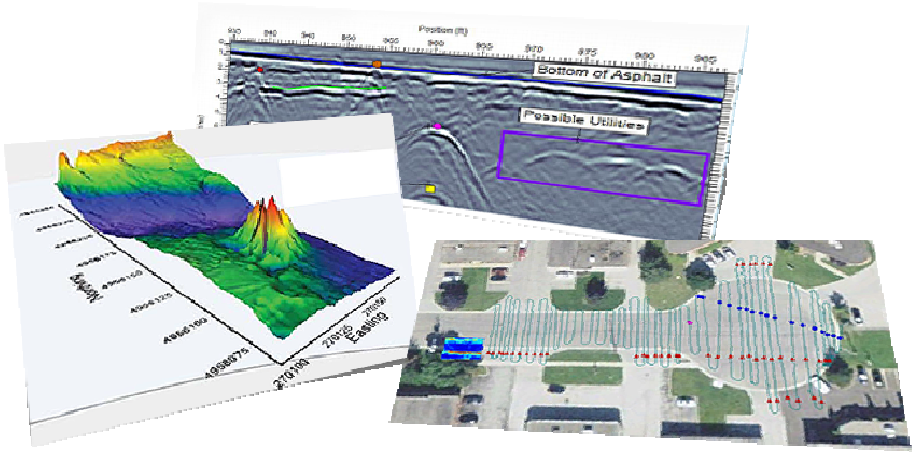
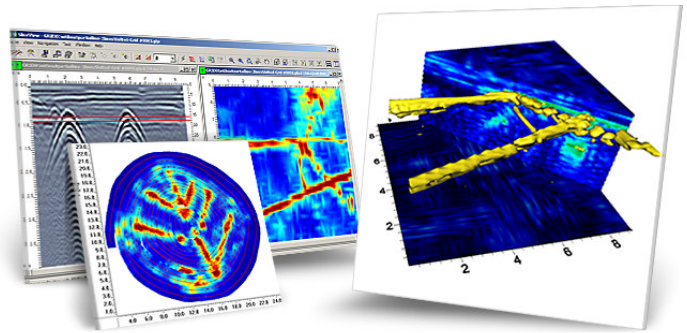
EKKO_Project
From field to final report

- EKKO_Project is the all-inclusive software solution for managing, displaying, processing and interpreting GPR data.





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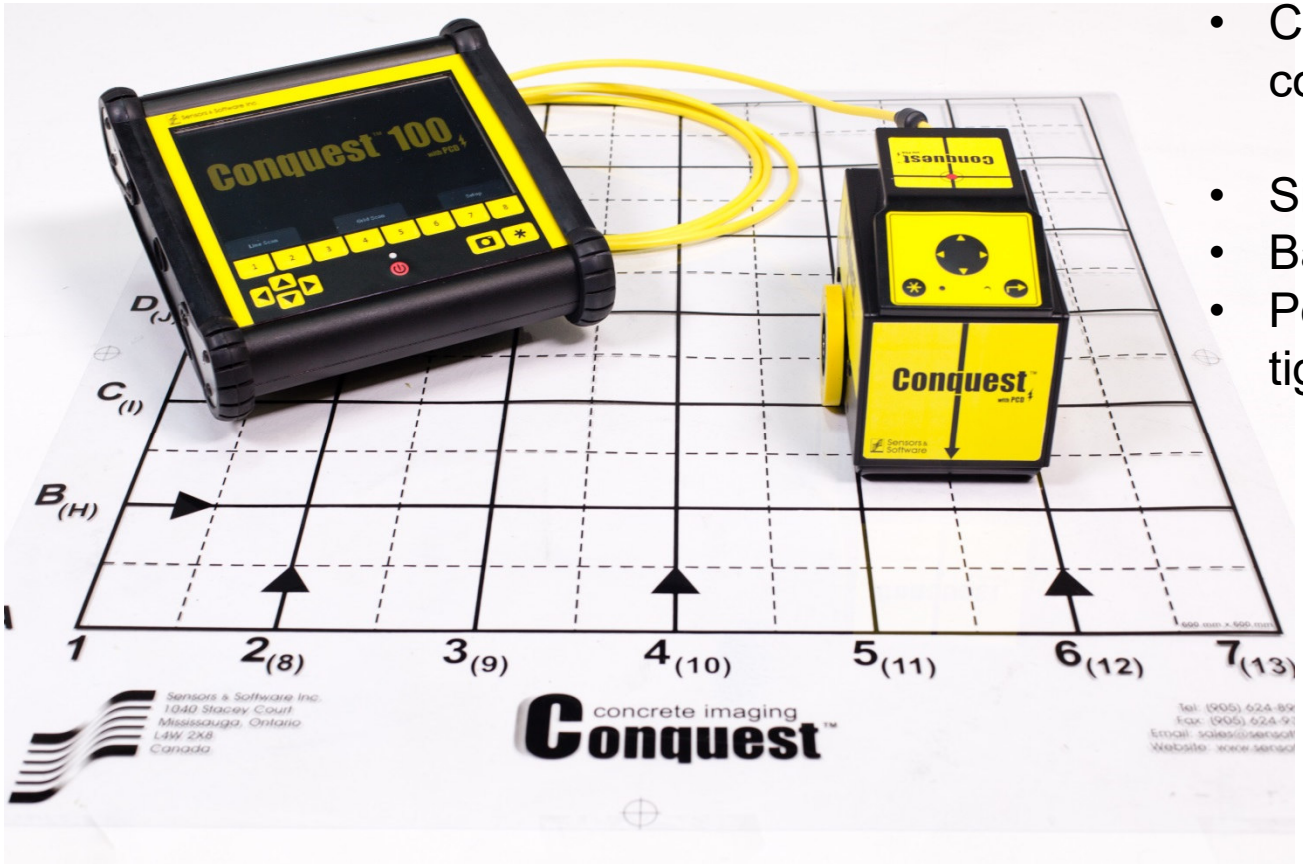
Built for purpose systems

- Specialized GPR for a specific application area

Infrastructure:
Concrete Structures

Sensors & Software

Conquest 100
Concrete Scanning



- Infrastructure assessment
- Concrete cutting & coring

- Simple to use
- Battery powered
- Portable and small for tight spaces

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Pipe & Cable Locating

Sensors & Software

LMX100: Locate & Mark in real-time

- Rapid deployment and setup
- Sunlight visible touch screen
- Easy to operate, very few parameters to set
- Wi-Fi capable, e-mail mini-reports from field
- Internal GPS
- Take screen shot

Sensors & Software

LMX200: Survey & Map

- For the professional utility locator and engineer
- All the features of the LMX100 plus…..
- Process grids on-board
- External GPS (optional)
- Download data into EKKO_Project

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FINDAR
Forensic Investigations

Sensors & Software

Rescue Radar

Search & Rescue

Sensors & Software

IceMap
Ice Thickness Mapping

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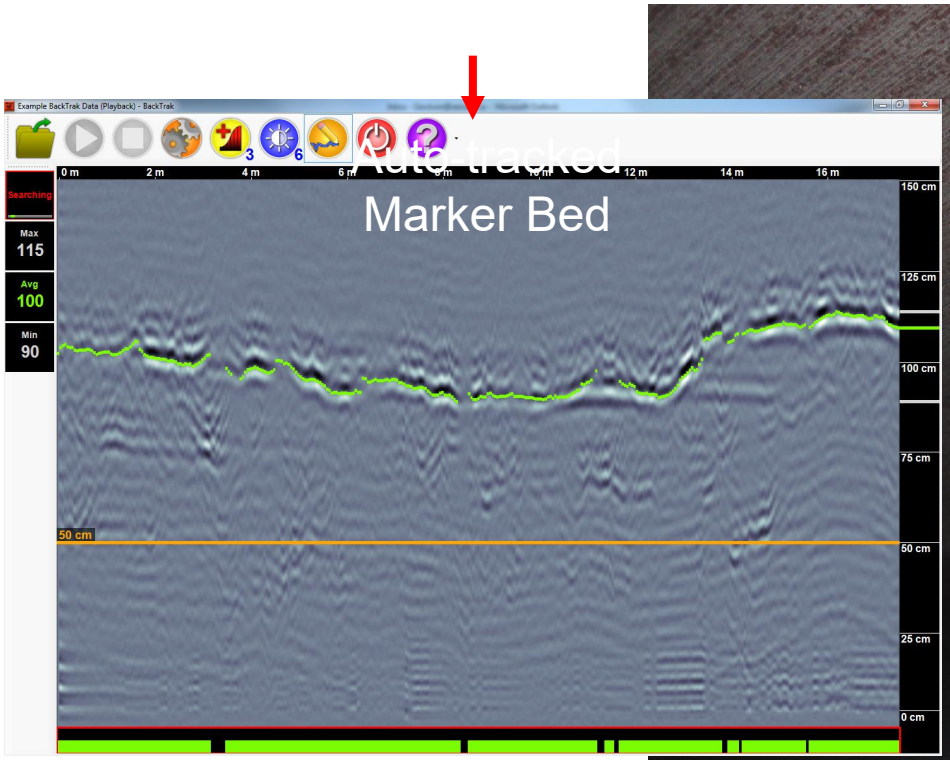
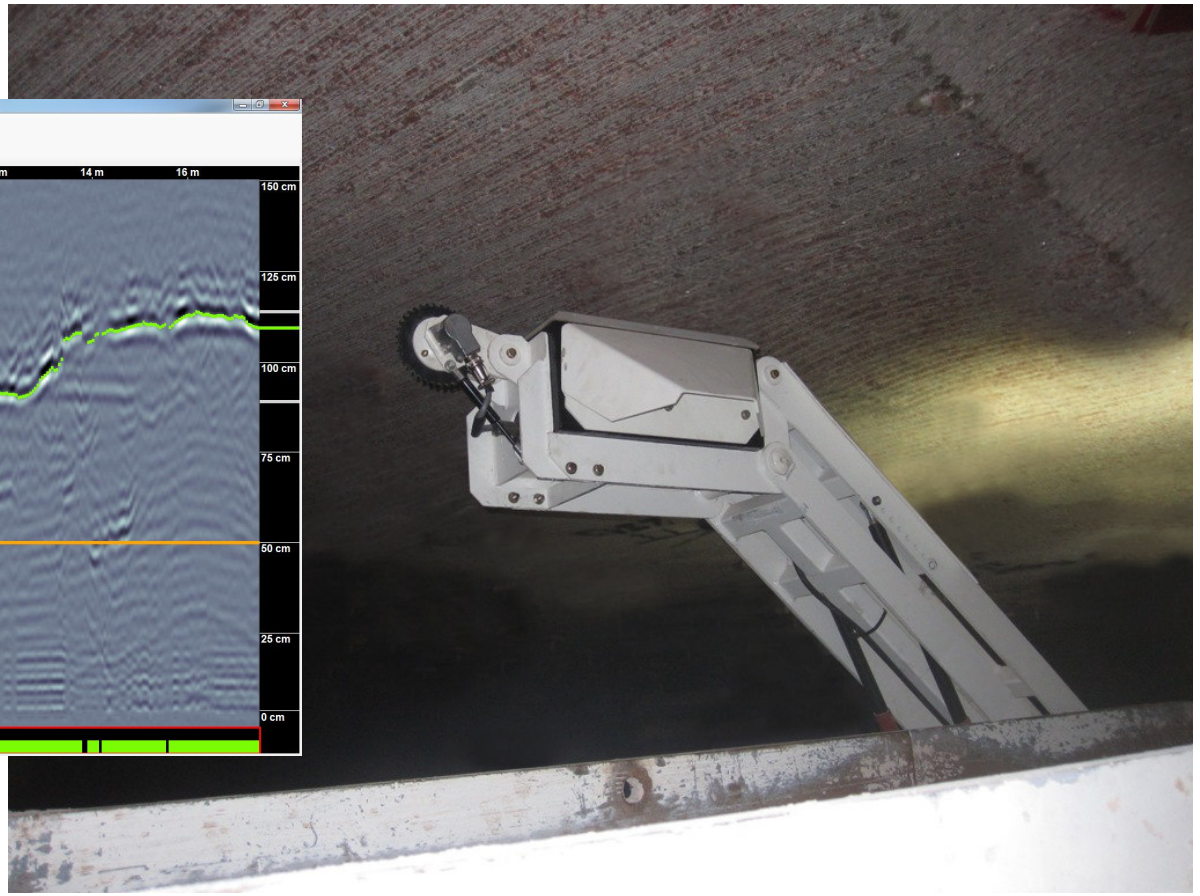
Custom Engineering Solutions

- Engage with our GPR specialists to build solutions customized to your specific application

BackTrak – Potash Mine Safety





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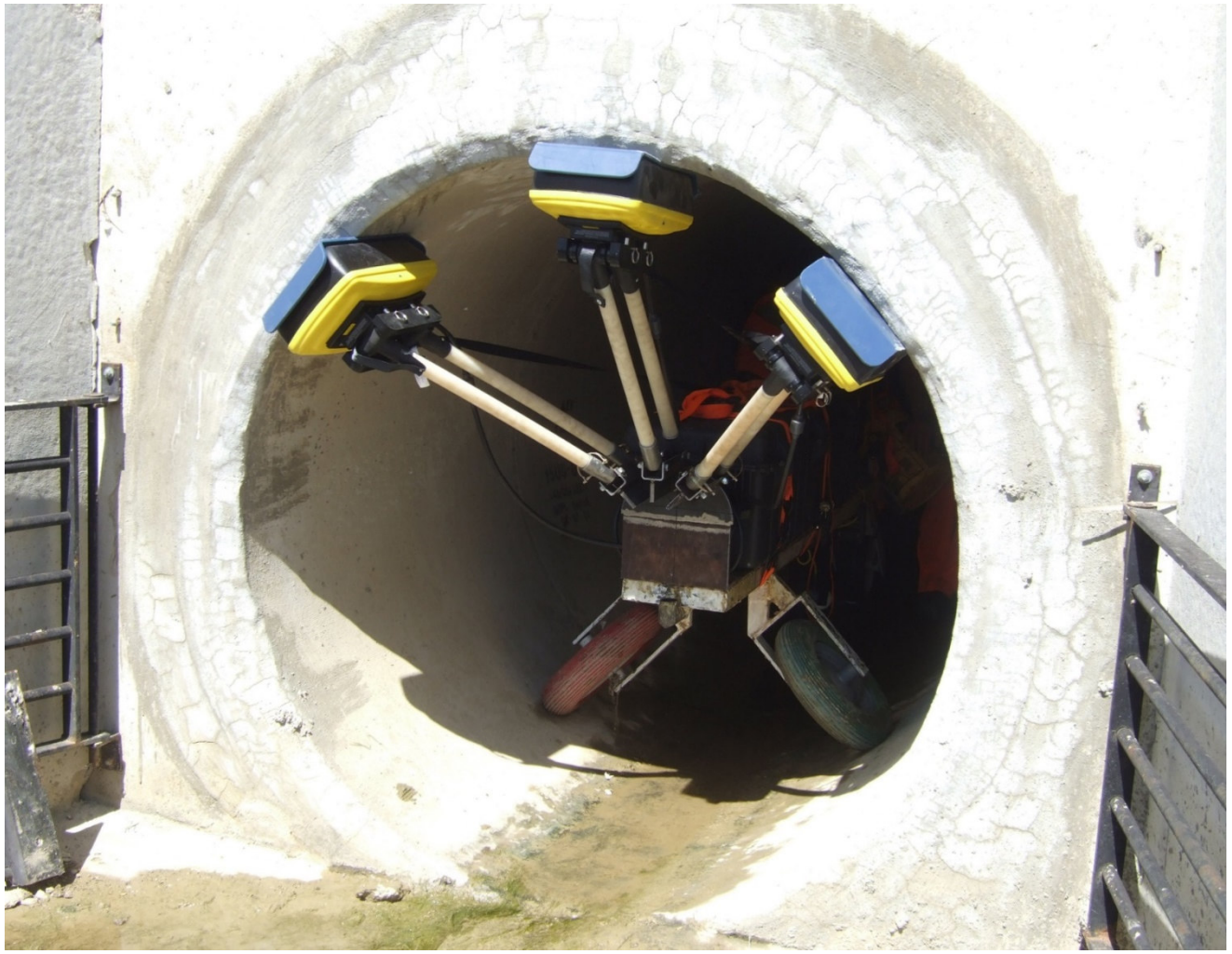
Infrastructure: Pipe Inspection



Sensors & Software

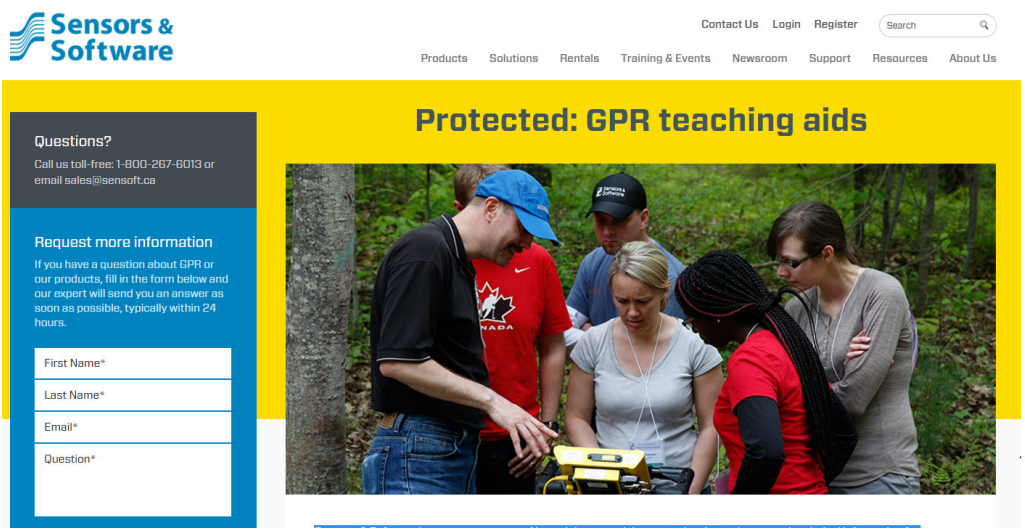
Our academic support program provides access to:

- Free teaching aids
- GPR equipment for research and field schools
- Talks from GPR specialists
- Equipment demonstrations
- Software lab licenses
- Webinars and training

Sensors & Software has worked with educational facilities for decades to teach the science of GPR, illustrate the practical applications of GPR and increase research using GPR.

Sensors & Software

Free teaching aids



Sensors & Software Inc. encourages use of its training materials, notes, drawings, photos, and technical information for educational and research requirements. Parties are free to use the below materials provided that:

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2. all uses are for a non-profit application;

3. the source of the materials is properly referenced in all usages.

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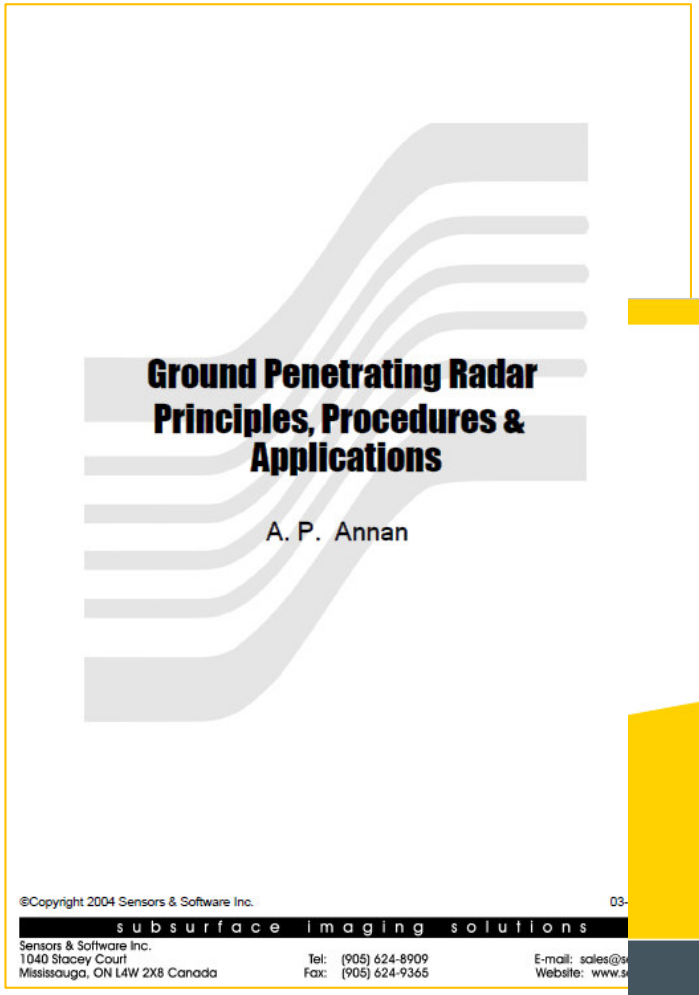
Download section



Sensors & Software

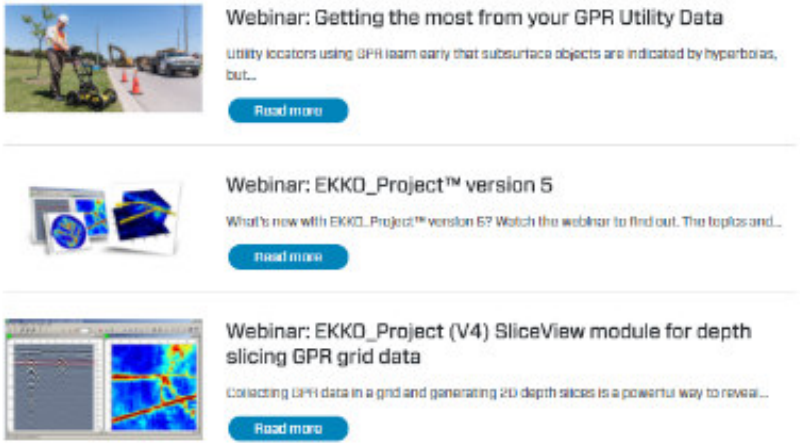
Talks from GPR Specialists

- Classroom visits
- Guest lectures
- GPR workshops
- Equipment demonstrations

Sensors & Software

Training and Webinars

- Courses at Sensors & Software
  - 1 day courses
  - Annual 3 day GPR course (has been held for 20 years)
- Regularly scheduled Webinars
  - Also available on-demand on website
- Personalized webinars
- Conferences and workshops at industry events
- Online training



GPR equipment for research and field schools

Give your students hands-on experience with GPR as part of a field school

Engage our GPR specialists for GPR demonstrations and training.

University of Edinburgh used Noggin 500 SmartCart and Noggin 250 SmartTow systems to further archaeological studies as part of the Apolline project.

Access GPR systems or extend your system with our equipment loan program

Sensors & Software

University of Edinburgh

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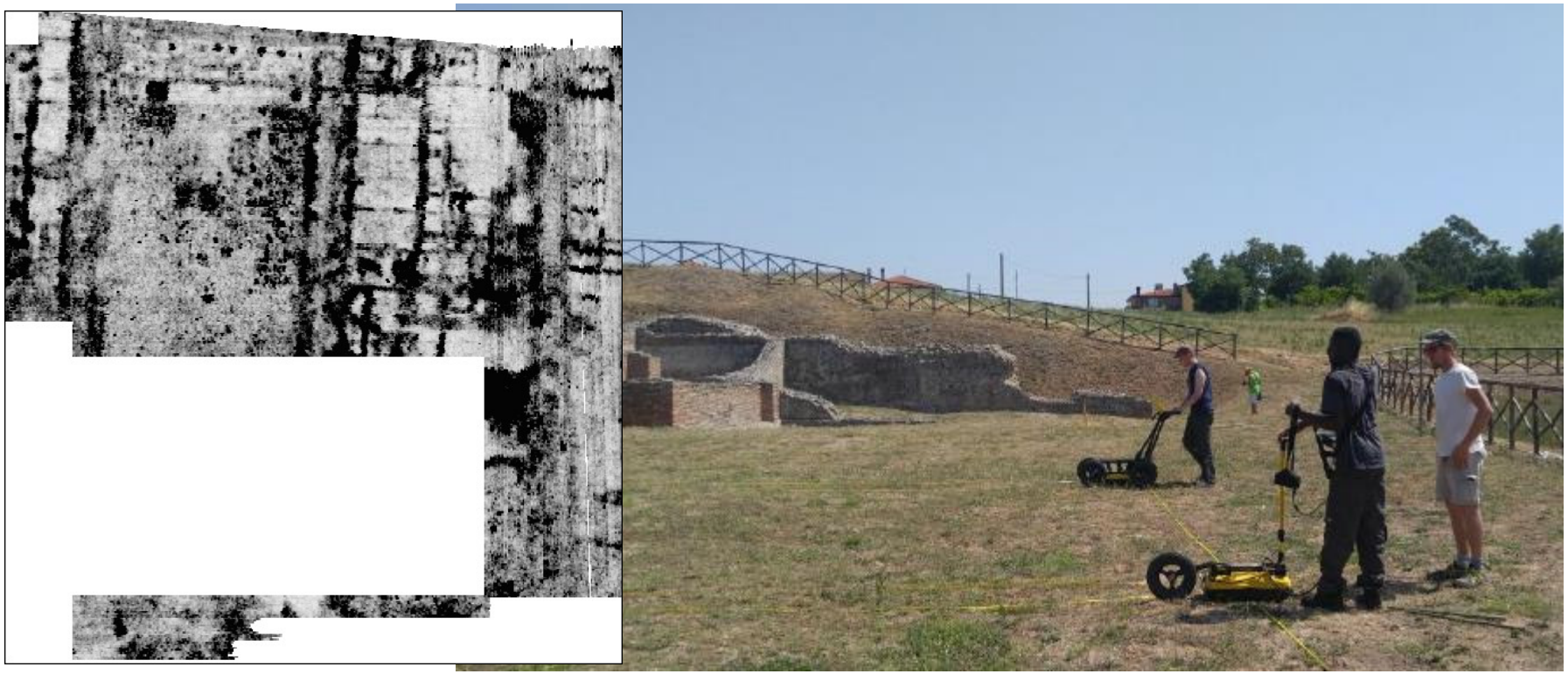

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Drone video of data collection

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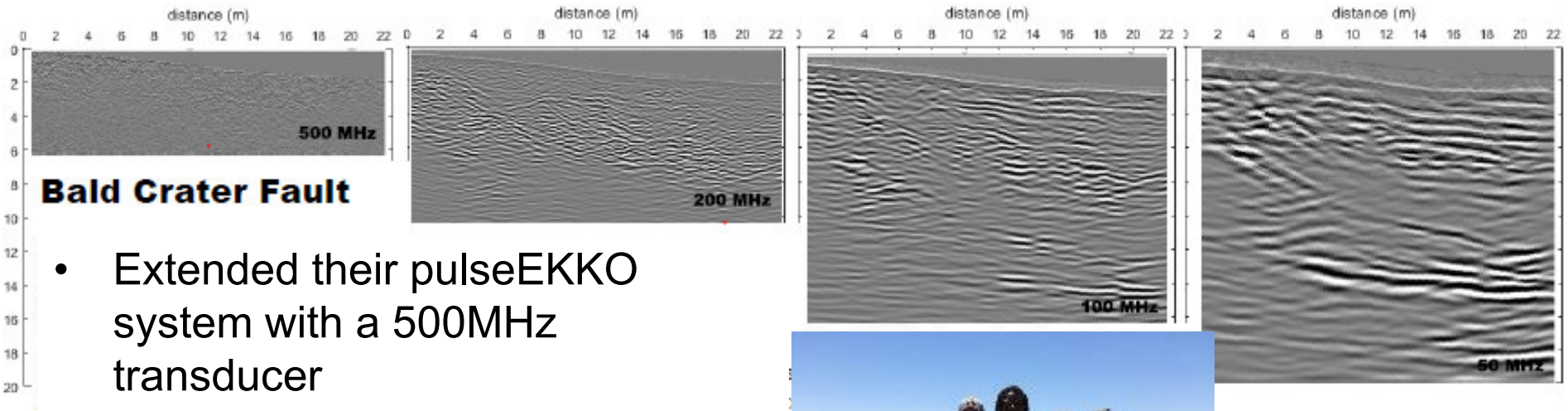
University of South Florida



- Extended their pulseEKKO system with a 500MHz transducer
- imaged fault displacements at Mount Mazama
- comparison of 50, 100, 200 and 500MHz GPR data.

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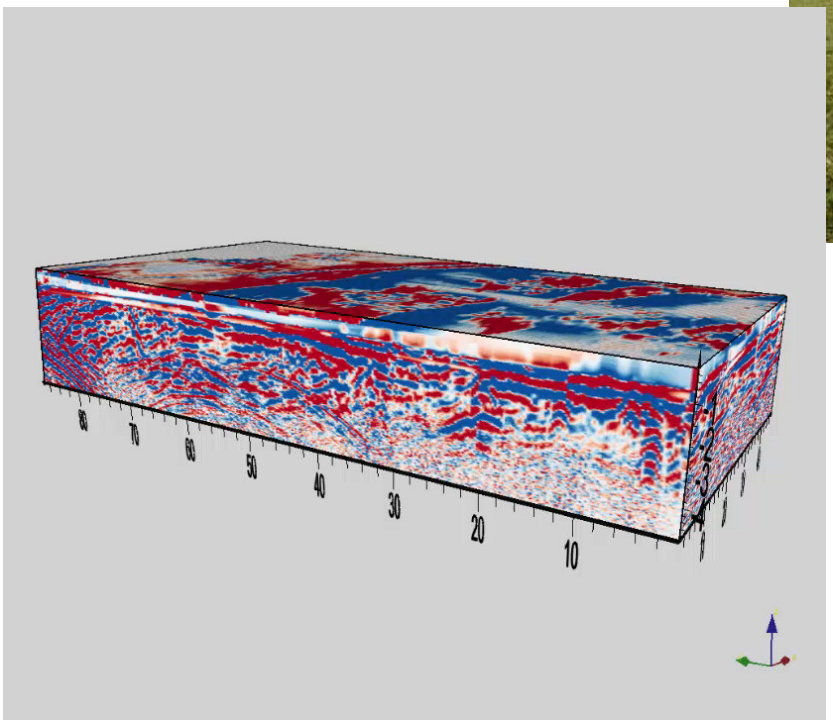
University of Waterloo

- University of Waterloo graduate students accessed a 100MHz pulseEKKO system to reveal hidden landforms in the outlet of Lake Huron.
- 3D cube slice shows foreset beds



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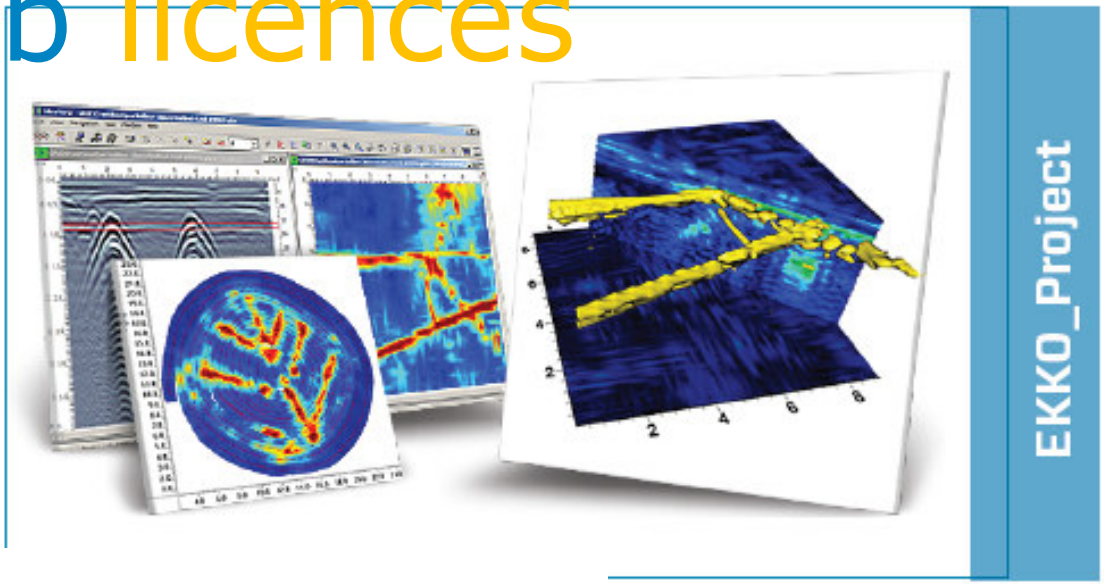
Software lab licences



EKKO_Project
Go from field to final report

EKKO_Project is the all-inclusive software solution for managing, displaying, processing and interpreting GPR data.

1 Full Licence
= Licence for all Lab computers

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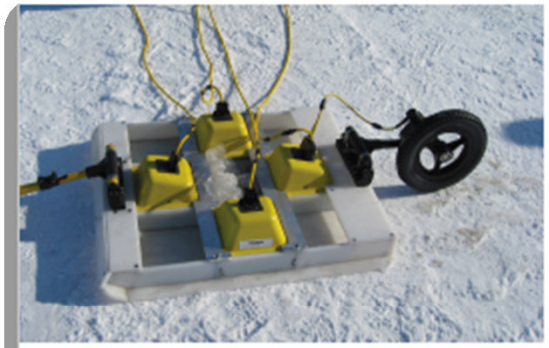
Advanced research / cooperative programs

- Looking for a GPR partner to work with you on your GPR research/project
- Engage with our specialists to learn how we can work together



Ice anisotropy research by Boise State University

Bathymetry Research by Eastern Connecticut University

Large scale archaeology research by Ludwig Boltzman Institute

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Online resources

Newsletters

http://www.sensoft.ca/resources/newsletters/

Case Studies

http://www.sensoft.ca/resources/case-studies/

EKKO_Project tutorials

https://www.sensoft.ca/training-events/basic-training/

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Thank you for attending