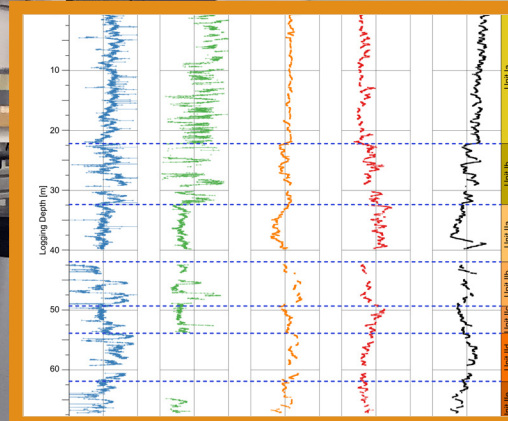
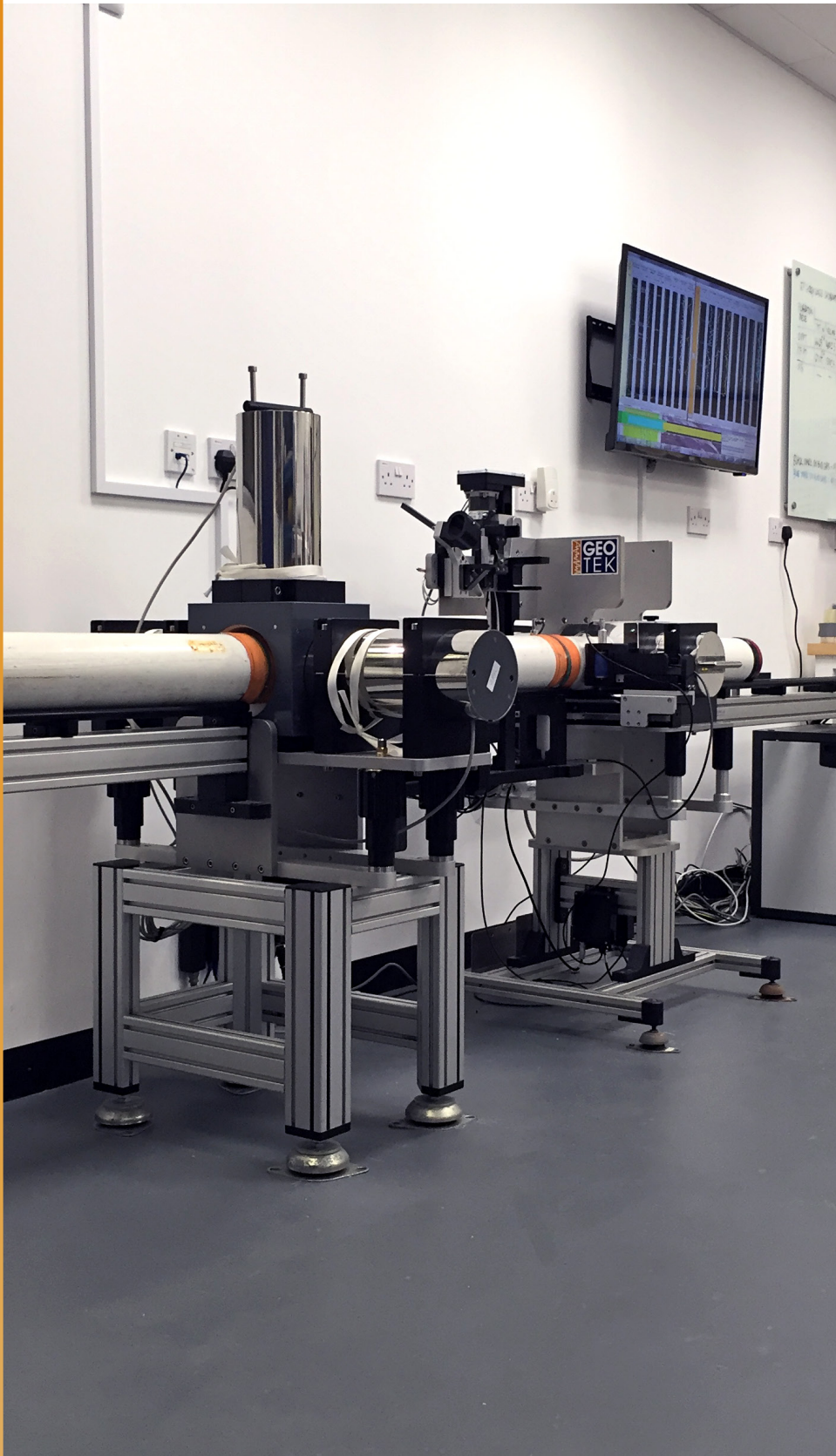




# MSCL-S: MULTI-SENSOR CORE LOGGER

NON-DESTRUCTIVE CONTINUOUS CORE SCANNING  
FOR INDUSTRY & RESEARCH



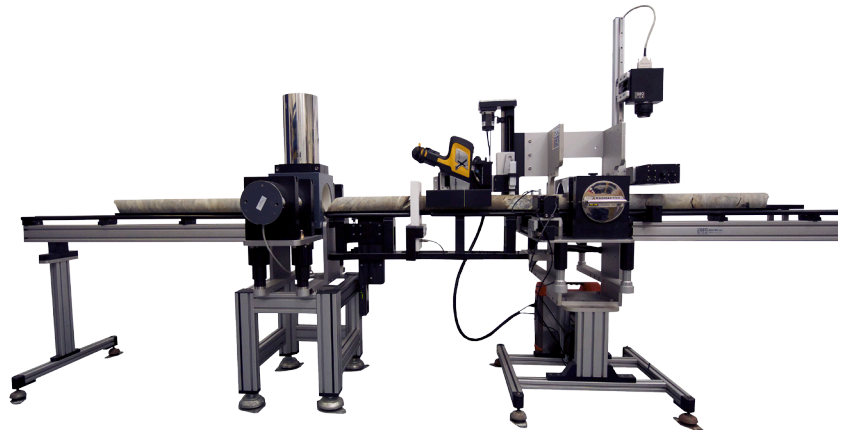
*IF CORE'S WORTH TAKING, IT'S WORTH LOGGING*

# AUTOMATED & FLEXIBLE CORE LOGGING & SCANNING

The Geotek Standard Multi-Sensor Core Logger (MSCL-S) is the only commercially available tool for gathering both physical and chemical properties from core samples in an automated and quality-controlled way. The MSCL-S accepts lined sediment core, and unlined competent or fragmented rock core. The powerful ballscrew automatically and continuously pushes each core section past a series of geophysical and geochemical sensors to the nearest 0.01 mm. All of the sensors simultaneously acquire their data, which is displayed in real-time during logging making the whole process of core logging extremely efficient. The flexibility of MSCL-S is such that it can analyse cores between 50 and 150 mm in diameter cut into sections up to 1.5 m long, whilst acquiring up to 9 different datasets!

## ROCK CORE LOGGING

- Whole or fractured unlined core
- Pushed through the system on stabilising core trays
- Low (>10 cm) or high resolution (<1 cm) logging for mining or oil and gas applications



## SEDIMENT CORE LOGGING

- Acquires data through whole plastic or metal-lined sediment cores
- Plastic-lined samples are placed one behind the other for continuous logging
- Near-real time data acquisition for field projects
- Perfect for high-resolution climate and marine hazard applications

## SPLIT/SLABBED CORE LOGGING

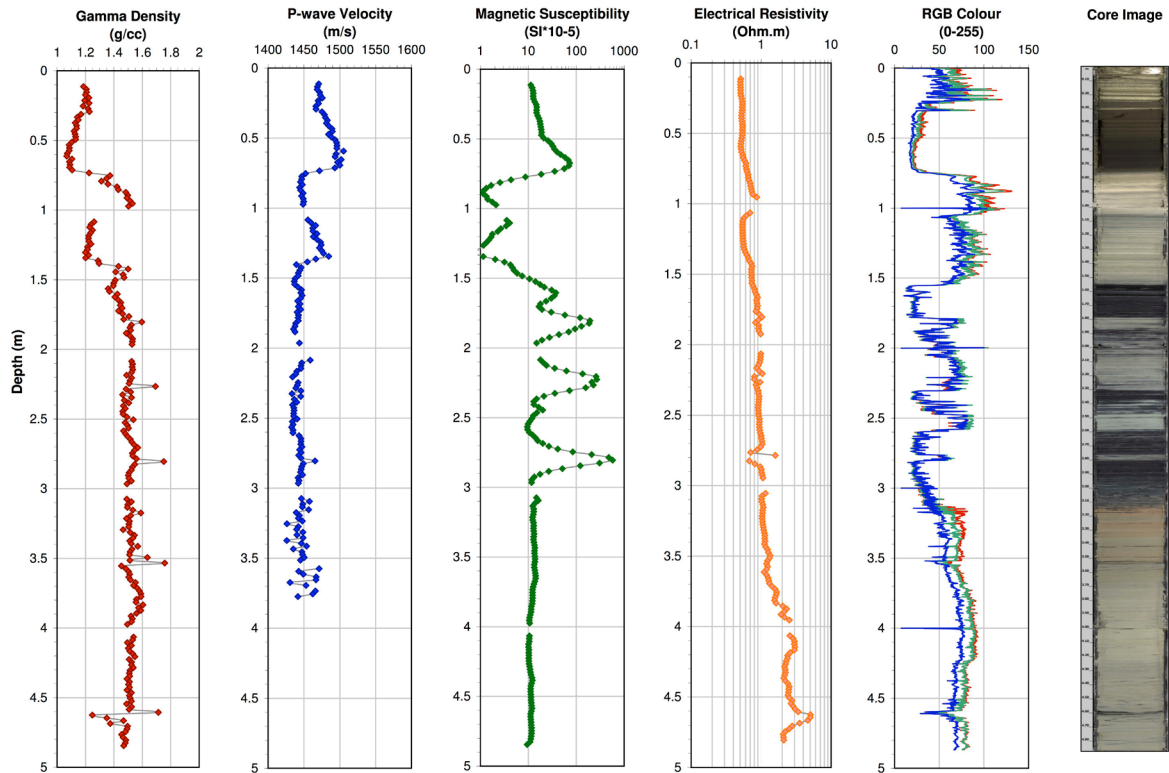
- Accepts split sediment cores or slabbed rock cores
- Acquires both surface-based measurements (XRF and NIR) and physical measurements (e.g. gamma density)
- Perfect for logging/scanning of archived core material





# APPLICATIONS

Any core collected for a science or engineering application can benefit from the high resolution, continuous, non-destructive core analysis offered by the MSCL. Measurements are used by scientists and engineers both intrinsically, for their actual values (e.g. gamma density, P-wave velocity), or as proxies for changes in lithology or depositional environment (e.g. magnetic susceptibility, XRF, or natural gamma). The multi-sensor arrangement of the MSCL uniquely allows users to confidently compare micro and macro scale changes in physical and chemical properties downcore.



## OIL & GAS / UNCONVENTIONALS

- Core to log correlation and comparison
- Analysis and quantification of core heterogeneity
- XRF analysis to derive mineralogical models

## MINING

- High resolution density and elemental concentrations for resource assessment
- Identify target horizons, and corroborate geophysical results
- Determination of lithological units and their physical properties

## RESEARCH

- High resolution (<1 cm) geochemical and geophysical stratigraphy for paleoclimate studies
- Rapid assessment of density and P-wave velocity to improve correlation of core data to seismic profiles

- Meet research objectives through fast and detailed downcore geophysical logging

## CORE REPOSITORY

- High resolution linescan photography for cataloging
- Reduce initial investment risk by improved characterisation of archived core material
- Acquisition of petrophysical data to depth correct archived core material to downhole data

## GEOTECHNICAL & GEOHAZARDS

- Rapid assessment of core quality
- Non-destructive quantification of geotechnical properties (density, P-wave velocity, water content)
- Identification of geohazard features such as cemented horizons, gassy sediments or sand/clay-rich layers

# MSCL-S: UNLOCKING THE VALUE OF CORE MATERIAL

The MSCL-S system is a unique automated core logging system that comprises of a suite of up to 9 different non-destructive geophysical and geochemical sensors. The MSCL-S is modular and highly versatile, capable of measuring a variety of core types at customisable resolutions. The added engineering and geological value of MSCL logging has quickly established the technique as best practice for many research and industrial applications.

## STABLE AND REPEATABLE GEOMETRY

Precision engineered rails, and moulded core trays for exposed core, control measurement geometry improving data acquisition consistency and quality.

## SPECTRAL CORE GAMMA

Total and spectral natural gamma activity using multiple lead shielded 3"x3" detectors and tunnel to improve measurement accuracy.

## RGB AND MUNSELL COLOUR SCANNING

Konica Minolta or ASD spectrometers are used to quantitatively determine colour variation downcore and correlate facies between core / well locations.

## MAGNETIC SUSCEPTIBILITY LOGGING

Loop or point sensors for whole or split/slabbed core logging of magnetic properties.

## ULTRA HIGH DEFINITION CORE IMAGES

Geoscan V 5,000 pixel linescan camera with automatic aperture and focus, and dedicated visible and UV light box for consistent lighting.

## SPECTRAL DENSITY AND POROSITY DETERMINATION

Small Cs-137 gamma source for precise measurement (2.5 mm to 5 mm) of gamma attenuation.

## HEAVY DUTY CORE PUSHER

Designed for delicately moving fragile cores, whilst powerful enough to push the heaviest of drill core.

## ELECTRICAL PROPERTIES

Non-contact electrical resistivity for saturated sediments.

## CHEMOSTRATIGRAPHY

Integration of the highly capable Olympus Delta Handheld XRF for chemical analysis.

## DOWNCORE MINERALOGICAL ASSESSMENT

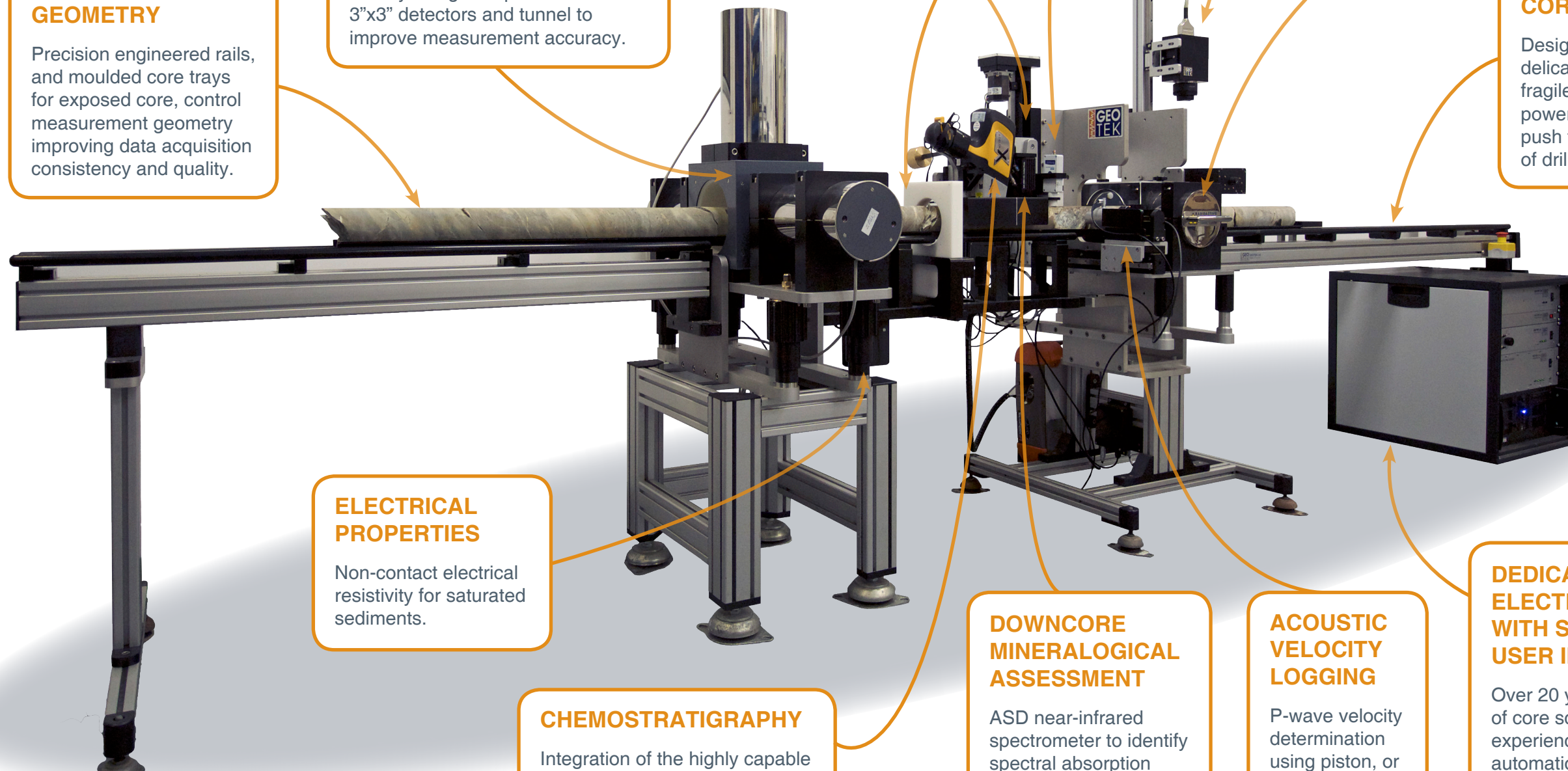
ASD near-infrared spectrometer to identify spectral absorption features within the VNIR and SWIR spectrum.

## ACOUSTIC VELOCITY LOGGING

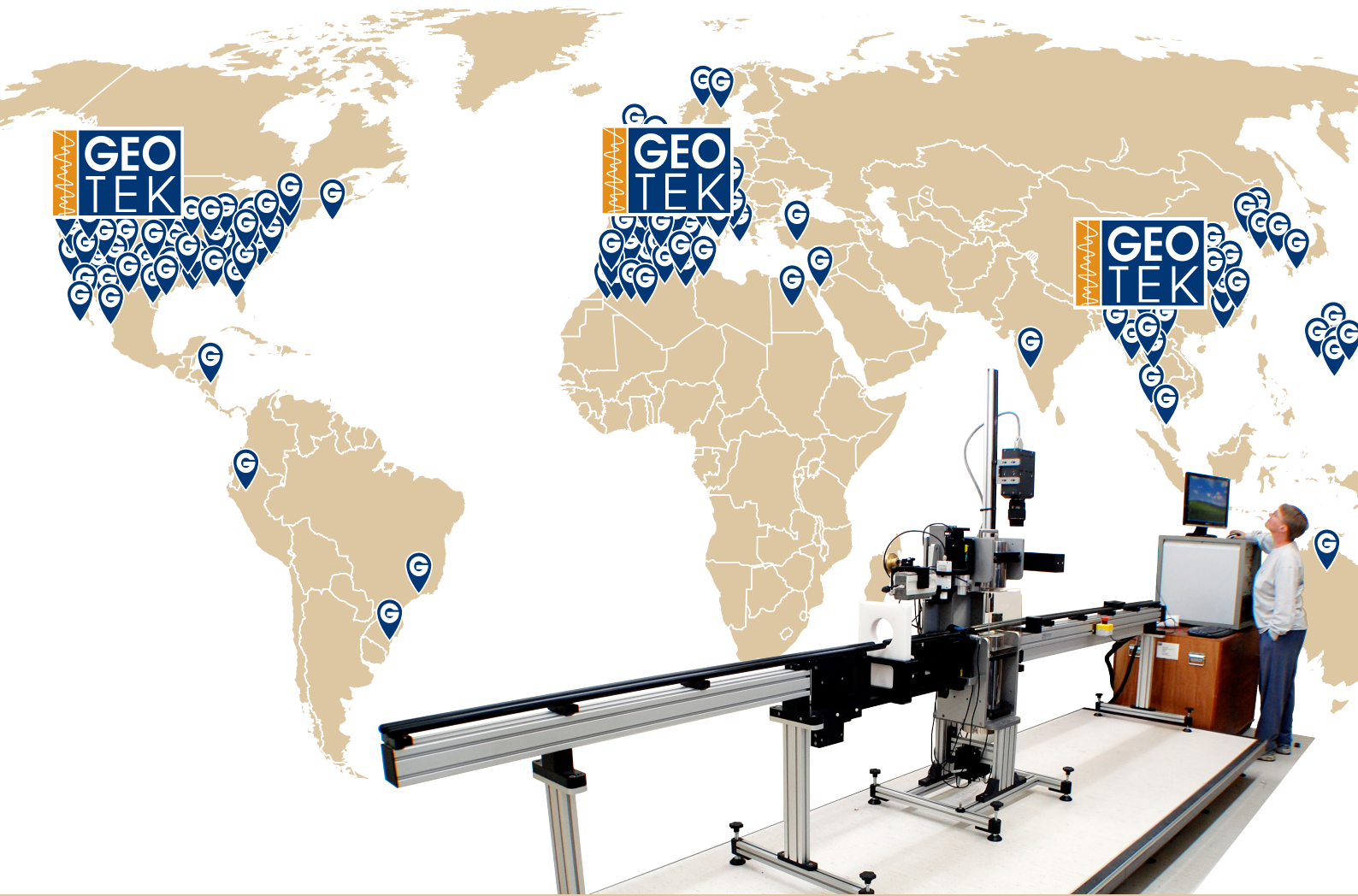
P-wave velocity determination using piston, or oil-filled rolling transducers.

## DEDICATED ELECTRONICS WITH SIMPLE USER INTERFACE

Over 20 years of core scanning experience for reliable automation and logging performance.



# GLOBAL PRESENCE & EXPERIENCE



OVER 190 INSTALLATIONS

GLOBALLY BASED

DIRECT SUPPORT

- Over 20 years experience in MSCL technology and core logging requirements for research and industry
- Geotek comprises of a talented team of employees specialising in engineering, design, electronics, software and geoscience
- Worldwide installation, diagnostics, and application support with internet-based access to the MSCL for faster solutions
- Our customers range from universities, government geoscience organisations, oil and gas service labs and majors, geotechnical contractors, and mineral exploration companies
- Training seminars, workshops and tailored core logging courses offered
- Global research and industry community, and publications using MSCL data



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