

The word "ADROK" in a large, bold, pink, distressed font, followed by a circular logo consisting of multiple colored segments (red, orange, yellow, green, blue, purple) arranged in a semi-circle.

EXCITING OPPORTUNITY TO LICENSE OR ACQUIRE PATENT-PROTECTED SUBSURFACE GEOPHYSICAL MAPPING TECHNOLOGY

Metis Partners presents an exciting opportunity to license or acquire the intellectual property (“IP”) assets owned by Adrok Limited (“Adrok” or the “Company”), a geophysical services company.

Adrok owns patent-protected imaging technology which underpinned revenues of more than £5m in the five years prior to the COVID-19 pandemic, and is used to identify the existence of subsurface materials including oil, gas, and minerals.

The technology, known as Atomic Dielectric Resonance (“ADR”), provides high quality geophysical mapping of subsurface layers and has been deployed by global corporations, including Chevron and Glencore, to find underground resources in remote environments, without the expense and environmental impact of physical exploratory borehole drilling.

DEADLINE

Please be advised that the deadline for initial expressions of interest has been set for Wednesday 26 April at 12pm (BST) and 5pm (EDT).

CONTACT

If you are interested in finding out more about this opportunity, including access to a virtual data room, please contact Emre Turan at emre@metispartners.com and David Hood at david.hood@metispartners.com; or call +44 (0) 141 353 3011 or +1 858 848 6911.

OPPORTUNITY HIGHLIGHTS

- To acquire the rights to the world's first and only technology related to direct material identification of the earth's subsurface, which has been relied on to deliver geophysical services, including to Chevron and Glencore.
- To deploy a proven, low impact and low CO2 emitting technological solution underpinned by c.\$6m of investment, which provides 'virtual boreholes', reducing exploration costs for clients by up to 90% and avoiding unnecessary environmental damage.
- To acquire a valuable patent portfolio comprising 26 granted patents protecting the Company's proven technology in key natural resource territories, and which has received multiple forward citations, including from Saudi Aramco, Toshiba and Halliburton.
- To capitalise on market growth driven by demand from energy transition companies pivoting towards renewable energy sources and more environmentally friendly solutions, including geothermal energy.
- To acquire a flexible product solution that has a track record and applicability across a wide range of sectors including oil and gas, mining and bio-tech, with opportunities to productise the technology for existing and new applications across these sectors.

KEY MARKET DATA

AN ACTIVE AND INNOVATIVE GLOBAL MARKET

- The global geophysical services and equipment market will grow at a CAGR of 3.1 % from 2018 to 2025, from total revenue of \$9.8 Billion to \$12.5 Billion. (Verified Market Intelligence)
- The global geothermal energy market size was assessed at \$44 Billion in 2020 and will reach \$50 Billion by 2027. (Newswire)
- The world's largest 40 mining operators reported average increased profits of 127% in 2022 as a result of greater demand for critical minerals. (PwC)
- "Convergence across and into the Energy, Utilities and Resources sector is accelerating and broadening as companies continue to shape and reshape their asset portfolios to align with their strategic energy transition opportunities and ambitions." (PwC)
- Despite strong economic and geopolitical headwinds in 2022, M&A activity in the Energy, Utilities and Resources sector persisted at pre-pandemic levels with almost 5k deals completed, comprising a total value of \$485 Billion USD. (PwC)
- ESG goals are playing a crucial role in driving M&A and investments in the Energy, Utilities and Resources sector, with operators seeking capital to meet carbon neutrality targets. (White and Case)

RELEVANT SECTORS:

- **GEOPHYSICAL EXPLORATION**
- **OIL AND GAS**
- **ENERGY TRANSITION**
- **MINING**
- **BIO-TECH**

BUSINESS BACKGROUND

ADROK HISTORY & SOLUTIONS

COMPANY TIMELINE

In 2012, Adrok secured a near \$30m valuation following a \$5m investment from Teck Resources, one of Canada's largest natural resource corporations. In the same year the Company gained vendor status with Chevron and worked on a multitude of projects including monitoring steam injection for enhanced oil recovery activities in California, and locating sources of geothermal heat in New Zealand. The business generated revenues totalling over £5m in the five years prior to the COVID-19 pandemic, until the travel ban and downturn in operations from key customers as a result of the pandemic heavily impacted upon the business's ability to generate revenue.

USERS OF THIS TECHNOLOGY

Relying on its proprietary patented technology, Adrok supplies geophysical services for locating, identifying and mapping subsurface natural resources across a range of sectors including Oil & Gas, Mining and Geothermal. Adrok's environmentally friendly solutions eliminate the need for exploratory drilling and reduce exploration costs by up to 90%. This technology has attracted customers from a range of diverse sectors, including multinational corporations such as Glencore and IMERYS, along with mid-sized firms and governmental bodies.



TECHNOLOGY OVERVIEW

Adrok's solution is the world's first and only direct material identifier of the subsurface.

What this tech does: Adrok's proprietary and patent-protected ADR subsurface imaging and material classification system:

- maps the subsurface and ultimately determines the potential existence of natural resources from ground level without the need for borehole drilling.
- measures and interprets resonant energy responses of synthetic or natural materials with pulsed electromagnetic waves.
- supports a process that culminates in a 'virtual borehole' depicting measurements of the subsurface resources, lithology and stratigraphy.

Practical features of this solution: The Company's ADR scanners:

- are non-invasive, portable and battery powered.
- can be utilised in field surveys as well as in laboratories where the technology tests and identifies specific client samples and specimens.
- can be deployed on land, in air and under water.
- enable identification of materials to depths of several thousands of meters underground and can provide up to four scans a day which is significantly faster than conventional borehole drilling.
- are low impact, low CO2 emitting, non-ionising and non-destructive.

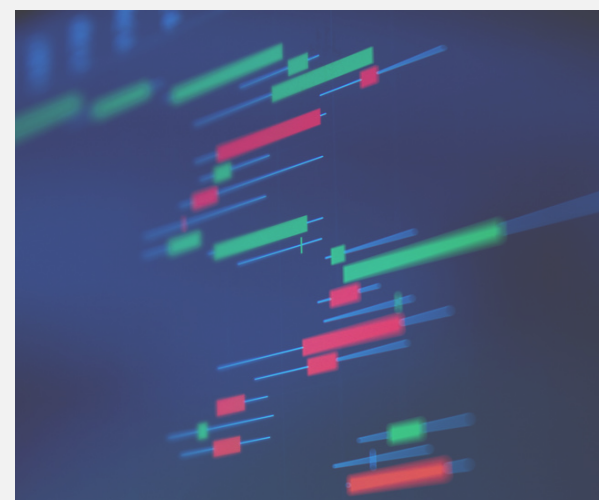




TECHNOLOGY OVERVIEW

Adrok scans: In the field, Adrok's technology supports the following three types of scans:

- **Wide Angled Reflection & Refraction (WARR):** triangulation for conversion of time into depth where a transmitter sensor moves away from a stationary receiver sensor and then the transmitter moves continuously between depths along the ground, while the receiver remains at the beginning of the scan line at ground level.
- **STARE scan:** transmitter and receiver sensors placed at a fixed separation, with the whole ADR system remaining stationary, collecting data. Active and passive stares quantify noise levels; and return signals are stacked to enhance the signal to noise ratio.
- **P-Scan:** a 2-dimensional cross-section of the subsurface achieved by active continuous scanning along the short scan line distance.



IP ASSETS FOR SALE

PATENTS

The Company has three patent families comprising 26 granted patents and eight applications, protecting the Company's solutions in significant natural resource locations including Australia, Canada, and Mexico. Adrok's patents have received notable forward citations from both academic institutions and major global operators including Aramco, Toshiba, and Halliburton. The Company's patents underpin all revenue generation with the earliest filings securing a priority date in 2012.

- **Patent family #1** is titled "Methods For Determining Material And/or Subsurface Composition", and contains ten granted patents: protects a method to determine the composition of different materials through processing the electromagnetic data received from the ADR scanner.
- **Patent family #2** is titled "Method of Identifying Reflected Signals", and contains sixteen granted patents and one patent application: protects the method by which the reflected signals from the subsurface material are identified, which optimises data processing and results.
- **Patent family #3** is titled "Methods For Determining Material And/or Subsurface Temperatures", and contains seven patent applications: protects a method for determining the temperature of subsurface material.

The patent families are further detailed in the Appendix below.



IP ASSETS FOR SALE

TRADE SECRETS

The Company owns an extensive bank of trade secrets in relation to the design and specifications of apparatus; as well as trade secrets protecting the mathematical formulas, algorithms and source code which underpins its method of processing and analysis.

KEY ORGANISATIONAL KNOWLEDGE

Adrok holds extensive key organisational knowledge, including workflow guides and a typecasting database holding information on specific materials collected from the signals received from ADR scans over many years. These databases are used in conjunction with the Company's software modules and are critical to the identification of subsurface material.

The Company also holds two ISO accreditations: ISO27001 which is the international standard for information security; and ISO9001.



**TRADE
SECRET**

IP ASSETS FOR SALE

SOFTWARE

CORE FUNCTIONALITY

Groundscan - On Site/Laboratory and Data Collection: proprietary software that propagates and regulates the electromagnetic wave pulses transmitted by the ADR scanner antenna as well as identifying, recording and digitising the received reflected signals.

Radamatic - Data Processing and Interpretation: this software, in tandem with the Company's typecasting database, conducts the typecasting process.

Logamatic - Analysis and Delivery: this software produces visual outputs exhibiting thematic maps with material classifications at varying levels of depth. The software solution provides clients with lithological information that limits the need for borehole drilling.

SOFTWARE OVERVIEW

Adrok's software was rewritten in C+ for Microsoft Windows in 2012. The source code is well annotated and the original source code documentation is still held. Additionally, critical scripts macros are held in Matlab and Microsoft Excel, respectively.

The software was developed both in-house and by external consultants, with IP rights having been assigned to the Company. The software is well protected and is easily transferable to a third party.

Adrok's software modules are integrated with a number of databases to typecast and identify specific material from the received signals from its ADR scans. These databases are used in conjunction with the Company's software modules and are critical to the identification of subsurface materials.



IP ASSETS FOR SALE

BRAND & TRADE MARKS

The corporate Adrok brand has a 16-year track record of service delivery to a high-profile customer base and has achieved international exposure by delivering projects across key natural resources territories including Canada and Australia. Adrok's corporate brand is protected by trade marks in commercially relevant territories including the UK, US, Canada and Australia.

An extract of the Company's 11 trade marks protecting the Adrok corporate brand, and the Predrilling Virtual Logging service brand are detailed below:

MARK	REGISTRATION NUMBER	CLASS	TERRITORY	REG. DATE
ADROK	4535252	9, 10, 42, 44	US	27/05/2014
PREDRILLING VIRTUAL LOGGING	UK00908889958	9, 10, 42	GB	10/08/2010

IP ASSETS FOR SALE

DOMAIN & WEBSITE

Adrok's corporate website is hosted at the adrokgroup.com domain and features an overview of the Company's services and technology.

The Company also holds the rights to 16 additional domain names, which relate to variations of the Adrok name across key territories and sectors, including Adrok Asia, Adrok Energy, and Adrok Medical.

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APPENDIX

Patent Family #1 – Methods For Determining Material And/or Subsurface Composition

“A method of determining subsurface composition of a surveyed region. The method comprises transmitting a pulsed electromagnetic signal into the ground and detecting a return signal following interaction of said transmitted signal with features of the subsurface, a profile image of the subsurface is then obtained, and one or more spectra of said return signal is calculated, said one or more spectra comprising one or more of an energy-frequency spectrum, a phase-frequency spectrum, a phase-energy and an energy-frequency spectrum. These spectra are analysed to determine a characteristic energy-frequency signature, phase-frequency signature, phase-energy signature and/or energy-frequency signature for one or more layers of said subsurface. The determined signature(s) are then compared to a database of equivalent signatures of known materials in order to determine a composition of said one or more layers.”

Patent Family #2 – Method of Identifying Reflected Signals

“A method of, and computer program and apparatus for, identifying reflected signals, subsequent to their reflection within a medium. The method comprises obtaining return signals (100), resulting from measurements being performed over a measurement period. The measurement period comprises sub-periods, the return signals comprising reflected signals and noise. The plurality of return signals are partitioned into plural sets (220) of equal cardinality or as equal as possible such that their cardinality differs by no more than one. A stacked correlation value is determined (130) for the return signals by determining the mean of the return signals across the plural sets (230) and determining a correlation value of the plural sets over each of the time sub-periods (240). Peaks in the variation of the stacked correlation value over time can then be identified and each of the peaks in the variation of the stacked correlation value over time can be attributed to a reflected signal.”

APPENDIX

Patent Family #3 – Methods For Determining Material And/or Subsurface Temperatures

“A method of determining subsurface temperatures of a surveyed region. The method comprises using a transmitter to transmit a pulsed electromagnetic signal into the ground; using a receiver to detect a return signal following interaction of said transmitted signal with features of the subsurface and determining one or more temperatures within the subsurface from the return signal. The temperature may be determined from a dielectric constant of a subsurface region, as determined from the received signal.”

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LEGAL NOTICE

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XIV. The Buyer accepts that all sales are final.

XV. The risk in and to Intellectual Property bought by the Buyer shall pass to the Buyer on offer acceptance, but the legal and beneficial title in and to such Intellectual Property shall remain with the Company until the Buyer’s payment of the Purchase Price (together with any applicable taxes).

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