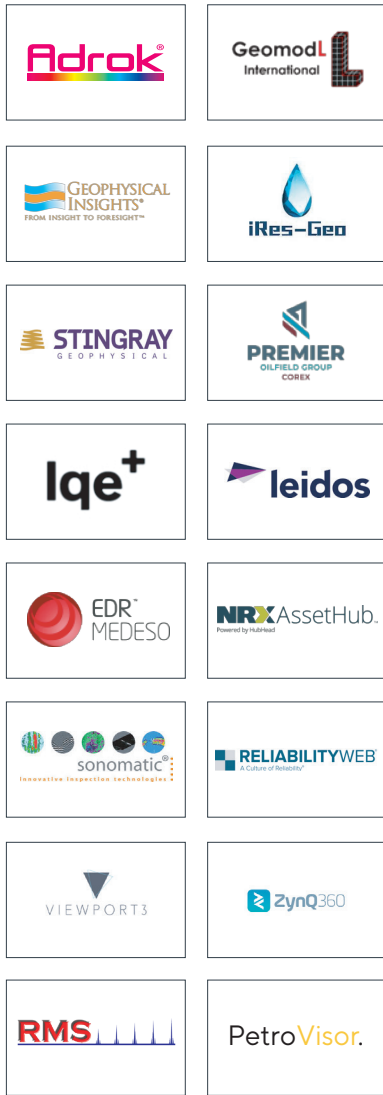


BUSINESS MODEL

OUR PARTNERS:



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CONSULTING

OUR TEAM:

- **Asset Integrity:** Multi-discipline Engineers
Multi-discipline Technical Authorities / Reliability Engineers / Process Engineers / Engineering Project Managers / Data Scientist
- **Well Management:** Well Integrity Engineer
Geophysicist / Drilling Engineer / Petrophysicist
Reservoir Engineer / Production Engineer
Data Scientist

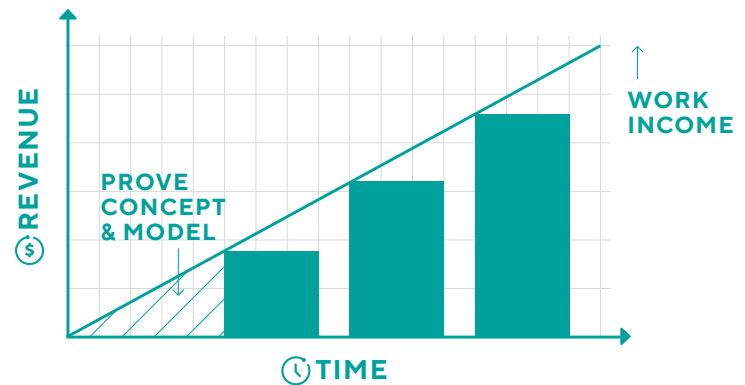


PROJECT MANAGEMENT



SOLUTIONS

INVESTMENT:



CLIENT RETURN:

- Uptime equipment gains of **at least 20%**
- **40-90% reduction** in deployment time in comparison with stand-alone APM solutions.
- **80-95% reduction** in failure risks
- **30-60% reduction** in opened equipment
- **50-90% reduction** in inspection points
- Cost savings of **up to 50%** for inspection and maintenance of assets
- Typical return on investment would be **<1 year**
- Compliance with government and industry guidelines and standards
- Ongoing operational verification of safety critical elements
- Class and certification of innovative decommissioning

PLATFORM DEVELOPMENT:

- Software delivery & potential licensing
- Dashboards
- KPIs
- Supply chain co-ordination
- Blockchain
- Knowledge MGT



DATA CAPTURE

POOR DATA COLLECTION = POOR DECISIONS

DATA INPUT

Physical Inspections
Manual Entry
Labour Intensive
Time Consuming
Rig Time / Bed Space

DATA OUTPUT



Human Error
= min 40%

Equates to **20,000** bad data points requiring some sort of modification. QA executed only captures the obvious errors, it cannot possibly be able to check every single entry where there is a '1' or 'l', or '0' or 'O'.

MAINTENANCE METHODOLOGY

Calendar Based Monitoring
Risk Maintenance

ASSET 4.0™ DATA COLLECTION = GOOD DECISIONS

DATA INPUT

Integrated
Real Time
Agile & Enabling
Optimising
Technology Driven

DATA OUTPUT



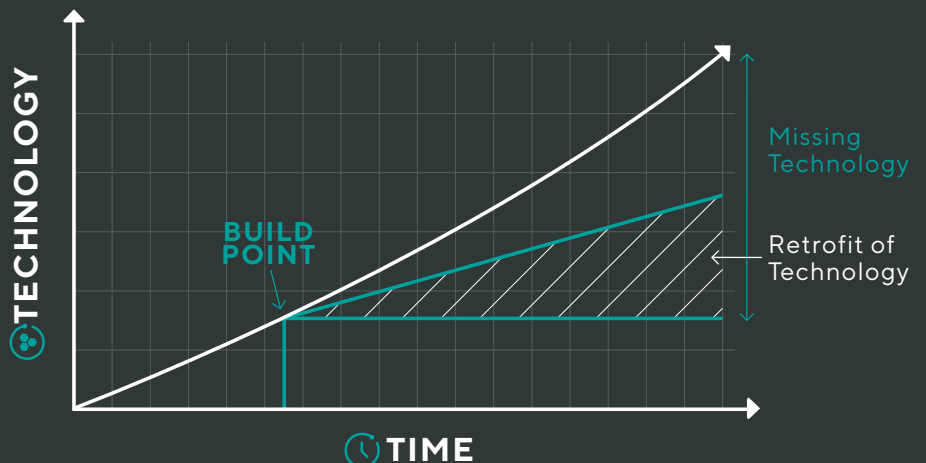
Machine Error
of 0.1%

Machine error is **97%** due to bad quality documentation, where recognition is challenging even for a machine. But machine accuracy is **100%** if character recognition is possible. This equates to **1,500** erroneous data points which are flagged by red mark ups on the electronic copy drawing.

MAINTENANCE METHODOLOGY

Condition Based Monitoring
Predictive Maintenance

INCREASE OF TECHNOLOGY vs TIME



WHAT DOES THIS MEAN?

The calculations from projects showed that human error is high in manual data extraction and enrichment – the figure is actually in the range of **40-60%** and machine data extraction is **97%** accurate. The ultra-high human error percentile introduced means that every project then has to be intensively quality control checked at multiple critical control points throughout the project life cycle. Adding extra time, resources and cost, that either we as a company pay or have to pass onto the client. This contributes heavily to the high cost per year for an operator of **\$14m**.

INDUSTRY

Globally recognise problems corroborated with Operations. These are the **root cause** for notifications issued from the HSE and the PSA.

\$2.2B

UKCS total 2,100 Wells, with 600 Shut-In equals 33 million boe loss/year at \$67/barrel

\$20B

UKCS Market is worth 300 million boe/year at \$67/barrel

60%

Time spent seeking information used in order to solve problems

\$14M

The average annual cost due to poor data for an operator

Global & UKCS Market Potential

\$47B

Is the estimated market value for machine learning by 2020

\$11T

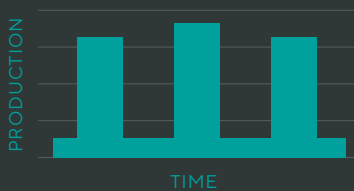
Is the potential economic impact of the IoT by 2025

\$11B

Is the global market for predictive maintenance by 2022

EXISTING APPROACH

REACTIVE MAINTENANCE



CATEGORIES

Structural / Mechanical / Electrical / Safety

MASTER DATA

BOA / Asset Register / Risk Assessments
Audits / Bowtie / 4 Week Physical Inspection

WELL INTEGRITY

Status / Surveillance / Evaluate
Remediate / Program - Prioritise - Supply Chain

ASSET 4.0™ HOLISTIC APPROACH

- DRONES
- DOCUMENT SCANNING
- DIGITAL TWIN
- FEA DATABASE

RESERVOIR MODELS

3D / 4D SEISMICS

FORENSIC ANALYSIS

COREX ANALYSIS



UPHOLE / SURFACE

DOWNHOLE

UPHOLE / SURFACE

DOWNHOLE