BUSINESS MODEL

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

INVESTMENT:

- 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

CLIENT RETURN:

- **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 ‘1’, or ‘0’ or ‘0’.

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

MISSING TECHNOLOGY

BUILD POINT

RETROFIT OF TECHNOLOGY
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