

Pipeline Services

PULSE ENGINEERING AND CONSULTING
LIMITED AND PIMS GLOBAL



Who We Are



We deliver practical, sustainable and innovative pipeline and valve engineering solutions.

We focus on providing bespoke solutions to clients across the energy industry value chain by capitalizing on the combined experience of our team, key partnerships with local and international companies, and unique valve integrity management software.

Our consultants and engineers provide solutions which drive operational excellence, deliver cost savings and foster long term partnerships.



Locations

- United Kingdom
- Uganda
- Equatorial Guinea
- Nigeria (Port Harcourt, Warri and Lagos)

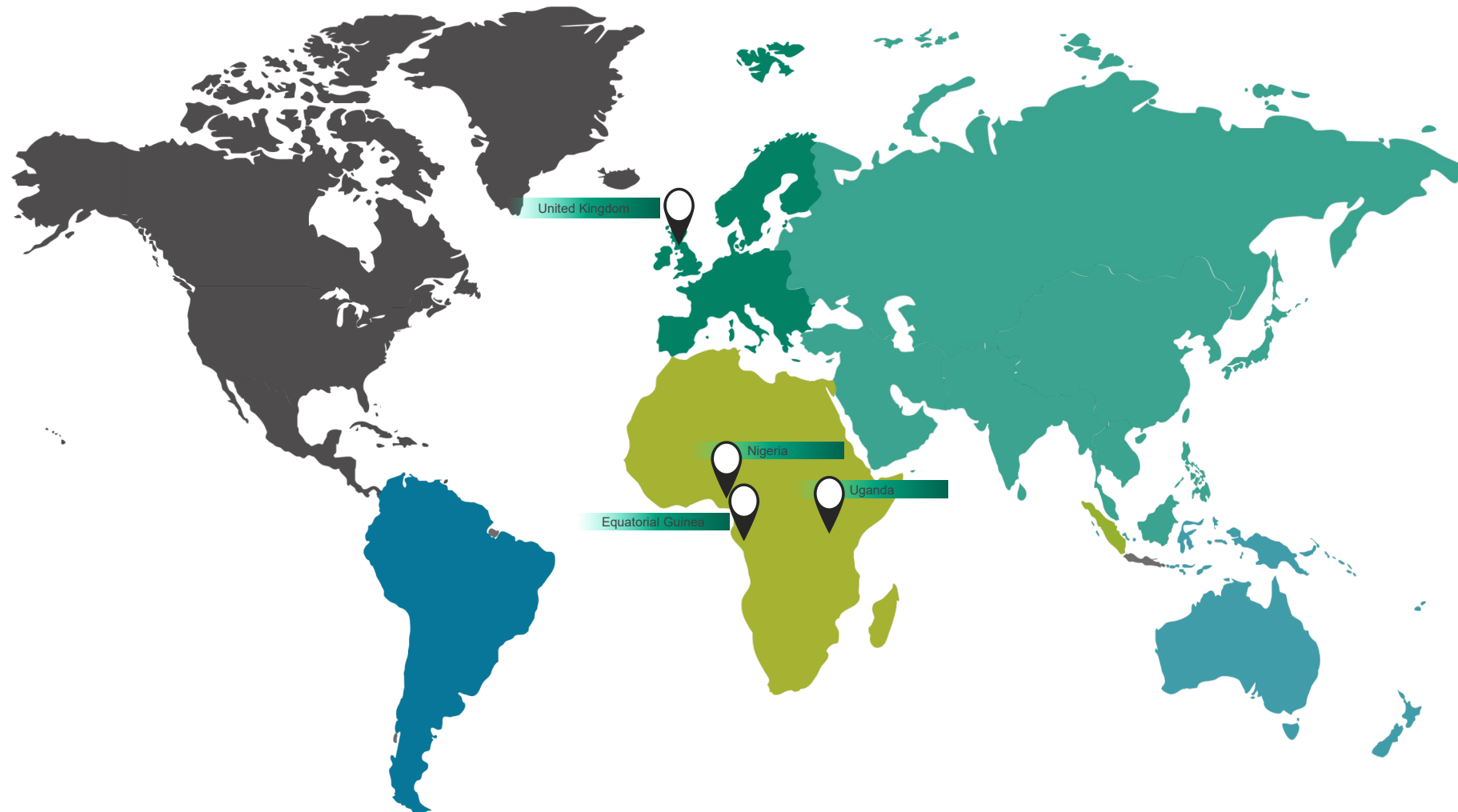
Technology Focus

- Valve-IMS and valve integrity
- Pig-TMS and pigging management
- Pipeline intelligent inspection
- Asset scanning and data management
- Asset integrity database

Current Sectors

- Oil and Gas
- Utilities and Power Generation
- Agriculture and Processing
- Port Authorities

Our Location



Overview

Experience

Over **7 projects** executed
Over **100 years** combined management
experience
Average **16 years** experience per consultant
Over **300.000 man hours**
o LTI

Registration, Memberships and Certifications

NiPEX, DPR and NCDMB
registered
ISO 9001:2015



Staff Strength

Over **60 discipline** professionals

Partners

Strategic Partners:

- PIMS Global
- Metec
- Cyber Space
- Glo Nigeria
- Pulse Engineering and Consulting

Overview of Our Services and Track Record



General Services:

- Asset / facility integrity & maintenance;
- Asset baseline integrity review;
- Engineering & design;
- Decommissioning;
- Gas flaring;
- Gas expert services;
- EPC support services;
- Subsea inspection services;
- Pre-commissioning;
- Commissioning & start-up.

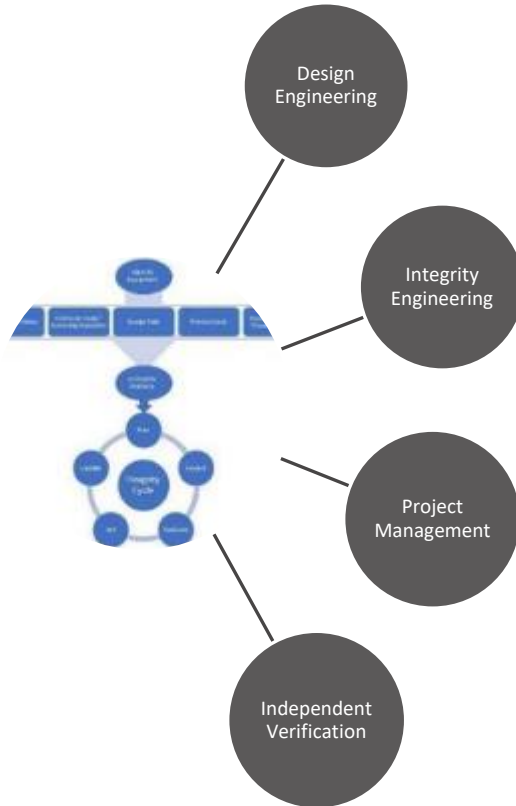
Production | Processing & Refining | Storage

- Hook-up & completion;
- Asset simplification & optimization;
- Mooring systems & support;
- Valve integrity & maintenance;
- Sparing and obsolescence;
- NDT services.

Transportation | Offloading & Distribution

- Pipeline inspection;
- Pigging services;
- Cathodic protection services;
- Emergency pipeline repair solutions;
- Pipeline emergency spares;
- Pipeline integrity and maintenance.

Engineering Services



Design Engineering

- Front end engineering design
- Detailed design studies
- Specialist design studies
- Offshore and onshore pipeline design
- Piping and system design mapping and scanning

Integrity Engineering

- Technical note and reviews
- Integrity plan development
- Asset integrity management
- Yearly integrity assessment
- Life extension studies
- Fitness for purpose review
- Integrity software solutions

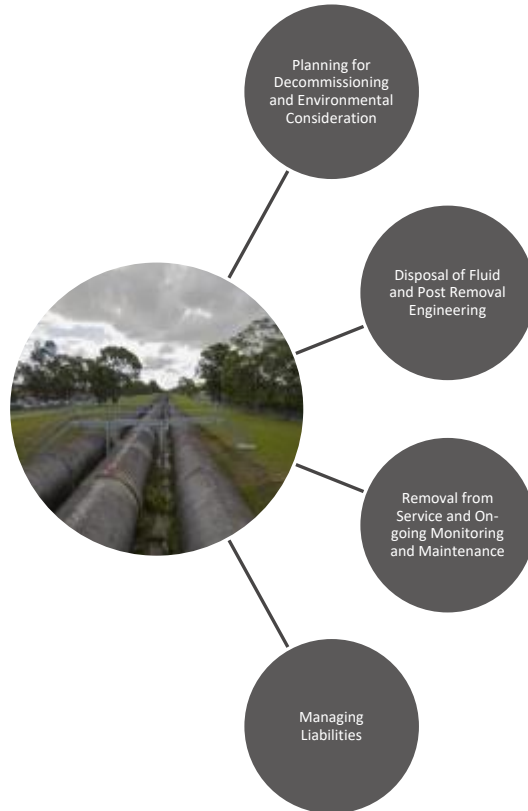
Project Management

- Project assurance support
- Project management and planning
- Project costing
- Simplification projects
- Asset validation projects development and execution

Independent Verification

- Independent verification services
- Compliance review
- Asset audits and baseline review
- Asset efficiency review studies

Decommissioning



Planning for Decommissioning and Environmental Consideration

- Review and audit of pipeline system
- Review of pipeline characteristics
- Production pigging program review
- Review of pipeline limitations against environmental and climate
- Review accessibility and 3rd party spreads
- Crossing and hazard removal

Post Removal Engineering

- Chemical selection for decommissioning
- Engineering review of impact of fluid displacement on buoyancy
- Review of pipeline topography
- Review of associated and auxiliary process facilities
- Review of pipeline condition and integrity of all facilities
- Pre-evacuation cleaning review

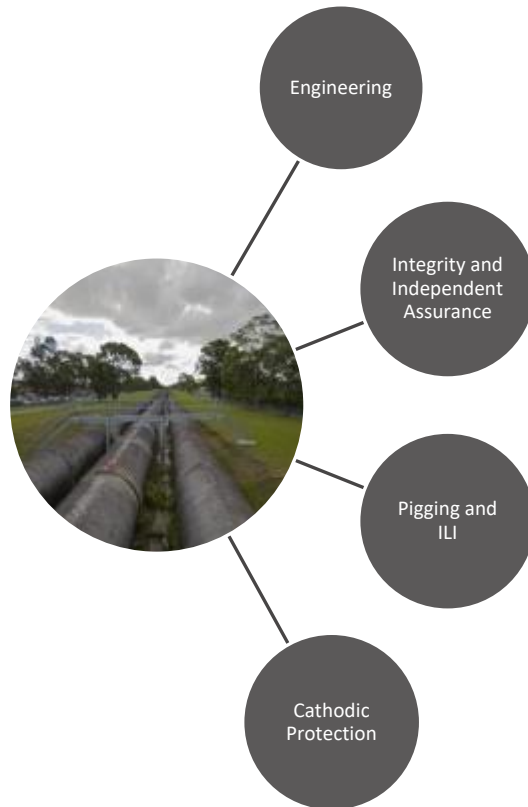
Removal from Service and On-going Monitoring and Maintenance

- Pigging and flushing
- Inert clearance / liquid / flushing / purging
- Pipeline deterioration
- Environmental impact Assessment
- Re-use of valves and facilities
- Termination of pipeline corridor agreements
- Pressure and corrosion monitoring
- Surveillance

Managing Liabilities

- Decontamination
- Environmental monitoring
- Future public consultations
- Retention of records
- Update of asset register

Pipeline Services



Engineering

- FEED, DE and Review of engineering design
- Development of BoD and engineering design
- Engineering reliability studies
- Rehabilitation review and execution
- Engineering assurance
- Pipeline inspection alternatives and validation

Integrity and Independent Assurance

- FFP assessment and (independent) re-assessment
- Pipeline service lifetime extension
- Corrosion under insulation (CUI)
- Project assurance and verification (independent) support
- Pipeline validation

Pigging and Intelligent Pigging

- Pigging full value chain (feasibility, risk assessment, inspection, client supervision and reporting)
- Gap analysis including modifications and assurance
- Pig design, pig launcher / receiver design and fabrication
- Contractor selection and management
- Pipeline decommissioning pigging requirement

Cathodic Protection Systems

- CP potential survey to develop a profile of the CP system and identify all TRs and test points (TP)
- Soil resistivity tests to establish the criteria to obtain adequate protection
- Close interval potential (CIPS) survey
- Redesign and upgrade of CP systems
- Cathodic Protection Insulation Joint (I.J) charge out
- Potential / current monitoring
- CP system with solar energy bank

Maintenance Support Services



Operational Support

- Review / development of standard operational testing procedures
- Review / development of testing volumes and maximum normal operating pressures
- Emergency breakdown response
- Routine maintenance during scheduled shutdown
- Tagging and identification

Maintenance Support

- Component replacement cycle review
- Development of performance standards under Safety critical Element (SCE)
- Training and competencies support / management
- Historical performance analysis and benchmarking

Maintenance system support

- Preventative maintenance
- Maintenance Support
- Development of maintenance strategy
- Root cause investigation, diagnostics, repairs and reporting
- Reconditioning and servicing
- Stock / spares management including spares assessment and obsolescence review.

System Reliability and Availability

- Asset availability and reliability assessment
- Valve reliability and availability assessment
- Plant component reliability management
- Yearly maintenance regime review
- Performance indicators
- Risk management and reduction
- Reduce downtime and interventions

Valve Integrity and Valve-IMS



Operational Excellence and Cost Saving

- Up to 75% savings in cost
- Reduction in man hours
- Integration with CMMS
- Integration of all operations
- Integration of 3rd party assets
- QA/QC review process integrated
- Reduction in loss of information
- Holistic risk management

Compliance and Risk Management

- Risk assessment is designed to suit specific client's processes and policies
- Algorithms considers the location (country, region, etc.)
- Standards is valve type / function specific
- Supports activity planning and record management
- Supports independent verification and company audit processes

Trending and Reliability Engineering

- Assistant engineering
- Valve leading and lagging indicators
- Failure mode analysis
- Valve reliability and availability calcs
- Automatic trending and data storage
- PDF reports generation
- Support the asset integrity yearly review activities

As-built and Inspection Database

- Documentation of as-built
- Unique valve identifier and QR tagging
- Stores OEM data (to component level) and OEM requirements
- Historical failure integration and global failure database
- Valve datasheet, information and print
- Details of operational activities
- Details of changes to valve i.e. repairs, replacement, overhaul etc.

Procurement and Pre-fab Support



- Pipelines (stainless steel, carbon steel)
- Pipes (6 70 mm WT)
- House lead-in combinations
- SURF protection components
- Diverless PRC
- Pressure vessels
- Steel structures
- Valves (all valve groups)
- Valve components
- Insulation joints (DN 50 DN 1400)
- Pumps and compressors
- Special pieces (Tees, hot taps, plugging)
- Pig traps and pig trolleys
- Quick closure pig traps
- Flanges and piping pieces
- Anchor flanges
- Pressure regulators

Capability Statements



Project Portfolio



Aiteo Group (Nig)

Asset Integrity
Management



Addax Petroleum (Nig)

Pipeline Inspection and
Commissioning



Perenco (UK)

Pipeline Inspection and
Pigging Support

CP Support Services



Rosen (UK)

Pigging Support and
Cleaning Services

CNR (UK)

Pigging Refurbishment
Services