Kevin Muleya | MIET · AMIChemE

Chemical & Process Engineer | Industrial gases · Process development · Engineering improvement

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www.muleya.uk | General professional profile | October 2026

Professional summary

Chemical and process engineer with over three years at BOC UK & Ireland across process safety, air-separation operations and reliability. Applies systems thinking to connect equipment, process data and operating practice, balancing performance, safety and cost. Combines an MSc in Advanced Engineering Materials with practical engineering experience, materials research and academic process design.

Selected outcomes: £7,000 reliability saving verified by Business Analytics; estimated £150,000-£200,000 test-shop productivity opportunity; £5,600 contractor charge reduction; approximately 30 engineering changes progressed; annual asset condition and risk reviews completed at two sites.

Professional experience

BOC UK & Ireland, a Linde company | Graduate Engineering Programme | September 2023-present

Graduate Operations Engineer, Final-Year Placement

BOC UK & Ireland | Morden, London | Sep 2026-present

Final rotation in packaged-gas operations, applying process-safety, air-separation and reliability experience to plant engineering and continuous improvement.

- Applies experience from three graduate rotations to plant engineering and operational improvement in packaged gases.

Graduate Engineer, Reliability & Maintenance Improvement

BOC UK & Ireland | Worsley · Packaged Gas Products | Sep 2025-Aug 2026

Failure investigation, technology feasibility, relief-system analysis, maintenance reporting, technical training and engineering assurance.

- Led the Crawley high-pressure analysis-hose investigation and Wolverhampton test-shop automation feasibility study.
- Reviewed liquid-CO2 thermal relief arrangements at Glasgow and Brinsworth and reconstructed a Morden pressure safety valve sizing method.
- Translated engineering standards, written schemes and SHEQ requirements into maintenance instructions and training.
- Consolidated three maintenance reports into Power BI and refined the dashboard with two branch managers.
- Supported audit and HAZOP action close-out, as-built P&ID checks, critical-spares planning and E-STOP functional-safety information collection.
- Contributed to cooling-tower removal planning, surveys and isolation requirements.

Graduate Operations Engineer

BOC UK & Ireland | Motherwell & Grangemouth | Sep 2024-Aug 2025

Engineering change, asset condition and risk, maintenance investment, contractor controls and operating information across two air-separation sites.

- Progressed actions across approximately 30 engineering changes and chaired monthly reviews for six months.
- Coordinated work relating to equipment interfaces, cooling towers, cryogenic vessel service changes and pump insulation.
- Led annual Condition and Risk Assessment reviews to 100% completion at both sites and developed 2025/26 maintenance, overhaul and replacement priorities with the plant manager.
- Negotiated a contractor charge from £8,000 to £2,400 following a scope shortfall, a £5,600 reduction.
- Developed a compressed-dry-air standby-mode proposal for low-demand operation and reviewed constraints with operations, contractors and central engineering.
- Improved Historian mimics, analysed process-safety indicator trends and developed a Work Assignment Tool.
- Supported a causal-tree investigation into contractor RAMS non-compliance and checked turnaround contractor controls.

Graduate Process Safety Engineer

BOC UK & Ireland | Woking · UK & Ireland assets | Sep 2023-Aug 2024

Hazard-study support, risk-assessment leadership, Process Safety Information implementation, drawing assurance and technical reporting.

- Supported and scribed HAZOP and LOPA studies for industrial-gas and customer systems at Margam, Brinsworth, Runcorn, Fawley and Crawley.
- Chaired the Teesside LIC Village Occupied Building Risk Assessment and supported further occupied-building, turnaround and site risk reviews.
- Compared Customer Engineering Services P&IDs with vendor and as-HAZOPed configurations, identified process and nomenclature differences and worked with the Design Office on a consistent review approach.
- Progressed Process Safety Information through SharePoint transfer, gap assessments, site consultation, a compliance heat map and implementation planning.
- Simplified process-safety indicator spreadsheets and produced weekly KPI presentations for senior stakeholders.
- Migrated and reconciled HAZOP records from Leader to PHAWorks and supported controlled technical-report checking.

Project Coordinator

OJ Solutions Ltd | Manchester | Mar 2022-Aug 2023

Coordinated customer-site technology deployments, suppliers and delivery dependencies, with resource planning for up to 40 engineers.

- Coordinated EPOS, hardware, Wi-Fi and office infrastructure deployments at customer sites.
- Worked with customers, suppliers and technical specialists to clarify requirements, manage scope and coordinate delivery dependencies.
- Used stakeholder workshops, RAID records and RACI responsibilities to communicate risks, ownership and decisions.

Account Executive

Paragon Event Marketing | Client campaigns | Jan-Mar 2022

Represented client campaigns, explained products to prospective customers and supported registration and retention.

Metallurgy Intern

Mimosa Mining Company | Zimbabwe | Jun-Jul 2019

Process monitoring and metal-accounting support in a platinum-group-metals plant.

- Monitored process variables and mineral streams and supported metal accounting.
- Gained exposure to sample testing, flotation, flocculation and the relationship between operating conditions and separation performance.

Engineering projects and technical contribution

Project records below set out the operating context, contribution, method and recorded result. Estimated benefits, proposal-stage work and completed outcomes are identified separately.

01 | Test-shop automation feasibility

Wolverhampton · Reliability & Maintenance Improvement · 2025-2026 | Feasibility lead

Led the Wolverhampton test-shop automation study, mapping manual activities and decision points, evaluating existing BOC experience and defining the initial technical requirements. Established supplier input for the next investment decision.

- **Process and activity mapping:** Mapped manual work, technician interventions and decision points to establish the operating requirements an automated system would need to address.
- **Technology review:** Assessed BOC Australia and Global experience to inform the UK study. Considered the relationship between the established operating process and the proposed automation approach.
- **User requirements specification:** Produced a team-approved initial user requirements specification, translating the feasibility work into a basis for technical discussion and contractor assessment.
- **Contractor engagement:** Identified three potential contractors and coordinated site surveys. Two surveys were completed at the recorded review point, providing supplier input for subsequent development.

Result: Identified an estimated £150,000-£200,000 productivity opportunity. Delivered an approved initial requirements specification, a shortlist of potential contractors and completed site-survey input for the next investment decision.

Scope: Feasibility and requirements development. The productivity figure is an estimate of the identified opportunity, not a realised saving.

Tools and methods: Process mapping; User requirements specification; Technology assessment; Contractor coordination; Productivity assessment.

02 | High-pressure analysis-hose reliability

Crawley · Reliability & Maintenance Improvement · 2025-2026 | Investigation lead

Led the investigation into recurring high-pressure analysis-hose failures at Crawley. Connected technician handling and bending with failure evidence, developed two options and secured technical-authority agreement on a revised hose.

- **Failure investigation:** Observed technician handling alongside the available failure evidence. Examined bending and its relationship to the repeated failures.
- **Option development:** Developed two technical options and reviewed the proposed change with the technical authority. Secured agreement on a revised hose suited to the operating application.
- **Implementation and follow-up:** Monitored installation and reviewed the replacement in use. Used the follow-up period to check the result rather than treating component replacement as the end of the investigation.

Result: Business Analytics verified a £7,000 saving. No further failure was reported at the recorded review point.

Scope: The reliability observation relates to the recorded follow-up period. Financial verification is attributed to Business Analytics.

Tools and methods: Failure investigation; Handling observation; Option assessment; Technical-authority review; Validation.

03 | Maintenance reporting and Power BI

Worsley / Packaged Gas Products · 2025-2026 | Dashboard development and user trials

Consolidated three maintenance reports into a Power BI dashboard covering overdue work, defect costs, recovered hours and workload. Trialled the dashboard with two branch managers and incorporated their feedback.

- **Information consolidation:** Worked through SAP maintenance information and the existing reporting structure. Consolidated three reports to reduce fragmentation in the operational view.
- **Dashboard development:** Developed Power BI views for overdue work, defect costs, recovered hours and workload, linking data interpretation to maintenance priorities.
- **User trials and refinement:** Trialled the dashboard with two branch managers. Incorporated feedback to improve the usefulness of the reporting for operating decisions.

Result: Produced a consolidated maintenance dashboard and refined it through trials with two branch managers. The work connected maintenance information, user feedback and operational decision-making.

Scope: Reporting consolidation and dashboard trials with two branch managers.

Tools and methods: SAP; Power BI; Excel; Maintenance reporting; User-led improvement.

04 | Safety-critical maintenance training

Worsley / Packaged Gas Products · 2025-2026 | Technical content and learning structure

Translated engineering standards, written schemes and SHEQ requirements into safety-critical maintenance task lists and training content. Refined the instructions with maintenance and SHEQ colleagues to support practical use.

- **Source organisation:** Organised 91 maintenance descriptions into 25 parent groups, creating a structured basis for the learning material and identifying information gaps for follow-up.
- **Technical translation:** Converted engineering standards, written schemes and SHEQ requirements into task lists and training content that described the practical maintenance activity.
- **Stakeholder refinement:** Worked with maintenance and SHEQ colleagues to refine instructions and check their suitability for use in maintenance learning.

Result: Developed a structured body of safety-critical maintenance instructions and training material, with clearer task-level content and links to the governing requirements.

04 | Safety-critical maintenance training (continued)

Scope: The grouping figures describe the information structure. The work covers content development and refinement, rather than measured training effectiveness or individual competence certification.

Tools and methods: Engineering standards; Written schemes; SHEQ requirements; Technical writing; Articulate Rise 360; Stakeholder review.

05 | Engineering change and site operations

Motherwell & Grangemouth · Sep 2024-Aug 2025 | Graduate Operations Engineer

Progressed engineering-change actions across Motherwell and Grangemouth and chaired monthly reviews for six months. Coordinated technical, contractor and documentation actions alongside improvements to operating information and site controls.

- **Change coordination:** Progressed actions across approximately 30 engineering changes and chaired monthly reviews for six months. Workstreams included equipment interfaces, cooling towers, cryogenic vessel service changes and pump insulation.
- **Technical and contractor actions:** Coordinated technical, contractor and documentation actions, including RAMS, P&ID updates and written-scheme actions. Checked turnaround contractor controls and supported a causal-tree investigation into contractor RAMS non-compliance.
- **Operating information:** Improved Historian mimics with site and remote-operations teams and analysed process-safety indicator trends. Connected process information with a clearer view of plant operation.
- **Work coordination:** Developed a Work Assignment Tool with the plant manager to support the allocation and coordination of site work.

Result: Progressed engineering-change actions across two operating sites, maintained a regular review process and improved the information and controls supporting site delivery.

Scope: Approximately 30 changes were progressed through action close-out. Some remained open at the recorded review point.

Tools and methods: Engineering Management of Change; Historian; P&ID review; RAMS; Causal-tree investigation; Work coordination.

06 | Process safety assessment and information

Woking / UK & Ireland assets · Sep 2023-Aug 2024 | Graduate Process Safety Engineer

Supported hazard studies and Process Safety Information implementation across industrial-gas and customer systems. Chaired an occupied-building risk assessment and improved drawing review, technical records and process-safety reporting.

- **Hazard-study support:** Supported and scribed HAZOP and LOPA studies across industrial-gas and customer systems, including Margam, Brinsworth, Runcorn, Fawley and Crawley. Recorded technical discussion, hazards and actions for follow-up.
- **Risk-assessment leadership:** Chaired the Teesside LIC Village Occupied Building Risk Assessment. Supported further occupied-building, turnaround and site risk reviews.
- **Drawing and process integration:** Compared Customer Engineering Services P&IDs with vendor and as-HAZOPed configurations. Identified process and nomenclature differences and worked with the Design Office on a consistent review approach.
- **Process Safety Information:** Progressed SharePoint document transfer, gap assessments, site consultation and a compliance heat map. Planned the actions needed to address missing information and align implementation with site needs.
- **Data integrity and reporting:** Migrated and reconciled HAZOP records from Leader to PHAWorks. Simplified process-safety indicator spreadsheets, produced weekly KPI presentations for senior stakeholders and supported controlled technical-report checking.

Result: Established clearer information gaps and follow-up actions, supported hazard-study records and improved the consistency of technical information and process-safety reporting.

Scope: Responsibility covered technical support, study scribing, information implementation and the specified assessment chairing role.

Tools and methods: HAZOP; LOPA; Occupied Building Risk Assessment; PSI / PSPI; P&IDs; PHAWorks; Leader; SharePoint; Excel; PowerPoint.

07 | Liquid-CO2 thermal relief review

Glasgow & Brinsworth · Reliability & Maintenance Improvement · 2025-2026 | Engineering review and specialist coordination

Reviewed liquid-CO2 thermal relief arrangements at Glasgow and Brinsworth. Identified equipment-type and operating-pressure differences that limited direct replication and brought site, process and process-safety specialists together to agree technical direction.

- **Cross-site review:** Reviewed the liquid-CO2 thermal relief arrangements at Glasgow and Brinsworth and considered the relevant equipment types and operating pressures.
- **Constraint identification:** Identified differences that limited replication. Connected the proposed transfer with the operating conditions and process-safety requirements of the application.
- **Technical coordination:** Brought site, process and process-safety specialists together to review the constraints and agree the technical direction.

Result: Established the limitations on cross-site replication and coordinated agreement on the technical direction with the relevant specialists.

Scope: Cross-site technical review and application-transfer assessment with specialist coordination.

Tools and methods: Application transfer; Equipment review; Operating-pressure assessment; Process integration; Specialist coordination.

08 | Pressure safety valve sizing reconstruction

Morden equipment · Reliability & Maintenance Improvement · 2025-2026 | Calculation reconstruction and design-basis review

Reconstructed a Morden pressure safety valve sizing method by tracing SAP references, validating P&IDs and confirming the written-scheme relief case. Applied thermodynamics, compressible-flow reasoning and REFPROP data to understand the design basis.

- **Source tracing:** Traced SAP references and validated the relevant P&IDs to identify the equipment information and process configuration supporting the calculation.
- **Relief-case confirmation:** Confirmed the written-scheme relief case and its relationship to the equipment and operating conditions.
- **Calculation reconstruction:** Applied thermodynamics, compressible-flow reasoning and REFPROP property data to reconstruct the sizing method and understand its design basis.

Result: Reconstructed the pressure safety valve sizing methodology and linked the calculation to its source records, process configuration and written-scheme relief case.

Scope: Method reconstruction and review of the existing relief-calculation design basis.

Tools and methods: SAP; P&IDs; Written schemes; Thermodynamics; Compressible flow; REFPROP.

09 | Compressed-dry-air standby proposal

Motherwell & Grangemouth operations placement · 2024-2025 | Proposal development and engineering coordination

Developed a compressed-dry-air standby-mode proposal for low-demand operation. Reviewed equipment constraints and implementation requirements with operations, contractors and central engineering.

- **Operating proposal:** Developed the standby-mode proposal for periods of low demand, focusing on the relationship between operating requirement and compressed-dry-air equipment use.
- **Constraint review:** Reviewed equipment constraints and the requirements that would need to be addressed before implementation.
- **Implementation coordination:** Worked with operations, contractors and central engineering to review the proposal and its implementation requirements.

Result: Produced an energy-efficiency proposal with equipment and implementation constraints considered through cross-functional review.

Scope: Proposal-stage work, with equipment constraints and implementation requirements reviewed.

Tools and methods: Energy-efficiency assessment; Equipment constraints; Operational review; Contractor coordination; Central engineering.

10 | Asset risk, investment and cost control

Motherwell & Grangemouth · Operations · 2024-2025 | Condition and risk review lead; commercial coordination

Led annual Condition and Risk Assessment reviews to 100% completion at Motherwell and Grangemouth. Developed 2025/26 maintenance, overhaul and replacement priorities with the plant manager and negotiated a contractor charge reduction after a scope shortfall.

- **Condition and risk reviews:** Led the annual Condition and Risk Assessment reviews at both sites to 100% completion.
- **Maintenance and investment priorities:** Developed 2025/26 maintenance, overhaul and replacement priorities with the plant manager, balancing condition, lifecycle risk and cost.
- **Commercial resolution:** Negotiated a contractor charge from £8,000 to £2,400 following a scope shortfall, securing a £5,600 reduction.

Result: Completed the annual reviews at both sites, informed the following year's maintenance and replacement priorities and reduced the disputed contractor charge by £5,600.

Scope: The £5,600 figure is the reduction in the contractor charge. It is separate from the £7,000 Crawley reliability saving.

Tools and methods: Condition and Risk Assessment; Asset lifecycle risk; Maintenance planning; Investment prioritisation; Contractor scope review; Negotiation.

Education, research and academic process design

MSc Advanced Engineering Materials, Merit

University of Manchester | 2020-2021

Au/Pd nanoparticle formation and size evolution

Postgraduate experimental research

Investigated supported Au/Pd nanoparticle formation and size evolution on titania during incipient wet impregnation.

Used in-situ scanning transmission electron microscopy (STEM) and high-angle annular dark-field (HAADF) imaging to observe particle behaviour. Used ImageJ and GraphPad Prism for quantitative particle-size and morphology analysis.

Developed experimental observation, quantitative image analysis and interpretation of material behaviour, and communicated technical findings.

BEng Chemical & Process Engineering, 2:2

University of Strathclyde | 2016-2020

Anaerobic-digestion biogas plant design

Undergraduate academic process-design project

Led pre-treatment design within an academic anaerobic-digestion biogas plant project.

Developed the pre-treatment contribution within the wider process design, supporting coordination, task allocation and integration between process sections.

Applied process-design reasoning to the interface between pre-treatment and the wider biogas plant. Developed experience in technical coordination and integrated design.

Lactic-acid plant design and reaction modelling

Undergraduate academic design and modelling

Contributed to an academic lactic-acid plant design with net-zero objectives. Used Aspen for reaction and equipment modelling and MATLAB scripts for reaction analysis.

Applied process and reaction modelling to academic design work, connecting individual reaction and equipment models with the wider process objectives.

Developed academic modelling capability and an understanding of how reaction behaviour and equipment requirements contribute to overall process design.

Engineering foundation: Thermodynamics, fluid flow, heat and mass transfer, reaction engineering, separation processes and process control.

Technical and professional capabilities

Process safety and technical assurance: HAZOP and LOPA support, occupied-building risk assessment, Process Safety Information, P&ID review, relief-calculation reconstruction and controlled technical records.

Reliability and operational improvement: Failure investigation, equipment-operator interactions, maintenance reporting, practical validation and safety-critical maintenance instructions.

Technology feasibility and process integration: Activity mapping, user requirements, cross-site technology assessment, application-transfer constraints and specialist coordination.

Engineering execution and commercial judgement: Management of Change, contractor controls, asset-condition reviews, maintenance investment priorities, scope review and negotiation.

Data interpretation and implementation: Maintenance dashboards, process trends, KPI reporting, source-record reconciliation and refinement through feedback from operating users.

Research and academic process design: Nanoparticle research, microscopy and quantitative image analysis, biogas pre-treatment design and academic reaction and equipment modelling.

Tools and practical application

Industrial systems and reporting

SAP · Power BI · Excel · SharePoint · Historian · PowerPoint

Maintenance records, dashboard development, process trends, controlled technical information and management reporting.

Engineering analysis and assurance

REFPROP · P&ID review · Relief calculation replication · PHAWorks · Leader · GDMS

Thermodynamic property data, relief-design reconstruction, technical drawing review, hazard-study records and document control.

Training and technical communication

Synthesia · Articulate Rise 360 · Publisher · Visio

Maintenance learning and technical communication. Visio is used occasionally for diagrams.

Academic modelling and research

Aspen · MATLAB · STEM / HAADF microscopy · ImageJ · GraphPad Prism

Academic process and reaction modelling, experimental observation and quantitative particle-size and morphology analysis.

Professional membership

MIET: Member, Institution of Engineering and Technology.

AMIChemE: Associate Member, Institution of Chemical Engineers.

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