



JADE **CUBED** (Pty) Ltd
Refractory & Quality Control Consulting

COMPANY PROFILE

Established 2014

Shareholding Structure



JADE **CUBED** (Pty) Ltd
Refractory & Quality Control Consulting

Neha Patel, Pr. Eng

Chief Executive Officer

Shareholder – 49%

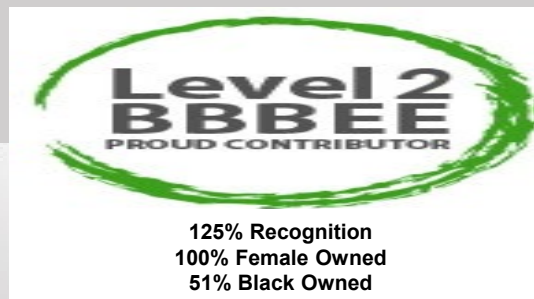
Director

Alison Smith

Managing Director

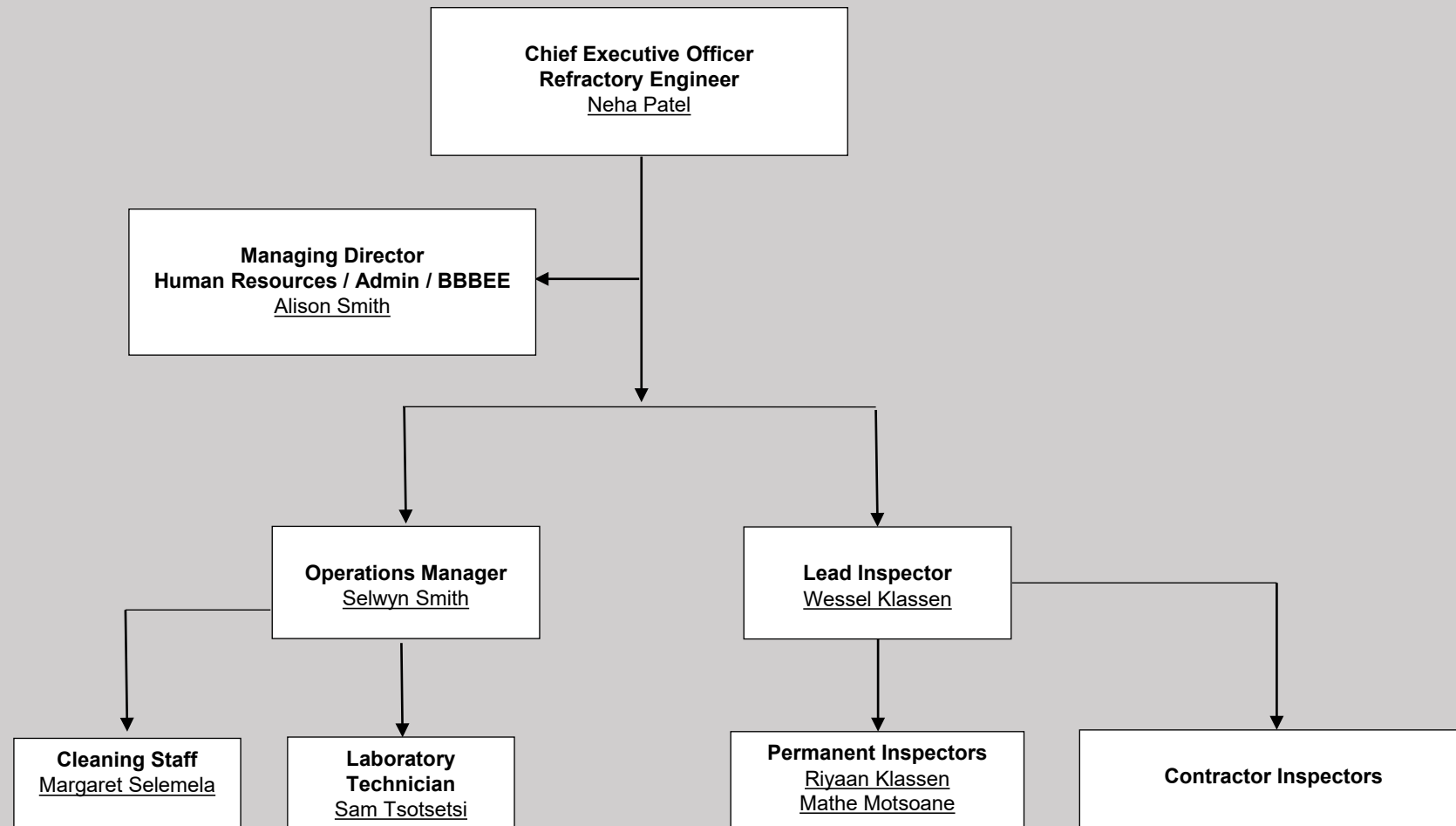
Shareholder – 51%

Director



**125% Recognition
100% Female Owned
51% Black Owned**

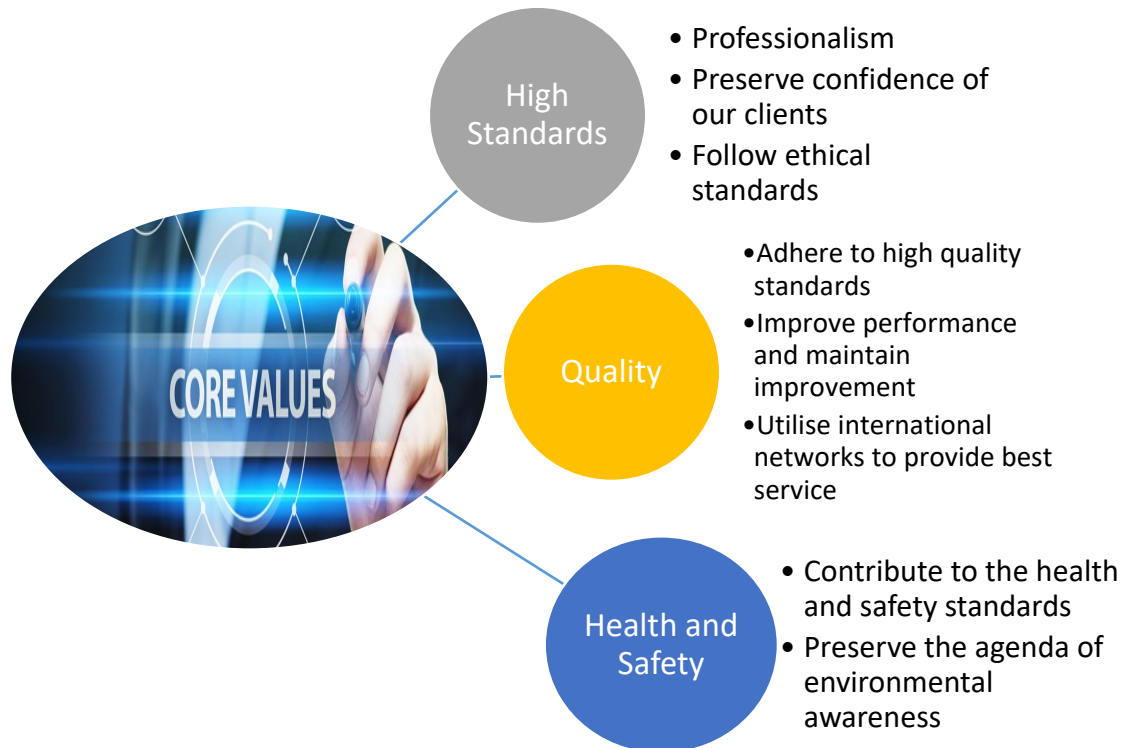
Company Organogram



Vision

To be a Globally Leading Refractory Solution Consultancy Company

- ❖ Delivering integrated and sustainable solutions, shaping the future
- ❖ Recognised by peers around the world for our competence, performance and solutions
- ❖ Provide independent advice to clients
- ❖ Offer refractory quality solutions
- ❖ Take a holistic approach and multi-disciplinary approach to our projects, integrating our services into solutions that reflect the complexity of the problems we solve
- ❖ Contribute to a positive impact in sustainable environmental agenda
- ❖ Contribute to training of skilled refractory individuals

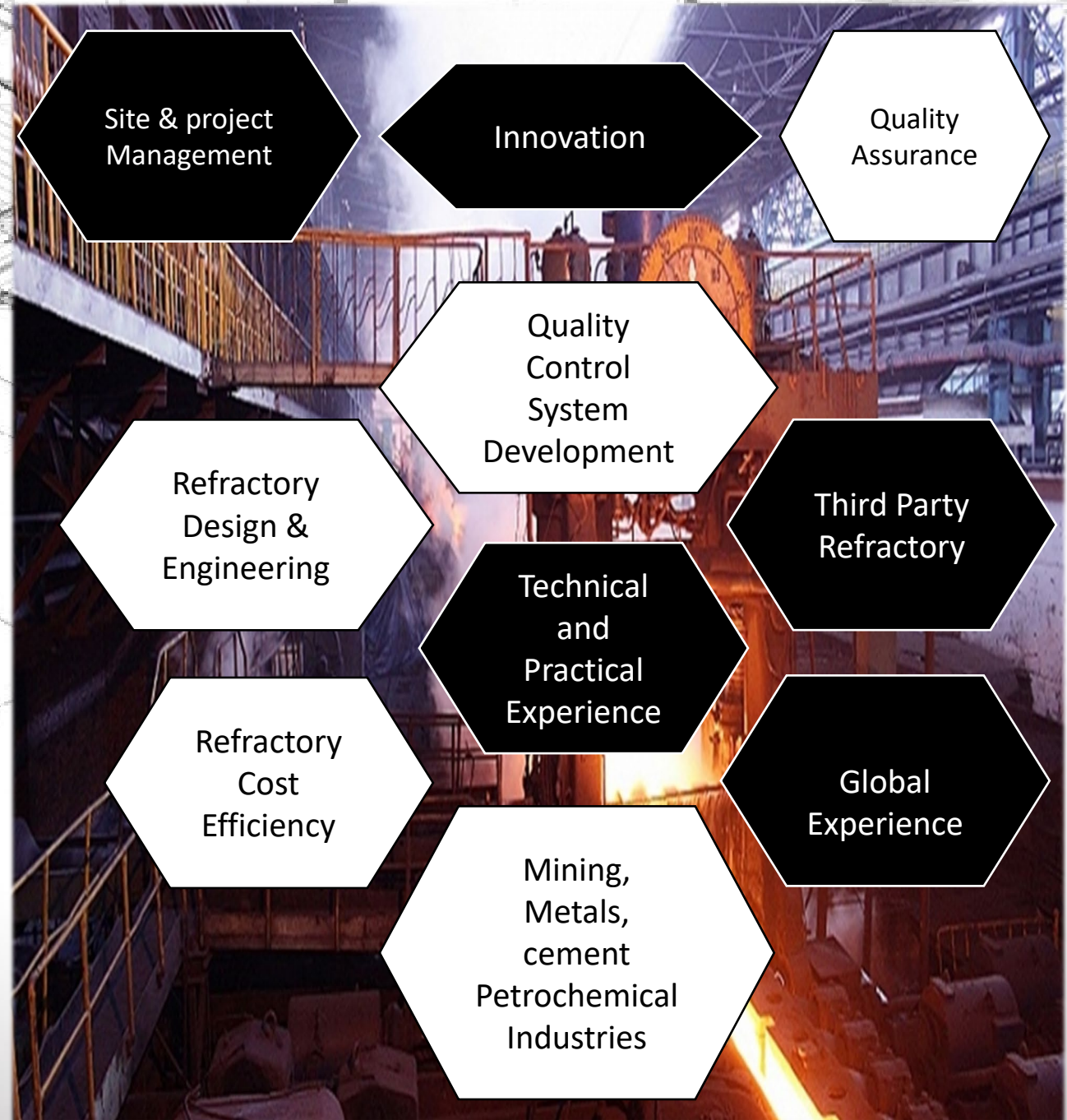


Business Services

Our team has experience in the field of Refractory:

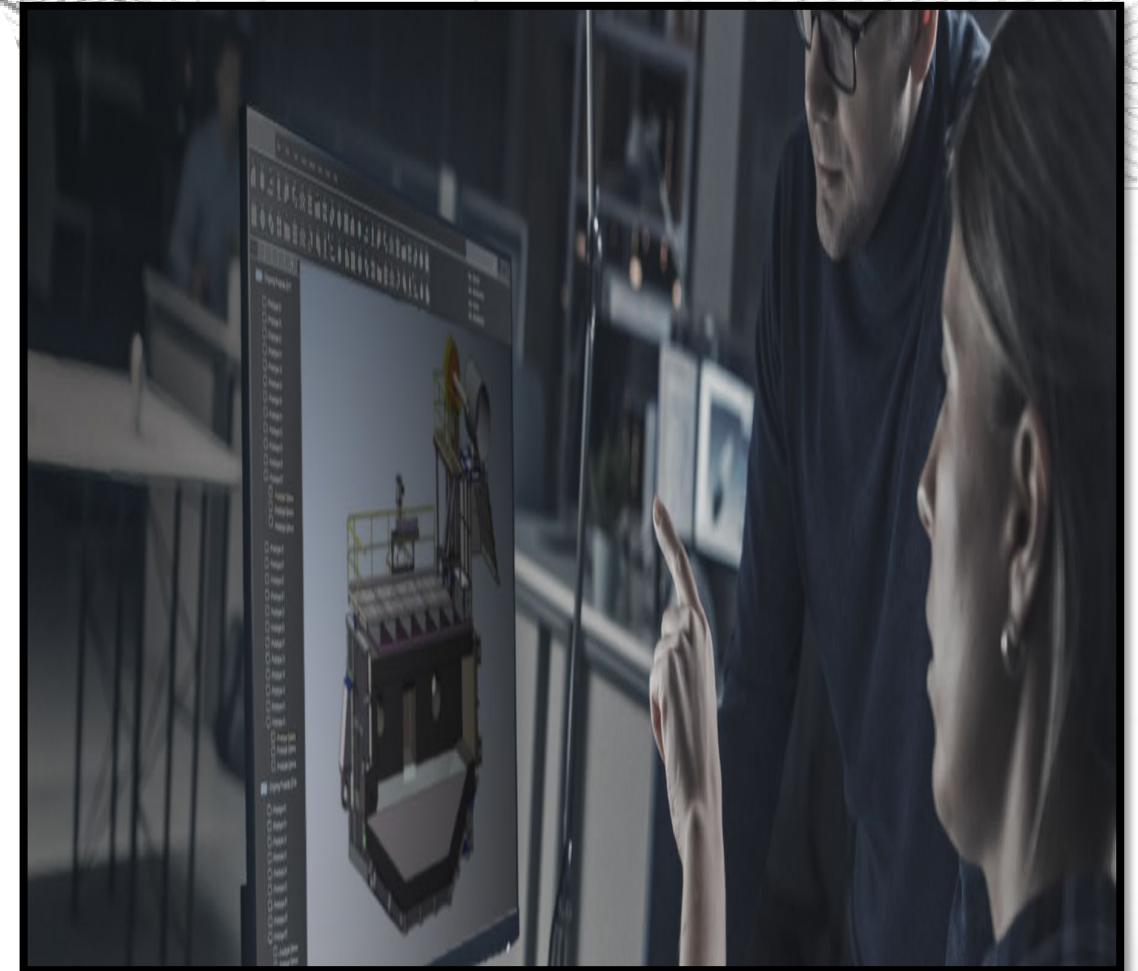
- ❖ *Design*
- ❖ *Engineering*
- ❖ *Applications*
- ❖ *Technologies*
- ❖ *Selection*
- ❖ *Quality Assurance (supply, demolition, installation)*
- ❖ *Maintenance*
- ❖ *Site and Project Construction*
- ❖ *Project Scoping and Planning*
- ❖ *Laboratory Testing*
- ❖ *Training and Skills Development*
 - ❖ *Practical and Theoretical*

Working towards innovative application of problem-solving and system design techniques, resulting in significant cost savings.



Design and Engineering Capabilities

- ❖ Refractory Engineering
- ❖ Refractory Technical Consulting
- ❖ Quality Control / Quality Assurance Consulting
- ❖ Design reviews of refractory linings and integrated mechanical components
- ❖ Market surveys for potential suppliers and installation contractors
- ❖ Project scoping and risk analysis
- ❖ Post-mortem/lessons learned and tracking
- ❖ Design and project recommendations for future rebuilds
- ❖ Comparative risk analyses of refractory installation locations
 - ❖ Fabrication facilities,
 - ❖ Off-site module yards,
 - ❖ On-ground at site, and
 - ❖ In-situ.
- ❖ Optimization plans to increase vessel/unit efficiency and lining lifespan.
- ❖ Continual feedback and design change suggestions based on practical experience to improve existing designs and help reduce installation and maintenance difficulty and downtime.



Quality Control Assurance

- ❖ Develop quality assurance/control management plans and systems
- ❖ Laboratory testing
 - ❖ Based on ISO standards
 - ❖ Failure analysis
- ❖ Demolition
 - ❖ Demolition inspections to determine unit condition
 - ❖ Tracking of furnace condition as demolition progresses
 - ❖ Refractory lining repair scoping as demolition progresses
- ❖ Supply and Installation
 - ❖ Supply and installation specification development
 - ❖ Quality control plan reviews and development
 - ❖ Inspections at manufacturing facilities
 - ❖ Inspection of refractories to verify integrity of existing linings
 - ❖ Supply and installation quality assurance to ensure specification standard quality and design intent is met
 - ❖ Review/develop inspection test plans, procedures and checklists during installation to ensure quality and design intent is being met
 - ❖ Submission of daily reports and close-out reports at the project completion detailing the project step by step and highlighting all design changes and the reasons/justifications for the changes.
 - ❖ Onsite third-party QA including installation personnel prequalification and installation quality management according to API936 and client refractory standards.



Construction, Site and Project Management

- ❖ Project, site, and construction management of refractory demolition and installation projects with associated mechanical components.
- ❖ Evaluate and determine scope of damaged areas following runouts, leaks, and other various unplanned events.
- ❖ Installation supervision for rebuilds, including surrounding mechanical components and structures
- ❖ Handle logistics surrounding material supply, delivery and installation sequencing.
- ❖ Summarize inventories to reduce storage facility costs and to consolidate stock material to most recent designs.
- ❖ Recommend and develop test plans for expired shelf-life material.
- ❖ Monitoring and technical assistance with refractory dry-outs and unit start-ups after installation completion.



Laboratory Testing

- ❖ Research and Development
- ❖ Development of client specific test plans
- ❖ Laboratory Testing
 - ❖ Wet and dry cutting of all refractory materials
 - ❖ Internal defect determination
 - ❖ Cold Crushing Strength
 - ❖ Bulk Density
 - ❖ Apparent Specific Gravity
 - ❖ Apparent Porosity
 - ❖ Brick hydration resistance (basic refractories)
 - ❖ Full testing of monolithic materials
 - ❖ Sieve analysis
 - ❖ Flowability (Castables)
 - ❖ Setting time determination (Castables)
 - ❖ Workability (Ramming)
 - ❖ Chemical composition (outsourced)
 - ❖ Independent testing facility studies on various expansion papers to determine burnout temperatures and resulting ash contents
- ❖ Data collection from clients on reasons for failures and compilation of justifications for regular rebuild frequencies



Additional

- ❖ Independent subject matter expert witness in client/contractor disputes regarding failed refractory linings and probable causes
- ❖ Failure analysis studies of failed linings and in turn assist in compiling the required scope of repairs
- ❖ Technical consulting on any refractory related issues
- ❖ Refractory training for site specific needs. The long-term goal is to create a training academy where both masons and technicians can go to learn refractories to the global industry standards
- ❖ Jade³ is in the planning stages of developing a Global Refractory Centre of Excellence to be based in South Africa.
- ❖ Aim:
 - ❖ Jade³ to be ISO9001 accredited by September 2024
 - ❖ For the lab to be ISO 17025 accredited by September 2024



CONTACT DETAILS



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**125% recognition
51% Black Owned**