



OEG PROFILE

THE DRIVING FORCE FOR
SUSTAINABLE INFRASTRUCTURE

CLIENT PRESENTATION

DATE: 28 JULY 2022

PRESENTATION OUTLINE

1. Introduction to OEG
2. Introduction to the Energy Business Unit
3. Introduction to the Water Business Unit
4. Introduction to the Telecommunications Business Unit
5. Q&A/Discussions/Way forward
6. Closure

INTRODUCTION TO OEG

-Profile-

OEG IN A NUTSHELL

OEG is a multi-disciplinary firm that specialises in **technical advisory**, **engineering consulting** and **project development services** within the **telecommunications**, **water**, and **energy** infrastructure sectors.

We aim to focus on the African continent in the foreseeable future.

OUR CORE-COMPETENCIES

❖ Our Core-competencies:

- Water
- Energy
- Telecommunications

❖ These core-competencies are the basis of our business units

OUR MARKETS

- ❖ Government
- ❖ Mining
- ❖ Manufacturers
- ❖ Telecom network providers
- ❖ Power producers, distributors and traders
- ❖ Lenders and investors

OUR SERVICES



TECHNICAL ADVISORY

We offer in-house technical advisory services such as **strategy development**, technical **due diligence**, integrated water and energy management **plans**, development of project **agreements**, and, through our partners, also offer advisory services across the fields of environmental and permitting, financial, legal, transaction, concession and public-private partnerships (PPP)



ENGINEERING CONSULTING

We offer a broad range of engineering consulting services, from concept **studies** through to bankable feasibility studies, **designs** and **design review**, construction **supervision**, operations and maintenance and decommissioning



PROJECT DEVELOPMENT

We provide project development services throughout the project life cycle, from **prospecting / origination** through to **financial close**, ownership, operation, decommissioning and rehabilitation

OUR VISION



To develop and unleash African engineering and business talent, to create sustainable solutions to complex infrastructure problems in Africa.

Our intention is to water Africa, light up Africa and connect Africa, targeting 2040 and beyond.

OUR MISSION



To uplift lives in communities through provision of workable solutions to infrastructure development.

OUR VALUES



- Honesty, trust and integrity
- Innovation, agility and creativity
- Reliability and professionalism
- Corporate citizenship and community upliftment

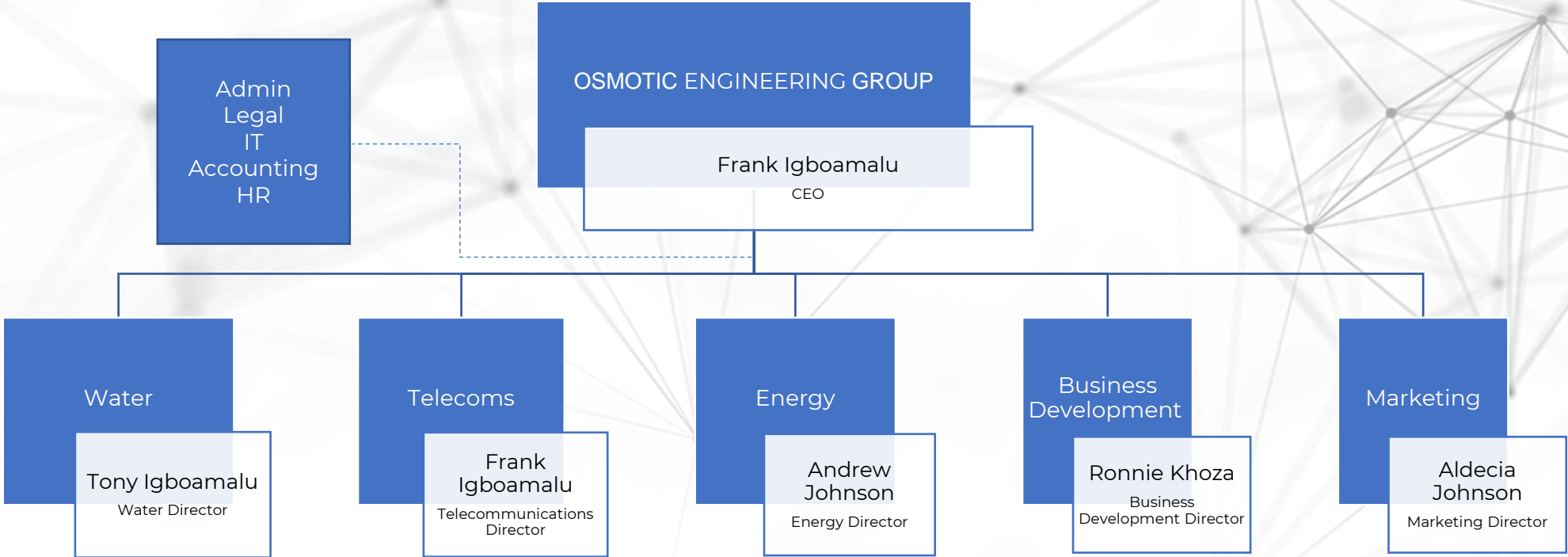
OUR SERVICE CENTRES

Our offices are located in South Africa and Nigeria but we provide services across the African continent.



Our Offices – South Africa & Nigeria

OUR TEAM STRUCTURE



Technical Hub (any location / Country)

Mechanical	PPP Specialist / Transaction Advisor
Electrical	Legal
Process / Chemical	Project Management
Civil	Technical Advisory
Environmental	
GIS	
Geotechnical	
Financial Modelling	

Business Development

South Africa
Nigeria
Uganda
Other



OUR MANAGEMENT TEAM



Our executive management team have strong backgrounds in engineering, infrastructure development, business management, leadership, finance, and marketing obtained through their African and overseas experience and qualifications.

The executive management team is supported by a broader team of in-house subject matter experts with specialisations in engineering, technology, economics, and finance.

The team represents diverse backgrounds in terms of culture, race, gender, and geography, reflective of the demographics of Africa.



DR TONY IGBOAMALU
Water Director
-15 years-

Tony is a professionally registered chemical engineer with over 15 years of experience specialising in water and wastewater engineering. He is recognised as a chartered member of Engineering New Zealand. He is also a postgraduate fellow at the University of Johannesburg driving the application of 4IR in industrial water treatment and management.



DR FRANK IGBOAMALU
CEO, Telecoms Director
-20 years-

Frank is a professionally registered electrical engineer and obtained his degree in information technology (IT) and electrical engineering from University of Malaysia, UCT and Johannesburg. He is a telecommunication specialist with over 20 years experience.



RONNIE KHOZA
Business Development Director
-33 years-

Ronnie is an experienced business leader, strategist and business development specialist. Having trained in the chemical engineering, industrial chemistry and business management fields, and having spent many years in management and business development roles in the built environment, he is well placed to drive business development at OEG.



ANDREW JOHNSON
Energy Director
-15 years-

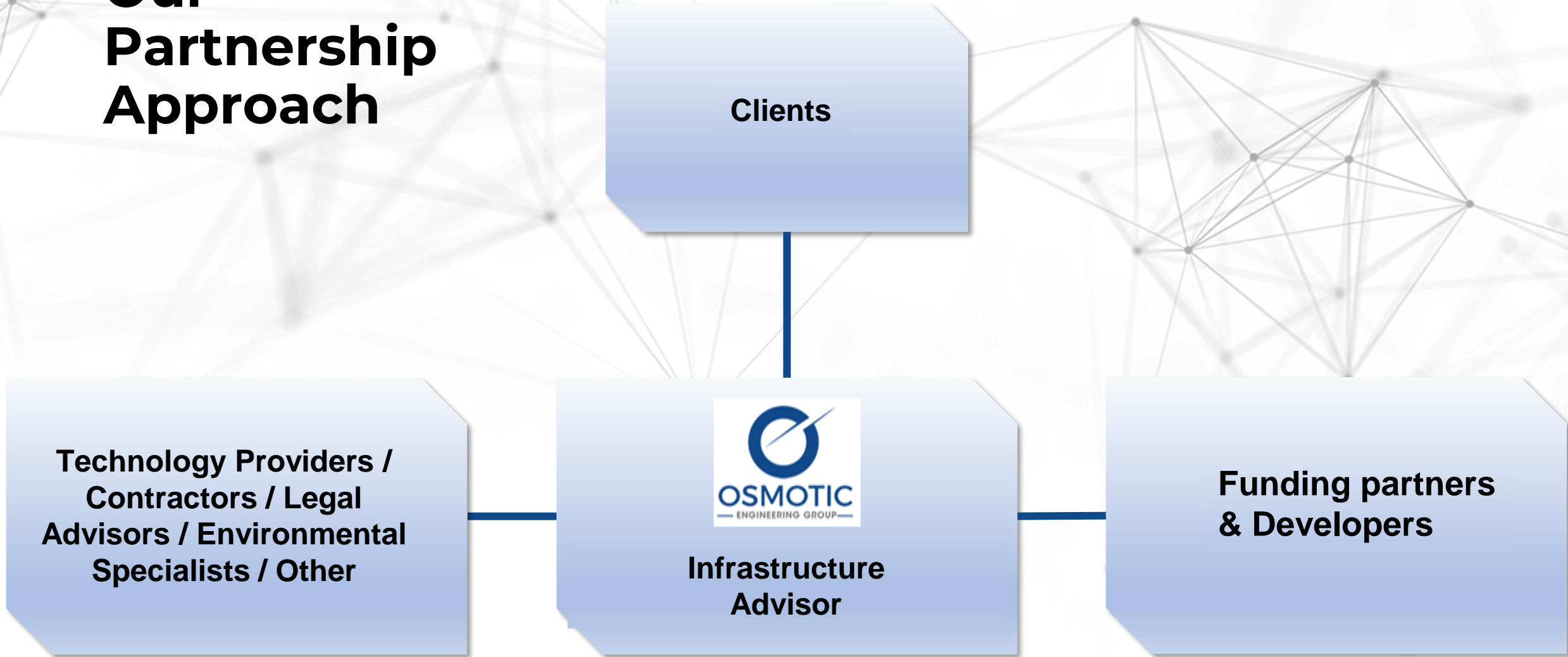
Andrew is a mechanical engineer and MBA graduate with over 15 years of experience in the energy sector. His specialisation is in the development and implementation of renewable energy and energy storage projects. He has significant experience in the Africa, UK and Asia-Pacific regions. Andrew has a passion for leading multi-disciplinary teams to solve complex energy problems.



ALDECIA JOHNSON
Marketing Director
-10 years-

Aldecia is an experienced entrepreneur and marketing executive who started and ran a successful media business for over 10 years. She is a content creator who understands marketing and branding strategy across all social media platforms. She recently started an event planning business before joining the Osmotic Engineering team as Marketing Director.

Our Partnership Approach



INTRODUCTION TO OEG

-Services & Business Units-

INTRODUCTION TO OEG: ADVISORY SERVICES

- Procurement
 - Owning versus outsourcing advice
 - Procurement strategies
 - Market sounding / RFI / EOI preparation and management
 - RFP/RFT preparation and management
 - Independent EOI/RFT evaluation
 - Contract negotiations
- Due diligence
 - Design, performance, schedule and costing reviews
 - Renewable energy resource and yield assessment reviews
 - Project permitting and agreement reviews
 - Financial model reviews
 - Risk identification and mitigation strategies
 - Project monitoring and evaluation
- Development of project agreements
- Integrated water and energy management plans
- Policy and strategy development
- Asset management
- Training

INTRODUCTION TO OEG: ENGINEERING

- Concept studies
- Pre-feasibility studies
- Feasibility studies
- Preliminary design
- Detailed design
- Design review
- Specification
- Capital and operations and maintenance cost estimates
- Construction supervision
- Commissioning
- Condition monitoring
- Operation and maintenance
- Performance improvement
- Decommissioning and rehabilitation

INTRODUCTION TO OEG: PROJECT DEVELOPMENT

- Permitting, licensing and approvals
- Project agreements
- Project planning and scheduling
- Risk identification, assessment and allocation
- Bankable feasibility studies

For selected projects, we commit our own resources and funds to project development.

(1) ENERGY: SERVICES

Expertise

- Renewable energy power generation
- Conventional power generation
- Tri-generation/co-generation/combined heat and power systems
- Hybrid power generation
- Energy storage
- Transmission and distribution
- Power pools
- Mini-grids

Industry-specific Services

- Renewable energy resources and yield assessment
- Thermodynamic performance modelling and optimisation
- Energy mix studies
- Power system studies
- Grid code compliance studies and testing
- Generation and techno-economic modelling
- Energy usage and efficiency audits
- Demand side management
- Climate change and greenhouse gas quantification and reduction

ENERGY: CLIENTS AND PROJECTS

Clients

- Government
 - Utilities e.g. Eskom
 - Ministries / Departments / Regulators of Energy
 - IPP Office – South Africa
- Independent power producers
 - Developers
 - Owners
- Large power users
 - Mines
 - Manufacturers
 - Data centres
 - Industrial parks
- Power pools and traders
- Lenders and investors

Projects

- Zutari / Anglo American – Renewable Energy Strategy, Planning and Project Development
- Tronox – Solar and Wind Power Procurement and Negotiation
- Cavaleros Group – Renewable Energy Strategy and Bulk Power Supply
- RPSGenX – Renewable Energy Project Development

(2) WATER: SERVICES

- Water and Wastewater Treatment
- Wastewater reclamation
- Industrial and Mining effluent treatment
- Bulk water supply
- Water Conservation and Demand
- Bulk Meter management
- Master planning e.g., City or community
- Integrated water management plan, water security, water reuse, water efficiency programme
- Environmental, Climate change and Policy services
- Water quality Monitoring service
- River remediation or clean up
- Blue drop, Green Drop and No Drop
- Asset Care solution - Asset management , Operation and Maintenance (Provide advisory services)

WATER CLIENTS AND PROJECT

Clients

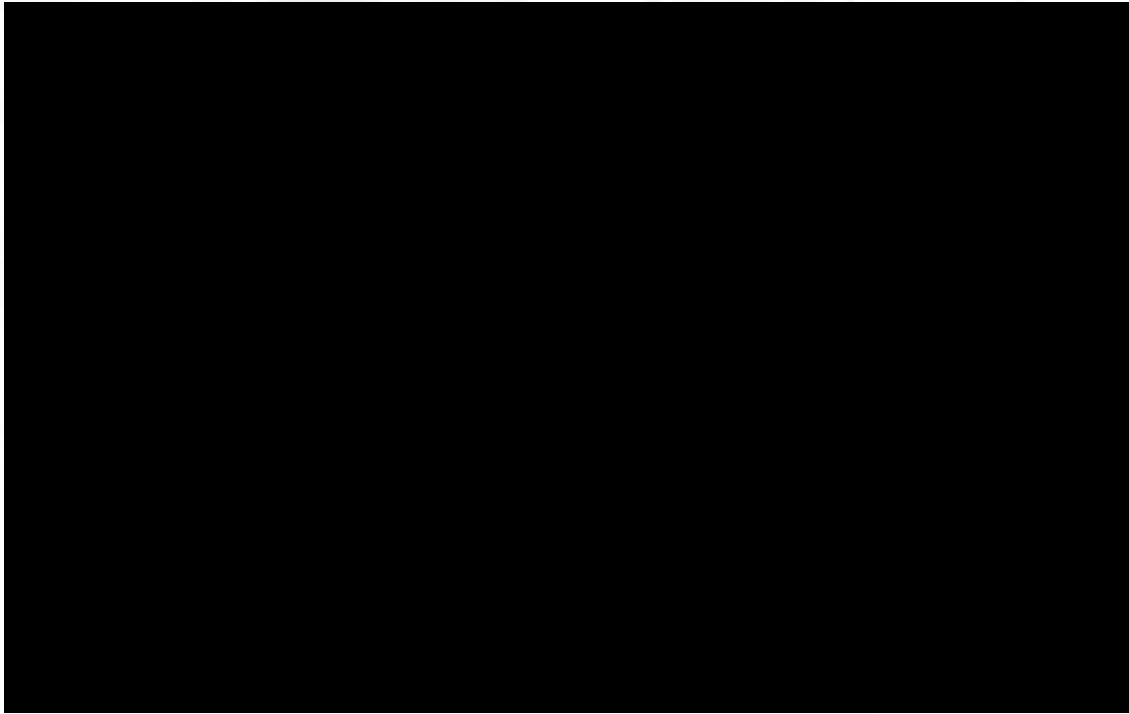
- Government
 - Utilities e.g., Rand Water, Water boards or Water Corporations
 - Ministries / Departments of Water and Sanitation
 - Municipalities
- Property Developers
 - Developers
 - Financial companies, equity owners
- Large water users
 - Mines
 - Manufacturers
 - Industrial parks
 - Commercial (Office, Hotel, Malls) or Residential (Estate) buildings
- Lenders and investors
 - NGO e.g., Water aid etc
 - USAID, Grant donor, Nurfund, Crede, investors etc
- Partners e.g other consulting companies e.g NKP consulting

Projects – ongoing

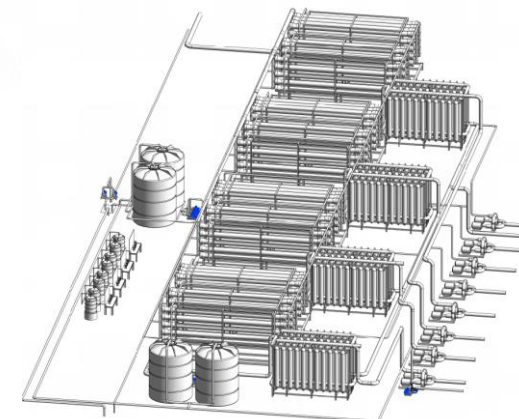
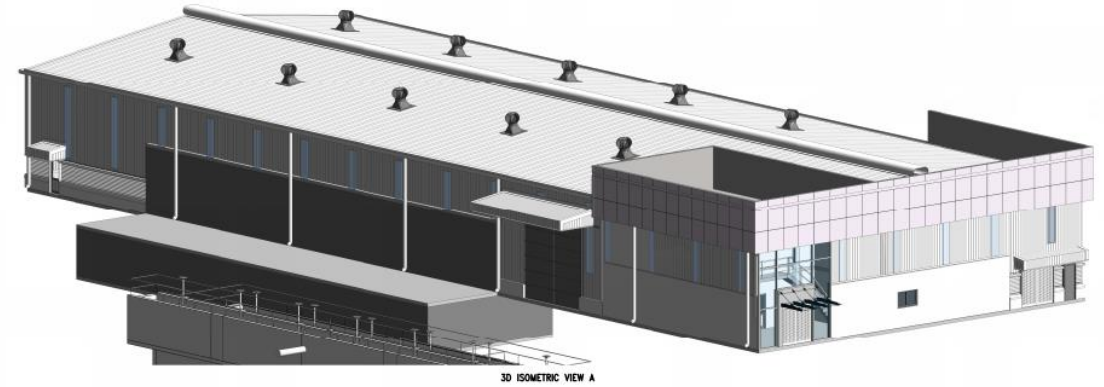
- Rand Water – Sebokeng Effluent Reclamation (100ML/d)
- Steve Tshwete LM – Upgrade and Refurbishment of 54ML/d Vaal bank Water Purification Plant
- Steve Tshwete LM – Upgrade and Refurbishment of the Wastewater Treatment Works

- Cross River State Nigeria – Integrated Water Management and Finance
- Lagos State Nigeria – Integrated Water Management and Finance
- Kaduna State Nigeria – Integrated Water Management and Finance
- Technology Piloting through OEG Training, Research and Development.

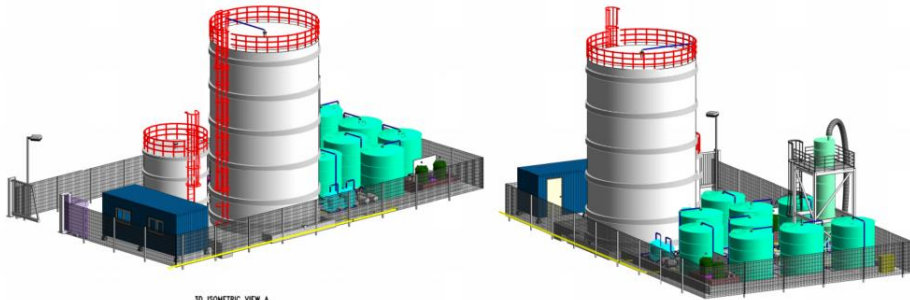
WATER KEY PROJECT SHOWCASE



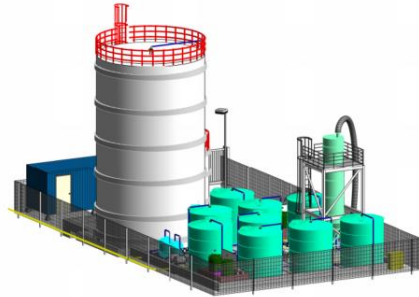
Municipality: 54ML Water Purification Plant Upgrade with 20ML/d UF-Reverse Osmosis membrane Technology



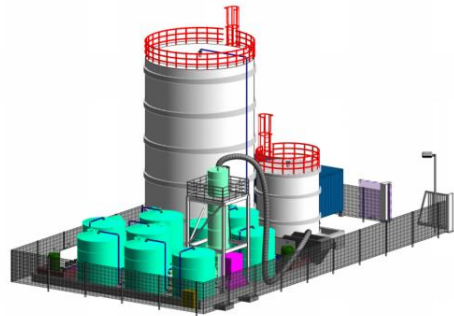
WATER KEY PROJECT DESIGN SHOWCASE



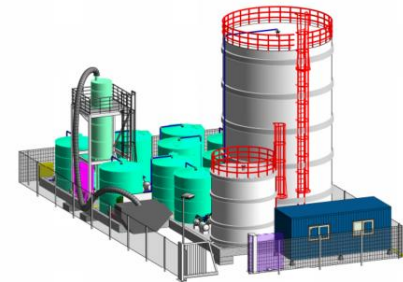
3D ISOMETRIC VIEW A



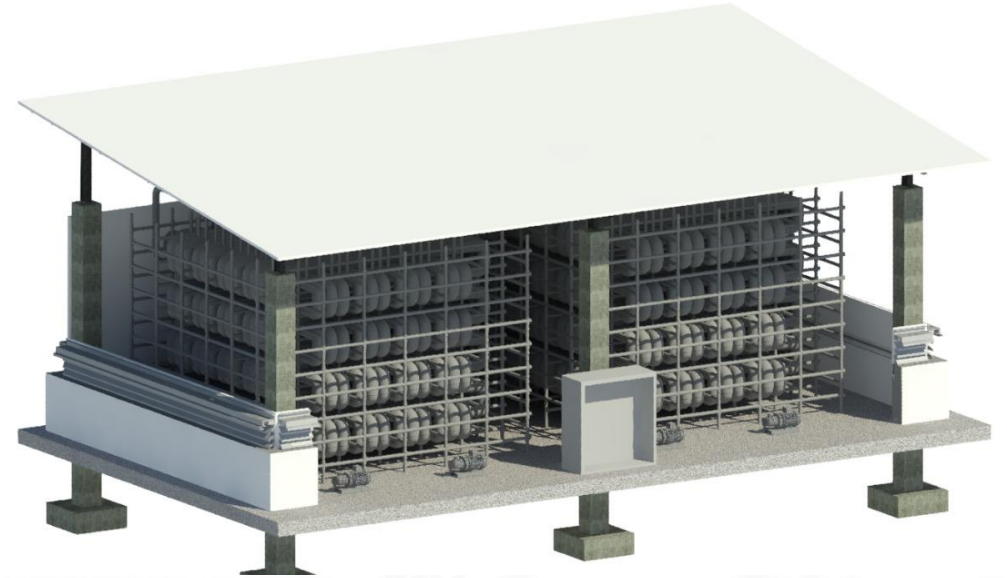
3D ISOMETRIC VIEW B



3D ISOMETRIC VIEW C



3D ISOMETRIC VIEW D



Technology: Biopipe Pilot Design at Darsport WWTW

Manufacturing: Abattoir Effluent Reclamation Plant
80m³/hr SSF+UF+RO membrane

(3) TELECOMMUNICATIONS: SERVICES

Wireless Network Project Management

- ❖ Technical Permitting
- ❖ Building Phase
- ❖ Wireless Network

EME

- ❖ Key Drivers for EME Compliance
- ❖ Tower Design Deliverables
- ❖ Review of Existing Site Information

Fiber

- ❖ Technical design
- ❖ Fiber Installation
- ❖ Troubleshooting
- ❖ Fiber Trenching/ Testing

TELECOMMUNICATIONS: SERVICES

Microwave

- ❖ Conceptual, preliminary and detailed design of new and upgraded sites
- ❖ Microwave capacity planning and link budget calculation
- ❖ Microwave network planning and implementation
- ❖ Supervising the line-of-sight (LOS) survey and technical site surveying capacity planning
- ❖ Frequency interference analysis, High-level and Low-level design (HLD and LLD) documents
- ❖ Transmission planning guidelines, procedures and process documents
- ❖ Planning, analyse and performance reporting on network elements
- ❖ Tower height calculation, link configuration and environmental factors.
- ❖ Supporting the deployment and operation teams on technical issues

TELECOMMUNICATIONS: CLIENTS AND PROJECTS

Clients

- ❖ Government
 - Spectrum/Frequency Regularly Body: ICASA
- ❖ Telecommunication Mobile Operator
 - MTN
 - Vodacom
 - Telkom

Projects

- ❖ Masts and Tower infrastructure
- ❖ Indoor Building Distributed Antenna System (IBS-DAS)
- ❖ RF Site Monitoring and Inspection
- ❖ Enterprise Business Unit (EBU) Management solutions



THANK YOU

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