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About this report
This 2017 Development Impact Report provides our shareholders, clients, stakeholders and partners with a reflective summary of our performance, value creation and impact for the financial year September 2016 – October 2017.

We use the following icons for ease of navigation and to highlight the integration between our strategic drivers (SD’s), our key enablers and our alignment with the UN Sustainable Development Goals (SDGs).

### Strategic drivers (SDs)
- African expansion
- Expanding the core
- Strategic investments

### Business enablers
- Employer of choice
- Efficient+
- Investment of choice

### Our capabilities
- ENERGY
- HEALTH
- REAL ESTATE
- TRANSPORTATION
- WATER

UN Sustainable Development Goals (SDGs) relevant to Bigen activities as reflected upon in this report.
Message from the Executive Chairperson

Our infrastructure development solutions create a sustainable impact in Africa, and for the people of Africa.

I take great pleasure in presenting this 2017 Bigen Development Impact Report. During the past financial year, our efforts resulted in, inter alia, a number of ‘firsts’ for Bigen: this report as the first of future annual development impact reports and also the first publication to reflect our new brand as a socio-economic development impact organisation.

We also established the African Infrastructure Preparation Facility (AIPF) as a first of its kind and developed an electronic impact reporting tool (the ImpactPro) as a first for our business, to add further value to our service offerings.

As the founder investor in the AIPF, Bigen will invest R650 million over the next 10 years in early-stage project preparation prior to fundability and financial closure. We expect to unlock more than R6 billion in capital projects and create a pipeline of potentially bankable infrastructure projects on the continent of Africa.

Our new electronic ImpactPro Mobile Application measures service delivery against socio-economic development impact. We have partnered with economists to extrapolate our outputs into impacts. The ImpactPro application will be available to clients in 2018.

Bigen’s insightful and cost-effective infrastructure solutions have supported sustainable infrastructure development for more than 46 years. Our holistic approach, which combines financial, technical, socio-economic, environmental and institutional services in the water, real estate, transportation, energy and health sectors – where Bigen is recognised as a powerful force – has seen many thousands of lives transformed and economies boosted in more than 19 African countries.

We regard empowering local communities through economic inclusion, skills development, employment and procurement opportunities as a critical component of all our infrastructure development services.

During the past year alone, we were involved in 400 projects across Bigen’s five major sectors throughout Africa. As such, more than 625 000 people are benefitting from water, sanitation, roads, schools and housing infrastructure, while about 12 million people now have access to potable water and 585 000 are benefitting from housing units with electricity. Our real estate projects will provide housing to more than 56 000 families, while more than 169 000 jobs were created in the transportation and real estate sectors.

In Namibia, our involvement in the Namibian Kranzberg to Walvis Bay railway improvement project will create 11 540 direct and indirect jobs and in Botswana, Bigen’s role as the Government’s representative in the 360-km North-South-Carrier water transfer system – the country’s largest engineering project ever undertaken – averted a major water crisis in Gaborone, where almost a million people live.

As the recipient of many prestigious industry awards since 2003, Bigen’s commitment to efficiency, transformation, development impact and quality is well-acknowledged. Awards that came our way during 2017 included a Top 500 Best-Managed Company (South Africa) Award in the category Best-Performing Company in Consulting Engineering, Mining and Infrastructure, as well as the African Business and Social Responsibility Award for Corporate Innovative Societal Action and a Consulting Engineers South Africa (CESA) AON Engineering Excellence Award for...
Mentoring Company of the Year. We appreciate and are humbled by this peer and industry recognition.

I would like to thank the Bigen directors for their continued confidence in me to fulfill the role of Executive Chairperson. I look forward to overseeing the expansion of the Bigen Group into the continent, through our restructured capital structure with head offices now in South Africa and Mauritius and a focus on becoming one of Africa’s top five socio-economic impact activist organisations. I also thank our strategic partners, service providers and suppliers locally, in Africa and internationally – some in Europe, Scandinavia and Canada – for their shared commitment to creating development impact in Africa.

As a Bigen team, we appreciate the Board’s insightful and wise counsel, which ensures that we remain focused on our Vision 2021 trajectory.

As always, my appreciation also goes to all Bigen employees for their steadfast commitment to driving our efficient+ goals and our service delivery on brief, on budget and on time. And indeed, to God Almighty for giving us the strength to make a difference in communities by doing good while doing business.

I hope that you find the 2017 Bigen development impact story in this report interesting and informative. As we increase our wingspan throughout the continent, we invite you to join us, as friend, stakeholder or partner, in the immensely rewarding pursuit of creating a significantly transformed Africa!

EXECUTIVE CHAIR: DR SNOWY KHOZA
Financial Drivers

The Bigen Group delivered a sound financial performance for the year ended 30 September 2017 and indications are that the positive returns will continue into 2018.

We attribute this resilience, in the face of a weak economy, to our thought-leading strategy, skilled people, strong leadership, collaborative business model and diverse services and customer base.

Over the years, our strategy has systematically transformed the company into a leading infrastructure development activist in Africa, committed to social betterment and delivering infrastructure development impact that optimises long-term project sustainability.

We regard sustainability as underpinned by the inseparability of people, business and community. Bigen will continue to optimise opportunities in economic, environmental and social developments and conduct business with integrity, aligned with a high standard of ethics and appropriate risk management.

We generate financial value for all our stakeholders, from employees (salaries and other benefits), the state and municipalities (tax revenues) and suppliers (payments for goods and services) to clients and consumers (high-quality services) and shareholders (dividends and share appreciation). An imperative is to reinvest for future growth (see p9).

Financial sustainability

As a profitable going concern with a robust balance sheet, we translate strategy into actionable tasks/projects with a focus on a development impact across all sectors. This creates ownership and wealth creation opportunities for key value-adding professionals and strategic partners. Our emphasis on sound cash management, cash conversion and regular reviews of key working capital indicators has created a strong cash culture within the Group.

Diversification

Bigen’s revenues and earnings are diversified across its business and services, market sectors and clients, to mitigate cyclical trends that impact markets, industries or countries and to ensure that we create development impact across all sectors. Though our Vision 2021 strategy we have restructured and added revenue streams to create a multi-dimensional business that excels wherever we operate. Our engineering and advisory services are now supplemented by earnings from investments and concessions and socio-economic development activities, all leveraged through the Bigen Rubix – our African ‘services supermarket’ that provides clients with a one-stop service-supplier option. This also ensures that we continue to grow our balance sheet. Our solid reputation and constructive stakeholder relations contribute to repeat business, which is a significant portion of our annual fee revenue.
Performance Highlights

Value creation for stakeholders

- Salaries and other benefits
- Providers of capital
- Government taxes
- Retained in business

Social betterment impact from some projects profiled in this report

- ± 625,000 people benefitting from water, sanitation, schools, roads and housing projects
- ± 12 million people benefitting from access to potable water
- ± 585,000 people benefitting from housing units with electricity
- ± 56,000 families benefitting from homes and services
- ± 169,000 jobs created in the real estate and transportation sectors in 2017
- Many 1000s of people benefitting from healthcare facility upgrades and maintenance

Our five major market sectors

- TRANSPORTATION
- ENERGY
- HEALTH
- WATER
- REAL ESTATE

Performance impact past, present and future

- 2017 sound financial performance for all stakeholders
  - Revenues and earnings diversified across business, services, markets and clients
  - Revenues generated from engineering and advisory services, investments and concessions, SED and leveraging the Rubix
  - High profit margins maintained
  - Sound return on working capital maintained
- 400 projects across Bigen’s five major sectors throughout Africa
- R7 million time and monetary value contributed to CSI community upliftment since 2014
- ± 24% total shareholder’s return p/a 2012-2017
- 13% of net Group revenue from Namibia and Botswana in 2017, set to grow in 2018
Creating the Bigen story in Africa, of Africa and for Africa

The Bigen Story

Our story has humble beginnings - it all started with the establishment of a small engineering consultancy in 1971.

Our growth has seen us transform from a traditional engineering firm to an engineering firm with a conscience and ultimately an infrastructure development company committed to socio-economic well-being wherever we work.

Today Bigen employs more than 400 professionals who are actively creating a sustainable impact throughout Africa. As proudly African, Bigen’s story of growth over 46 years into an influential, multinational group, working in Africa for the people of Africa, has embedded the impact of our indelible and reputable infrastructure development footprint across the continent.

We utilise Africa’s limitless business opportunities to accelerate productivity, growth and economic prosperity for all who live here. That is why we create sustainable environments that unleash the potential of communities and individuals to improve their livelihoods. Wherever our activities take us, we see it as our responsibility to improve quality of life by doing good while doing business.
Who we are

Our business profile

Improving the quality of life of our people defines us. Our philosophy of doing good while doing business is evident in every step we take. We focus on what truly matters and we are inspired to do better every day.

- **401** Bigen Group employees
- **14 offices** across Africa staffed by highly skilled, qualified professionals
- Innovative infrastructure development impact solutions in **19 African countries**
- Ethical standards aligned with the OECD Anti-Bribery Convention and South Africa’s PCCA, 2004
- R7 million contributed towards adopted charities since 2014
- Collaboration with the rest of Africa drives our expansion
- Transforming the lives of impoverished and socially deprived Africans by doing good while doing business
- Efficient+ delivery underpinned by an indelible 46-year track record in Africa
- Focused on localised and indigenised job creation wherever we work
- R200+ billion infrastructure development projects in Africa
- ‘Green-principled’ ecological footprint aligned with the ISO 14001 international standard

Transforming the lives of impoverished and socially deprived Africans by doing good while doing business.
Our competitive strengths

- Competitive infrastructure product equity
- Incorruptible values
- Proven development impact philosophy
- International and regional capabilities
- Proven 46-year track record of delivering excellence and socio-economic impact
- Infrastructure solutions through tailored delivery models
- Strict risk management profile
- Strong partnership approach
- Diversification

Our strategic drivers

- Africa expansion
- Expanding the core
- Strategic investments

Our deliverables

- Core bespoke services combined and applied seamlessly across sectors and disciplines from our six regional offices throughout Africa and in Mauritius
- Full package of environmental, financial, institutional, social and technical services delivered in the energy, health, real estate, transportation and water sectors.

Our enablers

- Employer of choice
- Efficient+
- Investment of choice

Our sustainable business practices

- Quality management
- Health and safety
- Environmental management
- Social responsibility

* Income distribution per fee-paying client 1 January to 31 December 2017
Our leadership

It is time for Africans to find African solutions to Africa’s infrastructure development challenges.

Bigen believes that the development of great leadership ensures sustainability and relevance in our industry. Our leadership team consists of ‘professionals with a conscience’, who actively pursue the Group’s vision of improving quality of life through sustainable infrastructure development impact solutions and a commitment to doing good while doing business.

The skills, expertise and related business experience of this core group range across disciplines and make them eminently proficient to lead, guide and manage our people and our projects.

Just as Bigen’s comprehensive infrastructure development value-chain provides Africa with a ‘supermarket’ of services, our leaders provide the company with the requisite range of expertise, capabilities and competencies that cover every aspect of our business.

Our leaders sign a “morals by agreement” code that embodies Bigen’s ‘lead-by-doing’ moral compass. This defines and guides organisational behaviour, internally and externally, wherever and with whomever we interact, to safeguard and maintain our proud organisational reputation.

We source future leaders from within and outside the company to remain flexible in responding effectively to rapid change in our operating environment and maintaining our competitive advantage. We develop young leaders who can become board-level executives through exposure to various leadership programmes including INSEAD (International Graduate Business School), University of Life, Future Business Leaders and Future Technological Leaders, as well as a personal CEO business leadership and mentoring programme.

Bigen’s combined 259 years of leadership expertise include:

- Business and institutional management
- Research, strategy development and management
- Financial and investment modelling and management
- Project and construction management
- Engineering and infrastructure design
- Contract administration, tax accounting and capital programme management
- Risk management and mitigation
- Governance and IT, systems and knowledge management
- Multidisciplinary team and performance management
- Strategic partnerships and relationship management
- Development facilitation and management
- Technical leadership
What we strive for

Our vision
To be the preferred African provider of sustainable infrastructure solutions that improve quality of life

Our goal
To be one of the top-five African infrastructure development companies by 2021

Our values
Creativity • Commitment • Empowerment • Fun • Integrity

Our common purpose
Doing good while doing business. An undertaking that whatever we do will benefit the communities in which we operate, as well as our clients, stakeholders and employees
Our strategy, stakeholders and value creation

Our vision is clear: to be a top-five African infrastructure developer by 2021. To achieve this, we will build on past successes, embrace new technologies and learn from the best to remain at the forefront of our industry.

At Bigen we:

- Create platforms that combine international, regional and local capabilities
- Share calculated risk to create value and reward for strategic partners
- Offer infrastructure development solutions to a defined range of economic sectors
- Develop a pipeline of bankable projects with finance institutions
- Deliver advisory and engineering services, investments and concessions and turnkey EPC + F (engineering, procurement and construction + finance)
- Develop with impact to improve African lives.

Bigen’s target-driven, five-year vision strategies have stood the company in good stead for 46 years. This defined-period planning has yielded solid, award-winning business growth, despite difficult economic cycles and positioned the Group as a leader in its holistic, innovative, multidisciplinary and partner-focused approach to socio-economic infrastructure development impact.

Our current Vision 2021 (V2021) strategy is a further evolutionary building block in Bigen’s future trajectory. We will increase investor, client and shareholder value through a revised capital structure that promotes transformation, inclusiveness, socio-economic development and a collective effort to entrench relevance and accelerate growth. Our revenue and earnings are diversified across five sectors - energy, health, real estate, transportation and water – and underpinned by a range of socio-economic development services that mitigate the potential cyclical instability of markets, industries and countries.

Current sector diversification

Foreseen sector diversification

2017

2021
Reflecting on **lessons learnt**

**Inherently African,** we have a deeply embedded understanding of the challenges and opportunities that exist within this vast continent from the many lessons learnt during the past four-and-a-half decades.

**At age 46, we know that:**

- **zero tolerance to theft and corruption** creates a safe, productive and invigorating working environment
- **regional expansion** is the **foundation for future growth**
- **operational efficiency and cost control** underpin net profits
- **collaboration between a diverse range of employees** add value and inspire innovation
- **our proactive partnership approach** is an effective force that drives earnings
- **a strong leadership team** and adequate resources spur vigorous growth
- **business success** is achieved through a dynamic and flexible strategy that celebrates interim achievements and copes with financial, target, structure and development finance deviations
Our partnering and partnerships

Our proactive partnership approach leverages a combination of capabilities towards sustainable infrastructure development impact solutions.

In line with Bigen’s Vision 2021, partnering and partnerships are integral to our delivery mechanisms in:
- enabling skills development and capacity building for the continent
- supporting and delivering infrastructure, economic growth and development
- positioning Bigen’s capabilities and utilising our strengths
- empowering small, micro and medium enterprises to function optimally.

Bigen follows a formal partnership strategy to drive revenue generation and project delivery. Our partnering approach is fundamental to presenting our African infrastructure ‘supermarket’ and project portfolio platform.

International partnerships include a range of European, Scandinavian and Canadian infrastructure development firms with access to donor and development finance institutions. We also join forces with local and in-country partners to position the business as a regional partner of choice and honour our commitment to localisation and beneficiation.

Our revenue pipeline is developed through the following generators:
- Socio-economic development: Delivering SED outcomes through sustainable infrastructure development impact programmes
- Investments: Acquiring assets to generate dividends and future capital value appreciation
- Concessions: Securing long-term agreements between the private and public sectors to afford the private sector the right to develop and deliver infrastructure or operate a specific utility business within government’s jurisdiction
- The Rubix partnership platform: Offering capabilities and project solutions across disciplines; Infrastructure Development Facility/AIPF (investments and concessions); international donors and DFIs
- Engineering and advisory: Professional/consulting services.

Bigen’s Rubix approach, illustrated here, reflects our operational model.
A sustainable development impact partner

We focus on what truly matters.

We put people first. Our sustainable infrastructure development programmes provide meaningful social and economic development outcomes and impact. In pursuing our business intent of becoming one of the top-five socio-economic impact organisations in Africa, we see our responsibility as improving quality of life by empowering communities to unleash the inherent potential of their members.

We regard socio-economic development as more than poverty alleviation, we rather see it as addressing vulnerability, unemployment, exclusion and the lack of basic services.
Our investments and concessions

Bigen’s Vision 2021 steers the company and its investment partners towards a common goal of an increasingly robust balance sheet and market relevance in our five focus sectors. Our investments and concessions are integral to our partnership programme.

Bigen is the founder investor in the African Investment Preparation Facility (AIPF) that delivers a pipeline of fundable infrastructure projects across key sectors in Africa. The projects are identified and prepared by a fully-resourced project development company with the technical, financial, environmental, socio-economic and institutional and legal expertise to take opportunities to financial close. This makes the AIPF an attractive investment destination for funders.
Our investments aim to create, capture, extract and share value for Bigen, its strategic partners and stakeholders.

Our Vision 2021 steers the company and our investment partners toward a common goal of doubling the enterprise value by 2021.

Our INVESTMENTS entail acquiring assets to generate dividends for future capital value appreciation. Bigen’s independent investment committee assists management to evaluate potential investments and make recommendations based on international best practice.

In addition to our existing investment portfolio, we finalised equity stakes in a number of strategic partner companies and project-specific SPVs. Our pipeline of quality transactions continues to grow, with financial close expected for at least three of these transactions during 2018.

Our investment in infrastructure projects are aligned with the strategic objectives of our Energy, Health, Real Estate, Transportation and Water directorates. Part of our responsible investing is the use of Bigen’s own funds to, *inter alia*, assist our young professionals with accommodation near their place of work – investing, therefore, in the health and welfare of our own people by *doing good while doing business*.

Bigen’s investment decisions differentiate between what is bankable and what is socio-economically viable. The difference lies in the projected economic return. A strategic blend of funding sources is critical to this process, as indicated in the related table on this page.

Our CONCESSIONS entail securing long-term public-private and private-private sector agreements where Bigen and its partners can develop and deliver infrastructure or operate a specific utility business over the medium- to long-term, with a defined exist strategy and end date.

The concessions also contribute to company and partner revenue streams for advisory services. In addition, dividend income from these concessions are paid directly to shareholders (shareholders’ return) and is not used for operational costs.

<table>
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<th>Blending of funding sources</th>
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<tr>
<td><strong>Donor/philanthropic</strong></td>
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<tr>
<td><strong>Impact investments</strong></td>
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<td><strong>Socially responsible investments</strong></td>
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<td><strong>Responsible investments</strong></td>
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<td><strong>Traditional investments</strong></td>
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- Social value
- “Blended” social and financial value
- Financial value

*ESG = Environmental, social and governance

- Social value - “Blended” social and financial value - Financial value

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More than R10 billion secured in residential housing concessions

Aim to add at least R300 million to Bigen balance sheet by 2021

Founder investor in AIPF to the value of R70 million
We believe in dreams
Our services

FINANCIAL
- Specialist financial, commercial, project structuring and arranging services that support the entire project development process

TECHNICAL
- Engineering and advisory services across the infrastructure development value-chain, including feasibility studies, development funding, project structuring, arranging, preparation, management and implementation
- Customised, integrated infrastructure solutions that meet client, regional, local economic and empowerment requirements
- Bankable, fit-for-purpose projects that benefit the end-users

ENVIRONMENTAL
- Qualified and skilled environmental engineers, scientists, sociologists, psychologists, economists and analysts with local, regional and international experience
- Integrated academic and professional expertise and project management skills to meet sector environmental and social challenges

SOCIO-ECONOMIC
- Skills development through business mentorship, education and training on infrastructure projects, including for youth, women and the disabled
- SMME support and development, job opportunities and preferential (local) procurement strategies to build local capacity
- Sustainable solutions that safeguard the environment for current and future generations
- Collaboration with governments, communities, civil society and the private sector to meet human needs without undermining the integrity and stability of our natural systems

INSTITUTIONAL
- Extensive institutional risk management and support services as part of our multidisciplinary service offering, including political economy analysis and strategic advice, strategic stakeholder engagement and legal due diligence
- Institutional capability support services, including policy advice and development, transaction advice and capacity building
- Legal advisory, contractual and transactional contract drafting services
Bigen believes in improving quality of life by optimising the sustainable social and economic impact of infrastructure development.

During more than four decades of working in Africa, for Africa, we have learnt that we grow by uplifting others.

**Socio-Economic Development**

The thread that runs through all we do

**Our SED services**

- SED: Socio-economic development design and implementation
- LED: Local economic development design and implementation
- ESD: Enterprise and supplier development
- Social investment project design, implementation and fund management
- Monitoring and evaluation

At Bigen, SED means social and economic inclusion that hinges on four pillars:

1. **Sustainable infrastructure**
2. **Sustainable development**
3. **Social development**
4. **Economic development**
Our SED services are the golden threads that run intentionally through all our projects, wherever we operate.

Our localisation focus aligns our services with country-specific development goals that support transformation, poverty eradication and systemic social and economic development challenges to achieve a long-term impact. Our experienced SED professionals are from diverse cultures and experts in their disciplines. Our services are combined into a single point of responsibility with extensive exposure to government and public and private sector clients, locally and elsewhere in Africa.

During 2017, we developed the Bigen ImpactPro Mobile Application to measure the social and economic impact of our projects. The ImpactPro App focuses on seven key areas, each linked to their related SDGs:

- Economic inclusion
- Community social investment
- Environment
- Health and safety
- Infrastructure investment
- Service delivery
- Skills development

The performance indicators for each key area are complemented by a robust electronic capturing platform to measure the impact of our projects. We look forward to implementing the ImpactPro App in 2018.

Our SED approach is the epitome of doing good while doing business.

A case study

Without electricity, the Sol Plaatje community in Helderkruiin on the Gauteng West Rand in South Africa, was riven with crime, dangerous for residents and people had to spend a lot of money on gas because there were no lights. Bigen’s role in the electrification project not only helped to reduce crime and improve livelihoods for thousands of households but also enabled local entrepreneurs to start their own businesses.

“The electricity has helped our kids because they can now use computers and the network is available, so we are very happy about this.”

- Mr Manqoba Ndlovu, an 11-year township resident

Access to electricity has also enabled local entrepreneur, Gladys Maroleng, who has lived in Sol Plaatje for 17 years, to finally start her own crèche.

“The community had a lot of old people, but now more young people have moved back with their families. I saw many children playing in the street. The electricity has helped me to start a crèche in my house so that the children can come when their mothers go to work and they can learn and eat and not be in the street.”

The children in Sol Plaatje community.
Developing our enterprise and suppliers

The main driver of our enterprise and supplier development programme is to create new networks that leverage access to projects. We select companies with the potential to eventually become partners in our business.

Our professionals give of their time to provide these companies with in-kind mentoring, as well as technical, capability-specific leadership and commercialisation advice and training.

2017 enterprise development beneficiaries
- Africando Civil and Project Managers (Water)
- BES Africa Engineering (Water)
- Indigo Kulani (Health)
- Lotshephe Engineers (Transport)
- Tlou Integrated Tech CC (Water)
- Umbono Engineers (Real Estate)
- Xpanders (Water)
“This programme has been very helpful thus far and the collaborative support that I receive from Bigen is great. **Being associated with Bigen has positioned my small consulting company very well.** The ability to go for bigger opportunities through the association with Bigen has been amazing. I would recommend being on Bigen’s ED/SD* programme to other small companies.”

LUTHANDO PETER,
UMBONO ENGINEERS

*ED: Enterprise development
SD: Supplier development
Our people

401 skilled people with qualifications that range across diverse professions in the built environment

Being an “Employer of Choice” is a key enabler in attracting and developing talent, appointing local staff to support country-specific projects and providing employees with a safe place to work and a superior value proposition. This lends itself to the development of all employees and future organisational leaders to create a pipeline of new future business owners.

A new programme is being implemented for our senior managers (age 55 and above) to further develop and transfer their skills in a structured and timeous manner to younger mentees in a hand-over process that mitigates the need for crisis management when people leave our employ.

Our Bigen Group employee profile (including Bigen Kuumba (BKBA) in Namibia)

Contracted employees

Female

Permanent employees

Male

Permanent employees

African

Coloured

Indian

White
Ownership and shareholding

- 100% employee-owned currently, future trajectory towards 60% employee/40% external investors
- 55 employee shareholders (ie professional shareholders)
- 42% shares held by executive leadership
- ±15% dividend yield per annum over the past five years (target 12-16%)
- ±24% total shareholder’s return p/a 2012-2017
- Buyers’ (professional shareholders) acquisition of shares funded by a large local commercial bank with soft company warranty, which limits shareholding liquidity risk

Guiding principles of our shareholder structure

**Active shareholding**
Active employees; active, strategic and Rubix partners; cornerstone investors; indigenous transition shareholders

**Ownership concentration**
15% of employees; maximum 10% shares per single employee

**Positive bias emphasis**
Expand shareholding of future business leaders; increase indigenous shareholders

**Total return emphasis**
Deliver sustainable growth in total shareholder return as measured by share price appreciation and dividends recovered over the shareholding term

**Policy**
- Retiring shareholders step down progressively over a five-year period
- Share-trading bi-annually
- Share Trust managed by Independent Trustees
Recognition and Awards

Bigen is the proud recipient of 47 prestigious industry awards since 2003 (find out more on the Bigen website at www.bigengroup.com). The recognition by our industry peers and partners attest to Bigen’s efficient commitment to service delivery, an attribute woven into the fabric of our operations. Some of the awards that came our way during the past two years are listed here.

2016

- CESA Aon Award for Business Excellence
- CESA Aon Award for Best Mentoring Company
- Top Five Gender Empowerment Engineering Company
- Best South African Multidisciplinary Infrastructure Development Company
- PMR.africa Bronze Arrow Award for Civil Consulting Engineers
- PMR.africa Bronze Arrow Award for Structural Consulting Engineers
- PMR.africa Combined Award for Civil and Structural Engineers

2017

- Top 500 Best-Managed Companies (South Africa)
- Top two awards for the Best-Performing Company in the Consulting Engineering Mining and Infrastructure Category
- African Business and Social Responsibility Award for Corporate Innovative Societal Action
- Consulting Engineers South Africa (CESA) AON Engineering Excellence Award for Mentoring Company of the Year
- CESA AON Engineering Excellence Award Water Reclamation Plant at Royal Bafokeng Platinum (Commendation).
Our footprint in Africa

6 Regional offices

Operational footprint in 19 countries

1. ANGOLA
2. BOTSWANA
3. COTE D’ IVOIR
4. ETHIOPIA
5. GHANA
6. KENYA
7. LESOTHO
8. MAURITIUS
9. MOZAMBIQUE
10. NAMIBIA
11. NIGERIA
12. RWANDA
13. SOUTH AFRICA
14. SWAZILAND
15. TANZANIA
16. ZAMBIA
17. ZIMBABWE
18. DRC
19. UGANDA
What we do matters

We influence
The infrastructure development landscape on the continent

We deliver
The full value-chain of infrastructure development solutions to improve quality of life

We address
The prevailing global threats, such as climate change, urbanisation and water, food, energy and health security

We lead
An infrastructure development company with an innovative, multidisciplinary and partner-focused approach

We impact
Livelihoods, quality of life, economic growth through job creation and skills training, community health, safety and general well-being

Our business model

- A combination of **international, regional and local capabilities**
- Value creation and due reward through **calculated risk sharing**
- **Infrastructure development solutions** and alternative delivery models
- **We have a pipeline of bankable projects** with development finance institutions
- Our development impact is to **improve the lives of people**
Pursuing development impact is at the heart of what we do to help the continent achieve its sustainable development goals (SDGs) by 2030, as set out by the United Nations (UN).

Bigen’s commitment to improving quality of life through sustainable infrastructure development underscores our vision, shared values, strategic drivers and the ways in which we engage our stakeholders and nurture long-term business relationships.

We respond to Africa’s socio-economic development needs by offering a value-chain of financial, technical, environmental, socio-economic and institutional services in real estate, energy, water, health and transportation, in South Africa and throughout the continent.

Our Vision 2021 strategy coordinates our approach to achieving a new pinnacle of growth and relevance. Three strategic drivers underpin our earning power and business sustainability.

Core to Bigen’s history is its growth from a one-man business in one location to a continental leader with offices in six African countries. Our regional footprint and development impacts are visible in 19 countries and we regard further expansion into Africa as a cornerstone of future growth. Target countries are selected based on economic opportunity, ease of doing business, value alignment and other country risk factors. Namibia and Botswana currently contribute 13% to net revenue, which is set to grow in 2018. We also attract staff from across the continent to support our expansion strategy, more recently from countries such as Zimbabwe, Uganda, Rwanda and the DRC. We mitigate country-specific political and legislative risk by selecting strong project participants with political influence and instituting early public participation.

The ability to offer a one-stop African ‘supermarket’ of infrastructure development services is at the core of our Vision 2021. This enables access to tailored infrastructure development solutions and a combination of international, regional and local capabilities that ensure that we deliver development impact. To achieve this position, we expanded our core business to beyond engineering and advisory services (real estate and water) and combined our existing capabilities in health, energy and transportation into dedicated directorates. During 2017, shareholders saw good results from these sectors, which bodes well for the forthcoming 2018 financial period. The Group and its affiliates are accredited under the ISO 9001:2015 quality management standard and ISO 31000:2019 risk management standard.

Our Independent Investment Committee panel assists our leadership to evaluate potential investments and make recommendations based on international best practice. A number of the company’s strategic investments impact positively on our earning ability. Bigen also owns equity stakes in a number of active concessions. These contribute to overall earnings through long-term service level agreements.
# How we govern

## Parallel ownership structure

Sound governance and stable business systems support Bigen’s agile pursuit of becoming a top-five development impact activist on the African continent.

| Bigen Africa Group Holdings (BAGH) | • Held from **South Africa**  
• Business development in all SADC common monetary areas |
| Bigen Group Limited (BGL) | • Held from **Mauritius**  
• Business development in all sub-Saharan Africa non-common monetary areas |

## Shareholding

| Shareholders/ Holding companies | • Professional shareholders jointly hold a majority equity interest in the Bigen holding companies, aligning shareholder and management interests within the Bigen Group  
• Holding companies make in-country investments, but include local equity |
| Share placement | • Share trading trusts have been established in each principal jurisdiction  
• Share trading trusts conduct all share transacting in the holding company, apart from new issue and related subscription for shares  
• Two share placement and trading periods per financial year |
| Share pricing | • Bigen Group boards set the share price for each entity in advance of placement periods  
• Share pricing and dividend distributions follow shareholder-approved dividend policies  
• Adopted a dividend yield policy of 12-16% |
## Governance

| **Bigen Group boards** | - Shareholders elect each principal governing body for a three-year term, in compliance with Bigen Group constitutional documents  
- Appoint/nominate subsidiary and investment company boards  
- Oversee/guide compliance with governance codes, eg King IV; Bigen Group constitutions; code of ethics; licensing, royalties and master service agreements |
| **Board committees** | - Oversee audit, risk, ICT, human capital, remuneration, social, environmental, ethics, governance and shareholder matters  
- Hold five meetings annually  
- Report into holding company board cycles  
- Set policy with the respective boards for each functional area |
| **Delegation of authority** | - Bigen boards delegate functions to board committees, the BAGH CEO or the BGL MD  
- CEO and MD delegate functions to prescribed Bigen Group officers |
| **Management** | - Executive Chairperson guides the governing bodies in their fiduciary duties, including representing the interests of all PPP stakeholders  
- BAGH CEO and BGL MD manage day-to-day strategy implementation and operations  
- Prescribed officers direct operational and key support service areas |
| **Transfer pricing policy** | - Governs project and support service contracting between the two legs of Bigen. |

Reporting compliance and governance disclosures available online at [www.bigengroup.com](http://www.bigengroup.com)
## Support services

| **Finance** | Reports to the Chief Financial Officer  
| | Responsible for financial planning, transacting, capital management, controls, payroll, policy and reporting on the Bigen Group and subsidiaries as per international financial accounting standards  
| | **IMPACT:** Ensuring sustainable profit and fairly remunerated people |
| **Human capital** | Reports to the Human Capital Director  
| | Responsible for employment, culture, leadership and skills development, transformation, remuneration, performance, reporting and human capital policy  
| | **IMPACT:** Developing effective people who deliver sustainable Profits with a positive development impact on People (communities) and Planet (environment) |
| **ICT** | Reports to the Chief Information Officer  
| | Responsible for information and document management, business continuity, technology development and trends, ICT policy  
| | **IMPACT:** Robust, bespoke systems that enable and support business agility |
| **Legal, audit and risk** | Reports to the Chief Risk Officer  
| | Responsible for legal services for partnerships, contracts, constitutional documents, procurement, internal audit, quality, HSE and enterprise risk management, using DMTs  
| | A formal risk committee is accredited under ISO 9001:2015 and ISO 31000:2009  
| | Insurance (professional indemnity; public and directors’ and officers’ liability, commercial crime and asset risks) is placed annually  
| | **IMPACT:** Ensuring ethical behaviour and sustainability |
| **Governance** | Reports to the Company Secretary  
| | Responsible for BAGH and BGL governance delivered to executive and board committees and various investment vehicles  
| | Contracts out foreign (non-RSA) governance, overseen by the Bigen company secretary  
| | Maintains entity and partnership databases, oversees policies and compliance  
| | **IMPACT:** Guiding and ensuring compliance with the triple bottom line – Profit, People, Planet |
| **Marketing** | Reports to the Human Capital Director  
| | Responsible for organisational branding, positioning and internal and external communication  
| | **IMPACT:** Solid reputation and positioning as a socio-economic development activist organisation |
Accreditation and policies - **Bigen places a high premium on:**

<table>
<thead>
<tr>
<th>Best business practices</th>
<th>ZERO tolerance</th>
<th>Social responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>We benchmark against and align our business activities with international best practice and standards</td>
<td>We live our organisational values with zero tolerance for bribery and corruption</td>
<td>We apply a localised, indigenised recruitment policy in the countries where we operate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental responsibility</th>
<th>Health and safety</th>
<th>Managing quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>As a responsible environmental citizen, we align our ecological footprint with the green principles of the global ISO 14001 standard</td>
<td>We apply the principles of the international ISO 45001 health and safety standard and comply with the HSE policies of clients and partners</td>
<td>Our ISO 9001 quality certification assures clients and partners that through our quality system, standards and procedures, we deliver quality work consistently</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic empowerment</th>
<th>Risk management</th>
<th>Professional association</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our Level-2 B-BBEE status in South Africa affords Bigen 110% BEE procurement recognition and our beneficiaries with enhanced recognition for procurement spend</td>
<td>Our international ISO 31000 certification is based on a world-class, fully automated risk management system that facilitates proactive risk management</td>
<td>Our staff affiliations/associations/accreditations include, <em>inter alia</em> the Engineering Council of South Africa; Institution of Municipal Engineers of Southern Africa; Institute of Waste Management of South Africa; National Home Builders Registration Council; Project Management Institute; South African Institute of Civil Engineering; Consulting Engineers South Africa; South African Institute of Electrical Engineers; Southern African Institute for Steel Construction; Water Institute of Southern Africa and the Green Building Council of South Africa.</td>
</tr>
</tbody>
</table>
How we pay it forward

Bigen’s commitment to doing good while doing business supports our core vision of improving quality of life with sustainable infrastructure and drives our corporate social investment initiatives.

Socio-economic inclusiveness, indigenisation and development impact are, therefore, central pillars in Bigen’s business excellence trajectory.

**Akaretsa (Include me)**

A social conscience is part of the Bigen DNA and integral to our corporate culture. We have a rich history of helping communities beyond commercial value or demand.

- Total monetary and time-value contributions since 2014: R7 million
- Designed and constructed houses for three underprivileged families in Lephalele
- Donations given to our social partners in Ghana, Zambia and Botswana

Launched in 2014, Bigen’s enterprising Akaretsa fundraising programme reflects our social DNA of caring for and helping those who cannot help themselves.

The contributions we make provide significant relief to deserving non-profit organisations (NPOs) who empower people and support sustainable community development through education, skills development, job creation, medical care and community infrastructure. During 2016, Bigenites gave of their time and joined forces with Carte Blanche and other donors to renovate the Infant High Care unit at the Sebokeng Hospital, one of our beneficiaries.

Growing support among employees and clients, partners and suppliers for our commitment to socio-economic upliftment has increased the stakes significantly over the years: from contributing an initial R900 000 in 2014 to R4 million in 2017, our goal for 2018 is R5 million.

A significant portion of our contributions are ‘in-kind’ from Bigen employees who give of their time to participate in community clean-up, maintenance or gardening projects – or simply spending quality time with children and adults from disadvantaged backgrounds. Our reward is knowing that we are helping to bring hope, care and comfort to people who often face a bleak future.

Within Bigen, the Akaretsa programme has entrenched an appreciation of the value of cultural diversity and communication in the workplace and an understanding that in an effective company, we need to speak, hear and understand one another.

**Akaretsa monetary and time-value contributions during 2017**

- **R1.8 million** time-value
- **R2.3 million** monetary contributions

**Our beneficiaries:** PopUp (People Upliftment Programme), House David for Children, Sungardens Hospice, Funanani, Lerato House, Brainlife, Ditshego House, Little Eden and the Sebokeng Hospital.
Our CSI initiatives are aligned with Bigen’s ultimate goal of developing economically sustainable infrastructure that delivers socially desirable developmental impact. The way in which we deliver products and services reinforce key emerging public policy priorities within sub-Saharan Africa and promotes inclusive economic growth and human development while upholding international best practice.

**Impact**

- Trained 41 NPO leaders
- Bigen’s support for Sungardens Hospice assists with HIV testing and awareness campaigns that touch the lives of 5 000 people every month
- Youth focus in 2017 through support and contributions to Funanani, Lerato House and Ditshego House
Our development impact

Benefits accrual: clients, partners, employees, society

Improving the quality of life of Africans throughout the continent defines who we are.

At the core of every Bigen project is a focus on long-term social impact. Wherever we operate, our intent is to help transform communities for the better.

Sustainable socio-economic development that helps to change lives is a key priority for us.
Real Estate

The roots of social stability

Our approach to infrastructure development as a derivative of socio-economic development supports our philosophy of optimising sustainable impact to improve quality of life.

56 288 families benefitting from homes and services
625 152 people benefitting from water, sanitation, roads, schools and housing projects
139 000 jobs created during 2017
R5 million spent on training and skills development
R434 million spent on employing subcontractors

Our development impact during 2017 included:

Chief Mogale Integrated Housing Development

- Integrate fragmented towns of Azaadville, Kagiso and Rietvalley within Mogale City
- Residents benefit from a safer, vibrant and socially, ecologically and economically sustainable neighbourhood

<table>
<thead>
<tr>
<th>Location</th>
<th>Mogale City Local Municipality (MCLM), Gauteng, South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>ABSA DevCo (with MCLM, GDLG, GDHS)</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Residents, municipality, government, funders</td>
</tr>
<tr>
<td>Scope</td>
<td>9 400 residential units and amenities</td>
</tr>
<tr>
<td>Value</td>
<td>R1.1 billion</td>
</tr>
<tr>
<td>Partners/Associates</td>
<td>Geogroup (geotechnical); Marsh (environmental); ADA Urban Design; Deltaplan (land surveyor); ITS Engineers (traffic engineer)</td>
</tr>
<tr>
<td>Bigen Role</td>
<td>Project management, civil and electrical engineering, contract administration and site supervision, development management</td>
</tr>
</tbody>
</table>
### Klarinet Integrated Housing Development

**12 000 safe and secure housing opportunities**

<table>
<thead>
<tr>
<th><strong>Location</strong></th>
<th>Emalalheni Local Municipality (ELM), Mpumalanga, South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Client</strong></td>
<td>ABSA DevCo (with ELM, MDoHS, NDoHS)</td>
</tr>
<tr>
<td><strong>Stakeholders</strong></td>
<td>Residents, municipality, government, funders</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>12 000 mixed-housing units and amenities</td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>R1.2 billion</td>
</tr>
<tr>
<td><strong>Partners/Associates</strong></td>
<td>ADA Urban Design; Engeolab Geotechnical Engineers; Uband Dynamics Town Planners; Cleanstream Environmental; Apil Architects</td>
</tr>
</tbody>
</table>

### Leeuwpoopt Integrated Housing Development

- **24 000 institutional, bonded and subsidised housing opportunities**
- **Safe, vibrant and socially, ecologically and economically sustainable neighbourhood**

<table>
<thead>
<tr>
<th><strong>Location</strong></th>
<th>Ekurhuleni, Gauteng, South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Client</strong></td>
<td>Leeuwpoopt Development (Pty) Ltd for the Ekurhuleni Metropolitan Municipality (ELM)</td>
</tr>
<tr>
<td><strong>Stakeholders</strong></td>
<td>Residents, municipality, government, funders</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>24 000 residential opportunities and amenities</td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>R2.3 billion</td>
</tr>
<tr>
<td><strong>Partners/Associates</strong></td>
<td>Urban Dynamics Gauteng Inc (shared development and project management)</td>
</tr>
</tbody>
</table>
## Lufhereng Integrated Housing Development

- **21,848** mixed-type housing units
- **Safe, vibrant and socially, ecologically and economically sustainable neighbourhood**

<table>
<thead>
<tr>
<th>Location</th>
<th>Johannesburg, Gauteng, South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>Lufhereng Development Company (Pty) Ltd for the City of Johannesburg</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Residents, municipality, government, funders</td>
</tr>
<tr>
<td>Scope</td>
<td>21,848 mixed-type housing units and amenities, including an urban agricultural component</td>
</tr>
<tr>
<td>Value</td>
<td>R2 billion</td>
</tr>
<tr>
<td>Partners/Associates</td>
<td>Urban Dynamics (Gauteng) Inc; Raubex Construction (Pty) Ltd</td>
</tr>
</tbody>
</table>

**Bigen Role**
Part of development and project management teams; consulting civil and electrical engineers

## Rugarama Park Estate, Rwanda

- **$500 million** on R-GDP economic support during construction
- **$160 million** post-construction on R-GDP economic support
- **8,000 jobs** during construction and 2,100 jobs post-construction
- **Model for rest of Africa**
- **Restored sense of community** through sustainable neighbourhoods

<table>
<thead>
<tr>
<th>Location</th>
<th>City of Kigali, Nyarugenge District, Rwanda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>Rwandan Ministry of Infrastructure</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Potential residents</td>
</tr>
<tr>
<td>Scope</td>
<td>Phase 1 of 494 housing units in Rugarama Village</td>
</tr>
<tr>
<td>Value</td>
<td>$131,313,563</td>
</tr>
<tr>
<td>Partners/Associates</td>
<td>Roko Consortium Rwanda Ltd; Development Bank of Rwanda; Shelter Afrique; City of Kigali</td>
</tr>
</tbody>
</table>

**Bigen Role**
Project management, civil engineering
**DBE Programme Support Unit for ASIDI**

- Replacement of 500 schools built from inappropriate materials throughout South Africa
- Improved water supply, sanitation and supply of electricity through 2 500 services projects
- Scholars benefit from improved water, sanitation, electricity, lighting and fencing infrastructure
- Improved sports facilities, disabled access, communications technology and safety
- Job creation through construction projects

<table>
<thead>
<tr>
<th>IMPACT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Nationally, all nine provinces in South Africa</td>
</tr>
<tr>
<td>Client</td>
<td>Department of Basic Education (DBE)</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>ESKOM, provincial Departments of Education, Public Works, SGBs and various implementing agents including DBSA, Mvula Trust, IDT and CDC</td>
</tr>
<tr>
<td>Scope</td>
<td>Upgrading of school infrastructure in South Africa to conform with minimum norms and standards set by DBE</td>
</tr>
<tr>
<td>Value</td>
<td>R11 billion over six years</td>
</tr>
<tr>
<td>Partners/Associates</td>
<td>BTKM, Mott MacDonald, Batseta, Indigo Kulani, Aurecon and Core</td>
</tr>
</tbody>
</table>

**Bigen Role**
- Programme management,
- engineering services,
- project management,
- M&E, social facilitation,
- skills development services, legal services,
- infrastructure and building assessments,
- enterprise development services
Energy
Powering economic development and growth

Our energy services provide end-users with innovative solutions to improve livelihoods sustainably, locally and throughout the African region.

585,000 people benefitting from housing units with electricity vs 80% of the SA population provided with electricity (30% only of the population in SADC has access to electricity).

We employed:

- 101 professional workers
- 150 construction workers

640 local labour jobs created during construction.

The socio-economic development impact of some of our 2017 projects:

**Simba Cement Solar PV Pre-feasibility Study**

- **Improved** supply quality
- **Low** operating and maintenance costs
- **High** savings potential against Tanesco electricity tariffs

<table>
<thead>
<tr>
<th>IMPACT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Tanga Province, Tanzania</td>
</tr>
<tr>
<td><strong>Client</strong></td>
<td>Simba Cement (Afrisam company)</td>
</tr>
<tr>
<td><strong>Stakeholders</strong></td>
<td>Simba Cement shareholders</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>Improve the quality of electricity supply and reduce electricity costs from Tanesco</td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>Estimated USD 40 million</td>
</tr>
<tr>
<td><strong>Partners/Associates</strong></td>
<td>S&amp;P Power, Pretoria</td>
</tr>
</tbody>
</table>

**Bigen Role**

Technical alternative analysis, concept design for a grid-tie, battery back-up Solar PV system at Simba Cement, financial viability pre-feasibility study for the proposed solution.
## Electrification of Housing Developments

<table>
<thead>
<tr>
<th>IMPACT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Ekurhuleni, City Power, Tshwane and Rand West Municipalities, Gauteng</td>
</tr>
<tr>
<td><strong>Client</strong></td>
<td>Various development companies</td>
</tr>
<tr>
<td><strong>Stakeholders</strong></td>
<td>Residents, suppliers, employees, relevant authorities and utilities</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>Design, construct and commission supply substations and reticulation</td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>More than R1.85 billion</td>
</tr>
<tr>
<td><strong>Partners/Associates</strong></td>
<td>Urban Dynamics, COnco; Tshepang Electrical</td>
</tr>
</tbody>
</table>

**Bigen Role**
- Substation electrical design and project management and reticulation, including street lights

- Electrification of 122 000 houses
- 305 000+ people with electricity in Leeuwoort (75k), Lufhereng (60k), Soshanguve (50k) and Zenzele (30k) townships and Rama City (90k)
- Employment and education opportunities due to schools, business and industrial areas

## 132kV Transmission Line and Substation Project

<table>
<thead>
<tr>
<th>IMPACT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>South West Ethiopia (Key Afer)</td>
</tr>
<tr>
<td><strong>Client</strong></td>
<td>Ethiopian Electricity Utility (EEPCO)</td>
</tr>
<tr>
<td><strong>Stakeholders</strong></td>
<td>EEPCO shareholders</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>Implement Sawula Key Afer 132kV transmission line and 132/33kV substation, incl electricity at 33kV and internal reticulation to villages</td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>More than USD 150 million</td>
</tr>
<tr>
<td><strong>Partners/Associates</strong></td>
<td>Dihlase Consulting Engineers</td>
</tr>
</tbody>
</table>

**Bigen Role**
- Lenders’ technical advisor, project management services

- Electrify 110 villages benefiting more than 150 000 people
- Expand electricity network and services

- Electrification of 122 000 houses
- 305 000+ people with electricity in Leeuwoort (75k), Lufhereng (60k), Soshanguve (50k) and Zenzele (30k) townships and Rama City (90k)
- Employment and education opportunities due to schools, business and industrial areas
## Luangwa PV Pre-feasibility Study

**IMPACT**

<table>
<thead>
<tr>
<th>Location</th>
<th>Luangwa, Zambia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Client</strong></td>
<td>Luangwa Solar Power Company</td>
</tr>
<tr>
<td><strong>Stakeholders</strong></td>
<td>Client and residents in villages</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>Off-grid electricity generation option (solar PV, batteries, diesel generator integration)</td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>Estimated USD 7milion</td>
</tr>
<tr>
<td><strong>Partners/Associates</strong></td>
<td>S&amp;P Power, Pretoria</td>
</tr>
<tr>
<td><strong>Bigen Role</strong></td>
<td>Technical concept design for an off-grid, battery back-up, diesel generator integration solar PV system; financial viability pre-feasibility study for the proposed solution</td>
</tr>
</tbody>
</table>

### Telkom NNOC Rooftop Solar PV Project

- **IMPACT**
- **Low** operating and maintenance costs
- **High** potential savings against Eskom electricity tariffs

<table>
<thead>
<tr>
<th>Location</th>
<th>Pretoria, South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Client</strong></td>
<td>Rhino Energy, EPC to Telkom SA</td>
</tr>
<tr>
<td><strong>Stakeholders</strong></td>
<td>Telkom shareholders</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>Design, supply, implement 3MW rooftop solar PV projects on more than 50 roofs at the Telkom NNOC</td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>Estimated more than R70 million</td>
</tr>
<tr>
<td><strong>Partners/Associates</strong></td>
<td>Rhino Energy</td>
</tr>
<tr>
<td><strong>Bigen Role</strong></td>
<td>Independent quality control and management for Rhino Energy</td>
</tr>
</tbody>
</table>
Teebus Hydropower Station Feasibility Study

- **Location**: Gariep Dam, Northern Cape, South Africa
- **Client**: Eskom, South African Electricity Utility
- **Stakeholders**: Eskom customers and shareholder
- **Scope**: Renovate and expand hydropower station
- **Value**: Estimated R120 million
- **Partners/Associates**: Sinotech, Lidwala Specialist Solutions
- **Bigen Role**: Technical alternative analysis and concept design of turbines based on available site hydrology data; feasibility study on the most optimum technical solution

Impact:
- **Short** payback period
- **Low** operating and maintenance costs
- **High** potential income
- **Low** levelised cost of electricity

---

Finningley Housing Development Renewable Energy

- **Location**: Kwazulu Natal, South Africa
- **Client**: Finningley Development Company
- **Stakeholders**: KwaZulu-Natal residents
- **Scope**: Design, construct and commission renewable energy systems, incl rooftop solar PV, water heating, LPG and LNG gas turbines; design and implement supply of substations and reticulation to houses
- **Value**: More than R1 billion
- **Bigen Role**: Electrical design and project management for renewable energy, supply substations and reticulation, including street lights

Impact:
- **90 000 people** + will receive electricity from clean and green energy sources, including solar PV, wind and gas
- Reticulation of **18 000 houses**
Water
Giving life, growing the future

Water is more than a precious commodity for life to exist, it is at the heart of our existence and all socio-economic development. More than any other aspect of sustainable development, long-term planning for managing our invaluable water resources is an imperative for all governments.

2 384 jobs created during 2017

12 million + people benefitting from water projects

Helped deliver the Botswana North-South-Carrier water scheme and water supply to neighbouring countries

Communities benefit from water infrastructure expertise accumulated over more than four decades

Our development impact during 2017 includes:

Botswana North-South-Carrier (NCS)-2 Water Transfer Scheme

- ± 1 480 local labourers employed
- Close to 200 local suppliers and subcontractors employed
- 5 811 locals and labourers trained during 45 299 training hours
- Direct contribution to the growth of the national economy

<table>
<thead>
<tr>
<th>Location</th>
<th>Eastern Botswana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>Botswana’s Ministry of Minerals, Energy and Water Resources (MMEWR)</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>0.9 million of Botswana’s population</td>
</tr>
<tr>
<td>Scope</td>
<td>Upgrade of water transfer scheme and communications network</td>
</tr>
<tr>
<td>Value</td>
<td>R10 billion</td>
</tr>
<tr>
<td>Partners/Associates</td>
<td>Water Utilities Corporation (WUC), Botswana; Civil Works JV (WBHO &amp; CCC)</td>
</tr>
</tbody>
</table>

Bigen Role
Employer’s representative, regional planning, design, contracts administration, construction management
### Lower Thukela Bulk Water Supply Scheme (LTBWSS)

- **238 000 people** receive water from the **55 Mℓ/d** plant, distribution and storage site
- More than **23 000 local labour days**
- **Improved livelihoods** through access to clean, potable water

<table>
<thead>
<tr>
<th>IMPACT</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>KwaZulu-Natal North Coast, South Africa</td>
</tr>
<tr>
<td>Client</td>
<td>Umgeni Water</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Residents in towns from Mandini LM (North) to KwaDukuza LM (South)</td>
</tr>
<tr>
<td>Scope</td>
<td>55 Mℓ/d water treatment, storage and pipelines</td>
</tr>
<tr>
<td>Value</td>
<td>R1.6 billion</td>
</tr>
<tr>
<td>Partners/Associates</td>
<td>DWS; CoGTA; iLembe DM</td>
</tr>
</tbody>
</table>

**Bigen Role**
- Construction monitoring & contract administration, commissioning & trial operation of civil, structural, mechanical, electrical engineering, control & instrumentation

### Zeekoegat Waste Water Treatment Works (WWTW)

- **400 000 work days to date**
- **50 community members directly employed** for duration of construction
- **425 000 people served, 275 000 more now have access to potable water**
- Computer laboratory, accessible to all, installed in local community
- Local soccer team sponsored with complete match wear
- Improved effluent quality

<table>
<thead>
<tr>
<th>IMPACT</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Roodeplaat, Pretoria, South Africa</td>
</tr>
<tr>
<td>Client</td>
<td>City of Tshwane Metropolitan Municipality</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Tshwane residents</td>
</tr>
<tr>
<td>Scope</td>
<td>Upgrade and expansion of the WWTW</td>
</tr>
<tr>
<td>Value</td>
<td>R500 million</td>
</tr>
<tr>
<td>Partners/Associates</td>
<td>KV3 Engineers (Kwezi V3 now Worley Parsons); Electron Technologies</td>
</tr>
</tbody>
</table>

**Bigen Role**
- Design and construction supervision of the extension of the works
Health

This is the **game changer**

Much needs to be done to improve healthcare in Africa. The challenge is to narrow disparities and create opportunities for people to lead healthy, productive lives. **We need innovative ideas and actions to create the social infrastructure that supports a healthy population.**

---

**Reduce**
- **mortality**

**Upgrade**
- **and maintain health care infrastructure**

**Increase**
- **life expectancy and quality of life**

Our development impact includes:

**Kampala International Hospital**

- **Lighten the burden** of health impediments in the country
- **Upgrade and maintain** health facilities
- **Provide Ugandan people with improved access to health services**

** IMPACT **

<table>
<thead>
<tr>
<th>Location</th>
<th>Uganda, East Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stakeholders</td>
<td>Residents in the city and surrounds</td>
</tr>
<tr>
<td>Scope</td>
<td>Health consultancy panel participation</td>
</tr>
<tr>
<td>Value</td>
<td>R1.9 billion</td>
</tr>
<tr>
<td>Partners/Associates</td>
<td>Kampala International Hospital</td>
</tr>
</tbody>
</table>

**Bigen Role**
- Advisory services to hospital management for operations
Siloam District Hospital

- Access to a **306-bed** district hospital
- Aligned with Limpopo DoH Health Strategic Transformation Plan
- Support for **15 clinics** and **1 CHC** in the Thulamela Municipality

<table>
<thead>
<tr>
<th>IMPACT</th>
<th>Location</th>
<th>Stakeholders</th>
<th>Scope</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Limpopo, South Africa</td>
<td>Residents in the city and surrounds</td>
<td>Health consultancy panel participation</td>
<td>R1.9 billion</td>
</tr>
</tbody>
</table>

**Location**

Limpopo, South Africa

**Stakeholders**

Residents in the city and surrounds

**Scope**

Health consultancy panel participation

**Value**

R1.9 billion

**Nelson Mandela Children’s Hospital**

- State-of-the-art, world-class healthcare for South African children
- **Reduced** neo-natal and child mortality
- Specialised paediatric care, research and training
- Capacity to improve outputs of specialists and sub-specialists
- ±1 000 children have already benefitted from access to the facility

<table>
<thead>
<tr>
<th>IMPACT</th>
<th>Location</th>
<th>Client</th>
<th>Stakeholders</th>
<th>Scope</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Johannesburg, Gauteng, South Africa</td>
<td>Nelson Mandela Children’s Hospital (NMCH) Trust</td>
<td>Children and their families</td>
<td>Commissioning of the 200-bed Paediatric Hospital</td>
<td>R1 billion</td>
</tr>
</tbody>
</table>

**Location**

Johannesburg, Gauteng, South Africa

**Client**

Nelson Mandela Children’s Hospital (NMCH) Trust

**Stakeholders**

Children and their families

**Scope**

Commissioning of the 200-bed Paediatric Hospital

**Value**

R1 billion

“A children’s hospital will be a credible demonstration of the commitment of African leaders to place the rights of children at the forefront. Nothing less would be enough.”

– Nelson Mandela
Transportation

Pumping lifeblood into economies

Transportation is a life-giving artery for a country’s industrial, trade and economic well-being. We integrate multidisciplinary expertise to address Africa’s logistical infrastructure challenges and deliver solutions for Africa by Africans.

Ground-breaking
SANRAL Eastern Cape model, using small contractors to maximise supplier development in major road construction

30 000 +
jobs created in 2017

Trained, mentored & assisted
identified groups to maximise exposure and future project participation

Delivered skills transfer, localisation, small business creation and technology transfer in projects in South Africa and Namibia.

During 2017, we responded to the skills development goals of the National Development Plan in all our major projects by providing suppliers and members of local communities with development opportunities and stimulating direct (construction and operations) and indirect (downstream) job opportunities and youth-tailored (<35 years) construction packages. We also applied robust procurement strategies aligned with government’s socio-economic policies.

The development impact of some projects included:
### eThekwni Integrated Rapid Public Transportation Network (IRPTN)

- 6 emerging contractors were included in the JV to perform 51% of the work
- 11,418 jobs created through JVs
- 9,778 local BEE jobs created
- 32 subcontractors from local wards employed
- Contractor sponsored sports and school events and community functions

<table>
<thead>
<tr>
<th>Location</th>
<th>Pinetown, KwaZulu-Natal, South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>eThekwni Transport Authority (ETA)</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Residents in eThekwni municipal area</td>
</tr>
<tr>
<td>Scope</td>
<td>Implementation of Corridor C3B of the IRPTN</td>
</tr>
<tr>
<td>Value</td>
<td>R963 million</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Projected development impacts are:**

- ±5,540 direct jobs created
- ±5,000 indirect jobs created
- **Skills development** in labour-intensive construction
- Community participation, learnerships and generic training

<table>
<thead>
<tr>
<th>Location</th>
<th>Namibia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>Ministry of Works &amp; Transport</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Erongo Region communities and regional transport industry</td>
</tr>
<tr>
<td>Scope</td>
<td>Upgrading and improvement of railway line</td>
</tr>
<tr>
<td>Value</td>
<td>N$4 billion</td>
</tr>
</tbody>
</table>
### N11-8 between Ermelo and Hendrina

<table>
<thead>
<tr>
<th>IMPACT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• ±R46 million - spend on labour from local communities</td>
<td></td>
</tr>
<tr>
<td>• ±R176 million - spend on 32 local subcontractors</td>
<td></td>
</tr>
<tr>
<td>• All staff transported by local operators during the project</td>
<td></td>
</tr>
<tr>
<td>• <strong>Sponsored</strong> sports, school and community events, repaired roads and improved access roads in adjoining townships</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Mpumalanga, South Africa</th>
<th>Bigen Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>South African National Roads Agency (SANRAL)</td>
<td></td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Communities and residents in towns along the road, South African road users, Eskom Generation</td>
<td></td>
</tr>
<tr>
<td>Scope</td>
<td>Rehabilitation of the Eskom Coal Haulage Roads Network</td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>R663 million</td>
<td></td>
</tr>
<tr>
<td>Partners/Associates</td>
<td>Eskom; Mpumalanga DPWRT, P A Louw &amp; Associates, Bridge Design</td>
<td></td>
</tr>
</tbody>
</table>

### Road maintenance R56-6 Indwe-Elliot and R56-7 Elliot-Maclear

<table>
<thead>
<tr>
<th>IMPACT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• 1 064 jobs, 736 youth appointments and 170 full-time jobs created</td>
<td></td>
</tr>
<tr>
<td>• R57 048 069 value for a total of 598 050 hours</td>
<td></td>
</tr>
<tr>
<td>• 41 black-owned enterprises engaged to the value of R107 953 786</td>
<td></td>
</tr>
<tr>
<td>• 108 people trained in 113 courses to a total value of R162 086</td>
<td></td>
</tr>
<tr>
<td>• 234 women and 197 female youth employed</td>
<td></td>
</tr>
<tr>
<td>• 98 subcontracts to 64 enterprises valued at R159 444 488</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Indwe to Maclear, Eastern Cape, South Africa</th>
<th>Bigen Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>South African National Roads Agency (SANRAL)</td>
<td></td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Communities, commuters</td>
<td></td>
</tr>
<tr>
<td>Scope</td>
<td>National routes maintenance; road sections in Indwe and Maclear</td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>R750 million</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Partners/Associates</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eskom; Mpumalanga DPWRT, P A Louw &amp; Associates, Bridge Design</td>
</tr>
</tbody>
</table>
Rustenburg Integrated Rapid Public Transportation System - North-East-Corridor (NEC) and Feeder Routes

- **332 local jobs** created and **20 local subcontractors** employed
- **Contractors trained** in kerb-laying, paved footpaths, and cycle lanes
- **Increased pedestrian safety** and public transportation for 20-30 communities
- **JV with 100% black-owned** local subcontractors

<table>
<thead>
<tr>
<th>Impact</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Rustenburg town and R510, North West province, South Africa</td>
</tr>
<tr>
<td>Client</td>
<td>Rustenburg Local Municipality</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Road users, municipality</td>
</tr>
<tr>
<td>Scope</td>
<td>Bus rapid transit (BRT) public transportation system</td>
</tr>
<tr>
<td>Value</td>
<td><strong>R900 million</strong></td>
</tr>
<tr>
<td>Partners/Associates</td>
<td>Lotshephe Africa JV; ITSE; Nemai Consulting; KBS Consulting Engineers; M Pavlakis; M Civils; UMSO Construction</td>
</tr>
</tbody>
</table>

**Bigen Role**
Design, tender administration and construction supervision, staff training
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIPF</td>
<td>Africa Infrastructure Preparation Facility</td>
</tr>
<tr>
<td>ASIDI</td>
<td>Accelerated Schools Infrastructure Delivery Initiative</td>
</tr>
<tr>
<td>BaBPT</td>
<td>Black business participation target</td>
</tr>
<tr>
<td>BAGH</td>
<td>Bigen Africa Group Holdings</td>
</tr>
<tr>
<td>BGL</td>
<td>Bigen Group Limited</td>
</tr>
<tr>
<td>BNG</td>
<td>Breaking New Ground (government strategic human settlements initiative)</td>
</tr>
<tr>
<td>BRT</td>
<td>Bus rapid transport</td>
</tr>
<tr>
<td>CBO</td>
<td>Community-based organisation</td>
</tr>
<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>CCC</td>
<td>Consolidated Contractors Company in Gaborone, Botswana</td>
</tr>
<tr>
<td>CHC</td>
<td>Community Health Clinic</td>
</tr>
<tr>
<td>CoGTA</td>
<td>Department Corporate Governance and Traditional Affairs</td>
</tr>
<tr>
<td>DApp</td>
<td>Development Impact Application</td>
</tr>
<tr>
<td>DoE</td>
<td>Department of Energy</td>
</tr>
<tr>
<td>DFI</td>
<td>Development Finance Institutions</td>
</tr>
<tr>
<td>DMT</td>
<td>Database management tool</td>
</tr>
<tr>
<td>DPT</td>
<td>Disability participation target</td>
</tr>
<tr>
<td>DWS</td>
<td>Department Water and Sanitation</td>
</tr>
<tr>
<td>EDT</td>
<td>Enterprise development target</td>
</tr>
<tr>
<td>EMM</td>
<td>Ekurhuleni Metropolitan Municipality</td>
</tr>
<tr>
<td>EPC</td>
<td>Engineering, procurement and construction</td>
</tr>
<tr>
<td>EPCM</td>
<td>Engineering, procurement and construction management</td>
</tr>
<tr>
<td>ESG</td>
<td>Environmental, social and governance</td>
</tr>
<tr>
<td>GDHS</td>
<td>Gauteng Department of Human Settlements</td>
</tr>
<tr>
<td>GDLG</td>
<td>Gauteng Department of Local Government</td>
</tr>
<tr>
<td>HSE</td>
<td>Health, safety and environment</td>
</tr>
<tr>
<td>IDT</td>
<td>Independent Development Trust</td>
</tr>
<tr>
<td>I&amp;C</td>
<td>Investments and Concessions</td>
</tr>
<tr>
<td>IRPTN</td>
<td>Integrated Rapid Public Transport Network</td>
</tr>
<tr>
<td>JV</td>
<td>Joint-venture</td>
</tr>
<tr>
<td>LED</td>
<td>Local economic development</td>
</tr>
<tr>
<td>LM</td>
<td>Local municipality</td>
</tr>
<tr>
<td>MCHRN</td>
<td>Mpumalanga Coal Haulage Road Network</td>
</tr>
<tr>
<td>MD</td>
<td>Managing Director</td>
</tr>
<tr>
<td>MCLM</td>
<td>Mogale City Local Municipality</td>
</tr>
<tr>
<td>MDPWR</td>
<td>Mpumalanga Department of Public Works, Roads and Transport</td>
</tr>
<tr>
<td>MDHS</td>
<td>Mpumalanga Department of Human Settlements</td>
</tr>
<tr>
<td>MMEWR</td>
<td>Botswana’s Ministry of Minerals, Energy and Water Resources</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-government organisation</td>
</tr>
<tr>
<td>NPO</td>
<td>Non-profit organisation</td>
</tr>
<tr>
<td>NNOC</td>
<td>National Network Operations Centre, Telkom</td>
</tr>
<tr>
<td>NMCH</td>
<td>Nelson Mandela Children’s Hospital</td>
</tr>
<tr>
<td>OHS</td>
<td>Occupational health and safety</td>
</tr>
<tr>
<td>OOPE</td>
<td>Out of programme experience</td>
</tr>
<tr>
<td>PBPT</td>
<td>Priority business participation target</td>
</tr>
<tr>
<td>PPP</td>
<td>Public Private Partnership</td>
</tr>
<tr>
<td>PPPFA</td>
<td>Preferential Procurement Policy Framework Act, 5 of 2000</td>
</tr>
<tr>
<td>PV</td>
<td>Photovoltaic</td>
</tr>
<tr>
<td>R-GDP</td>
<td>Rand-Gross Domestic Product</td>
</tr>
<tr>
<td>SANRAL</td>
<td>South African National Roads Agency</td>
</tr>
<tr>
<td>SDT</td>
<td>Skills development target</td>
</tr>
<tr>
<td>SED</td>
<td>Socio-economic development</td>
</tr>
<tr>
<td>SIPDM</td>
<td>National Treasury Standard for Infrastructure, Procurement and Delivery Management</td>
</tr>
<tr>
<td>SPV</td>
<td>Special project vehicle</td>
</tr>
<tr>
<td>TLET</td>
<td>Targeted labour employment target</td>
</tr>
<tr>
<td>UoL</td>
<td>University of Life</td>
</tr>
<tr>
<td>WPT</td>
<td>Woman participation target</td>
</tr>
<tr>
<td>WWTW</td>
<td>Waste water treatment works</td>
</tr>
<tr>
<td>YPT</td>
<td>Youth participation target</td>
</tr>
</tbody>
</table>
We rise by lifting others.
We’d like to hear from you

Bigen
Tel: +27 (0) 12 842 8700
Fax: +27(0) 12 843 9000/9001
E-mail: pretoria@bigengroup.com
Allan Cormack Street off Hotel Street,
Cnr Meiring Naude Road,
The Innovation Hub,
Pretoria, South Africa
P.O. Box 29, The Innovation Hub, Pretoria 0087

bigengroup.com