1 VISION, STRATEGY AND STRUCTURE

SCOPE

Reporting period

This integrated annual report covers the 2015 financial year (F2015, the year ended 30 September 2015) of Bigen Africa Group Holdings (the holding company of the Bigen Africa group of companies - the group) as well as its subsidiaries. The report includes all activities necessary to close out F2015 (even if those activities took place outside the financial period) as well as activities required to plan for F2016 and to craft a new long-term vision and strategy (V2021) for the Bigen Africa group.

Purpose and target audience

The purpose of this report is transparent and clear communication of the vision, strategy, performance, value creation and sustainability of the Bigen group to its key stakeholders. The key stakeholders of the group are as follows:

- Current and future shareholders and funders of the group companies;
- The board and board committees of the group companies;
- Current and future strategic partners and suppliers of the group;
- The key customers of the group; and
- The various communities directly or indirectly served or impacted by the group.

Main report

This report (the ‘main report’) is prepared for general distribution. The main report excludes detailed strategic and financial information as well as other information of a sensitive or confidential nature. Such information will be distributed to selected parties under conditions of non-disclosure.

NDA annexure

An annexure (the ‘NDA annexure’) has also been prepared, including detailed and confidential information. This annexure will be distributed to interested parties authorised to receive the annexure by the executive committee of the Bigen Africa group and who have signed the requisite non-disclosure agreement in order to control unauthorised distribution of sensitive or confidential group information.
Chairman’s message

The financial performance of the Bigen group was strong considering the challenging economic, political and business environment. The board remained focused on integrating strategy, risk, performance and sustainability and in the process created value for all stakeholders as stated in the report. Herewith some of the highlights of the past year:

Financial year 2015 in brief

The Bigen group managed to meet the majority of the financial objectives set despite challenges, especially in certain sectors. The group distributed quarterly dividends and paid short-term incentives to its staff members. Management continued the expansion into Africa based on the approved strategy (V2016) and managed risks and challenges with the support of an effective board. Organic growth still contributed 98% of the total profit for the group.

Comparability of results

The group continued to focus on inorganic growth and invested efforts and time on expansion into Africa. Despite capital investment for expansion through AFCOM and other initiatives, the group managed to improve on the F2014 financial results.

Business awards

The Bigen group CEO, Dr Snowy Khoza, was named the South African Business Leader of the year. She was also awarded the Continental Lifetime Achiever award, honouring her as one of Africa’s most influential Women in Business and Government and Titans – Building Nations. The group received top honours at the prestigious annual CESA Awards in three of the seven principal categories, namely Business Excellence, Mentoring Company of the Year and Best International Project, the latter for its work on the 360km north-south regional water transfer system in Botswana. This project has demonstrated engineering excellence, enhanced regional growth and significantly improved the quality of life in Botswana.

Portfolio improvement through delivery of the group strategy

The group continued delivering and building its capabilities through its two primary directorates, Engineering and Management Consulting Services. The development finance capability was embedded into the two directorates, including the services provided to the market through a development finance community of practice. The mainstay and mature divisions Land Development and Water and Sanitation again exceeded their targets. The Energy, Structures and Transport divisions remained in a growth phase. The Transport division managed to make target in an extremely difficult economic environment. Prodelko Africa (Pty) Ltd, a Bigen group joint venture with Wave Australia, was negatively impacted by the ongoing difficulties in the mining sector as a result of the depressed commodity prices. The group expanded its presence in SADC and West Africa though the establishment of effective partnerships with governments and industry and through foreign subsidiaries and other investment vehicles.

Business environment

Although the global economy improved gradually during the course of the past year, the Greek crisis dominated the headlines and the slowdown in growth and volatility in China influenced stock markets. The South African economy was adversely affected by industrial action, insufficient and ineffective infrastructure (in, for example, energy and transport), unemployment, skills shortages and a further down-grade of the country’s global credit rating. The economy expanded at an annualised 0,7% during the three-month period to September 2015. This was the slowest growth rate experienced since the 2009 recession and the annual GDP growth slumped to a six-year low. The economy expanded 1,2% year-on-year during the second quarter of 2015, slowing from 2,1% growth during the previous quarter. The need to continue with the expansion and inorganic growth strategy into the African continent is quite evident.
Corporate governance

The group subscribes to the Code of Good Corporate Practices and Conduct and adheres to the recommendations of the King III report.

Amendment to the group’s MOI

Shareholders resolved at the AGM, held on 4 December 2015, that Par 7.3.6 of Annexe A to the MOI be replaced to make provision for different effective dates of the sale of equity based on the trigger event.

Board training

Mrs Angela Louw from Ethix Worx sensitised directors to ethical issues that may be applicable to the engineering environment. She focused on global trends in ethics, ethical strategies and the application of those strategies. Mr Greg Benjamin, Merger and Acquisition Sector Head and Advisory leader, sharpened merger and acquisition awareness.

Governance reports

Governance reports were submitted, group board and board committee evaluations were conducted internally and the group board charter and terms of reference of all board committees were reviewed as required.

Risk management and IT governance

The Audit Risk and IT Committee (ARIC) successfully provided assurance on the system of internal control and risk management to the group board. A combined assurance model was successfully implemented, with divisional risk officers reporting monthly to a risk committee that advises ARIC. This enables the executive management and the group board to monitor the identified risks and assess risk appetite accordingly. The CIO monitors and manages the IT governance activities and reports quarterly to the board.

Leadership and people

The approved human-capital strategy and associated human-capital development policies were further rolled out, including the establishment of the Future Leaders Forum. This initiative was introduced to formalise the process of identifying key talent in the organisation and retaining and developing the talent through established Bigen group strategies.

Sustainable development

The Social and Ethics Committee monitored the financial, social and economic sustainability of the group during F2015, encouraging an inclusive stakeholder model and improving stakeholder communication in general. The chairperson of the committee addressed the holding company shareholders at the AGM to provide them with feedback on the committee’s activities.

Outlook

Infrastructure development in Africa remains a priority for the development of the continent. In line with the group’s vision and values, future operations in the rest of Africa will emphasise indigenisation, sustainable development and the empowerment of people and communities.

The Bigen group is now in the last year of implementation of V2016 and management is in the process of drafting a new five-year strategy that will be presented to shareholders for formal adoption during the course of F2016. During the F2016 business-planning process, management identified specific growth opportunities through investments in new sectors and possible new investment vehicles.

Independent auditors review report

The group once again received an unqualified audit report from its external auditors (Mazars).

Conclusion

I thank the CEO, Dr Snowy Khoza, for her visionary leadership during the past financial year, management for its commitment and interventions and staff for their individual contributions. We continue to live our motto of doing good while doing business and expanding the Bigen group footprint not only in RSA, but on the African continent, to the benefit of all stakeholders. The group will continue to focus on its vision of improving the quality of life through the delivery of sustainable infrastructure solutions.

The group board welcomes the appointment of Mrs Salome Sengani as non-executive director and Mr Masebenza Matyeka as executive director, effective from 3 December 2015. On behalf of the board, I extend gratitude to Mr Bettesworth for his contribution and guidance during his tenure.
Ceo’s message

2015 has been a year of hard work in the challenging external environment throughout the continent. Our unwavering faith and ethics have earned the Bigen Africa Group a secured position in the infrastructure-development industry. Quarter on quarter we continued to focus our strategy to deliver our mandate from human-capital, operational-systems, risk-management and financial perspectives. The visionary leadership given by the board under the leadership of Dr Iraj Abedian, our executive directors and managing principals team continued to give strategic focus in the delivery of the company’s business plan and our highly committed staff helped us, once again, to add value to shareholder returns. Without the team effort and commitment, we would have not have achieved the kind of results we have in the challenging external environment.

Developed a strong project pipeline

A number of medium-sized projects were won, from public sector clients such as the Ministry of Mineral, Energy and Water Resources in Botswana; the Department of Water and Sanitation, National Treasury, the Department of Basic Education, the Gauteng Department of Infrastructure Development, the KZN Department of Cooperative Governance and Traditional Affairs, and a number of metros, such as Mangaung, Ekurhuleni and the City of Tshwane, as well as a number of municipalities, including Elondini and Tlokwe. In the private sector we received appointments from, amongst others, Urban Dynamics, ASLA, Kubu Property Development, Leeuwpoort Development Company, Calgro M3 Developments, Left Break, Anglo Platinum and Indigo Kulani (South Africa). Two of our para-statal clients are the Development Bank of Southern Africa and Eskom. A significant number of clients entrusted their projects to us. Many of these are long-term partners with whom we have worked for a number of years. Some are new clients and we are confident they will give us return business going forward. We appreciate their partnership in delivering infrastructure in the countries we operate in.

Delivered on our partnership strategy

As part of our partnership strategy, our partnership conferences are of prime importance in strengthening our industry ties across the continent. In this year, our third conference – themed “Invented in Africa” – again confirmed the need for a “one-stop-shop offering” into the rest of the continent.

Our partnership approach was crucial to our success in achieving technical excellence and innovation by bringing together the best-of-breed offerings from different parties on a formal and structured basis.

Business awards and recognition

During the year, we again scooped up numerous industry awards:

- Three awards in various categories of the recent CESA awards, including Mentoring Company of the year, Business Excellence and Best International Project.
- Two categories of the National Business awards. The Bigen CEO received the TOP Performing Business Leader Award and Bigen Africa received the TOP Company in Infrastructure Development.
- Three PMR Awards: Bronze Arrow for Civil Consulting Engineers, Bronze Arrow for Structural Engineers and Combined Award for Civil and Structural Consulting Engineers.

This has been a blessed year for us and we are thankful to God for His grace. Our partners, clients and colleagues made this possible for us and we truly appreciate them for their support, trust and recognition.

Doing good while doing business

Over the past few years, Bigen Africa has grown its sphere of corporate social responsibility, formally adopting the creed of doing good while doing business as part of its business practice and corporate culture. This has resulted in value-add for communities where infrastructure projects are undertaken, as well as significant tangible benefits for several non-profit organisations. Across the Bigen Africa Group, the individual branches practise doing good while doing business on a regular basis. They truly got into the “Madiba spirit” during July with a host of activities.
designed to improve the quality of life of their beneficiaries. We raised funds to the amount of R1 million through personal contributions from the leadership team and employees, the Bigen Africa Annual Golf Day and generous donations from partners and clients, such as Land Rover SA, PACH, RVN Chartered Accountants, Afrigis, Standard Bank, Empyrean, Hatch-Goba, WBHO, Cresco, Roadlab, BMW and Bridge Capital.

The following highly deserving organisations benefitted from the donated R1 million:

- Word For The Nations Ministries (Tshwane);
- POP-UP (Tshwane);
- Mamelodi Hospice (Tshwane);
- Funanani Charitable Trust (Tshwane);
- Vanani Primary School (East London);
- International Individual Scholarship: Sifiso Kumalo;
- Saint Theresa’s Parish (Ghana);
- The Lighthouse Chapel (Ghana); and
- In-Community Care for Orphans (Zambia).

For 2016 we have pledged to double our contribution to R2 million to increase both donation amounts and supported organisations.

Financial prudence and shareholder value

The Bigen group delivered a strong performance for the 12 months ending 30 September 2015 in a period that was characterised by a weakening economic environment. The majority of our divisions traded profitably, demonstrating the robustness of our business model. Bigen Africa’s revenue for the 12 months was derived from the provision of engineering and management consulting services. Engineering remains the largest contributor to the business revenue, with a 5% increase in fee revenue. Management consulting has also shown very positive revenue. The increase in revenue is mainly attributable to an increase in project activity. The group was also able to diversify its exposure by expanding into Botswana, Namibia and Ghana.

Strong cash flows, a robust balance sheet and a reasonably healthy forward pipeline of project work continued to support our focused business model. The platform for growth has been established and will continue into FY2016 and beyond.

Our financial position remains strong, with an experienced management team and sufficient cash resources to support the organic components of its growth vision and targets.

Thank you, on behalf of the Bigen Africa executive team, to the chairman of the board, Dr Iraj Abedian, for his wisdom, experience and leadership. Thank you to the non-executive directors who gave valuable guidance and support, and to the chairmen of the board committees, who guided the group to follow proper governance in respect of matters related to audit, risk, IT, investment, remuneration, ethics and best-practice in social behaviour and responsibility.

Thank you, also, to our core asset, the Bigen team – without your commitment, loyalty and hard work our sterling performance would not have been possible.

Lastly, to those who support our group through projects and assistance – our clients and partners – you are the crucial links in our chain of value delivery and we thank you for your support.

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VISION, VALUES AND COMMON PURPOSE

Vision and mission
The vision of the Bigen group is “To be the preferred African provider of sustainable infrastructure solutions improving quality of life”. Its adoptive mission is to become “A thought-leading, multi-national infrastructure development consultancy with core capabilities in engineering, management consulting and development finance”.

Pay-off line
The Bigen Africa Group believes that the value of infrastructure development goes far beyond commercial gain and includes the sustainable and socially desirable benefits it offers to communities. Infrastructure should provide access to services, reduce poverty, build capacity and generate opportunities for increased economic participation and employment – and Bigen Africa has the experience, proven track record and skills to optimise on social investments.

The group’s pay-off line “doing good while doing business” is a golden thread running through the group’s proposals to clients and partners. This contains five key elements namely:

- equity;
- local content and participation;
- empowerment and transformation outcomes;
- cultural preservation; and
- social mobility and improvements in quality of life.

Based on these elements, the group has set stringent targets for both businesses and the communities in which the company works. These targets are linked to specifics of the five elements, namely job creation, meaningful local economic participation in projects through a range of projects that focus mainly on SMME development, targeted procurement to include women and the youth, community liaison to improve communication to communities through ward councillors, and local labour emancipation and remuneration management in consultation with the larger contractors, SMMEs and ward councillors.

Value proposition
The Bigen Africa Group integrates the entire value chain of the infrastructure development process through each of its in-house capabilities, strategic partnerships and careful subcontracting, including feasibility studies, through project preparation, well-managed implementation and ongoing asset management. The group believes that the success of any cost-effective and sustainable project starts with the effective integration of the four cornerstones of civil society and sustainable communities, namely the social, institutional, financial and physical elements of the project. The group provides its clients with a complete solution to all facets of a project, based on, amongst others, its intimate understanding of the requirements of the public sector (government), the private sector and other stakeholders (such as communities). Bigen Africa’s approach to infrastructure development adds validity and creative value to the products and services it provides.

The Bigen Way
Each commercial organisation develops a way of conducting its business and its operations. The method evolves over time, reflecting organisational culture, compliance with statutory and regulatory requirements and developing efficiencies, continuous improvements and ways of operating that suit its particular vision, strategies and resources.

Over time, the Bigen group has developed The Bigen Way, which forms a basis for how the group is structured, managed and governed and upon which its commercial activities, decisions, human resources culture and its transformation objectives and efforts are based.

The Bigen Way targets three principal areas of activity:

- the business-readiness activities of the group;
- its pipeline-development activities; and
- its project-implementation activities.

Business-readiness activities include the strategies, structures, incorporations, systems, resourcing, processes, products, capabilities and capacities that are required as a foundation for successfully originating and developing new business for the Bigen group. Business-readiness activities are costed as overheads (internal non-revenue) and are undertaken more intensively for new (pre-start and start-up) business endeavours.

In turn, pipeline-development activities entail all assignment and project proposals, bidding and negotiations (formal and informal) undertaken in order to secure future work streams for...
the Bigen group. Pipeline-development activities include sustainable project design as well as product innovation (building on product designs undertaken as part of business-readiness activities). Pipeline-development activities are also costed as overheads (external non-revenue) and are undertaken continuously in order to secure a diverse set of project assignments for the divisions that project into suitable medium-term future revenue streams that seek to meet pre-set levels of business assurance when viewed on a business dashboard.

Finally, project-implementation activities are at the heart of business operations and constitute the principal source of external revenue for the group. Here project deliverables (to specified quality, within budget, on time and with risks managed) are met, efficiencies are achieved and repeat assignments are brokered.

The Bigen Way includes the group’s commitment to hard work (commitment), ethical behaviour (integrity), transformation (equity, empowerment and cross-skilling) and innovation (creativity), whilst applying a high level of energy and having fun.

Bigen culture and values

The Bigen group has a defined and mature culture based on its common purpose and reflecting the Bigen Way. Bigen has an active culture-development and -retention strategy aimed at increasing the agility of the organisation, adding value to its diverse stakeholders and ensuring the sustainability of the organisation. Visible leadership, clear strategy and role definition, commercial maturity, risk-management orientation and teamwork all contribute to ongoing sustainability. Bigen’s adopted values continue to be integrity, empowerment, commitment and creativity, all while having fun. The Akaretsa (“include me”) programme champions both communication and diversity, while simultaneously reflecting the increasing growth of Christianity in Africa.
The Bigen group continuously examines the primary external environmental factors influencing Vision 2021, its form and direction, its goals and its achievability. These factors will change over time in response to forces beyond the control of the group. In brief, the key factors influencing the strategy and business operations of the Bigen group are as follows:

1. The political environment
   a. Macro security:
      • Trends in crime, violence and conflict;
      • the role of the “Globocop” (the USA); and
      • the role of the African Union.
   b. Political development and regulation:
      • Political consolidation;
      • democracy, nationalism and theocracy;
      • choice and evolution of economic systems;
      • wealth and income inequality in Africa;
      • fault lines and fragile states;
      • localisation, citizen empowerment, employment equity, supplier and enterprise development;
      • RSA political development and policy;
      • corruption; and
      • policy, law and treaties on environmental, safety and health matters.
   c. Fiscal policy and trends in Africa.
   d. Institutional strengthening in Africa.

2. Social and economic environment
   a. Demography and human capital:
      • Demographic trends;
      • economic productive life;
      • education and technical skills;
      • costs and mobility of employment; and
      • unemployment.
   b. Economic growth:
      • Global growth rates;
      • Brics and Africa; and
      • inclusive growth and human development.
   c. Economic community:
      • African free trade and economic consolidation;
      • integration of regional infrastructure; and
      • African competitiveness and ease of doing business.
   d. Pan African focus and competition.
   e. Africa’s infrastructure:
      • Africa’s infrastructure gap;
      • pollution;
      • available capital (FDI and donor funding);
      • national infrastructure spend;
      • project finance (user-pays principle); and
      • forms of contracting.
   f. Trade:
      • Trade policy;
      • commodity markets; and
      • beneficiation policy.
   g. Urbanisation trends (congestion).

3. Natural environment
   a. Climate change.
   b. Resource geography:
      • Water;
      • land;
      • minerals; and
      • oil and gas.

4. Technology
   a. Information and communication technologies.
   b. Energy mix.
   c. Automation and artificial intelligence.
   d. Medical technologies.

5. Professional service delivery
   a. Global consolidation.
   b. Market and product change.
   c. Competition versus work reservation and grading.
   d. Global resourcing.
   e. Partnering (game theory).
Transition from V2016

F2015 marked the penultimate year of V2016, the five-year F2012 to F2016 strategy of the Bigen group. With the impending conclusion of V2016, it was necessary to commence with the crafting of a new five-year strategy for the group. The new vision and strategy are termed V2021 and took the form of a draft white paper aimed at a clear and stable guiding vision, strategy and common purpose. The draft white paper was presented to shareholders and identified future business leaders at the annual planning conference during December 2015, with strong support for this new vision and strategy demonstrated by formal polling. F2016 is the final financial year under V2016 and F2017 will be the first under V2021.

V2021 framework

V2021 will be based on the board- and shareholder-mandated white paper, which seeks to promote a seamless transition between V2016 and V2021, detailing strategic drivers, key enablers and goals and targets. Key aspects of V2021 are:

Strategic drivers

Africa Expansion

Bigen Africa will continue its Africa focus by expansion into South, West and Eastern (English-speaking) Africa, facilitating access to donor funding and securing work from multi-national clients.

Expanding the core

The Bigen group seeks to expand its offering of core professional services through capability enhancement of existing services and the establishment of new services.

Strategic investments

Bigen has resolved to increase the level of its strategic investments by acting as lead developer on selected projects, assuming asset ownership (equity participation) on others and making minority investments in non-core business opportunities.

Key enablers

Employer of choice

Bigen Africa strives to remain an employer of choice, ensuring that top talent is attracted and developed. Indigenisation of staff is emphasised in each country in support of its localisation policy and objective of creating and maintaining a quality workplace.

Efficient +

V2021 highlights that the Bigen group will seek to achieve high efficiencies by using technology and continuously improving its processes and productivity. In turn, the Support Services Directorate will seek to lower overhead cost within the group. Bigen will also develop its project-management depth, ensuring that it continuously implements best practice and complies with internationally accepted standards. The group management and governance structures should be at all times as efficient as possible.

Investment of choice

The Bigen group seeks to continuously maintain a suitable ownership structure in support of its strategic drivers. Debt levels will be managed within suitable ratios and with awareness of agreed risk caveats. Sounds investment decisions contribute to maintain Bigen as an attractive investment.
Organisational design

Bigen Africa has designed its V2021 company structure in support of its strategic drivers, key enablers and triple-bottom-line focus.

Board and governance structures

The group board will, through its specialised board committees, continue to provide direction to and oversight over group operations. All group board committees are chaired by seasoned non-executive board members.

Real Estate Directorate

Mature divisions (Land Development and Structures) have been grouped together into a new Real Estate Directorate. The directorate will also focus on new start-up opportunities where the group will act as either developer and/or asset owner. Outside the RSA, a new Land Development Africa division will focus on expanding the group’s real-estate professional services and strategic investment initiatives into the rest of Sub-Saharan Africa. Akani Africa Property Services is the intended vehicle to develop real-estate development opportunities throughout the African continent.

Energy and Transport Directorates

Bigen’s Energy Directorate aims to expand its core capability by adding a new generation division. The Transport Directorate has targeted strategic investment within the SADC region, expanding both its legal and physical presence into Sub-Saharan Africa.

Development Finance Directorate

Bigen’s development finance capability will be extended through partnership, investment and in-house capacity-building.

Infrastructure Asset Management Directorate

The Infrastructure Asset Management Directorate intends to expand its current service offering by establishing a new Facilities Management Division.

Business planning

F2016 covers the period 1 October 2015 to 30 September 2016. The F2016 business-planning process was conducted from mid-July in 2015, with an inception workshop, to the beginning of October 2015, when the board approved the plan. The F2016 business-planning process was advised by the draft V2021 framework and its various goals and aligned to the Bigen Way of doing business. The planning process has been fully integrated from the outset, including all earning and support directorates, divisions, clusters and regions. Divisions with a common industry focus were consolidated into overarching directorates. New-business areas and investments were identified, aimed at achieving a sustainable balance between short-term profitability and longer-term growth. The planning process ended with firm financial and strategic targets being adopted for each division and region. Business-planning guidelines and tools were made available on the Bigen Connect platform, as were all business-planning documents and output.
GROUP CAPABILITIES AND STRUCTURE

Quick Bigen

The Bigen Africa group is a project-based, infrastructure-specialist group of companies, privately owned by professional shareholders and an institutional investor, with a clear vision of creating long-term economic and human-development impact within those African economies and communities in which it operates.

The holding company of the Bigen group (Bigen Africa Group Holdings) is incorporated within the Republic of South Africa and its several subsidiaries are incorporated within the RSA and other African countries. The group employs between 500 and 550 skilled people, qualified in diverse professions associated with the built environment.

The group has a Level-2 BBBEE rating and competencies in each of engineering, management consulting, development finance, social and environmental matters, all delivered within Africa, but with a core presence (including its head office) within the RSA.

Competencies and capabilities

Bigen Africa is a group of infrastructure-specialist companies seeking to create long-term development impact within the African economies and communities in which it operates. In order to realise this vision, Bigen Africa has established core competencies in its principal areas of specialisation - engineering, management consulting, development finance and social and environmental management. The strategic objectives and operations of these core competencies are described in Part B - Strategic Drivers in this report.

Bigen Africa delivers its competencies through internal capabilities and external partners and parties. A formal list of capabilities for F2016 has been adopted and published on the internal business system platforms (Agresso and Bigen Connect), and the complete list of internal capabilities is included in the NDA annexure. Bigen Africa supplements its internal capabilities with external capabilities offered by its strategic partners and specialist sub-contractors. The group has established strong programme- and project-management capabilities to properly integrate and direct these external capabilities as principal agent or leader of professional teams on projects that it originates, promotes, leads, manages or invests in. The list of external capabilities of the Bigen Africa group is also included in the NDA annexure.
International partnering

Bigen’s external business environment presents several challenges as summarised under group strategy and goals. A key outcome of Bigen’s partnership conference held in June 2015 in Pretoria was the consolidation of its partnering strategy to position Bigen and a select group of its key partners as the supplier group of choice for integrated infrastructure services in key markets across the African continent. Successful execution of a comprehensive international partnering strategy requires the parallel implementation of a two-pronged approach:

- Global supermarket (with international Pan-African partners) to secure formal and informal partnerships with key international firms to jointly access multi-national foreign clients and international aid projects.
- African fruit salad (local African partners) to secure formal and informal partnerships with infrastructure firms in key countries on the African continent in order to provide a smorgasbord of professional services and infrastructure solutions to African-based authorities and private-sector clients.

It is important to stress that a successful Africa strategy will require both the global supermarket and the African fruit salad. International partners will be attracted by the capability and capacity to efficiently work across multiple countries, while still being local. Similarly, domestic partners will be attracted by established networks of international partners facilitating access to foreign income streams.

Bigen seeks to develop a partnering strategy that combines the essential capabilities for successful project execution across Africa – encompassing engineering, general and project management, environmental and social services as well as development financing. Such capability and capacity, combined with access to quality global clients and international aid funding, will present a formidable business combination.

A successful African strategy based on strong international and domestic partners has the potential to create a sustainable competitive advantage for Bigen and its preferred partners. It will also better position the firm to access the US$110b estimated to be required to be spent on African infrastructure annually over the next five to ten years.

Bigen Africa has formalised its partnership processes and model to include eight partnership typologies:

1. Project-specific partnering;
2. preferred supplier;
3. market-specific partnering – in SPV;
4. market-specific partnering – without SPV;
5. project partnering – virtual company;
6. market-related partnering – real company;
7. social economic development; and
8. enterprise development.

Enterprise-development partnering

Under its transformation policy and programme, the Bigen group is committed to transforming its political, social and economic environment through, amongst others, the empowerment of social and medium enterprises that operate within the industries its targets. The enterprise-development programme supported eleven companies during F2015 and more than 450 professional hours were directed towards providing skills and knowledge support from the Bigen group to the companies on the programme.

Local partnering

Strategic partnerships present a way to cost-effectively and quickly build a more comprehensive and integrated product and service offering of scale and to effectively extend market coverage of this offering. In pursuing V2016, the Bigen group delivered professional services through its existing and new strategic partnerships. Up to a quarter of the group’s revenue was earned in partnership.
During F2015, SADC registered another solid economic performance, albeit at the lower end of the target range compared to recent years, mainly as a result of the adverse impact of the sharp decline in oil and other commodity prices. For much of the rest of the region, near-term prospects remained favourable, with many countries benefitting from lower (imported) oil prices.

SADC's main objectives were reflected in the SADC strategic plans as:

- peace-building, consolidation of democratic practices and good governance, defence and security cooperation;
- industrial development and market integration;
- regional infrastructure development;
- implementation of a regional agricultural policy;
- social and human development and special programmes of regional extent; and
- gender development.

In expanding the group footprint in accordance with its Africa strategy, Bigen Africa contributes to these strategic plans. The contribution is not limited to regional infrastructure development, but also to develop sustainable infrastructure to improve the quality of life of all.

Through implementation of its Africa strategy, Bigen has now established both legal and physical presence in South Africa, Namibia, Botswana and Zambia and, through these local operations, it is proud to have been associated with the following landmark projects in the SADC region during F2015:

- the North-South Carrier Water Transfer Project in Botswana;
- rail feasibility studies (Windhoek to Katutura and Windhoek to Hosea Kutako International Airport), jointly with Hatch-Goba and SCE;
- Otjomuise Extension 10, jointly with CalgroM3 and Afrideka;
- lead consultant on the new Walvis Bay Waterfront development (through its Namibian subsidiary BigenKuumba), a development currently in prefeasibility stage; and
- Metolong WTW in Lesotho as construction supervision co-consultants on the M&E works.

Expansion into West Africa reached a number of important milestones:

- formal opening of Bigen Africa’s Accra office in Ghana;
- deployment of the Ghana country manager, Mr Dane Poggenpoel;
- incorporation of Breezy Hills Africa Limited, an affordable-housing development company, co-owned with Jescan Construction; and
- conclusion of a formal partnership with leading Ghanaian engineering consultancy, Associated Consultants, which forms a strong African technical capability within the region.

Despite slowing regional economic growth and related challenges, the government of Ghana has implemented stern fiscal reform measures which have started to show positive impact on the infrastructure-development industry. Increased support from international donors and development-finance institutions opened up opportunities within water, transportation and energy.

Bigen Africa has targeted the real estate sector (with current market demand estimated at two million units) through the development of the Kodiaobe, Community 22 and Buduburam housing projects. Physical delivery of housing units from the first of these projects is expected by mid-2016. The conclusion of the STX Ghana housing feasibility study is imminent. Should the project be successful in attracting the requisite funding, the delivery of 30 000 housing units to the Ghanaian military and police services will proceed.

Business development and trade missions into Nigeria during F2015 resulted in a strong network with significant partnering opportunities, thereby laying a foundation for Bigen Africa to enter this huge African market, targeting housing, energy, water, transportation and agriculture.

F2015 marked the start of the group’s geographic expansion into East Africa. Although the Bigen group has completed projects for specific clients within the region, it had no permanent physical presence. The primary target was to understand the East African countries better and to determine where best to establish a long-term presence. A strategic assignment undertaken jointly for the EAC and the African Development Bank proved to be valuable in this regard. A strategic partner was identified in Uganda, with whom various large infrastructure opportunities were identified and pursued. These included projects in the energy, transport, housing and water sectors in Kenya, Uganda, Tanzania and Rwanda.
EXISTING SERVICES (BY DIRECTORATE)

Energy

The Energy division strengthened its RSA footprint during F2015 and increased its critical mass in the Pretoria, Cape Town and Durban offices. In addition, its service offering was restructured to service its client base better and faster. Electrical-distribution projects for the housing sector in RSA were hampered by development delays, which postponed expected revenue. Consequently, operating profit for the F2015 financial year was below target. The Energy division also focused on small and renewable energy projects, mostly outside the RSA, and developed solutions for the market. It is anticipated that some of these project initiatives will realise during F2016.

Transport

The Transport division experienced a challenging F2015, mainly as a result of the depressed roads market in the RSA, specifically due to capacity oversupply and fierce pricing competition for SANRAL projects. The division consolidated, refocused and made progress in securing medium-sized roads projects from provincial departments and metros in the RSA. In addition, Transport secured projects outside the RSA in the rail and roads markets. The division posted a modest operating profit at the end of the financial year and secured a solid order book for F2016.

Real estate

Land Development

Land Development delivers professional services related to the real-estate market. Despite the economic slowdown that continued during 2015, the focus on housing and related infrastructure delivery resulted in the division achieving its profit target set for F2015. Good financial performances were recorded by the Gauteng, Western Cape and KZN clusters. Land Development is fortunate to lead or be part of the professional team on a number of large-scale projects implemented by valued clients, such as Absa DevCo, Asla, Calgro, Urban Dynamics, Valumax and Val de Vie.

The incorporation of the larger part of the former Project Delivery Services division into the Land Development division during 2015 was accomplished without significant complications, resulting in better efficiencies and alignment of services. The improved service offering includes professional engineering services as well as project-management and development-management services. Land Development provides engineering-services support for all real-estate project initiatives outside the borders of the RSA.

Structures

The Structures division faced challenges due to slow progress in the building sector in general. The commencement dates of various commercial projects were revised and the large BCX head-office anchor project was delayed to only start during F2016. These delays resulted in a poor first quarter, with the second and third quarters volatile as projects started to get off the ground. Divisional performance was supported by existing industrial projects and civil projects sourced by the Water and Sanitation division. The final quarter of the year exhibited a major turnaround, being anchored by the Riverside View bridge project and various clinics in the health sector. This turnaround enabled the division to post a cumulative profit.

Although F2015 was a difficult year for the Structures division, substantial progress was realised in industrial structures. This subsector was a key growth and profit area for the division. A soil-improvement package and two major warehouse packages were secured in the Clairwood Industrial Park and several good initiatives are in the pipeline for F2016. Moderate success was achieved in the civil sector, anchored mainly by internal projects secured by other divisions. More focus will be required during F2016 to extend the client base of the division to outside the group. Various regional projects outside the RSA were completed in F2015 and valuable lessons have been learnt on the pricing and execution of projects outside South Africa.

The morale and positive nature of the resources in the two clusters in Cape Town and Pretoria was encouraging during this difficult year. Staff turnover was low and initiatives taken by the young leadership in these clusters were commendable. Despite business confidence and economic growth still expected to be low during F2016, the Structures division is confident that the F2015 Q4 turnaround will continue into F2016.
Water and Environment

The Water and Sanitation division continued to expand its engineering services to markets where needs were identified. Apart from historical, mature core capabilities, such as bulk transfer pipelines, water and waste water treatment, the division continued to develop its capabilities in the field of dam construction. Botswana’s North-South Carrier project, which is ongoing and under construction, was complemented by Bigen’s assignment to study a potential Lesotho-Botswana international water-transfer project as an alternative to the already identified Chobe/Zambezi resource.

In order to stay abreast of international developments in the field of water and waste water treatment, the division continuously monitors technological development within these fields through technical scans and suitable forms of social media. The strengthening of the project-management capability and capacity of the division added significant value to some of the large divisional projects and this strengthening is likely to continue with implementation of the Gariep and Clanwilliam projects.

A diversified engineering service offered to a diversified client base enabled the Water and Sanitation division to exceed its annual profit target.

Development Finance

Bigen’s development finance and advisory service capability was significantly strengthened during F2015 by the formal strategic partnership concluded with Cresco Project Finance. This enhanced capability was further internalised by the eight operating divisions of the Bigen group. Selected project-finance initiatives in the bulk water service and energy generation sectors have advanced significantly towards bankability.

Revenue and Financial Management

The Revenue and Financial Management (RFM) division has been identified by the Bigen group as one of its growth divisions, with services and solutions aimed at improving primarily public service delivery and enhancing good financial management within the public sector. The capabilities of the division centre on revenue management, focussing on local government, with long-term revenue collection and management contracts within a range of local authorities in various jurisdictions.

RFM integrates the entire value chain in an infrastructure development and maintenance process, employing both in-house capabilities and strategic partnerships, from revenue management and financing through infrastructure development and

asset management. RFM is committed to adding value to all assignments and projects that it is involved in.

The RFM approach is based on working as a team with municipal staff, with mutual goals. RFM’s signature service centres on the following principles:

- Working with local government to create one team with one message to consumers and other stakeholders.
- Development and design with local government of a custom-made revenue-management and debt collection strategy that includes data purification and related functions.
- A dedicated system installed as required by local government law, with local government staff trained by Bigen Africa to implement and use the system.
- Transparent planning through regular meetings of a steering committee consisting of local government and Bigen Africa representatives and joint decision-making on debt collection and credit control, thereby instilling a habit of regular payment within the target communities.
Infrastructure Asset Management (IAM)

The Infrastructure Asset Management (IAM) division seeks to enhance service delivery and the resultant quality of life of communities across Africa through the development and management of infrastructure. IAM creates sustainable infrastructure solutions, applying asset management principles across the entire project life cycle.

The art and science of physical asset management is at the heart of IAM’s approach to infrastructure improvement. Integrity, commitment, desire to serve, passion for excellence and empowerment within an innovative and creative working environment provide a solid foundation for IAM’s specialist, multi-disciplinary teams to implement successful projects. Using a partnership approach, IAM empowers its clients to not only achieve their organisational strategic plans but also to deal with issues related to ageing infrastructure and to improve return on investment in physical assets. During F2015 IAM’s focus was predominantly within the local government, health and education sectors.

IAM has an integrated view of asset management, with the aim of maximising the development potential of regions and countries within the African continent. IAM facilitates the complete set of activities and practices through which an organisation can optimally and sustainably manage its assets and asset systems. IAM works towards increased asset performance, decreased risk and optimised expenditure over the complete life cycles of assets and asset systems.

As a semi-mature division, IAM secured a solid long-term revenue base during F2015. IAM made a strong contribution to the overall profitability of the group during F2015 after adopting a focused turnaround strategy at the beginning of the financial year.

The turnaround strategy included:

- strengthening the capabilities and products of the division through clear differentiation between asset and revenue management after the former division was split into separate IAM and Revenue and Financial Management (RFM) divisions;
- recognising the importance of “tool kits” and systems, together with a clear investment strategy to develop and upgrade IAM’s existing systems, including GIS;
- strengthening its partnership strategy by formalising strategic, value-adding partnering arrangements;
- providing thought leadership with proactive client engagement;
- implementing regional growth strategies, especially into the rest of Africa (ROA); and
- developing a specific action plan to build the long-term revenue pipeline of the division.

Long-term asset management contracts have been concluded with the Ekurhuleni Metropolitan Municipality, the Accelerated Schools Infrastructure Delivery Initiative (ASIDI) of the RSA Department of Basic Education and RSA’s Gauteng Department of Infrastructure Development.
NEW SERVICES

Energy

New service offerings, through both internal capability and strategic partners, included renewable generation as well as transmission. Success was also achieved from expansion of the group’s electrical building services, instrumentation and electrical asset-management services.

Transport

This capability will continue to grow organically.

Real Estate

Akani Africa Property Services (Pty) Ltd

During F2014 the Investment Committee and group board resolved to invest (with partners) in carefully selected real-estate assets as well as a focussed property development capability within the group. This resolution was implemented through the establishment of Akani Africa Property Services (Pty) Ltd (AAPS). Diversification, an increased risk appetite and a targeted capital-raising strategy formed the primary basis and validation for this strategic venture.

With dedicated full-time specialist resources since 1 January 2015, the priority of AAPS remains the creation of value that will attract the future external investment needed to further capitalise the company.

Despite a prevailing high risk environment (due to changing and challenging legislation, unpredictable sales risk and many delivery risks), AAPS has made significant progress in securing suitable projects on appropriate terms. The company will now focus on consolidating its value creation in order to achieve set strategic objectives.

Water and Environment

A key strategic objective during F2015 was to re-assess the value proposition and sustainability of the Water and Sanitation division. A two-pronged diversification strategy was developed.

The first was to expand current capabilities and products into new markets where demand was identified. This initiative included the capabilities of water-resource development, water conservation and demand management, project management, project finance, environmental services and social development.

The second strategy was to expand participation by the Water and Sanitation division into other parts of the water-service value chain as well using less conventional implementation mechanisms. A number of initiatives were identified for further development, such as EPC (turnkey) water solutions, operation and maintenance services and water-quality monitoring. Business plans for these initiatives will be developed during F2016.

Development

Finance

Access to international donor and development finance targeted at Africa (US$56 billion) has been identified by the Bigen group as a strategic enabler to the realisation of its vision and value proposition. Bigen is developing its international partnering strategy to acquire the requisite corporate references to support this initiative.

Internal capability establishment has progressed significantly with the group board approving an International Finance division within the group.

Revenue and Financial Management

RFM is a growth division that already has a steady revenue stream and good profit margins. However, maintaining pipeline conversions and projected revenues within target remains a challenge.

The F2015 mid-year review of the division’s performance and prospects identified its high exposure to the local government sphere within the RSA and limited strategic initiatives (including expansion outside the RSA) as the principal factors creating the challenges faced by the division. The RFM management team included these challenges in its turnaround strategy, with a re-design of its software solutions in order to address the ever-changing IT environment. This re-designed software has various applications within the revenue management value chain.

The division is also engaged in the development of a GIS solution that will complement its existing service offering.
Infrastructure Asset Management

During F2015 IAM focussed on strengthening its existing capabilities. A major inorganic growth event was the integration of Builtcare (Pty) Ltd, thereby adding additional specialised capacity to the division. Builtcare was a recognised player in the asset management market and by merging its unique skills with IAM, a strong platform was created to further enhance the IAM offering to the asset-management market.

A new focus area for IAM is technical forensic assignments. IAM has a strong network of reputable strategic partners and, depending on the nature of an assignment, this network is accessed for additional capabilities and services.

Health

Services in the health sector contributed a large portion of the overall success of the IAM division. Together with strategic alliances, capabilities were further developed to cater for the unique requirements of the health sector. The Bigen group has identified the health sector for targeted organic and inorganic growth.

Social development

Bigen Africa as a development activist company always responds to client requirements for programme/project proposals to maximise development impact outcomes for the client. This is in line with our vision of improving the quality of life through sustainable infrastructure development solutions and also our mantra of doing good while doing business.

Our project delivery processes aimed to address five key elements which we believe bring social change and improve the quality of life in all the communities we operate in.
STRATEGIC INVESTMENTS

**Energy**

Modest investment with a strategic partner in a service-delivery model for remote power solutions (predominantly mining clients) resulted in some potential future projects. Conversely, the slump in global commodity prices and soft performance within the mining sector hampered growth in the roll-out of this product. Significant investment with a new strategic partner in the small and renewable generation space is anticipated during F2016.

**Development Finance**

Investment into specialist development-finance companies and international finance organisations will be considered during F2016. Strengthening the development finance services offerings of the Bigen group is a key target approved by the board.

**Infrastructure Asset Management**

The Infrastructure Asset Management division has identified a strategic alliance in the health sector, with which it seeks to formalise a stronger working and investment relationship.

**Transport**

Strategic expansion outside the RSA called for inorganic growth and the identification of suitable transport acquisition targets on the African continent. Substantial progress has been made towards this strategic objective, which will probably be achieved during F2016.

**Revenue and Financial Management**

Focussed discussions with possible investment targets took place during F2015, with varying levels of success. One targeted company developed the new software tool for the division and a formal co-operation and service agreement was concluded. RFM has invested substantially in the development of the new software and is confident that this will yield suitable future returns.

**Water and Environment**

A Water and Environment directorate, which includes the Water and Sanitation division, has been approved by the group board for F2016. Inorganic growth will be targeted during F2016 in the fields of women participation in the water sector, small EPC joint ventures, water-quality monitoring, environmental services and water-service O&M management.
Best talent

Bigen Africa is continuously striving to be a learning organisation with meaningful on-the-job mentoring, coaching and skills transferring. The company’s formal mentoring scheme has been recognised by the industry and received the CESA Mentoring Company of the Year award in 2012 and again in 2015. Bigen’s candidacy programme has been commended by the Construction Education and Training Authority and rewarded with discretionary funding.

Each employee has a personal development plan in which development needs are identified and appropriate growth interventions scheduled. Future business leaders are annually identified and placed on fast-tracking and leadership-development programmes.

Transformation

RSA BEE rating

During F2015 Bigen Africa was rated a Level 2 Contributor by BEE Verification Agency CC, an independent firm accredited to rate and verify companies under the RSA BBBEE Codes of Good Conduct.

This improved, high rating is the result of the ongoing commitment and efforts of the group’s management team to transformation within the organisation through affirmative recruitment policies and targeted human-capital development programmes. The business further provides avenues for corporate social investment, skills development and enterprise development within the communities where the organisation conducts its operations.

A transformation committee (with support from sub-committees underpinning the five separate elements of transformation) meets on a regular basis to ensure that the Bigen Africa transformation plan is continuously addressed. Group clients and partners are assured that Bigen Africa remains fully committed to realising BEE goals in South Africa.

The Construction Sector Charter Council is in the process of aligning the Construction Sector Charter with the new generic codes. Once completed, the group’s current BBBEE planning and strategy will be re-evaluated to maintain the current rating of the Bigen group under the new scorecard. During F2016 Bigen will embark upon aligning itself to the updated codes and Construction Sector Charter.

Intuthuko Foundation

Bigen, which acted as promoter for the establishment of the Intuthuko Foundation, continued to support the foundation during F2015. Although this foundation is independent of the group, this interaction supports the common purpose of the Bigen group of doing good while doing business.

Quality workplace

Bigen Africa properly appreciates the importance of creating an environment in which people can be productive, add value, grow, be recognised, be cared for and generally feel wanted. The primary aim of this environment is to retain fully engaged and valued human capital within the organisation.

Management would like employees to regard and experience Bigen as their “home from home”. It further endeavours to create an environment where skills transfer and knowledge sharing are easily facilitated. The role of Human Capital is to design and implement human-resource strategies that retain, manage and motivate employees within the workplace. The organisation engages in several initiatives and interventions that facilitate and ensure a positive culture and environment in which all embrace diversity and have fun.

Induction

Upon appointment, all employees participate in the group’s two-day induction programme, orientating new recruits into the Bigen fraternity and making them feel appreciated. This programme includes lunch with the CEO. The programme is monitored and entrenched three months later with a follow-up interview to assess the employee’s integration and progress in the organisation.

Recognition and reward

Bigen Africa’s remuneration strategy is focussed on recognising excellence and rewarding accordingly. Guaranteed pay for all permanent employees is supplemented by participation in Bigen’s short-term incentive and bonus scheme (STIBS). STIBS is a group performance incentive scheme aimed at driving a high performance culture within the organisation. Bigen continuously aims to benchmark its remuneration levels against comparable industries and the wider market to ensure that it remunerates in line with best practice. Long-term incentives are provided through ownership mechanisms as set out in section 13.
Employee wellness

Bigen Africa endeavours to care for its staff with various offerings that make work life a pleasant experience. Employees have free access to professional counselling on, amongst others, stress, trauma, financial and family matters and relationship and legal issues through the group’s association with ICAS. Bigen also provides a wellness day once a year with free health checks, nutritional advice and other services.

Physical work environment

Bigen adds further value to its staff by providing pause areas, an in-house restaurant with subsidised meals, gym facilities and concierge and errand services. Work stations are ergonomically designed and equipment and systems are state-of-the-art.

Human-capital policy

In support of the Bigen group’s commitment to good governance, the Human Capital Management Committee was formed during 2013, seeking to address all people-related policies within a single forum. This committee has representatives from all areas of the business, thereby ensuring adequate consultation processes. Published policies apply to the entire Bigen Africa Group, including all regions and legal subsidiaries.

Human-capital policies are developed by the Human Capital division, guided, moderated and integrated by the Director for Strategy, Policy and Planning. Thereafter draft policies are debated and endorsed, after suitable amendment, by the Human Capital Management Committee. Policies that have strategic implications are escalated to EXCO and, where necessary, to the appropriate board committees, including REMCO.

During F2015 the Bigen group developed and reviewed thirteen human-capital policies. Key policies were the employment policy (recruitment, promotion, transfer, long service and retirement) and the remuneration policy. These policies are crafted to support Bigen Africa’s S2016 vision, its drive into the African continent and its transformation and localisation agendas.

Bigen Africa will continue the process of strengthening its governance and setting clear policy for the organisation that seeks to ensure compliance and alignment with both current legislation and internal culture.
Legal services

The Bigen Africa Group has a growth strategy which necessarily attracts, amongst others, commercial and legal risk. This legal risk requires management, which is supported by the Risk and Legal division of the Corporate directorate. To this end, the Bigen group endeavours to avoid, transfer and/or mitigate the commercial and legal risks associated with its general business and its specific projects by applying well-thought-out implementation structures, entering into sound agreements, insuring its professional service delivery and applying sound project-management principles to its operations.

Legal and Risk has compiled and published pro-forma, standard agreements to govern Bigen’s contractual relationships with other business parties. New agreements are added continuously, including industry-standard agreements (PROCSA, CESA, CIDB, NEC, FIDIC and GCC), which are preferred for infrastructure and built-environment engagements.

The Legal Services cluster is tasked with advising as to how best to mitigate commercial, legal and contract risks for the organisation, drafting and/or reviewing agreements and related legal documents and supporting negotiations when necessary. The Bigen group has a hands-on approach in dealing with commercial and legal risks and generally prefers to manage its (limited) contractual disputes in-house with support from Legal Services. The Bigen group also retains external attorneys who are specialists in various fields to provide opinions and other support where necessary. Knowledge sharing and skills transfer are integral to the Bigen business model and the cluster seeks to empower each employee to proactively address the commercial and legal risks within the organisation. This objective is pursued through informal knowledge sharing as well as formal training sessions, providing employees with the necessary insight required to successfully manage the commercial and legal risks in the organisation.

Integrated SHREQ management

In keeping with its mantra of doing good while doing business, the Bigen group embarked during F2015 upon a process of integrating its commitment to risk management, its promotion of the health and safety of its employees and of the communities within which it works and its commitment to protection of the environment with its existing ISO 9001 quality-management system. From ‘doing good’ naturally flows the corollary that we ‘do not do bad’ while doing business to any affected party or natural system. All of Bigen Africa’s SHREQ processes are consolidated on and managed from its central SharePoint-based intranet platform, Bigen Connect. Bigen Connect is accessible from any Bigen project or branch internationally, thereby ensuring that each employee has access to the necessary SHREQ tools at points of use.

Risk is the effect of uncertainty on objectives. The Bigen group manages the risk it is exposed to, from strategic level down to its day-to-day activities, through an industry-leading electronic enterprise risk-management (ERM) system. The ERM is in the process of being independently certified against the international standard ISO 31000:2009 and the target date for certification is Q2 F2016. The electronic ERM technology and methodology will form the basis of all of SHREQ-related activities.

Bigen Africa is committed to the safety and health of all its employees and affected public as well as to protecting the natural environment. The group is in the process of formalising all its activities, including projects, relating to SHE management by integrating these into its existing ISO 9001 QMS system and following the golden thread of the Demming cycle. To date, there has been no reportable safety or environmental incident directly related to the activities of Bigen Africa.

The race for quality has no finish line. Bigen Africa maintained its UKAS-accredited certification to the ISO 9001:2008 international standard during F2015. During the recent ISO 9001 external audit, quality consistency amongst geographical offices has improved noticeably. Bigen’s quality management system covers all capabilities and activities undertaken by the group. The success of the quality-management system is evidenced by the group’s quality history: it has had only one PI claim awarded against it based on technical quality in the past 30 years, which verifies the general high standard of work. The conversion of Bigen’s QMS to the revised 2015 ISO 9001 standard is in process and the group will endeavour to convert its registration well before the required date in September 2018.
ICT management

The foundation for the management of ICT within Bigen Africa is the information systems (IS) governance framework that is reviewed and updated annually. This framework supports Bigen in achieving its business objectives by guiding the implementation of an integrated IS governance system, using a single set of controls which is in compliance with the requirements of ISO 38500:2008.

The IS responsibility protocol guides all IS policies and procedures and regulates all aspects and activities related to information technology within the group.

Innovative technology

Electronic document management

The roll-out of Project Wise, Bigen’s new electronic document-management system, was an Efficiency + initiative focused on entrenching a new and sustainable way of managing documents within the organisation. User-acceptance of the system has improved and there is a steady growth in new documents stored monthly.

Online recruitment portal and candidate database

A new online recruitment portal was developed internally during F2015. The portal is available on the Bigen website and has revolutionised Bigen Africa’s recruitment system. The recruitment portal increases the efficiency of recruitment decisions. It makes use of state-of-the-art filtration tools in order to quickly and easily target and contact professionals without the delay of using go-between agencies.

The portal contributes to wider-reaching candidate access and reduced hiring cost and time. The candidate database is growing rapidly, building a talent pool from which future employees can be identified and selected.

Connectivity

The South African telecommunication infrastructure continues to improve rapidly. The Bigen group took full advantage of this opportunity during F2015, more than doubling its RSA bandwidth, while still reducing connectivity costs. A new business relationship was established with Vodacom SA, providing the ideal platform to not just improve current service offerings, but also to be able to take advantage of technology offerings as they become available.

The focus on communication improvement continues with ongoing engagements and collaboration with service providers able to assist Bigen across the African continent.

Bigen Connect

Bigen Connect is an internally developed tool supporting active information sharing and exchange that is relevant to the business of the group. Bigen Connect provides tools and resources to all Bigenites to support informed decisions.

The current functionality on Bigen Connect include:

- corporate information and doing-good initiatives;
- quick-access portals to:
  - Agresso (ERP),
  - Bigen People (HR), and
  - Help@Bigen;
  - paperless meeting-space application (meet@Bigen);
  - financial dashboard with full set of financial reports;
  - an online training site;
  - centralised tender-support office (tender toolbox);
  - centralised help-desk facility;
  - reference portal to policies, procedures, standards and e-resources;
  - an electronic library; and
  - Cloud presence and external access to applications.

For the organisation to exist outside the internal firewall and to address the demand for ‘always-on’ availability, some business applications have been made available externally to share information and content, collaborate, communicate and even process information. These applications, which can be accessed over the internet, include:

- Bigen Connect (information-sharing portal); and
- Agresso (ERP).

Authorisation to access these applications is required and strictly governed.
Process automation of user provisioning

Process automation is an important objective of systems development. During F2015 a comprehensive user-provisioning system and take-on process was developed and introduced to all relevant parties. The new system combines nine traditionally paper-based on-boarding processes into one system managed by eight support clusters across the organisation. This centralised process helps Bigen ensure that everything is ready for new employees before the day they arrive.

Process automation: electronic form development

Static forms were improved by the development of electronic forms that are completed online, adding electronic approval processes and more validation. These electronic forms are created to improve the quality of information received on forms as well as to simplify the registration- and Agresso-capturing process.

New project take-on and customer registration forms are available on Bigen Connect.

Integrated risk-management platform

An electronic risk-management platform was implemented during F2015. This platform includes online risk registration and workflow to the group risk manager, online updating of risks as well as a consolidated group risk report, with controlled access. To improve transparency, external access was granted to the company auditors, insurers, the group board and the Audit and Risk Committee.

Technical design

Good progress has been made with the automation of selected CAD and design tasks as well as the integration of design software with other software packages used within the organisation. Bigen Africa realises the need to stay well informed about the latest software and technologies available in the market. Autodesk 2016 suites were rolled out in a controlled way to users during F2015. Complete guides for the latest version of the software were developed and are available on Bigen Connect.

An e-learning space focusing on technical design training is available through Bigen Connect, with continuous focus placed on improvement and the relevance of content.

Lean enterprise

In order to promote business growth, the group executive continues to monitor all expenditure through its Penny Pinchers programme. Cost-containment processes continue to be driven alongside revenue-growth efforts. Executive management believes that superior profitability of the group remains dependent on containing overheads.

The Finance division endeavours to contain costs by enhancing business systems and controls over project-specific costs. It also strives to increase return on capital on individual projects and seeks to find a balance between growing the balance sheet and providing short-term returns to shareholders.

Operating rules and systems

Integration is crucial in achieving synergy between the Bigen companies, divisions and regions. In order to operate efficiently and in an integrated manner, the Bigen Africa Group has established effective business rules and firm communication systems. A set of operating rules has been compiled, defining the group’s various divisions, regions and committees, their purposes, functions, capabilities and prescribed officers, the rules under which they interact with each other, how the group selects and implements projects, the delegation of powers and the escalation of issues, the preferred methods of project design and risk management and rules for internal and external contracting. The Rules of Engagement of the Bigen group are included in the NDA annexure.

Business-systems development specifically targeted integration during F2015, resulting in an enhanced SharePoint-based user interface business dashboard as well as on-line support for the operating rules and commercial and financial management of the Bigen group.
Supply-chain management

In the infrastructure-delivery industry a substantial revenue value is generated through public and private procurement processes. To this end, Bigen has established a supply-chain management office (SCMO) and integrated this office into the overall risk-management processes of the organisation.

The principal goal of Bigen’s supply-chain management office is to increase both the efficiency and the effectiveness of the group’s bid compilation and submission processes, thereby increasing its hit rate on submitted tenders. During F2015, the group’s tender hit rate exceeded targets, both inside and outside the RSA.

The SCMO is run by a full-time supply-chain office manager in the corporate office, supported by a supply-chain administrator in every division. Divisional supply-chain administrators report to divisional risk officers on matters relating to the supply-chain management process and the entire process is overseen by the group risk manager.

All standard bid documentation as well as frequently-used, up-to-date tender information is published on Bigen Connect. This arrangement ensures easy access by all divisions in all regions to the latest group information and capabilities, reducing the cost of submitting tenders.
Ownership structures and transacting

The Bigen Africa Group is principally held through the group holding company, Bigen Africa Group Holdings (BAGH). The shareholders of BAGH are key professional employees (or their permitted transferees) and an external institutional BEE investor. The capital structure of the group is currently being revised to provide increased capital for growth, to align more closely with the Africa focus of the V2021 strategy, to further entrench value-adding principles as well as transformation objectives into the capital structure, to simplify share transacting as well as the funding thereof and to provide a trading platform to promote increased liquidity of the share capital.

Financial planning and targets

For F2016 the annual business-planning process was again aligned to the Bigen Way of doing business. Distinction was made between activities required to establish the business readiness of each division, those activities associated with the development of a project pipeline (proposals and bidding) for each division and those activities associated with the implementation of projects awarded to the Bigen group (on time, within budget, with the required quality, within the law and with effective risk management).

Business-dashboard development has resulted in the publication of suitable business-planning tools on Bigen Connect. Firm financial targets for both organic and inorganic growth were adopted and divisional targets took note of existing business readiness and maturity, market opportunities and competitive conditions, with an appropriate amount of stretch.

Financial performance, statements and sustainability

Bigen group revenue, including sub-contractor fees, has been fairly consistent with that of the prior financial year, showing an increase of 5% in project fees. This modest growth was achieved by actively marketing the group and targeting specific projects with selected clients on the continent of Africa.

Most financial objectives set by the group for F2015 were met. Although earnings per share did not increase nominally by 10% as targeted, the group is still committed to this objective which forms part of its long-term strategy and goals.

Financial policy

The Finance division is tasked with the responsibility of improving financial controls throughout the Bigen Africa Group by implementing a uniform system of financial policies and procedures. A fixed set of financial policies guides the management of the group and policy development receives continuous attention to properly manage financial risk and ensure financial discipline. The Finance division applies an approach of continuous improvement towards financial-policy development.
Directors’ report

The results of the Bigen Africa Group for the year ended 30 September 2015 (F2015) are set out in the approved annual financial statements, included in the NDA annexure).

The Group achieved a sound financial performance given challenging external factors. The group board applied the liquidity and solvency test required by the RSA Companies Act (Act 71 of 2008) and was satisfied that the company and group were in a sound financial position at the time of distribution. The directors continue to be satisfied that the company is in a sound financial position and that it has access to sufficient reserves and borrowing facilities to meet its foreseeable cash requirements.

Compliance statement

The directors of the company are committed to good corporate governance, including, where applicable, the principles contained in the King III Code of Good Corporate Governance. The group complies with the King III report, except in respect of isolated compliance matters. One such matter is the composition of the group board, the composition of which is specified in the MOI to be in line with Civil Engineering South Africa and BEE requirements. Any deviations from King III are formally recorded in the governance records of the company.

Governance report

Securities and shareholders

The table below sets out the issued shares in Bigen Africa Group Holdings:

<table>
<thead>
<tr>
<th>Share Class</th>
<th>Ownership</th>
<th>Number of issued shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-Ordinary Shares</td>
<td>Professional shareholders</td>
<td>2 643 800</td>
</tr>
<tr>
<td>B-Ordinary Shares</td>
<td>External part-time BEE</td>
<td>Nil</td>
</tr>
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<td>C-Ordinary Shares</td>
<td>BEE-warehoused shares</td>
<td>114 800</td>
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<td>D-Ordinary Shares</td>
<td>Pan Africa Capital Holdings</td>
<td>639 700</td>
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<td>Bigen Africa Group Holdings</td>
<td>3 398 300</td>
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<td><strong>Totals</strong></td>
<td></td>
<td><strong>3 398 300</strong></td>
</tr>
</tbody>
</table>

Bigen Africa Group Holdings has 5 000 000 authorised shares.

Memorandum of incorporation

Bigen Africa Group Holdings adopted its memorandum of incorporation, as required by the Companies Act, 71 of 2008, on 19 April 2013.

Shareholders subsequently approved, by means of special resolution, proposed amendments to the memorandum of incorporation at annual and general meetings of the company during 2014 and at the F2015 AGM.

Communication to shareholders

The code of good governance encourages directors to be transparent and conduct ongoing dialogue with shareholders based on their mutual understanding of the organisation’s vision and strategy.

A shareholders’ planning conference was held on 3 and 4 December 2015 at the same venue and in advance of the F2015 AGM (the Sappi Technology Centre, Innovation Hub, Pretoria).

Annual general meeting of shareholders

The F2015 AGM of all classes of ordinary shareholders of the company was held on 4 December 2015.

Shareholders elected the F2015 board as well as the members of the Audit, Risk and IT Committee at the F2015 AGM, voted on the appointment of the external auditors, approved the proposed professional (A) shareholder F2016 performance re-rating, elected new professional (A) shareholders, approved the proposed F2016 remuneration of non-executive directors, approved a minor amendment to the MOI providing for interim dividends and authorised the company secretary to take the necessary steps to give effect to all resolutions passed at the AGM.
Share register

The company keeps the prescribed register of issued securities. The register is updated upon receiving any duly authorised instrument of transfer containing the prescribed information as required by section 50 (2) of the RSA Companies Act.

The share register is used to determine the rights and obligations of shareholders of the company, including the right to vote on resolutions as well as to receive distributions from the company. Distributions and share-sale credit transactions (subsequent to quarterly distributions) are consolidated by the CFO in a shareholder loan account reconciliation schedule and reviewed by the internal auditors of the group.

Certification of securities is consolidated and divided between pledged shares and unpledged shares. Share certificates are updated each quarter, post-dividend, to reflect any changes in pledge. Share certificates are held by the auditors of the company. Share certificates that are no longer subject to pledge are released to shareholders upon written request.

The share register was updated regularly during F2015 pursuant to include the transactions described above.

Governance of information technology

King III recognises that information technology (IT) has become an integral part of doing business today, as it is fundamental to the support, sustainability and growth of organisations. IT cuts across all aspects, components and processes in business and is therefore not only an operational enabler for an organisation, but also an important strategic asset which can be leveraged to create opportunities and to gain competitive advantage.

The company secretary acts as a central source of guidance and advice to the group board and its chairman and ensures that the board charter as well as the terms of reference of all board sub-committees are aligned to the organisational strategy as well as to any legal and statutory requirements on an annual basis. During F2015, all board agendas, papers and minutes as well as the induction and training of board and board committee members and the maintenance of company records have been conducted in line with the duties of the company secretary, as prescribed by the Companies Act 71 of 2008.

Integrated annual report

The company has elected to prepare an integrated annual report (this report) that is consistent with Chapter 9 of King III. Sustainability reporting and disclosures are integrated with the company’s financial reporting in the annual report.

Code of conduct

An updated version of the Bigen group code of conduct was circulated for the input of board members during F2015. This review exercise was conducted in order to bring the code of conduct in line with the legal frameworks of those countries in which the group conducts as well as with the code and related standards applicable in the consulting engineering industry.

The Bigen group values long-term relationships with its identified stakeholders and seeks to deliver excellent service within global standards of ethical practice and sustainability.
Group board

Members during F2015

During F2015 the group board comprised four non-executive and eight executive directors who served on the board throughout F2015.

The non-executive directors were Dr Iraj Abedian, Ms Nangamso Mankai, Mr De Villiers Botha and Mr Mike Mohohlo, and the executive directors Mr Anton Boshoff, Mr CJ Venter, Mr Deon Fabel, Dr Snowy Khoza, Mr Ian Bettesworth, Mrs Loyiso Ndlovu, Mr Llewellyn Jacobs and Mr Villiers Strauss.

Role and effectiveness

The group board monitors compliance with the principles of King III, as well as applicable legislation, regulation and policy, thereby ensuring that operational and corporate practices are continuously improved and that the affairs of the group are properly conducted, with transparency and integrity.

The board is regulated by the board charter, which mandates the board to exercise leadership and determine the vision and strategy for the group. The board sets out roles and responsibilities for directors and the executive, maintains effective control and is ultimately responsible and accountable for the performance of the group.

Board activities

The group board subscribes to the values of fairness, responsibility, transparency and accountability as contained in King III. The board charter mandates the board to fulfil the following functions:

1. Responsible for all the overall strategic direction of the group and exercise its control through the governance framework of the group

2. Demarcation of the roles, functions and responsibilities of the shareholders, board and directors

3. Responsible for delegation of power to the various board committees and the executive

4. Responsible for the implementation of policies and practices in respect of corporate governance
Assessment and training

The Bigen group employs two strategies to ensure that its directors are able to provide expert leadership and direction to the company, firstly by conducting both internal and external board and board committee assessments and secondly by providing members with training on those specific areas identified as requiring improvement during the board-evaluation process.

During F2015 the group followed an internal board-evaluation process to assess the effectiveness of the board and each of its sub-committees. King III stipulates that an external evaluation must be conducted every two years and the board will therefore consider this recommendation during the F2016 financial year. Training was conducted for the board on various relevant topics during F2015.

Declarations of interest

Board members are obliged to regularly update their declarations of interest in writing and submit them to the company secretary in terms of internal policy and statutory and governance requirements. Any member of the board who has vested interest in a particular item tabled for discussion at any of the group’s board and committee meetings is obliged to inform the relevant chairperson as well as the company secretary of the matter and will be recused from the meeting to ensure that fairness in decision making is maintained.

Bigen also subscribes to ISO 37 001 to ensure that its processes and procedures are ethical and transparent.
Composition of the board and its sub-committees
Committees structure

The authority of the board to appoint committees of directors and to delegate to such committees any authority of the board, as set out in section 72(1) of the RSA Companies Act, as well as to include in any such committee persons who are not directors (section 72(2) (a)) is not amended by the MOI of the company.

The board committees of the group assist the group board in discharging its responsibilities and duties under the King III code, although the overall responsibility for governance vests in the board. The board has established the following standing committees through which it executes its duties (with F2015 chairpersons indicated):

<table>
<thead>
<tr>
<th>Committee</th>
<th>Chairperson</th>
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</thead>
<tbody>
<tr>
<td>Audit, Risk and IT Committee</td>
<td>Mr. J.H de V Botha</td>
</tr>
<tr>
<td>Human Capital and Remuneration Committee</td>
<td>Mr. J.H de V Botha</td>
</tr>
<tr>
<td>Investment Committee</td>
<td>Mr. M Mohohlo</td>
</tr>
<tr>
<td>Directors and Shareholders Affairs Committee</td>
<td>Mr. J.H de V Botha</td>
</tr>
<tr>
<td>Social and Ethics Committee</td>
<td>Ms. N Mankai</td>
</tr>
</tbody>
</table>

All board committees were chaired by non-executive directors. The terms of reference and composition of the committees are determined by the board and reviewed on an annual basis.
MOI requirement for an audit committee

The company, on behalf of the Bigen Africa Group, has documented in its MOI that it elects to voluntarily comply with the provisions of Parts C and D of Chapter 3 of the RSA Companies Act (2008). Accordingly, at each annual general meeting, the company elects a statutory audit committee comprising at least three members who meet the independence and qualification requirements prescribed in section 94(4) and regulation 42 of the RSA Companies Act. The committee functions independently and reports to the board of the company as well as to the BAGH shareholders at the AGM. The audit committee does not assume the functions of management. Management remains the responsibility of the executive directors, prescribed officers and other members of senior management. The members of the risk and IT committees are not elected by the shareholders, but appointed by the chairman of the board. The Audit, Risk and IT Committee members are listed above.

Activities and performance review

The Audit, Risk and IT Committee met four times during F2015, with strong attendance throughout the period. An internal annual performance review of the conduct and efficiency of the committee has been commissioned as described above.

Investment Committee

The Bigen Group Investment Committee is responsible to provide an investment strategy for the group and to assess investment opportunities for consideration by the group board, in support of the growth and expansion of the organisation.

Committee members

The Investment Committee is constituted in such a manner that the majority of members are independent non-executive directors as proposed in King III.

Activities and performance review

The Investment Committee met four times during F2015, with strong attendance during this period, excepting for one external member who did not attend a majority of meetings. An internal performance review of the conduct and efficiency of the committee during F2015 was commissioned as described above.

Human Capital and Remuneration Committee

The Remuneration and Human Capital Committee is constituted to promote and assure independence and objectivity. The committee terms of reference stipulates that this committee shall consist of at least three non-executive directors, unless the board determines otherwise. This is in line with the requirements of King III. Various executives serve as invitees.

Committee activities

The committee is a dual-function committee tasked with the human-capital function as well as with overseeing and guiding the development and implementation of remuneration policy and key decisions across all structures and levels of the organisation. The committee is chaired by an independent chairperson and it guides the group board on policies in the areas of board, executive and staff remuneration. The human-capital function is to direct and oversee all human-capital-related strategies and governance. As such it provides guidance to the group board on issues relating to human capital strategy, policies and organisational culture.

Performance review

The Human Capital and Remuneration Committee met four times during F2015, with strong attendance during this period. An internal annual performance review of the conduct and efficiency of the committee was commissioned as described above.
Social and Ethics Committee

The Social and Ethics Committee monitors the sustainability of the group to ensure that it is responsible and accountable for the impacts of its activities on society and the environment. The committee monitors adherence to legislation, social and economic development strategies, progress made with transformation within the group (including indigenisation), employment equity issues, the fairness of labour practices and progress made in environmental protection and health and safety issues.

The committee also monitors financial sustainability and human-capital strategy, including skills development. The transformation strategy was adjusted to govern all jurisdictions and to accommodate amendments to the RSA Construction Charter.

During F2015 the committee also monitored the progress made by the Inthuthuko Foundation. Inthuthuko Foundation is an independent, non-profit company, promoted by Bigen at its inception, responsible for the implementation of CSI programmes. The committee further ensures that the value of doing good whilst doing business is entrenched in all the decisions made by the company. It provides guidance to the group on ethical norms and monitors the responsibility of the company towards all its stakeholders, including shareholders, customers, employees, suppliers, the environment and society.

Directors and Shareholders Affairs Committee

The terms of reference of the Directors and Shareholders Affairs Committee was reviewed during F2015 to include the function of a nomination committee for Board directors. The committee also drafted a proposed amendment to the MOI that was adopted by the shareholders at the AGM on 4 December 2015.

An overarching governance framework is being drafted for the entire group to simplify the governance of the wholly-owned subsidiaries and to bring it in line with the governance of the holding company. The committee is responsible for debating and preparing draft proposals for consideration by the group board.

Remuneration of board and board committee members

The MOI provides that the company is authorised to pay remuneration to its non-executive directors in accordance with an annual special resolution of the company's shareholders approving such remuneration as set out in sections 66(8) and (9) of the RSA Companies Act.

F2015 director fees were approved by the shareholders at the AGM held on 4 December 2014 and the directors were paid accordingly during the F2015 financial year.

Audit function and findings

RVN Chartered Accountants were appointed by the group board to support the internal audit function. A comprehensive internal audit plan was compiled, approved and implemented, including special tasks assigned by management and/or the Audit, Risk and IT Committee. No material audit findings were reported during F2015. Based on historical performance and dependent on any changes in internal capacity, the board resolved to continue with RVN Chartered Accounts as internal audit support for F2016.

Mazars, registered auditors and chartered accountants (SA), were appointed as the external auditors of the Bigen Africa group for F2015. An unqualified audit report was issued. The annual financial statements were approved by the group board and noted by the ordinary shareholders of the company at the F2015 AGM. Based on its F2015 performance, the group board proposed that Mazars be retained as external auditors of the group for F2016. The shareholders of the holding company approved this recommendation by ordinary resolution at the F2015 AGM in December 2015.

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Industrial developments

In 2015 the South African industrial property sector outperformed both the commercial and retail sectors and this trend is expected to continue in the coming years. Bigen Africa has been applying its experience and expertise to large and prestigious projects throughout South Africa, aiding economic growth.

The group’s structural engineering expertise has evolved over many years, spanning all aspects of structural engineering, including buildings, bridges and civil engineering structures. Projects have been executed for private developers, local and provincial government and government parastatals in all major centres in Southern Africa and further afield in Angola, Nigeria, Tanzania, Uganda, Zambia, the United Kingdom, Ireland and in the Middle East.

Some recent projects include:

The Cipla Distribution Centre in Rivergate Park, Cape Town, a R185-million investment by Cipla Medpro to support its operations. Pursuing its core corporate objective of placing a Cipla product within one kilometre of every South African in need of medication, this new facility will serve as the main hub for all imports and distribution into Southern Africa.

Housing 22 000 pallets, this state-of-the-art storage facility improves delivery times and houses a wider variety and greater quantity of the required medication for government. It is expected that 75 000 kg of product will move through the facility every month while an expertly designed climate control system ensures that the stringent temperature regulations are met.

To achieve Cipla’s storage requirements for this 16 380 m² facility, the positioning of the internal columns was critical to accommodate the required racking layout. By limiting the amount of internal columns to only eight (on a 32m x 38.55m grid), Bigen Africa was able to provide very large column-free spaces. The combination of this footprint with a stacking height of 15m resulted in a very high utilisation of internal space.

A high-tolerance, fibre-reinforced concrete surface bed was required to accommodate the smooth flow of high volumes of forklift traffic. A jointless floor was used with panel sizes of approximately 32m x 38m and armour joints. In order to proceed with this floor ahead of schedule, the temporary stability of the steel structure had to be resolved to enable installation of the side cladding and roof sheeting before the final structure was complete.

The light-weight steel structure was constructed on a durable concrete frame that provides stability to the warehouse structure and serves as a robust barrier against forklift movements at ground level. This concrete structure is complemented by a perimeter wall of precast hollow-core panels which were preferred due to the ease of installation and the added benefit of an accelerated construction period.

An automated docking system was constructed at a height of 1.4m above the external concrete loading yard to allow efficient on- and off-loading at eight dock bays. Another four bays were added as provision for future requirements.
The adjacent double-storey concrete building provides 1 500 m² of office space, a cafeteria, gymnasium and other warehouse facilities. It boasts a triple-volume foyer with a structural steel feature roof while the main roof and first floor are post-tensioned concrete slabs.

As a result of the fast-track programme requirements, construction was completed in only eight months. This was achieved by selecting time-saving materials and components for the main structure as well as optimising the construction sequence, allowing the various disciplines to complete their parts of the project without causing a delay to other contractors.

Clairwood Logistics Park in Mobeni East, Durban, a R3,5-billion development by Fortress Income Fund which will add 350 000 m² warehouse facilities on 76 ha and 8 ha of rehabilitated wetlands to the South Durban Basin, a national economic hub which consists of an industrial area interspersed with a residential population.

Bigen Africa has been involved with the geotechnical, civil and structural engineering consulting for this industrial mega-project.

Due to inadequate founding conditions, the project will kick off with major ground improvement under the footprints of the proposed facilities before further development can commence.

The geotechnical solution presented by Bigen Africa, Franki Africa, and SRK Consulting will be a first-in-Africa endeavour and required specialised equipment of more than R100 million to be imported from Germany.

Bigen Africa is also responsible for the civil and structural engineering for one of the largest once-off warehouse facilities on the continent. With a proposed area of more than 110 000 m², this facility will give its tenant one of the largest usable spaces in the world. Its width of more than 300m presented some unique challenges to drain the Durban summer rainfall from the roof.

In order to present the client with the most economical structural solution, Bigen sought to attain a fine balance in terms of efficient use of materials, practical solutions and an optimal construction sequence. Furthermore, the magnitude of this project amplifies the need for all aspects of the project (including environmental factors, other consultants, as well as tenant requirements) to be adequately considered in each step.

The new facility is expected to create almost 19 000 jobs during the construction period and almost 5 000 permanent jobs after completion.
Bigen Africa manages the Clanwilliam Dam extension

Bigen Africa has been appointed site supervision and contract management service provider during the extension of the Clanwilliam dam structure in the Cederberg Local Municipality, which includes raising the wall from its current height of 43m to 56m.

The project was commissioned by the Department of Water and Sanitation (DWS) and the wall raising will be the second since the concrete gravity dam was built on the Olifants River in 1935, with the first raising occurring in 1964. The total projected cost is more than R2 billion and completion is anticipated within five years.

"Raising the dam wall by another 13m will result in an additional 70 million cubic metres of water a year flowing to farmers downstream," says Mias van der Walt, Divisional Managing Principal of Water and Sanitation at Bigen Africa.

The improvements to the dam will also entail the construction of a new intake and outlet structure, and a small hydro-power station.

"Bigen Africa, with its vision of improving the quality of life of all through the development of sustainable infrastructure solutions, is thrilled to be leading this project as the local communities stand to benefit greatly from the increased water capacity. With more than 650 jobs being created for these communities as well, the company’s creed of doing good while doing business is also being put into practice."

Bigen Africa’s appointment included BES Africa Engineering and Management Consulting, Tlou Integrated Tech and Xpanders as enterprise-development partners on the project.

The group’s scope on the project includes, amongst other roles, design and drafting assistance to DWS Engineering Services, contract administration, quality and progress monitoring, environmental monitoring, health and safety monitoring, cost monitoring and the compilation of an operating manual and completion report.
Bigen Africa has been appointed to provide civil engineering services to the next phases of the Lufhereng housing project of the Gauteng Provincial Department of Human Settlements, west of Soweto. The appointment, by the Lufhereng Development Company acting for the City of Johannesburg, is a continuation of the role Bigen played in 2004, when the large-scale housing development was launched in accordance with the Breaking New Ground policy of the national government.

The project will include fully subsidised housing, affordable housing, bonded property and a component of suburban agriculture – with provision for all other associated land uses, including 15 primary and secondary schools and more than 60 community facilities and churches. The final project scope is between 22 000 and 25 000 residential units on 1 800 ha.

The first phase of the project was concluded in 2010 with the delivery of 2 400 erven and 1 800 RDP top structures to qualifying households.

Work on the next phase of the project – extensions 3 and 5 – commenced in 2014 after the City of Johannesburg accepted responsibility for the continued implementation.

The project is being executed in terms of the SANS 1936 National Standard published by the SA Bureau of Standards in 2012. The standard comprises four parts covering general requirement, geotechnical considerations, structure-building guidelines and risk-management principles.

The second and third parts include methods for investigating, classifying and building on dolomite land. Jointing methods for water networks and standards for sewer networks are extensively specified. Some joints were only allowed inside manholes.

The challenge was to adhere to SANS 1936, while mitigating its cost implication to the client.

Bigen Africa consulted widely. Johannesburg Water had not yet incorporated SANS 1936 into its design guidelines and policy documents. In fact, subsequent to the publication of SANS 1936, no project had yet been implemented on dolomite land. Neighbouring municipalities were also consulted, as well as recognised leaders in the field of dolomite and suppliers of construction material. When this process was completed, Bigen Africa had a clear understanding of compliant, locally available material.

Eventually, an HDPE system consisting of butt-welded and electro-fusion joints was selected for the water network and a hybrid uPVC system with Ultralok clamping and HDPE water
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<th>REGIONAL OFFICES: SOUTH AFRICA AND AFRICA</th>
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<tr>
<td>Website</td>
<td><a href="http://www.bigenafrica.com">www.bigenafrica.com</a></td>
<td>+27 51 430 1423</td>
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