

ANNUAL REPORT

APRIL 2009 – MARCH 2010

SAICE Professional Development & Projects

(Association Incorporated under Section 21)

Trading as

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
A growing organisation.....	3
Activities and projects	4
Prospects.....	5
A word of appreciation	5
HIGHLIGHTS AND ACHIEVEMENTS.....	6
The Development Bank of Southern Africa's Gauteng Local Government Support Project.....	6
The Development Bank of Southern Africa's Young Professionals Programme	10
The Local Government Sector Education Training Authority BTech Bursary Scheme.....	10
The Local Government Sector Education Training Authority Internship Programme	11
Candidate Academy.....	11
Local Government Turnaround Strategy.....	12
Engineering Planet Future Indaba.....	12
Masakh' iSizwe Advisory Board	13
Gauteng Department of Local Government.....	13
100 x 100	13
NumberWise	14
Research and document sharing.....	14
GOVERNANCE.....	14
Appointments	14
Board meetings	14
MEMBERS AND DIRECTORS.....	15

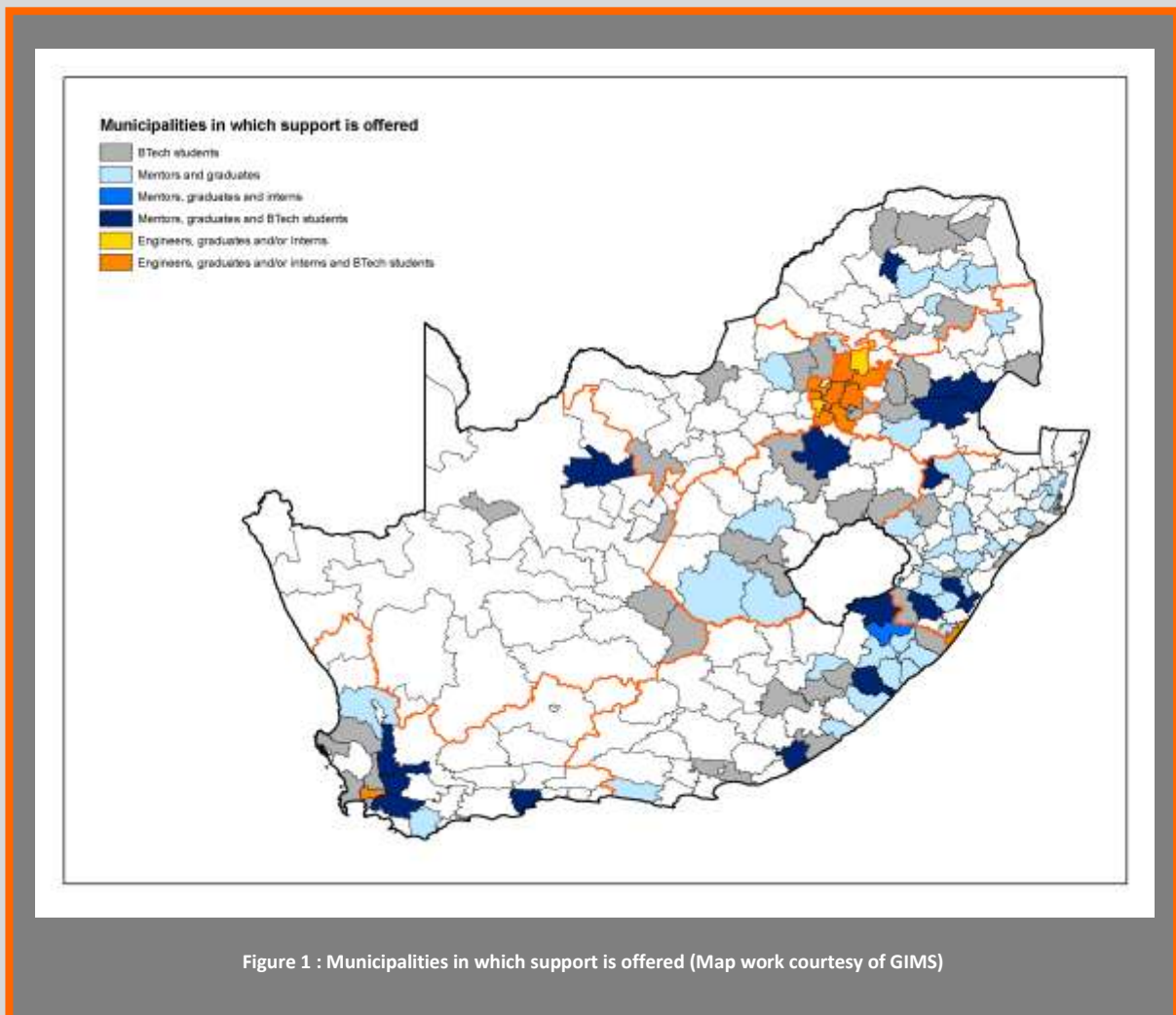
EXECUTIVE SUMMARY

SAICE Professional Development and Projects (SAICE-PDP) was established by SAICE in 2004 to implement SAICE Outreach and Capacity Building initiatives and activities that require external funding. Projects implemented by SAICE-PDP focus on developing civil engineering capacity outside the needs of SAICE membership, in South Africa and further afield. SAICE-PDP also supports service delivery and creates civil society awareness through education, training and orientation projects relating to developing and maintaining infrastructure.

A growing organisation

The 2009/10 financial year was a busy one and reflects the largest turnover since inception of the company.

This growth required a further increase in staff and support, as the footprint of SAICE-PDP continued to expand. The figure below indicates the range of sites in which interns, graduates, students, SAICE-PDP engineers and mentors are active, requiring tight management and coordination.



Activities and projects

These continued to reflect the company's commitment to improving education, training and skills development, not only through funded projects, but also through voluntary government support programmes.

The Development Bank of Southern Africa's Gauteng Local Government Support Programme was grown substantially to address the needs of 13 out of the 14 municipalities in Gauteng and many specialist reports were commissioned to investigate weaknesses and recommend long-term sustainable solutions. Most gratifying was the recognition and involvement of SAICE-PDP in assisting to formulate the Local Government Turnaround Strategy and our subsequent participation at the Indaba hosted by the Minister of Cooperative Governance and Traditional Affairs, the Hon Sicelo Shiceka, and the Minister of Public Works, the Hon Geoff Doidge.

The DBSA's Young Professionals Programme, which was designed to assist civil engineering and town-planning graduates with workplace training towards registration with the relevant professional bodies, continued to make progress. Fifteen Young Professionals left for France on a three-month exchange programme facilitated by the Agence Française de Développement (AFD).

A highlight of the year was being able to launch the Candidate Academy. In response to the poor registration rate of civil engineering graduates, it was realised that few graduates or companies understand the registration process and few graduates are being given adequate workplace training, supervision and coaching. A series of courses were developed. One set of courses is aimed at graduates, mentors, supervisors and companies on the registration process and a further suite of courses was designed to offer project experience under the watchful eye of lecturers. Launched at the Engineering Planet Future (EPF) Conference, these courses were scheduled for roll-out in the 2010/11 financial year.

Projects which were added to the portfolio were the 2010/11 BTech bursary scheme and the 2010/11 Intern Programme funded by the Local Government Sector Education Training Authority (LGSETA).

Members of the management structure as well as deployees attended a range of workshops and conferences and delivered various papers. Considerable interest was shown in setting up Public-Private Partnerships and workshops to this effect were held in Gauteng Province.

Apart from company projects, SAICE-PDP was involved in offering advisory services, wherever possible, to assist other organisations with skills development, education and training. To this end we attended meetings,

did presentations, offered advice, developed position papers, participated and in some instances chaired workshops for – among others – the following institutions:

- Department of Cooperative Governance and Traditional Affairs
- Department of Higher Education and Training
- Department of Basic Education
- Department of Science and Technology
- Department of Public Works
- Gauteng Department of Finance
- Consulting Engineers South Africa - Human Resources Forum
- Construction Education and Training Authority
- Human Resources Development Council of South Africa
- City of Cape Town
- eThekweni Municipality

Prospects

Sadly, business conditions impacted on most of our projects, resulting in budget cuts for the 2010/11 financial year. It is hoped that the launch of the Candidate Academy will in some way offset cut-backs and contribute to skills development.

A word of appreciation

I would like to express my thanks to the SAICE Professional Development and Projects board members, SAICE personnel, SAICE-PDP engineers, graduates, interns, students, colleagues and staff of SAICE-PAP for their enthusiasm and continued support.

And finally, a big thank you to all our funders for entrusting their skills development initiatives to the company.



Allyson Lawless
Managing Director

HIGHLIGHTS AND ACHIEVEMENTS

The Development Bank of Southern Africa's Gauteng Local Government Support Project

This project forms part of the DBSA's Siyenza Manje programme and is aimed at offering support to municipalities in Gauteng. The project is managed and directed by the DBSA, the Gauteng Department of Local Government and Housing, and the Gauteng Treasury. As at 31 March 2010 there were 47 senior engineers based in 13 of the 14 Gauteng municipalities, as well as 5 specialists, 13 graduates, and 69 students. Sadly, although spectacular results were witnessed in 2009/10, the budget for 2010/11 was cut as a result of the economic crisis and many SAICE-PDP engineers were due to leave the project in April and May 2010.

Although bureaucracy, staff shortages, budgets and other bottlenecks tended to inhibit the deployees, the project nevertheless made considerable progress. R6,3 billion worth of projects were planned during the year, R2,3 billion worth of projects were managed, and 250 people were trained, including students, graduates and in-house staff. SAICE-PDP engineers also contributed to the delivery of housing and electricity, with 11 771 houses being completed and/or handed over, whilst some 11 931 households received electrical connections. Some highlights in each municipality are outlined below.

Johannesburg Water

One of the SAICE-PDP engineers allocated to Johannesburg Water was instrumental in saving R94 million in capital expenditure by providing them with a business plan to change the method of sludge conveyance at Northern Wastewater Treatment Works. SAICE-PDP engineers also provided expert supervision and quality assurance for the construction of the new 50MI/day extension to Northern Wastewater Treatment Works.

In terms of capacity-building in Johannesburg Water, another SAICE-PDP engineer found that the 70-odd standard operating procedures (SOPs) developed by Johannesburg Water were no longer being used at depots owing to the high turnover of senior staff. It was agreed that SAICE-PDP would review the SOPs through a series of workshops with stakeholders



Figure 2 : The main activated sludge reactor



Figure 3 : Aerial view of Northern Wastewater Treatment Works with the new Unit 5 ringed



Figure 4 : An SOP poster

and prepare poster-sized diagrams depicting SOPs for coaching and reference.

Johannesburg Roads

In 2009, the intervention of retired engineers who had been young engineers in Johannesburg at the time of the design of the M1 and M2 motorways saved the day in terms of motorway stability. They noticed that a drop-in-slab had failed and cracked across the width of the west-bound M2 motorway. They called in a specialist bridge consultant who designed an emergency steel frame which was erected to prevent the deck from collapsing. Once the deck had been secured, the end was recast.

Ekurhuleni Metropolitan Municipality

Ekurhuleni Metropolitan Municipality proved to be a challenge for SAICE-PDP engineers in 2009/10 as they had to deal with no fewer than three municipal managers. Four, terms of reference, to the value of R92,5 million were completed and SAICE-PDP engineers were involved in capex spending to the value of R345 million.

In terms of water demand management, a significant achievement was the containment of losses to the extent that Ekurhuleni would be purchasing less water in the next financial year.

Kungwini Local Municipality

The shortage of technical staff and huge demand for development in the western suburbs of Kungwini saw SAICE-PDP engineers working tirelessly to attend to developer needs as well as to breakdowns associated with inadequate operations and maintenance. Municipal Infrastructure Grant funding to the value of R112 million was approved for a new wastewater treatment works. Some R400 million has been raised since the inception of the project through aggressively managing developers and seeing to it that developer contributions are utilised for the development of bulk capacity.

Midvaal Local Municipality

Deployment in Midvaal was successful in that SAICE-PDP engineers were able to assist Midvaal in filling all posts and addressing weaknesses in systems and processes. A project management unit was set up and most of the SAICE-PDP engineers were to be withdrawn early in the 2010/11 financial year.



Figure 5 : Deck failure on the M2 motorway



Figure 6 : Temporary support

Emfuleni Local Municipality

Work at Emfuleni did not progress as smoothly as expected in the year under review, as there were numerous suspensions and changes in staff. However, with the appointment of Sam Tshabalala as municipal manager in January 2010, renewed energies were being expended to ensure that service delivery takes place. Of significance was the contribution of the SAICE-PDP engineer responsible for electricity, who was involved in training and in numerous small projects. In addition, R43 million was made available for maintenance as a result of a budget he prepared. This reflects a significant increase over the past years. A R60 million road upgrade tender was also awarded during the year.



Figure 7 : Emfuleni graduates in safety wear

Mogale Local Municipality

SAICE-PDP engineers were successful in Mogale, particularly in the delivery of housing and integrating the National Treasury's Neighborhood Development Partnership grant into the Chief Mogale housing project. They were also involved in the refurbishment of wastewater treatment works, roads and electricity.

Our engineers also assisted in raising R58 million in developers' contributions in two projects and managed the completion of the Infrastructure Asset Management Project to ensure compliance with Generally Recognised Accounting Practices and Generally Accepted Municipal Accounting Practices. This helped Mogale obtain a clean audit.

Randfontein Municipality

SAICE-PDP engineers in Randfontein were involved in electricity, roads, water and sanitation. The engineer responsible for electricity played a pivotal role in stabilising electrical networks, streamlining the complaints department, and improving the response times for call-outs. Work finally commenced on upgrading the main road after many years of motivating for funding.

Tshwane Metropolitan Municipality

Deployment in Tshwane was particularly successful in 2009/10. SAICE-PDP engineers were involved in improving the quality of effluent from treatment works and the quality of work delivered by contractors on numerous roads projects. They also trained 45 in-house staff members, students and graduates.

In-house training

Several in-house staff members were trained throughout Gauteng. Several were also trained towards professional registration with ECSA. To date, five from Johannesburg Metro and seven from Tshwane have received confirmation of registration with ECSA.

Student training

As part of the internship programme, 69 students were trained in Gauteng. Further placements will be made in 2010/11.

Graduate training

SAICE Professional Development and Projects employed 16 graduates in the period under review, including four females. The graduates comprised six civil engineering and nine electrical engineering graduates, as well as one town-planning graduate.

Over and above dealing with project management, the graduates attended operational and management meetings where they gave feedback on progress of projects and input on new projects. These experiences offer valuable learning opportunities for graduates and it has been heart-warming to see their confidence grow.

Specialist reports

A number of specialist reports were prepared during the year, collating information gathered by deployees across the province. These included the following:

- **Staffing report:** Huge vacancy levels were found across Gauteng and staff development, retention and succession policies were found to be lacking.
- **Waste report:** It was found that few existing sites are legal, many new landfills are required, and considerable investment in vehicles is urgently required.
- **Roads maintenance and surfacing:** Huge backlogs in road maintenance have accrued and many roads need to be upgraded to facilitate bus and taxi routes and access roads to schools, clinics and industry. However, costs in terms of surfacing and upgrading are prohibitive.
- **Master plans:** As a result of earlier investigations, many master plans are being developed.
- **Asset registers:** Although most municipalities had appointed service providers to prepare asset registers to comply with the Auditor-General's requirements, limited input was requested from technical departments on the data to be captured. Thus few asset registers will be of value for asset management.
- **Maintenance backlog study:** A maintenance backlog study was carried out and it was found that a minimum of R28 billion was needed to restore infrastructure in the province (excluding gravel roads). This figure will increase with further delays in investment.
- **Electrical loss strategy:** An electrical loss strategy has been developed and is being updated to include actual loss costs and possible interventions.

The Development Bank of Southern Africa's Young Professionals Programme

The aim of the DBSA's Young Professionals Programme, which was launched in 2008, is to train graduates towards registration with ECSA and the South African Council of Planners (SACPLAN). Although graduates are currently employed by the DBSA and are placed in municipalities throughout South Africa, professional development is managed through a joint venture between SAICE-PDP and the South African Black Technical and Allied Careers Organisation (SABTACO), which is responsible for appointing mentors to handle the planning of workplace training and monitoring and offering supplementary coaching where required.



Figure 8 : Young Professionals leaving for France on an exchange programme

In many municipalities, training opportunities are inadequate and it has been necessary to rotate graduates to consulting engineers, contractors and water boards to gain the all-round experience required by ECSA and SACPLAN.

When it became clear that the graduates had limited administration and contract management experience, a comprehensive course and exercises were developed to enhance their skills in this area. Graduates were also trained in the use of CAD and design programmes.

Fifteen Young Professionals left for France on a three-month exchange programme facilitated by the Agence Française de Développement (AFD).

The Local Government Sector Education Training Authority BTech Bursary Scheme

Of the twenty-nine students who were awarded bursaries by the LGSETA in the 2009/10 financial year, eight interns had been part of our first support programme in 2006. This is particularly gratifying, as this means that these young people have remained in local government since their student days, and by virtue of BTech bursary contracts have now committed to remain in local government for a further four years. The majority of these students will only commence their studies midyear owing to institutions being oversubscribed in January 2010. Many students in the programme have done well, with one student obtaining four distinctions.

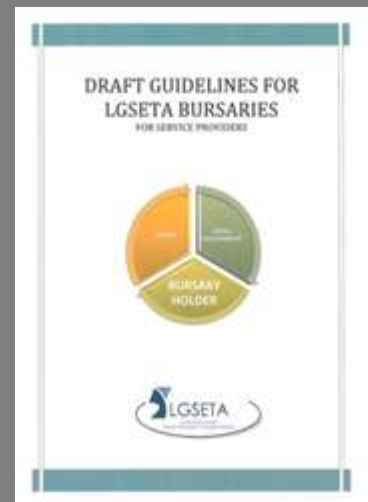


Figure 9 : Guidelines for LGSETA Bursaries

The bursary scheme manual completed during the financial year is already being used by the LGSETA to initiate bursary schemes in other disciplines associated with local government.

The Local Government Sector Education Training Authority Internship Programme

The LGSETA Internship Programme offers national diploma students employment in local government for their two practical semesters, namely P1 and P2 (Practical Semester 1 and Practical Semester 2). Students placed in local government are able to assist technical departments with basic engineering work and in most instances gain sufficient exposure to complete their P1 and P2 reports. During 2009/10 a total of 113 students were assisted through their P1 & P2 internships in various municipalities. Forty-five students completed their workplace training during this period and the rest will finish in the 2010/11 financial year. Several students who had made significant progress during their student year were offered graduate contracts by their municipalities.

The success of this model is such that SAICE-PDP was offered a further contract by LGSETA. As part of the project an internship manual was developed to guide others wishing to set up internship programmes.

As a result of earlier experiences with students, it was decided to host quarterly workshops to introduce students to the structures and workings of local government, service delivery, project management, legislation, budgeting and procurement processes. Electrical engineering students also attended the AMEU (Association of Municipal Electricity Undertakings) convention.

Candidate Academy

The Candidate Academy was conceived to work with young graduates in their early employment years to turn their theoretical training into the practical skills that are so sorely needed by South Africa's modern economy. The initiative involves SAICE-PDP, the SAICE Education and Training Department and Consulting Engineers South Africa (CESA) and will help graduates work towards professional registration with ECSA.

The Academy's material is aimed at offering practical, hands-on courses that are relevant to the workplace. Moving away from the mode of 'passive reception', courses involve delegates in 'active learning'. The courses focus on preparing basic plans, designs, documents and processes which are fundamental to developing an engineering career, and include the following:



Figure 10 : Electrical graduates and interns at the AMEU Convention



Figure 11 : Interns attending a workshop at SAICE



Figure 12 : Portfolio of Evidence files and the Journal Program

- Basic transport management
- Pavement rehabilitation and maintenance
- Introduction to sewer design
- Introduction to pressure pipeline design
- Contract administration and quality control
- The road to registration (for candidates)
- The road to registration (for supervisors, mentors and HR managers)

Local Government Turnaround Strategy

Towards the end of 2008, SAICE-PDP was approached to submit a document summarising the key bottlenecks and recommendations emanating from Numbers and Needs in Local Government, which was published in late 2007. The document prepared was used as a basis for designing the research carried out by the newly formed Department of Cooperative Governance and Traditional Affairs (COGTA) after the elections of April 2009. A Turnaround Strategy was developed by COGTA and launched at the Local Government Turnaround Strategy Indaba in October 2009. SAICE-PDP engineers were asked to attend and Managing Director Allyson Lawless was asked to give a presentation in which she discussed the views of professional bodies on how professionalisation could contribute to the Turnaround Strategy.

Submissions from SAICE-PDP engineers were significant and a bulky file with proposals, policies, best practice and the like was submitted to COGTA in mid-November 2009 as background material for fine-tuning the Turnaround Strategy that was submitted to Cabinet in December 2009.

Engineering Planet Future Indaba

As a result of SAICE-PDP's involvement with COGTA, it was thought that one of the opening sessions at the Engineering Planet Future Indaba should be devoted to outlining the Turnaround Strategy to SAICE members and gathering input from the industry as a whole, as to what should be incorporated in the Turnaround Strategy. SAICE-PDP was requested to become involved with the organisation of the Engineering Planet Future Indaba. For various reasons, the involvement became more than simply inviting COGTA. SAICE-PDP ultimately took responsibility for organising the main sessions for the first day, covering the Turnaround Strategy, capacity-building, innovative solutions, and operations and maintenance. SAICE-PDP was also involved in organising a youth day



Figure 13 : Students and graduates attending the Youth Day at the EPF Indaba

attended by students and young graduates at which the Candidate Academy was launched.

Masakh' iSizwe Advisory Board

Allyson Lawless and Dave Lyddell continued to offer support to the Masakh' iSizwe Advisory Board in terms of workplace training and links with local government in the Western Cape. The Masakh' iSizwe Centre of Excellence is a capacity-building initiative of the MEC of the Western Cape Department of Transport and Public Works. Two meetings were held with the MEC and one with the Premier to discuss the bottlenecks associated with education and the need for workplace training.

As a result, the Western Cape is now rolling out a workplace training programme in the province, which is similar to the DBSA's Young Professionals programme. SAICE-PDP has been asked to offer advice and orientation training for candidates, mentors, and supervisors once the programme has been fully set up.

Gauteng Department of Local Government

Artisan training in Gauteng

The Artisan Programme finally commenced in October 2009 with 36 electricians, 12 fitters and turners, and 24 plumbers starting their institutional training at various apprentice training centres in the province. The programme was designed to appoint 96 unemployed N4, N5 or N6 learners to attend workshop training and then complete apprenticeships in local government, working with experienced artisans to learn the trade. Institutional training was scheduled to end in May 2010 and to commence at municipalities in June 2010. The project is being managed by the Department of Local Government and Housing, but SAICE-PDP has continued to offer direction and selected SAICE-PDP engineers who have progressed from the shop floor to becoming professional engineers are acting as master artisans.

Gauteng Energy Initiative

The Gauteng Integrated Energy Strategy was completed and launched on 5 March 2010 by the Premier and the MEC for Local Government and Housing. The project was handled by a service provider selected by the province under the watchful eye of one of SAICE-PDP's electrical engineers. This represents a major step towards the efficient use, distribution and generation of energy in Gauteng Province. It provides a framework for co-generators of electricity to deliver power to the grid.

100 x 100

The 100 x 100 project continued during the period under review. Dudu Mkhize, who has a Master's degree in mathematics teaching, continued scouting for potential engineers among Grade 11 and 12 pupils at mostly rural schools. (The initiative commenced in the SAICE centenary year, 2003, when Dudu committed to source 100 students to study for engineering degrees in celebration of the centenary.) It was with great excitement that we learned that ECSA was keen to take over and expand this project and was negotiating with the

Manufacturing, Engineering and Related Services Education and Training Authority (MERSETA) for increased funding and support. The project has now been rebranded South African Young Engineering Professionals (SAYEP) and we are looking forward to watching it grow across all engineering disciplines.

NumberWise

Although several meetings were held with the Department of Basic Education, NumberWise failed to be adopted as part of their Foundations of Learning initiative. The developer, Trevor Lagerwall, has now made the software available as shareware for use by schools or training programmes wishing to enhance the numeracy of their trainees.

Research and document sharing

During the year it was found that much time was being wasted on collating the results of research questionnaires, and SAICE-PDP engineers were at times duplicating work by preparing policies, SOPs, specifications and the likes in isolation. A website was set up to automate research and collate responses and allow the engineers to collaborate in the development of many key documents. Although a closed website, once setup, it was decided to also use it to market and build a database of retired capacity. The website can be visited at www.civilsmasakheni.co.za.



Figure 14 : Civils Masakheni website

GOVERNANCE

The board offers direction and selects projects that comply with our vision. Each project is managed by a project steering committee which is composed of members nominated by sponsors and partners as well as experts in their particular field. The appointment of professionals is based on their expertise, comprehensive business plans, and detailed assessments.

Appointments

The following directors were appointed: Johan Malherbe on 17 April 2009, Gary Drummond and Neil McLeod on 11 September 2009, and Ali Naidu on 10 February 2010.

Board meetings

The board met on 17 April 2009, 31 July 2009, 11 September 2009 and 10 February 2010. It was determined that the Articles of Association and Memorandum of Association of the Section 21 Company required updating to incorporate the needs and interests of SAICE and the industry at large. Also, the member and

director functions and responsibilities were not clear. A variety of input was received, and final drafts were completed by the end of the financial year. These were approved at the first members' meeting of the 2010/11 financial year.

MEMBERS AND DIRECTORS

DIRECTORS

Gary Drummond
Allyson Lawless
Dawie Botha
Ali Naidu
Johan Malherbe
Neil Macleod

MEMBERS

Danai Magugumela
Faried Allie
Johan de Koker
Martin van Veelen
Mehboob Babamia
Mike Deeks
Sam Amod
Simon Mqamelo
Trueman Goba

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