



# ANNUAL REPORT

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## 2016 / 2017



saice professional  
development & projects t/a

**civils masakheni**

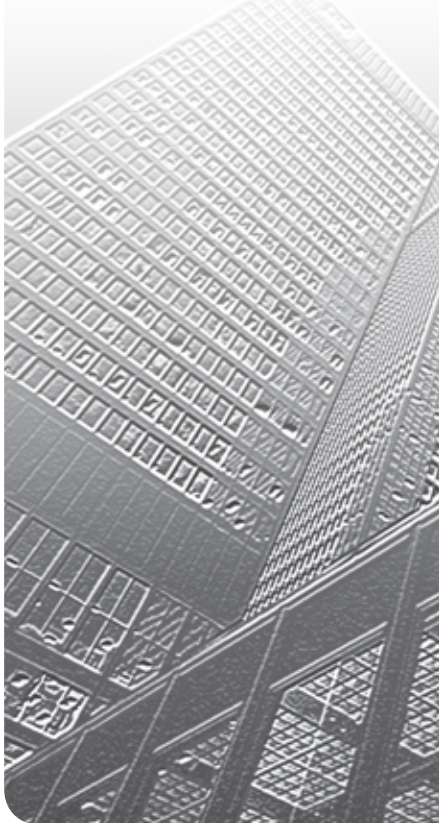
A Non-Profit Company (NPC)

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# Director's Report

**S**AICE Professional Development and Projects (SAICE-PDP) has gone from strength to strength over the past four years, increasing its footprint in mentoring programmes and offering formal training courses in many more centres. Established by SAICE in 2004 to implement Outreach and Capacity Building initiatives and activities that require external funding, SAICE-PDP continues to deliver courses, capacitate public sector structures, manage workplace-based learning programmes and advise many organisations in terms of engineering skills development.



## Projects

The most substantial appointments for the year were from the Local Government Sector Education Training Authority (LGSETA) and the Department of Science and Technology (DST). LGSETA made funding available to add 67 candidates to the programme for developing junior to mid-career engineering staff in local government towards the competence required for professional registration with the Engineering Council of South Africa (ECSA). In view of the success of the Gauteng Cooperative Governance and Traditional Affairs' (COGTA) programme rolled out in the 2016 financial year, to support experienced engineering practitioners with the registration process, LGSETA also made funds available to roll out a similar programme in the other provinces.

At the end of the financial year, a total of 294 candidates were receiving mentoring nationwide, with the help of 33 mentors appointed by SAICE-PDP as independent subcontractors. Professional advice and direction was being offered to many organisations running mentoring programmes, influencing the training and development of a further 362 candidates.

SAICE-PDP won a tender issued by the DST to carry out an Engineering Needs and Numbers Study in the South African Development Community (SADC) region. This is a substantial two-year project, aimed at identifying engineering skills gaps and making recommendations on appropriate interventions per country.

Demand continued for courses offered by the Candidate Academy, particularly the Road to Registration for Candidates course. Both public and private sector organisations are putting a tremendous effort into developing junior engineering staff.

The Municipal Academy team had a busy year rolling out courses in local

government on behalf of the Municipal Infrastructure Support Agent (MISA). As in the previous year, the demand was overwhelming, with many classes being oversubscribed.

SAICE-PDP continued to manage the remaining students on the LGSETA Engineering BTech Bursary Scheme, with ten students having graduated early in 2017.

## Advisory Services

Apart from company projects, SAICE-PDP was involved in offering advisory services, wherever possible, to assist a range of organisations with skills development, education and training. To this end we attended meetings, delivered lectures and presentations, offered advice, developed position papers, participated in, and in some instances chaired, workshops for the following institutions, among others:

- City of Cape Town
- Consulting Engineers South Africa (CESA)
- Department of Cooperative Government and Traditional Affairs (COGTA)
- Department of Higher Education and Training (DHET)
- Engineering Council of South Africa (ECSA)
  - Council
  - Joint Implementation Committee
  - Registration Committee – Professional Engineering Technologists
- Free State Department of Police, Roads and Transport
- Human Resources Development Council of South Africa (HRDCSA)
- Institute of Municipal Engineering of Southern Africa (IMESA)
- Lesotho Highlands Development Authority (LHDA)
- Local Government Sector Training Authority (LGSETA)
- Municipal Infrastructure Support Agent (MISA)

- National Treasury, Infrastructure Skills Development Grant (ISDG) Unit
- Quality Council for Trades and Occupations (QCTO)
- South African Geomatics Institute (SAGI)
- South African National Roads Agency Limited (SANRAL)
- The Royal Academy of Engineering, UK
- Water Institute of Southern Africa (WISA) – Water and Waste Water Process Controller Qualification: Working Group

### Prospects

The prospects for 2017/2018 continue to look promising as we were awarded several two- and three-year contracts towards the end of 2016. Furthermore, as more and more structures realise the need to rebuild their engineering capacity, the company is being asked to provide more

and more proposals to either support or set up training programmes.

### Obituary

It is with great sadness that we report the recent passing of John Lavery who served as a senior engineer, mentor and advisor in the ENERGYS (Engineers Now Ensuring Roll-out by Growing Young Skills) and Gauteng support programmes from 2006 to 2012. John was influential in my early SAICE career, convincing me as Chair of the Structural Division that we needed to start engaging with and advising government on matters relating to infrastructure and engineering skills in the early 1990s. Without the contacts made through his influence, SAICE-PDP would not have developed the network it boasts of today. John will be fondly remembered for his passion and energy in addressing the sewage spills at the Percy Stewart

Treatment Works – during his years at Mogale his name became synonymous with Percy Stewart! Condolences to his family, he will be missed.

### A Word of Appreciation

I would like to express my thanks to the SAICE-PDP directors and to the members and staff of SAICE, SAIEE, CESA and SAICE-PDP for their enthusiasm and continued support. And finally, a big thank you to all our funders and clients for entrusting their skills development initiatives to the company.



**ALLYSON LAWLESS**  
Managing Director



# The Candidate Academy



From April 2010 to March 2017 the Candidate Academy trained a total of 8 245 delegates.

The Road to Registration courses continued to be in great demand. A total of 428 recent graduates attended the *Road to Registration for Candidates* course, a 41% increase from the previous year. Many courses were fully booked a month before the event, and additional courses needed to be scheduled.

The *Road to Registration for Mature Candidates*, aimed at engineering practitioners with more than eight years of experience, continues to be in demand. It was attended by 219 engineers, technologists and technicians, including 37 delegates from the City of Cape Town and 30 delegates from the LHDA.

The course entitled *Estimating, Costing and Pricing of Construction Tenders*, developed in 2016, gained traction with 64 delegates attending public as well as in-house courses, including 19 delegates from the Department of Public Works in Braamfontein. Two of the most popular courses were *Getting Acquainted*

*with Sewer Design* (96 delegates) and *Pressure Pipeline and Pump Station Design – A Practical Overview* (116 delegates). Both are delivered by seasoned municipal professionals, whose practical tips and advice are much appreciated by delegates young and old.

In-house courses remain popular and represent a third of the total Candidate Academy courses.

During the year, the South African Institute of Electrical Engineers (SAIEE) also presented the *Road to Registration for Candidates* course to City Power (Johannesburg) on behalf of the Candidate Academy.

## Attendance and Courses

A total of 1 131 delegates attended the range of courses listed below:

- *Fundamentals of Procurement and Tendering*
- *Getting Acquainted with Basic Contract Administration and Quality Control*
- *Getting Acquainted with Estimating, Costing and Pricing of Construction Tenders*
- *Getting Acquainted with GCC2015*

- *Getting Acquainted with Road Construction and Maintenance*
- *Getting Acquainted with Sewer Design*
- *Pressure Pipeline and Pump Station Design – A Practical Overview*
- *Road to Registration for Candidates*
- *Road to Registration for Mature Candidates*
- *Road to Registration for Mentors, Supervisors and HR Practitioners.*

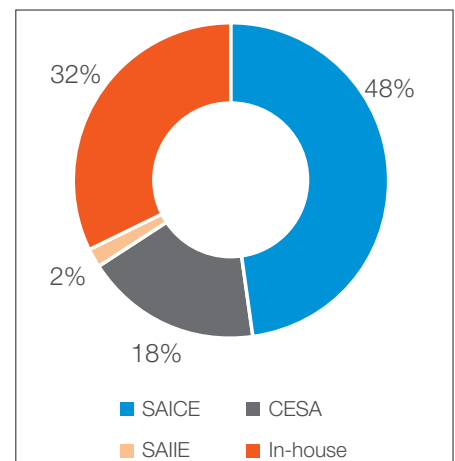


Figure 2: The spread of convenors for Candidate Academy Courses 2016-2017



Figure 1: Road to Registration course with Stewart Gibson

# The Municipal Academy



The Municipal Academy continued to deliver courses to municipalities as part of the extension to the contract with MISA. Due to the great demand, MISA decided to also award a variation, which took time to be approved by National Treasury. We received the go-ahead on 2 March 2017 and had planned, delivered and reported on an additional six courses by 31 March 2017 – which was extremely demanding! We sourced and delivered a total of 24 courses through SAICE-PDP and the South African Planning Institute (SAPI) during the year.

## SAICE Professional Development and Projects

The greatest demand was for *General Conditions of Contract for Construction Works, GCC 2015*, 3rd edition, with many courses being oversubscribed. The following courses were offered during the year:

- *General Conditions of Contract 2015*
- *Road to Registration for Candidate Engineers, Technologists and Technicians*
- *Road to Registration for Experienced Engineers, Technologists and Technicians*
- *Pressure Pipeline Design*
- *Introduction to Sewer Design*
- *Municipal Planning and Management*
- *Road Construction and Maintenance.*

The Road to Registration courses were aimed at the MISA candidate programme. One course focused on reviewing the progress and work covered in a programme that was coming to an end. The candidates were assessed and along with MISA management were given advice on future activities in which they should be involved to develop the competence required for registration. Other courses focused on a new programme. SAICE-PDP designed guidelines covering possible workplace training activities, problem solving techniques, reporting and assessment methodologies; trained

candidates, supervisors and mentors; and introduced them to MyRegistration™.

## The South African Planning Institute

The Spatial Planning and Land Use Management Act (SPLUMA), Act 16 of 2013, requires municipalities to step

up efforts to address the legacy of the skewed planning from the apartheid era. Additional planning personnel are required in every municipality and it is now a legal requirement to satisfy the conditions of the Act. For this reason, there was demand for the *SPLUMA* for



Figure 3: Participating in the GCC 2015 Course

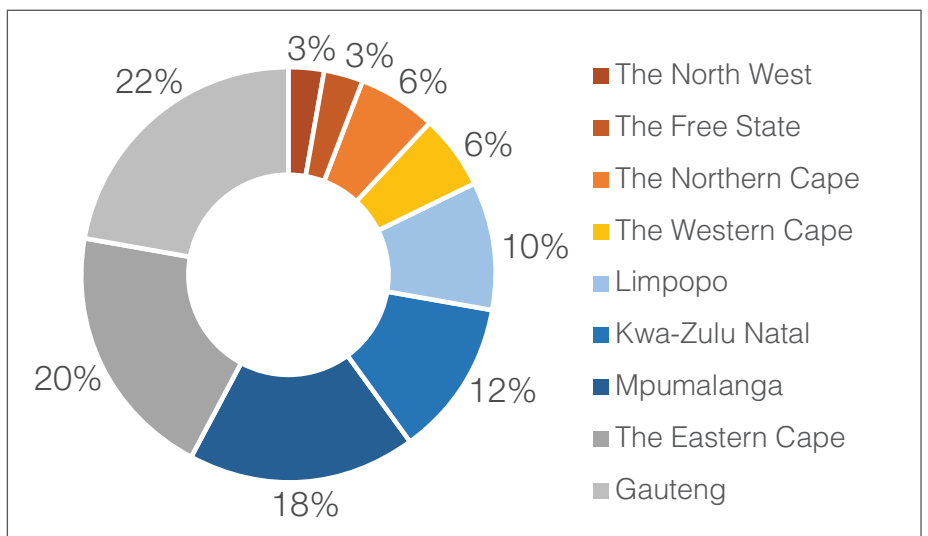


Figure 4: Attendance of Municipal Academy courses per province

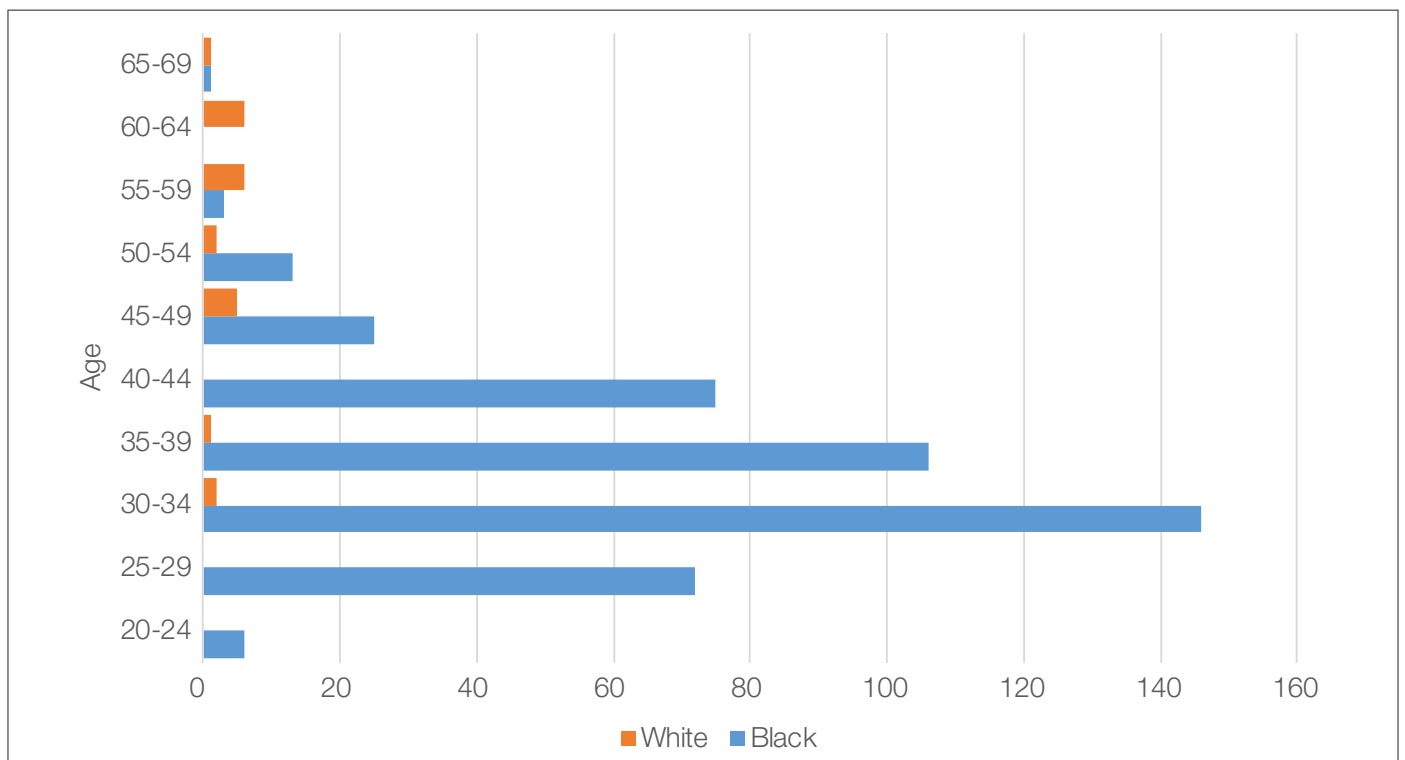
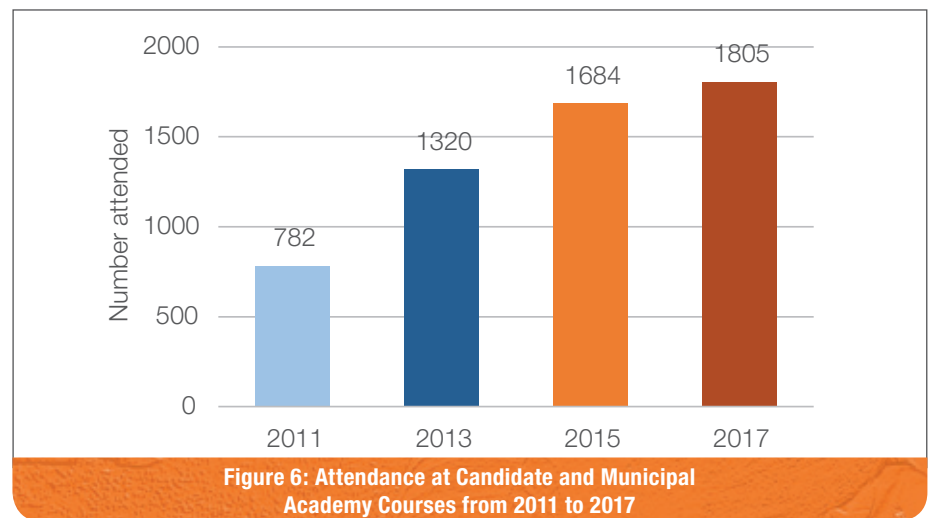
the *Spatial Development Framework* course. Towards the end of the year, we received requests to train councillors and traditional leaders on SPLUMA as well and we hope to finalise an appointment in the new financial year.

### Attendance

The MISA courses were offered nationwide, in the main centres and in smaller centres such as George, Ermelo, Ehlanzeni, Mthatha, Mahikeng, Kimberley, Polokwane, Port Shepstone, Ulundi and Witbank, to try to involve as many municipal officials as possible. The provincial split is shown in Figure 4. In line with the *Numbers and Needs* findings of 2015, the number of young people needing training and support is shown in Figure 5. The response continued to be overwhelming, with a total of 616 participants attending the courses.

### Training Results Overall

The combined training effort of the Candidate and Municipal Academies exceeded the volume of training offered in previous years, as can be seen in Figure 6.



# Professional Development



## Gauteng COGTA

The project to assist experienced engineering employees in Gauteng municipalities with professional registration commenced in November 2015, with a target of ultimately submitting 40 applications to ECSA within a 12-month period. The programme's objectives were to assess all Gauteng engineering candidates who considered that they were ready for registration, to determine their readiness, and assist them with the registration process. Those not ready for registration were to be given career advice and invited to attend various courses to enhance their knowledge.

The benefit of a large pool of registered personnel in local government is that mentoring programmes to develop graduates and more junior staff to professional status can be implemented under the guidance of these registered personnel.

Although 144 candidates attended the courses, only 62 eventually logged onto MyRegistration™ with a view to completing their applications. Sadly, many dropped by the wayside after going some of the way. Eventually we received 44 applications, four more than our initial target, and seven have been registered so far. The bulk of the applications were submitted after the new ECSA Council had been inaugurated in September 2016, so they have been on hold while the new registration policy is being developed and approved. Since the policy was passed by the ECSA Council in March 2017, the processing of applications has resumed, and we are hopeful that many more will hear the good news of having been registered. There were a few who were at 95% but we just could not get them across the finishing line. Hopefully they will eventually complete and submit their applications on their own.

Many candidates and mentors worked hard on the system and, in fact, learnt a lot about what was expected of them as



**Figure 7: First registered candidate – Fred Fryer**

engineering professionals. One applicant from Johannesburg Water excitedly told us that having had to think about problem solving when writing up her reports has changed the way she handles her work now, and she believes she is making a much greater contribution to her department. It was very exciting to hear of the first few registrations. We wrote stories on the first two, published them on our website and they were also published in the SAICE Magazine in December 2016 to encourage others to get busy with completing their applications.

The first candidate to register was Fred Fryer from the Ekurhuleni Metro Electricity Department. Fred started his career in 1982 as an apprentice electrician at the Alberton Municipality Electricity Department. He later completed his National Diploma in Electrical Engineering and in 2007 he completed his DBA; his thesis was titled: From electricity utility to service organisation.

*'Although I would sometimes visit the ECSA webpage, it never progressed beyond just that. Then came the opportunity in 2016 afforded by Gauteng COGTA with professional and hands-on assistance given in completing the registration process. I was able to complete documentation, which I clearly*



**Figure 8: Second registered candidate – Kenneth Masiagwala**

*understood after I received help, and finally registered. In retrospect, this happened really quickly and painlessly' – Fred Fryer.*

The second candidate to register was Kenneth Masiagwala from the City of Tshwane Traffic Engineering and Operations Department.

Kenneth commenced his career in 2005 as a technician in the City of Tshwane's Traffic Engineering and Operations Department. In 2008, he obtained his BTech: Transportation and was appointed as an engineering technologist. In 2016, he was appointed Acting Director of the Department.

*'I always wanted to be professionally registered with ECSA. In 2016, the opportunity from Gauteng COGTA came to receive professional assistance with completing the registration process. I grasped the opportunity with both hands' – Kenneth Masiagwala.*

The programme has been one of the most satisfying registration programmes to have been run by SAICE-PDP. We are looking forward to the results emerging from ECSA. There was a good level of commitment from those who finally submitted their documents and they appeared to be very dedicated local government personnel. However,

considering the poor experience of some who applied to be on the programme, have had, the need remains for much coaching, mentoring and action learning to develop their skills.

### The LGSETA Candidacy Programme

There was much activity on the LGSETA candidacy programmes during the financial year. The original cohort of 100 who commenced in November 2015, and the second cohort of 33 who commenced in March 2016, kept us busy during the year. Towards the end of the 2016, LGSETA awarded SAICE-PDP two further contracts: the first was to take on a further 67 candidates, bringing the total number of engineering candidates up to 200. The second was a mature candidate programme, to assist 40 experienced municipal officials to complete their ECSA applications. The progress of each cohort is discussed below.

#### Progress of the 100 Cohort

Two reporting milestones have taken place since the inception of the programme: in April and October 2016. For each milestone, candidates were expected to have written one or more ECSA Training

and Experience Report (TER) and mentors were expected to carry out an Outcomes Assessment per candidate to give an indication of the progress made and to determine what additional experience was required. The majority of the candidates have shown good commitment to the programme, with five candidates having already submitted their ECSA applications. However, not all candidates have displayed the same level of commitment, and others have left the programme due to moving out of local government.

#### Progress of the 33 Cohort

The first major milestone for these candidates was at the end of August 2016, but sadly many did not get their reports in on time. After much nagging, this group's reporting improved for the second milestone at the end of February 2017. One candidate has submitted his application and four have left the programme due to leaving local government or not being able to cope with the workload. The rest of the candidates have made varying degrees of progress. The average outcomes rating for the remaining candidates has increased from 2.7 to 2.9.

Due to the number of candidates who have left both programmes already

and considering the typical rate of staff turnover, we would expect to lose more in the future, and therefore have submitted a formal request to LGSETA for a replacement policy.

Having reviewed the first years' worth of reports, it was decided to hold review workshops to address gaps, and ensure that candidates and mentors alike better understand the approach to be used in writing up reports, as well as what is expected in terms of technical growth and coaching of candidates. These workshops are scheduled for April and May 2017.

#### Induction of the 67 Cohort

The 67 programme officially commenced in March 2017. Candidates were selected mainly from the largely rural provinces, since a large percentage of the above 133 were from Gauteng and the Western Cape. Forty-three of the 67 came from the North West, Mpumalanga, Limpopo and the Northern Cape. The difficulty with this programme was to source mentors in outlying locations.

The induction process included attendance at a workshop entitled *Municipal Technical Leadership*, followed on the second day by the *Road to*



Figure 9: The Carolina candidates on a site visit



Figure 10: Brice Tsozbe validating light levels which had been installed as part of a street light energy saving project

*Registration for Candidates course.* During engagements, candidates and mentors were also introduced to the Portfolio of Evidence Development File and the roles and responsibilities of each role-player in the development process. They were also logged onto the MyRegistration™ portal and shown how to plan, record and review their progress.

### **The LGSETA Mature Programme**

Based on the success of the Gauteng COGTA programme, similar support is now being offered to the other provinces funded by LGSETA.

The first activity was to roll out workshops to explain the ECSA process and assess candidates. Those considered ready for registration were assisted with writing their first Training and Experience Report, and the requirements of the Engineering Report were outlined. Thereafter, candidates are expected to complete their applications on their own, but with advice from registered mentors who comment on their reports. Once complete, SAICE-PDP will handle the submission process and will pay the ECSA application fee from the LGSETA budget.

Workshops took place towards the end of January and in early February 2017 in Johannesburg, Durban, Port Elizabeth, Cape Town and Kimberley. At the workshops, all delegates were interviewed and a further selection process was carried out. A total of 78 applicants attended the courses and the 40 strongest candidates were selected for full support. Nineteen candidates either did not have qualifications recognised by ECSA or had not had adequate experience and were in positions that did not afford them the opportunity to grow as engineering professionals. We will offer mentoring assistance to the remaining applicants with potential who will take a little longer to reach registration.

### **CETA 1: 2011/2012 Cohort**

Support for the CETA 1 (Construction and Education Training Authority) project commenced at the beginning of April 2013 and was concluded on 30 June 2016. Unfortunately, due to the high attrition rate, only 26% of the initial candidates remained at the end of the programme. It was encouraging to note that there were success stories, with a total of seven applications being submitted to ECSA (five of which were JRA candidates), four successfully registered (two Pr Tech Eng, two Pr Techni Eng), two applications were deferred, and one Pr Eng application is under review.

Despite the challenges, which were attributed partially to implementing a programme which was the first of its kind, many lessons were learnt which have allowed us to implement later candidacy programmes more effectively.

### **CETA 2: 2012/2013 Cohort**

The CETA 2 project commenced in December 2013 and was concluded on 30 November 2016. The collaboration with SAIEE was beneficial as electrical candidates were provided with the opportunity of mentorship which they would otherwise not have had.



**Figure 11: Induction workshop for the new candidates**



**Figure 12: Leonard Le Roux assessing a candidate at the Pretoria workshop**

The attrition rate on this programme was less dramatic, with 32% of the original candidates remaining. We were delighted that a total of ten applications were submitted to ECSA – nine were successfully registered (five Pr Eng and four Pr Techni Eng) and one Pr Tech Eng application is under review. SAIEE were very pleased that three of their candidates registered successfully.

### CETA 3: 2013/2014 Cohort

The CETA 3 project commenced in September 2014 and is currently in the third year of implementation. The candidates on this programme are based at various Eastern Cape municipalities, and SAICE-PDP has managed to retain 64% of the original candidates.

The programme has experienced various challenges, including the non-responsiveness of candidates and a limited scope of projects undertaken by the municipalities which has restricted the candidates' ability to gain the necessary experience. Another challenge is the lack of exposure to in-house design experience as most municipal infrastructure design is outsourced to consultants. It is acknowledged that these factors have affected the candidates' motivation levels

to write up their experience quarterly as there is often no change in the type of work or responsibility for many months.

### The Square Kilometre Array (SKA)

Initially, the SKA requested us to assist with the development of their engineering personnel and provide an engineering advisory service. Once our engineers began engaging with the technical teams, it became apparent that engineering support was the priority, but gradually our mentoring involvement has expanded. The formal contract period concluded on 31 March 2017, but due to remaining budget and ample work to be completed within firm timeframes, we anticipate an extension until December 2017.

Our registration support has been extended to include 12 senior managers and new appointees in the Cape Town Office. Remote support will be provided until March 2018.

Our seasoned and oldest (81 years young) civil engineer, Christian Schumann, continued making an invaluable contribution to the project, and his effort has included:

- Making recommendations for the construction of the surfaced road from Carnarvon to the SKA site under

difficult circumstances, including maintenance of streets and planning of additional infrastructure

- Mediation between main contractors and sub-contractors to build and maintain sound working relationships
- Assisting with the monitoring of existing water supply infrastructure and planning for a much-needed additional reservoir for Carnarvon
- Mentoring a National Diploma student who needed experiential training. The student was afforded a valuable opportunity as he accompanied his mentor on field trips, learning from the best how inspections of projects should be performed.

We were delighted that the three graduates we appointed on a one-year fixed-term candidate contract were permanently appointed by SKA. Their mentorship under the guidance of our local senior civil engineer continued, and the civil engineering graduate is nearly ready to submit her application to ECSA.

### Rand Water

SAICE-PDP received requests from the Human Resources Division of Rand Water to interview identified employees and assess whether they were ready for promotion within the Rand Water system. Individuals were interviewed by our civil engineer, who assessed their promotion potential or their need to gain further experience before they could either be promoted or be considered ready for professional registration. Once the interviews had been concluded, a comprehensive report detailing the outcomes and recommendations was submitted to Human Resources for their consideration and action.

The Rand Water Academy appointed SAICE-PDP to assist with developing engineering candidates towards professional registration with ECSA. During 2015 thirteen candidates attended Road



**Figure 13: Nico Jonker, an Eastern Cape mentor, conducting a visual inspection of a road in desperate need of rehabilitation with his CETA 3 candidates**

to Registration workshops, were assessed and given advice on the type of work they should be exposed to. An assessment undertaken at the end of 2016 showed that they had made great progress. Two candidates were found to be ready for registration, and only needed to write up their Engineering Reports. The Rand Water Academy was advised on the additional experience required for the development of the remaining eleven candidates.

### Amathole District Municipality (ADM)

ADM appointed SAICE-PDP to provide mentoring and design support to engineering staff of the district and local municipalities, with specific emphasis on stormwater aspects in Kei Mouth and Haga Haga. The support required included:

- Training four candidates on the use of relevant software and design procedures
- Mentoring and coaching with respect to documentation, specifications, drawings, conceptual and final design, and design standards/parameters
- Arranging and supervising independent value engineering and control by external professional service providers.

A proposal was submitted to extend our involvement, but we have been unsuccessful in obtaining a firm commitment from the municipality.

### National Treasury Candidate Programme

SAICE-PDP commenced its work to provide oversight and technical leadership to National Treasury for their Infrastructure Skills Development Grant (ISDG) programme. There are some 300 candidates on the programme who are being trained in local government towards professional registration. The intention is that they will eventually assume positions in small or rural municipalities, once trained. On investigation, it was found that some candidates were

doing well, but many were not doing sufficiently challenging or complex work to achieve the outcomes required by many statutory councils. SAICE-PDP visited all municipalities at which the programme was running in 2016 and attended three national workshops with municipalities and mentor champions during the year. It was found that the understanding of the mentoring and reporting requirements was inadequate and it was necessary to develop guidelines on what should be included in training plans and how to assess progress. Furthermore, it was necessary to issue statutory council reporting formats to all mentors and decide on a reporting frequency to ensure that all candidates are developing a portfolio of evidence to demonstrate progress made in their workplace-based training. It has been agreed that SAICE-PDP will train all in-house supervisors in the 2017/2018 year, which will be a major task. It will, however, be beneficial to local government as one of the essential messages that must be shared is to advise supervisors on the need to help their mentees develop a problem-solving approach to every assignment that comes their way.

A comprehensive work plan for 2017/2018 was developed and submitted for approval. The focus for the remainder of the programme will be to develop programme guidelines and finalise policies and procedures. SAICE PDP has made a proposal for ISDG to utilise MyRegistration™ for the management of the programme and the candidates.

### The LGSETA BTEch Bursary Scheme

In the 2015/2016 financial year, thirty-two students were awarded LGSETA bursaries. Twenty-one students commenced their studies in the first and second semesters of either year 2015 or 2016, with a total of eleven students not taking up the offer due to working conditions and other commitments in their municipalities.

It was a gratifying to hear the news that ten students from the 2015/2016 intake graduated during the year, as listed in Table 1.

The process is challenging for many students. As an example, Nondumiso Buthelezi in Figure 14, lives 256 km from the university, is the only female in her department and is tasked with many responsibilities. Balancing municipal demands, with travelling long distances and studying requires perseverance and dedication. Nondumiso was successful – we congratulate her.

**Table 1: 2015/2016 BTEch bursary graduates**

<b>Nondumiso Buthelezi</b>
<b>Asanda Hlehliso</b>
<b>Richard Lubisi</b>
<b>Mpho Mathebula</b>
<b>Duba Mbulelo</b>
<b>Sindiswa Mdadane</b>
<b>Siphesihle Mhlanga</b>
<b>Marius Myburg</b>
<b>Sibongiseni Ndlovu</b>
<b>Asanda Nontsimi</b>

The BTEch qualification has been discontinued in favour of a BEngTech, which is a three-year undergraduate degree and not a post-graduate qualification. This means that SAICE-PDP will no longer be working with LGSETA on bursaries, but we will continue to support students currently in the system until they have completed their studies.

Since the inception of the programme in 2006, a total of 92 students have completed their BTEchs and 12 are still studying. Doing a BTEch part-time is very challenging, particularly for those who live long distances from universities of technology and have to travel thousands of kilometres every month or semester. As a result, the drop-out rate has been of the order of 40%.



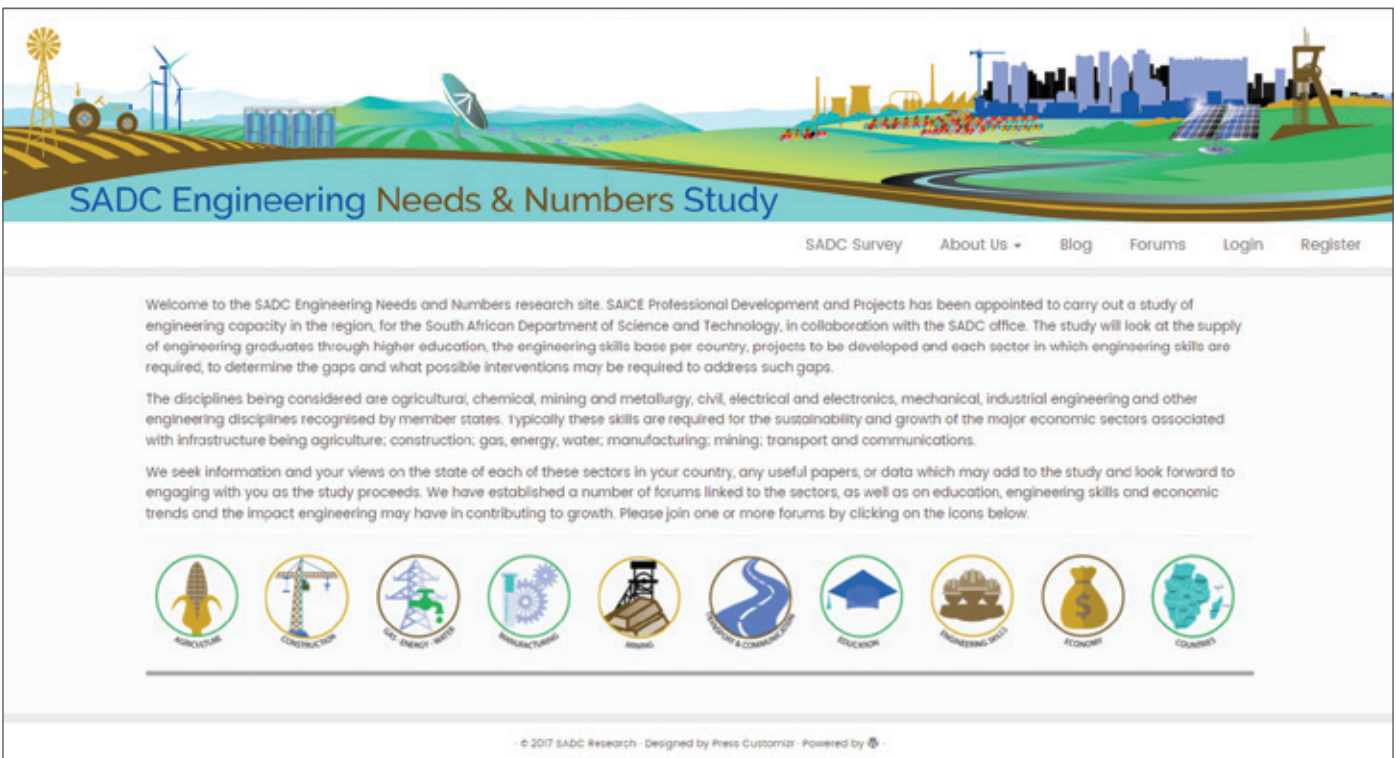
**Figure 14: Nondumiso Buthelezi graduated in April 2017 with BTech in Town & Regional Planning**

### Engineering Needs and Numbers Study in the SADC Region

SAICE-PDP was delighted to be appointed to carry out a study of engineering capacity in the SADC region, for the South African Department of Science and Technology, in collaboration with the SADC office. The purpose of the study is to look at the supply of engineering graduates through higher education, the engineering skills base per country, projects to be developed, and to understand the needs in each sector in which engineering skills are used in order to determine the gaps. Working with each country, possible interventions need to be explored and developed to address such gaps. The disciplines being considered are agricultural, chemical, civil, electrical and electronic, industrial, mechanical, mining and metallurgical engineering and

other engineering disciplines recognised by member states. Typically, these skills are required for the sustainability and growth of the major economic sectors associated with infrastructure: agriculture, construction, gas, energy and water, manufacturing, mining, transport, and communications.

SAICE-PDP has attended a meeting with representatives from member states to fine-tune the scope of work and is busy developing a database of contacts in registering bodies, voluntary associations, government bodies and higher education institutions per country, with a view to gathering the input required. A website, <https://needsandnumbers.co.za>, has been set up to communicate with interest groups and get input. It has been gratifying to see the start of input into the forums.



**Figure 15: The SADC Needs and Numbers website landing page**

# Advisory Services

## Department of Higher Education and Training (DHET)

Allyson Lawless continued to offer support as Technical Advisor to the Deputy Director-General (DDG) of the Special Projects Unit (SPU) of the DHET. This unit is responsible for preparing the skills plan for the Strategic Integrated Projects (SIPs). Having developed a methodology for determining skills prototypes for different types of projects, and a set of forecasting tools (available on the SIPs portal), it was decided that this approach should be made available for general use. The application developers and Allyson spent much time considering an expanded scope to ensure that the functionality would cover users of all types, and Allyson was tasked with writing a skills planning manual for use once the updated tools are completed. The KZN skills team worked with the SPU to brainstorm the expansion of the tools and the Northern Cape has expressed an interest in modelling their skills needs using these resources.

## Quality Council for Trades and Occupations (QCTO)

Allyson Lawless continued to serve on the Qualifications Committee of the QCTO. The QCTO is responsible for redeveloping all qualifications that have been developed by the Standard Generating Bodies of the Sectoral Education and Training Authorities (SETAs). The material tester's suite of qualifications was approved by the Committee, which is cause for celebration, as for many years no formal qualifications have been on offer. Several earthmoving machine operator qualifications were also approved, but focusing on use in the mining industry, so there is still work to do to expand them for the construction industry. The water qualifications discussed below were also approved. This brings to 203 the number of qualifications approved in the new comprehensive

format, including theory, practical and workplace-based learning, followed by a summative assessment and certification.

## Department of Cooperative Governance and Traditional Affairs – Competency Frameworks

In May 2016, as a result of our local government skills research, COGTA approached SAICE-PDP to assist with the development of competency frameworks for local government officials. They had developed draft competency frameworks for a range of occupations, including engineering, town planning, Geographic Information Systems (GIS) and construction project management. They had not received input from the relevant councils, so SAICE-PDP gathered together a substantial delegation to attend the competency framework workshop. Emerging from the gathering, all councils needed to expand the frameworks to better match the different categories of registration per council. The final document was gazetted in September 2016 and was open for public comment for two months. The input consolidated by COGTA was presented to councils in February 2017 for final input. It is hoped that these competency frameworks will soon be implemented as they will go a long way to ensuring that, in time, local government structures will be professionalised.

## Launch of Numbers and Needs in Local Government 2015 Update

The research report *Numbers and Needs in Local Government, 2015 Update* was presented at the IMESA and CESA Conferences in October and November 2016, respectively. The report was published in the IMIESA magazine and also in the SAICE magazine *Civil Engineering* in January 2017. The message is clear, the majority of experienced municipal engineering professionals have retired, and

have been replaced by young technicians requiring experience and guidance before they can effectively take over the reigns.

## Water and Waste Water (W&WW) Process Controller Occupational Qualification: Working Group

Peter Coetzee continued contributing to the working group developing a W&WW process controller qualification through the QCTO. The group now has a new convenor and the syllabus is being finalised.

## Water Reticulation Officer

Peter Coetzee has been an active member of the Community of Expert Practice (CEP) for the development of the Water Reticulation Officer qualification (previously known as the water serviceman). The process has developed the knowledge, practical skills and work experience modules and the qualification is at the South African Qualifications Authority (SAQA) for registration. In the interim, the CEP is addressing:

- Funding sources
- Development of training materials
- Identification of training providers
- Workshops on the delivery system
- Identification of workplaces as pilot sites
- Identification of workplace providers and sources of trainees

## Water Infrastructure Management Practitioner

Peter Coetzee has also been an active member of the CEP for the development of this Water Infrastructure Management Practitioner qualification. The qualification is also at SAQA for registration and the CEP is also addressing the issues as listed above. This qualification is aimed at equipping a technical manager in a water department to plan, develop, control, operate and maintain assets and to troubleshoot in all facets of water supply.

# Company News



## MyRegistration™

The MyRegistration™ platform has grown considerably over the 2016/2017 period, through its user base and projects. Table 2 shows how many candidates, mentors, projects, etc. are currently benefiting from the platform.

Table 2: Report on the MyRegistration platform	
Description	Number
Candidates	612
Mentors	68
Projects	22
TERs Submitted	2180

## Staff News

- **Mmathabo Mokone** – Mmathabo joined the company in November 2016. She holds a Cost and Management Accounting Diploma, and she had gained valuable experience prior to joining SAICE-PDP. Mmathabo is responsible for monitoring costing on the various projects in accordance with the respective budgets, processing all mentor claims and ensuring the integrity of timesheets and reporting.
- **Zan Mlambo** – Zan graduated from the University of Johannesburg, having completed her BCom (Law) in November 2016. Zan will work towards becoming a Company Secretary and will gain valuable experience handling all the Company Secretary duties for SAICE-PDP since the structure and reporting requirements for not-for-profit companies are similar to those for listed companies.

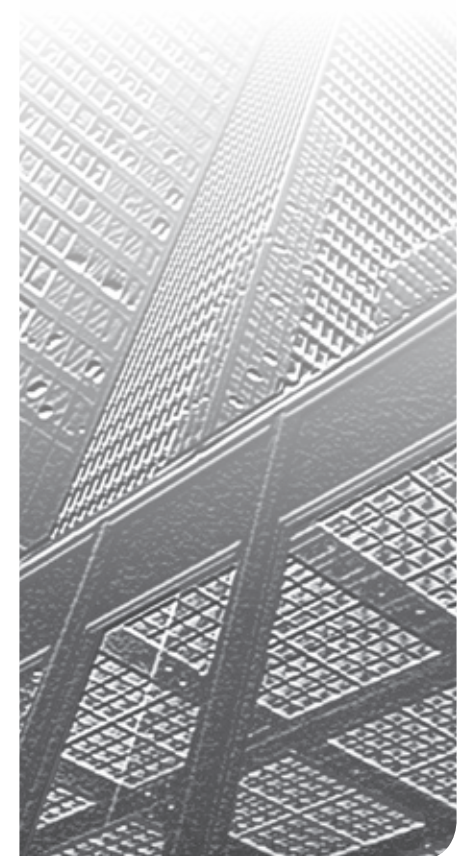
- **Mentors** – With the unexpected additional funding awarded by LGSETA, the initial thought was to allocate the additional candidates to existing mentors. But, with 107 candidates (including mature ones) based in widespread geographical locations, it became apparent that it was not going to be economically viable, and instead we appointed additional mentors in closer proximity to the new municipalities. The number of mentors supporting SAICE-PDP candidates across all the programmes totalled 33 at 31 March 2017.



Figure 16: Zan Mlambo at her graduation in April 2017

## Enterprise Development

Enterprise and supplier development is an element considered when determining the B-BBEE ratings of organisations. SAICE-PDP offered extensive support to Great Albatross and Purechem. Great Albatross is a fledging, 100% black-owned market research company which benefits from Allyson Lawless's mentorship and support. During the year, the company carried out three significant research projects considering entrepreneurship, developing emerging chemical manufacturers, and investigating the availability of, and need for student accommodation to assist potential investors to determine which campuses to support. Purechem is a startup chemical manufacturer which required assistance with a research project they were awarded by the Chemical Industries Education and Training Authority (CHIETA).





## Governance

### Board of Directors Meetings

The Board met on 21 July 2016 and 27 February 2017.

### B-BBEE and Tax Clearance Certificates

SAICE-PDP's verification audit will be conducted in May 2017. Following the revision of the B-BBEE Codes of Good Practice, it is unlikely that we will achieve our Level 2 status again due to the targets and certain elements having been amended and increased substantially. Going forward, we will be considering innovative opportunities to increase our contributor status.

Furthermore, a new Tax Clearance Certificate was received from the SARS in June 2016.

### Directors

Directors as at 31 March 2017 are listed in Table 3.

### Members

Members as at 31 March 2017 are listed in Table 4.

### Financial Report

The Annual Financial Statements have been audited and are available for review. The turnover increased slightly, as did the profit. The retained income increased to just over R3m.

This level of reserve is essential to alleviate the cash flow problems we experience when major debtors do not pay timeously.

**Table 3: Directors of SAICE-PDP**

Director	Position in SAICE-PDP	Age	Years on SAICE-PDP Board	Other significant Board Membership/ Professional positions
<b>Dr Allyson Lawless</b>	Managing Director	64	12 years	<ul style="list-style-type: none"> <li>Board Member – South African Institution of Civil Engineering (SAICE)</li> <li>Board Member – South African National Roads Agency Limited (SANRAL)</li> <li>Council Member – Human Resource Development Council (HRDC)</li> <li>Council Member – Engineering Council of South Africa (ECSA)</li> </ul>
<b>Mr Manglin Pillay</b>	Non-executive Director	41	6 years	<ul style="list-style-type: none"> <li>CEO – South African Institution of Civil Engineering (SAICE)</li> <li>Board Member – Professional Provident Society – PPS Insurance SA</li> </ul>
<b>Mr Gary Drummond</b>	Chair	59	7 years	None
<b>Mr Neil Macleod</b>	Non-executive Director	65	7 years	Director – Toilet Board Coalition
<b>Mr Stanford Mkhacane</b>	Non-executive Director	66	4 years	Executive Director – Nyeleti Consulting (Pty) Ltd

**Table 4: Members of SAICE-PDP**

<b>Mr Seetella Makhetha</b>	<b>Mr Errol Kerst</b>
<b>Dr Martin van Veelen</b>	<b>Dr Chris Herold</b>
<b>Mr Mehboob Babamia</b>	<b>Mr Sundran Naicker</b>
<b>Mr Simon Mqamelo</b>	

# Acronyms

<b>B-BBEE</b>	Broad-Based Black Economic Empowerment
<b>CEP</b>	Community of Expert Practice
<b>CESA</b>	Consulting Engineers South Africa
<b>CETA</b>	Construction Education and Training Authority
<b>COGTA</b>	Cooperative Governance and Traditional Affairs
<b>CPD</b>	Continuing Professional Development
<b>DBSA</b>	Development Bank of Southern Africa
<b>DHET</b>	Department of Higher Education and Training
<b>DST</b>	Department of Science and Technology
<b>dti</b>	Department of Trade and Industry
<b>ECSA</b>	Engineering Council of South Africa
<b>ENERGYS</b>	Engineers Now Ensuring Roll-out by Growing Young Skills
<b>GCC</b>	General Conditions of Contract
<b>GIS</b>	Geographic Information Systems
<b>JIC</b>	Joint Implementation Committee
<b>HRDCSA</b>	Human Resources Development Council of South Africa
<b>IPD</b>	Initial Professional Development
<b>IMESA</b>	Institute of Municipal Engineering of Southern Africa
<b>ISDG</b>	Infrastructure Skills Development Grant
<b>JRA</b>	Johannesburg Roads Agency
<b>LGSETA</b>	Local Government Sector Training Authority
<b>MISA</b>	Municipal Infrastructure Support Agent
<b>QCTO</b>	Quality Council for Trades and Occupations
<b>SADC</b>	Southern African Development Community
<b>SAGI</b>	South African Geomatics Institute
<b>SAICE</b>	South African Institution of Civil Engineering
<b>SAICE-PDP</b>	SAICE Professional Development and Projects
<b>SAIEE</b>	South African Institute of Electrical Engineers
<b>SANRAL</b>	South African National Roads Agency Limited
<b>SAQA</b>	South African Qualifications Authority
<b>SETA</b>	Sector Education and Training Authority
<b>SIP</b>	Strategic Integrated Projects
<b>SKA</b>	Square Kilometre Array
<b>SPLUMA</b>	Spatial Planning and Land Use Management Act
<b>SPU</b>	Special Projects Unit
<b>TER</b>	Training and Experience Report
<b>WISA</b>	Water Institute of Southern Africa



## OFFICES

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