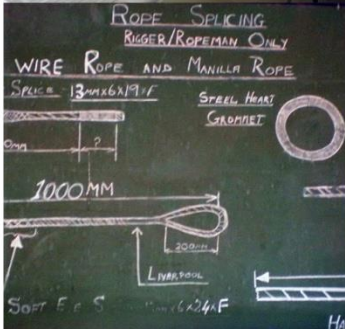




School



Theory



Practical



Workplace



Assessment



Expertise

# Skills for and through SIPs

## PROGRESS REPORT MARCH 2015



higher education  
& training

Department:  
Higher Education and Training  
REPUBLIC OF SOUTH AFRICA



# **Skills for and through SLPs**

## **PROGRESS REPORT**

### **MARCH 2015**

**What has been done and still needs to be done to  
skill South Africans for SLPs and through SLPs**

Pretoria

May 2015

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# ACRONYMS

CBE	Council for Build Environment	NRMDP	National Red Meat Development Programme
CETA	Construction Education and Training Authority	NSF	National Skills Fund
COGTA	Cooperative Governance and Traditional Affairs	OBP	Onderstepoort Biological Product
DAFF	Department of Agriculture Forestry and Fisheries	OFO	Organising Framework for Occupations
DHET	Department of Higher Education and Training	OSD	Occupational Specific Dispensation
DOL	Department of Labour	PICC	Presidential Infrastructure Coordination Commission
DPSA	Department of Public Service and Administration	PMSA	Project Management South Africa
DPW	Department of Public Works	PSETA	Public Service Sector Education and Training Authority
DSD	Department of Social Development	QCTO	Quality Council for Trades and Occupations
DST	Department of Science and Technology	RECE	Renewable Energy Centre of Excellence
DTI	Department of Trade and Industry	SACPCMP	South African Council for Project and Construction Management Professions
DWS	Department of Water and Sanitation	SANEDI	South African National Energy Development Institute
EDD	Economic Development Department	SAOGA	South African Oil and Gas Alliance
EWSETA	Energy and Water SETA	SAQI	South African Quality Institute
HCD	Human Capital Development	SAREC	South African Renewable Energy Council
IAIA	International Association of Impact Assessment	SARETEC	South African Renewable Energy Technology Centre
ICT	Information and Communication Technology	SDA	Skills Development Agency
IDC	Industrial Development Cooperation	SETA	Sector Education and Training Authority
IDIP	Infrastructure Delivery Improvement Programme	SKA SA	Square Kilometre Array (South Africa)
IDZ	Industrial Development Zone	SOE	State Owned Entity
IPM	Institute of Project Management	SONA	State of the Nation Address
merSETA	Metal, Engineering and Related Services SEAT	SPU	Special Projects Unit
NAD	National Artisan Development	SSACI	Swiss-South Africa Cooperation Initiative
NDP	National Development Plan	WCED	Western Cape Education Department
NEETs	Neither in Education, Employment or Training		
NGP	New Growth Path		
NIP	National Infrastructure Plan		
NRF	National Research Fund		



## INTRODUCTION AND BACKGROUND

### Plotting the path to meet the challenge

The President of South Africa, the Honourable Jacob Zuma, launched the National Infrastructure Plan as part of his State of the Nation Address in 2012. Under this heading he announced eighteen Strategic Integrated Projects (SIPs) as key drivers of economic growth and social development in the country.

- **SIP 1** – Unlocking the Northern Mineral Belt with Waterberg as the Catalyst
- **SIP 2** – Durban-Free State-Gauteng Logistics and Industrial Corridor
- **SIP 3** – South Eastern Node & Corridor Development
- **SIP 4** – Unlocking the Economic Opportunities in North West Province
- **SIP 5** – Saldanha-Northern Cape Development Corridor
- **SIP 6** – Integrated Municipal Infrastructure Project
- **SIP 7** – Integrated Urban Space and Public Transport Programme
- **SIP 8** – Green Energy in Support of the South African Economy
- **SIP 9** – Electricity Generation to Support Socio-Economic Development
- **SIP 10** – Electricity Transmission and Distribution for All
- **SIP 11** – Agri-Logistics and Rural Infrastructure
- **SIP 12** – Revitalisation of Public Hospitals and other Health Facilities
- **SIP 13** – National School Build Programme
- **SIP 14** – Higher Education Infrastructure
- **SIP 15** – Expanding Access to Communication Technology
- **SIP 16** – SKA and MeerKat
- **SIP 17** – Regional Integration for African Cooperation and Development
- **SIP 18** – Water and Sanitation Infrastructure Master Plan

He added at the time: *“the massive investment in infrastructure must leave more than just power stations, rail lines, dams and roads. It must industrialise the country, generate skills and boost much needed job creation.”* (State of the Nation Address, 9 February 2015).

All of those charged with ensuring implementation of the SIPs, led by SIP Coordinators, took up this challenge – with the results shown later in this report. The Provincial Premiers also took up the baton.

In parallel, the President charged Minister Blade Nzimande with ensuring that skills development did in fact take place. Minister Nzimande immediately established a Special Projects Unit (SPU) to take this mandate forward. The Unit consulted widely before developing its Skills Plan.

### Vision

The vision of the skills plan is:

*‘Skilling South Africans for SIPs and through SIPs’*

indicating that training should take place not only in advance of the SIPs but also on the projects themselves.

### Core Principle

A core principle was also adopted:

*‘Building people is as critical as building physical assets’*

The core principle guided the discussions.

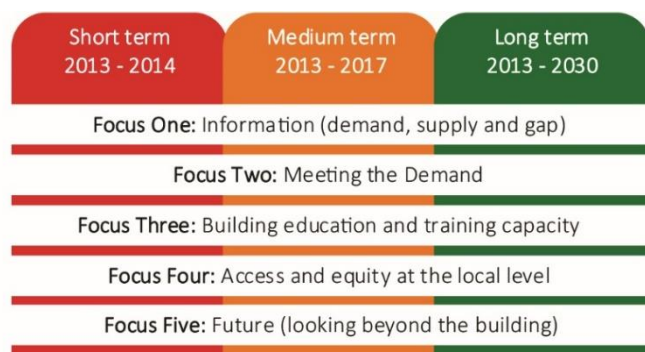
### A plan built on focus areas

The Skills Plan identified three broad timeframes for implementation and five areas to focus on – which are shown in Figure 1. The work was new





and challenging, hence time and effort had to be dedicated to developing a methodology with which to address the task.



**Figure 1 : The SIPs Skills Plan**

This report aims to detail the progress that has been made to date, both by the Special Projects Unit as well as by the SIPs themselves, under each of the Focus Areas.

## A strategy built on partnerships

It needs to be emphasised upfront that the progress that has been made is **not** the work of a few government officials in a single government department only; rather it is the work of an army of people drawn from across the public and private sectors, nationally as well as provincially including:

- **Ministers** – In addition to Minister Nzimande, the Ministers of Economic Development, Public Works, Public Service and Administration and Labour have played a strong leadership role although others have also made significant contributions.
- **SIP Skills Coordinators** – Associated with each one of the eighteen SIPs, SIP Skill Coordinators have promoted training in the context of the projects under their umbrella.
- **Intermediate Bodies** – A core group of people, known as Intermediate Bodies, drawn from the organisations listed Table 1 have helped to convene and manage the Occupational Teams (made up of occupational experts) that have provided advice on what should be done to address the scarcity of ‘their’ scarce skills. Literally hundreds of people have contributed to the work done in this capacity (all of whom are listed in the ‘Skills for and through SIPs’ Report outlined below).
- **SETAs** – The Sector Education and Training Authorities contributed as reported later.
- **Provinces** – In the last year there has been a growing partnership with the Offices of the Premiers in many provinces. It is hoped that these partnerships will strengthen going forward.
- **The Business Community** – Partnership with the business community is beginning to strengthen. This was confirmed at a meeting of the President’s Business Forum on 24 October 2014 at which organised business undertook to work with government on the implementation of the skills plan for SIPs and to collaborate in the Waterberg area as a first step.

Building these partnerships took time and effort and in itself is one of the major achievements of this work.

**Table 1 : Intermediate Bodies representing Occupational Clusters**

Occupational Clusters	Intermediate Bodies
Managers (public sector prioritised)	Department of Public Service and Administration
Professionals and Associate Professionals	Council for the Built Environment
Service and Clerical Workers	Services SETA
Trades	INDLELA, DHET
Plant and Machine Operators	Transport SETA and the Contractors Plant Hire Association
Elementary and Non-Trade Production Workers	Construction Industry Development Board



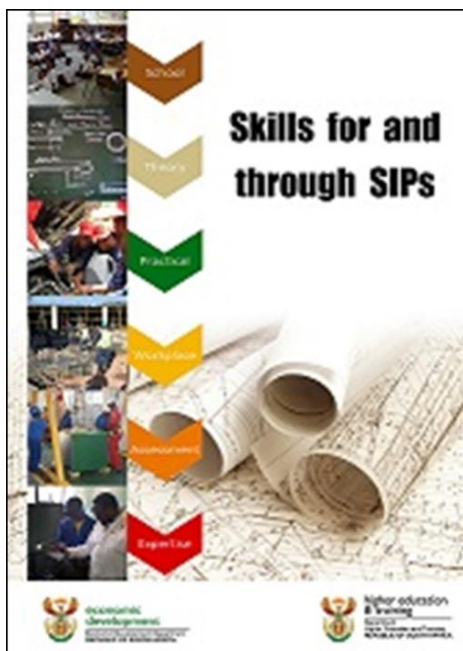
## PROGRESS TO DATE

### Focus Area One: Demand, Supply & Gap

Establishing what skills will be in short supply for the roll-out of the National Infrastructure Plan was a first priority.

### Skills for and through SIPs Report

A great deal of work was undertaken to determine an answer to the question: 'What skills are needed?' The result was the publication of a detailed report entitled '**Skills for and through SIPs**' (hereafter 'the Report') which the Minister of Higher Education and Training, Dr Nzimande, together with the Minister of Public Works, Mr Nxesi, and (now sadly the late) Minister of Public Service and Administration, Mr Chabane, released on 2 September 2014. The Minister of Economic Development, Mr Patel also supported the release of the report. (The Report can be viewed on <https://sip-skills.onlinecf.net>)



The Report has fourteen chapters:

- Chapter 1 – National Development Plan and the New Growth Path
- Chapter 2 – Estimating the skills required for the SIPs
- Chapter 3 – Where are the gaps?
- Chapter 4 – Occupational Teams
- Chapter 5 – Professionals and Associate Professionals
- Chapter 6 – Clerical and Support Workers
- Chapter 7 – Trades
- Chapter 8 – Plant and Machine Operators
- Chapter 9 – Elementary Occupations
- Chapter 10 – Managers
- Chapter 11 – Planning and Resourcing
- Chapter 12 – Gearing the Supply Side to Respond to Occupational Team Recommendations
- Chapter 13 – Employment and Career Development Services
- Chapter 14 – Going Forward

After providing the context in the first chapter, the following two chapters outline the methodology used to generate a list of occupations in demand for the SIPs. Chapter Four outlines the way in which the services of 'communities of expert practitioners' were drawn in, as Occupational Teams, to provide advice on what should be done to address the scarcity identified. Chapters Six to Ten contain the reports of the Occupational Teams. They detail the challenges being faced in relation to each of the listed scarce occupations and propose remedies to address the challenges. The closing chapters look at ways in which these recommendations can be implemented.

### The 21 Step Process

The methodology developed to generate the list of occupations in demand nationally and to propose actions to address the scarcity identified, is an achievement in its own right. Whilst broadly outlined in the Report, it has subsequently been refined and developed, and is summarised below. It can now be used to generate similar lists and



intervention strategies at provincial and sectoral levels, and can be used to generate lists of occupations in demand for new strategic projects.

This methodology has been codified as the **21 STEP PROCESS**. It outlines a systematic set of steps to be followed from the demand to the supply side (and back again).

## WHAT SKILLS ARE NEEDED?

**1 PROJECT LIST** – Develop a list of SIP projects planned for the area, and regularly update it.

A template, for capturing relevant project information, has been developed and captured on the skills portal, with the following items:

- Project
- Comment
- SIP
- Sector
- Sub-sector
- Project Size
- Unit of Measure
- Phase
- Start Date
- End Date
- Construction Method
- Total Project Cost
- Province
- District Municipality
- Local Municipality
- % in Area
- Prototype Link
- Identifier
- Efficiency Multiplier
- Complexity Factor
- Scale Multiplier

**2 SKILLS PROTOTYPES** – Develop *skills prototypes* consisting of the occupations needed for a typical project in each type of *sub-sector* together with an initial estimation of the scarcity of each occupation, derived from the experience of project managers.

To achieve this, cluster the projects into sectors, (e.g. energy, rail, etc) and then into sub-sectors (e.g. for energy: *generation, transmission, distribution*) and where relevant into sub-sector types (e.g. for generation: *solar, coal, wind, biofuels, nuclear*).

An Excel-based toolkit has been developed for this purpose, which can be found on the portal. It has drop-down menus to make the task of generating the prototypes easier. It enables experts to capture the occupations required for each typical project under a set of standard headings as follows:

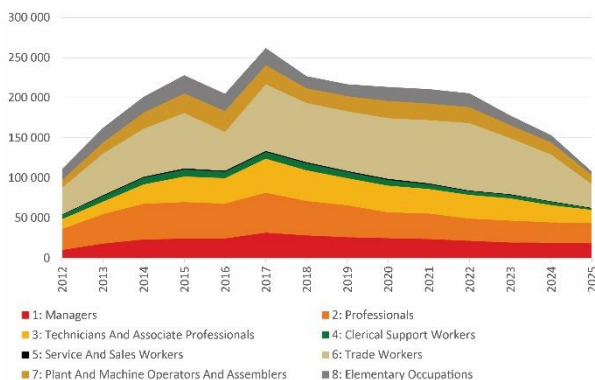
- Role
- Agency
- Agency Level
- National Department
- Major OFO category
- Minor OFO category
- OFO Occupation
- Typical number required
- Scarcity
- Start Date
- End Date
- Duration in months

A library of 43 prototypes can be downloaded from the portal. Others are encouraged to add to this library.

**3 SKILLS REQUIRED** – Estimate total skills required for all projects.

A methodology (supported by technology) has been developed which enables professionally-informed planners to use the prototypes to estimate the total occupational requirements for all projects of a similar type and then to estimate the total occupations in demand across a timeline. The final list is no longer linked to any one project, sub-sector or sector; but is a consolidated list for ALL projects on the project list. Demand for these skills is shown in the following demand model.

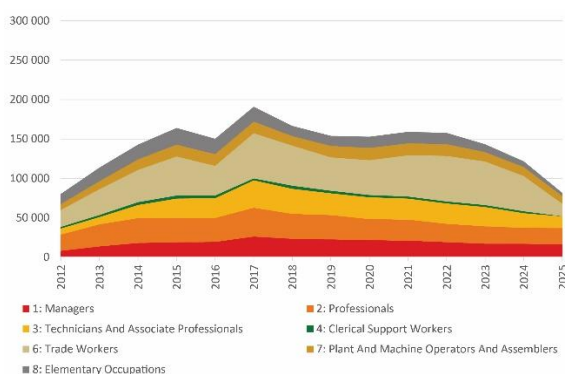




**Overall occupations in demand for SIPs**

The methodology also enables the generation of a list, across a timeline, and estimated demand of those occupations which are considered scarce, using the scarcity estimates from STEP 2.

**Overall demand for SIPs' scarce occupations**



A detailed list of individual occupations can be drawn down in each case.

## 4 NATIONAL DEMAND – Determine the national demand for occupations identified as scarce in STEP 3.

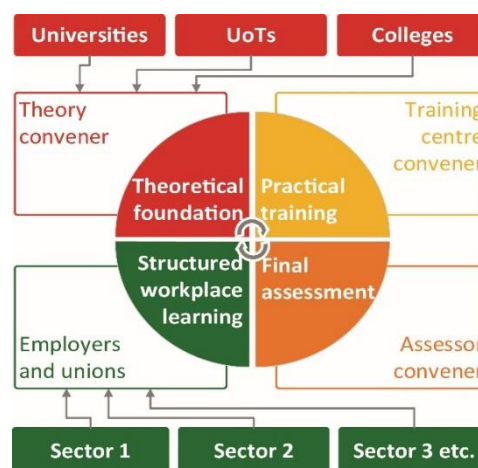
Use the Linked Macro-Education Model (LM-EM) developed by Dr Asghar Adelzadeh<sup>1</sup> to forecast estimated **national** demand for

occupations considered scarce, or use detailed research per occupation where available.

This step is needed as there is no guarantee that someone with the required skill will work on a SIP project, they could work anywhere. There has, therefore, to be an estimate of the total demand for the occupation(s) in question.

## 5 OCCUPATIONAL TEAMS – Set up Occupational Teams (OTs) to act as expert advisers per occupation.

An OT is composed of theory and practical training providers, employers (drawn from all sectors where the occupation is employed) and those from registering or certifying bodies.



Their initial role is to gather data and input from their communities of expert practice to refine the demand model. A further role is to verify the learning pathways people should follow to attain occupational competence. This includes the mapping of relevant theoretical and practical qualifications to occupations. OTs should in the process review the pathways defined on the DHET's National Career Advice Portal (NCAP)<sup>2</sup>.

<sup>1</sup> Commissioned by DHET as part of the Labour Market Intelligence Partnership and was undertaken under

the Centre for Researching Education and Labour at the University of the Witwatersrand.

<sup>2</sup> <http://ncap.careerhelp.org.za>

## Generic Occupational Learning Pathway



**6 SKILLS AVAILABLE** – Determine the number of people with the required occupational skills both in the workforce and who are unemployed.

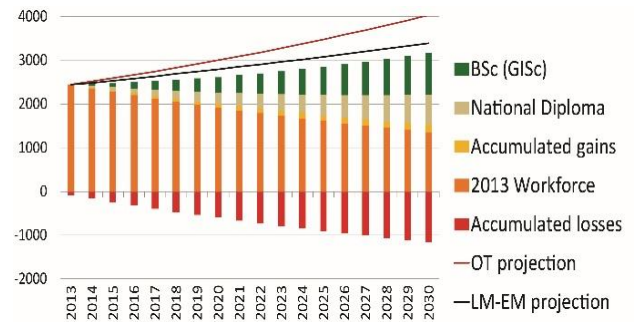
Use the Quarterly Labour Force Survey published by Statistics South Africa (StatsSA) to determine those with the required skills in employment and use the Department of Labour's (DOL's) Employment Services South Africa (ESSA) to get insight into the number of similarly skilled people in the ranks of the unemployed.

**7 INFLOW OF SKILLS** – Estimate the number of those entering the labour market with the required skills.

DHET to provide past and projected graduation rates of learners with the necessary theoretical qualifications. Consider immigration, use of retirees, transfer of public officials and recognition of prior learning as short-term options where required.

**8 WHERE ARE THE GAPS?** – Determine which occupations are not being developed at the required rate to meet the demand.

Develop a graph for each occupation based on the Lawless Skills Flow Model, shown below, using data from STEPS 4, 6 and 7 plus other sources for occupations identified in STEP 3.



A programme is being developed to generate this graph automatically once the data is entered. Where development falls short of demand, interventions are required.

**9 WHERE AND WHEN?** – Provide an indication of the scale, place and timeframe of demand for each occupation.

Map occupations back to projects under STEP 1 to determine approximately where, when and how many of each occupation will be required. This is input data needed for STEP 12.

## WHAT SHOULD BE DONE?

**10 TRAINING ON PROJECT SITES** – Encourage those issuing tenders to include the cidb Training Standard.

The cidb Training Standard<sup>3</sup> must be brought to the attention of those who are issuing the tenders for projects listed under STEP 1. They must be encouraged to include the conditions in

<sup>3</sup>

[http://www.cidb.org.za/Documents/KC/cidb\\_Publications/Stand\\_Codes\\_Other/stand\\_codes\\_Gov\\_Gazette\\_Skills\\_Development.pdf](http://www.cidb.org.za/Documents/KC/cidb_Publications/Stand_Codes_Other/stand_codes_Gov_Gazette_Skills_Development.pdf)





project tenders.



**11 SCHOOL SUPPORT** – Consider schools in the area as feeders for training. Provide career guidance and support for gateway subjects such as in mathematics and science.

In collaboration with the Department of Basic Education, the National Career Advice Portal (NCAP) <http://ncap.careerhelp.org.za/occupation> can be used to highlight to local schools the occupations that will be in demand in their area.

**12 CENTRES OF SPECIALISATION** – Determine which education and training providers should focus on developing which skills. Identify Centres of Specialisation as near as possible to the source of demand, where appropriate.

DHET in partnership with colleges, universities and OTs to determine which institutions would be best placed to specialise in the delivery of needed occupations. These can become Centres of Specialisation. A structured process of consultation will need to be undertaken in the relevant areas.

**13 DELIVERY CAPACITY** – The OT for each priority occupation should visit Centres of Specialisation and determine their capacity and support required.

OTs to visit 'their' Centres of Specialisation to determine their current capacity and measures required to lift their performance to that which is required for the SIPs and other strategic projects. They must produce, together with the Centre, a costed plan for needed interventions, including both individual learner support measures (e.g. bursaries) as well as measures to support the capacity of the institution to assist throughput of learners (e.g. lecturer development, qualification and curriculum development, materials, equipment, infrastructure, etc.).

**14 WORKPLACES** – Find workplace-based learning opportunities for needed occupations.

The SETAs must be encouraged to inform public and private employers of workplace-based learning opportunities required for the occupations in demand and to incentivise them, with grants, to offer their workplaces. This will require active campaigning and other measures. Travel and accommodation for learners to get to such workplaces will need to be considered.

**15 RESOURCES** – Secure resources for the OT plan from SETAs, NSF and other sources.

The SETAs must be encouraged to support the implementation of the plans produced in STEPS 13 and 14. Funds from the National Skills Fund, the three tiers of government, public entities and the private sector must also be mobilised.

**16 IMPLEMENT, MONITOR & EVALUATE PLANS** – Monitor and evaluate implementation.

Funded plans must be implemented. In addition, simple, streamlined systems for monitoring and evaluation must be put in place.

## THE SPECIAL CASE OF GOVERNMENT

The implementation of the projects listed under STEP 1 has implications for government. Government officials are frequently the ones to conceptualise the projects, undertake (or cause to undertake) pre-feasibility and feasibility assessments, environmental impact studies, consider water licenses and land use applications, secure funding, manage contracts, ensure delivery to the required quality, within budget and given timeframes and undertake operations and maintenance once construction is completed.

The capacity of the relevant departments needs to be evaluated to determine whether they are able to perform these functions to the required standard.

This is a function which falls under the mandate of the **Department of Public Service and Administration** and the **Department of Cooperative Governance and Traditional Affairs**. It goes to the heart of service delivery and must be addressed as part of the overall plan.

**17 WHICH DEPARTMENTS?** – Determine which municipal, provincial or national departments need to play a role?

**18 WHAT SKILLS ARE NEEDED?** – Define the roles each must play and determine their skill requirements, match these against available skills and determine priorities/gaps.

Consideration needs to be given to the suitability of organograms, job descriptions, conditions of service as well as the education, training and experience of those filling posts associated with each of the roles.

**19 PLANNING AND RESOURCING** – Put together a plan and identify resources.

The plan may include revising structures, appointing additional staff, developing current incumbents and/or putting long-term skills training plans across the whole skills pipeline in place for each department.

**20 IMPLEMENT, MONITOR & EVALUATE PLANS** – Implement, monitor and evaluate these plans for government capacity building.

## GOVERNANCE

**21 GOVERNANCE** – Establish a robust governance structure to oversee the implementation of project implementation plans.

Projects of this complexity, with all the necessary partners, need to be project managed – with responsibility for each step carefully allocated and resources for its execution identified.

A two-tiered approach is being debated – with national policies, systems and procedures (templates, portals, norms and standards for funding, funding sources, etc.) complemented by provincial, district and municipal project plans implemented and overseen at the relevant level. Partnerships with the Offices of the Premiers are currently being sought for the next phase.

## A training manual on the methodology

As stated, the 21 STEP PROCESS, outlined above, is an achievement in its own right. It has therefore been decided to develop a training course to induct others in its use. An early draft of a training manual has been produced, but



further development is still required. A training partner is being sought to assist with its delivery.

## A portal

### BACKGROUND

In developing the framework for **‘Skills for and through SIPs’** the need was identified to integrate information and stakeholders onto one system. From this need the SIP Skills Portal was developed. At present this is a standalone portal but it will be integrated into a more comprehensive DHET portal in time.

The vision of the SIP Skills Portal is to bring various stakeholders from various locations together and enable them to collaborate about skills within the SIP framework. This system should also provide the stakeholders with information in order to make informed decisions.

### THE SIP SKILLS PORTAL

The portal has two functions:

- Collaboration
- Business Intelligence

### COLLABORATION

The collaboration section makes provision for all stakeholders within the SIP framework irrespective of location (local or international) or sector (private or public) to collaborate. The following features are available:

#### SHARED CALENDAR

A calendar is created in order to enable collaboration time between stakeholders. This calendar has functionality similar to Microsoft Outlook to schedule events.

#### DOCUMENT MANAGEMENT

A document library is created to manage all types of documents. This library has the functionality to add metadata to each document. This metadata is used to manage the documents between stakeholders.

Approved reports from the business intelligence system are added to the library for stakeholders to collaborate on, such as the library of skill prototypes.

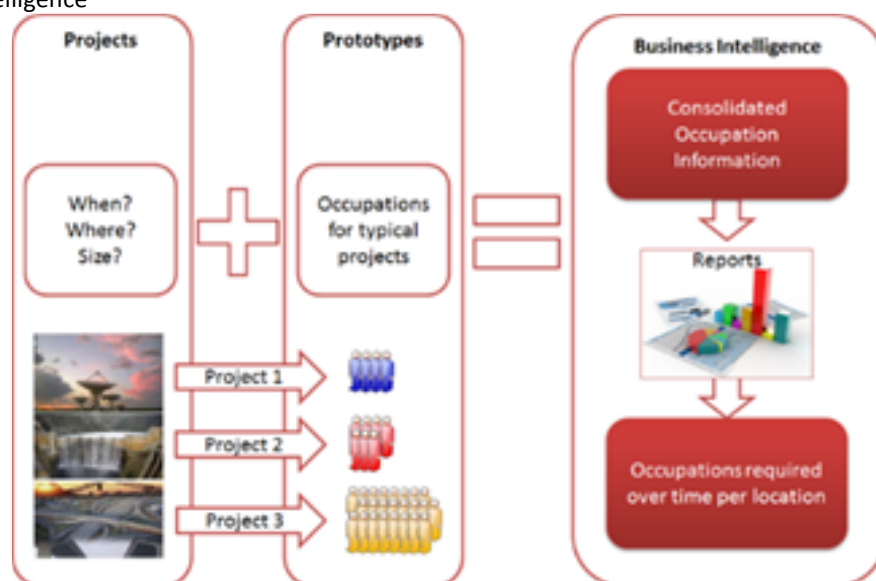


Figure 2 : Integration between projects, prototypes and the BI system

## COMMUNICATION MANAGEMENT

A discussion board is created to manage the different types of discussion between the stakeholders. This application makes it possible to create subjects/topics to initiate discussions. Stakeholders have the options to read only or reply to any topic.

Different sites and views are created based on functions and roles to ensure the system is user friendly. An example is the managers' site for the Managers' Intermediate Body. This will keep the focus on managers and will enable the stakeholders involved to collaborate.

Within each site different views are created for OTs. This will ensure that the focus remains on that occupation and that the conveners of the OTs can collaborate efficiently.

## BUSINESS INTELLIGENCE

The Business Intelligence (BI) section is created to provide reports around various sets of information from 'The Skills through and for SIPs' framework. The main part of this BI Portal is to

create an output model to provide information to the intermediate bodies and occupational teams to make informed decisions. However it also enables the confidentiality of project information to be protected.

## THE OUTPUT MODEL

This model is based on prototypes created for a typical project linked to real projects. The real projects can be in any project phase since planning for skills-in-demand is not based on current or completed projects but on planned projects.

The output of this model is an estimation of the number of persons with specified occupational skills required per SIP, sector, sub-sector or major OFO group over a 20 year timeframe.

The output of the model is compiled into documents, approved by a dedicated team of technical experts and then published for the intermediate bodies and occupational teams.

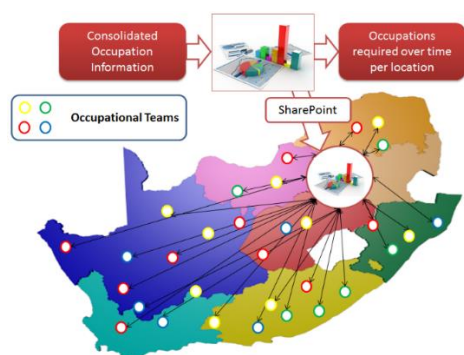


Figure 3 : Reporting per occupation for occupational teams in various locations

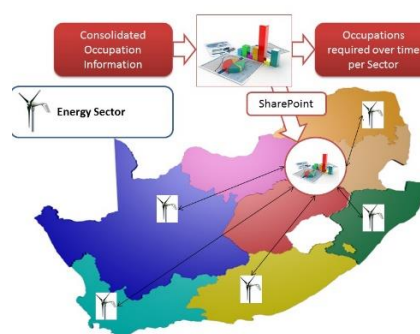


Figure 4 : Reporting per occupation in a specific sector

URL: <https://sip-skills.onlinecf.net>



## Focus Area Two: Meeting the Demand

Meeting the demand requires a range of interventions. If time permits the best intervention is training people to acquire the skills needed. However, if time does not permit, then seeking those that are partially trained and addressing their skills shortfall (through recognition of prior learning) is an option. Other measures include transferring experts across the public service or enticing retirees to return to work. Securing immigrants with the requisite skills is always a last, but often necessary, resort.

### Funding

Funding is a key element to address skills development for the SIPs. Two broad categories of funding were identified:

- Learner (individual) support
- Support to education and training providers

#### INDIVIDUAL SUPPORT

Learner support includes tuition (bursaries or loans), accommodation, stipends, learning material, workplace opportunities, etc.

#### INSTITUTIONAL SUPPORT

Institutions need support to increase their graduate numbers and improve throughput of

learners from entry to ultimate certification, licensing or registration. This support may mean career development services, staffing, curriculum, learning material, equipment and/or infrastructure issues.

#### SETA COMMITMENTS

The SETAs were asked to support measures under three headings:

- Bursaries
- Workplace learning opportunities
- 'Other'

'Other' covered the range of interventions required for institutional capacity building and is elaborated further under Focus Area Three.

The SETAs responded generously and by the end of June 2014 they had committed a total of R796,688,551 under each heading. Table 2 represents a summary breakdown of SETA Commitments by major occupational category. These funds were allocated to different individual occupations in demand.

It is worth noting that some SETAs have also been proactive in facilitating partnerships with individual SIPs, training providers, employers and accrediting authorities for purposes of increasing enrolments in the scarce skills areas, workplace training and developing career pathways. Details of SETA funded initiatives per SIP are outlined in each of the SIP reports later in the document.

**Table 2 : Commitment from the SETAs as at June 2014**

Occupation	Number Required	Number Committed	R required	R committed
Management	180	716	R18,200,000	R36,961,090
Professions and associates	4230	2363	R645,478,679	R180,767,000
Services	225	555	R4,000,000	R15,234,800
Trades	2552	7938	R327,632,250	R514,956,513
Operators	4340	1125	R109,255,740	R37,562,040
Elementary	9650	701	R176,600,000	R11,147,108
<b>TOTALS</b>	<b>21177</b>	<b>13398</b>	<b>R1,281,166,669</b>	<b>R796,688,551</b>





## CHALLENGES ACCESSING SETA FUNDS AND PROPOSED SOLUTIONS

Despite the commitment, too little movement on the disbursement has taken place. Some of the administrative challenges in accessing SETA funding include:

- Inconsistencies across the SETAs as to whether non-levy payers may access funds to train towards the skills targeted by each of the SETAs
- Lack of consistency as to when and where discretionary grants are advertised.
- Lack of consistency as to whether special projects will be entertained, or whether funding may only be made in response to formal calls for expressions of interest during fixed funding window periods.
- Uncertainty as to what SETAs may or may not fund and inconsistencies in their policies relating to what they will fund and the associated terms and conditions.

In an effort to mitigate these challenges, the SPU has undertaken research and is proposing the following:

- Agreement on what the SETAs may fund beyond that of training learners. Once the range of items has been agreed, an update of the additional items should be included in the SETA Grant Regulations or Guidelines.
- Standardisation of documents and processes across all SETAs.
- Development of a centralised provider registration system.
- Development of electronic tracking format.

A process is underway to get agreement on the standardised approach to be adopted. SETAs have been called on to share their agreements, forms and processes and offer insight as to how such a system should be set up and a series of workshops is planned for 2015 to agree on the final model to be adopted.

In the medium-term there is a need for a central portal advertising all opportunities to support the development of SIPs occupations. In the longer

term, an integrated national management system should be considered to streamline all processes.

Additional functionality could also be considered, such as linking committed workplace-based learning grants to enrolment planning numbers especially where workplace learning is a mandatory component of the qualification or occupational recognition that the learner is aiming to achieve.

A comprehensive system design covering all types of learning pathways and funding of associated support is required. Not only should this address SETA activities, but should link to all quality councils, learning institutions and a system streamlining corporate governance reporting. A phased approach to the development of such a system will be necessary.

## NATIONAL SKILLS FUND

The National Skills Fund has budgeted R4.8 billion towards skills development initiatives and infrastructure for the 2015/16 financial year. A substantial portion has been directed towards SIPs requirements as shown in Table 3. Funding has largely been directed towards benefitting 70,000 learners for training on various skills development initiatives, which include:

- **Artisans** – over 1,200 artisans in partnership with State Owned Companies.
- **Infrastructure** – 12 new TVET college campuses and the refurbishment of 2 others at 16 sites, plus a variety of infrastructure development projects in universities to support the expansion of scarce skills such as veterinary sciences, medicine and engineering.
- **Bursaries** – over R900 million towards 14,772 undergraduates and postgraduates
- **CPUT** – R105.5m allocated to the Cape Peninsula University of Technology (CPUT) to establish the South African Renewable Energy Technology Centre.
- **WIL** – work-integrated learning facilities (WIL), for engineering students across South Africa, at University of Johannesburg. This is due for completion in 2015.

**Table 3 : Funding from the National Skills Fund which supports the SIPs**

SIP	NSF contribution (brief description)	Committed	Spent - to March 2015
1	TVET colleges in Limpopo Students benefited 2014 = 4,517	R398m	R233,6m
	TVET colleges in Mpumalanga Students benefited 2014 = 1,431	R97,4m	R43,4m
2	Transnet Rail Engineering: Infrastructure support and <b>training of 994 artisans</b> at Germiston, Koedoespoort, Bloemfontein, Durban, Salt river, Uitenhage.	R175m	R108,8m
	University of Johannesburg - Engineering Development & Innovation Programme: Workshop customisation for engineering graduates to get workplace experience. Students benefited 2014/15 = 198	R212m	R185,4m
	TVET colleges in KZN Students benefited 2014 = 8,705	R660m	R424,7m
	TVET colleges in Free State Students benefited 2014 = 857	R113m	R76,5m
	TVET colleges in Gauteng Students benefited 2014 = 1,778	R354m	R158,9m
3	TVET colleges in Eastern Cape Students benefited 2014 = 2,359	R251,9m	R116m
4	<b>BIGEN Africa Services (Pty) Ltd</b> <ul style="list-style-type: none"> <li>Water &amp; Waste Reticulation Level 4 = 100</li> <li>Plumbing Level 4 = 100</li> <li>Supervision: Water &amp; Waste Reticulation Operations Level 4 = 100</li> <li>Water &amp; Waste Treatment Operations Level 4 = 100</li> <li>Water Purification Processes Level 4 = 100</li> <li>Water &amp; Waste Water Treatment: Process Control Supervision L4 = 100</li> <li>Interns on BSc: Hydrology, Water &amp; Sanitation Chemistry = 100</li> <li>Experiential training: <ul style="list-style-type: none"> <li>ND Civil Engineering = 20</li> <li>ND Mechanical Engineering = 20</li> <li>ND Electrical Engineering = 20</li> </ul> </li> </ul> Total learners targeted = 760 in the areas of: <ul style="list-style-type: none"> <li>North West (Mogwase, Brits, Klerksdorp, Potchefstroom)</li> <li>Eastern Cape (Queenstown, Mount Ayliff, East London)</li> <li>Free State (Bloemfontein).</li> </ul> Learners benefited 2014 = 435	R46,9m	R25,2m
	TVET colleges in North West Students benefited 2014 = 449		
5	TVET colleges in Northern Cape Students benefited 2014 = 307	R104,9m	R96,4m
	Department of Public Works – Artisans Development in Northern Cape. Learners benefited 2014 = 98	R7,1m	R1,4m
6	<b>SAICA Municipalities</b> Financial Management Programme - Training municipal financial staff, retrenched individuals and unemployed graduates in the areas of: <ul style="list-style-type: none"> <li>Limpopo (Polokwane, Bela-Bela)</li> <li>North West (Mafikeng)</li> <li>Free State (Bloemfontein)</li> <li>KZN (Durban)</li> </ul>	R71,1m	R71,1m



SIP	NSF contribution (brief description)	Committed	Spent - to March 2015
	<ul style="list-style-type: none"> <li>Northern Cape (Kimberley). <b>Completed</b> – December 2013. Learners benefited 2013 = 1,177</li> </ul>		
7	<b>Chippa Investment Holdings CC (PRASA)</b> Security Officer & other skills programmes (unemployed learners) in Eastern Cape, Western Cape, Gauteng and KZN. <b>Completed</b> – December 2013. Learners benefited 2013 = 1,959	R78,9m	R78,9m
8	CPUT to establish the South African Renewable Energy Technology Centre (SARETEC). This world class training facility is now approximately 90% completed.	R105.5m	R55.8m
9	See SIP 1		
10	See SIP 1		
11	<b>Agriculture SETA &amp; Commissioner for Land Rights Restitution</b> Skills development linked to Land Restitution (farm management; technical skills; governance & leadership, etc). <b>Completed</b> – December 2013. Learners benefited 2013 = 551	R24,6m	R24,6m
12	<b>Nelson Mandela Children's Hospital Trust, Johannesburg</b> Executive Management Development Programme – 13, Hospital Management Development Programme – 33, Nurse Managers, Nurse Specialisation Training Programme – 278, Support Staff Development - 43 (IT & Database Management Skills), 5 Clinical Lecturers and 10 Clinical Preceptors mainly at Rahima Moosa Nursing College, Johannesburg. Learners benefited 2014 = 113	R70,3m	R6,1m
13	<b>African Institute for Mathematical Science (AIMS) - Muizenberg</b> Students bursaries for: AIMS Academic programmes – <b>Targeted learners 450</b> Teacher professional development programme – <b>Targeted learners 1511.</b>	R18,1m	R9,8m
	<b>Jet Education Services</b> Youth Employment creation programme - schools construction & renovations in Queenstown, Butterworth, Rustenburg. Learners benefited 2014 = 187	R21,1m	R14,1m
14	Infrastructure development of 12 new TVET college campuses and the refurbishment of 2 others at 16 sites, plus a variety of university infrastructure development projects in scarce skill areas such as medicine and engineering.		R223,1m
15	<b>Nsingweni Consulting - Kalwayingo</b> 4 sites in KZN ( Emanyeneseni, Bhambanana, Ndumo, Ngwavuma) IT-Technician Training Learners benefited 2014 = 498	R153,2m	R88,1m
18	<ul style="list-style-type: none"> <li>Lepelle Northern Water</li> <li>Polokwane - Waterberg (Thabazimbi, Lephalale, Mookgophong, Bela-Bela, Mokgalakwena, Modimolle)</li> <li>Mopani (Phalaborwa, Namakgale, Tzaneen, Giyani phase1,2&amp;3)</li> <li>Sekhukhune (Tompoti Seleka, Blue Ridge Mine)</li> <li>Capricon (Polokwane).</li> </ul> Develop scarce skills in the water sector in Limpopo (Certificates in Water & Waste Treatment Reticulation, Plumbing, Electrical, Mechanical, Internship programme). <b>Completed</b> – June 2014 Learners benefited up to 2014 = 940	R61,9m	R61,9m
	<b>Gert Sibande TVET College</b> Address water, waste & reticulation challenges at municipalities & communities in Limpopo (Learnerships, Artisan Development, Skills Programmes) in Mpumalanga. Learners benefited 2014 = 160	R18m	R11,4m



# Intermediate Bodies' Reports

## MANAGERS

INTERMEDIATE  
BODY: DPSA



### OVERVIEW

The DPSA as a custodian of human resource development in the public service was the Intermediate Body for the Managers. As part of its mandate, the DPSA coordinates capacity building initiatives across government departments. Since all SIPs projects will require the involvement of government departments, particularly in programme and project management; budgeting, procurement, environmental management; and engineering planning it is necessary to build its capacity to fulfil these responsibilities for the SIPs projects.

### INITIATIVES

#### INTEGRATING SIPS REQUIREMENTS WITH THE DPSA HUMAN RESOURCE DEVELOPMENT FUNCTION

Since the release of the SIPs Report, the DPSA has adopted an approach of incorporating the occupations identified by the Report into the list of scarce skills, to inform the implementation of the human resource development strategic framework in the public service. This includes the content of internships, learnerships, graduate and artisan development programmes implemented by public service departments.

A pilot Graduate Recruitment Scheme for the public service is currently being planned for implementation from 2017. The scheme seeks to build a skilled and professional public service by

attracting and developing young, talented graduates to build a pool of technical experts.

The approach also includes strengthening the capacity of in-house employees who may not have the requisite formal academic qualifications, professional registration, or experience to be regarded as capable of fulfilling their roles.

### GUIDELINES ON IDMS

The DPSA has issued Guidelines<sup>4</sup> for benchmarking of job descriptions, grading levels and implementation of jobs in relation to the Infrastructure Delivery Management System (IDMS) to address the challenge of departments' inability to appoint key personnel in their infrastructure units to implement Infrastructure Delivery Improvement Plans, which has too often led to, amongst others, under-spending on conditional grants as well as unrealistic cost norms being applied in budgets.

### IMPLEMENTING THE INTERVENTIONS OF 'SKILLS FOR, AND THROUGH SIPS'

The Education, Training and Development Practices Sector Education and Training Authority (ETDP SETA) has undertaken to fund the development of state officials involved with infrastructure delivery and management in the areas of project/programme management and quality management. Funding to the value of R9 million has been made available for a period of two years, targeting a total of 144 individuals at R45 000 per person, per year. The interventions may include the following:

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<sup>4</sup> This guideline can be found on the DPSA Website:

[http://www.dpsa.gov.za/dpsa2g/documents/je/2014/16\\_p\\_23\\_05\\_2014.pdf](http://www.dpsa.gov.za/dpsa2g/documents/je/2014/16_p_23_05_2014.pdf)



- Development of Responsibility Managers and Programme Managers on IDMS
- Professional Development
- Bursaries for the unemployed (Talent Pipeline)

## NATIONAL DEPARTMENT OF PUBLIC WORKS

A total of 109 employees already in the employ of the National Department of Public Works (DPW) are being assisted to improve their functional competency. They are already enrolled at various institutions of learning across the country pursuing formal studies in the built environment.

A further 35 youths will also be enrolled at various institutions of higher learning across the country. The individuals will, upon successful completion of their respective programmes serve internship programmes in the DPW, and thereafter will be absorbed into employment within the department, and its entities.

## PROFESSIONALS AND ASSOCIATE PROFESSIONALS

INTERMEDIATE  
BODY: CBE



### OVERVIEW

One of the key mandates of the Council for the Built Environment (CBE) is to promote the sustainable growth of built environment professionals to contribute to the developmental objectives of the country through infrastructure investment. The CBE therefore served as the intermediate body for the professions falling under their umbrella as well as many other allied professions. The CBE has developed a pipeline approach to skills development from schooling through tertiary learning, workplace and

ultimately professional registration and ensuring continuing professional development is in place.

Some 38 occupations were recognised as requiring attention.

### INITIATIVES

Many initiatives are underway to address the increased development of these skills:

- The Fibre Processing and Manufacturing SETA has funded 19 students registering to study forestry science at Stellenbosch University and the University of Venda. They have also funded the purchase of state of the art forestry laboratory equipment



Univen forestry students

- The Construction Education and Training Authority has provided funding for some 1,000 built environment graduates to be supported through the candidate phase to professional registration. This funding has been made available to individual companies and coordinating bodies. The largest awards have been to:
  - The CBE who are managing the development of 50 candidates in the public sector and 100 diploma students for their P1 and P2 practical training in both the public and private sectors
  - Consulting Engineers South Africa who are managing the development of 150 candidates in the consulting sector
  - SAICE Professional Development and Projects (SAICE-PDP) who are managing the development of 150 candidates spread across consulting, contracting and the municipal environment
- SAICE-PDP has raised funding to mentor some 100 in-house staff in provincial roads departments towards professional registration of



whom some 25 had been registered by March 2015.

- The TETA issued a SIPs specific call for expressions of interest in October 2014. They made R50m available for training of professionals, trades and operators. The professions relevant to TETA are:
  - Aeronautical engineering
  - Chemical engineering
  - Electrical engineering
  - Mechanical engineering

They have approved funding for 17 students studying in the above areas to the amount of R3,6 million

- The CBE has raised funding and approved a longer term plan for training 150 candidates and 150 interns over the next three years. They have also targeted 150 learners for mathematics and science support.
- The materials qualifications for road material testers and non-destructive testing are progressing through the QCTO process.
- The SKA has funded the development of many engineers and scientists as outlined later in the report.

## SERVICE AND CLERICAL WORKERS

INTERMEDIATE  
BODY:  
ServicesSETA



### OVERVIEW

It was realised that in terms of construction, there were no qualification for site storemen, or project administrators and funding was needed to develop qualifications and train those interested in these careers. The ServicesSETA was appointed as the intermediate body and worked with other SETAs to identify qualifications and expert practitioners to address these needs.

### INITIATIVES

The Services SETA was able to identify a qualification falling under the Wholesale and Retail SETA which covers the training of storepersons, but this does not fully cover the needs of the construction sector and is being customised for a specific construction qualification.

### ACHIEVEMENTS

Working with occupational teams, the ServicesSETA has been able to develop two new qualifications addressing the need for project administrators and quality managers.

## TRADES

### INTERMEDIATE BODY: INDLELA (DHET)

### OVERVIEW

There is a great deal of work being undertaken to accelerate the development of artisans in the country. One measure of the success of this work is the fact that there are now nearly 30 000 new artisan registrations per annum and the successful completion of qualified artisans had grown to 18 110 by 2013/14.

Not all the measures being undertaken relate directly to the SIPs, although many SIP projects will benefit from the increased availability of qualified tradespeople that result.

### INITIATIVES

One initiative that directly links to the SIPs is the work that is being undertaken to develop the curriculum for two new QCTO occupational qualifications, the electrician and the plumber. This work, led by INDLELA, is being undertaken under the auspices of the Occupational Teams for

each trade. These new apprenticeships have three sets of modules:

1. Knowledge Modules
2. Practical Skill Modules
3. Work Experience Modules

Once completed an integrated learning programme including theory, practical and workplace will be in place for all apprentices in these trades. It is hoped that implementation will commence in 2016. Similar work will be undertaken for other trades once the first two pilot trades have been completed.

Another initiative that will directly benefit the SIPs is the work on the development of the General Trade Preparation Programme (GTPP).

The GTPP started as a partnership between DHET and the Retail Motor Industries' employers to effectively bridge the youth that are not in education, employment or training (NEETs) but who have artisanal aspirations into apprenticeships, and to improve the artisan trade test pass rates.

The GTPP pilot includes 3 Nated subjects as well as Life Skills (Communication and Basic Computer Literacy) and Practical Skills (Hand tools, Workshop tools and Health and Safety) per Phase over a period of 2 trimesters. Trade theory is covered during the apprenticeship itself.

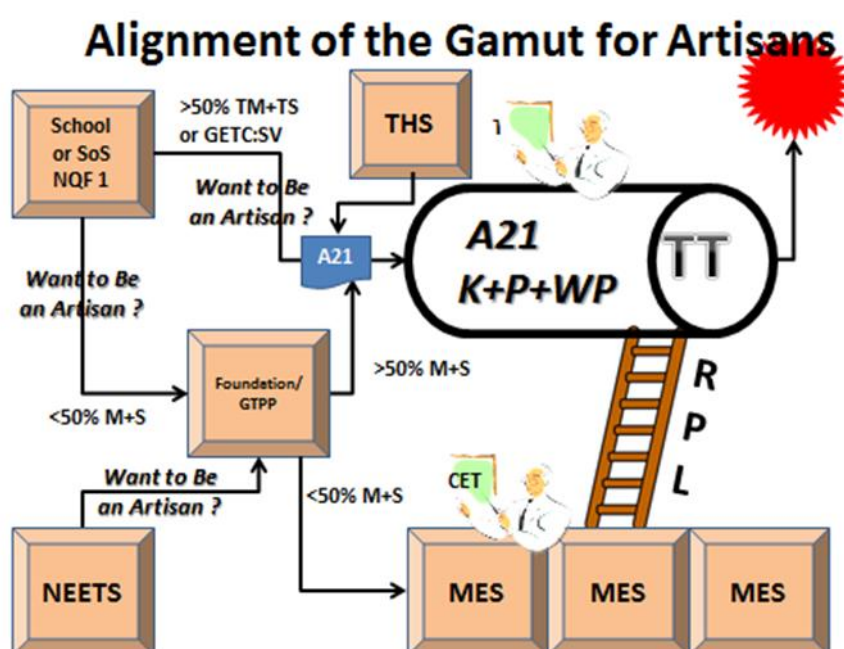
The GTPP is currently piloted at 4 TVET colleges:

- College of Cape Town
- Capricorn
- Ehlanzeni
- Umfolozi

Based on its initial success, it will be extended to additional TVET colleges in 2015. It is anticipated that the GTPP will eventually become part of the Foundational Learning Programme at TVET colleges, the latter of which is being developed by DHET's Curriculum Development and Support Directorate.

## ACHIEVEMENTS

Several qualifications are being processed through the QCTO system and several have already been registered as shown in Tables 4 and 5.



**Table 4 : Trades Qualifications processed through the QCTO and registered**Those that are highlighted in **red** are trades listed on the SIP Scarce Skill List.

No.	Trade	NQF	Credits	AQP	Reg no.
1.	Occupational Certificate: Electrical Line Mechanic (Overhead Lines Mechanic)	4	510	NAMB	671301001
2.	Occupational Certificate: Plumber	4	360	NAMB	642601000
3.	Occupational Certificate: Electrician	4	360	NAMB	671101000
4.	Occupational Certificate: Electroplater	4	411	NAMB	712201000
5.	Occupational Certificate: Melter	4	361	NAMB	684913000
6.	Occupational Certificate: Moulder	4	364	NAMB	615101000
7.	Occupational Certificate: Toolmaker	5	432	NAMB	652201000
8.	Occupational Certificate: Engineering Patternmaker	4	376	NAMB	652204000
9.	Occupational Certificate: Boilermaker	4	395	NAMB	651302000
10.	Occupational Certificate: Welder	4	373	NAMB	651202000
11.	Occupational Certificate: Bricklayer	4	326	NAMB	641201000
12.	Occupational Certificate: Carpenter	4	360	NAMB	602502000
13.	Occupational Certificate: Plastics Manufacturing Machine Setter	4	432	NAMB	714208000
14.	Occupational Certificate : Vehicle Painter (Automobile and Marine Painter)	4	366	NAMB	643202001
15.	Occupational Certificate: Mechanical Fitter	4	410	NAMB	653303000

**Table 5 : Trades qualifications submitted by QCTO to SAQA that are in the process of registration**

No.	Trade	NQF	Credits	AQP	Reg no.
1.	Occupational Certificate : Lubrication Equipment Mechanic	4	440	NAMB	653310000
2.	Occupational Certificate: Glazier	4	365	NAMB	642501000
3.	Occupational Certificate: Fitter and Turner	4	548	NAMB	652302000
4.	Occupational Certificate: Metal Machinist	4	324	NAMB	652301000
5.	Occupational Certificate : Boat Builder and Repairer (Boat Builder)	4	360	NAMB	684907002
6.	Occupational Certificate : Boat Builder and Repairer (Ship Builder)	4	437	NAMB	684907001
7.	Occupational Certificate: Transportation Electrician (Automotive Electrician)	4	362	NAMB	671207001
8.	Occupational Certificate : Chef	4	380	NAMB	343401000
9.	Occupational Certificate : Metal Machinist (Automotive Machinist)	4	540	NAMB	643202001
10.	Occupational Certificate: Instrument Mechanician	5	469	NAMB	672105000
11.	Occupational Certificate: Lift Mechanic	4	540	NAMB	671204000
12.	Occupational Certificate: Goldsmith	4	575	NAMB	661301000

**TRAINING**

Apprentices are already being trained and tested on the newer systems. The following tables give an indication of progress being made.

**Table 6 : NADSC progress 2015 for SIPs trades**

SIPs Trades	Registrations	Completions
Rigger	122	239
Pipe Fitter	0	11
Carpenter	92	46
Painter	142	12
Plasterer	8	2
Plumber	238	197
Welder	574	411
Bricklayer	106	12
Joiner	2	0
Electrician	1,333	856
Sheet Metal	3	5
Millwright	272	180
Boilermaker	488	365
Moulder	1	3
<b>Totals</b>	<b>3,381</b>	<b>2,339</b>

**Table 7 : Progress with trade registration in the Waterberg**

Waterberg SIPs Trades	Registrations	Completions
651501: Rigger	1	2
641502: Carpenter	2	0
643101: Painter	3	0
642601: Plumber	2	0
651202: Welder	2	6
671101: Electrician	13	2
<b>Totals</b>	<b>23</b>	<b>10</b>

## PLANT AND MACHINE OPERATORS

### INTERMEDIATE

BODY: TETA

SUPPORTED BY

CPHA



### OVERVIEW

Following the launch of the Occupational Team (OTs) concept in August 2013, the first set of the TETA occupational teams were established in the same year. The 8 occupations in this category were grouped into three as follows: Truck driver OT's, Cranes/House operator OT's and Earthmoving equipment OT's. TETA held follow-up meetings with its occupational team members on 5 December 2013 and on the 13 March 2014 to finalize their first report. The Road Freight Association was also roped in to participate in the truck driver OT's and gave valuable inputs regarding the state of truck driving in South Africa. These teams interrogated the above SIPs skills demand, workplace requirements, supply and tuition as detailed in the SIPs report launched on 2 September 2014.

On the other hand, Contractors Plant Hire Association (CPHA), has been recognised as the Professional Body for the training and certification of earthmoving and lifting equipment operators by SAQA in the process, and has been harnessed by the TETA to act as the intermediate body, to assist with skills development in this category.

It was realised that no or very little structured training was taking place and the industry found itself in the position of having two registered qualifications with the CETA for earthmoving operators and three registered qualifications for the Crane Industry – two registered with CETA and one with TETA. As a result of the overlap, it was found that training providers could issue





certificates of ‘competence’ without carrying out proper training and in many instances not delivering training at all.

### INITIATIVES

- The CPHA is in the process of recognising the accredited Training Providers, through a registration and audit process and providers will be required to become members of the professional body.
- The CPHA is currently engaging via the TETA and CETA as well as SAFCEC to have occupational qualifications registered with the QCTO in both the Construction and Crane industries and scoping meetings are currently being arranged.
- The CPHA is currently engaging with training providers in the Crane and Construction Industries to have currently employed operators’ current skills recognised in order for them to be licensed and uploaded onto the NRLD – a process which is being mapped to QCTO requirements. This process will go a long way in eliminating the illegal certificates that have been issued in the past.

### TRAINING

The TETA issued a dedicated call for expressions of interest for SIPs training in October 2014. A review of project allocations, aligned to the SIP streams, is currently underway.

### CHALLENGES

Figure 5 shows the complexity of developing and delivering training and the associated monitoring. The process puts a huge strain on professional bodies, especially those whose income is only derived from annual membership fees. It is recommended that an annual contribution from the relevant SETAs be considered for professional bodies who take on the role of accrediting and monitoring training providers.



Figure 5 : Support required from a professional body



## ELEMENTARY AND NON-TRADE PRODUCTION WORKERS

INTERMEDIATE  
BODY: cidb



### OVERVIEW

The cidb assumed the role of an Intermediate Body for the occupational team responsible for the Elementary and Non-Trade Construction Workers.

### ACHIEVEMENTS

To date, the cidb has successfully:

- Defined all scarce and critical elementary and non-trade work components within major construction projects.
- Defined all training requirements for elementary workers, inclusive of theory, practical and workplace training components.
- Established occupational teams for the elementary workers.

### INITIATIVES

To further streamline the new training pathways and help standardise the quality of training within the construction industry, the cidb is currently:

- Preparing and submitting funding applications to various SETAs for funding to initiate and pilot the newly defined training pathways, particularly to those SETAs that had made commitments to the training of construction workers (in this regard it has experienced similar challenges to others).
- Collaborating with the funded SAFCEC-initiated project, which is funded by CETA, on the development of occupational qualifications in Civil Engineering Construction, namely:
  - Civil Services Constructor
  - Road Constructor
  - Civil Structures Constructor

These 3 qualifications include the critical part qualifications for the scarce elementary occupations.

## THE CIDB TRAINING STANDARD

In 2012, the DHET invited the Construction Industries Development Board (cidb) as a partner. At that time, the cidb was finalising a standardised training method for application on all construction contracts above cidb Grade 7. The DHET made an arrangement for an extension of the *Training Standard* to include all infrastructure projects, and more importantly to include the training of candidates for professional registration with the Councils within the Built Environment.

Following extensive consultation with the professional bodies and employer associations, the cidb has:

- Developed and gazetted in August 2013 (Government Gazette No. 36760) *Standard for Developing Skills through Infrastructure Contracts*. The Standard provides for structured, practical workplace training for learners to assist them complete the practical component of their training and reach trade test readiness, or professional registration. At the time of compiling this report, the DPW was in the process of regulating the Standard.
- Developed standardised tender data to be included in all tenders where the Standard will be implemented. The tender data will ultimately be published as a Practice Note.
- Developed criteria for the recognition of Skills Development Agencies (SDA), bodies that will facilitate the implementation of the Standard by assuming the burden of learner recruitment, placement and progress monitoring on behalf of contractors.
- Is working with OTs to develop standardised log-books to track the progress of learners undergoing training within the ambit of the Standard.
- Is collaborating with the DBSA to develop a standardised reporting format for training within the SIPS projects, and to track contractors who offer training on their projects.
- Is consulting with and assisting public sector clients with the inclusion of the provision of the Standard for their contracts.



## SIPs Skills Coordinator Reports

Each of the SIPs have been busy with their own integrated skills plans and skills development strategies. SIP Skills Coordinators have been appointed to develop and manage these plans and projects.

This section covers the skills development profiles of each of the SIPs. It should be noted that the activities of some SIPs are integral components of other SIPs and are therefore not reported separately.

### SIPS 1, 9 AND 10 – ENERGY AND RELATED RESOURCES

#### SIP SKILLS

COORDINATOR:  
ESKOM



#### DESCRIPTION

##### SIP 1 – UNLOCKING THE NORTHERN MINERAL BELT WITH WATERBERG AS THE CATALYST

Investment in rail, water pipelines and energy generation and transmission infrastructure to catalyse unlocking of rich mineral resources in Limpopo which will result in thousands of direct jobs being created across the areas covered.

##### SIP 9 – ELECTRICITY GENERATION TO SUPPORT SOCIO-ECONOMIC DEVELOPMENT

Accelerating the construction of new electricity generation capacity in accordance with the Integrated Resource Plan 2020 to meet the needs of the economy and address historical imbalances.

### SIP 10 – ELECTRICITY TRANSMISSION AND DISTRIBUTION FOR ALL

Expanding the transmission and distribution network to address historical imbalances, provide access to electricity for all and support economic development.

The skills priorities across the three SIPs include the training of engineers, technologists, technicians and artisans to handle operations and maintenance, system operations, primary energy and project management and outage management.

#### INITIATIVES

##### LEARNER PLACEMENTS

For the period to January 2015, a total of 4,467 learners have been placed in the artisanal, engineering and technician fields across the various Divisions of Eskom, 1,222 more than the 4,345 target with the Shareholder. Additional placements also include 49 Engineers-in-Training, 48 Graduates-in-Training and 1,074 Interns. Their distribution is shown in Table 8.

Table 8 : Eskom Learner Analysis, March 2015

Division	Total Learners 2015	Total Learners Target 2015
Commercial	10	10
Corporate Affairs	3	4
Customer Services	52	36
Distribution	1,898	1,871
Eskom Enterprise	13	12
Finance	78	61
Generation	841	939
Group Capital	207	92
Group IT	13	10
Human Resources	733	790
Office of the CEO	1	2
Primary Energy	3	3
Strategy & Risk	2	2
Sustainability	58	31
Technology	235	249
Transmissions	320	233
<b>Eskom</b>	<b>4,637</b>	<b>4,345</b>

## EMPLOYEE DEVELOPMENT

Eskom is currently conducting an organisation-wide skills audit which will provide employees and business with information on competencies, capabilities to perform tasks, qualifications, authorisation certificates, licences to operate and professional registration. The audit will also provide employees with Individual Development Plans, and training and development priorities for the business.

## ACHIEVEMENTS

The Generation Division has been able to consistently appoint 100% of qualifying learners/bursars into permanent position (except for learners who qualified in 2014)

In the balance of the business, an absorption rate of 28.1% of those trained has been achieved and the rest have been released to the labour force in general.



### MEDUPI LEADERSHIP INITIATIVE

Eskom has also driven the establishment of the **Medupi Leadership Initiative (MLI)** in Lephalale.

Medupi Power Station is a new dry-cooled coal-fired power station being built by Eskom and its construction suppliers near Lephalale. Medupi Power Station has a 50 year design lifespan (2014 to 2064). The first phase of construction is ending and Eskom has strategically facilitated a multi-stakeholder partnership for construction workforce demobilisation when the power station reaches completion. At its peak there were more than 17,644 construction workers on site. The Medupi Leadership Initiative (MLI) stakeholder forum includes suppliers, regional and national government, organised labour and the local community, with many funders:



This partnership has empowered contracted staff with added skills to access future potential opportunities in the job market. The main initiatives of the MLI are:

- To equip the local Lephalale TVET College to be able to provide substantially more skills development opportunities in relevant work related areas.
- Redeploy a number of demobilised construction staff to the Drylands project. The project focuses on sustainable land management and developing a biodiversity rich rural green economy.
- Aggregate and coordinate Corporate Social Initiative (CSI) initiative of MLI Partners for potential job opportunities.
- Collaborate with the Local Municipality to match demobilised workers to demand in projects such as construction and operation of bulk infrastructure, housing, schools, and waste management.

The MLI, in collaboration with the Lephalale TVET College is planning to offer up to 640 people per annum the opportunity to attend SETA accredited Modules of Employable Skills (MES). Currently the MLI has trained learners in the following areas, amongst others, and is in the process of seeking workplace learning opportunities for them:

- Domestic Bricklaying (46) – CETA Accredited
- Basic Fabrication (78) – merSETA Accredited
- Domestic Roofing (43) – CETA Accredited
- Basic Welding (70) – merSETA Accredited
- Automotive Assistant (37) – merSETA Accredited

## SIP 2 – DURBAN-FREE STATE-GAUTENG LOGISTICS AND INDUSTRIAL CORRIDOR

SIP SKILLS  
COORDINATOR:  
TRANSNET



### DESCRIPTION



SIP 2 is focused on strengthening the logistics and transport corridor between South Africa's main industrial hubs. This involves:

- Improving access to Durban's export and import facilities
- Raising efficiency along the corridor
- Integrating the Free State Industrial Strategy activities into the corridor
- Integrating the currently disconnected industrial and logistics activities
- Connecting marginalised rural production centres surrounding the corridor that are currently isolated from the main logistics system

Improving logistics is critical to the development of these areas and to raise the efficiency of South Africa's export operations.

### ACHIEVEMENTS

#### TRAINING

Substantial numbers of technical staff have been trained by Transnet as shown in Table 9.

**Table 9 : Education and training in the corridor**

Year	Apprentice-ship	Engineering Bursaries	Work Integrated Learning	Engineer-in-Training	Technician-in-Training
2012	580	78	205	14	49
2013	1,169	96	226	89	173
2014	790	196	350	145	169
<b>TOTAL</b>	<b>2,539</b>	<b>370</b>	<b>781</b>	<b>248</b>	<b>391</b>

### YOUTH EMPLOYMENT

Youth employment is an important element of Transnet's strategy. Table 10 gives an indication of the number of youth employed in the reporting period.

**Table 10 : Youth employed**

Year	Artisans	Engineers	Technicians	Grand Total
2012	18	241	962	1,221
2013	29	339	1,034	1,402
2014	3,121	460	1,176	4,757
<b>TOTAL</b>	<b>3,168</b>	<b>1,040</b>	<b>3,172</b>	<b>7,380</b>

## SIP 4 – UNLOCKING THE ECONOMIC OPPORTUNITIES IN NORTH WEST PROVINCE

SIP SKILLS  
COORDINATOR:  
SANRAL



### DESCRIPTION

Unlocking economic opportunities in the North West will be achieved by accelerating investments in roads, rail, bulk water and water treatment and transmission infrastructure. This will result in reliable supply, meet basic social needs and facilitate the development of mining,





agricultural activities and tourism opportunities and open up beneficiation opportunities.

## ACHIEVEMENTS

SANRAL has made significant contributions to date:

- Full study bursaries have benefitted 88 Students (22 female and 66 male) mainly for BSc Civil Engineering.
- 75 diploma or university graduates have been enrolled in some form of practical learning across the various projects – again mainly in civil engineering.
- 172 scholarships were awarded to students studying in a cross-section of fields and occupational levels (97 female and 75 male).
- In the 2013/2014 financial year, 196 students received internships and vacation jobs. 17 were eventually employed by the organisation and its partners. This represented 5% increase from the preceding financial year.
- The number of internships offered exceeds the target of 10% of staff complement set by the Minister of Transport.
- SANRAL has sponsored University Chairs for research and development work and is giving educational support and awareness to students at the universities of the Free State, Stellenbosch (Chair) and Cape Town.

Responses from beneficiary SMMEs exemplify the positive impact that SANRAL's skills programmes have had on their entrepreneurship endeavours. The owner of Simandie Civics which employs 18 people, Ms Dorothy Louw responded that *"If we did not receive the training from SANRAL we would have remained small. We were equipped with knowledge and information about the industry that, I believe, will take us to greater heights"*.

To date, Simadie has successfully completed two road maintenance projects for SANRAL and is currently involved in a third project. The company has been recognised with awards for the quality of the work that it has delivered as a sub-contractor.

## SIP 5 – SALDANHA-NORTHERN CAPE DEVELOPMENT CORRIDOR

### SIP SKILLS

COORDINATOR:  
IDC



### DESCRIPTION

SIP 5 consists of 25 infrastructure projects, most of which are in conceptual and feasibility phases. The projects seek to develop the Saldanha Bay-Northern Cape linked region in an integrated manner that ensures the region becomes a value adding centre rather than simply a transit corridor for iron-ore. For Saldanha Bay, this entails developing the back-of-port industrial capacity, which includes an IDZ and strengthening maritime support capacity to create economic opportunities from the gas and oil activities along the African West Coast. For the Northern Cape, the additional rail capacity over the period will strengthen transport and logistics to expand iron-ore mining production, thus creating additional jobs and fostering socio-economic development in the province.

The 25 projects fall within the following broad categories:

- The Iron Ore Rail and Port Upgrade
- Saldanha Bay IDZ (incl. back of port)
- Oil and Gas Projects at the Port of Saldanha
- Electricity Transmission and Distribution
- Mining Development Projects in the Northern Cape
- Gasfield Development Projects in the Northern Cape
- Bulk Municipal Infrastructure to support Industrialisation

Saldanha Bay IDZ was officially designated and launched by President Zuma in 2013. It is designed as a cluster catering for the upstream oil and gas sector including: Logistics, the fabrication of structures and parts, and marine repair activities. The Saldanha Bay IDZ will be

developed in phases. The maiden phase focuses on industries which service the oil and gas industry and ship repair.

Subsequent to the launch, a skills task team led by the Department of Trade and Industry (DTI) was established. The team's mandate was to conceptualise and develop a skills development strategy as part of a complementary long-term support plan to exploit the economic and investment potential identified for the project.



**President Zuma launching the Saldanha IDZ**

## **PARTNERSHIPS**

Key implementation partners for SIP 5 include: Transnet (Freight Rail and Port Authorities), DTI, Saldanha Bay Special Economic Zone, Eskom, Department of Water and Sanitation (DWS), iron ore mining companies in the province and local government, i.e. the municipalities that provide support for all municipal bulk infrastructure projects.

Partnerships also exist with the DOL, Department of Local Government (DLG), Saldanha Bay IDZ, Community Skills and Training Committee, South African Oil and Gas Alliance (SAOGA), Department of Social Development, Department of Agriculture, Western Cape Education Department, district and local municipalities, SETAs and DHET as well as the National Artisan Development Support Centre (NADSC).

## **TRAINING**

Many initiatives are underway.

### **THE OCCUPATIONAL READINESS PROGRAMME**

The Occupational Readiness Programme targets youth who are not in education, employment or training (NEETS). The 12-week bridging programme is aimed at equipping participants with fundamental skills that create opportunities for them to pursue a particular educational and training field or work placement opportunity. The progress on the project is as follows:

A Career Awareness drive aimed at promoting artisanal routes for 2015 was held. The campaign was driven in partnership with the merSETA Career Bus and 'career-talks' involving various stakeholders. The second phase commenced in January 2015 and an additional 1,000 learners have been recruited into the programme.

### **THE DUAL SYSTEM APPRENTICESHIP PROGRAMME**

This programme commenced in December 2013 as a pilot programme for welder-learners. Based on the German-Swiss Dual System model, it will see NCV learners at the West Coast TVET College rotating between the college and the workplace on a weekly basis for two to three years. The project is managed by the Swiss-South Africa Co-operation Initiative (SSACI), and involves local employers in Vredenberg and merSETA.

The project has 26 students and two companies participating. Efforts are being made to recruit a second intake of learners in 2015.

### **CHEMICAL INDUSTRIES EDUCATION AND TRAINING AUTHORITY (CHIETA) SUPPORT**

In partnership with SAOGA, Saldanha Bay IDZ has advertised 20 new opportunities for Recognition of Prior Learning Sec 28 and 15 opportunities for a train-the-trainer programme. The project is funded by CHIETA.

### **EWSETA SUPPORT**

EWSETA hosted a Skills Summit in March 2015. Various stakeholders from government, industry, EWSETA and other key partners, including CHIETA and other relevant SETAs, came together to



mobilise and collaborate on skills development programmes that will see gainful employment in the Saldanha Bay Industrial Development Zone, on South Africa’s West Coast.

**EMPLOYMENT SERVICES**

DOL has been extremely supportive and assisted the Saldanha Bay IDZ to pilot the ESSA system in the region.

See Focus Four for more details of this successful partnership.

**SIP 6 – INTEGRATED MUNICIPAL INFRASTRUCTURE PROJECT**

SIP SKILLS  
COORDINATOR:  
DBSA



**DESCRIPTION**

SIP 6 was established to develop national capacity to coordinate and integrate infrastructure delivery in the 23 District Municipalities with the fewest resources.

**ACHIEVEMENTS**

The SIP has been active in tracking expenditure, project and programme performance in the following areas:

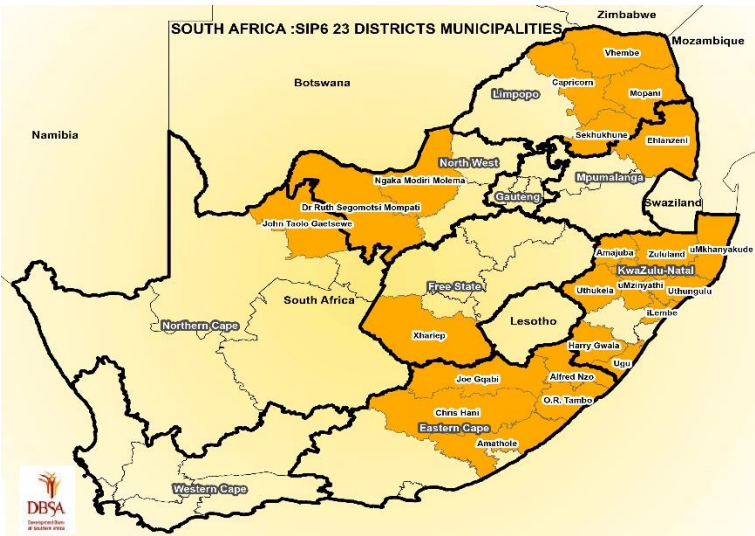
- Water and sanitation
- Electricity distribution
- New roads build and maintenance
- Digital migration of TV
- Revitalization of health facilities
- Schools revitalization
- Roll out of solar-water heaters

The project was successful in unlocking water delivery challenges in Vhembe District Municipality and was instrumental in facilitating the electrification of seven boreholes in the District.

Skills gaps have been identified in Operations and Maintenance in water and sanitation. A proposal to address this challenge is being discussed with DWS.

**PARTNERSHIPS**

Successful partnerships have been established with the Department of Basic Education (DBE), DOE, NT, DHS, COGTA, DWS, DOT, SIP6 Districts, SIP10, SIP12, SIP 13 and SIP18.



- |                       |                               |
|-----------------------|-------------------------------|
| 1. OR Tambo           | 14. Mopani                    |
| 2. Alfred Nzo         | 15. Ehlanzeni                 |
| 3. Umkhanyakude       | 16. Chris Hani                |
| 4. Harry Gwala        | 17. Ngaka Modiri Molema       |
| 5. Amathole           | 18. John Taolo Gaetsewe       |
| 6. Umzinyathi         | 19. Uthungulu                 |
| 7. Greater Sekhukhune | 20. Dr Ruth Segomotsi Mompati |
| 8. Joe Gqabi          | 21. Capricorn                 |
| 9. Zululand           | 22. Amajuba                   |
| 10. Ugu               | 23. Xhariep                   |
| 11. Uthukela          |                               |
| 12. Vhembe            |                               |
| 13. Ilembe            |                               |

The 23 district municipalities with the fewest resources



## SIP 7 – INTEGRATED URBAN SPACE AND PUBLIC TRANSPORT PROGRAMME

### SIP SKILLS

COORDINATOR:

PRASA



**prasa**  
PASSENGER RAIL AGENCY  
OF SOUTH AFRICA

### DESCRIPTION

Coordinate planning and implementation of public transport, human settlement, economic and social infrastructure and location decisions into sustainable urban settlements connected by densified transport corridors.

### ACHIEVEMENTS

#### BUS RAPID TRANSIT

Bus Rapid Transit (BRT) projects are in progress, others have reached the last phase where buses have been procured and operational. The projects are spread across 13 urban centres in all the metros. The overall objective is to improve the quality of public transport services countrywide, and aims to:

- Reduce the cost of service delivery.
- Minimize the subsidy burden on all spheres of government.
- Provide affordable fares to public transport passengers.
- Reduce private car traffic volumes, this minimises congestion and travel time, accidents, harmful gas emissions, and improves traffic safety.

#### Training

Training has taken place, or is anticipated to take place, on the different BRT projects in Cape Town, Johannesburg, Nelson Mandela, Tshwane, Ethekwini, Rustenburg, Ekurhuleni, George, Mbombela, Buffalo City, Mangaung, Msunduzi, Polokwane. For example in Tshwane the *A Re Yeng* contractors involved in the construction of the Tshwane BRT were assisted with the training of a total of 1,157 learners. Of these, 381 trainees were enrolled in the formal training with SETA

accredited institutions. The range of fields included:

- Health and safety
- Paving and kerbing
- Batching and Mixing Concrete by volume
- Pipe laying
- Road construction
- Traffic accommodation
- Fire fighting
- First aid procedures
- Flagmen / Flag women
- Identification and use of protective clothing
- Applying quality principles on a construction site
- Life skills
- HIV/AIDS training
- Applying basic business concepts

The *inception service*, which is in essence a pilot service to establish the highly technical system associated with a BRT system, targeted taxi drivers for conversion to bus drivers.



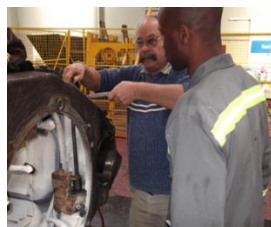
#### Development of BRT systems

### PRASA ROLLING STOCK FLEET RENEWAL PROGRAMME

This programme seeks to transform and modernise the metro rail service. The project deals with refurbishment and upgrade of coaches and locomotives. It provides training in introducing, transferring and exploiting technologies to build capabilities to improve scarce skills for infrastructure. Metrorail training



was conducted through PRASA training centres and to some extent by Transnet.



**Refurbishment and upgrade of coaches and locomotives.**

While most of the training was undertaken locally, the long distance train locomotives manufacturer provided training to operations and technical personnel in Spain. Fifteen trainees benefitted, including 5 in train operations and 10 in technical maintenance.

## PARTNERSHIPS

PRASA is an accredited training provider with TETA and is in the process of establishing a Centre of Excellence. Partnerships have been formed with the Universities of Cape Town and Stellenbosch.



**Training of electrical fitters and train drivers for new locomotive**

## DOL EMPLOYMENT SERVICES

PRASA projects have successfully recruited from the Department of Labour's ESSA system.

## SIP 8 – GREEN ENERGY IN SUPPORT OF THE SOUTH AFRICAN ECONOMY

SIP SKILLS  
COORDINATOR:  
IDC



## DESCRIPTION

SIP 8 aims to promote green energy generation (solar and wind), biofuel production and expand solar-water heater production and installation, and strengthen the development of local industrial capacity for green-energy technologies.

The SIP consists of the following green economy projects:

- The Renewable Energy Independent Power Producers procurement programme x 5 Bid Windows.
- The proposed 5,000 Megawatt solar park development in the Northern Cape.
- The Eskom renewable generation programme which includes the 100 megawatts Sere wind farm and 100 megawatts concentrated solar project.
- The solar-water heater rollout programme.
- The potential of solar home electrification including the scope for solar photovoltaic.
- Phase 1 of the country's biofuels rollout programme including the construction of sorghum and sugar based bio-ethanol facilities of 460,000 litres per annum.

## ACHIEVEMENTS

- Active Green Skills Forums via the Provincial Skills Forums in Eastern Cape and Northern Cape have been established to link business and training sectors.
- Donor-funded programmes include German Federal Enterprise for Green Jobs programme (S4GJ).
- The First Wind Turbine Technicians have been trained.

## PARTNERSHIPS

- The establishment of the Scatec Solar Chair in Photovoltaic (PV) Systems at Stellenbosch University.

- GIZ supports TVET colleges in the Greening project and lecturer development.
- Industry-University partnerships to develop curriculum for 200 short courses by Central University of Technology (CUT).
- EWSETA funding for TVET colleges and RECE in Upington.
- South African Renewable Energy Council (SAREC) was formed by the Industry Associations and launched on 26 May 2014. The Council is an umbrella body for all renewable energy industry associations.
- South African-German Energy program.

### TRAINING

- Bursaries for 20 in a National Certificate in Renewable Energy at Central University of Technology have been allocated.
- Two Eastern Cape TVET colleges developing Solar Water Heater Installer qualification started training in June 2014.
- In cooperation with the Quality Council for Trades and Occupations (QCTO) and the Institute of Plumbers in South Africa a qualification for the occupation 'Hot Water System Installer' has been developed.

#### **Under SIP 8: Two exciting new training facilities have been developed:**

- South African Renewable Energy Technology Centre (SARETEC)
- Renewable Energy Centre of Excellence – Northern Cape (RECE)

#### **More detail on these developments is reported under Focus Three.**

## SIP 11 – AGRI-LOGISTICS AND RURAL INFRASTRUCTURE

### SIP SKILLS

COORDINATOR:

NAMC



### DESCRIPTION

Many of the SIP 11 projects are at a conceptualisation stage. Five projects are reported:

- National Red Meat Development Program
- Onderstepoort Biological Products
- Vineyard Development Scheme
- Vaalharts Taung irrigation scheme
- Green Valley Nuts

### ACHIEVEMENTS

#### **NATIONAL RED MEAT DEVELOPMENT PROGRAMME**

The objective of the project is to improve the quality of livestock marketed by smallholder farmers. In terms of infrastructure, the Custom Feedlots Programme and livestock handling facilities are being built. The project started in 2012 and is ongoing.

- In the Eastern Cape and KwaZulu-Natal, feedlot and handling facilities have been completed and handed over.
- In the Northern Cape and Limpopo Provinces, the projects are at tender stages.



**Animal handling facility and feedlot**

Project funders are the Department of Agriculture Forestry and Fisheries (DAFF) and provincial departments who together have allocated R200 million. 16 direct jobs have been created.



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### Training

- Umzimvubu/Lugangeni Custom Feedlots Programme farmers were trained on livestock management in areas of animal breeding, feeding, dosing and vaccination. The training was a collaboration involving Local Economic Development, Umzimvubu Local Municipality and the Department of Rural Development and Agrarian Reform. The three partners provided funding for the formal training.
- Training at Gxwalubomvu was conducted with Umzikantu Abattoir on animal weighing and animal grading. The training was carried out on site for demonstration purposes.



**Demonstration Training on site**

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### ONDERSTEPSPOORT BIOLOGICAL PRODUCTS

The project seeks to refurbish and construct new laboratories with modern technology to conform to international animal bio-security standards. The project was scheduled to run from 2012 – 2015.



**Vaccines manufacturing facilities**

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### Training

Operators are trained on maintenance.

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### TAUNG VAALHARTS IRRIGATION SYSTEM

This 10 year project is aimed at rehabilitation of Vaalharts-Taung. The project is located between North West and Northern Cape, who together with DAFF, provide funding. It is estimated that 178 jobs were created as of March 2014.



**Taung Vaalharts Irrigation Scheme**

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### NORTHERN CAPE VINEYARD DEVELOPMENT: CONSTRUCTION PHASE

The project aims to establish grape production (raisins, wine and table grapes) along the Orange River in the Northern Cape to benefit black farmers at Kai Gariep Local Municipality. Provision of infrastructure in the project is aimed at integrating black farmers into the grape value chain. Infrastructure includes:

- Irrigation equipment
- Trellising equipment for vineyards
- Mechanisation
- Processing (e.g pack-house, drying facilities)
- Marketing infrastructure (e.g packaging equipment)

A total of 70 hectares is planned for the 2014/2015 planting season. This will potentially create more than 110 permanent jobs and nearly 431 seasonal jobs in the upcoming season. The project is focused 100% on localization.

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### Training

Training has been on addressing production related aspects.



**Vineyard demonstrations**



## SIP 13 – NATIONAL SCHOOL BUILD PROGRAMME

SIP SKILLS  
COORDINATOR:  
DBE



basic education  
Department:  
Basic Education  
REPUBLIC OF SOUTH AFRICA

### DESCRIPTION

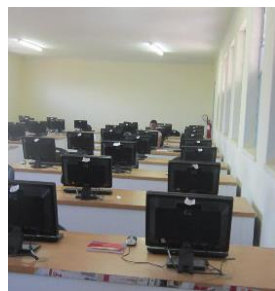
SIP 13 comprises a range of projects that include both nationally-driven programmes like ASIDI and provincially-driven programmes. The projects involve schools replacement, water and sanitation projects, minor repairs and renovation projects.

### ACHIEVEMENTS

At the national level, the ASIDI programme has completed 96 replacement schools with 104 in construction and approximately 100 are at planning stage.

In addressing water and sanitation the ASIDI programme has provided 380 schools with water, 367 schools with sanitation and 289 schools with electricity.

At the provincial level provinces have delivered 172 new schools as well as varying numbers of school upgrades and maintenance initiatives.



New schooling facilities

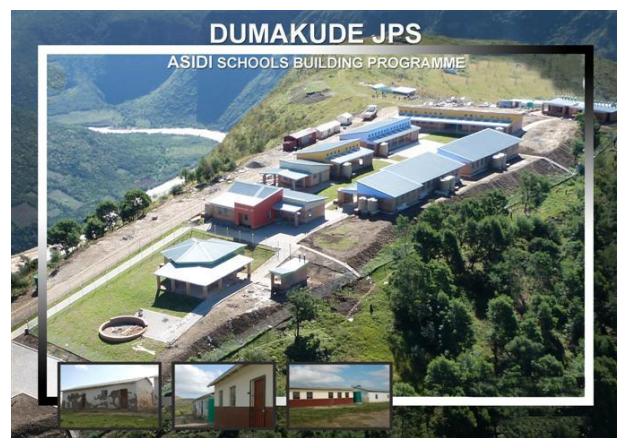
### PARTNERSHIPS

The ASIDI programme involves a wide range of implementing agents and professional service providers.

The Fresh Start Schools Programme constitutes a partnership between DBE, National Education Collaboration Trust and the Department of Rural Development and Land Reform.

### TRAINING

On-the-job training and internships have also been conducted via contractors and sub-contractors in the ASIDI Programme and provincial programmes.



Dumakude JPS



## SIP 14 – HIGHER EDUCATION INFRASTRUCTURE

SIP SKILLS  
COORDINATOR:  
CSIR



### DESCRIPTION

SIP 14 covers higher education infrastructure; University of Mpumalanga, Sol Plaatje University in the Northern Cape, Sefako Makgatho Health Sciences in Gauteng as well as 16 new/refurbished TVET college campus sites. It covers new and upgrade infrastructure projects at existing universities and colleges including new buildings, new roads and bulk services, building upgrades, disability upgrades and new student housing.

### PARTNERSHIPS

The SIP has developed partnerships with the new universities and TVET colleges and facilities management departments to increase capacity for infrastructure planning and management.

### TRAINING

- **Planning** – A working group including DHET, the SIP 14 and University Planning Directors has been established. The group is tasked with developing and disseminating information on good practice in relation to university master planning, disability audits, maintenance plans and health and safety regulations. Universities involved include Johannesburg, Wits, Free State, Venda, Pretoria and Durban University of Technology.
- **Construction** – Formal training and informal mentoring occur. The former is being run on new large construction sites, recorded and implemented in accordance with the cidb Training Standard. Local private training providers are engaged for training purposes.

### CIBD TRAINING STANDARD

The standard has been applied in new large-scale projects; new universities and TVET college campuses.

## SIP15 – EXPANDING ACCESS TO COMMUNICATION TECHNOLOGY

SIP SKILLS  
COORDINATOR:  
CSIR



### DESCRIPTION

The scope of SIP 15 is to support, monitor and coordinate the deployment of Information and Communications Infrastructure, including expanding access to communication technology. It currently focuses on three programmes, namely:

- Digital Migration (Digital Terrestrial Television [DTT] and Set Top Boxes)
- Connectivity of Educational Institutions (District and Dinaledi schools)
- 100% access to Broadband by 2020.

In the past 18 months of coordinating, the SIP assumed the role of creating a framework and making sure that more projects are put into the SIP pipeline. This has led to at least 8 large projects in 8 districts which will be funded during the next financial year. Skills development will be the next focus for the SIP.

### ACHIEVEMENTS

The National Broadband Policy was gazetted In December 2013. One of its four strategic pillars is Digital Opportunity which aims to enhance the following six areas:

- **e-Government** – Improving the efficiency of the public sector and provision of user-friendly e-services (integration).
- **Human Capital Development** – Improving skills and widening opportunities for participation (demand side skills: e-literacy programs and supply-side skills, i.e. ICT graduates).
- **Innovation and Digital Entrepreneurship** – Promotion of ICT uptake by enterprises and increasing the competitiveness of the ICT sector.
- **ICT Application** – Identification of ICT applications that advances e-government.

- **Research and Development** – Improving ICT related research capacity and widening opportunities for participation.
- **e-Awareness and Inclusion** – Raising public awareness about information society and internet based services.

The six initiatives will form the basis for the skills development plan for broadband. Both stakeholders representing the end users (demand) and supply sides will be involved in the development of this initiative.

- The *digital migration*, the infrastructure part (DTT) is 96% complete and 22 people are now permanently employed
- The 1,650 *school connectivity* project is also nearing completion
- The business case for the broadband MTEF allocation was approved.

### PARTNERSHIPS

- **Telkom** – Schools Connectivity Project
- **Sentech** – DTT Television Infrastructure
- **Broadband Infraco** – Broadband extensions
- **Universal Service and Access Agency of South Africa** – the Set Top Boxes

When the President announced in his State of the Nation Address 2015 that Telkom should lead the rollout of broadband infrastructure, they automatically became a major SIP 15 partner.

### TRAINING

- General use of ICT and end-user devices (laptops) for the school connectivity project.
- The CSIR has developed some modules for piloting in the Cofimvaba, Eastern Cape and the delivery of demand and supply.
- The DoH has trained ICT users (nurses) at NHI sites in the 10 pilot districts.
- Operation Phakisa for health had HCD as a focus.
- Intel-SA has signed a Memorandum of Understanding with the Department of Telecommunications & Postal Services to provide schools and teachers with programmes to facilitate technology integration into classrooms.
- Intel will provide Intel Teach and Intel Learn programme training to teachers.

## SIP 16 – SKA AND MEERKAT

SIP SKILLS  
COORDINATOR:  
SKA



### DESCRIPTION

The South African Square Kilometre Array Project (SKA SA) incorporates both the MeerKAT and SKA projects. To create the required skills to design, construct and operate the SKA and MeerKAT telescopes, and to make optimal use of these radio telescopes for research, the SKA SA Project initiated a Human Capital Development (HCD) programme in 2005.

When South Africa submitted its initial expression of interest to host the SKA, in 2003, there were less than ten individuals in Southern Africa with experience in radio astronomy science or engineering. South Africa took the decision to drive the development of capacity in the areas relevant to radio astronomy science and engineering.

### ACHIEVEMENTS

- In 2014, as a direct result of the SKA project in South Africa, and the capacity development programme, there are nearly 150 engineers, scientists, technicians and artisans working for the project.
- There are more than 200 practicing radio astronomy researchers in Africa, almost 70 technicians and artisans, and more than 50 students currently in the pipeline who will graduate with a PhD or MSc in 2015/16.
- The programme has provided over 600 grants and bursaries from postdoctoral fellows down to students training to be artisans.
- The project is supporting five research chairs in South African universities.
- The chairs have further increased the number of researchers and supervisors able to supervise postgraduate students and manage SKA and MeerKAT related research.

## PARTNERSHIPS

- The SKA SA is a business unit of the National Research Foundation (NRF). NRF is responsible for the financial management of the SKA SA.
- An *Artisan Training Programme* was initiated in 2011 to produce the capacity needed for operations and maintenance. The HCD programme has been actively working with the Kimberly and Bloemfontein TVET Colleges.
- The *Schools Programme* is focused on mathematics and science initiatives at five schools closest to the telescope site.
- The SKA SA works closely with the Northern Cape provincial government in carrying out the various activities at these schools.

## TRAINING

- The number of bursary awards made by the SKA SA for the period 2012 to 2014 for the various occupations is listed in *Table 11*. These numbers do not include the undergraduate BSc and BEng degrees, and are considered to be a reflection of the more specialized occupations that were supported through the project by either theory or workplace training.
- The *Artisan Training Programme* has provided financial assistance to 37 artisan trainees between 2011 and 2014. Candidates are selected from the towns closest to the telescope site, which include Carnarvon, Williston and Van Wyksvlei.

**Table 11 : Bursaries awarded by the SKA**

Occupation	Theory			Workplace		
	2012	2013	2014	2012	2013	2014
<b>Astronomer:</b>						
MSc	11	13	8			
PhD	12	19	5			
Postdoctoral				10	13	3
<b>Engineering<sup>5</sup>:</b>						
MSc	7	1	10			
PhD	7	13	3			
Postdoctoral				1	6	6
<b>Technologists (Training at UoTs):</b>						
National Diploma	7	8	10	3	8	8
BTech	1	2	6	N/A	N/A	N/A
<b>Artisans (Training at an FET college):</b>						
Welder/Boilermaker	1		2			1
Electrician	1		5			1
Motor Mechanic	1					1
IT Technician			4			
Fitting and Turning			5			

<sup>5</sup>Approximately 80% of bursary awards are for electronic engineering. The remaining engineering bursary awards are toward mechanical engineering degrees.



The story of Priscilla Malgas and Virgillian Casper from Carnarvon is but one of many success stories. Virgillian and Priscilla were initially supported by the SKA SA project in 2011 to pursue a skills certificate from the Kimberley Urban TVET College for one year. On completion, both were employed by the SKA SA project as Electrical Technician Assistants in 2012.

After working for the SKA SA for two years, the project recognized the need to provide further support for their personal and career development. In 2014, both were awarded bursaries to study toward a National Certificate in Electrical Engineering at the Kimberley College. They are currently in the second trimester of the studies. Both plan to further their training towards a National Diploma in Electronics.

The Technician Training Programme seeks to contribute to the technical skills development on the African continent through training provided by the project for operations and maintenance of the future radio astronomy observatories on the African continent.

One of the excellent students trained through the programme is Leonard Mwaanga from Zambia. Leonard was awarded a bursary by the SKA SA to study towards a National Diploma in Electronic Engineering in 2011. He completed his theory component in 2012 and is currently carrying out his practical training with the technicians of the African Very Long Baseline Interferometry Network (AVN) team of the project in Cape Town.



**Priscilla Malgas, Leonard Mwaanga and Virgillian Casper**



## Focus Area Three: Building capacity of education and training providers

### SIP 14: New colleges and universities

The primary contribution of SIPs to the generation of new education and training capacity is captured under SIP 14: Higher Education Infrastructure, discussed under SIP 14 report in the previous Focus Area. The launch of the Sefako Makgatho Health Sciences University on 14 April 2015 is the latest achievement under this heading.

### SIP 8: New centres for green energy skills

#### **SOUTH AFRICAN RENEWABLE ENERGY TECHNOLOGY CENTRE (SARETEC)**

This is a multimillion rand national centre for renewable energy training and education located at the Cape Peninsula University of Technology. The construction is 85 percent complete. SARETEC has organised training of South Africa's first 11 qualified Wind Turbine Service Technicians and South Africa's first 8 trainers to deliver this qualification at the institution.



**South Africa's first (left) and second (right) qualified  
wind turbine service technicians**



**South African Renewable Energy Technology  
Centre in Bellville**

#### **RENEWABLE ENERGY CENTRE OF EXCELLENCE – NORTHERN CAPE (RECE)**

This Centre was launched in Upington in August 2014. The state-owned facility was initially established and funded by the EWSETA for R42 million. This was in addition to R82 million allocated to colleges for skills development in renewable energy. RECE has established partnerships with the Nelson Mandela Metropolitan University, University of Johannesburg, Tshwane University of Technology and the newly established Sol Plaatje University. Internationally, RECE has partnerships with Ferrara and Bologna Universities in Italy, and the 4U Alliance Universities in Madrid and Barcelona in Spain.



**Minister Dr Blade Nzimande and Premier Lucas of the  
Northern Cape at the launch of the Renewal Centre of  
Excellence in Upington in August 2014.**

#### **OTHER MEASURES**

Whilst not repeated here, it should be noted that a number of SIPs are funding Chairs and lecturers, and are supporting the development of new qualifications – also key to provider capacity.

## Focus on provider capacity in the ‘Skills for and through SIPs’ Report

The ‘Skills for and through SIPs’ Report, released on 2 September 2014, and briefly outlined above, has allocated considerable attention to the need to build the capacity of education and training providers. For each occupation on the scarce skills list, the relevant Occupational Team has indicated what needs to be done to raise the throughput rate of learners – which in almost all cases includes increasing the capacity of the education and training institutions which provide the foundational theoretical and practical learning required for the occupation.

Arising out of this work, the SETAs were asked to not only provide bursaries for students and workplace learning incentives for employers but also to support interventions that would increase the capability of the institutions. An indicative list of areas for intervention was detailed under a heading ‘Other’ which included:

- (a) Lecturer development /additional staff
- (b) Equipment
- (c) Learning materials development
- (d) Qualification and curriculum development
- (e) Research
- (f) Course marketing/career development
- (g) Other.

The initial commitments made by SETAs under each of these headings are shown in Table 12.

**Table 12 : SETA commitments for ‘Other’ items**

SUMMARY OF SETA COMMITMENTS FOR SIPs			
OFO	Occupation/discipline	Other commitments	Key
<b>Management</b>		<b>R 6,218,510</b>	
<b>212908</b>	Quality Manager (WIL and unemployed)	R 5,718,510	e
<b>212908</b>	Quality Manager (Employed)	R 500,000	c
<b>Professionals and associate professionals</b>		<b>R 1,050,000</b>	
<b>214301</b>	Environmental engineering	R 150,000	e
<b>314301</b>	Forestry technician	R 900,000	b
<b>Trades</b>		<b>R 60,511,100</b>	
<b>671101</b>	Electrician	R 60,406,100	c, g
<b>671202</b>	Millwright	R 35,000	a
<b>651302</b>	Boilermaker	R 35,000	a
<b>651202</b>	Welder	R 35,000	a
<b>Plant and machine operators</b>		<b>R 2 519,000</b>	
<b>734201</b>	Earthmoving plant operator (relicense)	R 600,000	d
<b>734301</b>	Crane or Hoist Operator	R 1,919,000	b
	<b>GRAND TOTAL</b>	<b>R 70,298,610</b>	

## Challenges securing funds for Occupational Team recommendations

Unfortunately, currently those applying for these funds have to do so separately from their applications for bursaries and workplace incentives, even if they are related to the same occupation. To streamline this process a new proposal has been generated to enable people to apply at one time for all the measures needed to improve the number of successful graduates of a specific qualification at a specific institution leading to an occupation in demand – in other words to apply for bursaries, incentives to employers for workplace learning as well as measures to improve the capacity of the relevant institution. This proposal is being termed a Priority Occupation Package (POP) grant – as a special category under the SETAs PIVOTAL grant procedure.

The proposal was raised by the SIPs team at the time when the Guideline to SETAs for the interpretation of the SETA Grant Regulations was being prepared in February 2015. It has been agreed that SETAs will consider the proposal, and once input has been received, the refined proposal will be incorporated into the Guideline itself. Should this be agreed, a mechanism for the funding of Occupational Team recommendations will have been developed. Its implementation will not only help to strengthen the capacity of institutions to better deliver services to students, it will also elevate the role of the Occupational Teams which the Minister has supported in his 'White Paper for Post-School Education and Training: Building an Expanded, Effective and Integrated Post-School System' released in January 2014 (hereafter WP):

**"An important development in the management of the Strategic Infrastructure Projects is the establishment of Occupational Teams. These teams ... bring together representatives of employers, education and training providers, professional bodies and others such as trade testers and licence issuers. Their purpose is to address problems of curriculum relevance and alignment between institutional (theoretical) and workplace (practical) learning as well as work placement problems at a systemic, national level. The implementation of this concept in the Strategic Infrastructure Projects will be evaluated and extended across vocational and professional training generally wherever possible." (WP, p. 65/5)**

## Focus Area Four: Access and equity at local level

### The Department of Labour's Employment Services South Africa (ESSA)



The principal vehicle whereby local communities are currently being informed about and invited to participate in the SIPs is through the Department of Labour's Employment Services South Africa (ESSA). The service is available country wide at 125 Labour Centres, various visiting points and satellite offices and through the deployment of two mobile public employment service buses with internet connectivity. The service is also available on the Department of Labour's website<sup>6</sup>.

<sup>6</sup> [www.labour.gov.za](http://www.labour.gov.za)



## DOL LABOUR CENTRE SITES

Aliwal North, Butterworth, Cradock, East London, Fort Beaufort, Graaff Reinet, Grahamstown, King Williamstown, Lusikisiki, Maclear, Mdantsane, Mount Ayliff, Mthatha, Port Elizabeth, Queenstown, Uitenhage, Bethlehem, Bloemfontein, Botshabelo, Ficksburg, Harrismith, Kroonstad, Petrusburg, Phuthaditjhaba, Sasolburg, Welkom, Zastron, Alberton, Atteridgeville, Benoni, Boksburg, Brakpan, Bronkhorstspuit, Carltonville, Ga-Rankuwa, Germiston, Johannesburg, Kempton Park, Krugersdorp, Mamelodi, Nigel, Pretoria, Randburg, Randfontein, Roodepoort, Sandton, Sebokeng, Soshanguve, Soweto, Springs, Temba, Vanderbijlpark, Vereeniging, Dundee, Durban, Estcourt, Kokstad, Ladysmith, Newcastle, Pietermaritzburg, Pinetown, Port Shepstone, Prospecton, Richardsbay, Richmond, Stanger, Ulundi, Verulam, Vryheid, Beaufort West, Bellville, Cape Town, George, Knysna, Mitchellsplain, Mossel Bay, Oudtshoorn, Paarl, Somerset West, Vredenburg, Worcester, Calvinia, De Aar, Kimberley, Kuruman, Postmasburg, Springbok, Upington, Brits, Christiana, Klerksdorp, Lichtenburg, Mafikeng, Mogwase, Potchefstroom, Rustenburg, Taung, Vryburg, Barberton, Bethal, Carolina, Emalahleni, Ermelo, Malelane, Kwamhlanga, Mashishing, Middelburg, Modimolle, Emkhondo, Sabie, Secunda, Standerton, Giyani, Groblersdal, Jane First, Lebowa kgomo, Lephalale, Makhado, Modimolle, Mokopane, Phalaborwa, Polokwane, Seshego, Thohoyandou, Tzaneen

## ESSA AND THE DETERMINATION OF SKILL AVAILABILITY FOR SIPS

Since its inception in 2007, the ESSA system has shown dramatic increases in the registration of unemployed work seekers. The transaction volumes in 2007 were 97,984 work seekers, in 2013-2014 they rose to 633,538. The current database has a work seeker registration figure of 3.5 million.

This ESSA database has been mined for information about skills available for each of the occupations in demand in SIP project areas. The lists suggest that there is enormous potential for Recognition of Prior Learning interventions in targeted areas as many people report experience in needed occupations even though they do not always have the supporting formal qualifications.

## THE SIP 5 INNOVATION

The Department of Labour partnered with the SIP 5 Skills Coordinator who facilitated partnerships with Transnet, Eskom and the Saldanha Bay IDZ community in the Western and Northern Cape.

A 14 days registration drive of work seekers was held in the Saldanha Bay municipal areas from the 25 November to 12 December 2013. To support this campaign the IDZ appointed an additional 26 candidates to assist the DOL officials with the registration of work seekers. They were recruited

from the local Saldanha Bay community with the help of the Community Skills and Training Committee.



**26 local Saldanha Bay community members employed to assist DOL officials with the registration of work seekers.**

A total of 11,740 people were registered. A second campaign took place in the Northern Cape from July to August 2014.

The DOL's offices also received 1,150 work opportunities from partners like Transnet, the Saldanha Bay Municipality, Department of Economic Development, Western Cape and the Premier's Office in the Northern Cape and to date 133 persons have been placed. The process is continuing. Similar initiatives are now being explored by other SIPs.

## The Department of Higher Education and Training's services

A concerted effort will be made to ensure that students in schools, colleges and universities in the surrounding vicinities of the SIPs are informed of opportunities for workplace learning on the SIP projects. They will also be informed of occupations in demand which will likely improve their chances of securing employment after graduation.

Already the occupations in demand for the SIPs are recorded on the NCAP which is being used to inform students making career choices.





## Focus Area Five: Beyond the build

### Operations and maintenance of the infrastructure once built

Operations and maintenance are seen as critical areas that are often neglected in skills provision planning. The first step in the sourcing of skills requirement for operations and maintenance is in the Operational Readiness procedures which should be in place at the handover of the capital works. These procedures have seldom been in place in the past, which results in inadequate maintenance, inefficient operation and insufficient skills provision. To ensure some skills provision for the operation and maintenance period after SIPs capital works completion, skills prototypes were developed for 39 typical SIPs projects. These are minimal staffing levels and were included only to ensure that our skills demand curves had a provision for continued requirement for skills over an extended period (held to be 20 years installation life). The prototypes still need to be reviewed with the relevant operations and maintenance authorities.

### Up- and downstream work opportunities

The PICC is actively promoting the manufacture of inputs for the SIPs. Where a plan for new manufacturing capacity is identified, skills will be developed for these using the methodology that has already been developed. Attention will also be given to the downstream opportunities that flow from having the infrastructure in place going forward. Watch this space as this has important implications for job creation in local communities. This is clearly an area where much more attention is required in future.

## THE NEXT STEPS

### Plans going forward

#### AN EIGHT POINT PLAN

The Minister of Higher Education and Training, together with his Director-General, has approved the extension of the term of office of the SPU in the DHET, from April 2015 to March 2018. The work is to be funded by the NSF.

The approved Business Plan envisages active partnerships with a wide range of actors in the process of implementation, most of which are still in the process of being formalised. However, the central role of DHET is premised on its mandate with respect to the colleges, universities and SETAs which are pivotal to any education and training plan. The approved Business Plan for the Unit identifies eight result areas to be achieved.

#### RESULT AREA ONE

Standard operating procedures for the translation of demand-signals from the SIPs to the universities, colleges and employers in place and operational.

Under this result area the systems needed to accelerate implementation of education and training will be developed and rolled out – including those relating to the SETAs and the National Skills Fund. Attention will also be given to the DHET allocation of voted funds to institutions in the process as well as other government and private funds available for training.

#### RESULT AREA TWO

Training for skills in demand undertaken in at least five geographical areas (provinces are being targeted) and/or sectors.

Under this result area partnerships will be entered into with those provinces that are willing to adopt



the 21 STEP PROCESS outlined earlier. Once these partnerships are formalised a focused project planning and rollout programme will commence. Discussions are at an advanced stage in two provinces and others have shown interest.

The commitment given by organised business under the President's Business Forum to work with government on skills development for the SIPs will be vital for the achievement of this result area.

On 24 October 2014, the President's Business Forum agreed not only to support government in general; it also agreed to adopt Waterberg as a flagship project. Subsequently, key partners including SIPs implementers endorsed the proposal to use Waterberg as a pilot site for the skills planning methodology and implementation of the SIPs, while scaling up across SIPs in the other geographical spaces. In collaboration with the implementation partners, a detailed implementation plan has been developed based on the 21 STEP PROCESS.

### RESULT AREA THREE

Training undertaken on the sites of at least ten SIP projects in pilot areas flowing from the Training Standard of the cidb.

Under this heading the cidb will engage with those issuing the tenders for the SIPs and encourage them to include the Training Standard in the tender specifications issued. Central to the strategy will be the Skills Development Agencies that support contractors with the management of the training commitments made. The clause in the Training Standard that permits public officials to participate in the projects to gain workplace experience, where required, will also be promoted.

### RESULT AREA FOUR

Job seekers and work opportunities for projects are recorded on the Employment Services South Africa (ESSA) in all project areas (see Result Area Two).

The lessons learnt from the successful SIP 5 programme will be applied in other areas, with the necessary changes required by circumstance. The use of data from the ESSA database will also incrementally be included in the skills planning methodology, as the data is itself improved.

### RESULT AREA FIVE

The capacity of the state is enhanced in SIP project areas.

This work will be led by the Department of Co-operative Government, together with the Municipal Infrastructure Support Agency, and the DPSA. It is anticipated that special attention will be given to the implementation of the Infrastructure Delivery Management System in this process.

### RESULT AREA SIX

Training capacity in place for the diffusion of the SIP Skills Planning methodology country-wide.

Under this result area it is envisaged that a training manual, supported by training personnel, will be prepared on the use of available tools, templates and procedures. The programme will be delivered on an 'as needs' basis in the provinces and sectors where partnerships are struck.

### RESULT AREAS SEVEN AND EIGHT

The final result areas relate to the management of the SPU, which it is envisaged will become a part of the 'credible institutional mechanism for skills planning' which is currently under construction.

## Conclusion

Whilst much progress has been made a lot still needs to be done. Our sleeves are already rolled up and we are working, together with many partners, for the successful implementation of the SIPs which have a key role to play in the economic growth and social development of our country.





## higher education & training

Department:  
Higher Education and Training  
**REPUBLIC OF SOUTH AFRICA**