merSETA
MANUFACTURING, ENGINEERING AND RELATED SERVICES SETA

SECTOR SKILLS PLAN

UPDATE

2013/14-2017/18

PROMOTING ARTISAN DEVELOPMENT FOR EMPLOYABILITY

15 November 2013

FOREWORD

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ABBREVIATIONS AND ACRONYMS

AATP	Accelerated Artisan Training Programme
ABET	Adult Basic Education and Training
AIDS	Acquired Immune Deficiency Syndrome
AIS	Automotive Investment Scheme
AMEO	Automobile Manufacturers Employers Organisation
APDP	Automotive Production and Development Programme
AQP	Assessment Quality Partner
ATD-TTT	Artisan and Technician Development Technical Task Team
ATR	Annual Training Report
BACSA	Business Against Crime South Africa
BAW	Beijing Automotive Works
B-BBEE	Broad-based Black Economic Empowerment
BEE	Black Economic Empowerment
BRICS	Brazil, Russia, India, China and South Africa
BUSA	Business Unity South Africa
CAD/CAM	Computer-Aided Design/Modelling
CBMT	Competency Based Modular Training
CEO	Chief Executive Officer
CETEMF	Capital equipment, transport equipment, metal fabrication
CHE	Council for Higher Education
CIACM	Competitiveness Improvement of Automotive Component Manufacturers
CNC	Computer Numerical Control
CO2	Carbon Dioxide
COSATU	Congress of South African Trade Unions
CPD	Continuous Professional Development
CSDP	Competitive Supplier Development Programme
CSIR	Council for Scientific and Industrial Research
CSP	Customised Sector Programme
DBSA	Development Bank of Southern Africa
DEA	Department of Environmental Affairs
DHET	Department of Higher Education and Training
DMR	Department of Mineral Resources
DoL	Department of Labour
DPSA	Disabled People of South Africa
DQP	Development Quality Partner
dti	Department of Trade and Industry
ECSA	Engineering Council of South Africa
DED	Department of Economic Development
EMIS	Education Management Information System
EPWP	Expanded Public Works Programme
ERA	Enterprise Reference Architecture

ESSA	Employment Services South Africa
ETQA	Education and Training Quality Assurance body
EV	Environmental Vehicle
FAW	First Automobile Works
FET	Further Education and Training
FLC	Foundational Learning Competence
g	Gram
GDP	Gross Domestic Product
GET	General Education and Training
GFETQF	General and Further Education and Training Qualifications Framework
GVA	Gross Value Added
GWM&E	Government-Wide Monitoring and Evaluation
HEMIS	Higher Education Management Information System
HET	Higher Education and Training
HETQF	Higher Education and Training Qualifications Framework
HIV	Human Immunodeficiency Virus
HRDSSA	Human Resources Development Strategy for South Africa
HSRC	Human Sciences Research Council
IDC	Industrial Development Corporation
IDZ	Industrial Development Zone
IMF	International Monetary Fund
INDLELA	Institute for the National Development of Learnerships, Employment Skills and Labour Assessments
IPAP	Industrial Policy Action Plan
ISOE	Institute for Sectoral or Occupational Excellence
ITE	Institute for Training Excellence
km	Kilometre
LMI	Labour Market Intelligence
MaaS	Mobility-as-a-Service
MBA	Master of Business Administration
MCEP	Manufacturing Competitiveness Enhancement Programme
MEIBC	Metal and Engineering Industries Bargaining Council
merSETA	Manufacturing, Engineering and Related Services Sector Education and Training Authority
MHCV	Medium and Heavy Commercial Vehicles
MIBCO	Motor Industry Bargaining Council
MIDP	Motor Industry Development Plan
MOU	Memorandum of Understanding
MQA	Mining Qualifications Authority
MTSF	Medium Term Strategic Framework
NAACAM	National Association of Automotive Component Manufacturers
NAAMSA	National Association of Automotive Manufacturers of South Africa
NAMB	National Artisan Moderation Body
NATED	National Technical Education Courses

NBF	National Bargaining Forum
NCA	National Credit Act
NC(V)	National Certificate (Vocational)
NDP	National Development Plan
Nedlac	National Economic Development and Labour Council
NEET	Not in Employment, Education or Training
NFTN	National Foundry Technology Network
NGO	Non-governmental Organisation
NGP	New Growth Path
NOPF	National Occupations Pathways Framework
NQF	National Qualifications Framework
NSDS	National Skills Development Strategy
NSF	National Skills Fund
NSFAS	National Student Financial Assistance Scheme
NTI	National Tooling Initiative
NUMSA	National Union of Metalworkers of South Africa
NYDA	National Youth Development Agency
OEM	Original Equipment Manufacturers
OFO	Organising Framework for Occupations
OLS	Ordinary Least Squares regression
OQF	Occupational Qualifications Framework
PDI	Previously Disadvantaged Individual
PICC	Presidential Infrastructure Coordination Committee
PIVOTAL	Professional, Vocational, Technical and Academic Learning
PlasticsSA	Plastics Federation of South Africa
PPP	Public-Private Partnership
PRASA	Public Rail Agency of South Africa
PWD	People with Disabilities
QCTO	Quality Council for Trades and Occupations
QLFS	Quarterly Labour Force Survey
R	Rand
R&D	Research and Development
RAP	Retrenchment Assistance Programme
Redisa	Recycling and Economic Development Initiative of South Africa
Rm	Rand (million)
RMI	Retail Motor Industry Organisation
RPL	Recognition of Prior Learning
SA	South Africa/South African
SAA	South African Airways
SABS	South African Bureau of Standards
SADC	Southern African Development Community
SAGDA	South African Graduates Development Association
SAPRO	South African Plastics Recycling Organisation
SAQA	South African Qualifications Authority

SATMC	South African Tyre Manufacturers Conference
SDL	Skills Development Levy
SEDA	Small Enterprise Development Agency
SEIFSA	Steel and Engineering Industries Federation of South Africa
SET	Science, Engineering and Technology
SETA	Sector Education and Training Authority
SEZ	Special Economic Zone
SIC	Standard Industrial Classification
SIP	Strategic Infrastructure Project
SME	Small- and medium enterprise
SMME	Small, medium and micro-enterprise
SOC	Standard Occupational Classification
soc	State owned companies
SSP	Sector Skills Plan
Stats SA	Statistics South Africa
TREE	Training for Rural Economic Empowerment
UIF	Unemployment Insurance Fund
US	United States
VAT	Value Added Tax
W&RSETA	Wholesale and Retail Sector Education Training Authority
WSP	Workplace Skills Plan
WTO	World Trade Organisation

SYNOPSIS

The Manufacturing, Engineering and Related Services Sector Education Training Authority (merSETA) has prepared this third annual update of its Sector Skills Plan (SSP) 2011/12-2015/16 in response to the requirements as set out by the Department of Higher Education and Training (DHET) in the National Skills Development Strategy III (NSDS III), as well as more recently released documents. This SSP spans the financial years 2013/2014 to 2017/2018.

This SSP considers a wide range of national policy imperatives that seek to support inclusive sectoral growth and that advance both economic growth and the national social development and transformation agenda. Those policies that relate directly to skills development include: the Skills Development Act (2008), the NSDS III, and the second Human Resources Development Strategy for South Africa (HRDSA II). Strategies that focus more directly on economic growth and social development include: the National Development Plan; the New Growth Path; the Medium Term Strategic Framework (MTSF); the National Skills Accord; the latest revision of the Industrial Policy Action Plan (IPAP); the Department of Trade and Industry's Special Economic Zones (SEZ) policy; the Department of Environmental Affairs' (DEA) "Integrating the Environmental Driver into Sector Skills Plans: An Enabling Document for all SETAs", and the Expanded Public Works Programme (EPWP), all of which directly or indirectly support the National Development Plan. Finally, monitoring and evaluation policies such as the Policy Framework for Government-Wide Monitoring and Evaluation (GWM&E) are also important.

The overall profile of the merSETA sector, which includes the automotive, metal and plastics manufacturing sectors, remains largely unchanged. This is in terms of: its high levels of global integration; its geographical concentration in urban areas and particularly in Gauteng; the racial and gender breakdown of employees, with blacks and females being under-represented in certain occupations and at the professional and management levels; the high levels of unionisation among employees; and high levels of organisation among employers and among the professionals employed within the sector. A trend that continues is the long-term shift towards a greater proportion of skilled and highly-skilled workers. Emerging trends that have been identified as likely to have an increasing impact on the performance of the merSETA sectors into the future include: the emerging Green Agenda and the environmental impact of manufacturing production and product life-cycle management; the increasing global use of social media, and 'e' and 'm' commerce among potential consumers; diversified consumer financing methods; and changing population dynamics that include an aging global population and a growing middle class in South Africa.

An analysis of the economic performance of merSETA sectors over the past year highlights the ongoing negative impact of the recent recession and the associated global economic uncertainty. While new passenger vehicle sales statistics for 2012 were positive overall, they did not translate into positive growth upstream in the domestic automotive value chain. At the same time the underlying structural problems in the SA economy that were presented through the global recession continue to undermine growth in the merSETA sectors.

In this light, it is not surprising that the range of government strategies and policies aimed at addressing these problems in order to support economic and employment growth have not yet

yielded substantial positive outcomes. Rather than increases in employment, the merSETA sector saw a slight decline, from 655 967 in 2010/11 to 653 800 in 2011/12. In further contrast to employment creation goals, industry expects employment declines through 2013 and 2014 due to the spill-over effects of the 2012 mining sector strikes as well as the disincentive effect of the higher-than-inflation increases that were the outcome of the 2013 wage negotiations.

merSETA's skills forecasting model has been updated in this SSP using the latest data available. Compared to last year's projections, the projections of future demand emerging from the 2013/14 update are considerably lower, particularly with respect to the demand required to fill new positions. This is largely because of the downward revision in growth projections for the merSETA sectors going forward. According to the baseline scenario, merSETA companies will require a total of 114 190 people over the period 2013 to 2018. The total number of new jobs that will be created in the sector (25 550) will however be considerably fewer than the demand for new people to fill existing positions (88 640). Of the overall total, 11 710 will be technicians and associate professionals, 7 510 will be professionals and 20 310 will be skilled craft and related trade workers. merSETA's key focus must remain on promoting and supporting the development of necessary technical and artisan skills to meet the sector's future needs.

The analysis undertaken for and presented in this SSP draws on a range of information sources. These sources include the merSETA's Workplace Skills Plans; data from Quantec that is based on the National Accounts; and other sources such as data sets and publications of Statistics South Africa, the Higher Education Management Information System (HEMIS) and industry associations including the National Association of Automobile Manufacturers of South Africa (NAAMSA). Additional and foundational data sources are the merSETA's own commissioned research. Data from these sources was augmented with research conducted by other national research institutions, industry publications and the media. At all stages of the development of this SSP, representatives from each of the merSETA chambers were consulted for input and approval.

Again highlighted through the current analysis are the broad categories of sector skills development needs: technical skills required for general success in the work environment; fundamental work-readiness skills which include aspects such as problem-solving, team work, communication etc.; health and safety; HIV/AIDS awareness and prevention; ABET; Recognition of Prior Learning (RPL); the development of black managers; skills to meet the needs of increasing environmental demands and the Green Agenda; and training and development of retrenched employees.

The merSETA 2013 Scarce and Critical skills list consists of 59 occupations. This list represents the final outcome of the following process: An analysis of the 2013 Workplace Skills Plans, in which companies were asked to identify and quantify (through vacancies) scarce and critical occupations, was undertaken, based on a range of filters. This list was combined with merSETA's 2012 Priority Skills (which were identified through qualitative focus groups) and presented to industry for engagement. This step saw the addition of a number of occupations deemed to be 'critically important' to the functioning of each of the merSETA subsectors. These Chamber-specific expanded lists are provided in Appendix 4. A process of consolidation by the merSETA Chamber representatives at a meeting in November 2013 resulted in the final list presented in the main document of this SSP. The final list is presented in Table 6-1.

Regardless, interventions must seek to address skills shortages across the occupational range, with those aimed at plant and machine operators and assemblers and elementary workers likely to yield short term results compared to the interventions aimed at addressing the shortages at the artisan, technician, professional and management levels, where training capacity is limited and training interventions are both costly and time consuming. The focus on changing the racial and gender profile of the merSETA sectors at the higher occupational levels must receive sustained focus, with results only likely to show in the medium to longer term.

Overall, if merSETA funded skill development initiatives are to remain relevant to the sector as a whole and equitable to all employees (both current and future), merSETA must continue to focus attention on the broad categories of skills development needs in addition to increasing its focus on addressing the specific scarce and critical skills needs that emerged during this SSP process.

EXECUTIVE SUMMARY

INTRODUCTION

The Manufacturing, Engineering and Related Services Sector Education Training Authority (merSETA) has prepared this third annual update of its Sector Skills Plan (SSP) 2011/12-2015/16 in response to the requirements as set out by the Department of Higher Education and Training (DHET) in the National Skills Development Strategy III (NSDS III), as well as more recently released documents. This SSP thus spans the financial years 2013/2014 to 2017/2018.

The analysis presented in this SSP draws on a range of information sources. These sources include the merSETA's Workplace Skills Plans (WSPs); data from Quantec that is based on the National Accounts; and other sources such as data sets and publications of Statistics South Africa (Stats SA), the Higher Education Management Information System (HEMIS) and industry associations including the National Association of Automobile Manufacturers of South Africa (NAAMSA). Additional and foundational data sources are the merSETA's own commissioned research. Data from these sources are augmented with research conducted by other national research institutions, industry publications and the media. Extensive industry consultation was undertaken for the 2012/13 SSP update. In addition, industry input was required for each of the 2013 merSETA Chamber research projects and for the first round of Regional Sector Skills Plans, which was also undertaken this year. Thus in order to avoid industry fatigue, this SSP review process did not involve any substantial qualitative data gathering processes. Instead it was decided to utilise as fully as possible the information already available through these sources. Furthermore industry input on this SSP was obtained via the five merSETA Chamber representatives. It is anticipated that the SSP update for 2014/15 will again involve extensive industry interviews.

Importantly, the development of an SSP must take into consideration a wide range of policy imperatives that seek to support inclusive sectoral growth and that advance both economic growth and the national social development and transformation agenda. These policies and strategies include those directly related to skills development: the Skills Development Act (2008), the NSDS III, and the second Human Resources Development Strategy for South Africa (HRDSA II). They also include strategies that focus more directly on economic growth and social development: government's National Development Plan; the New Growth Path; the Medium Term Strategic Framework (MTSF); the National Skills Accord; the latest revision of the Industrial Policy Action Plan (IPAP 2012/13 – 2013/14); the Department of Trade and Industry's (dti's) Special Economic Zones (SEZ) policy; the Department of Environmental Affairs' (DEA) "Integrating the Environmental Driver into Sector Skills Plans: An Enabling Document for all SETAs", and the Expanded Public Works Programme (EPWP), all of which directly or indirectly support the National Development Plan. Finally, monitoring and evaluation policies such as the Policy Framework for Government-Wide Monitoring and Evaluation (GWM&E) are also important. All of these have been considered in the development of this SSP.

PROFILE OF THE SECTOR

The merSETA, as demarcated by the Department of Labour (DoL) in 1999 for the purpose of the skills development legislation, included a range of manufacturing activities in addition to a few related service and retail activities. On the basis of the three-digit Standard Industrial Classification (SIC) codes that are used in capturing the data for the National Accounts, these activities cover: basic iron & steel, non-ferrous metals, and metals products manufacturing (SIC codes 351 to 355); machinery manufacture (SIC codes 356 to 357); rubber products manufacturing (SIC code 337); plastics products manufacturing (SIC code 338); motor vehicles, parts and accessories manufacturing (SIC codes 381 to 383); and sale, maintenance and repair of motor vehicles, and fuel station operations (SIC codes 631 to 635). While the revised SETA landscape associated with NSDS III (and thus applicable from 1 April 2011) saw the loss of fuel retail operations from the merSETA, with these moving to the Wholesale and Retail SETA (W&RSETA),[1] it is at this stage still not possible to separate fuel station operations from the data for the rest of the group.

The merSETA operates according to five chambers – Metal, Plastics, Auto (including local assemblers of new vehicles), Motor (including automotive components manufacturers and the motor retail and service subsector), and New Tyre. Data generated outside the merSETA is, however, not captured according to this breakdown. Because data from a variety of sources was used in the development of this SSP, a range of sector breakdowns are used to describe the sector profile in terms of economic performance and employment. The "merSETA sector" refers to all the firms included within the merSETA. The "manufacturing sector" refers to all manufacturing firms nationally, including the portion of merSETA firms involved in manufacturing. The terms "sector" and "industry" are used interchangeably to describe the major groups: the metal sector, the automotive sector and the plastics manufacturing sector. Narrower ranges of activities that fall under each of these are referred to as "subsectors", including the automotive assembly, components manufacturing, new tyre manufacturing, and motor sales and services subsectors. When data from the National Accounts are used, the term "sector" is used to describe all the subgroups and the whole is referred to as the "merSETA sector's cluster". Only in relation to data that were obtained directly from the merSETA is the term "chamber" used.

The merSETA sector has in the region of 50 000 firms with a total of about 653 800 employees in 2011/12. Employment in the sector has dropped slightly from the 655 967 recorded for 2010/11. In 2012 the national manufacturing sector provided employment for about 1.678 million or 14.4% of the total employed population, down from a total employment figure of about 1.968 million in 2009 – which represented 16.7% of total employment at that time. Based on 2012 figures, the merSETA sector constitutes about 39.0% of the total manufacturing employment and 4.9% of total national employment. The Metal Chamber is the largest in respect of both the number of firms and the number of employees. All chambers, with the exception of the Auto Chamber – which only has a limited number of large assemblers and the Tyre Chamber – contain a cross section of both large and small firms.

The educational profile of the merSETA sector can be derived from considering its occupational distribution. In this light, the sector employs roughly 19.6% unskilled (elementary) workers, 22.8%

[1] Skills Portal (2010) New SETA landscape announced, 9 November 2010, http://www.skillsportal.co.za/page/skills-development/898223-New-Seta-Landscape-announced, Accessed 9 September 2011.

semi-skilled workers (plant and machine operators and assemblers), 32.7% skilled workers (craft and related trades workers; service and sales workers; and clerical support workers), and 24.9% highly skilled workers (technicians and associate professionals, professionals and managers).

The majority of the employees within the metal, automotive and plastics sectors are men (79.7%). The occupational category in which women are best represented is in the group clerical support workers (52.1%) followed by sales and service workers (34.8%) and technicians and associate professionals (30.2%).

From a racial perspective, black employees represent the bulk overall, with 55% African, 12% Coloured and 6% Indian employees. Of the total 27% of sector employees who are white, employment is concentrated in the occupational groups: managers (69.6% of managers are white) and professionals (57.9% of professionals are white). A focus by the merSETA on supporting black skills development, especially for artisans and professionals, will improve the pipeline of relevant skills needed to change the demographic profile of managers in the sector. This is a key consideration in the overall transformation of the sector.

While the age distribution of employees in the sector does not support the widespread anecdotal evidence that the average age of artisans is high and that many are due to retire within the next few years, overall data may be hiding challenges for certain of the subsectors. Thus a focus by the merSETA on developing high-quality artisan skills among young people and supporting the transfer of experience from those who are nearing retirement remains a priority.

Geographically, the sector is clustered in four main regions: Gauteng (including sections of the North West Province, which has the most significant concentration of firms and employment); Cape Town and surrounds; the central Eastern Cape coast including Port Elizabeth and East London; and the Durban/Pietermaritzburg region of KwaZulu-Natal. Regardless of domestic location, a key characteristic of firms in almost all of the merSETA's subsectors is their high level of global integration. This factor impacts at many levels including: the adoption of technology and growth in production volumes; the high risks that the sector faces because of the relative ease with which parent companies can relocate business to more competitive international sister plants; through these this also has an effect on local sector employment levels and skills needs.

Non-contract workers in South Africa's (SA) manufacturing sector, including particularly in the metal and automotive sectors, are highly unionised. The National Union of Metalworkers of South Africa (NUMSA) has the largest membership. While temporary staffing (an increasing international trend) provides companies with some way of managing the negative impacts of economic cycles on production volumes and therefore on profitability, NUMSA continues to apply pressure to limit and contain the extent of labour brokering in the sector. Labour union representatives play an important role in ensuring that skills development takes place in the workplace. The need for training of these representatives to fulfill this particular role is an area on which the merSETA will continue to focus.

Employer organisations and professional organisations also play key roles in collective bargaining, information gathering and dissemination, and in skills development for the sector.

Finally, HIV and AIDS among employees of the metal, automotive and plastics sectors adversely affects individual productivity and firm-level efficiency and cost competitiveness. Together, these

place a cost burden on these sectors that are struggling to gain and retain global competitiveness in production. Increasing customer and legislated demands in respect of environmental considerations, sustainable development and the 'green economy' impact not only on the cost of production (with implications for overall competiveness) but also have implications in terms of skills development.

The merSETA sector characteristics are closely linked to its strengths and weaknesses which are in turn tied to opportunities and threats (or risks) for economic success and through this to merSETA's attempts to support skills development in and for the sector.

THE ECONOMIC PERFORMANCE OF THE SECTOR

The factor that pervades the review of the economic performance of the metal, automotive and plastics manufacturing industries in SA is the ongoing negative impact that the economic recession of 2008/9 had and continues to have on the sector. Contraction in the manufacturing sector in South Africa led the local recession and recovery has been inconsistent. Manufacturing's contribution to GDP dropped from 19.7% in 2002 to 17.5% in 2011. National Accounts data of the seven sectors that make up the merSETA cluster show the dramatic drop in the contribution to the total economy between 2008 and 2009. Most of the sectors demonstrated some level of recovery between 2009 and 2012 (albeit minimal in some), however data for 2012 again shows a drop across the merSETA sector in terms of Gross Value Added (GVA).

Statistics on the manufacture and sale of new vehicles have traditionally acted as a barometer of the health of the merSETA sectors. These indicate that recovery has not been straightforward: While capacity utilisation for 2012 for almost all vehicle types had recovered to around 85% from the 2009 lows of around 60%, for heavy commercial vehicles the figure had dropped again to 64%, even lower than the 2009 figure. Additionally, while new vehicle exports of commercial vehicles have continued to recover, 2012 figures show a slump in the export of new passenger vehicles over the 2010 and 2011 figures. In terms of domestic vehicle sales it appears as if the National Credit Act together with the ongoing impact of the recession has downwardly altered the structural nature of local demand for commercial vehicles. And despite the overall positive picture presented by new passenger vehicle sales statistics (with 2012 figures topping 2007 levels), representatives from the components and new tyre manufacturing subsectors say that these trends have not yet translated into any positive growth upstream in the domestic automotive value chain.

Economically, the International Monetary Fund (IMF) has indicated in its most recent World Economic Outlook report for April 2013 that while global prospects have improved somewhat since the recession of 2008/9, policy uncertainty in the US and the Euro zone will continue to have a negative spill-over impact on global economic recovery. The major impact of this picture for SA is the reduced demand for manufactured products from its major export markets. And while this may be counter-balanced to some extent by expected growth in exports to other African countries, SA growth estimates by the World Bank in July 2012 of 3.2% for 2013 and 3.5% for 2014, have now been revised downward to 2.5% for 2013 and 3.2% for 2014.

Industry however also concedes that the challenges the manufacturing sector continues to face in the aftermath of the global and local recessions are related to the underlying structural problems in the SA economy and those factors that have had generally negative consequences for the sector since 2002. In addition to the challenges related to the availability of credit due to the introduction

of the National Credit Act, these factors include: the exchange rate and currency volatility; growing customer demands for increasing quality and product variety at reducing prices; global advances in technology; increasing administered and logistics costs and poor levels of related service; high raw material input costs and uncertain availability; low labour productivity and uncertain skills availability; challenges in relation to the local political and social context; increasing levels of fair and unfair competition; and increasing environmental considerations and related costs. How the sector responds to these challenges, as well as other opportunities such as government expenditure and infrastructure development plans, the Green Agenda, social media and 'e' and 'm' commerce, will determine future growth and sustainability.

Government now has in place a raft of strategies and policies (backed by budget commitments) aimed at addressing some of these underlying structural problems and, in the process, at supporting economic and employment growth in the manufacturing and infrastructure development sectors: The National Development Plan (NDP) provides the 30-year vision that all other policies now support. The New Growth Path economic policy is supported extensively by the Industrial Policy Action Plan (IPAP), which is updated on an annual basis. The metals Customised Sector Plan (CSP); Competitive Supplier Development Programmes (CSDP), the Automotive Production and Development Programme (APDP), Minerals Beneficiation Strategy, the National Tooling Initiative (NTI), the National Foundry Technology Network (NFTN), Industrial Development Corporation (IDC) Jobs Scheme, Local Procurement Accord; and Special Economic Zones (SEZ) policy all speak directly to IPAP and its goals. Of particular significance at the moment are the Strategic Infrastructure Projects (SIPs), which have been provided with substantial economic, political and administrative support.

All of these policies and strategies aim to create significant numbers of new jobs in the SA economy, with the IPAP specifying job-creation targets for the automotive sector as being 160 000 and for the plastics sector as 22 754 over the period 2010 to 2020 in addition to the unspecified number of new jobs for the metal sector. The national budget for 2013/14 continues to support infrastructure development as the key current means of stimulating employment growth. Despite some level of budget cuts due to continued global economic uncertainties and a poorer than expected national growth rate through 2012, the amount allocated to the SIPs continues to be a substantial R827 billion over the next three years. And while industry is struggling to reconcile national growth targets with the economic reality it faces and anticipates facing in the medium-term future, any successes in growing sectoral employment will have important implications for skills development for the merSETA sectors.

THE DEMAND FOR LABOUR IN THE SECTOR

According to the merSETA's WSPs, total employment for the sector for the year 2011/12 was 653 800. Average year-on-year changes in employment for the sectors that make up the merSETA sector's cluster demonstrate that growth rates have been variable, but largely negative, since 2009. Since the recession of 2008/9, only the rubber products sector has shown employment increases, however at levels insufficient to make up for a decade of employment losses prior to this. This trend correlates with data for the manufacturing sector as a whole, which show a long-term reduction in the sector's overall contribution to national formal employment. Employment growth for the merSETA sector through 2013 and 2014 is again expected to be negative due to the spill-over effects

on the manufacturing sector of the 2012 mining sector strikes, as well as the disincentive effect of the higher wages expected to be the outcome of upcoming negotiations.

From an occupational perspective, the category technicians and associate professionals represents 9.9% of total employment in the merSETA sector, while professionals (including engineers) constitute 5.7%. Artisans, who form part of the group of skilled agricultural, forestry, fishery, craft and related trades workers, make up 19.4% of sector employment. Semi-skilled plant and machinery operators and assemblers (22.8%) and unskilled elementary workers (19.6%) together make up a still significant 42.4% of sector employment. An analysis of the proportional demand for workers according to their skills level reveals long-term trends of declining demand for the unskilled and semi-skilled worker category and increasing demand for skilled and highly skilled workers; changes that are being driven by technological advancements and global competitiveness pressures. These same factors, in addition to the highly unionised nature of the merSETA workforce, are furthermore driving increases in real labour remuneration per employee in the majority of the merSETA sectors.

Calculating future demand for labour by the sector is challenging in light of the ongoing economic uncertainties. However, with this in mind the merSETA has updated its labour demand projection model, which projects the demand for labour in each of the major occupations that are found in the sector, given certain assumptions. The main purpose of these projections is to provide a broad indication of the numbers of people who need to be recruited into the sector and who would need to be trained for employment in the sector. Together with the training demand projections generated through a consultative process and the sectoral employment targets set by government through its economic development policies, these figures provide a basis for skills planning by the merSETA.

According to the baseline scenario, a total of 114 190 people will be required over the period 2013 to 2018 by the sector to fill new positions and positions that become vacant as a result of retirement, death or emigration of current employees. If the negative growth scenario were to result, overall demand would only be 82 430 over the same period, while under the positive growth scenario total demand would be 182 900 people. Significantly, the projected figures emerging from this updated model are substantially lower than last year's figures. This is because the revised sector growth assumptions have resulted in the projection of considerably fewer new jobs being created in the sector over the period. New job creation is a key consideration of both IPAP and the New Growth Path and varies considerably under the different scenarios in this model. The baseline scenario figure is 25 550, while the positive scenario figure is 90 440. Under the negative scenario, total employment in the sector would contract by 4 360 positions, with employment in the sector in 2018 being less than it is at present. Of particular importance for the merSETA in respect of supporting the development of sufficient numbers of technicians and artisans for the sector, total demand for the occupational group technicians and associate professionals is 11 710 under the baseline scenario, rising to 18 820 under the positive scenario, while for skilled agricultural, forestry, fishery, craft and related trades workers total demand over the period is 20 310 under the baseline scenario, rising to 33 890 under the positive scenario.

Finally, a range of factors has a direct impact on the future demand for skills in the sector. These factors include: economic recovery and future growth rates; the various government policies aimed at sector support; the shift towards greater proportions of skilled workers in the sector; regional

variations in the demand for skills; the mobility of (particularly scarce) skills within the local and international labour market; the rate of replacement demand; the quality of skills supply; national transformation imperatives; and support for government's development agenda. Together, these factors will directly affect which of the various growth scenarios developed by the merSETA sector is more likely to be realised.

THE SUPPLY OF SKILLS TO THE SECTOR

Large-scale workforce downsizing occurred within the merSETA sector as a result of the economic recession in 2008 and 2009 – some a direct result of the sudden loss of demand, and some as a result of the exacerbation of trends related to more structural challenges facing the sector. Overall, the merSETA sectors lost an estimated 109 700 jobs at that time. While some of these workers have been reabsorbed into the sector since then, other workers have in the meantime been retrenched. The Quarterly Labour Force Survey (QLFS) of March 2013 found more than a quarter of a million unemployed workers (among whom are 14 325 technical and associate professionals) who had previously worked in the manufacturing sector: people who are thus available for re-absorption into the sector. These unemployed manufacturing workers are based mainly in Gauteng (36.8%), the Western Cape (21.4%) and KwaZulu-Natal (15.5%) – i.e. areas in which the merSETA sector is concentrated, with 74.5% of them under the age of 40. The majority (93.8%) have, however, got qualifications at NQF Level 4 (Grade 12) or lower, and were previously employed as craft and related trades workers (including artisans) (23.8%), plant and machine operators and assemblers (30.7%), or in elementary occupations (30.4%).

In respect of the supply of new skills to the sector, there has been substantial growth in the numbers of new graduates from universities and universities of technology in engineering fields most relevant to the merSETA sectors between 2001 and 2011. Among the relevant group of qualifications, electrical engineers form the largest component of national diplomas. Until 2010 electrical engineering was also the largest component of first degrees, but this was overtaken by mechanical engineering in 2011. In terms of the average annual output from national diplomas, growth has been strongest for industrial engineering (15.5%), followed by metallurgical engineering (13.2%), while the growth in degrees awarded has been strongest for metallurgical engineering (10.8%) and industrial engineering (9.9%). Despite these positive growth trends, increases have not yet been sufficient to meet the needs of the national economy and future growth will have to be supported through a variety of initiatives. These include: bridging programmes to promote access and success; increased physical and teaching resources to engineering departments; and programmes that promote workplace training opportunities for students from the universities of technology.

The output from general education and training (GET) is important for the merSETA sector in two key ways: first in respect of the supply of adequate numbers of graduates with good-quality maths and physical science passes as a feeder for the development of sufficient numbers of engineers and technologists (at Higher Education and Training (HET) level) and artisans (at Further Education and Training (FET) level); and second in respect of the education levels (and thus the training potential) of the general workforce who enter the sector without previous training. In both these areas the quality of the output from GET is of concern. And while the new skills contribution of the FET sector has traditionally been very limited, government's determined focus on increasing both the quality

and quantity of output from FET colleges means that this sector is likely to play an increasingly important role in skills development of the merSETA sector into the future.

If merSETA companies are to reach national Employment Equity targets for the proportional employment of people living with disabilities (PWD) then it will be important for the merSETA to encourage new sector-focused skills development among the disabled population who are potential employees, as well as re-training and accommodation strategies in order to support the retention of people who become disabled while employed in the sector. In this light, the merSETA Programme Charter for Persons with Disabilities, released in November 2011, is vitally important. It aims to pull together under one umbrella all the various programmes that are focused on developing skills among this group for employment within the sector.

The merSETA's contribution to skills development is comprehensive, spanning both the development of new skills for the sector as well as the development of skills in the existing workforce. The development of management and supervisory skills is ongoing, as this group of employees needs to provide the sector with critical leadership and direction. Employees in merSETA companies have completed a total of 3 451 skills programmes over the 2012/2013 financial year while a total of 3 694 workers completed ABET programmes (at different levels) over the same period. Into the future, the Foundational Learning Competence (FLC) qualification, which will be a requirement for attaining an occupational qualification at National Qualification Framework (NQF) levels 3 and 4, will provide additional information on the potential availability of skills for the merSETA sector. Finally, a substantial 259 213 people at merSETA companies benefited from attending short courses in 2012/13. However, the importance of the provision of experiential training for 2 557 individuals with mainly technical qualifications, and the support for Continuous Professional Development (CPD) for 26 864 individuals cannot be under-estimated.

The merSETA's major focus in respect of new skills development and the alleviation of skills shortages is the development of artisan skills. To this end, merSETA has a wide spectrum of registered learnerships and apprenticeships in place. Uptake of these training programmes is significant and the merSETA has consistently surpassed its targets both for registrations and achievements. Furthermore, both systems appear to be showing some signs of maturing. Since its inception in November 2001 the merSETA has registered over 57 000 apprentices on apprenticeships and more than 52 000 learners on learnerships. In the same period a total of 31 000 apprentices qualified as artisans in the sector and another 29 000 learners successfully completed their learnerships at various levels.

Contributing to the high success rate in artisan development is the merSETA's Accelerated Artisan Training Programme (AATP), which promotes the development of artisan skills in the metal- and motor-related trades. Using this tool, the merSETA aims to qualify 20 000 artisans over the period 2011/12 to 2015/16, a figure that is considered realistic if sufficient funding can be found to support employers in this regard. Success will to a large extent, therefore, depend on the merSETA's ability to establish and maintain strategic funding partnerships in support of this goal. Also in support of its major artisan development focus is the merSETA's: critical involvement with the Artisans and Technician Development Technical Task Team (ATD-TTT), now the artisan and Technical Monitoring and Evaluating Task Team ATD-MET; piloting of the Apprenticeship Dual System of artisan training;

research into artisan competence levels, identity and status; and promotion of artisan Recognition of Prior Learning (ARPL) as a means to formally recognise informally acquired artisan skills.

merSETA support for other aspects of government's social and economic development agenda spans: an MOU with the dti in support of IPAP (and in particular the SEZ policy); the placement of unemployed graduates in the labour market; support for SIPs; being a Development Quality Partner (DQP) for the Quality Council for Trades and Occupations (QCTO); partnerships with the FET college sector; and engagement with other national policy directives.

A number of challenges face the sector in respect of the supply of critical technical skills. The poor quality of secondary school education, particularly in maths and physical science, constrains both entry to and successes in higher education engineering qualifications. This issue also limits the extent to which workplace-based training can be used to develop employees who enter the sector directly after Grade 12. Also impacting on higher education output are factors such as insufficient physical and teaching resources to sustain the current growth rates, particularly at HET level.

Factors that impact on the generation of key artisan skills include: the variable quality of artisans produced by the four different training routes and the scrapping and subsequent re-introduction of the National Technical Education (NATED or 'N') N1 to N3 theory component of apprenticeships. The first positive signs of change and increasing cooperation between SETAs towards the development of a more uniform artisan development system are now becoming evident through the work of the National Artisan Moderation Body (NAMB) acting as Chair of the Dual System Apprenticeship Programme Steering Committee. Critically, merSETA's role in artisan development will remain central into the foreseeable future, as it enters into increasing numbers of service level agreements to serve as the DQP for the conversion of existing qualifications into QCTO-compliant qualifications. It is hoped that as the QCTO continues to expand its operations, it will address system challenges as part of the journey of operationalising the National Occupations Pathways Framework (NOPF) element of the revised NQF.

SKILLS NEEDS OF THE merSETA SECTOR

Bringing the discussion of skills demand and supply together in a more structured way highlights the broad categories of skills development needs for the sector. These include technical skills; fundamental work-readiness skills (the basic skills necessary for safe and efficient production); health and safety skills; HIV and AIDS awareness and prevention; ABET; RPL; the development of black managers; skills to address environmental issues and the growing green agenda; and the training and development of retrenched workers.

Aside from the broad categories of skills development needs for the sector, a key issue of concern for all SETAs is the determination (through the SSP process) of a list of scarce and critical skills. Every year until 2011, the merSETA undertook an exercise to determine the scarce skills requirements for each of its five chambers through which the magnitude of training needs within the various sectors was the major determining factor. This meant that the lists did not in fact reflect genuinely 'scarce occupations' with any level of accuracy. In addition to this problem, since 2012 industry has no longer unanimously supported the concept of 'scarce skills': Because of the very limited recovery from the economic recession, and the increasing challenges facing companies competing against imports, the demand for new skills has dropped to levels only slightly higher than those required to

cover replacement demand. Thus stakeholders started reporting signals of over-supply of certain skills as opposed to signals of scarcity.

However, an opposing argument is that having sufficient technical skills is not only about being able to meet the obvious current needs of the economy. Skills scarcity will be truly alleviated when there is a solid base of high-quality artisans and engineers employed permanently in companies. These skills form the foundation for innovation in respect of products and processes, both of which are required for economic sustainability.

As a means of addressing industry concerns, the merSETA SSP for 2012/13 compiled chamber-specific (but non-quantified) lists of 'priority skills' - skills recognised by industry stakeholders as critical for support. These (mostly technical) skills were reported as being difficult to find, challenging to train for, and very important for the growth of the sector.

An analysis of the WSPs of 2013 have for the first time allowed some level of true quantification of skills scarcity – the number of vacancies for each occupational group (and the number of companies reporting vacancies) can for the first time be analysed in relation to the total number of people employed in that occupation across the sector, and against the total number of employing companies. Notably, a significant overlap was evident between the 2013 WSP vacancy-based scarce skills list and the 2012 industry-identified priority skills list. While vacancy data provides the first true quantitative insights into scarce skills in the merSETA sector and was thus used as the foundation of the merSETA 2013/14 scarce and critical skills list, qualitative input remained imperative. This is because of a range of data-related challenges which include (but are not limited to) the following: vacancy data under-represents scarce occupations in which skills substitution is taking place; vacancy data over-represents occupations in which there are high levels of turnover; and employers are still having trouble with the changes to certain occupational codes on the OFO resulting in data anomalies and 'missing' occupations. Additional industry input was thus obtained for each chamber. These chamber specific expanded lists are provided in Appendix 4. Finally, the merSETA chamber representatives consolidated these lists to develop the final merSETA 2013/14 Scarce and Critical Skills List. Chapter 6 of this SSP contains full details of how the list was derived, as well as the final list of 59 occupations.

SKILLS DEVELOPMENT PRIORITIES

The final chapter of this SSP deals with skills development priorities that the merSETA has set for the planning period. In determining these priorities, the merSETA accounting authority took a number of factors into consideration:

- Sector imperatives as they emerged from the sectoral analysis presented in the first six chapters of the SSP;
- National imperatives as they emerged from various government policies, plans and objectives, including NSDS III, the President's Outcomes Approach to Planning for Government's Work, the New Growth Path and the National Skills Accord, IPAP and government's MTSF;
- The merSETA's current and ongoing commitments; and
- Funding available.

While progress has been made in all the following areas over the past year, merSETA's five skills development priorities (that will guide planning and decision making) continue to be:

- Priority 1: Develop a sector labour market intelligence (LMI) system and facilitate sector-specific research initiatives;
- Priority 2: Promote artisan development and sector-specific priority skills;
- Priority 3: Establish and facilitate strategic partnerships;
- Priority 4: Increase the flow of appropriately skilled new entrants into the system; and
- Priority 5: Develop the skills of the existing workforce.

The implementation of these skills development priorities is, however, linked to a range of inter-related strategic issues that arise from the sector analysis. If all government-support programmes yield the growth in employment that they aim to, the implications for the demand for new skills for the sector will be massive – necessitating funding that is still likely to be beyond what is available through the levy system, even considering the change in SETA funding regulations that will reduce Mandatory Grant funding to a maximum of 20% of the Skills Development Levies (SDL) paid, and increase the proportion of Discretionary Grant funding to 80% for Professional, Vocational, Technical and Academic Learning (PIVOTAL) programmes. Thus it remains imperative that merSETA considers innovative methods to raise the necessary funds through strategic partnerships and to improve the efficiency of spending on training.

Another implication of massive increases in the need for skills development is the enormous demand that this will place on the education and training sector, and the extensive capacity building that will be required in order to improve both quantitative and qualitative outputs.

In addition, there are widespread concerns at industry level that these new jobs targets may not be met. Support for these concerns is evident in the ongoing challenges of the current economic context; the declines in employment evident for the manufacturing sector in general and the merSETA sector more specifically; and downward revision of demand for new employees in the merSETA sector based on the revised demand projection model in this SSP. Subsequently, industry continues to argue that skills development should be linked predominantly to real current demand and not to (potentially inaccurate) forecast targets set outside the sector. Seeking clarity regarding these issues with the relevant government- and industry associations thus remains a priority for the merSETA over the coming period. This will go hand in hand with its continued focus on the development of an LMI system and increased in-house research capacity.

Finally, the merSETA's skills development priorities have been developed after merSETA's responsibilities have been taken into consideration – not only to the sector, but also to national social- and economic-development objectives as outlined in policy and strategy documents including: NSDS III, the President's Outcomes Approach to Planning for Government's Work, the New Growth Path and the National Skills Accord, IPAP and government's MTSF.

merSETA's priorities, as well as its strategic plan, will be revisited on an annual basis and changes will be reflected in future updates of the SSP.

1 INTRODUCTION

1.1 BACKGROUND

On 30 April 2010 the Minister of Higher Education and Training in consultation with the National Skills Authority released the first draft framework for the National Skills Development Strategy 2011/12 to 2015/16 (NSDS III) for comment and response from stakeholders.

According to this document, all Sector Education and Training Authorities (SETAs) were required to submit sectoral analyses to the Department of Higher Education and Training (DHET) that were to follow broad guidelines given in the framework document. The development of the full Sector Skills Plan (SSP) followed and it was submitted by the Manufacturing, Engineering and Related Services Sector Education Training Authority (merSETA) to the DHET in early 2011. NSDS III calls for annual updates of SSPs in order that the skills planning process can take into account the impact of new policies and legislation and for the purpose of monitoring progress towards set targets. This document represents the third annual revision of the merSETA SSP in the NSDS III period and spans the financial years 2013/2014 to 2018/2019.

The main purpose of the SSP is described in the guideline document issued by the DHET on 23 June 2010 entitled: "Department of Higher Education and Training – Guide to the Process and Time Frames for Developing Sector Skills Plans and the NSDS III". According to this guideline, the purpose of the SSP is to:

- "Determine skills development priorities after an analysis of the skills demand and trends, and supply issues within the sector.
- Identify a set of sector specific [skills development] objectives and goals that will meet sector needs, economic or industrial growth strategies, and meet scarce and critical skills [needs] in the sector.
- Identify strategies to address these objectives and goals.
- Identify activities that will support these strategies.
- Report on performance in relation to these objectives and goals."

It is crucial that this updated SSP be read in conjunction with the merSETA's Strategic Plan, as the SSP provides the background to and baseline information for the Strategic Plan for the sector.

1.2 PROCESS FOLLOWED IN THE DEVELOPMENT OF THIS SSP

1.2.2 Information sources utilised

No single database currently provides a complete and comprehensive profile of the merSETA sector as it has been defined for the purposes of the Skills Development Act. For this reason, a range of data sources had to be used in the development of this SSP. These sources are outlined below.

- The merSETA's Workplace Skills Plans (WSPs) provide data on sector employment by chamber, demographic profile of employees, and by occupation. Although the WSPs submitted in June 2012 represent only 33% of the levy-paying organisations in the sector,

they represent 78% of the total levies paid. As there is a direct relationship between levies paid and employment, it stands to reason that the WSPs represent the majority of employees in the sector. For this reason the data from this source was used in the compilation of the sector profile and as baseline data for the labour-demand projections. In order to extrapolate the data to the total sector and to compensate for the levy-paying organisations that did not submit WSPs, the data were weighted. A detailed explanation of the methodology and the weights applied can be seen in Appendix 1.

It must be noted that the data for the WSPs was collected according to Organising Framework for Occupations (OFO) version 9, which differs substantially from OFO 10. In the preparation of this SSP update, all occupation-related information was converted to OFO version 2012 (an updated version of OFO 10). The conversion tables released as part of OFO version 2012 were used for this purpose.

- Data provided by Quantec and based on the National Accounts data were also used extensively, particularly in relation to the economic performance of the cluster of sectors that most closely match the merSETA sector.
- Other national data sources used include a range of statistical publications by Statistics South Africa (StatsSA), the Higher Education Management Information System (HEMIS) maintained by the DHET, and data on the new vehicle production and sales sector in South Africa released quarterly by the National Association of Automobile Manufacturers of South Africa (NAAMSA).

In addition to the quantitative data sources outlined above, the merSETA has also undertaken a range of research projects based on its research agenda. Several of these research projects contributed to the understanding of the metal, automotive and plastics manufacturing industries and were thus utilised relatively extensively in the preparation of the SSP. These sources were augmented with research conducted by other government departments, national research institutions, industry publications, and the media.

The demand projections presented in Chapter 4 of this SSP were derived from a demand-projection model specifically developed for the merSETA sector. This model uses outputs of a complete econometric model for the total South African (SA) economy developed by EcoQuant. Details regarding the labour demand model are presented in Chapter 4.

1.2.3 Sector participation and consultation

Broad industry consultation was undertaken for the previous annual update of this SSP. In late 2012 and early 2013, industry representatives also contributed extensively to the research projects undertaken by each of the merSETA Chambers as well as to the first round of Regional Sector Skills Plans. Rather than subjecting industry to another round of interviews, it was decided to utilise as fully as possible the information already available through these sources.

This SSP update was developed by a research team in collaboration with a task team consisting of merSETA accounting authority members. The task team was specifically constituted for this purpose and members represented the respective merSETA Chambers.[2] The task team provided input on the

[2] Appendix 3 contains a list of all the Chamber Representatives who were involved in this SSP review process.

draft SSP, and provided direct information, access to sector-specific information, and engaged their Chambers on particular issues where broader input was required for this update.

This version of the SSP was built on the approved version of the SSP that was submitted to the DHET in August 2013. All issues that were acknowledged in that version as being outstanding have now been addressed. In addition, inputs that were not available at that time have been included. In particular, the consolidated merSETA scarce and critical skills list, as well as the various expanded Chamber priority skills lists presented in this SSP represents the outcome of relatively intensive engagements with the merSETA Chamber representatives.

1.3 THE POLICY CONTEXT FOR SKILLS PLANNING

Sector skills planning in South Africa must take into account a wide range of policy imperatives that seek to support inclusive sectoral growth paths that advance economic growth and the social development and transformation agenda. These policies include those that relate directly to skills development, those that focus more directly on economic growth and social development, and those that focus on monitoring and evaluation. This section briefly considers the most important policies that have been taken into consideration in the development of this SSP. In Chapter 7 of this document, the merSETA's priorities are linked to specific policies more directly.

1.1.1 Skills development legislation and strategies

The National Skills Development Strategy (NSDS) is the overarching strategic guide for skills development and provides SETAs with direction for sector skills planning and implementation that is in line with wider national goals and objectives. NSDS III – which was launched in January 2011 and follows the integration of higher and further education and skills development into a single department of higher education and training – governs SETA activities over the five-year period 2011 to 2016. The strategy places great emphasis on relevance, quality and sustainability of skills training programmes so as to ensure that they impact positively on poverty reduction and inequality.[3]

NSDS III has eight broad goals:

- Establishing a credible institutional mechanism for skills planning;
- Increasing access to occupationally directed programmes;
- Promoting the growth of a public Further Education and Training (FET) college system that is responsive to skills needs and priorities at sector-, local-, regional- and national levels;
- Addressing the low level of youth and adult language and numeracy skills to enable additional learning;
- Encouraging better use of workplace-based skills development;
- Encouraging and supporting cooperatives, small enterprises, worker-initiated-, NGO- and community-training initiatives;

[3] DHET (2011) National Skills Development Strategy III.

- Increasing public sector capacity for improved service delivery and supporting the building of a developmental state; and
- Building career and vocational guidance.

Implementation of the NSDS III goals is to be guided by and measured against seven key developmental and transformation imperatives: race, class, gender, geography, age, disability, and the HIV and AIDS pandemic. Crucially, the document reinforces the role of partnerships between all the responsible stakeholders – government, business organisations, trade unions, constituency bodies, SETAs, public bodies, employers, trade and professional bodies, public and private training providers, community-based organisations, cooperatives and non-governmental organisations (NGOs) – as critical to achieving these goals.

NSDS III forms a subcomponent of the second Human Resources Development Strategy for South Africa (HRDSSA II), operating concurrently over the same five-year period. In support of the HRDSSA II, SSPs need to reflect a commitment to: addressing priority skills shortages; developing sufficient skills to meet social- and economic-development demands; improving universal access to quality basic education; developing skills that assist in reducing poverty and unemployment; focusing on skills development among the youth; improving national technological- and innovation capacity for enhanced national economic competitiveness; developing skills for improved public sector capacity; and establishing effective and efficient planning capabilities in respect of skills development.[4]

1.1.2 Economic growth and development strategies

The Medium Term Strategic Framework (MTSF) 2009-2014 lists ten strategic priorities that are meant to guide planning and resource allocation across all spheres of government. While Strategic Priority 4, which is to "strengthen the skills and human resource base", refers specifically to skills development, this must be seen as a cross-cutting priority and that "the creation of decent work at a large scale and investment in quality education and skills development, are at the centre of the government's approach".[5]

The National Planning Commission released SA's first National Development Plan (NDP) in November 2011. The major focus of the plan is the eradication of poverty and the reduction of inequality by 2030, thus offering a long-term perspective and defining the desired destination and the role that each sector of society must play in achieving it. The plan aims to create 11 million jobs in the economy over the period through a range of strategies that include shifting the economy away from its traditional reliance on resource-intensive industries towards more labour-intensive beneficiation activities. Among other interventions, improving education and training forms a key pillar for achieving this.[6] The NDP now stands as the overarching vision guiding the resource allocation to, and the implementation of, most other government social and economic policies.

[4] DHET (2011) National Skills Development Strategy III.

[5] The Presidency (2010) Together doing more and better, Medium Term Strategic Framework: A Framework to Guide Government's Programme in the Electoral Mandate Period (2009-2014).

[6] National Planning Commission (2011) National Development Plan: Vision for 2030. http://www.npconline.co.za/medialib/downloads/home/NPC%20National%20Development%20Plan%20Vision%202030%20-lo-res.pdf, Accessed 23 November 2011.

The New Growth Path is the SA government's latest macro-economic policy. It was first announced by the Department of Economic Development (EDD) in October 2010. This plan is aimed at guiding national economic growth over the short- to medium-term. Using employment creation as a force for sustainable development, the focus of the plan is the creation of 5 million jobs over the next ten years. Critical for the merSETA is the aim of creating 350 000 new jobs in the 'general industry' sector, along with the training of 30 000 additional engineers by 2014 and 50 000 additional artisans by 2015.[7]

Similar to the way in which the NDP now forms an umbrella for national development policies and strategies, the dtis Industrial Policy Action Plan (IPAP, of which the 2013/14 – 2015/16 is the latest update) represents an overarching industrial strategy for the country. While initial versions of the strategy focused on 'easy to do' actions, later revisions consider the 'need to do' list. IPAP indicates that seven sets of policies are critical for achieving a scaled-up industrial policy and a shift towards strengthening the productive side of the economy in general. Three clusters of sectors will receive the primary focus. Of relevance to the merSETA in Cluster 1 (qualitatively new areas of focus) is the potential of the metal fabrication, capital and transport equipment sector that arises from large infrastructure investments. In Cluster 2 ("scale up and broaden interventions in existing IPAP sectors") the focus is on the automotive, components, and medium- and heavy commercial vehicles and on the plastics, pharmaceuticals, and chemicals sector.[8]

One of the recent policies intended to support the implementation of IPAP is the dti's Special Economic Zones (SEZ) policy.[9] The draft policy and Bill were released for public comment in November 2011 and are considered a welcome improvement on the Industrial Development Zones (IDZ) programme that was initiated in 2000. The new policy aims to address the challenges of poor planning, lack of co-ordination between the various levels of government, and the financing uncertainty that limited the impact of the funds spent on the IDZ programme. The SEZ policy is broader and aims to promote the development of designated special economic zones that will address the economic development needs and challenges of specific regions in order to improve current spatial development inequalities. This policy has particular relevance for the merSETA at the level of regional skills planning.[10]

The National Skills Accord[11] was one of the first outcomes of social dialogue on the New Growth Path. This accord was entered into between government, business, labour and civil society and was signed in July 2011. The accord consists of the following eight commitments:

1) To expand the level of training using existing facilities more fully.

   Under this commitment the stakeholders agreed that 30 000 new artisan learners will enter training in the 2012/2013 financial year. Fifty-six percent (16 800) of these should come from the private sector.

[7] EDD (2010) New Growth Path.
[8] dti (2010) Industrial Policy Action Plan 2010/11-2012/13: Economic sector and employment cluster, February 2010.

[9] dti (2012) Policy on the Development of Special Economic Zones in South Africa: For public comment only.

[10] Daily Maverick (2012) Special economic zones: a step in the right direction, 18 January 2012, http://dailymaverick.co.za/article/2012-01-18-special-economic-zones-a-step-in-the-right-direction, Accessed 11 July 2012.

[11] EDD (2011) The New Growth Path: Accord 1 National Skills Accord.

2) To make internship and placement opportunities available within workplaces.

   According to this commitment, each year companies will make 12 000 placements/internship spaces available for students who complete their certificates at FET colleges, 5 000 internships available for third-year students at universities of technology who need the work experience as part of their qualifications, and they will provide opportunities for training exposure in a work environment to at least 16 000 lecturers at FET colleges. This will be phased in, with 20% of the target to be achieved in 2011, 50% in 2012, and 100% from 2013. The parties also agree to work together to improve both the capacity and quality of FET colleges.

3) To set guidelines of ratios of trainees, artisans as well as across the technical vocations, in order to improve the level of training.

   Under this commitment, businesses should set targets of the ratios of trainees to qualified personnel they should have in order to ensure that there are sufficient numbers of persons in the training pipeline. These ratios should be stretch targets in order to improve significantly on current performance.

4) To improve the funding of training and the use of funds available for training and incentives in companies that carry out training.

   This commitment includes various provisions, the most relevant of which is business's commitment to improve spending on training that companies undertake beyond the 1% compulsory training levy. Business will urge companies to spend between 3% and 5% of payroll (total salary bill) on training, with as many companies as possible at the high end of this range.

5) To set annual targets for training in state-owned enterprises.

6) To improve SETA governance and financial management as well as stakeholder involvement.

7) To align training to the New Growth Path and improve SSPs.

8) To improve the role and performance of FET colleges.

Also in support of the New Growth Path, government announced its Strategic Infrastructure Projects (SIPs) programme in February 2012. A total of 18 major projects[12] are planned and will impact on the social development infrastructure in all of SA's nine provinces and are to be linked to local training

[12] The 18 projects can be grouped according to six themes: Geographical SIPs (unlocking the Northern Mineral Belt, Durban-Free State-Gauteng Logistics and Industrial Corridor, South Eastern node, and NW Province); Energy SIPs (Green Energy, and Electricity Transmission and Distribution for All); Spatial SIPs (Integrated Municipal Infrastructure Project, Integrated Public Transport, Agri-logistics and rural infrastructure); Social infrastructure SIPs (e.g. hospitals, schools, universities and colleges); Knowledge SIPs (e.g. Square Kilometre Array & Meerkat, and ICT in schools); and Regional SIPs (e.g. Regional Integration for African cooperation and development).

and job creation.[13] Government has recently released a SIPs Scarce Skills List, which SETAs are expected to actively engage with in the current SSP.[14]

The Department of Environmental Affairs (DEA) has done substantial work exploring the implications of the 'green' economy imperative for industry, including the labour and skills development implications. The DEA's "Integrating the Environmental Driver into Sector Skills Plans: An Enabling Document for all SETAs" provides direction to SETAs about the way in which the environmental agenda should be considered and integrated into SETA skills development planning processes. Guidelines for the merSETA are directly included and will be used by the DEA in its review of the SSP.[15]

The Expanded Public Works Programme (EPWP) is an initiative to utilise existing public sector funding in the provision of goods and services, and in infrastructure, using labour-intensive methods to create job opportunities linked with skills development. The EPWP Phase 2 (2009/10-2013/14) aims to create 1.5 million job opportunities annually. The Department of Public Works has produced a skills plan for the EPWP for 2010/11-2015/16. This includes a number of areas of skills development that form the core mandate of the merSETA.

While all the more recent economic growth policies cover the issue of rural development, it is worth highlighting the original strategy as well. This is because the Integrated Rural Development Strategy (2000) still provides the overarching policy for rural development and the more recent policies and strategies all require organisations to direct a specific focus on improving the opportunities and well-being of people living in rural areas, and particularly the rural poor. The merSETA thus needs to take specific cognisance of this strategy.[16]

1.1.3 Monitoring and evaluation strategies

Most important in this group is the "Policy Framework for Government-Wide Monitoring and Evaluation" (GWM&E),[17] released by the Presidency in 2007. This is the policy instrument through which government aims to fulfil its constitutional mandate to promote "economy, efficiency, effectiveness and equity "in the use of national resources. It is important to note that responsibility for achieving these constitutional provisions is deferred to oversight bodies with such allocated responsibilities. The merSETA, as a statutory body, thus has the responsibility for monitoring and evaluating its own mandated activities using the criteria set out in the GWM&E.

1.4 STRUCTURE OF THE SSP

[13] DHET (2012) The role of SETAs in Infrastructure Development and Refurbishment of FET colleges, presentation by Maliviwe Lumka, 30 May 2012.

[14] Presidential Infrastructure Coordination Commission (2013) SETAs and SIPs, 11 July 2013.

[15] DEA (2009) Integrating the Environmental Driver into Sector Skills Plan: An Enabling Document for all SETAs, July 2010, Draft 2, http://skillsforbiodiversity.org.za/projects/human-resources-and-organisation-development-network/FINAL%20VERSION%20Environmental%20Driver%20Enabling%20Document%20Combined3.pdf, Accessed 9 September 2011.

[16] Republic of South Africa (2000) The Integrated Sustainable Rural Development Strategy, 17 November 2000.

[17] The Presidency (2007) Policy Framework for the Government-Wide Monitoring and Evaluation System.

This SSP consists of seven chapters. Chapter 1 serves as an introduction to both the policy environment for skills development in South Africa, with a particular focus on the merSETA sector, and to the process followed in developing this SSP. Chapter 2 provides a descriptive profile of the sector. After an overview of the way in which data and information for the merSETA sector is gathered by different sources and the terminology used in discussing each of these, the chapter presents an overview of the three merSETA sectors; the metal sector, the automotive sector, and the plastics manufacturing sector. Employment in the sector is then discussed from various perspectives. The chapter ends with a discussion of the various characteristics of the sector that have a particular impact on skills development priorities and programme implementation.

Chapter 3 deals with the economic performance of the sector. Within the context of high levels of global integration for particularly the metal and automotive sectors, this chapter considers the various factors that have an impact on the economic performance of the merSETA sector, presently and into the future. Data on the economic growth of the sector and its subsectors are presented, and its contribution to national Gross Domestic Product (GDP). The chapter concludes by considering the range of government policies and strategies that are currently in place and aimed at enhancing the sector's economic and employment growth.

Chapter 4 considers the sector's demand for labour. Past demand is described and forecasts for future demand are made according to a baseline (most likely) scenario, as well as a positive and a negative scenario. The chapter includes a discussion of the factors that will impact on the future demand for skills in the sector.

Chapter 5 describes the supply of labour to the sector. A description of current supply (including both employed and unemployed workers) is supplemented by a discussion on the supply of new skills available for entry into the sector, as well as the development of skills among those already employed in the sector. The chapter also considers the extensive range of merSETA interventions that are aimed at alleviating skills shortages. Finally, the challenges related to the changing landscape of technical skills supply is discussed, followed by an overview of the initiatives to improve occupational qualification development and quality assurance for this group of skills.

Chapter 6 provides a qualitative comparison between skills demand and skills supply. An outline of the broad categories of skills development needs as they emerge from this SSP is followed by more detailed information on specific priority skills in the sector. At this stage, it is not possible to do a direct quantitative comparison of skills demand and skills supply for the sector.

Chapter 7 forms the conclusion of this SSP. Within the context of a few key strategic issues, it outlines the five skills development priorities for merSETA – the culmination of the SSP development process. This chapter also outlines the merSETA's contribution to the strategic areas of focus of NSDS III, government's MTSF objectives, government's IPAP, the Strategic Infrastructure Projects (SIPs), the New Growth Path and the National Skills Accord.

It is important to note when reading this SSP that, while issues are complex and crosscutting, adherence to the structure of an SSP document demands that only particular aspects of any given issue are discussed in one particular chapter. This document must therefore be read in its entirety.

2 SECTOR PROFILE

2.1 INTRODUCTION

The profile of the merSETA sector presented in this chapter highlights the most important factors that impact on skills development and is intended to provide an overview of the sector. The description starts with a guide to the various sectors and subsectors that are included in the merSETA sector and to the specific terminology used in the rest of this SSP. This is followed by a brief overview of the three major industries that fall under the merSETA's jurisdiction: the metal, automotive, and plastics industries. A description of the organisations within the sector and the sector's employment profile is then given. The last part of the chapter describes the major sector characteristics that directly influence sector skills needs and requirements and, therefore, the work of the merSETA. These include: global integration of manufacturing value chains; subsector trade balances; labour organisation; employer organisation; professional organisations; geographic location; the casualisation of labour; HIV and AIDS; black economic empowerment and employment equity; and the environmental impact. Through this discussion of sector characteristics, the strengths and weaknesses of the merSETA subsectors are alluded to, which in turn points out areas of opportunities and threats (or risks) to the economic success of the sector and to merSETA's attempts to support skills development in and for the sector.

2.2 INDUSTRIAL COVERAGE

The Manufacturing, Engineering and Related Services Sector, as demarcated by the Department of Labour (DoL) in 1999 for the purpose of the skills development legislation, included a range of manufacturing activities in addition to a few related service and retail activities. On the basis of the three-digit Standard Industrial Classification (SIC) codes that are used in capturing the data for National Accounts, these activities cover: basic iron & steel, non-ferrous metals, and metals products manufacturing (SIC codes 351-355); machinery manufacture (SIC codes 356-357); rubber products manufacturing (SIC code 337); plastic products manufacturing (SIC code 338); motor vehicles, parts and accessories manufacturing (SIC codes 381-383); and sale, maintenance and repair of motor vehicles, and fuel station operations (SIC codes 631-635). The revised SETA landscape associated with NSDS III (and thus applicable from 1 April 2011) saw the loss of fuel retail operations from the merSETA, with these moving to the Wholesale and Retail SETA (W&RSETA).[18] However, at this stage it is still not possible to separate fuel station operations from the data for the rest of the group.

Functionally, merSETA member companies belong to one of five chambers:

- The Metal Chamber comprises firms involved in the manufacturing and servicing of capital equipment including transport equipment;
- The Auto Chamber covers South Africa's seven large established automotive and commercial vehicle assemblers, also known as original equipment manufacturers (OEMs);

[18] Skills Portal (2010) New SETA landscape announced, 9 November 2010, http://www.skillsportal.co.za/page/skills-development/898223-New-Seta-Landscape-announced, Accessed 9 September 2011.

- The Motor Chamber includes firms involved in the motor retail and service industries, as well as in the manufacture of automotive components;
- The New Tyre Chamber consists of firms involved in the manufacture of new tyres; and
- The Plastics Chamber includes firms involved in the manufacture of plastics products from locally manufactured and imported polymers.[19]

This five-chamber structure, however, aligns well with neither the National Accounts data nor with the references in the literature to the firms contained in this group, which generally refer to the metal industry, the automotive industry, or the plastics manufacturing industry. Furthermore, while the majority of merSETA firms fall within the overall manufacturing sector in the National Accounts data, and make up a sizeable proportion of total SA manufacturing, the merSETA also includes motor retail and service firms, which fall within the service and retail sectors in the National Accounts data. At the same time, a number of sectors that fall in the larger manufacturing sector in the National Accounts data (e.g. clothing, textiles and footwear) are excluded from the merSETA. Within the merSETA, metal and plastics firms are represented by one chamber each, while automotive firms are represented by three different chambers (Auto, Motor and New Tyre). Components manufacturing firms (national manufacturing sector), and motor retail and service firms (national services sector) are both included in the merSETA's Motor Chamber.

Figure 2-1 provides a conceptual map.

	merSETA					
SERVICES		MANUFACTURING				SECTORS / INDUSTRIES
OTHER	RETAIL	AUTOMOTIVE	METAL	PLASTICS	OTHER	
		Automotive and Commercial Vehicle Assembly	Capital Equipment	Polymer Producer		SUBSECTORS
		New Tyre	Transport Equipment	Plastics Convertors		
	Motor Retail & Repair	Components	Metal Fabrication	Plastic Fabrication		
			Other	Other		

Colour Key	merSETA Chambers
	Metal Chamber
	Plastics Chamber
	Auto Chamber
	New Tyre Chamber
	Motor Chamber

Figure 2-1 Conceptual map of sectors and subsectors and their relation to merSETA chambers[20]

[19] A recent study commissioned by merSETA's Plastics Chamber shows that about 84.3% of plastics firms surveyed paid their Skills Development Levies to merSETA. Other SETAs to which plastics firms belong include CHEITA and FP&M SETA (merSETA, 2013, Plastics Chamber Research Project).

While it is acknowledged that the various collectives of the merSETA chambers wish to see their specific chambers represented, this lack of alignment poses a challenge for most merSETA studies in respect of consistency in the use of both data and terminology, in particular for chamber groupings.

In the literature the terms "industry", "sector" and "subsector" are relative rather than specific terms. For instance "industry" can be used to describe a major group such as the "plastics industry" or to describe a very small group within this such as the "polystyrene food packaging industry". Similarly the terms "sector" and "subsector" do not refer to the specific size of the industry group, but to their size relative to each other in the discussion context. When the SA manufacturing sector is used as the major group, the automotive industry would be referred to as a "subsector". However if the automotive sector is used as the major group then components manufacturing would be referred to as a "subsector".

For the sake of consistency in this report terms are used as follows:

- The term "merSETA sector" is used to refer to the total group of firms that fall within the scope of the merSETA.
- The merSETA is considered to have jurisdiction over three major industries or sectors: automotive, metal and plastics. These are referred to as the "merSETA sectors".
- The terms "sector(s)" and "industry(ies)" are used interchangeably to refer to these major groupings.
- Smaller groupings within these major sectors (such as automotive assembly, components manufacture, new tyre manufacture, motor retail, metal fabrication etc.) are referred to as "subsectors".
- The exception to the use of terms described here is in Section3.4, Section 4.2 and Section 4.3, where all the groups extracted from the National Accounts data and used to represent the merSETA are referred to as "sectors". The term "merSETA sectors cluster" is used to refer to the collective of these sectors.
- When the term "manufacturing sector" is used, this includes the manufacturing portion of merSETA firms within the total SA manufacturing sector, but excludes the motor retail and service portions of merSETA firms.
- Finally, reference to the "merSETA chambers" is used as a group descriptor for data collected by the merSETA through its chamber structure.

2.3 OVERVIEW OF THE MERSETA'S SECTORS

This section provides a brief overview of each of the merSETA's sectors and subsectors. In describing the profile of the sector in the rest of this chapter, these breakdowns are presented wherever possible.

[20] merSETA (2010) The impact of the 2008/9 global economic crisis on merSETA firms: A focus on employment and skills, EE Research Focus Pty (Ltd), with slight adaptations for the Plastics Chamber as suggested by PlasticsSA.

2.3.1 The metal sector

The metals sector, including the capital equipment, transport equipment, metal fabrication (CETEMF) and related subsectors, forms a substantial part of SA's manufacturing. The production of this sector is based on the country's rich natural endowment in a wide range of metals. The metal sector value chain is divided into four stages. Stage 1 covers the primary stage of mining the metals. Responsibility for skills development for this part of the value chain resides with the Mining Qualifications Authority (MQA). Stage 2 covers the conversion of the ore or concentrate into bulk intermediate products (such as metals or alloys), with this process usually taking place in capital-intensive smelters or refineries. In Stage 3, foundries convert the intermediate products into castings, which form a key input into the final manufacturing stage. In Stage 4 the metal castings are processed into finished products for direct sale or for inclusion through assembly in larger products. Large-scale export of SA metals takes place after Stage 2 of the value chain.[21]

The merSETA Metal Chamber includes all companies operating at Stage 2 and Stage 3 of the metal value chain, as well as non-automotive-focused companies involved in Stage 4.

The basic iron and steel, non-ferrous metal products, metal products and machinery sector contributed 21.3% of total SA manufacturing sales between January and December 2012, second only to the petroleum, chemical products, rubber and plastic products sector (24.8%). Within the sector basic iron and steel, non-ferrous metal products, metal products and machinery category, basic iron and steel products formed 30.0% of sales while non-ferrous metal products accounted for 19.2% of sales.[22]

2.3.2 The automotive sector (incorporating new tyre and motor)

The automotive sector includes companies linked to each other through the automotive-production-and distribution value chain. The metal, plastics and rubber products sectors provide key inputs into the automotive components manufacturing and vehicle assembly levels of the value chain.

SA has seven established locally based, multinationally owned vehicle assembly operations or OEMs. These assemble a range of passenger, light and heavy commercial vehicles. BMW South Africa, Nissan South Africa and Ford Motor Company South Africa are located in northern Gauteng; General Motors South Africa and Volkswagen South Africa are based in Port Elizabeth; the Mercedes-Benz South Africa plant is in East London, while Toyota South Africa is situated in Durban. This number recently increased with the opening in November 2012 of a Beijing Automotive Works (BAW) taxi assembly plant in Springs on the East Rand.[23] The merSETA's automotive sector is set to increase further once the Chinese automotive company First Automobile Works (FAW) completes its construction of a truck plant at COEGA outside Port Elizabeth, where production is due to start at

[21] The dti (2006) Metals Sector Development Strategy: Trade and Investment South Africa – Customised Sector Programme – Metals.

[22] Stats SA, P3041.2 - Manufacturing: Production and Sales (various editions).

[23] Engineering News (2012) Beijing Automotive Works opens taxi plant in Springs, 13 November 2012, http://www.engineeringnews.co.za/article/beijing-automotive-works-opens-taxi-plant-in-springs-2012-11-13, Accessed 25 June 2013.

the end of 2013.[24] Local OEMs draw from both locally and internationally based suppliers, although current government policies are committed to deepening local content. Direct suppliers of components to the OEMs are referred to as "Tier 1 automotive suppliers", while companies that supply Tier 1 firms are referred to as "Tier 2 suppliers".

The SA-based automotive components manufacturing subsector and the new tyre subsector comprise a mix of domestically and multinationally owned companies. These firms supply products to both locally and internationally based OEMs and Tier 1 firms, in addition to the local and international replacement market or aftermarket.

Of the total SA manufacturing sales between January and December 2012, the category motor vehicles, parts and accessories and other transport equipment comprised 11.9%. Within this group the motor vehicles sub-group comprised 50.2% of sales value.[25]

Also included in the automotive sector are the downstream activities of vehicle retail, distribution and servicing, which fall outside of the manufacturing sector.

The merSETA's Auto Chamber comprises the local OEMs. The New Tyre Chamber consists only of the small group of companies manufacturing new tyres for OEMs and aftermarket supply. The Motor Chamber accommodates the remainder of the firms involved in the automotive sector: components manufacturers, tyre re-manufacturers, vehicle retailers and distributors, as well as those companies involved in vehicle servicing.

2.3.3 The plastics sector

The merSETA's plastics manufacturing sector represents the downstream section of the plastics value chain. The sector is largely composed of small firms, as barriers to entry are relatively low.[26] The vast majority of firms are privately owned.[27] Local and imported polymers are converted into a range of intermediate and final products. These products form a critical input into a range of other sectors. More than half (52%) of SA's plastics manufacturing serves the local food and general packaging market. Other market sectors include building and construction, automotive, agriculture, medical, household goods, clothing and footwear, and toys and leisure equipment.

The plastics industry uses a range of different conversion processes such as: injection moulding; various forms of extrusion; rotational moulding; thermoforming, blow film extrusion, and injection blow moulding among others. Also included in the plastics sector are composites, thermoplastic fabrication and industrial rubber. As such, this group represents a very diverse sector.[28]

[24] Engineering News (2012) FAW breaks ground on 500 unit-a-year truck plant, 28 February 2012, http://www.engineeringnews.co.za/article/faw-breaks-ground-on-5-000-unit-a-year-truck-plant-2012-02-28, Accessed 25 June 2013.

[25] Stats SA, P3041.2 - Manufacturing: Production and Sales (various editions).

[26] The dti (2010) 2010/11 – 2012/13 Industrial Policy Action Plan, February 2010.

[27] The merSETA (2013) Plastics Chamber Research Project report indicates that 93.5% of the firms that participated in their survey were privately owned.

[28] Plastics Federation of South Africa, http://www.plasticsinfo.co.za/industry-overview.asp, Accessed 14 September 2011.

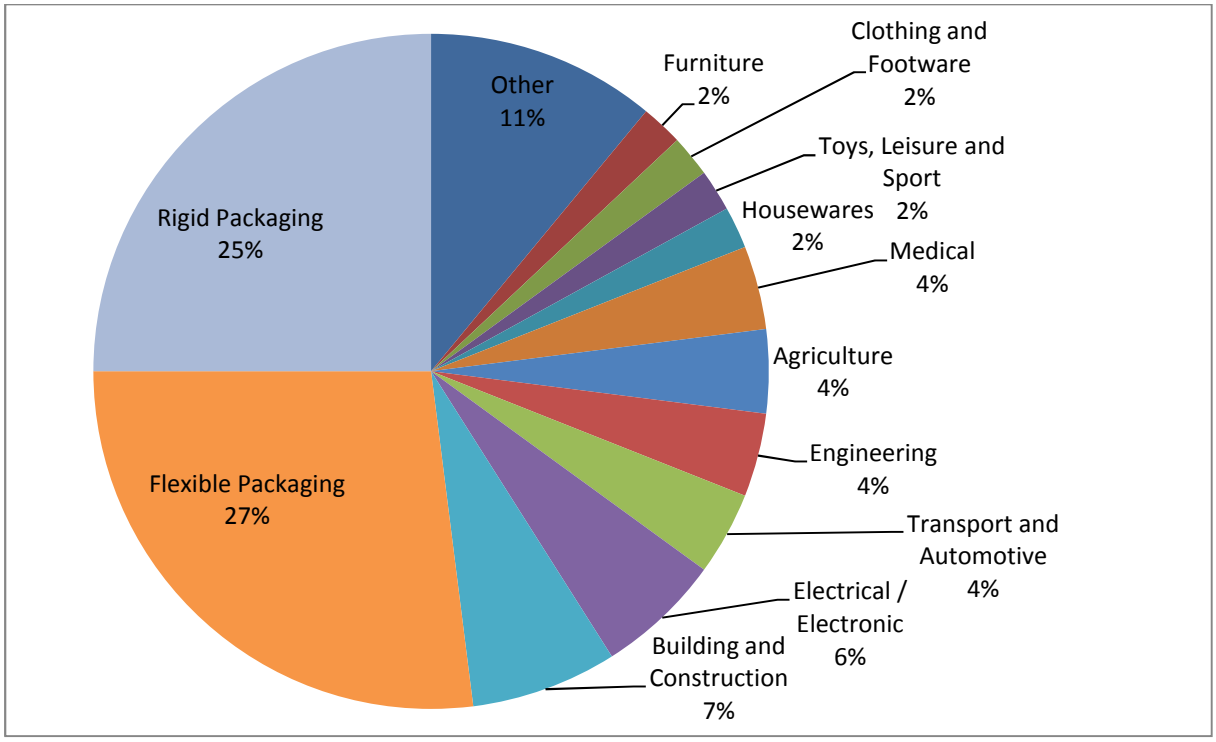


Figure 2-2 Market sectors for the plastics sector based on percentage polymer converted

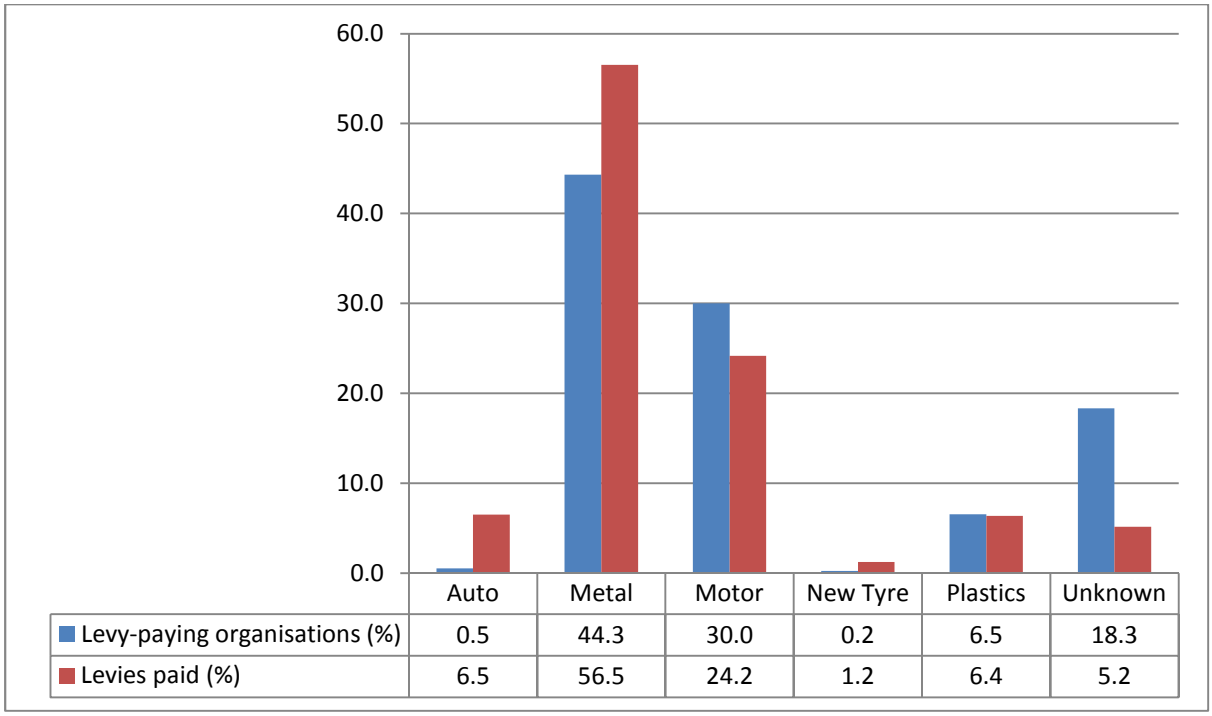
Source: PlasticsSA (2013) http://www.plasticsinfo.co.za/images/4074.pdf

2.4 ORGANISATIONS IN THE SECTOR

The merSETA has almost 50 000 organisations on its database. However, in the 2011/2012 financial year only 13 033 paid skills development levies (SDLs) to the SETA. The other organisations are either small companies that are exempt from the SDL or they are not currently operational.[29] merSETA's levy-paying companies are down from the 2010/11 figure of 13 568. This reduction is the net effect of merSETA companies amalgamating and closing, and of new companies joining the merSETA.

The distribution of the merSETA's 13 033 levy-paying organisations across its chambers is presented in Figure 2-3. What is clear from the figure is that the largest proportion of levies is paid by the Auto, Metal and New Tyre Chambers.

[29] The merSETA recognises the challenges that it faces with respect to the understanding and servicing of the small non-levy-paying companies in its sector. This is an area that will receive continued attention in future.



	Auto	Metal	Motor	New Tyre	Plastics	Unknown
Levy-paying organisations (%)	0.5	44.3	30.0	0.2	6.5	18.3
Levies paid (%)	6.5	56.5	24.2	1.2	6.4	5.2

Figure 2-3 Sectoral distribution of merSETA companies

Source: merSETA data system

Figure 2-4 to Figure 2-8 below show the provincial distribution of the companies within merSETA's five chambers. All of merSETA's chambers show a concentration of companies in Gauteng. Outside of Gauteng, companies in the Metal Chamber are concentrated in the Western Cape and KwaZulu-Natal; companies in the Auto Chamber are concentrated in the Eastern and Western Cape and KwaZulu-Natal; companies in the Motor Chamber are concentrated in the Western Cape and KwaZulu-Natal; companies in the New Tyre Chamber are concentrated in KwaZulu-Natal; and companies in the Plastics Chamber are concentrated in the Western Cape and KwaZulu-Natal. The merSETA sector is thus relatively unevenly distributed across the provinces.

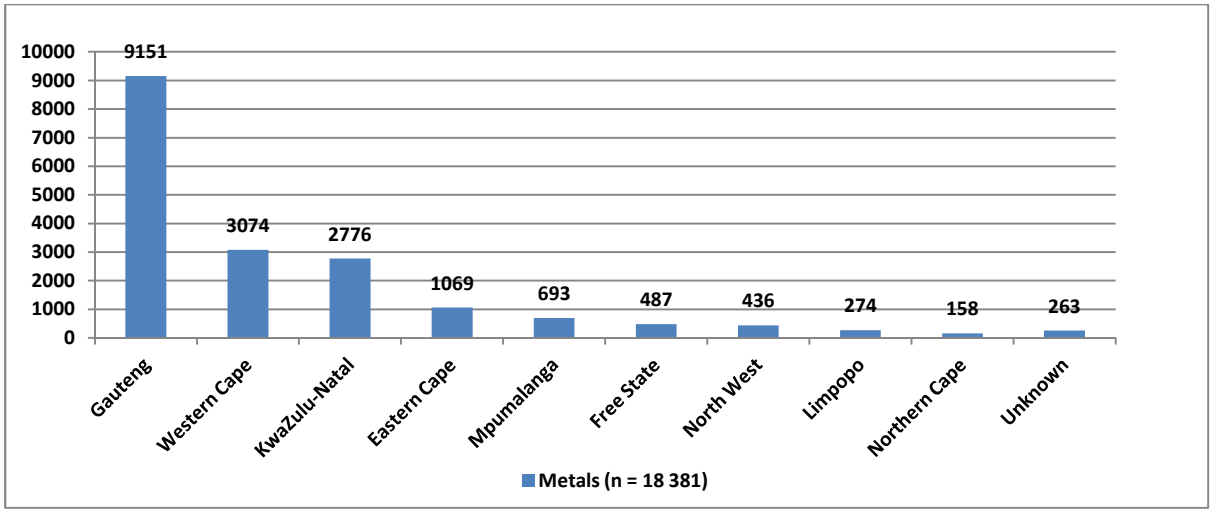


Figure 2-4 Provincial distribution of companies in merSETA's Metal Chamber companies

Source: merSETA data system

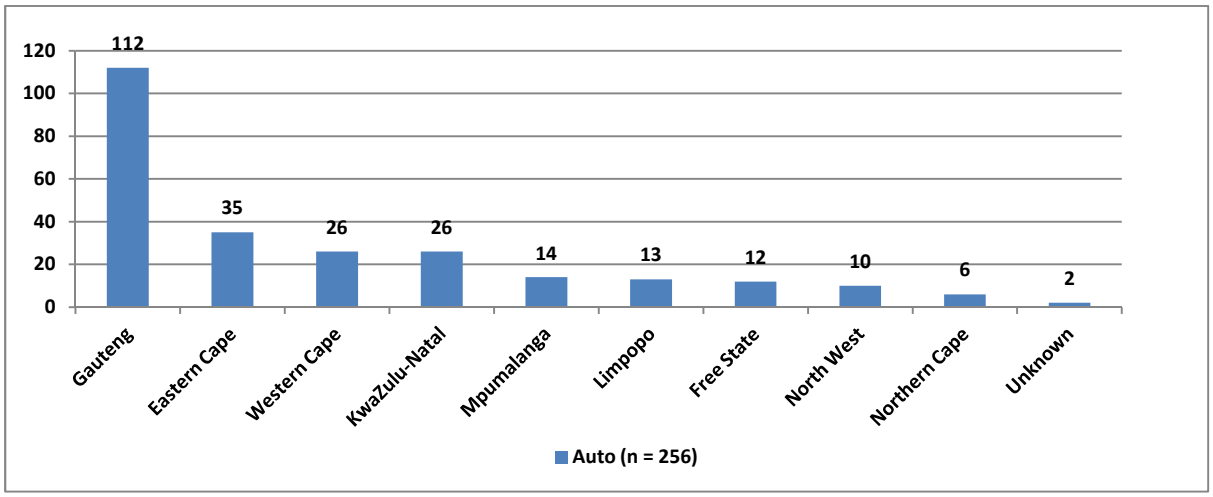


Figure 2-5 Provincial distribution of companies in merSETA's Auto Chamber companies

Source: merSETA data system

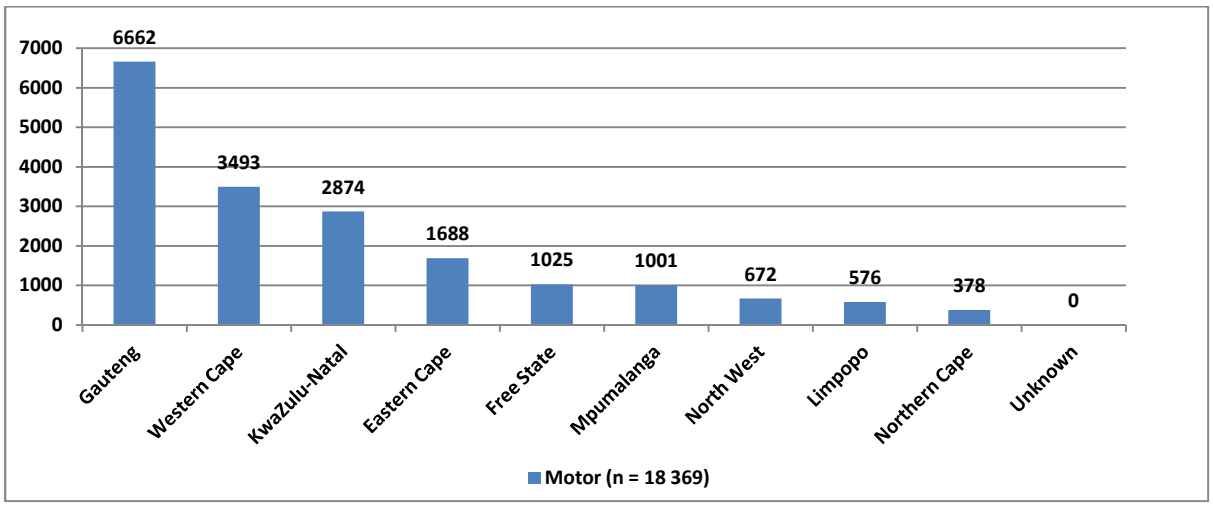


Figure 2-6 Provincial distribution of companies in merSETA's Motor Chamber companies

Source: merSETA data system

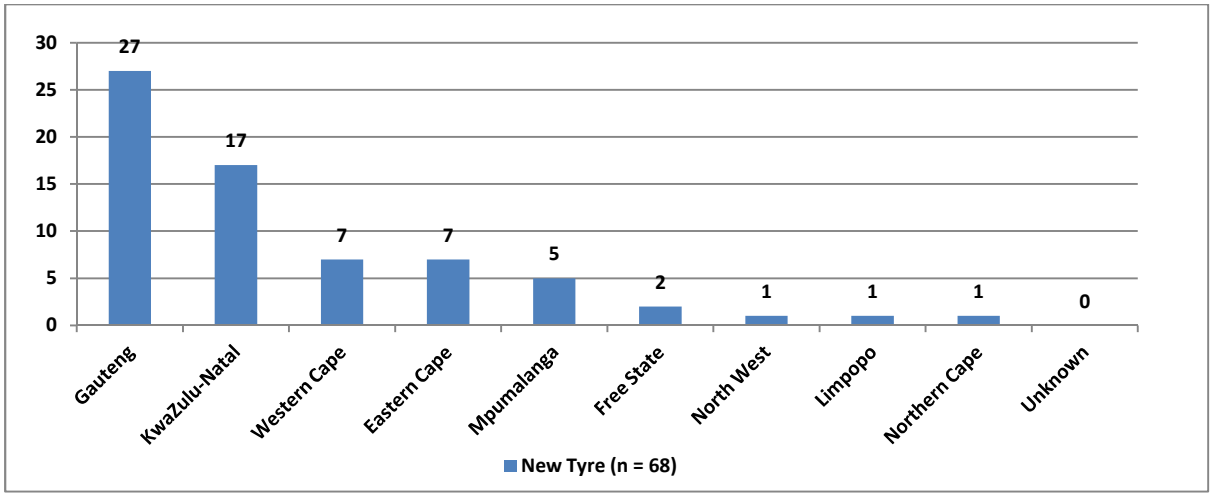


Figure 2-7 Provincial distribution of companies in merSETA's New Tyre Chamber companies

Source: merSETA data system

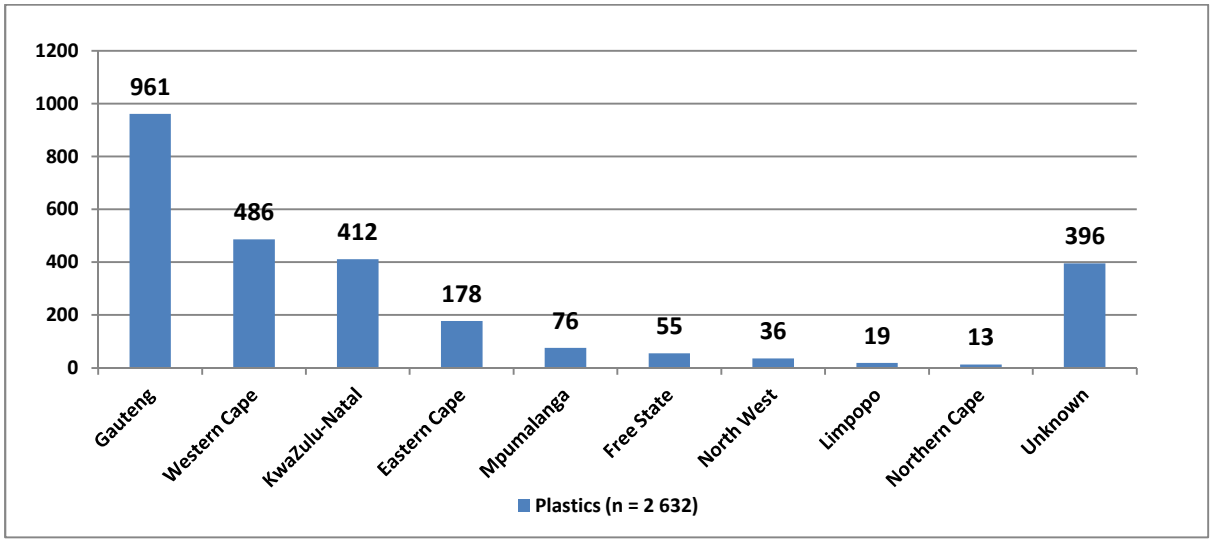


Figure 2-8 Provincial distribution of companies in merSETA's Plastics Chamber companies

Source: merSETA data system

2.5 EMPLOYMENT IN THE SECTOR[30]

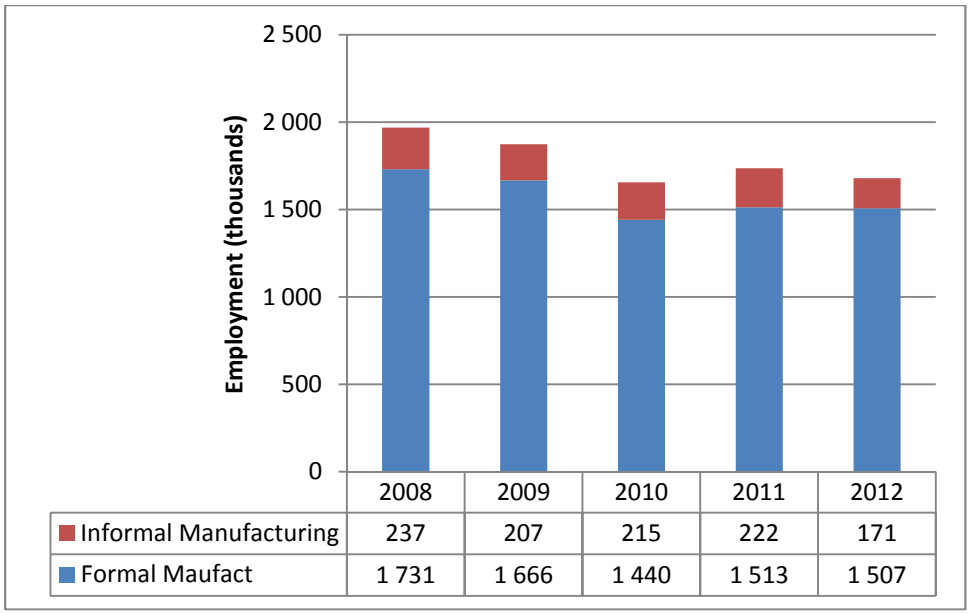
2.5.1 Total employment

The analysis of WSPs submitted to the merSETA in June 2012 sets total employment in the sector at an estimated 653 800.[31] This figure, which excludes employment in the non-levy-paying companies

[30] As there is no one complete and definitive source of data that covers only (and completely) the three sectors that fall within the merSETA sector, different sources of data used to determine sector employment yield different results within a generally consistent range. In this section data are taken from the merSETA's Workplace Skills Plans (WSPs), which estimate employment at the higher end of the range.

that are allocated to the sector[32], is down from a figure of 655 967 for 2010/11. While only representing a reduction of just over 2 000 people, this trend nevertheless corresponds with the overall reduction in levy-paying companies and in the declines in sector employment evidenced in the National Accounts Data (see Section 4.2.1).

According to the Quarterly Labour Force Survey (QLFS), the national economy employed about 11.656 million people in June 2012. The manufacturing sector provided employment for about 1.678 million or 14.4% of the total employed population.[33] Figure 2-9 provides context to these figures by showing total manufacturing employment figures in SA by both formal and informal employment in the sector. Since 2008 total manufacturing employment has declined, with the largest decline between 2009 and 2010. Formal sector employment recovered somewhat in 2011, but in alignment with merSETA figures, dropped again slightly in 2012. The biggest contributor to manufacturing sector employment decline between 2011 and 2012 was however the informal sector, where 51 000 jobs were lost. Based on the 2012 figures, the merSETA sector constitutes about 39.0% of the total manufacturing employment, and 4.9% of total national employment.



	2008	2009	2010	2011	2012
Informal Manufacturing	237	207	215	222	171
Formal Maufact	1 731	1 666	1 440	1 513	1 507

Figure 2-9 Manufacturing sector employment: 2008 – 2012

Source: Stats SA, Quarterly Labour Force Survey, Quarter 2 2008, 2009, 2010, 2011 & 2012

The distribution of total employment by chamber (Figure 2-10) indicates that the largest group of merSETA employees fall within the Metal Chamber, followed by those in the Motor Chamber. The figures for employment within the Auto and New Tyre chambers correspond well with other sources regarding employment in these subsectors.[34, 35] The bulk of the employees within the 'unknown'

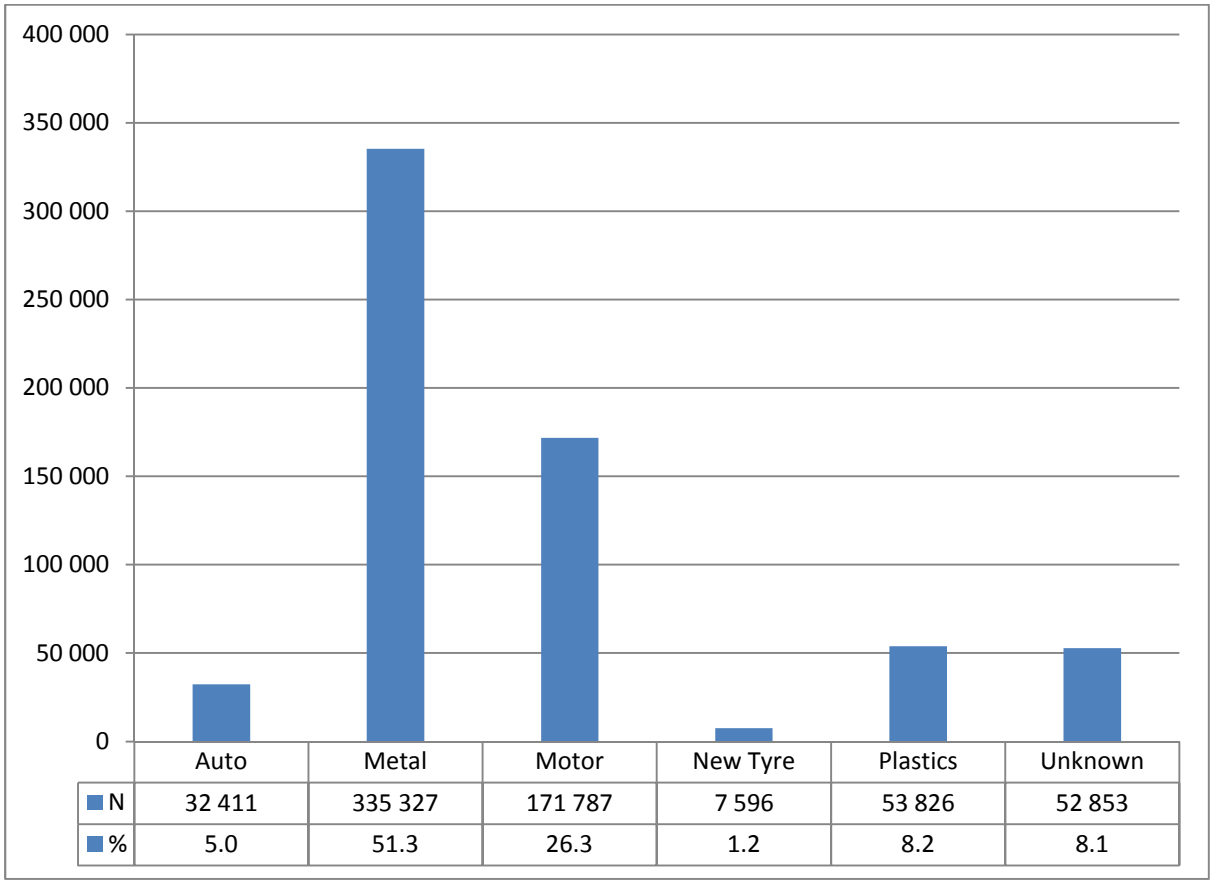
[31] Data were weighted in order to compensate for those firms that did not submit WSPs. The weights applied are explained in Appendix 1.

[32] At this stage the merSETA does not have enough information on the small non-levy-paying companies to estimate employment numbers. A clean-up of the data transferred from the DHET to the SETA and focused research are needed before any reliable estimates can be made.

[33] Stats SA (2012) Quarterly Labour Force Survey, Quarter 2, 2012, Table 3.3, P0211.

[34] NAAMSA indicates that employment in the auto sector was 28 669 in June 2012. Quarterly Review of Business Conditions, 2nd Quarter 2012, www.naamsa.co.za, Accessed 18 June 2013.

category are likely to belong to the Metal, Motor and Plastics chambers, as the figures for these subsectors are somewhat lower than other sources suggest.[36, 37, 38] Positively, merSETA's statistics for employment distribution are becoming more accurate as the number of firms in the 'unknown' category decreases and firms are assigned to their correct chamber: The current number of 52 853 employees for this category is down from 128 896 in 2011.



	Auto	Metal	Motor	New Tyre	Plastics	Unknown
N	32 411	335 327	171 787	7 596	53 826	52 853
%	5.0	51.3	26.3	1.2	8.2	8.1

Figure 2-10 merSETA employment by chamber[39]

[35] A survey of the four multi-nationally owned new tyre manufacturers in South Africa in 2012 showed that total employment for the sub-sector had increased from 5 418 in 2009 to 6 184 in 2012. Source: merSETA (2012) An Analysis of the South African Tyre Manufacturing Industry's Skills Demand Profile 2009-2020, compiled by B&M Analysts, November 2012.

[36] The Steel and Engineering Industries Federation of South Africa (SEIFSA) reported that employment in the metal sector was 399 088 in February 2009 and 324 236 in December 2009. Source: merSETA (2010).

[37] The National Association of Automotive Components and Allied Manufacturers of South Africa (NAACAM) indicated that employment in the components manufacturing subsector dropped from 82 000 in 2007 to 64 000 by the end of 2009 (merSETA, 2010). As the retail motor subsector is also included in merSETA's Motor Chamber industry, stakeholders estimate total employment for this chamber to be slightly in excess of 200 000 people (merSETA SSP 2010, 49). The figures presented in Figure 2-3 exclude employment in petrol stations, which was included in the previous estimate of 200 000.

[38] PlasticsSA suggests that the plastics subsector employs more than 60 000 people. Source: PlasticsSA (2013) Telling the South African plastics story, http://www.plasticsinfo.co.za/images/4074.pdf, Accessed 18 June 2013.

The merSETA's Plastics Chamber recently conducted a research project that attempted to fill the gap in knowledge that currently exists regarding the size and shape of the plastics industry in South Africa. While a lot of valuable information was obtained in this process, the research was unable to determine with any accuracy the total number of firms or employees in the sector due to both the limited number and poor quality of databases available for the subsector, and the poor response rate of firms to the survey undertaken. Source: merSETA (2013) Plastics Chamber Research Report.

[39] It is important to note that these figures are extracted from the merSETA data system that is currently based on levy-paying firms. PlasticsSA has indicated that the number of firms in the plastics sector is considerably larger than the totals indicated here, but that many of the firms are small Source: PlasticsSA, written feedback to the merSETA, 7 March 2012.

Source: merSETA data system.

2.5.2 Provincial distribution of employees

While merSETA WSPs do not yet provide any information on the geographical distribution of employees, this is likely to follow the geographical distribution of the sector as a whole, with employment concentrated in Gauteng, but with nodes of higher-level employment in Cape Town, East London, Port Elizabeth and Durban. The rural provinces and rural areas of provinces in which there are urban concentrations of merSETA employment are likely to have a greater proportion of employment in the motor retail, motor service and repairs, and metal fabrication subsectors than in the other merSETA subsectors.

2.5.3 Educational profile

There is no detailed information available on the skills levels of employees in the merSETA sector. However, the occupational distribution provides a rough proxy of the sector's educational profile. (See Section 4.2.2 for more detail.) Managers (9.3% of the total) and professionals (5.7%) are likely to have high levels of formal education. The bulk of technicians and associate professionals (9.9%) and skilled agricultural, forestry, fishery, craft and related trades workers (which include artisans) (19.4%) will have trade-related qualifications. The categories of clerical support workers (7.8%) and service and sales workers (4.1%) are likely to have a range of qualifications, from the low intermediate level through to professional qualifications. Plant and machinery operators and assemblers (22.8%) are likely to have a relatively even split between low intermediate level qualifications, and higher entry-level qualifications. Elementary workers (19.6%) generally have only entry-level qualifications.

2.5.4 Race and gender distribution of employees

Of the total number of people employed by the merSETA sector, about four fifths are male and one fifth is female. The group of clerical support workers is the only occupational category in which there are more women (52.1%) than men. For the other major occupational categories,the proportion of women ranges from a low of 7.9% for skilled agricultural, forestry, fishing, craft and related trades workers to a high of 30.2% for technicians and associate professionals (Figure 2-11).

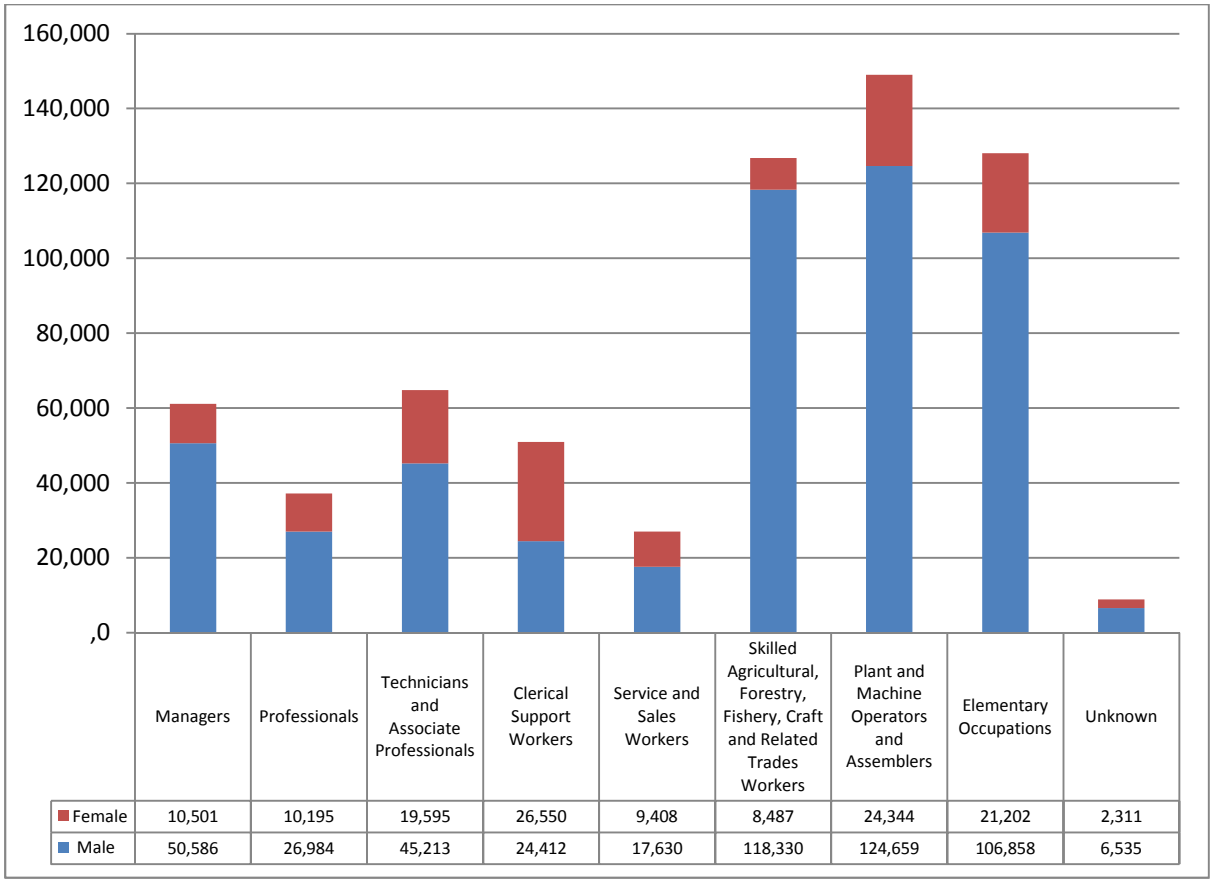


Figure 2-11 Gender distribution of employees in the sector according to occupational group
Source: merSETA data system

Table 2-1 Gender distribution of total merSETA employees

Gender	N	%
Female	132 594	20.3
Male	521 206	79.7
Total	**653 800**	**100**

Source: merSETA data system

From a racial perspective, more than half (55%) of merSETA employees are African, while over a quarter (27%) are white (Figure 2-12).

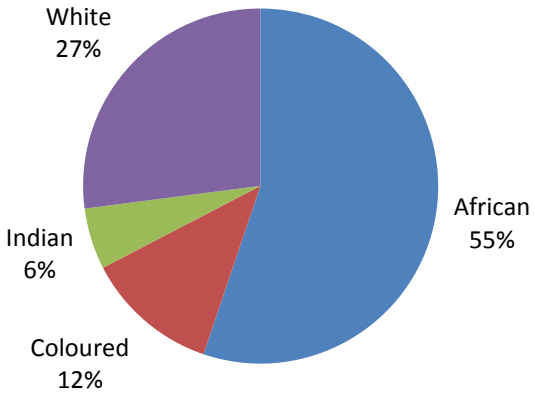
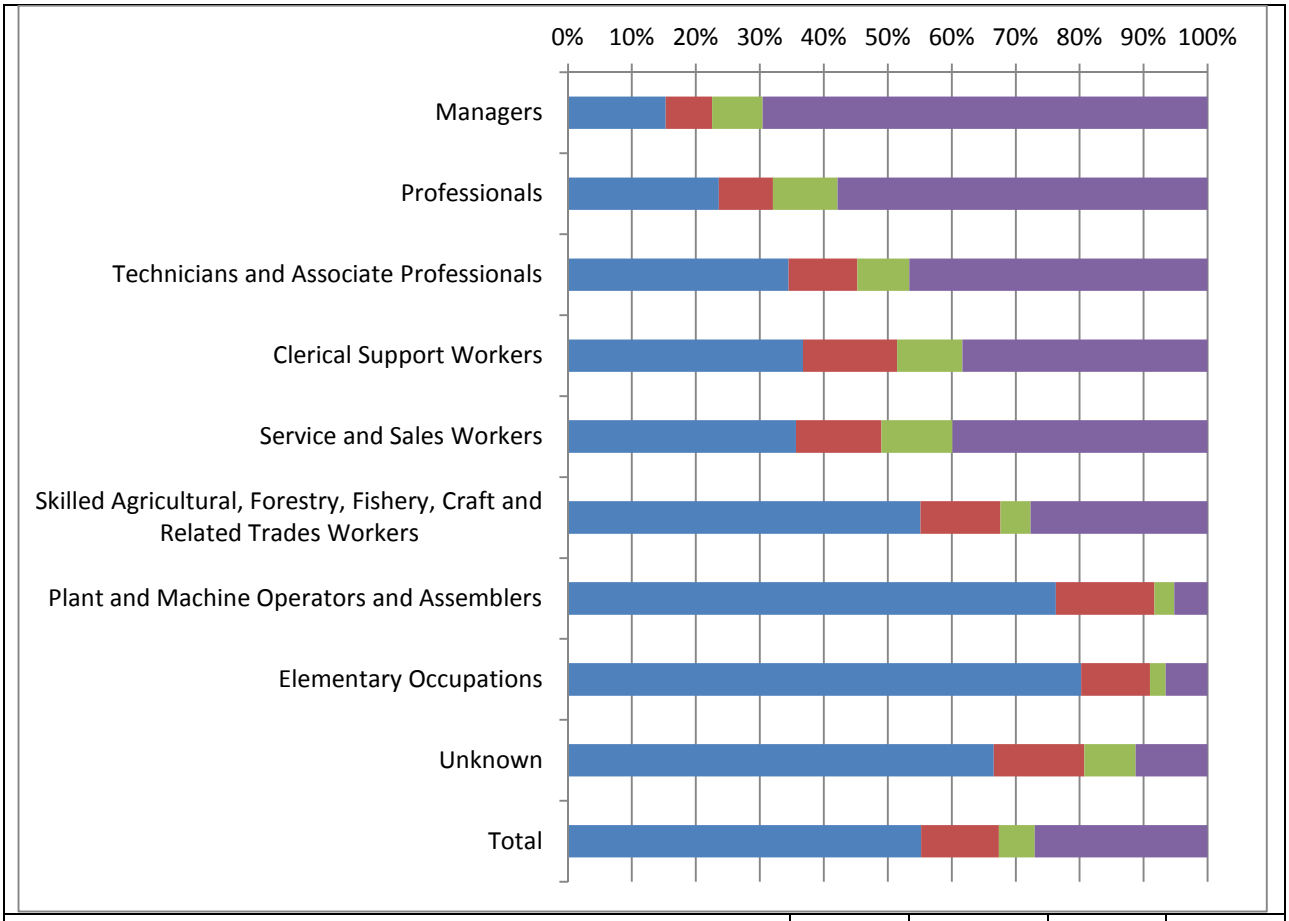


Figure 2-12 Racial distribution of employees in the sector
Source: merSETA data system

The occupational categories of elementary occupations and plant and machine operators and assemblers have the greatest proportion of African employees (80.2% and 76.3% respectively). For skilled agricultural, forestry, fishery, craft and related trades workers, Africans make up well over half the total employment (55.1%), while whites make up just over one quarter (27.7%). White employees form the largest racial group in the occupational categories of managers (69.6%), professionals (57.9%), technician and associate professionals (46.6%), clerical support workers 38.3%), and service and sales workers (39.9%) (Figure 2-13). It is important that these indicators be tracked for changes over time. As merSETA's data collection systems become more embedded, more detailed monitoring of transformation will become possible.



Occupational group	African	Coloured	Indian	White
	%			
Managers	15.3	7.3	7.9	69.6
Professionals	23.6	8.5	10.1	57.9
Technicians and Associate Professionals	34.5	10.8	8.1	46.6
Clerical Support Workers	36.7	14.7	10.2	38.3
Service and Sales Workers	35.6	13.3	11.1	39.9
Skilled Agricultural, Forestry, Fishery, Craft and Related Trades Workers	55.1	12.5	4.7	27.7
Plant and Machine Operators and Assemblers	76.3	15.4	3.1	5.2
Elementary Occupations	80.2	10.8	2.4	6.6
Unknown	66.6	14.1	8.0	11.3
Total	55.2	12.2	5.6	27.0

Figure 2-13 Racial distribution of employees in the sector according to occupational group
Source: merSETA data system

2.5.5 Age distribution of employees

In 2012, just under half (49.1%) of the merSETA's employees fell into the age category 35 to 49 years, while 41.5% were younger than 35 years and 9.4% were between 50 and 64 years old. Positively, the group skilled agricultural, forestry, fishery, craft and related trades workers has a relatively large proportion of workers younger than 35 years (43.8%)[40], while the proportion of

[40] Chamber representatives (at a meeting on 3 July 2013) report that in the metal and plastics sectors the average age of artisans has reduced considerably due to the recent drive to train artisans. In the tyre industry the average age of artisans

professionals in the age group 50 to 64 years (9.5%) is only very slightly higher than the average for the sector as a whole.[41] Owing to the levels of sector experience required, it is not surprising that managers are older than employees in other occupational groups (Table 2-2).

Table 2-2 Age distribution of merSETA employees by major occupational category

Occupational group	Age category		
	<35	35 - 49	50 - 64
Managers	20.0	62.9	17.1
Professionals	42.5	48.1	9.5
Technicians and Associate Professionals	38.6	51.0	10.4
Clerical Support Workers	40.9	49.2	9.9
Service and Sales Workers	45.9	45.6	8.5
Skilled Agricultural, Forestry, Fishery, Craft and Related Trades Workers	43.8	47.6	8.6
Plant and Machine Operators and Assemblers	40.7	50.3	9.0
Elementary Occupations	51.1	42.4	6.5
Unknown	37.6	54.5	7.9
Total	**41.5**	**49.1**	**9.4**

Source: merSETA data system

2.5.6 Disability

merSETA organisations employ approximately 4 680 people with disabilities. This constitutes 0.7% of total employment, a proportion that has remained unchanged since 2011. The chamber with the highest percentage of people with disabilities (1.9% of total employment) is the Auto Chamber (Table 2-3), with this figure having increased over the past year (from a figure of 1.5%).

Table 2-3 Number of employees with disabilities by chamber

Chamber	Employment	Employees with disabilities	Employees with disabilities as % of employment
Auto	32 411	600	1.9
Metal	335 327	2 012	0.6
Motor	171 787	1 198	0.7
New Tyre	7 596	62	0.8
Plastics	53 826	458	0.9
Unknown	52 853	350	0.7
Total	**653 800**	**4 680**	**0.7**

Source: merSETA data system

remains high. Thus this overall profile hides the details within the chambers. While industry reports maintain that the average age of artisans is high (in contrast to this data) it may be that industry is making a distinction between what they perceive to be the older age of 'competent' artisans, rather than the overall age of 'qualified' artisans.

[41] Anecdotal evidence from industry is that the average age of employees in the sector, particularly artisans, is high and that many technically skilled people are due to retire within the next decade. The data do not directly support this industry view.

2.6 CHARACTERISTICS OF THE SECTOR

2.6.1 Global integration of manufacturing value chains

One of the key characteristics of the merSETA sector is the level of global integration of the majority of its subsectors.

Prior to 1994 the local automotive industry was largely domestically owned and focused almost exclusively on the Southern African market. Following the re-integration of SA into the global economy, multi-national motor manufacturers re-invested in domestic assembly plants and existing or new Tier 1 suppliers. The result was that both the structure and the ownership profile of the sector changed entirely within a few years. Operating as part of the global automotive industry means that local plants compete with international sister plants for new model production. At the same time most decisions regarding production volumes, global supply and supplier contracts are made at international head-office level.[42]

Although the SA automotive manufacturing sector contributed only 0.44% of global car production and 1.26% of global commercial vehicle production in 2012,[43] the sector is nevertheless totally integrated into the global automotive-production value chain, with annually increasing levels of both automotive and component exports and imports.

The metal sector, particularly at the level of Stage 2 production, is also highly integrated into the global economy. The primary steel subsector earns the country considerable amounts of foreign exchange through its exports. Ranking about 20th in the world, SA produces in the region of 1% of the world's crude steel and more than half of Africa's crude steel. Total SA crude steel production is in the order of 10 million tonnes per year, while primary steel producers manufacture in excess of 8 million tonnes of finished steel products per year of which about 5 million tonnes are consumed domestically.[44] Global integration and a decided export focus, together with the fact that steel production is closely tied to demand for commodities, means that the local metal sector is also highly affected by the global economy.

While the merSETA's plastics manufacturing sector is predominantly focused on the domestic market, around one fifth of plastics firms supply the local automotive industry and through this are also exposed to the tides of the global economy.[45]

The implication of this characteristic of the merSETA sectors is that overall economic performance is highly dependent upon global economic cycles (discussed in more detail in Chapter 3 of this SSP). Additionally, high levels of global integration of merSETA sector value chains means that other local

[42] Black A (2001) Globalization and restructuring in the South African automotive industry, Journal of International Development, Vol. 13, No. 6, 2001.

[43] International Organisation of Automobile Manufacturers (2013), http://oica.net/category/production-statistics/, Accessed 18 June 2013.

[44] SAISA (2012) South African Iron and Steel Institute website, http://www.saisi.co.za/aboutus.php, Accessed 24 June 2012.

[45] merSETA (2013) Plastics Chamber Research Project.

sector characteristics that impact negatively on production and profitability make it relatively easy for international parent companies to relocate business elsewhere.[46]

2.6.2 Subsector trade balances

Linked to the above, Table 2-4 shows the imports and exports (in R million 2005 prices) for the merSETA subsectors in 2012. For the rubber, plastics, machinery and equipment, and motor vehicle, parts and accessories subsectors, importation was greater than exports, with the result that these sectors contributed to the country's overall trade deficit. These sectors represent the downstream beneficiation activities of raw- or semi-processed materials. Trade deficits here, together with the huge trade surplus evident for the basic iron and steel and basic non-ferrous metals subsectors, is indicative of the structural challenges these sectors face in respect of local beneficiation and provides evidence of their high levels of global integration.

Table 2-4 Imports and exports for merSETA sectors (2012) (Rm 2005 prices)

Sector	Imports	Exports
Rubber products	6 533	2 025
Plastic products	6 970	2 306
Basic iron & steel	8 781	40 267
Basic non-ferrous metals	5 526	8 508
Machinery & equipment	83 791	27 717
Motor vehicles, parts & accessories	73 962	41 850

Source: Quantec, 2013

2.6.3 Labour organisation

The workforce of the merSETA sectors is highly unionised. The National Union of Metalworkers of South Africa (NUMSA) is an active affiliate of the Congress of South African Trade Unions (COSATU), the biggest affiliation of trade unions in SA. NUMSA represents workers from the engineering (steel production), vehicle assembly, automotive components manufacturing, new tyre and electronics manufacturing subsectors. Only workers in merSETA's plastics manufacturing sector are not represented by NUMSA. NUMSA currently has a membership of 320 000 members, and has recently started a recruitment drive to increase this to 400 000 by 2016.[47]

Wage determination in the automotive assembly subsector takes place through a non-statutory centralised bargaining arrangement. The two parties of the National Bargaining Forum (NBF), which was established in 1990, are NUMSA and the Automobile Manufacturers Employers Organisation (AMEO) to which all seven local OEMs belong. Since 1995, agreements have covered a three-year period. The NBF agreement provides for payment for skills acquired (rather than skills used) as well

[46] A very recent example can be seen in the removal of South Africa for consideration in the production of a new BMW model due to an irrecoverable loss of production of 13 000 3-Series cars at its plant in Rosslyn, Pretoria, because of almost eight weeks of successive labour strike action. Source: Business Day (2013) BMW confirms new model lost to SA through strike, http://www.bdlive.co.za/business/2013/10/11/bmw-confirms-new-model-lost-to-sa-through-strike, Accessed 29 October 2013.

[47] Fin24.com (2013) Numbers bring duties, NUMSA told, 17 May 2013, http://www.fin24.com/Economy/Numbers-bring-duties-Numsa-told-20130517, Accessed 24 June 2013.

as a Work Security Fund, which provides training in order to re-skill employees who lose their jobs as a result of major retrenchments. Despite the voluntary nature of the arrangement, strike action – which according to the Labour Relations Act[48] is deemed a right of unions that follow the correct statutory procedures – generally occurs at each round of negotiations.[49]

For the other merSETA sectors in which NUMSA represents workers, the industrial councils include the Metal and Engineering Industries Bargaining Council (MEIBC), the Tyre Industrial Council, and the Motor Industries Bargaining Council (MIBCO).[50]

Three-year settlement agreements were also reached between labour and MIBCO in 2010[51] and the Steel and Engineering Industries Federation of SA (SEIFSA) together with other employer bodies in 2011.[52] The 2013 round of wage negotiations between NUMSA and MIBCO still requires finalization of the details, the new agreement also spans a three year period.[53] The benefit of three-year wage agreements for industry is the improved ability to plan and a reduction in the loss of productive time associated with wage negotiations. Aside from substantially increased minimum wages, NUMSA is however, tabling a demand for annual wage negotiations and for a total ban on all labour brokers.[54]

Notably, employment of apprentices in the merSETA sector is governed by the same legislation as permanent employees, including the Basic Conditions of Employment Act, wage determination (as per bargaining council agreements in the metal and motor Industries) and the Skills Development Act. This situation poses particular challenges for industry in respect of increasing the numbers of apprentices as well as in disciplining non-performing students (see Section 5.7.1).[55]

Overall, union representatives play an important role in promoting skills development in the sector and in ensuring that skills development takes place in the workplace. In the 2011 process of determining the scarce skills and skills development priorities for the sector there was a general call for organised labour representatives in the sector to receive training to fulfil their roles in skills development.

2.6.4 Employer organisation

Like labour, employers in the merSETA sectors are well organised. Firms in the Metal Chamber are represented by SEIFSA.[56] NAAMSA represents franchise holders marketing vehicles in South Africa,[57]

[48] Labour Relations Act of South Africa (1995) last amended in 2002.

[49] Godfrey S, Theron J, Visser M (2007) The state of collective bargaining in South Africa: An empirical and conceptual study of collective bargaining, Labour and Enterprise Policy Research Group, University of Cape Town.

[50] NUMSA (2011) http://www.numsa.org.za/index.aspx?PageId=10192, Accessed 9 September 2011.

[51] Mail&Guardian Online (2010), Numsa strike against retail motor industry ends, 19 September 2010, http://mg.co.za/article/2010-09-16-numsa-strike-against-retail-motor-industry-ends, Accessed 11 September 2011.

[52] SEIFSA (2011) http://www.seifsa.co.za, Accessed 10 September 2011.

[53] MIBCO (2013) Circular No. 13/2013. To all employers and employees in the Motor Industry: Update re 2013/14 wage negotiations, 8 October 2013, http://www.mibco.org.za/images/PDF/2013.13_2013_2014_wage_negotiations_update.pdf, Accessed 29 October 2013.

[54] Business Day (2013)NUMSA demands 20% wage hike ahead of talks, 24 April 2013, http://www.bdlive.co.za/national/labour/2013/04/24/numsa-demands-20-wage-hike-ahead-of-talks, Accessed25 July 2013.

[55] merSETA (2012) Apprenticeships: Review and Opinion on the possibility of lobbying for a change to the current rules surrounding apprenticeships in an effort to create more employment in the sector, Version 3.

[56] SEIFSA (2012) http://www.seifsa.co.za, Accessed 24 June 2012.

NAACAM is the National Association of Automotive Components and Allied Manufacturers of South Africa,[58] while the Retail Motor Industry (RMI) Organisation represents the retail segment of the automotive sector.[59] The New Tyre Chamber companies are represented by the New Tyre Manufacturers Employers Association and the South African Tyre Manufacturers' Conference (SATMC).[60] Firms in the Plastics Chamber are represented by the PlasticsSA.[61] These organisations play an important role in the sector in terms of activities such as collective bargaining, data- and information gathering and dissemination, and skills development.

2.6.5 Professional organisation

The various professional groups employed by the merSETA sectors are affiliated to a range of statutory and voluntary professional associations and bodies. Professional bodies (for example, the Engineering Council of South Africa (ECSA)) play an important role in skills development, in promoting the relevance and the quality of professional qualifications, in maintaining professional work standards, and in continuous professional development (CPD).[62]

Since the election of the new ECSA Council in 2009, this professional body has taken on additional responsibilities outside of its statutory requirements that focus on increasing the relevance of the engineering profession to national development objectives. In line with this, ECSA has: provided leadership co-ordination to the 'Ingenious' programme that aims to increase the exposure of particularly rural, African and female children to science and engineering; undertaken research to find solutions to increasing the success rates of engineering students in higher education; and entered into a partnership to develop the engineering skills capacity at all levels of government in order to deliver on the SIPs at national and local level and, through this, to positively impact on national service delivery.[63]

2.6.6 Geographic location

Manufacturing firms in the merSETA sector are clustered into four mainly urban regions, which limits the extent to which the sector is able to make a direct contribution to government's rural development objective. Gauteng (including the Brits area of the North West province) has the largest concentration of merSETA companies. Three of the OEMs, more than half of the automotive components manufacturing firms, and almost 80% of firms in the metal sector are situated in this region.

Other clusters include: the Cape Town region, which has a concentration of precision-engineering firms as well as the nearby Saldanha Steel Mill; the Eastern Cape coastal area, which includes the three OEMs and the automotive component manufacturing firms located in and around Port

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[57] NAAMSA (2012) http://www.naamsa.co.za, Accessed 24 June 2012.

[58] NAACAM (2012) http://www.naacam.co.za, Accessed 24 June 2012.

[59] RMI (2012) http://www.rmi.org.za, Accessed 24 June 2012.

[60] NUMSA (2011) http://www.numsa.org.za/index.aspx?PageId=10192, Accessed 10 September 2011.

[61] PlasticsSA (2012) http://www.plasticsinfo.co.za, Accessed 24 June 2012.

[62] ESCA (2012) http://www.ecsa.co.za/index.asp?x=ecsa, Accessed 24 June 2012.

[63] Dr Oswald Franks, ECSA, telephonic interview, 12 July 2012.

Elizabeth and East London; and the Durban/Pietermaritzburg region, which has one OEM, as well as a group of automotive components manufacturers.[64] Only a few sizeable manufacturing plants are found outside these geographic clusters.[65]

The distribution of the motor retail and servicing subsector is reflected in the provincial distribution of the national population of vehicles. This suggests that the subsector is clustered in Gauteng, with 42.2% of the total live vehicle population on 31 March 2013. The Western Cape and KwaZulu-Natal also have a significant share of the sector, with 17.0% and 14.4% of the total live vehicle population respectively. Within Gauteng, the population distribution across vehicle type is 61.5% light passenger vehicles, 33.2% commercial (including load and heavy passenger), 3.4% motor cycles, and 1.9% 'other' vehicles.[66] Across all provinces, the sector is likely to be concentrated in the urban areas.

The plastics manufacturing sector is also clustered in urban industrial areas (in KwaZulu-Natal and the Western Cape), but most particularly in Gauteng, where more than 50% of the industry is located. This is because producers generally choose to be in close proximity to their customers. In respect of plastics packaging (and plastic bottles in particular) the low-value, high-volume, lightweight nature of the product necessitates the minimum transportation possible if the cost to consumer is to be competitive.[67]

Despite the urban concentration of the industry, the merSETA sector's labour is drawn from all provinces and locations, both urban and rural. This factor provides the sector with a channel for influencing rural development.

2.6.7 Casualisation of labour

Temporary staffing is an increasing phenomenon in international labour markets, and SA is demonstrating similar trends. Between January 2000 and March 2011, traditional permanent employment declined by 20.9% (representing 1.9 million people), while temporary, contract and other forms of 'atypical' work increased by 64.1% (representing 2.4 million people).[68] By May 2013 labour brokering in South Africa constituted a R44 billion industry employing around 19 500 internal staff and just over one million agency workers or temps. Overall research by Adcorp shows that 3.9 million workers (representing 29% of total employment) are temporary in nature.[69].

[64] Maree J, Lundall P, Godfrey S (2009) Metals beneficiation, Chapter 5 in (A Kraak ed.) Sectors and Skills, the Need for Policy Alignment, HSRC Press.

[65] Examples include the Apollo Tyres plant in Ladysmith, KZN (formerly Dunlop) and the Bell Equipment plant (the manufacturer of earth-moving and other capital equipment) in Richards Bay, KZN.

[66] eNaTiS (2012) Live Vehicle Populations as at 31 March 2013 by province, March 2013, http://www.enatis.com/index.php?option=com_content&view=article&id=326:live-vehicle-population-as-at-31-march-2013&catid=71:live-vehicle-population-per-registering-authority&Itemid=19, Accessed 18 June 2013.

[67] Anton Hanekom, PlasticsSA, telephonic interview, 4 July 2012.

[68] Adcorp (2011) Permanent employment down 20% since 2000 – AEI, Adcorp Employment Index, 11 April 2011, http://www.politicsweb.co.za/politicsweb/view/politicsweb/en/page71654?oid=230566&sn=Detail&pid=71654, Accessed 8 September 2011.

[69] Adcorp (2103) Temporary work growing despite overall downward trend, 10 June 2013,http://www.adcorp.co.za/Pages/Temporaryworkgrowingdespiteoveralldownwardtrend.aspx, Accessed 24 June 2013.

Because the demand for the merSETA's sector's products is closely linked to the performance of both the national and international economy, production is cyclical and temporary workers a long-standing labour phenomenon within the sector. Agreements with unions have, however, set limits to this type of employment: Within the automotive assembly sector there is an unofficial agreement that contracts with labour brokers, who provide temporary workers, will not exceed 20% of total employment. Also, the recent agreement between NUMSA and the RMI set a 35% limit on contract labour in the motor retail sector.[70]

A key challenge and thus risk for skills development for the sector related to casualisation of labour is that these workers are not generally accommodated in skills planning and they make up a large proportion of the sector's workforce. Furthermore, these workers are considered more vulnerable than other workers and thus need to be considered from the perspective of the sector's support for the principles of a 'developmental state'.

2.6.8 HIV and AIDS

For 2013 Stats SA estimated that the overall prevalence of HIV and AIDs infections in SA was approximately 10%, with the prevalence among adults (males and females between the age of 15 and 49 years) being higher at 15.9%. The total number of people in SA living with HIV is approximately 5.3 million.[71] A USAIDS report from 2009 that compares the prevalence of HIV and AIDS across various sectors within a group of African countries suggests that the prevalence of HIV and AIDS within the manufacturing sector in SA is considerably lower than in sectors such as mining and agribusiness, but somewhat higher than in sectors such as retail, utilities, and media.[72] Despite a relatively average prevalence level within manufacturing as compared to the rest of SA's economic sectors, HIV and AIDs adversely affects the sector. Another 2009 study revealed that manufacturing employers in Gauteng reported increasingly negative impacts of the disease on individual employee productivity and firm-level efficiency and cost-competitiveness. Furthermore, while prevalence increased from unskilled- to skilled worker groups, all skills groups were affected, with negative firm-level consequences. Positively, the firms that participated in the study had had HIV and AIDS programmes in place for more than five years at that stage.[73]

Over the 2010/11 financial year, the merSETA piloted a strategic HIV and AIDS Workplace Management Programme for small- and medium enterprises (SMEs) in the sector. The intervention included training and capacity building among the Client Relationship Officers in the merSETA who are tasked with helping SMEs to implement the strategic HIV and AIDS Workplace Management Programme.[74] Through 2011/12 merSETA revised its strategy to include direct support and mentoring, allowing it to disseminate information, support and insight into best-practices more cost-

[70] Mail&Guardian Online (2010), Numsa strike against retail motor industry ends, 19 September 2010, http://mg.co.za/article/2010-09-16-numsa-strike-against-retail-motor-industry-ends, Accessed 11 September 2011.

[71] Stats SA (2013) Mid-year Population Estimates, 2013, P0302.

[72] USAIDS (2009) Business coalitions a joint response to HIV and AIDS.

[73] Van Zyl G, Lubisi C (2009) HIV/AIDS in the workplace and the impact on firm efficiency and firm competitiveness: The South African manufacturing industry as a case study. SA Journal of Human Resource Management/SA TydskrifvirMenslikehulpbronbestuur, 7(1), Art.#206, 14 pages. DOI: 10.4102/sajhrm.v7i1.206.

[74] merSETA (2011) merSETA Annual Report 2010/11.

effectively and to a larger number of SMEs. Overall company agreements involve directly reaching more than 5 500 employees in the sector.[75]

2.6.9 Black economic empowerment and employment equity

All of the merSETA's firms are subject to the terms laid out in the Broad-Based Black Economic Empowerment Act, No. 53, 2003 (the B-BBEE Act). The generic BEE Scorecard (as opposed to sector-specific charters with related scorecards) applies the dti's B-BBEE Codes of Good Practice that came into operation in February 2007. Compliance ranges from Level 8 (the lowest level) to Level 1 (the highest level).[76]

In 2012, the majority of the OEMs were on Level 4,[77] while all new tyre manufacturers were on Level 5 and aiming to achieve Level 4 by the end of the year.[78] Positively, the automotive industry recently set up a BB-BEE Task Team. This task team, which includes representatives from NAAMSA, NAACAM, SATMC, RMI and the Catalytic Convertor Interest Group, aims to update the sector's transformation plans and to report on the range of transformation initiatives that are currently already under way in the sector.[79] There is, however, no more recent information on the progress of the Task Team, or on transformation progress in the plastics and the metal sectors.

2.6.10 Environmental impact

Although manufacturing in SA and internationally is an important industry and a creator of a substantial proportion of secure jobs, the sector has an environmental footprint. The most significant aspects of this footprint are: the use of non-renewable resources such as metals in the manufacturing process (and the impact on the environment that mining has); waste emissions from the manufacturing process polluting the water and atmospheric systems; and noise pollution. Furthermore, the SA manufacturing base was built on the historic provision of cheap electricity, generated through the combustion of non-renewable coal obtained from mining local reserves and is, therefore, generally energy intensive. In addition to this, manufactured products have an environmental impact, as many are dependent directly or indirectly on the use of fossil fuels for operation (i.e. petrol or electricity), which also impacts on issues such as climate change.

Increasing international pressure regarding environmental concerns has led the manufacturing industry to take a more proactive role in the development of cleaner manufacturing processes and the design of recyclable products, where the waste from one process becomes the raw material for another in a large cycle similar to the natural food chain. Sustainable development is seen to be the ultimate win-win goal, where the current use of non-renewable resources and the growth of the

[75] merSETA (2012) merSETA Annual Report 2011/12.

[76] Bee Navigator (2011) http://www.bee-scorecard.co.za/bee_information.html, Accessed 26 September 2011.

[77] Nico Vermeulen, NAAMSA, telephonic interview 12 September 2012.

[78] John Wilson, SATMC, telephonic interview, 29 June 2012.

[79] Dr. Norman Lamprecht, NAAMSA, telephonic interview, 12 July 2012.

economy in support of current development objects are not to the detriment of future generations.[80]

Among the merSETA sectors, the plastics industry has made the greatest strides in using recycled products as major raw materials inputs. PlasticsSA is also putting a significant amount of effort into promoting the sustainability of the sector and increasing general awareness of recycling.[81]

The global automotive industry is also putting much effort into the development of vehicles that do not use the current internal combustion engine. Alternatives include the electric engine, the hybrid engine (making use of both electricity and fossil fuels), fuel cells (using electro-chemical reactions to generate energy), and ethanol engines (using ethanol obtained from renewable plant crops).[82] In SA, the sale of hybrid vehicles has been miniscule compared with the international market, where many governments provide incentives for the sale of more fuel-efficient cars. Nevertheless, sales have been picking up speed, increasing from 204 hybrids sold in 2006 to a projected total of about 800 in 2012. Furthermore the range of hybrid options available to local consumers is increasing, while affordability of these cars is also improving. The next decade is likely to see a substantial increase in demand for more energy efficient vehicles in SA.[83]

In line with the growing threat of increasing 'eco-protectionism' from advanced industrial countries in the form of tariff and non-tariff measures such as carbon taxes and restrictive standards, IPAP now includes a focus on 'green' and energy-saving industries. In addition to promoting the development of technologies that utilise solar energy, the plan includes provision of appropriate support for the local development of an electric car, as well as the creation of an appropriate legislative and regulatory environment. Such legislation will allow the operation of electric vehicles, relevant testing infrastructure for electronic vehicles, local manufacture for domestic and global markets, initiation of charging infrastructure, and educational campaigns on electric vehicles.[84]

2.7 CONCLUSIONS

This chapter has provided an overview of the metal, automotive and plastics sectors from the perspective of the merSETA and has highlighted certain aspects of the sector that are important from the point of view of skills development.

The merSETA sector has in the region of 50 000 firms on its database of which the majority are small non-levy-paying companies. The number of levy-paying companies has dropped and is now just above 13 000. Gauteng has the largest concentration of companies for all of merSETA's five Chambers.

[80] Young P, Byrne G, Cotterill M. Manufacturing and the environment, The International Journal of Advanced Manufacturing Technology, Volume 13, Number 7,488-493, DOI: 10.1007/BF01624609.

[81] PlasticsSA (2012) http://www.plasticsinfo.co.za, Accessed 24 June 2013.

[82] Eco20-20 (2011) http://www.eco20-20.com/Green-Technology-and-Its-Impact-in-the-Auto-Industry.html, Accessed 12 September 2011.

[83] Engineering News (2013) Hybrid market grows as budget consumers turn green, 17 August 2012, http://www.engineeringnews.co.za/article/hybrid-market-grows-as-budget-conscious-consumers-turn-green-2012-08-17, Accessed 24 June 2013.

[84] the dti (2010) Industrial Policy Action Plan 2010/11-2012/13: Economic sector and employment cluster.

The Metal Chamber contains firms in the metal sector and is the largest of the merSETA Chambers in respect of both the number of firms and employees. The Plastics Chamber caters for the plastics sector, the smallest of the merSETA industries. The Auto Chamber, Motor Chamber and New Tyre Chamber all contain firms within the larger automotive industry. Of these, the Motor Chamber, which includes both the automotive components manufacturing subsector as well as the motor retail subsector, is the largest, while the New Tyre Chamber that caters only for the small group of new tyre manufacturers is the smallest. It is important that the merSETA considers the needs of firms from across all three of its industries, regardless of firm size or the chamber to which they belong. Total employment in the levy-paying component of the sector is estimated at 653 800, down by roughly 2 000 from the previous year.

The educational profile of the merSETA sector can be derived from considering its occupational distribution. In this light, the sector employs roughly 19.6% unskilled (elementary) workers, 22.8% semi-skilled workers (plant and machine operators and assemblers), 31.3% skilled workers (craft and related trades workers, service and sales workers, and clerical support workers), and 24.9% highly skilled workers (technicians and associate professionals, professionals and managers).

The majority of the employees within the metal, automotive and plastics sectors are men (79.7%). The group of clerical support workers is the only occupational category in which there are more women (52.1%) than men. For the other major occupational categories, the proportion of women ranges from a low (but increasing) 6.7% for skilled craft and related trades workers to a high (and also increasing) 30.2% for professionals and for technicians and associate professionals. This means that the merSETA's initiatives are having some positive effect and that the merSETA must continue to target women in its skills development initiatives.

From a racial perspective, black employees represent the bulk overall, with 55% African, 12% Coloured and 6% Indian. Employment of whites is concentrated in the occupational groups of managers (69.6%) and professionals (57.9%). A focus by the merSETA on supporting black skills development, especially for artisans and professionals, will improve the pipeline of relevant skills needed to change the demographic profile of managers in the sector. This is a key consideration in the overall transformation of the sector.

The age distribution of employees in the sector does not support the widespread anecdotal evidence coming from within the sector that the average age of artisans is high and that many are due to retire within the next few years. This overall picture may however be hiding regional and subsector challenges in this regard. Therefore, focus by the merSETA on developing high-quality artisan skills among young people and supporting the transfer of experience from those who are nearing retirement remains a priority.

Geographically, the sector is clustered in four main regions: Gauteng (including parts of North West province, which has the most significant concentration of firms and employment); Cape Town and surrounds; the central Eastern Cape coast including Port Elizabeth and East London; and the Durban/Pietermaritzburg region of KwaZulu-Natal. Regardless of domestic location, a key characteristic of firms in almost all of the merSETA's subsectors is their high level of global integration. This factor impacts at many levels including: the adoption of technology and growth in production volumes; the high risks that the sector faces because of the relative ease with which

parent companies can relocate business to more competitive international sister plants; on local sector employment levels and skills needs.

Non-contract workers in SA's manufacturing sector, particularly in the metal and automotive sectors are highly unionised. NUMSA has the largest membership and is applying ongoing pressure to increase minimum sector wages, to increase worker benefits and to limit and contain the extent of labour brokering in the sector. Similarly, employer organisations and professional organisations play key roles in collective bargaining, information gathering and dissemination, and in skills development for the sector.

Finally HIV and AIDS among employees of the metal, automotive and plastics sectors adversely affects individual productivity and firm-level efficiency and cost-competitiveness. Together these place a cost burden on sectors that are struggling to gain and retain global competitiveness in production. Increasing customer and legislated demands in respect of environmental considerations, sustainable development and the 'green economy' impact not only on the cost of production (with implications for overall competitiveness) but also have implications in terms of skills development.

The merSETA sector characteristics as discussed in this chapter are closely linked to its strengths and weaknesses. These are in turn tied to opportunities and threats (or risks) for the subsectoral economic success (the subject of Chapter 3 of this SSP) and through this to skills demand (see Chapter 4) and to merSETA's attempts to support skills development in and for the sector (see Chapter 5).

3 ECONOMIC PERFORMANCE OF THE SECTOR

3.1 INTRODUCTION

This chapter provides an overview of the economic performance of the merSETA sectors and the factors that impact on this performance. The first section deals with the source of demand for products from the merSETA sector – the metal-, automotive- and plastics-manufacturing sectors – and serves as a basic introduction to the sections that follow.

The next two sections present data on the economic performance of the sector, first for the manufacturing sector as a whole, and then for the group of sectors from the National Accounts data that make up the merSETA sectors cluster. Economic indicators on the performance of the local automotive assembly and new vehicle sales subsectors are also given, as they have traditionally tended to serve as a barometer for the merSETA sectors more generally.

The data are followed by a relatively detailed discussion of the range of factors that influence the economic performance of the sector, thus providing context and explanation for the economic trends. Notably these inter-related factors are closely linked to the characteristics of the sector as presented in Chapter 2 – in particular, its generally high levels of global integration. The first factor to be discussed is the issue of economic cycles, commodity markets and commodity prices. This is particularly important because of the challenges that the sector faced (and is continuing to face) as a result of the 2008/9 economic recession and the current structural economic problems that hinder recovery in both the US and Europe. The other issues discussed in this section include: the impact on supply-chain organisation of global events; the availability of credit; the exchange rate and currency volatility; increasing customer demands; global advances in technology; administered, logistics and compliance costs; raw material input costs and availability; labour productivity and skills availability; the local political and social context; fair and unfair competition; government expenditure and infrastructure development; environmental considerations and the green agenda; and the sector's response to emerging trends such as increasing social media and e-commerce, diversified consumer financing, and changing population dynamics.

The final sections of this chapter give an overview of the numerous government economic development policies and strategies that are likely to have an impact on the economic performance of the sector into the short- to medium-term future as well as industry's views on these policies and strategies.

Together the dynamics of these inter-related factors influence the economic performance of the merSETA sector and therefore also its growth. Economic growth and company confidence and profitability in turn determine the sector's need for and capacity to be involved in skills development.

3.2 SOURCES OF DEMAND FOR MANUFACTURED PRODUCTS

Demand for upstream metals products (including steel, aluminium and copper among others) stems from firms within the international CETEMF[85, 86] and automotive industries. Additionally, demand for metal raw materials arises from sectors such as building and construction and the white-goods manufacturing industries.[87,88] Demand for capital equipment stems from the manufacturing sector itself, as well as from the building and construction, mining and agriculture sectors.

Individual consumers represent the greatest demand for new vehicles; however, demand for fleets of vehicles also arises from private companies, government departments, and car-rental agencies. Demand for automotive components and new tyres stems both directly and indirectly from new vehicle production, sales and servicing activities – directly in that products are included in the assembly of new vehicles, and indirectly through the need for replacement of parts in the automotive aftermarket.

Demand for manufactured plastics products arises from a range of sectors including: building and construction; automotive; agriculture; furniture; household- and white goods; medical; toys; and food; and general packaging.[89]

3.3 MANUFACTURING ECONOMIC PERFORMANCE

The quarterly changes in gross domestic product (GDP) in the SA economy in the manufacturing sector from 2002 to the first quarter of 2013 are shown in Figure 3-1.[90] The SA economy grew steadily until 2008, however went into recession between the third quarter of 2008 and the second quarter of 2009. Since then the economy has reverted to positive growth, although growth rates have remained at levels that are lower than they were between 2004 and 2007. In comparison, the manufacturing sector as a whole (of which the merSETA sector forms a significant proportion) experienced contraction of the industry in 2003 and a massive recession between the third quarter of 2008 and the second quarter of 2009. Since then the periodic growth troughs that the sector experiences have been more pronounced than before the recession, with negative growth rates recorded for the third quarter of 2010, the second quarters of 2011 and 2012, and the first quarter of 2013.

[85] MetalMiner (2010) Demand for aluminium for naval shipbuilding set to rise this decade, 12 March 2010, (http://agmetalminer.com/2010/03/23/aluminum-demand-for-naval-shipbuilding-set-to-rise-this-decade/, Accessed 12 September 2011.

[86] Shipping Online (2011) In South Korea the shipbuilding industry has surpassed the automotive industry as the largest steel consuming sector. http://www.shippingonline.cn/news/newsContent.asp?id=10993, Accessed 12 September 2011.

[87] Growth in demand for appliances such as washing machines, fridges and other white goods is fuelled by increasing household access to electricity and the entry of households into the middle-income bracket. China anticipated double-digit growth figures in 2010 in this sector due to increased domestic demand. http://www.isuppli.com/China-Electronics-Supply-Chain/MarketWatch/Pages/Domestic-Demand-to-Drive-China-White-Goods-Market-in-2010.aspx, Accessed 12 September 2011.

[88] In South Africa IPAP II has a focus on developing the white-goods sector with the aim of supporting growth among local upstream suppliers in both the metal and plastics sectors.

[89] WhoOwnsWhom (2010) Report on Manufacture of Plastics and Plastic Products: SICCODE 33430 & 33800, Compiled by Yasmin Mohomedy, August 2010.

[90] Stats SA (2013) P0441, First Quarter 2013, Table 4 using 'Manufacturing' and 'GDP at market prices', http://www.statssa.gov.za/Publications/P0441/P04411stQuarter2013.pdf.

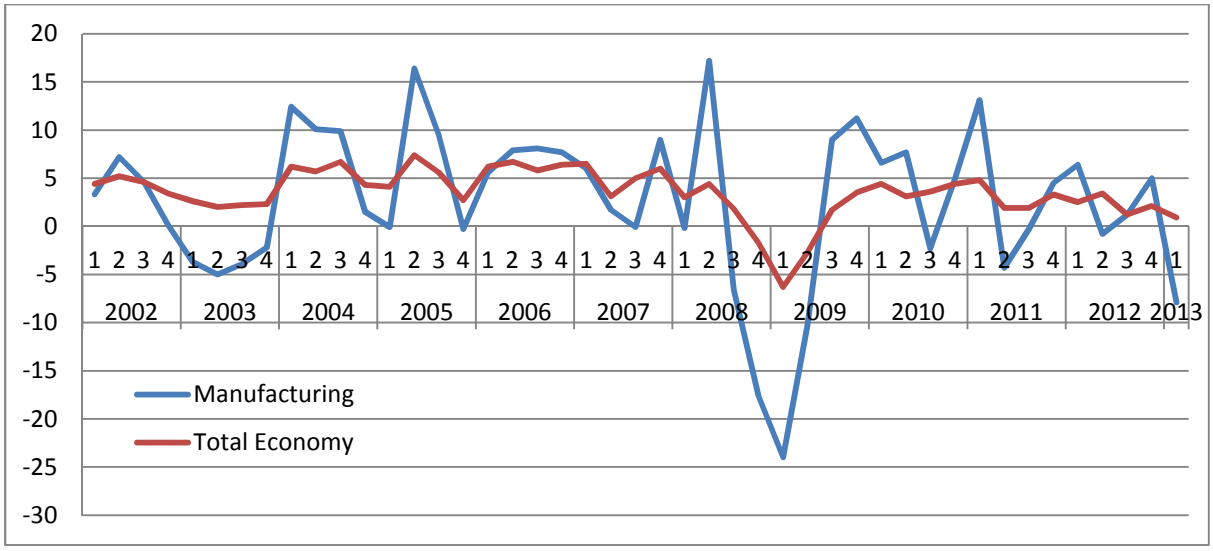


Figure 3-1 Changes in GDP at 2005 constant prices in manufacturing and total economy: 2002-2013 (first quarter)[91]

Source: Stats SA, 2013, P0441

Table 3-1 shows the manufacturing sector's contribution to national GDP between 2002 and 2012. The effect of the periods of reduced growth and/or economic contractions in the sector are clearly evident. Between 2002 and 2003, the sector's contribution to GDP dropped from 19.7% to 18.8%. The sector's lowest contribution was at the height of the recession in 2009 (17.2%). Since then the sector's contribution has been stable at the slightly higher level of 17.6%. Over the period under review, the sector's contribution to GDP has dropped by over two percentage points.[92]

Table 3-1 Manufacturing percentage contribution to GDP (excluding Agriculture): 2000 -2011

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
19.7	18.8	18.9	19.0	19.1	19.0	18.9	17.2	17.6	17.6	17.6

Source: Calculated from Stats SA, First Quarter 2013, P0441, Table 1

3.4 THE MERSETA SECTOR'S ECONOMIC PERFORMANCE

3.4.1 Economic performance of the merSETA sector cluster

This section presents the economic performance of the cluster of sectors from the National Accounts data that most closely matches the merSETA sector. These include: rubber products; plastic products; basic iron and steel; basic non-ferrous metals; machinery and equipment; motor vehicles, parts and accessories; and sales and repair of vehicles and fuel stations. Important to note is the fact that while fuel station operations moved from the merSETA to the W&RSETA on 1 April 2011, it is still not possible at this stage to separate the data for fuel stations from those for the sales

[91] Annualised percentage change in seasonally adjusted quarterly value added by industry and gross domestic product at constant 2005 prices.

[92] Stats SA (2013) P0441, First Quarter 2013, Table 1 using 'Manufacturing' and 'Total value added at basic prices excluding agriculture', http://www.statssa.gov.za/Publications/P0441/P04411stQuarter2013.pdf.

and repair of motor vehicles. Thus, at this stage fuel stations are still included in the discussion in this section.

Figure 3-2 shows the growth in real gross value added (GVA) of the seven sectors that make up the merSETA sectors cluster, as extracted from the National Accounts data. The sector with the largest output is sales and repair of vehicles and also fuel stations. This sector has also shown the most rapid growth over the period for which data are available for this sector – 1993 onwards. The motor vehicles, parts and accessories sector is the second largest merSETA sector and has grown substantially since 1994. The contractions of the sector over 2002/03 and 2008/09 are, however, distinctly evident. The impact of the most recent recession is most evident for the basic iron and steel subsector and the basic non-ferrous metals subsector – with substantial declines in GVA between the peaks in 2008 and the dip in 2009. Furthermore, while the basic iron and steel sector has shown some recovery (to roughly 2005 levels) since the worst of the recession, recovery in the basic non-ferrous metals sector has been very limited. The plastic products sector was least affected by the 2008/9 recession, however has seen a slight declining trend in GVA since 2007, before which the sector experienced slow but relatively sustained growth. The rubber products sector is the smallest in the merSETA sector's cluster and has been slowly contracting between 2002.

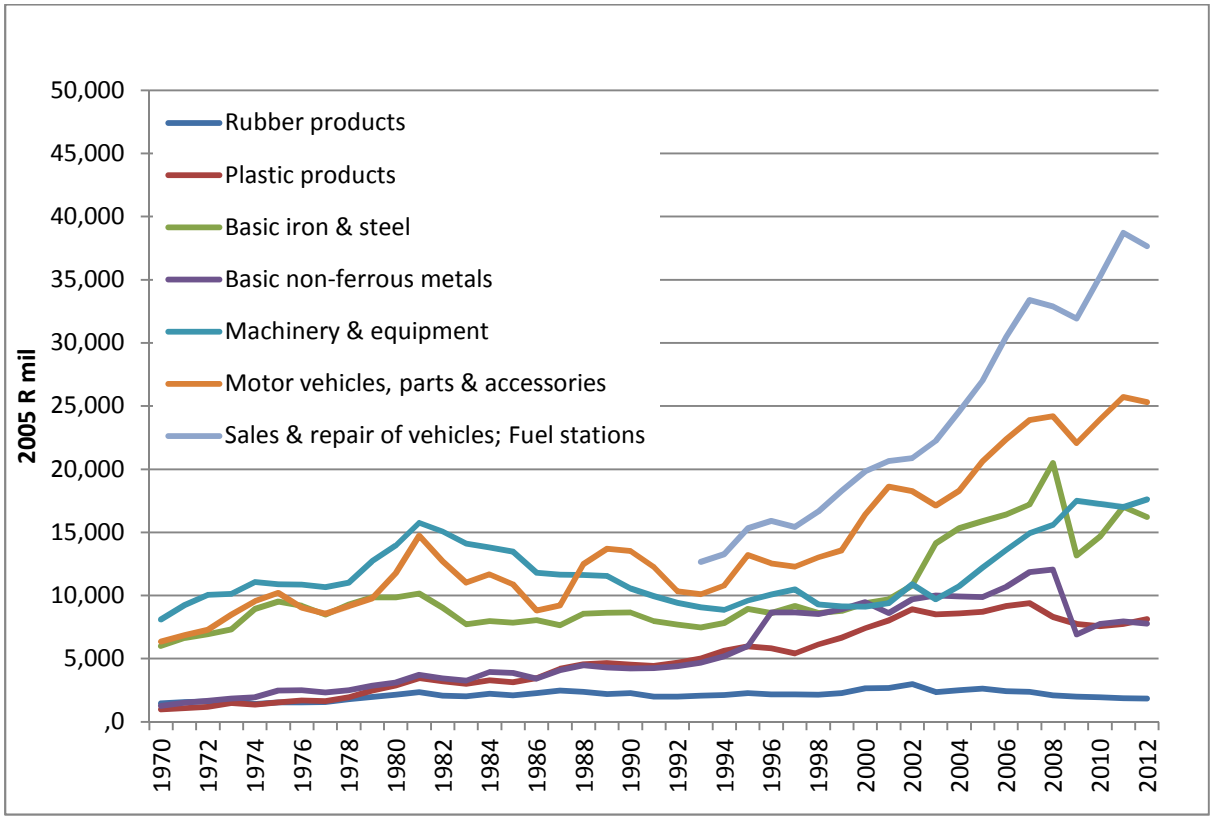
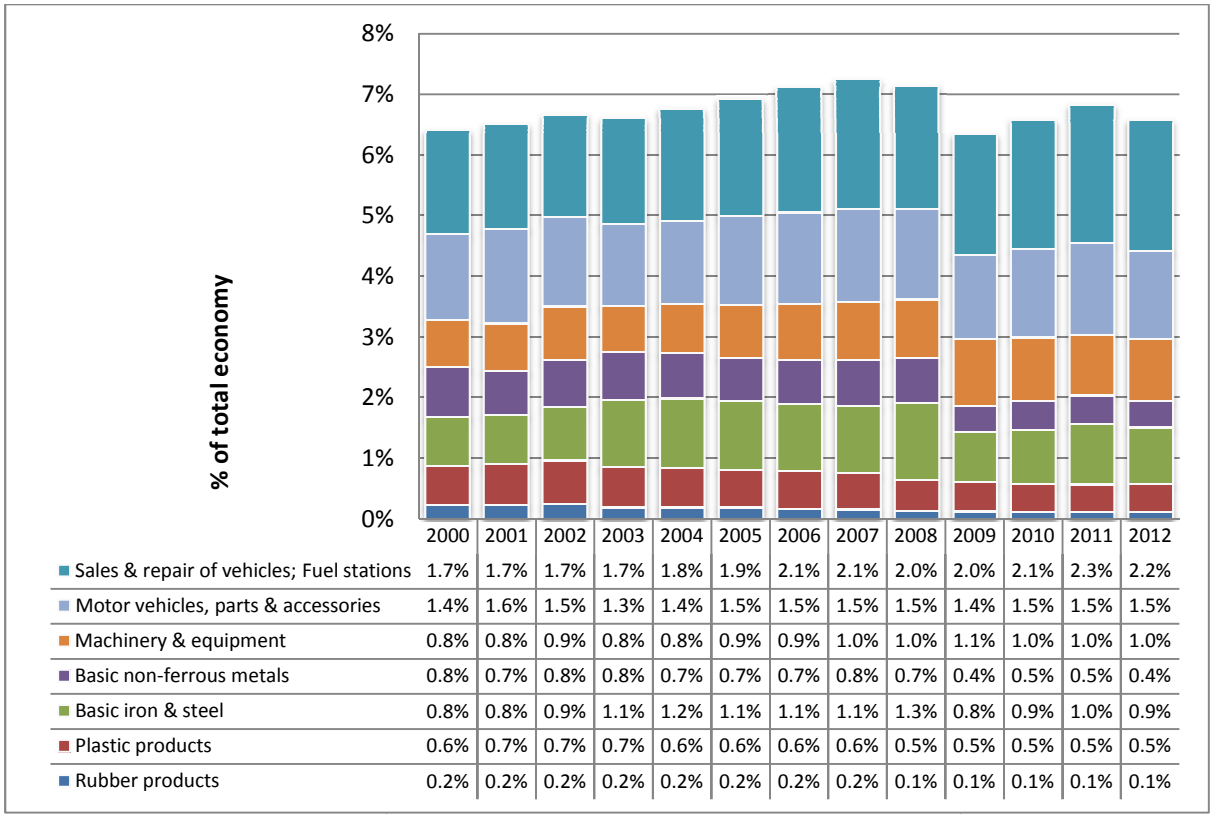


Figure 3-2 Real GVA of the merSETA sector's cluster: 1970-2012 (2005 constant prices)
Source: Quantec, 2013

Figure 3-3 shows the individual contributions and total contributions of the various merSETA sectors. The total contribution to GDP of the cluster was just above 7% between 2006 and 2008. However, this dropped to 6.3% for 2009. Slight recovery to 6.6% and 6.9% was evident for 2010 and 2011. The latest figure again shows a drop to 6.6%.

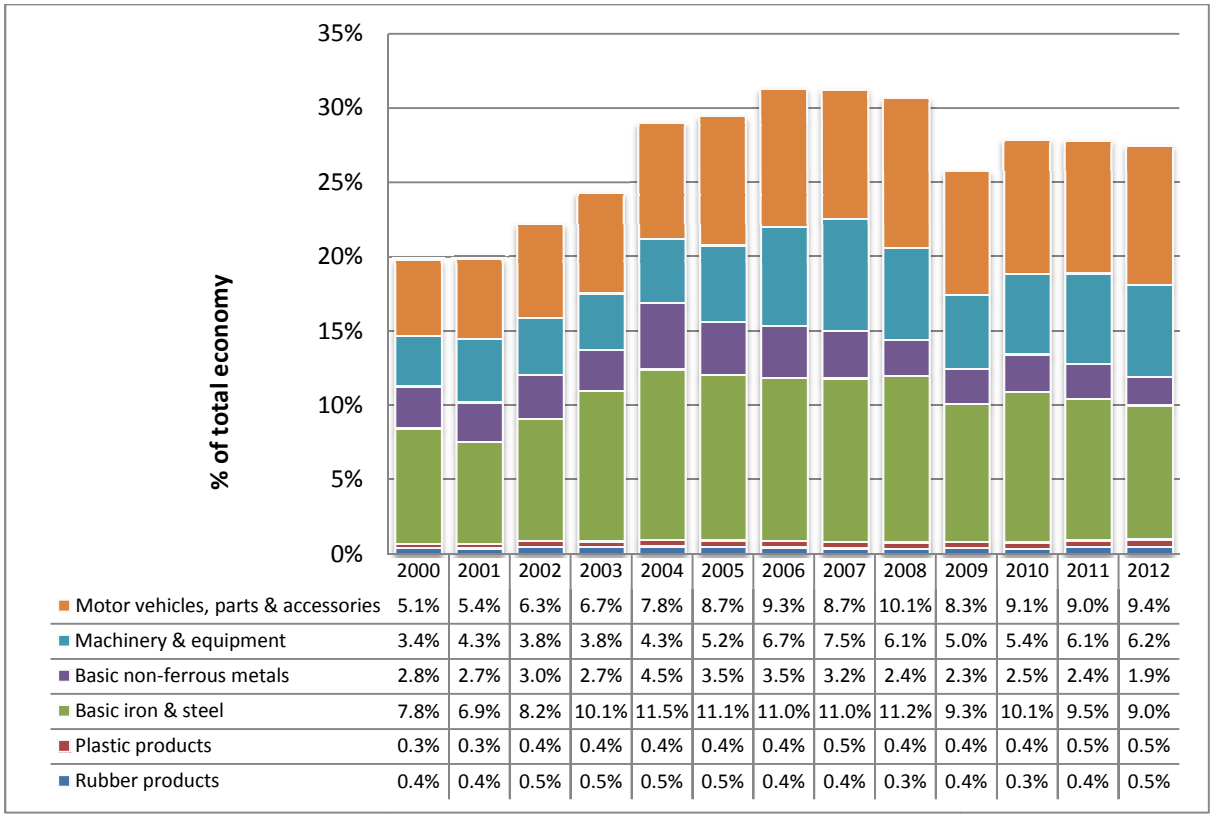


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Sales & repair of vehicles; Fuel stations	1.7%	1.7%	1.7%	1.7%	1.8%	1.9%	2.1%	2.1%	2.0%	2.0%	2.1%	2.3%	2.2%
Motor vehicles, parts & accessories	1.4%	1.6%	1.5%	1.3%	1.4%	1.5%	1.5%	1.5%	1.5%	1.4%	1.5%	1.5%	1.5%
Machinery & equipment	0.8%	0.8%	0.9%	0.8%	0.8%	0.9%	0.9%	1.0%	1.0%	1.1%	1.0%	1.0%	1.0%
Basic non-ferrous metals	0.8%	0.7%	0.8%	0.8%	0.7%	0.7%	0.7%	0.8%	0.7%	0.4%	0.5%	0.5%	0.4%
Basic iron & steel	0.8%	0.8%	0.9%	1.1%	1.2%	1.1%	1.1%	1.1%	1.3%	0.8%	0.9%	1.0%	0.9%
Plastic products	0.6%	0.7%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%
Rubber products	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%

Figure 3-3 Contribution of the merSETA sector's cluster to real GVA: 2000-2012 (2005 constant prices)

Source: Quantec, 2013

The significant contribution of the merSETA sector's cluster (excluding sales and repairs of motor vehicles; fuel stations) to national exports of goods and services is shown in Figure 3-4. The overall contribution of the sector grew steadily between 2002 (22.2%) and 2007 (31.2%). The impact of the recession is clearly evident, with total export contribution levels dropping back to around 25.7% in 2009. While this figure rebounded to 27.9% in 2010, by 2012 it had dropped again slightly to 27.4%.



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Motor vehicles, parts & accessories	5.1%	5.4%	6.3%	6.7%	7.8%	8.7%	9.3%	8.7%	10.1%	8.3%	9.1%	9.0%	9.4%
Machinery & equipment	3.4%	4.3%	3.8%	3.8%	4.3%	5.2%	6.7%	7.5%	6.1%	5.0%	5.4%	6.1%	6.2%
Basic non-ferrous metals	2.8%	2.7%	3.0%	2.7%	4.5%	3.5%	3.5%	3.2%	2.4%	2.3%	2.5%	2.4%	1.9%
Basic iron & steel	7.8%	6.9%	8.2%	10.1%	11.5%	11.1%	11.0%	11.0%	11.2%	9.3%	10.1%	9.5%	9.0%
Plastic products	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.4%	0.4%	0.4%	0.5%	0.5%
Rubber products	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.4%	0.4%	0.3%	0.4%	0.3%	0.4%	0.5%

Figure 3-4 Contribution to real exports of goods and services of the merSETA sector's cluster: 2002-2011 (2005 constant prices)

Source: Quantec, 2013

3.4.2 Economic performance of the automotive sector

In addition to the high-level National Accounts data, economic performance indicators are available from NAAMSA for the new vehicle production and sales subsectors.

Table 3-2 shows the capacity utilisation of SA vehicle manufacturers between 2006 and 2012. For the local manufacture of all vehicle types, capacity utilisation dropped to an all-time low in 2009. The 2010 and 2011 annual figures show substantial recovery, with figures for 2012 showing that utilisation of productive capacity is back over 80% for all categories except the heavy commercial vehicle segment, which slumped again to a low of 64%.[93]

Table 3-2 Percentage capacity utilisation at SA vehicle manufacturers: 2004-2011

	2006	2007	2008	2009	2010	2011	2012
Passenger Cars	80.1	67.7	68.3	59.4	77.1	81.6	86.5
Light Commercials	87.8	82.7	73.9	56.5	68.4	73.5	87.8
Medium Commercials	97.9	91.7	89.9	64.6	77.2	88.4	84.3
Heavy Commercials	95.1	95.3	87.6	66.1	77.5	89.9	64.0

Source: NAAMSA, 2013

[93] NAAMSA (2013) Quarterly Review of Business Conditions: Motor Vehicle Manufacturing Industry: 1st Quarter 2013.

New vehicle exports from SA were at a high point in 2008, with 195 670 passenger cars and 87 314 light commercial vehicles exported (See Table 3-3.) Figures for 2009 show the impact of the recession, although total export levels for the year were in line with figures for 2006 and 2007. While the figures for 2011 and 2012 have still not reached the high level of 2008, recovery has still been substantial. NAAMSA projections for 2012 were that vehicle export numbers would remain relatively flat due to the counteracting influences of growth in the African market and the contribution of the Ford global compact vehicle new programme and the BMW new 3-series export programme on the up side, and the continued recession and debt crisis in the Eurozone on the down side.[94] For 2013 the expectation is that while exports to Europe will remain under pressure, exports into Africa and various new export programmes will see a growth in automotive exports from South Africa.[95]

Table 3-3 SA's new vehicle exports: 2006-2012

	2006	2007	2008	2009	2010	2011	2012
Passenger Cars	119 171	106 460	195 670	128 602	181 654	187 529	153 196
Light Commercials	60 149	64 127	87 314	45 514	56, 50	84 125	123 623
Medium & Heavy Commercials	539	650	1 227	831	861	803	1 074
TOTAL	**179 859**	**171 237**	**284 211**	**174 947**	**239 465**	**272 457**	**277 893**

Source: NAAMSA, 2013

Total domestic vehicle sales for SA over the period 2006 to 2012 (Table 3-4) show a dramatic drop for all vehicle types, with 2009 being a low point. Sales of passenger cars in 2009 (258 129 units) was only 53.6% of the volume sold in 2006. Since 2009 year-on-year recovery is evident for all segments. Sales for 2012 however remain below 2007 levels.[96]

Table 3-4 Total SA domestic vehicle sales: 2006-2012

	2006	2007	2008	2009	2010	2011	2012
Passenger Cars	481 568	434 653	329 262	258 129	337 130	396 292	440 002
Light Commercials	199 677	204 386	169 466	118 159	133 756	149 301	156 183
Medium & Heavy Commercials	33 080	37 059	34 659	18 934	22 021	26 648	27 850
TOTAL	**714 325**	**676 098**	**533 387**	**395 222**	**492 907**	**572 241**	**624 035**

Source: NAAMSA, 2013

Overall the figures in the two preceding sections paint a picture of a group of sectors and subsectors that have faced considerable economic challenges over the past few years. For some of these subsectors recovery is starting to be consolidated, while for others recovery remains fragile. And while statistics on the manufacture and sale of new vehicles have traditionally acted as a barometer of the health of the merSETA sectors, representatives from the components and new tyre manufacturing subsectors say that positive new car sales trends have not yet translated into any positive growth upstream in the domestic automotive value chain.

[94] NAAMSA (2012) Quarterly Review of Business Conditions: Motor Vehicle Manufacturing Industry: 1st Quarter 2012.

[95] NAAMSA (2013) Quarterly Review of Business Conditions: Motor Vehicle Manufacturing Industry: 1st Quarter 2013.

[96] NAAMSA (2013) Quarterly Review of Business Conditions: Motor Vehicle Manufacturing Industry: 1st Quarter 2013.

The next section discusses in some detail the various factors that influence the economic performance of the merSETA sectors, and thus provide some explanation for these figures and trends.

3.5 FACTORS THAT INFLUENCE THE ECONOMIC PERFORMANCE OF THE SECTOR

A range of factors interact to influence the economic performance of the South African metal, automotive and plastics sectors. These include: economic cycles, commodity markets and commodity prices; the availability of credit; the exchange rate and currency volatility; increasing customer demands; global advances in technology; administered and logistics costs; raw material input costs and availability; labour productivity and skills availability; the local political and social context; fair and unfair competition; government expenditure and infrastructure development; and environmental considerations.

While these are discussed separately in the sections below, it is important to remember that in reality these issues are all inter-related and that the extremely negative consequence of the recent recession cannot be divorced from the range of other challenges that the manufacturing sector as a whole has faced since 2002.

Critically economic performance must be seen as the context for skills demand by, and skills development for, the SA automotive, metal and plastics industries, and therefore as the framework within which the merSETA operates.

3.5.1 Economic cycles, commodity markets and commodity prices

The demand for metal and manufactured products is highly sensitive to fluctuations in local and international economic and market conditions. The global and local[97] economic crisis of 2008/9 (and the negative impact that this had on world commodity markets and prices) had an overwhelmingly negative effect on the merSETA's sectors. Contraction in the manufacturing and mining sectors due to falling demand for metal and manufactured products from consumers, as well as from the building and construction sector, led the local economy into recession.[98]

Data from March 2009 show that all the merSETA's sectors were among the group of most distressed major sectors within SA manufacturing: the motor vehicle, parts and accessories and other transport equipment sector showed a decline of 35.3% in year-on-year production volumes and a decline of 49.2% since the most recent production-volume high. Spare capacity within the sector stood at a high 29.2%. The basic iron and steel, non-ferrous metal products, metal products and machinery sector recorded a year-on-year reduction in production volumes of 23.5%. Spare production capacity for iron and steel was a massive 47.5%, while for metal products spare capacity stood at a substantial 24.4%. A year-on-year production volume decrease of 15.4% and a spare production capacity figure of 17.5% for the sector petroleum, chemical products, rubber and plastic

[97] After two successive quarters of economic contraction in the last quarter of 2008 and the first quarter of 2009, SA entered its first recession in 18 years. South African Reserve Bank (2009).

[98] merSETA (2010) The impact of the 2008/9 global economic crisis on merSETA firms: A focus on employment and skills, EE Research Focus Pty (Ltd).

products suggest that the plastics manufacturing sector was somewhat less affected than the merSETA's other sectors.[99]

In late 2009 the merSETA commissioned research into the impact of the 2008/9 economic crisis on firms within the metal, automotive and plastics manufacturing sectors.[100] This report summarised the negative (although uneven) impact of the crisis as follows:

Overall firms that are smaller and/or locally owned and/or export oriented and/or with a narrow customer base or product range were particularly hard hit. From a sector perspective, the automotive industry suffered the most and within this, the components manufacturing subsector. While the metal sector was slightly less affected than the automotive sector was and the plastics manufacturing sector suffered the fewest negative impacts overall, metal and plastics manufacturing firms supplying the automotive and construction and building industries were disproportionately affected, as were metals producers focusing on the export market.

Owing to the ongoing nature of the negative consequences associated with the global recession, Box 3-1below summarises from the merSETA report the impact of the crisis on the three major merSETA sectors.

Box 3-1

Impact of the recent recession on the automotive industry

The automotive industry was the first to show signs of the impact of the crisis and was the most severely affected. The recession struck at a time when both motor manufacturing and retail were focusing on ramping up production and sales.

The motor retail industry, and particularly franchise dealerships, was severely affected by dropping domestic levels of new vehicle sales. Cost-consolidation efforts resulted in the closure of dealership branches, while many independent dealerships were also forced to close. Conversely, as consumers retained older vehicles and delayed scrapping, the sector experienced modest growth in auto parts sales and servicing. In the process the subsector suffered considerable losses of sales and administration staff, although it managed to retain the majority of its artisan skills. Through the recession about 300 dealerships closed and 9 000 jobs were lost in the motor retail subsector.

Local automotive assemblers massively downscaled production volumes as the demand for new vehicles dropped both locally and internationally. In general, however, the extent of the negative impact of the crisis on these companies reflected the way in which their international parents weathered the storm, with Asian- and European-owned OEMs faring somewhat better than US-owned firms. Between July 2008 and September 2009 just over 5 000 jobs were lost in the assembly subsector.

The components manufacturers were the most severely affected within the automotive sector. Supply to local OEMs dropped, as did export contracts to OEMs in Europe and the United States

[99] Meer S (2009) Does the South African automotive industry deserve a bailout? AIDC Automotive Industry Conference 2009, 7 October 2009, Port Elizabeth, http://www.aidc.co.za/index.php?ct=1&pid=2171, Accessed 13 November 2009.

[100] merSETA (2010) The impact of the 2008/9 global and local economic crisis on merSETA firms: A focus on employment and skills.

(US), both of which markets suffered massive production decreases. The long-term and fixed nature of supplier contracts meant that finding alternative markets or customers for products during the crisis was for the majority of these firms not a viable option. Many component firms, particularly at the second- and third-tier levels of supply, are also smaller, locally owned firms with limited access to resources. The result was widespread company closures within this subsector and the loss of roughly 18 000 jobs in total.

Within the new tyre subsector companies focused on the domestic replacement market and fared much better than those producers that supply local OEMs and export markets. Overall, this subsector reported the loss of 700 jobs between 2005 and 2009, with the economic recession accelerating the sector's employment contraction.

Impact of the recent recession on the metal sector

As an upstream supplier of a large portion of manufacturing and construction, the CETEMF sector was negatively impacted by declining demand both globally and locally. Domestic firms focusing on the automotive sector and those producing piping and wire rod for the construction and housing sector fared a lot worse overall than metal fabricators that were buffered from the full impact of the crisis by their government infrastructure supply contracts. Firms involved in the supply of capital equipment and transport equipment for the local mining and agricultural sectors also suffered considerably, as large capital expenditure projects were put on hold and potential customers struggled to access credit for financing purchases. Finally, metals exports were particularly badly affected, as export orders for large domestic producers dried up almost completely. Overall, the metal sector shed a substantial 75 000 jobs between February and December 2009.

Impact of the recent recession on the plastics sector

The impact of the crisis on the plastics sector was related to companies' major market focus and to local demand for these products, rather than to international demand. Plastics firms supplying automotive manufacturing and assembly, as well as those supplying the housing market, suffered considerable demand reductions. At the other end of the spectrum, companies in the food packaging subsector were only minimally affected, as local demand for food products remained relatively stable. This sector shed a proportionally small 2 000 jobs as a direct result of the recession.

Source: merSETA (2010)[101]

The International Monetary Fund (IMF) has indicated in its most recent World Economic Outlook report for April 2013 that while global prospects have improved again since the recession of 2008/9, the road to recovery in the advanced economies will remain bumpy. The IMF report also highlights the fact that policy uncertainty in Europe and the United States has had, and will continue to have, a negative spill over impact on global economic recovery. The reason for this appears to be the negative impact firstly of, reduced demand from these regions on general world trade and on production output in other regions, and secondly, reduced investment.[102]

[101] merSETA (2010) The impact of the 2008/9 global and local economic crisis on merSETA firms: A focus on employment and skills.

[102] IMF (2013) World Economic Outlook April 2012: Hopes, Realities, Risks, http://www.imf.org/external/pubs/ft/weo/2013/01/pdf/text.pdf, Accessed 11 June 2013.

Thus while policymakers in advanced economies successfully managed through 2012 to defuse two of the biggest threats to the global economic recovery (a breakup of the Euro area and a sharp fiscal contraction in the United States), the uncertainty about the fallout from events in Cyprus and politics in Italy, as well as the vulnerabilities in the European periphery, present a short term risk to global economic recovery. Medium term risks for the Euro zone relate to adjustment fatigue, insufficient institutional reform and prolonged stagnation, and for the United States and Japan they relate to high fiscal deficits and debt levels. Overall, the International Monetary Fund forecasts world output growth to reach 3.25% in 2013 and 4.00% in 2014.[103]

Recovery of the SA economy since the global and local recessions has been slow. In July 2010, Gill Marcus, Governor of the South African Reserve Bank referred to national growth as "fragile and hesitant".[104] Brad Gillis, CEO at BankservAfrica, said in May 2012 that growth was happening at a "pedestrian pace".[105] Current reports by the World Bank and the International Monetary Fund are calling the country's economic recovery 'timid' and 'muted'. SA growth estimates by the World Bank in July 2012 of 3.2% for 2013 and 3.5% for 2014, have now been revised downward to 2.5% for 2013 and 3.2% for 2014. Both internal and external factors are responsible for this. Domestically, labour unrest particularly in the mining sector has had a negative impact on national output and on overall business confidence, adversely affecting both investment and hiring decisions. Delays in the addition of large-scale new electricity generation are also likely to constrain catch up growth. Externally growth is expected to be constrained by continued weak demand from, and the risk of a credit freeze on, certain countries the Euro zone, as this remains South Africa's major export market. Furthermore there is the negative impact of the possibility of a disorderly unwinding of China's unusually high foreign investment rate.[106]

With regard to the local automotive sector specifically, NAAMSA's Quarterly Review of Business Conditions for the 1st Quarter of 2013 projects that while domestic sales of new vehicles through 2013 are likely to be higher than through 2012, the weak Rand and its impact on vehicle pricing (particularly of imported vehicles) will dampen sales growth. Domestic vehicle production is however likely to benefit from a growth in new vehicle exports, particularly to African countries.[107]

3.5.2 Global events

A recent trend in the global automotive industry is that multinational OEM parent companies are trying to reduce the distances between themselves and their suppliers, with many European OEMs failing to renew contracts with existing suppliers in favour of establishing contacts with suppliers based in Europe or on the European periphery. The reasons for this are twofold. Firstly, with high levels of pressure from European governments and labour unions to maintain employment levels at

[103] IMF (2013) World Economic Outlook April 2012: Hopes, Realities, Risks, http://www.imf.org/external/pubs/ft/weo/2013/01/pdf/text.pdf, Accessed 11 June 2013.

[104] Mail&Guardian Online (2010) SA's economic recover 'fragile' says Marcus, 7 July 2010, http://mg.co.za/article/2010-07-07-sas-economic-recovery-fragile-says-marcus, Accessed 12 September 2011.

[105] Times Live (2012) SA economy recovering – slowly, 14 May 2012, http://www.timeslive.co.za/local/2012/05/14/sa-economy-recovering---slowly, Accessed 12 July 2012.

[106] Business Day (2013) MF slashes South African 2014 growth forecasts, 16 April 2013, http://www.bdlive.co.za/economy/2013/04/16/imf-slashes-south-african-2014-growth-forecast, Accessed 11 June 2013.

[107] NAAMSA (2012) Quarterly Review of Business Conditions: Motor Vehicle Manufacturing Industry: 1st Quarter 2012.

European factories despite drops in demand as a result of the recession and current sovereign debt crisis, OEMs are being forced to take business from further afield and allocate it to more locally based assemblers and suppliers. Secondly, recent global environmental events, such as the Japanese tsunami in March 2011 and the extensive floods in Thailand in January and February 2012 have made assemblers more acutely aware of the risks involved in long automotive supply chains. This represents a threat for the SA automotive industry, as SA is geographically far from all the multinational OEM parent companies in Europe, the USA and the East and thus also equally far from all these major markets.[108, 109]

3.5.3 Availability of credit

The National Credit Act (NCA) of South Africa (Act No 34 of 2005) came into effect in June 2007. The Act considerably tightened the criteria for both companies and individuals to qualify for borrowing money. Since the Act came into effect, firms across the manufacturing sector have had increased difficulty in accessing credit.

The immediate impact of the Act on the automotive industry, which came at a time that the sector was gearing up for growth, was a dramatic reduction in new vehicle demand, as fewer people qualified for loans. This compounded the impact of the recent recession on the sector.[110] Subsequently, through increasing the repayment period from 48 to 72 months, the automotive sector has again managed to assist the majority of potential customers to access credit in order to buy cars. There is, however, some concern at industry level that while this has eased the problem in the short term, there will be negative consequences for the sector in the longer term, as large sums of money that could have been spent by consumers on products will now be paid to banks in the form of interest on loans.[111]

The NCA also dampened demand for new houses. As the building and construction sector is a major downstream consumer of fabricated metal and plastics products, demand in these sectors has been dampened as a direct result. Industry expressed concern in 2010 that until the criteria are revised – especially in relation to home financing – local demand for new houses will remain suppressed, with a negative impact on the upstream merSETA sectors despite a more general economic recovery.[112] Since then revisions that have been proposed that involve tightening the loopholes in the act that have encouraged banks to increase the levels of more profitable unsecured lending over asset-backed finance.[113] And while amendments are also in the pipeline to streamline the process of debt

[108] Roger Pitot (2012) NAACAM, telephonic interview, 3 July 2012.

[109] NAAMSA (2012) Quarterly Review of Business Conditions: Motor Vehicle Manufacturing Industry: 1st Quarter 2012.

[110] merSETA (2010) The impact of the 2008/9 global and local economic crisis on merSETA firms: A focus on employment and skills.

[111] Dr. Dana de Villiers, MISA, telephonic interview, 2 July 2012.

[112] merSETA (2010) The impact of the 2008/9 global and local economic crisis on merSETA firms: A focus on employment and skills.

[113] BizCommunity.com (2013) Changes in National Credit Act can affect property owners, 20 August 2012, http://www.bizcommunity.com/Article/196/368/80235.html, Accessed 13 June 2013.

review and counselling, it is unlikely to ease the availability of financing for new houses over the short- to medium-term future.[114]

3.5.4 The exchange rate and currency volatility

Volatility of the SA Rand against major global currencies makes planning for profitable local automotive and components production very difficult. This is because of the international nature of automotive supplier and customer networks, long planning cycles and the establishment of supplier relationships and contracts during the planning phase of each new vehicle model (often years prior to the launch). The annual cost-down agreements that are built into such contracts add to the difficulty. Rand weakness promotes the local manufacturing sector by increasing the cost of imported components and lowering the prices of SA products on the world market. Additionally, Rand weakness acts as a disincentive for the sale of imported goods.[115]

Currency volatility at the start of the current economic crisis and relatively sustained Rand strength between 2009 and September 2011 meant that the exchange rate hindered rather than assisted economic recovery within the merSETA's manufacturing sectors. Conversely, however, Rand strength served to contain the price increases to consumers of new cars over this period.[116]In May 2011 the Rand recorded a high value of R6.59 against the US dollar. Since them there has been a sustained weakening of the Rand with a value of R10.33 recorded on 11 June 2013.[117]

3.5.5 Increasing customer demands

Demands from increasingly discerning customers are a source of extreme pressure on the global automotive industry. Customer demands are increasingly centred on: fuel efficiency; vehicle design for the changing urban landscape; Mobility-as-a-Service (MaaS); and connected car technologies.[118] Furthermore, within an overall demand for reducing relative prices, customers are also demanding increasingly differentiated products and better quality and after-sales support service. These demands have resulted in moves within the global automotive industry to consolidate operations, reduce fixed costs, improve efficiencies and improve gross profit margins by so doing. As sister plants within one company are being forced to compete against each other for new models, the need among SA assemblers for globally competitive skills, labour productivity, technology, and components suppliers becomes increasingly critical.[119] Finally, the demand for diversity of automotive models and derivatives also has a negative impact on the economic efficiencies in the

[114] Business Day (2013) Changes to National Credit Act in pipeline, 4 February 2013, http://www.bdlive.co.za/business/retail/2013/02/04/changes-to-national-credit-act-in-pipeline, Accessed 13 June 2013.

[115] merSETA (2010) The impact of the 2008/9 global and local economic crisis on merSETA firms: A focus on employment and skills.

[116] Business Report (2011) Car price increases slow down as Rand strength continues, 12 April 2011, http://www.iol.co.za/business/business-news/car-price-increases-slow-down-as-rand-strength-continues-1.1055802 Accessed 13 September 2011.

[117] X-rates.com (2013) http://www.x-rates.com/graph/?from=USD&to=ZAR, Accessed 11 June 2013.

[118] KPMG (2013) A view on global trends and consumer demand, 1 May 2013, http://www.kpmg.com/global/en/issuesandinsights/articlespublications/global-automotive-executive-survey/pages/global-trends-consumer-demand.aspx, Accessed 14 June 2013.

[119] As mentioned earlier, the negative impact on productivity and profitability caused by the protracted labour strikes in the auto sector in 2013 has resulted in the SA BMW plant in Rosslyn being dropped from the list for consideration of the new model BMW contract.

retail motor industry, as each model requires its own spares and skills in servicing and product maintenance.[120]

3.5.6 Global advances in technology

Global competitiveness among SA manufacturers is hindered by their inability to keep up with global advances in technology such as computer-aided design (CAD), computer-aided modelling (CAM), and Computer Numerical Control (CNC). The failure to keep up with the last of these has impacted dramatically on the productivity and quality of sheet metal fabricators. Combined with policies that seek to promote the use of local content, this has resulted in local OEMs persuading international first-tier suppliers to set up Greenfields operations in SA. Industry has expressed concerns that while it is easy to import technology in this way, SA needs to have the skills base to maintain it if it is to be used productively and efficiently.[121] An example of the impact of changing technology on certain trades and their qualifications is in respect of welding where, in order to maintain its relevance, training has to take into account the latest welding equipment and processes including: hybrid laser/plasma arc welding; remote laser welding; solid state welding; stored energy resistance welding; and cold spray.[122]

Furthermore, the use of old technology among the predominantly domestic-market-focused plastics manufacturing sector and the constraint that this places on the sector's ability to innovate is one of the reasons why the sector is facing increased competition from imports and struggling to break into export markets.[123]

3.5.7 Administered, logistics and compliance costs

"Administered costs" refers to the prices that firms pay for non-raw material inputs and services over which they have no bargaining power. Included are items such as port tariffs, electricity, water and municipal rates. While poor service and price increases in all of these areas negatively impact the economic performance of the sector,[124] of most concern is the uncertain electricity supply that prevailed during the last period of rapid growth (2007/8) and the considerable increases in electricity prices since then.[125] Eskom's electricity price increases are considered to have contributed to firm closures and job losses in the automotive components subsector over the past few years. Many South African labour unions are of the opinion that if Eskom's 16% average annual tariff adjustment between 2013/14 and 2017/18 is implemented, additional job losses will result in the manufacturing sector.[126] Furthermore, as technology ages and new investments in capital

[120] merSETA (2010) The impact of the 2008/9 global and local economic crisis on merSETA firms: A focus on employment and skills.

[121] merSETA (2010) The impact of the 2008/9 global and local economic crisis on merSETA firms: A focus on employment and skills.

[122] merSETA (2013) Motor Research Project: Employment and Educational and Skills Audit of the merSETA Motor Chamber.

[123] Anton Hanekom, PlasticsSA, telephonic interview, 4 July 2012.

[124] The CSIR's 7th Annual State of Logisitics Survey for South Africa 2010 found that Durban habour was not only the most expensive of the 12 habours they used in the benchmarking exercise, but also the worst in respect of productivity.

[125] NAAMSA (2012), Quarterly Review of Business Conditions: Motor Vehicle Manufacturing Industry: 1st Quarter 2012, www.naamsa.co.za, Accessed 12 July 2012.

[126] COSATU (2013) Eskom's proposed price hikes to hit manufacturing and commercial sectors hard, 28 January 2013, http://www.cosatu.org.za/docs/cosatu2day/2013/pr0128a.html, Accessed 14 June 2013.

equipment are required from multinational owners, there are fears that decisions will be made to invest in plants in countries with a more stable and a less expensive power supply than SA's. Positively, the Transnet National Ports Authority has committed to changing its pricing model in favour of the export of manufactured goods by lowering tariffs on tradable exports by 40% from 1 April 2013.[127]

"Logistics costs" refers to those costs arising from the movement of input and output products between suppliers and customers. Unprecedented rises in the oil price through most of 2008 added substantially to firms' transport costs, while the lower volumes transported since then have to a large degree cancelled any benefits from the subsequent drop in the oil price.[128, 129] Now the high and rising fuel prices are not only adding substantially to firms' logistics costs, but uncertainty regarding the price of fuel into the future is revising the traditional wisdom regarding trade-off decisions that favour minimal inventories to optimised transportation.[130] Additionally, there is a cost to firms associated with having to use bad roads to transport freight. In this light, the recent road infrastructure upgrading project in the Gauteng has been necessary and welcome. On the downside, the process was expensive and the cost-recovery process (in the form of highly controversial and not yet implemented user tolls)[131] will undoubtedly impact on the cost of logistics for the large proportion of the merSETA sector based in this region. Furthermore, it is anticipated that toll-avoidance behaviour will result in freight vehicles being diverted to alternative roads, aggravating congestion and road damage on those routes.[132]

"Compliance costs" refers to costs associated with compliance with the different forms of legislation and regulations – for example, BBB-EE, skills development, basic conditions of employment, health and safety, waste management and other environmental legislation. Although these forms of legislation and regulations have certain positive implications for the economy and for society at large, they also have cost aspects that generally add to the administered and logistics costs cited above and increase the total cost of doing business in SA.

3.5.8 Raw material input costs and availability

An ongoing problem for SA manufacturing firms is the local pricing of raw material from monopolistic upstream suppliers.

For the CETEMF and automotive industries, competitive disadvantage results from the local pricing of steel, which is set by ArcelorMittal at the "world price". This is considered to be the average price of the "basket" of steel from producing countries plus the costs of importation. This pricing structure

[127] dti (2013) Industrial Policy Action Plan 2013/14-2015/16: Economic sector and employment cluster, 2013.

[128] Powels D (2009) The South African Automotive Industry: A reflection of the first year of the economic crisis, 7 October 2009, http://www.aidc.co.za/index.php?ct=1&pid=2171, Accessed 13 November 2009.

[129] Jennings S (2009) Panel discussions: Vision 2020 is it a fantasy or a reality, AIDC Automotive Industry Conference 2009, 7 October 2009, http://www.aidc.co.za/index.php?ct=1&pid=2171, Accessed 13 November 2009.

[130] CSIR (2012) 8th Annual State of Logistics Survey for South Africa 2011: Gearing up for change, http://www.csir.co.za/sol/docs/8th%20SoL%202011_23May2012.pdf, Accessed 14 June 2013.

[131] Mail&Guardian (2013) Gauteng e-tolls just around the corner, 26 May 2013,http://mg.co.za/article/2013-05-26-gauteng-e-tolls-just-around-the-corner, Accessed 14 June 2013.

[132] CSIR (2012) 8th Annual State of Logistics Survey for South Africa 2011: Gearing up for change, http://www.csir.co.za/sol/docs/8th%20SoL%202011_23May2012.pdf, Accessed 14 June 2013.

not only undermines local producers but it also acts as a disincentive to foreign investment. A dti survey found that 21,8% of manufacturers would raise employment by 10% for a sustained 10% fall in the steel price, while 45% indicated that they would lift employment by 10% should the steel prices be 20% lower.[133] In line with this, the SA government is demanding a more competitive 'developmental' steel price for the local industry.

The legal dispute between ArcelorMittal and Kumba Iron Ore regarding Kumba's suspension of the 2001 agreement (to supply ArcelorMittal SA with an annual 6.25m tons of iron ore at cost plus 3%) ended in March 2013 with the Supreme Court of Appeal confirming a North Gauteng High Court ruling of December 2011 that Kumba subsidiary Sishen Iron Ore Mining Company had applied for, and was granted, a 100% new-order mining right that allowed it to suspend its 2001 agreement with ArcelorMittal.[134] While arbitrations over iron-ore deliveries are set to start in the last quarter of 2013,[135] the dti is continuing and deepening its investigation into excessive pricing[136] and is now pursuing plans to establish a joint venture steel mill in South Africa that will include in its agreement 'strong conditions' to ensure government controls.[137, 138]

Similarly, in the plastics manufacturing sector, local polymers producers set prices according to import parity. In an effort to reduce the price of raw materials to the plastics sector, the dti has implemented a phased reduction of import duties on polymers, which should increase competition to favour local plastics manufacturers.[139] Furthermore, in May 2013 the Competition Commission went head to head against Sasol before the Competition Tribunal. Sasol is accused of "excessive pricing" of propylene and polypropylene and of engaging in practices with Safripol, South Africa's only polymer producer, that directly or indirectly, fix the price of polypropylene.[140, 141] The outcome of this process will hopefully also reduce the high costs of inputs for the local plastics manufacturing sector.

3.5.9 Labour productivity and skills availability

SA's low labour productivity – relative to competitor countries – is the result of a number of factors. The limited supply of artisans and experienced management, particularly those from previously

[133] Creamer T (2011) SA to insist that Kumba honours cost plus iron ore deal, Engineering News 6 April 2011, http://www.engineeringnews.co.za/article/sa-to-insist-that-kumba-honours-cost-plus-iron-ore-deal-2011-04-06.

[134] Mail&GuardianOnline (2011) ArcelorMittal to raise prices over Kumba dispute, 30 March 2010, http://mg.co.za/article/2010-03-30-arcelormittal-to-raise-prices-over-kumba-dispute, Accessed 13 September 2011.

[135] BizCommunity.com (2013) Kumba, ArcelorMittal choose arbitration, 5 April 2013, http://www.bizcommunity.com/Article/196/547/91623.html, Accessed 14 June 2013.

[136] dti (2013) Industrial Policy Action Plan 2013/14-2015/16: Economic sector and employment cluster, 2013.

[137] While lower steel prices would have a positive impact on the input costs for South African manufacturers, the international trend is seeing the replacement of longer-term steel pricing contracts with spot-price markets due to China's rapid economic growth, with the result that the steel industry is becoming increasingly volatile and competitive.

[138] BusinessDay (2013) Volatile times for South African steel industry, 13 March 2013, http://www.bdlive.co.za/business/industrials/2013/03/13/volatile-times-for-south-african-steel-industry, Accessed 14 June 2013.

[139] merSETA (2010) The impact of the 2008/9 global and local economic crisis on merSETA firms: A focus on employment and skills.

[140] Mail&Guardian (2012) Not made in South Africa, 20 April 2012, http://mg.co.za/article/2012-04-20-not-made-in-south-africa, Accessed 27 June 2013.

[141] Mail&Guardian (2013) Plastics pricing melt-down, 17 May 2013, http://mg.co.za/article/2013-05-17-00-plastics-pricing-meltdown, Accessed 27 June 2013.

disadvantaged backgrounds, drives up wages for this group.[142] At labour level, union wage agreements have tended to be at above-inflation levels.[143] Challenges within the public basic education and FET systems also impact the availability of skills for industry, directly through their impact on the generic skills levels within the workforce and through the generation of quality artisans,[144] as well as indirectly through the negative effect on the quality of higher education qualifications.[145]

Taken together, low levels of labour productivity not only drive capital-intensive growth within the sector, but are also considered one of the major factors undermining SA's ability to embrace new technology and innovation and thus compete internationally – particularly with manufacturing plants in the East. Skills shortages and skills gaps on the other hand limit companies' getting the full value from capital and technological investments and so constrain the economic growth of the sector.[146, 147]

3.5.10 The local political and social context

A number of political and social factors in SA serve to undermine certainty in production and, therefore, also the competitiveness of local firms: A World Bank Survey in 2007 indicated that about 7% of SA respondents claimed that an inadequately educated workforce was a major constraint to business, ranking it fifth *behind* crime, theft and disorder; electricity; access to finance; and corruption.[148] Labour disputes and long bargaining talks also have a destabilising effect on global confidence in the SA industry's ability to maintain a reliable production supply for both domestic and international markets.[149]

The local political and social context has been particularly relevant over the past eighteen months. The Marikana mining strike in August 2012 not only resulted in a devastating loss of life. It also undermined established collective-bargaining structures; led to the downgrading by various rating agencies of some of South Africa's state owned companies;[150] and its ongoing effect (in the form of 'wildcat' strikes in the mining sector that reduced mining output) resulted in an overall trade deficit

[142] Nzukuma, KCC, Bussin, M (2011) Job-hopping amongst African Black senior management in South Africa. SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur, 9(1), Art.#360, 12 pages. http://dx.doi.org/10.4102/sajhrm.v9i1.360.

[143] Spowart Resources (2011) Numsa targets above-inflation wage hike, http://www.salabournews.co.za/index.php/home/archives/210-numsa-targets-above-inflation-wage-hike-fin24.html, Accessed 9 March 2012.

[144] Sabinetlaw (2011) National Artisan Moderation Body Launched, 2 December 2010, http://www.sabinetlaw.co.za/education/articles/national-artisan-moderation-body-launched, Accessed 22 September 2011.

[145] SASIX (undated) Education, http://www.sasix.co.za/files/sectors/Education.pdf, Accessed 9 March 2012.

[146] merSETA (2010) The impact of the 2008/9 global and local economic crisis on merSETA firms: A focus on employment and skills.

[147] Anton Hanekom, PlasticsSA, telephonic interview, 4 July 2012; John Wilson, SATMC, telephonic interview, 29 June 2012.

[148] World Bank (2007) Enterprise Surveys, South Africa Country Profile 2007, http://enterprisesurveys.org/~/media/FPDKM/EnterpriseSurveys/Documents/Profiles/English/South-Africa-2007, Accessed 9 March 2012.

[149] merSETA (2009)Sector Skills Plan 2005-2010.

[150] Mail&Guardian (2013) The economic impact of marikana, 2 November 2013, http://mg.co.za/article/2012-11-02-the-economic-impact-of-marikana, Accessed 27 June 2013.

for South Africa of R190 billion over the 2012/13 financial year.[151] Similarly, the protracted wage negotiations and related strikes in the auto industry in 2013 have resulted in SA being dropped from consideration for a new BMW 3-series model.[152]

3.5.11 Fair and unfair competition

Together the factors outlined above contribute to the SA manufacturing sector being subjected to high levels of competition from imported products, both fair and unfair.

In the current global environment where economic growth has stagnated in many (particularly developed) countries, all producers are seeking new markets and, as a result, SA is experiencing a flood of imported products. Many of the imported products from the East are landed in SA at prices lower than local producers can even purchase the raw materials. The quality of many of these products does not meet the South African Bureau of Standards (SABS) standards (to which local producers must adhere), which is of major concern in respect of 'life and limb' automotive parts. Despite this, the price sensitivity of the majority of SA consumers means that these products are gaining local market share ahead of locally produced and quality-guaranteed products.[153]

Furthermore, industry representatives are of the opinion that, while many of SA's trade agreements with the BRICS countries (Brazil, Russia, India, China and South Africa) are politically advantageous, these agreements (which allow foreign products to be imported into the country duty free) will in the long term undermine SA's manufacturing production capacity. This is because many manufacturers in these countries not only have the benefit of economies of scale in order to generate profits off low margins, but are additionally highly subsidised by their governments.[154]

NAAMSA's Vehicle Crime Prevention Committee is working closely with Business Against Crime (BACSA) in order to combat illegal second-hand vehicle importation, particularly from Japan, as well as the illegal importation and dumping of new tyres and automotive components.[155, 156]A n outcome of this collaborative work has been the Second-Hand Goods Act that came into effect on 30 April 2012, and which will improve the identification and recovery of stolen items and the arrest of criminals related to these crimes.[157]

3.5.12 Government expenditure and infrastructure development

[151] Mail&Guardian (2013) Marikana effect holds back growth, http://www.citypress.co.za/politics/marikana-effect-holds-back-growth, Accessed 27 June 2013.

[152] Business Day (2013) BMW confirms new model lost to SA through strike, 11 October 2013, http://www.bdlive.co.za/business/2013/10/11/bmw-confirms-new-model-lost-to-sa-through-strike, Accessed 29 October 2013

[153] John Wilson, SATMC, telephonic interview, 29 June 2012; Abie Dunn, Nissan, telephonic interview, 28 June 2012; Roger Pitot, NAACAM, telephonic interview, 3 July 2012.

[154] John Wilson, SATMC, telephonic interview, 29 June 2012; Abie Dunn, Nissan, telephonic interview, 28 June 2012; Roger Pitot, NAACAM, telephonic interview, 3 July 2012.

[155] merSETA (2010)The impact of the 2008/9 global and local economic crisis on merSETA firms: A focus on employment and skills.

[156] Essential Publishing (2010) Supporting the manufacturers, 28 October 2010, http://essentialmag.co.za/index.php?pg=art&bk=187&sq=3585, Accessed 13 September 2011.

[157] Business Against Crime South Africa (2012) Second Hand Goods Act officially launched, 21 May 2012, http://www.bac.org.za/Art/Projects/MS_2nd%20Hand_Goods_Act_Official.pdf, Accessed 27 June 2013.

Government's infrastructure development programmes have a direct influence on the merSETA's sectors. On the one hand the entire sector is dependent on the infrastructure (specifically the transport infrastructure) for the distribution of its products and, therefore, stands to benefit substantially from the upgrading of the national road and rail network.[158]

On the other hand both the metal and the plastics industries are suppliers to the building and construction sector and firms that supply government infrastructure-development initiatives are to a large extent shielded from the full impact of the challenges facing the global economy. In February 2012 President Jacob Zuma announced government's intention to undertake a huge campaign of building national infrastructure with a total of 18 large-scale SIPs. This expenditure is part of government's drive to stimulate economic development (national industrialisation, skills development and job creation) through a network of policies and strategies.[159] (See Section 3.6 for more details.) In his 2013 Budget Speech, Minister of Finance Pravin Gordhan announced that Government will invest R827 billion over the next three years in building new and upgrading existing infrastructure.[160]

3.5.13 Environmental considerations and the green agenda

Finally, impacting on all three merSETA sectors is the cost associated with meeting increasing environmental pressures.

The nature of metal manufacturing, especially at the milling stage where purification of the raw material demands a number of high-temperature processes, subjects this subsector to stricter legislation; for example, the Waste Management Act (2008)[161] and the National Waste Management Strategy. Furthermore, the strategy places the responsibility for full life-cycle waste management on the private producer, which means that companies will increasingly have to consider the final disposal or recycling of manufactured goods.[162]

The SA government also introduced a CO2 Vehicle Emissions Tax effective from 1 September 2010. This was applicable to all new passenger vehicles sold and meant that buyers of new cars have had to pay R75 for each gram of carbon dioxide emitted per kilometre above the 120g/km mark, which increased vehicle prices by an average of between 2% and 3%. In April 2013 government increased this emissions tax to R90 for light passenger cars (above the 120g/km mark) and R125 for double cabs (which were not previously taxed) above 175g/km. While this means that small cars are generally being taxed between R200 and R600 extra and with larger vehicles generally between

[158] CSIR (2010) 7th Annual State of Logistics Survey for South Africa 2010, http://www.csir.co.za/sol/docs/7th_SoL_2010_March.pdf, Accessed 13 September 2011.

[159] Presidency (the) (2012) State of the Nation Address By His Excellency Jacob G Zuma, President of the Republic of South Africa on the occasion of the Joint Sitting of Parliament, Cape Town, 9 February 2012, http://www.info.gov.za/speech/DynamicAction?pageid=461&sid=24980&tid=55960, Accessed 10 March 2012.

[160] South African Government (2013) National Infrastructure Plan, http://www.info.gov.za/issues/national-infrastructure-plan/index.html, Accessed 13 June 2013.

[161] Republic of South Africa (2009) National Environment Management: Waste Act, No 59 of 2008, http://www.info.gov.za/view/DownloadFileAction?id=97351, Accessed 9 March 2012.

[162] DEA (2011) National Waste Management Strategy, November 2011, http://www.info.gov.za/view/DownloadFileAction?id=154171, Accessed 9 March 2012.

R800 and R1 500 more,[163] these taxes are calculated as part of the cost of production or importation and not added as a tax to the final product. This means they are largely 'invisible' to consumers and not considered as part of their purchasing decisions, to a large extent defeating the objective of incentivising the sale of more-fuel-efficient vehicles. From a global consumer perspective, however, the tax incentives (as opposed to tax penalties) that are applied in many other countries, and consumer demands for cleaner and more fuel-efficient vehicles, is driving the use of 'greener' technologies within the automotive industry.[164]

The Recycling and Economic Development Initiative of South Africa (Redisa) is set to start with the implementation of its Integrated Industry Waste Tyre Management Plan. The plan, overseen by Redisa, is an initiative of the DEA to create a formal and centralised recycling process. Part of the plan includes a R2.30 per kilogram plus VAT levy imposed on all tyre manufacturers to hold them to account for full product life-cycle management and is applicable on all tyres imported or manufactured from 1 October 2012.[165] While extremely positive from an environmental and employment creation perspective, the plan will nevertheless have financial implications for tyre manufacturers and importers.[166]

The past two years however, has seen a significant shift from viewing the green agenda in terms of only costs and compliance, to seeing it as a strategic cost management – and even profit – opportunity.[167]

The plastics sector in particular suffers from a poor image related to environmental concerns. Despite this, the sector is in fact making considerable advances in respect of recycling, with a positive impact on the sector, the economy and the environment: The results from the first annual South African Plastic Recycling Organisation (SAPRO) SA Plastics Recycling Survey in 2011 revealed a 32% increase in the tonnages of plastics recycled over the four years to the end of 2009, and highlights the positive impact of plastic recycling on the economy and job creation. The recycling industry supports about 400 companies (recyclers and collectors and transport companies) and roughly 34 500. Without recycling certain products would be at least 20% more expensive (e.g. carrier bags, refuse bags, furniture shrouds, irrigation piping, etc.). The environmental benefit is seen in the reduction of the need for landfill sites and reduced litter levels.[168]

Overall, the automotive, metal and plastics sectors all want to be seen to be part of the solution and not part of the problem:

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[163] IOL Motoring (2013) Green grab: SA CO2 tax to increase, 11 April 2013, http://www.iol.co.za/motoring/industry-news/green-grab-sa-co2-taxes-to-increase-1.1498937#.Ubltw-c3CE4, Accessed 13 June 2013.

[164] NAAMSA (2011) NAAMSA media release, 5 August 2010, Comment on the impending CO^2 vehicle tax regime effective 1st September 2010 and reaction to National Treasury press release regarding an extension to the scope of application of emissions taxation to include light commercial vehicles, www.naamsa.co.za, Accessed 16 September 2011.

[165] Redisa (2013) http://www.redisa.org.za/.Accessed 27 June 2013.

[166] The Retail Motor Industry Organisation (RMI) delayed the implementation of the plan through court appeals, arguing against the mandatory government initiative on the basis that its members had already spent more than a decade drawing up a different plan in consultation with various environment ministers. Business Day Live (2013) SANCO plans to establish tyre recycling plant in Tshwane, 28 May 2013, http://www.bdlive.co.za/national/2013/05/28/sanco-plans-to-establish-tyre-recycling-plant-in-tshwane, Accessed 27 June 2013.

[167] merSETA (2012) Motor Research Project: Employment and Educational and Skills audit of the merSETA Motor Chamber, First interim report: Impact study, 1 October 2012.

[168] Supermarket.co.za (2013) Survey reveals 32% increase in recycling and positive impact on economy, 4 July 2011, http://www.supermarket.co.za/news_articles.asp?ID=2975, Accessed 27 June 2013.

- merSETA's Plastics Chamber identified 'Sustainability, including managing the environmental impact' as the top of its list of key drivers for the future of the sector.[169]
- merSETA's Motor Chamber identified the 'Green Agenda' as of critical importance to the motor industry, since it is a major creator of waste.[170]
- The merSETA has prioritised skills for sustainable development as part of its Strategic Plan.

3.5.14 Sector responses to emerging trends

Recent research by merSETA's Motor Chamber[171] has identified a number of emerging trends that will, to a greater or lesser degree, impact on all the merSETA sectors over the medium to long-term. The impact of these emerging trends on merSETA's sectors will continue to be monitored and developed in future SSPs. The trends include:

Social media and 'e-commerce' and 'm-commerce:'

Brands are increasingly being taken from their home websites and into consumers' wider social environments through social media platforms such as Facebook, Twitter, blogs and customer communities. At the same time, there are changes in the way that people are able to purchase products and services – through the internet (e-commerce) and through web-enabled smart phones (m-commerce). These factors are linked to increased mobile connectivity across the population and need to be taken into account by companies if they are to remain relevant and competitive.

Diversified consumer financing:

As traditional banking changes and is replaced by increasing levels of internet and mobile phone banking, so more industries are becoming directly involved in providing financing to their customers. Motor financing is just one example.

Changing population dynamics:

There is evidence in South Africa that the middle class of the population is growing. This is the population segment that is considered to be the 'consumer class' and therefore a major economic driver. An increase in the number of people in this population segment will increase the demand for new cars and new homes.

General global trends also show a reduction in national birth rates and an aging of the global population. This is associated with: an increasing number of older, retired and less active people in the population; increased dependency ratios and a greater economic burden on the economically active portion of the population; and changes in the demand and supply of labour. While South Africa's population is still largely youthful, this trend nevertheless needs to be monitored in respect of its longer term impact on the demand for certain products and services, as well as on skills development planning.

[169] merSETA (2013) Plastics Chamber Research Project.

[170] merSETA (2013) Motor Research Project: Employment and Educational and Skills Audit of the merSETA Motor Chamber: Third and final report: Implementation strategy, 24 January 2013.

[171] merSETA (2013) Motor Research Project: Employment and Educational and Skills Audit of the merSETA Motor Chamber: Third and final report: Implementation strategy, 24 January 2013.

3.6 GOVERNMENT ECONOMIC DEVELOPMENT POLICIES AND STRATEGIES

A range of national social and economic development policies and strategies have a potentially large impact on the growth and competitiveness of the merSETA sectors. These are summarised below. The final section briefly considers industries' views on the effectiveness of the various policies and strategies.

3.6.1 National Development Plan (NDP)

The National Development Plan: Vision for 2030 has the vision of creating a more inclusive and equitable SA society in which the economy serves the needs of all citizens regardless of race, gender, wealth, skills level and geographical location. It offers a long-term perspective and defines the desired destination and the role that each sector of society must play in achieving it. While the NDP was only finalised in November 2011, it now stands as the overarching vision guiding the resource allocation to, and the implementation of, most other government social and economic policies.[172] In this way the NDP incorporates the New Growth Path economic policy and builds on the Industrial Policy Action Plan's employment-creation target by proposing the ambitious goal of 11 million jobs created by 2030. The NDP proposes that this job creation is to be done partly through the promotion of labour-absorbing industries and through mobilising all sectors in support of this national vision. In particular, the NDP highlights the fact that labour-intensive manufacturing is good for both economic growth and employment creation. Furthermore, economic growth must be supported by improving the national skills base through improving education and vocational training.[173]

3.6.2 New Growth Path (NGP)

The New Growth Path aims at enhancing economic growth, employment creation and equity over the short- to medium-term. Through a focus on growing a range of economic sectors, the policy intends to create 5 million jobs in the SA economy between 2010 and 2020. Priority sectors include: infrastructure development, agriculture, mining, the 'green' economy, manufacturing (in particular the sectors highlighted by the recent IPAP), and tourism and high-level services.[174]

3.6.3 Revised Industrial Policy Action Plan (IPAP)

IPAP 2010/11-2012/13 clusters its priority sectors into three groups: Cluster 1 includes qualitatively new areas of focus; Cluster 2 contains the existing IPAP sectors that will receive scaled-up and broadened interventions; while Cluster 3 focuses on sectors with potential for long-term advanced capabilities. IPAP 2013/14-2015/6 continues to support these same sectors, and provides feedback on the implementation of various research projects, policies and programmes in support of these sectors.[175] The merSETA sector is be impacted by: the new focus on the metal fabrication, capital

[172] SA News (2013) The National Development Plan unpacked, 9 February 2013, South African Government News Agency, http://www.sanews.gov.za/south-africa/national-development-plan-unpacked, Accessed 25 June 2013.

[173] Republic of South Africa (2011) National Development Plan: Vision for 2030, http://www.info.gov.za/view/DownloadFileAction?id=154423, Accessed 10 March 2012.

[174] EDD (2010) The new growth path: the framework, 23 November 2010, http://www.info.gov.za/speech/DynamicAction?pageid=461&sid=14787&tid=24857, Accessed 9 March 2012.

[175] dti (2013) Industrial Policy Action Plan 2013/14-2015/16: Economic sector and employment cluster, 2013.

equipment and transport equipment sector (Cluster 1); and the continued and increased support for the automotive, components, medium- and heavy commercial vehicles sector and the plastics, pharmaceuticals and chemicals sector (Cluster 2). In the medium- to long term the merSETA sector will benefit from the attention that is being placed on developing the advanced materials sector (Cluster 3). Overall IPAP aims to create 160 000 direct jobs in industry over a ten-year period.[176]

Programmes under IPAP that are aimed at the automotive manufacturing industry are summarised in Table 3-5. The merSETA has engaged with the dti to support the IPAP in terms of skills development. More information about this engagement is presented in Section 5.5 of this SSP.

Table 3-5 Programmes aimed at the automotive manufacturing industry under IPAP 2010/2011 – 2012 - 2013

Programme	Key objectives	Occupations/ skills demanded*
Automotive Production and Development Programme	Regulatory amendments and implementation of the tariff regime, production incentive and volume assembly allowance	n/a
Identification of opportunities to broaden and deepen automotive component manufacturing	An OEM-led strategy for further localisation of technologically advanced suppliers of identified products in five key subsectors such as electronics, body parts, interiors, exteriors, and chassis and drive train.	
Competitiveness Improvement of Automotive Component Manufacturers (CIACM)	Firm-level manufacturing competitiveness improvement through benchmarking, gap identification and assistance to close competitiveness gaps by engineers/advisors and post-intervention assessment.	
Enterprise Reference Architecture (ERA) portal for SME suppliers	Portal to help firms optimise existing technology investments through best practices.	
Mentorship of SME component manufacturers	Facilitation of learning for component manufacturers, especially 3rd- and 4th tier suppliers through the provision of mentors over a specified, short period of time according to pre-determined guidelines.	Management skills for SME owners
Medium and Heavy Commercial Vehicle (MHCV) Development Action Plan	Completion of a study to identify opportunities and interventions to resuscitate the MHCV sector.	n/a
Commercialise South Africa's electric car	Provision of appropriate support to encourage local manufacture of environmental vehicles (EVs) and related components, installation of infrastructure for such EVs, creation of testing facilities, provision of demand-stimulation mechanisms and public education on the use and benefits of alternative-	No specific skills/ occupations identified at present

[176] dti (2010) Industrial Policy Action Plan 2010/11-2012/13: Economic sector and employment cluster, February 2010.

Programme	Key objectives	Occupations/ skills demanded*
	energy-source vehicles.	
IDC initiatives: • Gas bus industry • Diesel bus & truck initiative	IDC piloting introduction of a gas-fuelled bus as a 'greening' initiative with a view to changing large parts of the bus fleets to gas rather than diesel IDC. making funding available for Euro 4 diesel buses and trucks.	New generation of technicians, artisans, safety officers diesel mechanics, other apprentices to be trained by OEMs

* Note: Overall these initiatives are anticipated to create 160 000 jobs in the sector.
Source: the dti (2010)

In essence, IPAP has become an umbrella for a number of other industry-focused development strategies, plans, programmes and initiatives, all of which support IPAP in reaching its goals. Discussed below are: the Competitive Supplier Development Programmes (CSDP); the Manufacturing Competitiveness Enhancement Programme (MCEP); the Automotive Production and Development Plan (APDP); the Metals Customised Sector Plan (CSP); the Minerals Beneficiation Strategy; the National Tooling Initiative (NTI); the National Foundry Technology Network (NFTN): and the Special Economic Zones (SEZs).

Competitive Supplier Development Programmes (CSDP)

The CSDP policy, launched in 2007, aims to leverage the procurement practices of state-owned enterprises (SOEs) to increase local content at the same time as improving the competitiveness of the local supplier base.[177] Transnet through its CSDP[178] committed in 2008 to localising its supply chain of currently imported manufactured products, while at the same time Eskom's CSDP[179] committed to increasing local spend by R13.5bn. The biggest commitment by Transnet under the CSDP has been the deal between Transnet and General Electric that sees 90 of the 100 diesel locomotives that have been purchased by SA being assembled locally. This is part of the SOEs' plan to more than double the level of local content in vehicles.[180]

The second phases of Eskom and Transnet's local procurement plans were launched in 2012.[181] Progress in implementation of this phase includes:[182]

[177] DPE (2007) Competitive Supplier Development Programme.

[178] Transnet (2008) Transnet Supplier Development Programme, http://www.dpe.gov.za/res/transnetCSDP1.pdf, Accessed 9 March 2012.

[179] Eskom (2008) Eskom Competitive Supplier Development Programme 2008-2013, http://www.eskom.co.za/content/Eskom_SDP_2008-2013.pdf, Accessed 10 March 2012.

[180] Engineering News (2011) Govt wants Transnet to more than double local content of new locos, http://www.engineeringnews.co.za/article/govt-wants-transnet-to-more-than-double-local-content-of-new-locos-2011-05-19, Accessed 10 March 2012.

[181] Creamer Media (2012) Eskom, Transnet to unveil industry-supporting procurement plans soon, http://www.engineeringnews.co.za/article/eskom-transnet-to-unveil-industry-supporting-procurement-plans-soon-2012-03-01, Accessed 10 March 2012.

[182] dti (2013) Industrial Policy Action Plan 2013/14-2015/16: Economic sector and employment cluster, 2013.

- In December 2012 the Public Rail Agency of South Africa (PRASA) awarded a 10-year contract to build 3 600 coaches to Gibela Rail Consortium, which has committed to achieve 69% local content over the duration of the contract.
- Transnet Freight Rail issued a request for a proposal for the procurement of 1 064 locomotives (599 dual-voltage electric and 465 diesel) as part of its R300 billion, seven-year capital investment programme. The local content requirement is 55% for the diesel locomotives and 60% for the electric locomotives.
- Eskom issued a tender for amorphous transformers. The contract (with 80% local content requirement) was awarded to local manufacturers.

Manufacturing Competitiveness Enhancement Programme (MCEP)

The MCEP was launched in May 2012 with a budget allocation of R5.8 billion over the three-year period of the current medium term expenditure framework. The programme provides enhanced manufacturing support aimed at encouraging manufacturers to upgrade their production facilities in a manner that sustains employment and maximises value-addition in the short to medium term. To date, merSETA's metal and plastics sectors have been beneficiaries of MCEP grants, with the direct result being the retention of a number of jobs in these sectors.[183]

Automotive Production and Development Programme (APDP)

The APDP, which is essentially the CSP for the automotive industry, formally replaced the Motor Industry Development Programme (MIDP) in 2013. This programme, which is in line with World Trade Organisation (WTO) regulations, aims to increase local production to 1.2 million vehicles by 2020, and to provide assistance to component manufacturers so that they can provide cost-competitive components to the OEMs and international markets via exports.[184] The APDP includes a local assembly allowance as well as an Automotive Investment Scheme (AIS) that provides a taxable cash grant of 20% for qualifying investments in productive assets. The latter component was brought forward and implementation began in 2009.[185]

The finalisation of the Investment Guidelines and Investment Projects, and efforts by manufacturers to gear up for the impending full implementation of the APDP, resulted in NAAMSA reporting that investment in capital expenditure in the new vehicle production subsector increased substantially through 2010.[186] Industry capital expenditure currently remains close to record levels and is projected to exceed R5 billion in 2013. In turn industry production is expected to rise significantly – particularly light commercial vehicles – over the next few years. [187]

[183] dti (2013) Industrial Policy Action Plan 2013/14-2015/16: Economic sector and employment cluster, 2013.

[184] dti (2013) Industrial Policy Action Plan 2013/14-2015/16: Economic sector and employment cluster, 2013.

[185] dti (2011) Automotive Production and Development Programme, presentation at the Automotive Industry Conference 2011, 7 September 2011, http://www.aidc.co.za/files/Day2/Session1/01_AutoIndustryConferencePresentation_dti.pdf, Accessed 10 March 2012.

[186] NAAMSA (2011) New vehicle manufacturing industry: Capital expenditure 2000-2011, www.naamsa.co.za, Accessed 16 September 2011.

[187] NAAMSA (2013), Quarterly Review of Business Conditions: Motor Vehicle Manufacturing Industry: 1st Quarter 2013, www.naamsa.co.za, Accessed 26 July 2013.

Metals Customised Sector Plan (CSP)

The CSP for the priority sector metals was published by the dti in 2005. The strategic vision of the plan is that "by 2014, SA will have a globally competitive metals sector, optimally utilising the comparative advantages of abundant mineral resources, skilled labour force and world-class technologies to produce and market high value-added products in the prioritised industries." Programmes in the plan include the promotion of local metals beneficiation, maximising local content through backward linkages, and upgrading production capabilities in downstream industries.[188]

Minerals Beneficiation Strategy

The Minerals Beneficiation Strategy seeks to increase employment opportunities in the SA economy through promoting downstream (more labour-intensive) sectors, as well as improving the linkages between sectors, in the metals value chain. Five sectors are proposed as key focus areas: energy commodities; iron and steel; pigment and titanium metal production; catalytic converters and diesel particulate filters; and jewellery fabrication. In addition to this, the strategy seeks to reduce the cost of raw materials to local industry. [189]

Implementation of beneficiation policies have thus far been relatively unsuccessful, with the result that minerals beneficiation still remains an untapped opportunity. As part of IPAP 2013/14 – 2015/16, government has committed to undertaking comprehensive research that will support the development of a strategy and action plan to advance backward and forward beneficiation in a selected group of key minerals value chains:

- Ferrous (iron ore, ferro-alloys, steel and specialty steels);
- The Platinum Group Metals (PGMs);
- Titanium and pigments;
- Polymers (from coal, gas and oil); and
- Mining inputs.[190]

National Tooling Initiative (NTI)

The NTI aims to rehabilitate the SA Tool, Die and Mould Making industry and through this contribute to growth in manufacturing and technical skills development. The initiative focuses on five driving programmes: skills and expertise development; capacity expansion, Small, Medium and Micro Enterprises (SMMEs) and B-BBEE structuring; technology recapitalisation; competitiveness improvement and export development; and public-private partnerships (PPPs) as a governance structure.[191] R200 million has recently been allocated from the National Skills Fund (NSF) to the NTI in order to train 970 new apprentices.[192]

[188] dti (2006) Metals Sector Development Strategy: Trade and Investment South Africa – Customised Sector Programme – Metals.

[189] DMR (2011) A beneficiations strategy for the minerals sector of South Africa, June 2011.

[190] dti (2013) Industrial Policy Action Plan 2013/14-2015/16: Economic sector and employment cluster, 2013.

[191] South African National Tooling Initiative (2012) http://www.ntipweb.co.za, Accessed 10 March 2012.

[192] dti (2013) Industrial Policy Action Plan 2013/14-2015/16: Economic sector and employment cluster, 2013.

National Foundry Technology Network (NFTN)

The NFTN was established by the dti as a key foundry industry support initiative. The goal of the network is to facilitate the development the SA foundry industry. Global competitiveness is to be achieved through appropriate skills training and technology transfer and diffusion. In addition to this, one of the key objectives of the NFTN is to "promote and develop the SMEs in the foundry industry to ensure their economic sustainability and to ensure technology empowerment of previously disadvantaged individuals (PDIs)".[193]

Special Economic Zones (SEZs)

The Special Economic Zones Bill, which was gazetted on 1 March 2013 and introduced in Parliament on 5 March 2013,[194] is intended to replace the dti's IDZ programme initiated in 2000. The SEZ programme, which will not be limited to the development of port areas, seeks to promote trade, economic growth and industrialisation in targeted areas across SA that will take account of the economic development needs and challenges of specific regions in order to improve current spatial development inequalities.[195] The national budget for 2013/14 states that money has been allocated for the building of world class industrial parks, and that tax incentives to enhance this initiative are currently under way.[196]

The study undertaken to develop a SEZ in the Saldanah Bay area highlights the importance of local skills development initiatives that target the training of maintenance personnel in chemical, mechanical, electrical and control engineering.[197] The merSETA has recognised the need to co-ordinate with the dti around skills development initiatives in support of SEZs.

3.6.4 Industrial Development Corporation (IDC) Jobs Scheme

In February 2011 the IDC launched a R10 billion scheme aimed at creating or retaining jobs in its priority sectors, which include manufacturing and infrastructure development. Competitive funding over a five-year period will be available to companies, with a major focus on entrepreneurs. The scheme aims to create an additional 40 000 to 50 000 employment opportunities in support of IPAP's employment-creation goals.[198] In April 2013, the IDC earmarked R1 billion of the remaining R6.5 billion for the support of businesses owned by youth (i.e. below the age of 35).[199]

3.6.5 Local Procurement Accord

[193] National Foundry Technology Network (2012) http://www.nftn.co.za, Accessed 10 March 2012.

[194] Dti (2013) Memorandum on SEZ Bill 2013 following public consultations, http://www.dti.gov.za/parliament/Memo-SEZ.pdf, Accessed 25 June 2013.

[195] dti (2012) Policy on the Development of Special Economic Zones in South Africa: For public comment only.

[196] Republic of South Africa (2013) 2013 Budget Speech by the Minister of Finance Pravin Gordhan, 27 February 2013, http://www.info.gov.za/speech/DynamicAction?pageid=461&sid=34533&tid=99785, Accessed 28 June 2013.

[197] dti (undated) Saldanah Bay IDZ Feasability Study.

[198] Engineering News (2011) IDC unveils details of R10bn jobs scheme **,** http://www.engineeringnews.co.za/article/idc-unveils-details-of-r10bn-jobs-scheme-2011-02-22, Accessed 10 March 2012.

[199] IDC (2013) IDC announces Gro-E Youth Scheme, 18 April 2013, http://idc.co.za/media-room/press-release/media-releases-2013/363-idc-announces-gro-e-youth-scheme, Accessed 26 June 2013.

A Local Procurement Accord was signed by government, business, organised labour and community representatives on 31 October 2011. An aspirational target of 75% local content was set, along with intermediate steps to achieve this goal. Under the accord, local production and not only Black Economic Empowerment (BEE) status will be given consideration in government procurement procedures.[200]

3.6.6 Consumer Protection Act

Section 61 of the Consumer Protection Act has major implications for the motor industry. It requires that a producer, importer, distributor or retailer of goods supplied after 24 April 2010 is liable to a consumer on a no fault basis for harm, including death, injury, physical damage or associated economic loss, which was caused by unsafe or defective goods. This means that retailers could be held responsible for errors made by the producer, importer or distributor, and that motor retail companies may need to do their own quality control.[201]

3.6.7 Special Infrastructure Projects (SIPs)

The State of the Nation Address, delivered by President Jacob Zuma on 14 February 2013, again highlighted government's commitment to reducing national unemployment levels and supporting longer-term economic growth and development though its massive infrastructure development drive. Overseen and driven by the Presidential Infrastructure Coordination Commission (PICC), the 18 SIPs focus on the development and integration of rail, road and water infrastructure.[202]

In 2012 the allocation for government infrastructure projects over the period of the MTEF was R845 billion.[203] Finance Minister Pravin Gordhan in his budget speech for 2013/14 stated that due to continued global economic uncertainties and a poorer than expected national growth rate last year, government has had to take measures to control growth in spending: Spending plans have been reduced by R10.4 billion through reprioritisation, savings and a draw-down on the contingency reserve. Despite this, the government's continued commitment to infrastructure development is underpinned in the allocation of R827 billion to be spent over the next three years on building infrastructure. The financing for these projects is said to be in place, and is not affected by the spending cuts in the recent national budget.[204]

3.6.8 Industry views on government support strategies

[200] EDD (2011) Media Statement on Local Procurement Accord, 31 October 2011, http://www.info.gov.za/speech/DynamicAction?pageid=461&sid=22829&tid=47666, Accessed 10 March 2011.

[201] merSETA (2013) Motor Research Project: Employment and Educational and Skills Audit of the merSETA Motor Chamber: Third and final report: Implementation strategy, 24 January 2013.

[202] Republic of South Africa (2013) State of the Nation Address by His Excellency Jacob G Zuma, President of the Republic of South Africa on the occasion of the Joint Sitting of Parliament Cape Town,14 February 2013, http://www.info.gov.za/speech/DynamicAction?pageid=461&sid=34250&tid=98676,, Accessed 28 June 2013.

[203] The national budget 2012/13 allocated the spending as: R300 billion for the energy sector and R262 billion for transport and logistics. Also included were the amounts of R800 million for the improvement of university infrastructure and the preparatory work towards building two new universities in Mpumalanga and the Northern Cape, R450 million for upgrading 30 nursing colleges, R426 million for the initial work on rebuilding five major tertiary hospitals, and R300 million for building two new high courts. In addition R1 billion was been allocated to the Passenger Rail Agency of South Africa for building three new depots, and a further R4 billion for purchasing new coaches.[203]

[204] Republic of South Africa (2013) 2013 Budget Speech by the Minister of Finance Pravin Gordhan, 27 February 2013, http://www.info.gov.za/speech/DynamicAction?pageid=461&sid=34533&tid=99785, Accessed 28 June 2013.

While government argues that its basket of strategies is intended to address the underlying structural problems in the South African economy, engagement with industry as part of the 2012 SSP update process revealed widespread concerns that the current and projected global and local economic situations are not compatible with government's targets for growth and job creation in the sector.

It is anticipated that the APDP, which started officially in 2013, will bring both winners and losers. It is hoped that many components manufacturers will be among the winning group; however, losers will include export-oriented companies (which heavily incentivised under the MIPD), including the catalytic convertor subsector.[205] In 2010 the catalytic convertor subsector indicated that it had lost new business in excess of R10 billion over the preceding 12 to 18 months as a result of the long period of uncertainty regarding industry support prior to the announcement of the APDP and the subsequent withdrawal of incentives for the subsector under the new plan. Furthermore, the Catalytic Convertor Interest Group warned at that time that the impact of these contract losses would start to be seen in the figures from around 2011 to 2012.[206] Industry interviews revealed that there is already anecdotal evidence of major job losses at catalytic convertor manufacturers and that the subsector is currently struggling. On the other side of the coin, industry has adopted a 'let's wait and see' approach to the intended positive impact of the APDP on the rest of the components and plastics manufacturers that supply the auto sector, while at the same time has indicated that its future viability rests on the realisation of the anticipated positive benefits of the programme.[207]

Government's new infrastructure projects are hailed by industry as very positive for national development. All of the merSETA's sectors are anticipating the value of the indirect benefits; i.e. those benefits resulting from having access to improved road, rail and port infrastructure and services. Not all sectors, however, anticipate getting direct benefit from the implementation of the projects themselves; only the metal sector and certain of the plastics manufacturing subsectors are likely to become direct suppliers to the projects. Furthermore, industry argues that projects of this magnitude take considerable lengths of time to implement and government does not have a very good track record for easy and speedy procurement processes for infrastructure projects. Thus, even the direct benefits to the merSETA sector are only likely to become evident within a couple of years' time.[208]

The Local Procurement Accord is seen as a very positive development, particularly for the plastics sector, which is a supplier to a wide range of other manufacturing sectors in the country. PlasticsSA is working with the IDC to identify the types and levels of new plastics products that will be needed in SA in the short- to medium-term future and to ensure that the sector has the capacity to manufacture. Additionally, the sector has undertaken recent workshops with the dti in four provinces on the Local Procurement Accord with the aim of developing a list of products that can

[205] Roger Pitot (2012) NAACAM, telephonic interview, 3 July 2012.

[206] Engineering News (2012) Catalytic convertor industry and DTI at incentives impasse, 5 August 2010, http://www.engineeringnews.co.za/print-version/catalytic-converter-industry-and-dti-at-incentives-impasse-2010-08-05, Accessed 13 July 2012.

[207] Henk Langenhoven, Seifsa, telephonic interview, 27 June 2012; Anton Hanekom, PlasticsSA, telephonic interview, 4 July 2012; Roger Pitot, NAACAM, telephonic interview, 3 July 2012; John Wilson, SATMC, telephonic interview, 29 June 2012.

[208] Henk Langenhoven, Seifsa, telephonic interview, 27 June 2012; Anton Hanekom, PlasticsSA, telephonic interview, 4 July 2012; Roger Pitot, NAACAM, telephonic interview, 3 July 2012; John Wilson, SATMC, telephonic interview, 29 June 2012; Abie Dunn, Nissan, telephonic interview, 28 June 2012.

become 'designated' products for local content.[209] The process of getting products designated is, however, long and onerous and, unless tackled at an industry level, is likely to put a lot of local manufacturers off doing so, despite the potential benefits once designation is completed. For those that do manage to get their products designated, however, the benefits of the programme are also only likely to show in the medium-term future.[210]

The SEZ policy is still very new and industry has not fully grappled with it yet. Initial feelings across the board are, however, that while start-up companies may find some benefit in locating themselves within the SEZs, the incentives being offered are too low to get existing companies to relocate.[211]

The Metals Beneficiation Strategy is broad and there have been a number of implementation challenges, particularly in relation to raw-material steel pricing. While the strategy has the potential to grow the metal sector substantially, this cannot be done without other support such as a strong local tooling sector. With regard to the latter, the feelings are that there has not been enough commitment from government to grow tooling, with the overall result that the Metals Beneficiation Strategy has not had any real impact on the metals sector as yet.[212]

Finally, it must be noted that merSETA sectors have not yet recovered fully since the economic recession of 2008/9 and are now all facing increasing competition from imported products, particularly from the East. These imports are to a large extent the result of government trade agreements with the BRICS countries. Industry recognises that while these agreements may be politically expedient, government is systematically ignoring warnings that local manufacturing is under serious threat. These Eastern producers, who benefit from economies of scale and high levels of government subsidisation, are now making full use of their increased access to the SA market in order to counter some of the losses in demand from traditional markets that are currently under pressure (such as Europe). Local producers are unable to compete in respect of price and are losing market share. Industry argues that the negative impact of government's refusal to provide the manufacturing sectors with any direct protection against imports will be greater than any of the potential positive benefits arising from either the specific or the general industry support strategies.[213]

3.7 CONCLUSIONS

This chapter has reflected on the economic performance of the metal, automotive and plastics manufacturing industries in SA, the context for both skills demand by the sector, and skills development within the sector. Despite another year having passed, the ongoing consequence of the economic recession of 2008/9 on the sector continues to be evident. The IMF forecasts that while prospects have improved again since the global recession, the road to recovery will remain

[209] Anton Hanekom, PlasticsSA, telephonic interview, 4 July 2012.

[210] Henk Langenhoven, Seifsa, telephonic interview, 27 June 2012.

[211] Henk Langenhoven, Seifsa, telephonic interview, 27 June 2012; Anton Hanekom, PlasticsSA, telephonic interview, 4 July 2012; Roger Pitot, NAACAM, telephonic interview, 3 July 2012; John Wilson, SATMC, telephonic interview, 29 June 2012.

[212] Henk Langenhoven, Seifsa, telephonic interview, 27 June 2012; Hosea Morapedi, merSETA, interview, 5 July 2012.

[213] Henk Langenhoven, Seifsa, telephonic interview, 27 June 2012; Anton Hanekom, PlasticsSA, telephonic interview, 4 July 2012; Roger Pitot, NAACAM, telephonic interview, 3 July 2012; John Wilson, SATMC, telephonic interview, 29 June 2012; Abie Dunn, Nissan, telephonic interview, 28 June 2012.

bumpy, and that policy uncertainty in Europe and the United States will continue to have a negative spill-over impact on global economic recovery. This is particularly so for SA in light of the fact that these regions represent our main export markets.

Industry, however, also concedes that the reductions in global and local demand for manufactured products and commodities that have characterised the past few years have merely exposed and exacerbated the underlying structural problems in the SA economy and those factors that have had generally negative consequences for the sector since 2002. These include: the reduced availability of consumer credit; the exchange rate and currency volatility; increasing customer demands for higher quality and variety at lower prices; global advances in technology and the investments in human and fixed capital that this requires; high administered and logistics costs for relatively low levels of service; high raw-material input costs and variable availability; comparatively low labour productivity and skills availability; the uncertain and sometimes volatile local political and social context; high levels of both fair and unfair competition; government expenditure and infrastructure development plans; and increasing considerations for the environment and the wider green agenda and the associated costs of compliance.

Government now has a plethora of strategies and policies (backed by budget commitments) that are aimed at addressing some of these underlying structural problems and, in the process, supporting economic and employment growth in the manufacturing and infrastructure development sectors. However, in the light of the current global and local economic circumstances, industry is struggling to reconcile growth targets with the current economic reality they face and anticipate facing in the medium-term future. Overall, industry has adopted a 'let's wait and see' approach to the intended positive outcomes, while at the same time has indicated that its future viability rests on the realisation of the anticipated positive benefits of these programmes.

4 THE DEMAND FOR LABOUR

4.1 INTRODUCTION

This chapter describes the demand for labour from a range of different perspectives – a central issue for this SSP. First, is a discussion of employment trends within the merSETA sector in respect of total employment as well as occupational demand. Second, is a discussion of remuneration trends within the sector.

The third part of this chapter considers future demand for labour from the merSETA sector and presents the results of a labour-demand forecasting model developed for the merSETA, and updated with the latest available data. The model is based on the employment estimates for the merSETA sector presented in Chapter 2 of this SSP.

The final section of the current chapter presents the factors that impact on the future demand for skills in the sector. These include: economic recovery and future growth rates; government policies aimed at sector support; the shift towards a greater proportion of skilled workers; variations in regional demand for skills; the mobility of skills within the local and international labour markets; the rate of replacement demand; the quality of the skills supplied to the sector; transformation imperatives; and the skills required to support government's development agenda.

4.2 TRENDS IN EMPLOYMENT IN THE MERSETA SECTOR

4.2.1 Total employment

Figure 4-1 shows the average year-on-year percentage changes in employment between 2000 and 2012 for the merSETA sectors cluster. The first notable fact is that, with the single exception of the basic iron and steel sector, all merSETA sectors saw contraction in employment during 2009 and most still in 2010. For the rubber products and plastic products sectors, this was merely an exacerbation of an overall picture of labour-shedding. And while employment in the plastics sector stabilised through 2012, the rubber sector exhibited positive employment growth in both 2011 and 2012. Industry opinion is that employment increases in the rubber and plastics sectors are due to unemployed learners, and thus an increase in temporary rather than permanent workers.[214]

The basic iron and steel sector saw increasing employment between 2008 and 2010, after three years of employment contraction between 2005 and 2007. Data for 2011 and 2012 however show reductions in employment in this sector again. For the basic non-ferrous metals sector, 2010 has been the only year since 2008 in which employment in the sector grew. And while employment contraction through 2011 was minimal, at -11.2% the figure for 2012 is substantial.

The machinery and equipment sector saw modest but increasing employment growth between 2001 and 2007. Following the recession, the sector is again exhibiting minor, but positive, employment growth for 2011 and 2012. Finally, for the motor vehicle, parts and accessories sector, employment contraction has dominated in the past 12 years. 2000 was the last year in which the sector showed

[214] Opinions expressed by merSETA chamber representatives at meeting on 3 July 2013.

any substantial employment growth. On the positive side it appears as if employment levels have been relatively stable since the major job losses of 2009 and 2010.

Figure 4-1 Growth of employment in the merSETA sectors' cluster: 2000-2012
Source: Quantec (2013)

According to the WPSs for 2012, total employment for the merSETA sector is 653 800. This figure is down from the total of 655 967 recorded for 2011. Industry indicates that as 2012 did not see major retrenchments; this decline is likely due to natural attrition with firms not replacing employees.

Furthermore, this decline corresponds with other sector data sources which suggest that the employment stabilisation in some sectors, and even the slight employment growth in others over the last couple of years, have been insufficient to compensate for losses in previous years. Employment growth through 2013 and 2014 is again expected to be negative due to the spill-over effects on the manufacturing sector of the 2012 mining sector strikes, the strikes in the sector related to the 2013 round of wage negotiations, as well as the disincentive effect of the higher-than-inflation wage increases that were the outcome of the recent negotiations.

While declining employment trends in the local manufacturing sector are in line with global trends, where increasing productivity and competitiveness is being achieved though mechanisation and an increase in level of skills (similar to SA, see Figure 4-4 and Figure 4-5 below), these trends do not support national government plans for job creation.[215]

4.2.2 Occupational demand

The occupational composition of the merSETA sector is presented in Figure 4-2. Technicians and associate professionals account for 9.9% of total sector employment while professionals (including engineers) make up 5.7% of employment in the sector.

Professionals and technicians are employed across a range of the following technical-skill areas: mechanical engineering, industrial engineering, electrical engineering, electronics engineering, metallurgical engineering and chemical engineering. Professionals also fill non-line function positions such as accounting, financial management, human resources management, information technology and communications, and marketing. Training of professionals generally takes place at universities and universities of technology (qualifications at NQF Level 8 and above), while technician training is done at universities of technology (qualifications at NQF levels 6 and 7). Training for both these groups lies within the HET system.

Managers make up 9.3% and are generally recruited from within the professional ranks of the industry.

The artisan occupations that occur most frequently in the merSETA sector include: fitters, fitters and turners, electricians, metal machinists, toolmakers, millwrights, precision instrument makers and repairers, and air conditioning and refrigeration technicians. Training of artisans happens through the FET system followed by apprenticeships and learnerships. Artisans form part of the 19.4% of the workforce that are employed as skilled agricultural, forestry, fishery, craft and related trades workers.

Just less than one quarter of the workforce is employed as plant and machine operators and assemblers (22.8%). This group includes a wide range of specific occupations that are directly linked to the technology and equipment used in the sector. Training is usually done within the industry, either through on-the-job training or by specialised training providers.

The second largest employment category within the merSETA sector is elementary workers (19.6%). While high levels of education are not necessary, industry-specific knowledge is.

[215] Opinions expressed by merSETA chamber representatives at meeting on 3 July 2013.

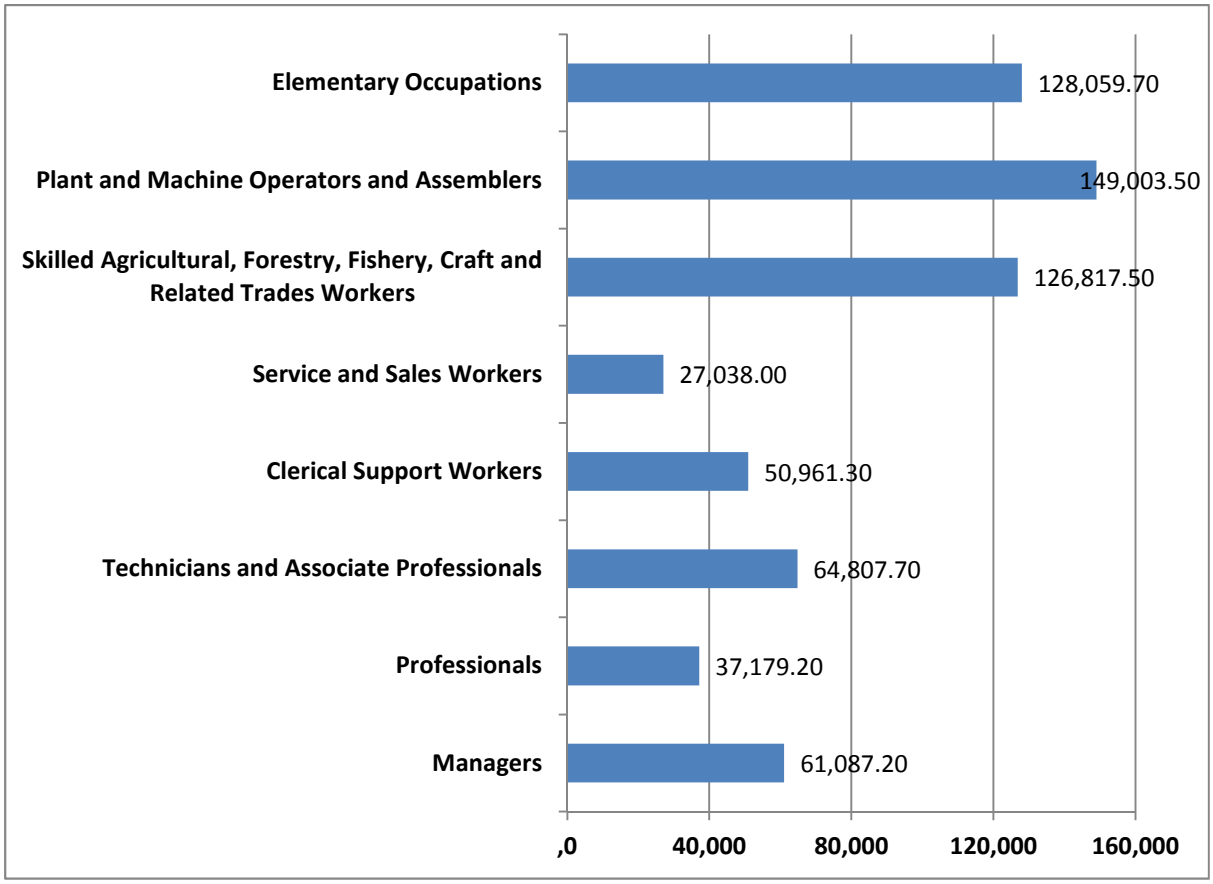


Figure 4-2 merSETA employment by major occupational groups
Source: merSETA data system, 2012
Note: This figure excludes the 8 846 workers in the 'unknown' occupational category.

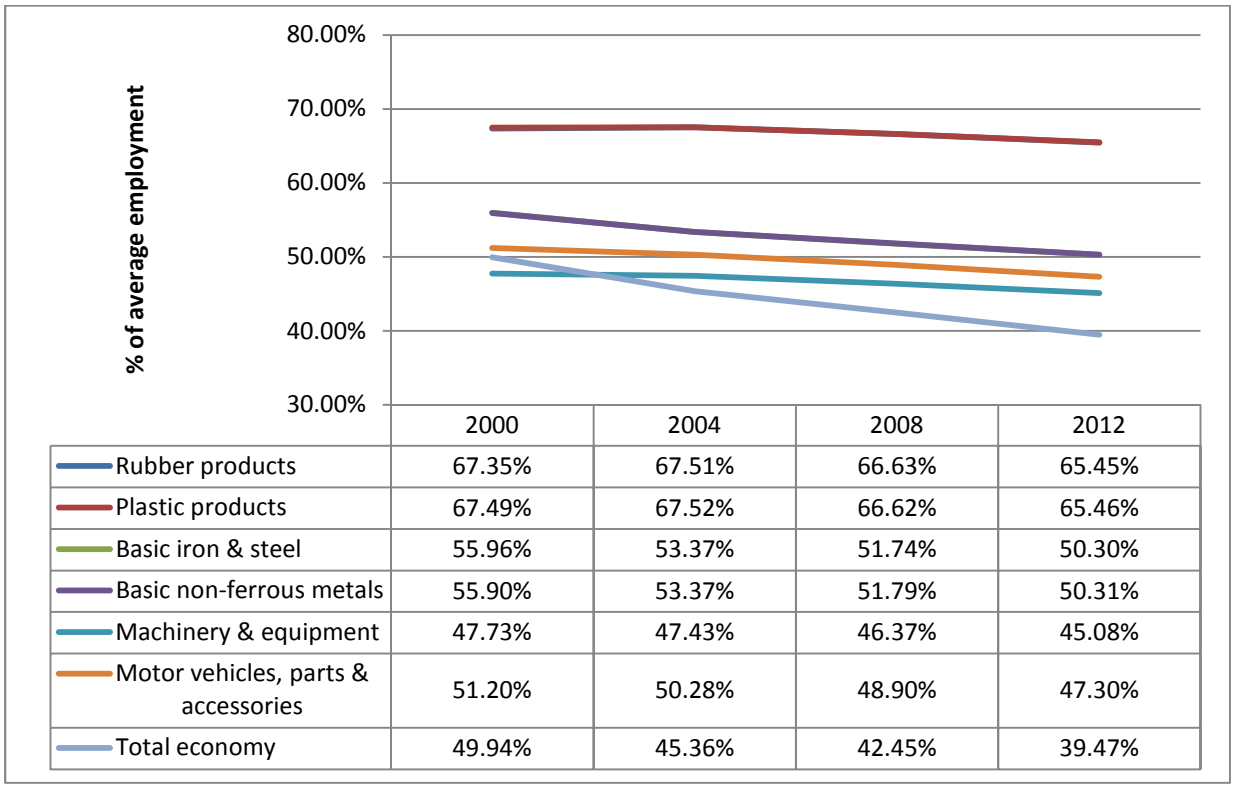
At this stage it is not possible to determine changes over time to the occupational structure of the merSETA sector because the occupational classification system changed in 2008 from the Standard Occupational Classification (SOC) to the OFO. Analysis of National Accounts data shows that for the South African economy as a whole between 1970 and 2000, the proportion of unskilled and semi-skilled workers dropped from 73.8% to 49.9%, while the proportion of skilled and highly skilled workers increased from 21.3% to 36.4% and from 5.0% to 13.7% respectively.[216] Using the same data source, the three figures below show the proportional employment of the various skills levels of employees within the merSETA sectors cluster every fourth year over the period 2000 to 2012.

Figure 4-3 shows that – continuing the historical trend evident for the national economy – the proportion of unskilled and semi-skilled workers has been declining for all the sectors in the merSETA sectors' cluster over the past 12 years. The decline in employment of this level of worker has however been less rapid than within the overall economy during this period. Since 2004, all of the merSETA sectors have employed a larger proportion of semi-skilled and unskilled workers than the economy as a whole. Of the merSETA sectors, the plastics and rubber products sectors employ the largest proportion of workers with this skill level at 65.5% of total employment for both sectors.

[216] Quantec (2013) Dataset

The merSETA sector that employs the least amount of semi-skilled and unskilled workers is the machinery and equipment sector at 45.1%.

This range is slightly higher than the 42.4% of workers from the WSP data that make up the combined group of elementary workers (unskilled workers) and machine operators and drivers (semi-skilled workers).



	2000	2004	2008	2012
Rubber products	67.35%	67.51%	66.63%	65.45%
Plastic products	67.49%	67.52%	66.62%	65.46%
Basic iron & steel	55.96%	53.37%	51.74%	50.30%
Basic non-ferrous metals	55.90%	53.37%	51.79%	50.31%
Machinery & equipment	47.73%	47.43%	46.37%	45.08%
Motor vehicles, parts & accessories	51.20%	50.28%	48.90%	47.30%
Total economy	49.94%	45.36%	42.45%	39.47%

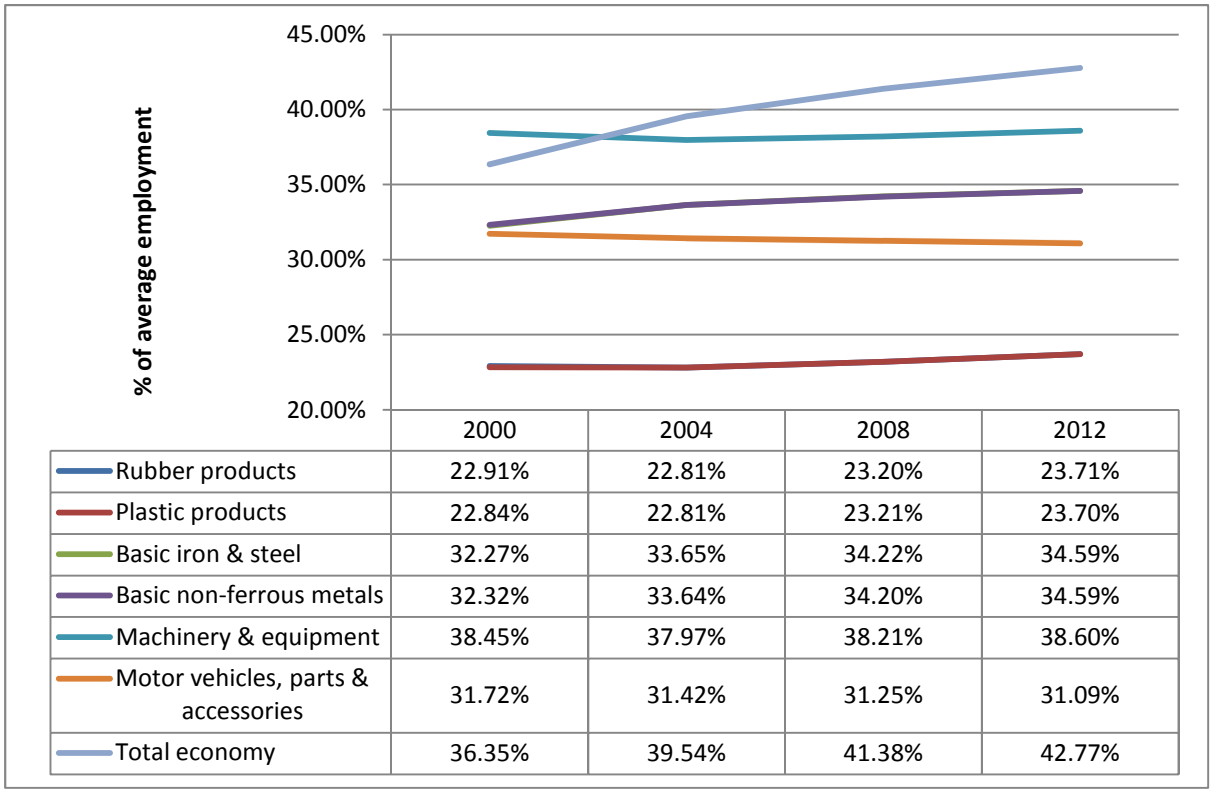
Figure 4-3 Unskilled and semi-skilled labour intensity for the merSETA sectors' cluster: 2000-2012
Source: Quantec (2013)

In contrast to the above, Figure 4-4 and Figure 4-5 show the increasing demand for skilled and highly skilled workers in the sectors that make up the merSETA sectors' cluster. While the demand for skilled workers in the sector is not increasing as rapidly as for the rest of the national economy, demand among the sectors for highly skilled workers is following roughly the same trend for all the merSETA sectors. The only exception is the motor vehicle parts and accessories sector. While demand for skilled workers in this sector dropped marginally from 31.7% in 2000 to 31.1% in 2012, the demand for highly skilled workers rose from 17.1% in 2000 to 21.6% in 2012 – a level that is now greater than the demand for highly skilled workers within the national economy (17.8%).

merSETA industry representatives[217] support recent Motor Chamber research[218] which highlights the difference between 'qualified' workers and 'competent' workers. This distinction appears to be growing in SA, with qualifications not guaranteeing competence. Thus industry calls of skills scarcity are increasingly related to the scarcity of competent rather than merely qualified workers.

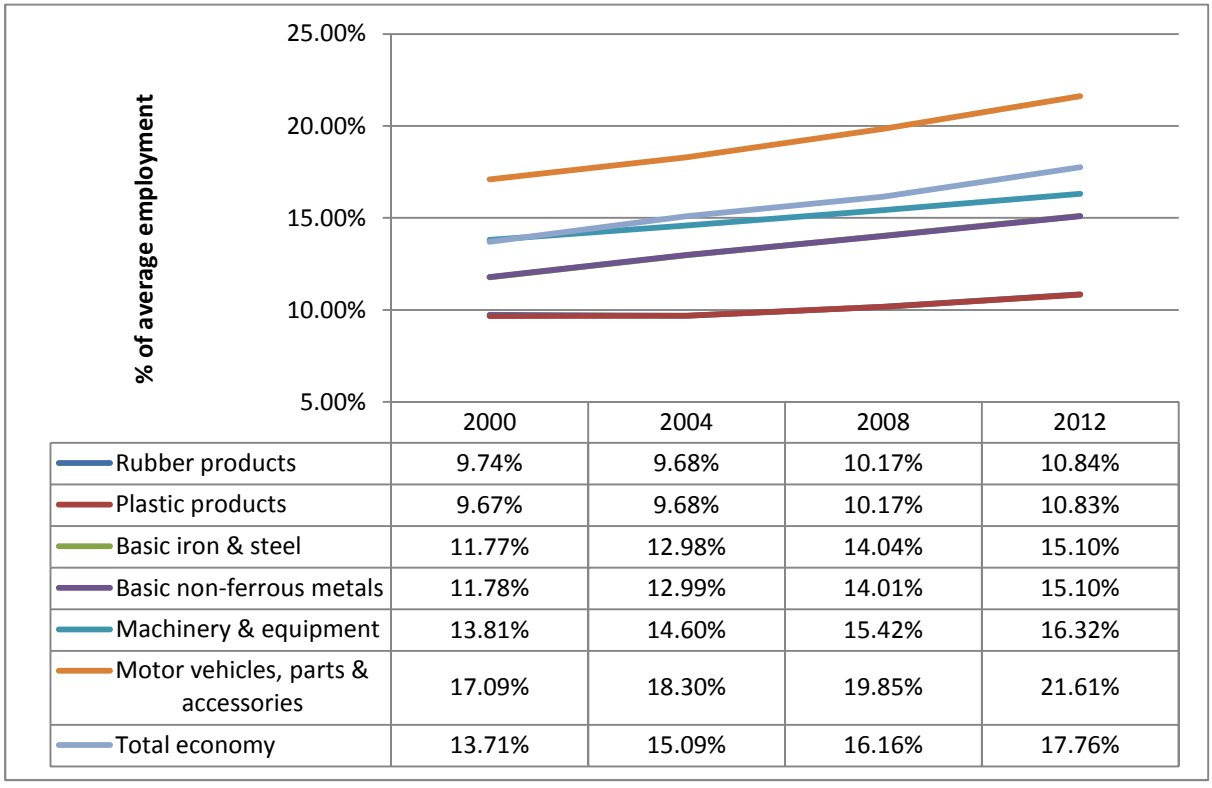
[217] Opinions expressed by merSETA chamber representatives at meeting on 3 July 2013.

[218] merSETA (2013) Motor Research Project: Employment and Educational and Skills Audit of the merSETA Motor Chamber



	2000	2004	2008	2012
Rubber products	22.91%	22.81%	23.20%	23.71%
Plastic products	22.84%	22.81%	23.21%	23.70%
Basic iron & steel	32.27%	33.65%	34.22%	34.59%
Basic non-ferrous metals	32.32%	33.64%	34.20%	34.59%
Machinery & equipment	38.45%	37.97%	38.21%	38.60%
Motor vehicles, parts & accessories	31.72%	31.42%	31.25%	31.09%
Total economy	36.35%	39.54%	41.38%	42.77%

Figure 4-4 Skilled labour intensity for the merSETA sectors' cluster: 2000-2012
Source: Quantec (2013)



	2000	2004	2008	2012
Rubber products	9.74%	9.68%	10.17%	10.84%
Plastic products	9.67%	9.68%	10.17%	10.83%
Basic iron & steel	11.77%	12.98%	14.04%	15.10%
Basic non-ferrous metals	11.78%	12.99%	14.01%	15.10%
Machinery & equipment	13.81%	14.60%	15.42%	16.32%
Motor vehicles, parts & accessories	17.09%	18.30%	19.85%	21.61%
Total economy	13.71%	15.09%	16.16%	17.76%

Figure 4-5 Highly skilled labour intensity for the merSETA sectors' cluster: 2000-2012

Source: Quantec (2013)

4.3 REMUNERATION TRENDS

Table 4-1 shows the annual percentage changes (for the quarterly figures) in total manufacturing employment and the gross earnings of the manufacturing sector. The changes in gross earnings do not include adaptations for inflation, but from the table it is clear that – despite a sustained contraction of the manufacturing workforce as a whole – the gross earnings of the employees within the sector have increased steadily, at a rate that is above inflation.

Table 4-1 Percentage changes in manufacturing employment and gross earnings, 2009-2012*

	Year and Quarter															
	2009				2010				2011				2012			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Number of Employees	-5.6	-6.7	-7.4	-7.1	-4.2	-4.1	-3.7	-1.8	-2.3	-1.9	-0.8	-0.5	-0.4	-0.2	0.0	-0.8
Gross sector earnings	3.8	2.2	5.3	5.5	10.3	11.7	7.4	9.6	8.7	7.8	6.5	6.9	7.7	9.0	10.3	7.8

*Note: percentage changes are given on the annual change and not on the change from the previous quarter.
Source: Stats SA (2013)[219]

Figure 4-6 shows the remuneration per employee for the merSETA sectors' cluster from 2000 to 2012. The steadiest gains (since 2002 particularly) in remuneration per employee are for the sale and repair of motor vehicles/fuel stations sector and for the machinery and equipment sector. The basic iron and steel sector saw rapid increases in remuneration per employee between 2009 and 2011, however the figure for 2012 has fallen back somewhat to 2010 levels. The motor vehicles, parts and accessories sector has seen modest growth in average remuneration, however for the plastics sector, the basic non-ferrous metals sector and the rubber products sector there has been little or no growth in remuneration per employee over the period.

[219] Stats SA (2013) Quarterly employment statistics, March 2013, P0277.

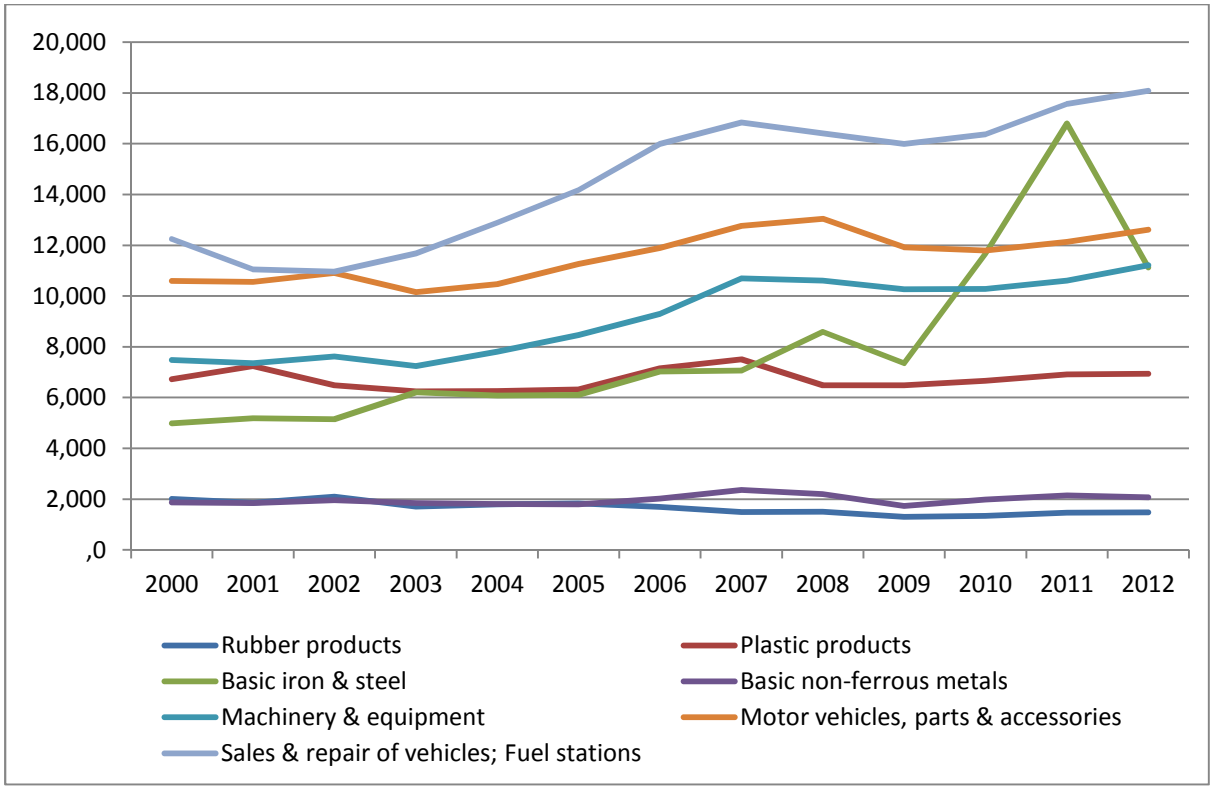


Figure 4-6 Average annual remuneration per employee for the merSETA sector's cluster and the total economy: 2000-2012 (2005 constant prices)
Source: Quantec (2013)

The factors driving the increases in remuneration per employee across certain of the sectors are likely to be a combination of: the economic performance of the sectors; the changing skills profiles, with more highly skilled workers commanding higher wages; and the impact of the highly unionised nature of the workforce and outcomes of collective bargaining.

4.4 FUTURE DEMAND

For the purpose of this SSP the demand projection model that was developed for the merSETA has been updated. The purpose of the projection of future demand is to provide the sector with a broad understanding of the numbers of people that will have to be trained to meet sector needs. The demand projections provide for new demand that will result from economic growth and employment creation – as well as for replacement demand that will occur because of mortality, emigration, and the retirement of employees. The demand projection model projects demand at a detailed occupational level. The baseline figures and assumptions used in the model are explained in the sections below.

4.4.1 Baseline employment

The baseline employment figures used for the demand projection model were derived from the employment information submitted by employers to the merSETA in June 2012. These figures

represent employment as on 31 March 2012.[220] As explained in Chapter 2, the WSPs represent the majority of employees in the sector (approximately 75%). By weighting the data estimates of employment in the whole sector were derived. (See Appendix 1 for an explanation of the methodology used.) In the original dataset occupational data were classified according to OFO version 9. In this SSP update the baseline information was converted from OFO version 9 to OFO version 2012.

4.4.2 Assumptions used in the model

1. Economic growth and employment growth

The employment growth figures used in the model were derived from econometric modelling performed by EcoQuant. The econometric modelling, which is based on the sectoral demarcations found in the National Accounts data, provides, among many other things, forecasts of employment. However, the sectors that are used do not match the merSETA sectors perfectly and some of the sectors were combined to form one sector. Employment growth figures were then used in the merSETA subsectors that more or less match the sectors used in the econometric modelling.

The baseline scenario was obtained using the following process: a macro-econometric simultaneous equation model was employed to project GDP and employment numbers. A separate model broke down the final demand components of household consumption and fixed capital formation into their detailed components. The outputs of these models were then used in an Input-Output model to provide detailed forecasts for sectors of the SA economy.

To obtain high-growth- and low-growth scenarios, the assumption was made that employment in a particular sector would be highly dependent on GVA growth in that sector. The sector growth was assumed to be in turn dependent on overall economic growth.

A low-growth scenario and a high-growth scenario were thus assumed that would be respectively lower and higher than the base case scenario. The standard deviation measured over the last ten years was used to determine the lower and higher values. Total employment sensitivity was statistically measured by means of OLS (ordinary least squares regression) to establish the percentage point increase in total employment that would be associated with a one percentage point change in total GDP growth.

Finally, it was assumed that sectoral employment growth would be closely related to total employment growth in the economy. These sensitivities (or multipliers) were statistically determined by means of regression of sectoral GVA growth rates on employment growth rates for the various sectors. Data for the baseline forecasts were used.

The average economic growth rates and the associated average employment growth rates used to inform the merSETA's labour demand model can be seen in Table 4-2. The final employment growth rates used for each year and for each of the merSETA subsectors are shown in Table 4-3.

[220] WSP 2013 data could not be used as the basis for these calculations because a number of extensions were granted to companies for the submission of their data and thus the dataset is still incomplete. From 2014 the deadline for WSP submissions will move to April, allowing sufficient time for a credible analysis of the data for use in the next SSP update.

Table 4-2 Average GVA and employment growth figures from the econometric model: 2013 - 2018

Subsector	Scenarios					
	Low growth		Baseline		High Growth	
	GVA growth	Employment growth	GVA growth	Employment growth	GVA growth	Employment growth
Rubber products	0.4%	-3.7%	3.0%	-2.4%	3.6%	0.3%
Plastic products	3.0%	0.9%	3.4%	2.0%	4.9%	3.4%
Basic iron & steel	-0.1%	-0.4%	5.2%	-1.1%	7.6%	0.8%
Basic non-ferrous metals	1.1%	0.3%	4.6%	2.4%	9.1%	3.0%
Machinery & equipment	0.3%	0.1%	1.3%	0.5%	6.6%	2.3%
Motor vehicles, parts & accessories	-0.3%	-0.1%	5.3%	3.2%	9.5%	4.2%
Sales & repair of vehicles; fuel stations	2.1%	-0.5%	3.5%	0.1%	4.2%	0.6%
Total economy	**2.1%**	**0.9%**	**3.8%**	**1.8%**	**5.5%**	**2.4%**

Table 4-3 Employment growth figures used in the merSETA's labour demand projection model: 2013 – 2018

Low growth scenario						
Subsector	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Auto	-0.43%	-0.39%	-0.37%	-0.40%	-0.41%	-0.43%
Metal	-0.63%	0.40%	0.82%	0.20%	-0.22%	-0.63%
Motor	-0.43%	-0.39%	-0.37%	-0.40%	-0.41%	-0.43%
New Tyre	-1.45%	-5.23%	-6.75%	-4.47%	-2.97%	-1.45%
Plastics	0.85%	0.94%	0.97%	0.92%	0.88%	0.85%
Unknown	-0.63%	0.40%	0.82%	0.20%	-0.22%	-0.63%
Base growth scenario						
Subsector	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Auto	0.67%	0.85%	0.72%	0.76%	1.05%	1.16%
Metal	-0.01%	0.41%	0.26%	0.34%	0.42%	0.42%
Motor	0.67%	0.85%	0.72%	0.76%	1.05%	1.16%
New Tyre	-2.04%	-2.33%	-2.15%	-2.25%	-2.71%	-2.97%
Plastics	2.06%	1.97%	1.75%	1.89%	2.14%	2.21%
Unknown	-0.01%	0.41%	0.26%	0.34%	0.42%	0.42%
High growth scenario						
Subsector	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Auto	0.54%	1.70%	1.47%	1.61%	1.75%	1.82%
Metal	0.60%	2.36%	1.98%	2.15%	2.32%	2.39%
Motor	0.54%	1.70%	1.47%	1.61%	1.75%	1.82%
New Tyre	0.19%	0.29%	0.25%	0.27%	0.29%	0.30%
Plastics	2.43%	3.72%	3.44%	3.56%	3.68%	3.72%
Unknown	0.60%	2.36%	1.98%	2.15%	2.32%	2.39%

2. Mortality

The mortality rates used in this model were based on the age distribution of workers in the different occupational groups in the baseline data, the mortality figures reported by Stats SA in their 2007 mortality report, and the 2007 mid-year population estimates. The rates applied to the different occupational groups are indicated in Table 4-4.

Table 4-4 Mortality rates used in model

Mortality rate	%
Managers	1.8
Professionals	1.6
Technicians and Associate Professionals	1.5
Clerical Support Workers	1.5
Service and Sales Workers	1.5
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	1.5
Plant and Machine Operators and Assemblers	1.6
Elementary Occupations	1.5

3. Retirement

The retirement rates used in the model can be seen in Table 4-5. These rates are based on the age distribution of employees in the baseline data. The table shows the percentage of people in each occupational group in the sector who are in the age group 50 to 64 and who will retire within the next 15 years – that is, if the retirement age is taken as 65. The percentage of people who will retire each year used in the model is also shown.

Table 4-5 Retirement rates used in model

OFO Group	% that will retire each year
Managers	1.1
Professionals	0.6
Technicians and Associate Professionals	0.6
Clerical Support Workers	0.6
Service and Sales Workers	0.5
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	0.5
Plant and Machine Operators and Assemblers	0.6
Elementary Occupations	0.4

4. Emigration

Stats SA stopped recording emigration figures in 2003 and at this stage there is no single local data source that provides information on the movement of workers out of SA. In the absence of any empirical data, it is estimated that approximately 0.5% of managers and professionals of the sector are lost to the SA labour market as a result of emigration. It was assumed that emigration of the

other occupational groups is negligible because of the lack of international demand for lower-level skills and the cost of emigration.

4.4.3 Results of the demand projection model

The labour demand projections are shown in Table 4-6 to Table 4-8. According to the baseline scenario, in 2013 the merSETA sector will require a total of 4 170 people to fill new positions created in the sector and 14 540 people to meet replacement-demand needs, which results in a total demand for new skills in the sector of 18 710 people (Table 4-6). Proportionally, the largest need to satisfy both new and replacement positions is for plant and machine operators and assemblers (1 010 and 3 170 positions respectively or 4 180 in total). At 3 340, total demand is equal in second place for skilled agricultural, forestry, fishery, craft and related trades workers (including artisans) and elementary workers. The replacement demand for managers is relatively high and the fourth largest replacement demand category (at 2 050), however in terms of new demand, demand for technicians and associate professionals is equal to that of managers (both at 400). By 2018 replacement demand (15 030) and demand to fill new positions in the sector in that year (4 300) will result in a total demand for the sector of 19 330 people.[221]

The accumulated number of people who would be needed to enter the sector over the six-year period from 2013 to 2018 according to the baseline scenario is 114 190 people. This is the total number of people who will require training in order to take up positions in the various occupations within the merSETA's sectors. The total number of new jobs that will be created in the sector (25 550) will, however, be substantially fewer than the demand for new people to fill existing positions (88 640). Of the overall total, 11 710 will be entering positions as technicians and associate professionals and 7 510 will be working as professionals. A total of 20 310 will be entering the sector as skilled craft and related trade workers (including artisans). As professionals, technicians and artisans are generally recruited for training from outside of the existing workforce, with artisans and engineers additionally taking a number of years to acquire the relevant qualifications, demand for these groups is of particular importance for the merSETA's long-term skills planning.

At a figure of 25 550, the total employment creation in the sector (i.e. new positions) over the six-year period according to the baseline scenario is only around 7% of the employment-creation target set for the general manufacturing industry by the New Growth Path (350 000 new jobs by 2020).

The negative-growth scenario is presented in Table 4-7. In this scenario the total number of positions that need to be filled in the merSETA sector in 2013 is 15 300 and by 2018 this figure actually drops to 10 820. Total replacement and new demand over the six-year period amounts to 82 430 people: however, the total number of new jobs created in the sector according to the model will be negative. In reality, this means a contraction of employment in the sector as a whole which is likely to be the result of companies not filling vacancies that arise from natural employee attrition.[222] Total demand for technicians and associate professionals to fill new- and replacement-demand positions

[221] Total demand projection figures are lower than the previous estimates. This is mainly due to downward adaptation in new demand figures because of lower than expected sector growth rates, ongoing economic challenges nationally and globally, and lower confidence rates regarding future growth.

[222] Closer inspection of the data behind the model shows that this contraction is likely to be most severe in the Auto, Metals and Motor subsectors, while the Plastics sector is likely to continue to experience positive employee growth over the entire period.

over the period will still be 8 700 and for skilled craft and related trades workers will be 14 510, highlighting that even under weak economic and employment growth conditions the country's demand for technician and artisan skills will remain strong.

In the positive-growth scenario (Table 4-8) the total number of positions to be filled in 2013 is 29 160, made up of 14 600 positions to meet replacement demand and a stronger 14 560 positions to meet the demand from new positions created in the sector. According to this scenario, a total of 182 900 people will need to be skilled by 2018 in order to take up positions in the sector, of which 90 440 will be for new positions.

Based on the fact that 2012 did not see any increase in employment in the merSETA sector, this most recently updated positive-growth scenario suggests strongly that the targets set out for job creation in the industry must be considered as optimistic. Despite this, the impact of these figures on training demand is still substantial, although the figures are possibly more achievable than those under previously positive modelling scenarios.

Table 4-6 Demand projections 2013 to 2018: baseline scenario

New Positions to be Created in Period						
Occupational Group	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Managers	400	320	370	470	500	410
Professionals	220	170	200	260	280	230
Technicians and Associate Professionals	400	310	360	460	490	420
Clerical Support Workers	340	270	310	400	420	340
Service and Sales Workers	200	160	180	240	260	190
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	750	580	670	860	910	780
Plant and Machine Operators and Assemblers	1 010	810	940	1 170	1 230	1 060
Elementary Occupations	850	670	770	990	1 050	870
Total	**4 170**	**3 290**	**3 800**	**4 850**	**5 140**	**4 300**
Replacement Demand						
Occupational Group	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Managers	2 050	2 060	2 080	2 090	2 100	2 120
Professionals	1 010	1 020	1 020	1 030	1 030	1 040
Technicians and Associate Professionals	1 520	1 530	1 540	1 550	1 560	1 570
Clerical Support Workers	1 120	1 130	1 130	1 140	1 150	1 160
Service and Sales Workers	590	600	600	610	610	620
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	2 590	2 600	2 620	2 630	2 650	2 670
Plant and Machine Operators and Assemblers	3 170	3 190	3 210	3 230	3 260	3 280
Elementary Occupations	2 490	2 500	2 520	2 530	2 550	2 570
Total	**14 540**	**14 630**	**14 720**	**14 810**	**14 910**	**15 030**
Total Positions That Need to be Filled						
Occupational Group	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Managers	2 450	2 380	2 450	2 560	2 600	2 530
Professionals	1 230	1 190	1 220	1 290	1 310	1 270
Technicians and Associate Professionals	1 920	1 840	1 900	2 010	2 050	1 990
Clerical Support Workers	1 460	1 400	1 440	1 540	1 570	1 500
Service and Sales Workers	790	760	780	850	870	810
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	3 340	3 180	3 290	3 490	3 560	3 450
Plant and Machine Operators and Assemblers	4 180	4 000	4 150	4 400	4 490	4 340
Elementary Occupations	3 340	3 170	3 290	3 520	3 600	3 440
Total	**18 710**	**17 920**	**18 520**	**19 660**	**20 050**	**19 330**

Note: Figures for individual groups have been rounded to the nearest 10.

Table 4-7 Demand projections 2013 to 2018: negative scenario

New Positions to be Created in Period						
Occupational Group	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Managers	80	230	20	-130	-270	-340
Professionals	40	130	0	-90	-190	-230
Technicians and Associate Professionals	110	280	30	-140	-300	-380
Clerical Support Workers	60	170	0	-110	-230	-280
Service and Sales Workers	-20	30	-30	-80	-120	-140
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	210	560	50	-300	-650	-810
Plant and Machine Operators and Assemblers	180	490	60	-240	-550	-690
Elementary Occupations	210	530	60	-260	-580	-730
Total	**870**	**2420**	**190**	**-1350**	**-2890**	**-3600**
Replacement Demand						
Occupational Group	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Managers	2 030	2 040	2 040	2 050	2 040	2 030
Professionals	1 000	1 000	1 010	1 010	1 000	1 000
Technicians and Associate Professionals	1 510	1 520	1 520	1 520	1 520	1 510
Clerical Support Workers	1 110	1 110	1 120	1 120	1 110	1 110
Service and Sales Workers	590	590	590	590	590	580
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	2 570	2 570	2 580	2 580	2 580	2 570
Plant and Machine Operators and Assemblers	3 150	3 150	3 160	3 160	3 160	3 150
Elementary Occupations	2 470	2 470	2 480	2 480	2 480	2 470
Total	**14 430**	**14 450**	**14 500**	**14 510**	**14 480**	**14 420**
Total Positions That Need to be Filled						
Occupational Group	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Managers	2 110	2 270	2 060	1 920	1 770	1 690
Professionals	1 040	1 130	1 010	920	810	770
Technicians and Associate Professionals	1 620	1 800	1 550	1 380	1 220	1 130
Clerical Support Workers	1 170	1 280	1 120	1 010	880	830
Service and Sales Workers	570	620	560	510	470	440
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	2 780	3 130	2 630	2 280	1 930	1 760
Plant and Machine Operators and Assemblers	3 330	3 640	3 220	2 920	2 610	2 460
Elementary Occupations	2 680	3 000	2 540	2 220	1 900	1 740
Total	**15 300**	**16 870**	**14 690**	**13 160**	**11 590**	**10 820**

Note: Figures for individual groups have been rounded to the nearest 10.

Table 4-8 Demand projections 2013 to 2018: positive scenario

New Positions to be Created in Period						
Occupational Group	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Managers	1 380	1 210	1 330	1 460	1 540	1 620
Professionals	820	710	790	870	910	960
Technicians and Associate Professionals	1 470	1 290	1 420	1 560	1 650	1 730
Clerical Support Workers	1 130	990	1 090	1 200	1 270	1 330
Service and Sales Workers	550	490	540	590	620	660
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	2 820	2 460	2 710	2 990	3 150	3 320
Plant and Machine Operators and Assemblers	3 510	3 120	3 430	3 750	3 950	4 150
Elementary Occupations	2 880	2 530	2 790	3 070	3 230	3 400
Total	**14 560**	**12 800**	**14 100**	**15 490**	**16 320**	**17 170**
Replacement Demand						
Occupational Group	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Managers	2 060	2 100	2 140	2 190	2 240	2 290
Professionals	1 010	1 040	1 060	1 080	1 100	1 130
Technicians and Associate Professionals	1 530	1 570	1 600	1 630	1 670	1 700
Clerical Support Workers	1 120	1 150	1 170	1 190	1 220	1 250
Service and Sales Workers	590	610	620	630	640	660
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	2 600	2 660	2 710	2 760	2 820	2 890
Plant and Machine Operators and Assemblers	3 190	3 260	3 330	3 400	3 480	3 560
Elementary Occupations	2 500	2 550	2 600	2 660	2 720	2 780
Total	**14 600**	**14 940**	**15 230**	**15 540**	**15 890**	**16 260**
Total Positions That Need to be Filled						
Occupational Group	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Managers	3 440	3 310	3 470	3 650	3 780	3 910
Professionals	1 830	1 750	1 850	1 950	2 010	2 090
Technicians and Associate Professionals	3 000	2 860	3 020	3 190	3 320	3 430
Clerical Support Workers	2 250	2 140	2 260	2 390	2 490	2 580
Service and Sales Workers	1 140	1 100	1 160	1 220	1 260	1 320
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	5 420	5 120	5 420	5 750	5 970	6 210
Plant and Machine Operators and Assemblers	6 700	6 380	6 760	7 150	7 430	7 710
Elementary Occupations	5 380	5 080	5 390	5 730	5 950	6 180
Total	**29 160**	**27 740**	**29 330**	**31 030**	**32 210**	**33 430**

Note: Figures for individual groups have been rounded to the nearest 10.

4.4.4 Limitations of the model

In previous versions of the merSETA SSP, it was noted that the WSP data that were used as baseline data for this model needed improvement. The most important area for improvement was the correction of the SIC codes of companies so that they could be allocated to the correct chambers. During 2013 the SIC codes were substantially improved and only a small percentage of companies without SIC codes remained in the data. Ideally all companies should be allocated correct SIC codes and this area requires ongoing attention.

Another area that needs attention is the inclusion of non-levy-paying companies in the baseline figures. The limitations that these data deficiencies place on the demand projections are acknowledged. Future iterations of the demand projections will hopefully be based on improved versions of the baseline dataset and will, therefore, also provide more accurate projections.

Another limitation of the current model is the underlying assumption that the occupational structure of the sector will remain the same over the forecast period. However, all the merSETA's sectors have seen the proportion of unskilled and semi-skilled workers dropping, while the proportion of skilled and highly skilled workers has increased. This increasing shift towards more highly skilled workers is not considered in the calculations, because of the absence of information on exactly how this shift affects the specific occupations in the sector. The result is a possible under-calculation of the future demand for skilled and highly skilled workers, especially if there is any acceleration in the trend.

People leaving the sector to find employment in other sectors of the economy or who stop working altogether, is an important factor contributing to replacement demand. However, there is no statistical information available about the magnitude of this form of skills attrition in the sector. In the absence of any reliable data this figure was assumed to be zero. It is, however, acknowledged as a limitation of the model, which inevitably renders very conservative estimates of replacement demand.

4.5 FACTORS IMPACTING ON THE FUTURE DEMAND FOR SKILLS IN THE SECTOR

While some of these issues have already been mentioned in various sections of this SPP, they are worth highlighting again here for their role in impacting on the future demand for skills in the merSETA sector.

4.5.1 Economic recovery and future growth rates

The recent global and local economic recessions had, and continues to have, a profound effect on the local manufacturing sector as a whole, including all three of the major industries included in the merSETA sector (as discussed in Section 3.5.1). The result of economic contraction was severe job losses across the sector. Economic recovery has been slow, with continued challenges facing the US and European financial systems: The IMF has revised downward the projected US economic growth for 2013 to 1.7% due to higher taxes and government spending cuts.[223] In the Euro Zone, policy

[223] Reuters.com (2013) IMF draft cuts 2013 US growth forecast: report, 24 March 2013, http://www.reuters.com/article/2013/03/24/us-imf-us-forecasts-idUSBRE92N0BT20130324, Accessed 2 July 2013.

makers are grappling with ways for countries to meet deficit targets, but at the same time escape a second consecutive year of recession and the social unrest associated with record high levels of unemployment.[224] These markets represent SA's current major export markets, and the negative effect of limited or no growth in these markets on the merSETA's sectors, is currently only being counterbalanced in part by the growth of, and increased exports to, other African economies.[225] These factors will influence the sector's requirements for new skills (as opposed to skills for replacement demand and to fill vacancies that result from skills scarcity).

4.5.2 Government policies aimed at sector support

Government currently has a host of policies and strategies aimed at supporting economic development and job creation within the national economy. While the SIPs are aimed at supporting the national economy generally and in the process increasing local employment, many of the other policies and strategies are directed in part or in full at supporting the manufacturing sector, including all the merSETA's subsectors. (See Section 3.6.) Central to this cluster of mutually supportive policies is IPAP. IPAP aims to address the underlying structural problems in the SA economy (i.e. those not related directly to the recent and ongoing economic recession) and in the process to create 5 million new jobs over the ten-year period from 2010 to 2020. While the exact number anticipated for the iron, steel and non-ferrous metals subsector and the CETEFM subsector are not indicated, the policy indicates the total number of new jobs in the automotive sector as 160 000 and in the plastics sector as 22 754 over the period.

Other initiatives that indicate an intention to create jobs within the broader manufacturing sector include the New Jobs Fund that aims to create 150 000 jobs overall, some of which will be linked to infrastructure development, and the IDC's intention to create 40 000 to 50 000 job opportunities linked to support of manufacturing and infrastructure development.

If these initiatives succeed in turning around current negative employment trends and in growing the employment across the merSETA's sectors and subsectors the implication for skills demand will be enormous.

4.5.3 Shift towards greater proportion of skilled workers

As mentioned earlier in this chapter, the proportion of unskilled and semi-skilled workers in the sector has dropped, while the proportion of skilled and highly skilled workers has increased. These shifts are driven by global advances in manufacturing technology and span design- to production technologies. As employees will have to engage with new and increasingly complex technologies on an ongoing basis within the workplace, the baseline qualifications required across the board are increasing. The majority of OEMs, for example, now only accept people who have passed Grade 12 maths as operators on the shop floor.

[224] Reurters.com (2013) EU shifts policy focus in quest for growth, 29 May 2013, http://www.reuters.com/article/2013/05/29/us-eu-economy-idUSBRE94S0OM20130529, Accessed 2 July 2013.

[225] Mail&Guardian (2013) Gordhan warns of Africa's vulnerability despite economic growth, 10 May 2013, http://mg.co.za/article/2013-05-10-gordhan-warns-of-africas-vulnerability-despite-economic-growth, Accessed 2 July 2013.

CAD, CAM and CNC are some of the technologies that are driving improved quality and efficiency in the manufacturing sector. CNC in particular is having a major impact on sheet metal fabricators by dramatically improving quality and productivity. Engineering qualifications now generally include training in these technologies, so that new graduates entering the system are equipped with these skills. However, for the existing workforce, skills gaps in respect of these areas must be filled by additional training.[226]

4.5.4 Variations in regional demand

merSETA's recently completed first set of Regional Sector Skills Plans brings to the fore the fact that skills demand and skills scarcity are not uniform across the country, but are impacted by a number of factors. These include:[227]

- The sectoral and intra-sectoral shape and size of the regional economy;
- National, provincial and municipal policies, strategies and initiatives in the region aimed at supporting and growing local industry;
- The number, quality and scope of relevant regional training facilities and training providers;
- The regional 'culture' of support for training and graduate development; and
- The relative attractiveness of the region in order to be able to attract and retain the necessary skills.

merSETA's Regional Sector Skills Plans thus unpack the regional specificity of the merSETA subsectors, with the objectives to identify and map key features, trends, forecasts and legislative initiatives at the regional level regarding skills demand and skills development. In respect of factors impacting on future skills demand, the following issues emerged:[228]

- The establishment of the first SEZ in Saldanha Bay in the Western Cape, which will be mainly focused on the oil and gas industry, is expected to yield significant local job creation and economic growth potential if the relevant skills can be sourced locally.
- The establishment of wind farms as part of an emerging renewable energy industry in the Eastern Cape will require a pool of locally based artisans as part of the installation and maintenance processes.

4.5.5 Mobility of skills within the labour market

Demand for qualified engineers and artisans arises not only from the merSETA's sectors, but also from the wider manufacturing sector and other sectors in the national economy. The merSETA sectors thus compete for a limited supply of these technical skills. Furthermore, the high levels of demand have resulted in wage premiums and experienced engineers and artisans can easily move between sectors in search of higher wages and better working conditions. As such, a sector needs to be attractive in order to draw and retain highly skilled people within the context of limited supply.

[226] merSETA (2010) The impact of the 2008/9 global and local economic crisis on merSETA firms: A focus on employment and skills.

[227] merSETA (2013) Regional Sector Skills Plans.

[228] merSETA (2013) Regional Sector Skills Plan Synthesis Report, October 2013, Prepared by Underhill Corporate Solutions (UCS).

The high levels of economic uncertainty that have prevailed in particularly the automotive and metal sectors over the last few years have resulted in the migration of skilled people out of these sectors and into more stable sectors of the economy.[229]

Another dimension of skills mobility is the issue of the regional movement of qualified and experienced workers. This is also highlighted by merSETA's Regional Sector Skills Plans.[230] Some provinces lack the institutions and facilities to provide certain types of training. This not only adds to the cost of training in these areas, but limits the local availability of these skills. In other instances, provinces and regions within provinces struggle to recruit and/or retain skilled workers because of social factors that include among others, access to facilities such as shops, schools, hospitals and entertainment. This factor affects particularly the more rural areas of the country. The mobility of skills within the national labour market is however a benefit for companies offering employment opportunities for which labour is prepared to relocate. Furthermore, while Gauteng-based companies benefit substantially from provincial in-migration, it is not the only beneficiary: the recent tracer study on graduates of merSETA's Accelerated Artisan Training Programme (AATP) shows that Limpopo Province was the most popular destination of newly qualified artisans from Gauteng, KZN and Mpumalanga who were no longer with their original employer.[231]

As labour markets are becoming more and more integrated, local markets are increasingly affected by economic and labour market conditions in other parts of the world. The SA labour market is affected by migration of highly skilled people to overseas destinations such as Dubai and Quatar, places where qualified SA engineers and artisans are in high demand and are able to easily move to in order to work on high-paying and exciting projects. Similarly, the SA labour market is affected by demand emanating from other African – and especially other Southern African Development Community (SADC) – countries. Specific skills needed for development projects are attracted from our labour market and as SA companies deploy their staff in neighbouring countries, the demand in SA is effectively increased. Economic growth in countries in close proximity to SA, such as Mozambique, is starting to have an effect on the local demand for skilled labour. This may very well continue into the future.

Through these trends, skills are lost to the local, regional or national economy on either a temporary or a permanent basis.[232]

4.5.6 The rate of replacement demand

While replacement demand is assumed to be proportionally consistent into the future in calculations of future demand for labour, this may not be the case. While the global economic slump appears to have slowed demand somewhat, SA artisans and people from other highly skilled occupations continue to be actively recruited by countries such as Australia. A reduction in the levels of

[229] merSETA (2010) The impact of the 2008/9 global economic crisis on firms merSETA: A focus on employment and skills, EE Research Focus Pty (Ltd).

[230] merSETA (2013) Regional Sector Skills Plans

[231] merSETA (2012) AATP Post Trade Test Tracer Study, prepared by Underhill Corporate Solutions (UCS) for the merSETA, Final Draft 20 September 2012.

[232] Dr. Oswald Franks (2012), ECSA, telephonic interview, 12 July 2012.

emigration of technically qualified people will reduce the replacement-demand requirements arising from this factor, while increasing emigration will increase the replacement demand.

Mortality is another factor that impacts on the rate of replacement demand in the sector, and mortality among working-age South Africans is highly affected by HIV and AIDS. National- and workplace policies and interventions around HIV and AIDS education, the availability of anti-retroviral medication, and access to health care and employee wellness programmes will all impact on the rate of AIDS-related deaths into the future.

4.5.7 The quality of skills supply

A major factor impacting on the demand for people with specific qualifications is the perceived quality of those qualifications. While this factor is impacting on many local qualifications across all levels of the NQF, of particular concern to the merSETA sector is the perceived poor and variable quality of newly qualified technicians[233] and artisans.[234] Together with the issue of post-qualification work experience, the quality of qualifications underlies industry concerns regarding the increasing availability of 'qualified' workers, but the continuing scarcity of 'competent' workers.[235]

4.5.8 Transformation imperatives

Legislation aimed at the transformation of the national economy demands increasing proportions of PDIs in the more highly skilled occupational groups – managers, professionals, and technicians and artisans in particular. Employment at these levels requires people with relevant qualifications as a starting point. This means that the rate of transformation is dependent on sufficient numbers of black graduates emerging with technical degrees, learnerships and apprenticeships and therefore on the supply of these skills. Furthermore, many positions (including management) demand not only a relevant qualification but also many years of work experience in the sector in order to 'qualify' the individual. At present the demand for qualified and experienced black South Africans in the sector considerably outstrips the supply available and places a premium on the cost of their employment.[236]

merSETA recognises the continued and growing importance of transformation imperatives and supports initiatives that promote change in this regard. As part of its drive for improved accuracy and greater detail of sectoral labour market data collection processes, it is hoped that the nuances of labour demand in respect of transformation will be better understood into the future, and that this will inform more targeted interventions.

4.5.9 Support for government's rural and PWD development agendas

[233] DuToit R, Roodt J (2009) Egineers in a Developing Country: The Profession and Education of Engineering Professionals in South Africa, HSRC Press, Pretoria.

[234] Sabinetlaw (2011) National Artisan Moderation Body Launched, 2 December 2010, http://www.sabinetlaw.co.za/education/articles/national-artisan-moderation-body-launched, Accessed 22 September 2011.

[235] Opinions expressed by merSETA chamber representatives at meeting on 3 July 2013.

[236] merSETA (2010) The impact of the 2008/9 global economic crisis on firms merSETA: A focus on employment and skills, EE Research Focus Pty (Ltd).

There are a number of government policies and strategies that should affect the way in which merSETA firms recruit and train people for employment within the sector. These all form part of the basket of policies aimed at furthering the national development agenda. Examples include:

- The Integrated Rural Development Strategy (2000) provides the overarching policy for rural development with more recent policies and strategies all requiring organisations to direct a specific focus on improving the opportunities and well-being of people living in rural areas, and particularly the rural poor.[237] The merSETA has determined that its motor servicing and sales subsector has the highest potential in terms of rural reach. In this light it is important that all provinces are supported in developing local training and trade test centres for motor servicing and sales skills.[238] Furthermore, linking training for this subsector with entrepreneurship training so that people with relevant skills can create their own employment in rural areas, should thus be a merSETA focus into the future.[239]
- Employment of people with disabilities (PWD). The Employment Equity Act (No.55 of 1998) sets a target of 2% of employment within qualifying companies (i.e. companies with 50 or more employees) for people living with disabilities. Efforts to achieve this target will impact on firms' recruitment for training and employment of people living with disabilities, and on their strategies to retain employees who become disabled while they are employed within the sector.[240]

4.6 CONCLUSIONS

This chapter has considered the demand for labour within the merSETA sector from different perspectives. Looking at total employment, WSP data for the year 2011/12 indicate a figure of 653 800. Average year-on-year changes in employment for the sectors that make up the merSETA sectors' cluster have been variable, but largely negative, since 2009. Since the recession of 2008/9, only the rubber products sector has shown employment increases, however at levels insufficient to make up for a decade of employment losses prior to this. While this trend correlates with data for the manufacturing sector as a whole, which show a long-term reduction in the sector's overall contribution to national formal employment, it stands in stark contrast to national government plans for large-scale job creation in the sector.

From an occupational perspective, the category technicians and associate professionals represents 9.9% of total employment in the merSETA sector, while professionals (including engineers) constitute 5.7%. Artisans, who form part of the group of skilled agricultural, forestry, fishery, craft and related trades workers, make up 19.4% of sector employment. Semi-skilled plant and machinery operators and assemblers (22.8%) and unskilled elementary workers (19.6%) together make up a still significant 42.4% of sector employment. An analysis of the proportional demand for workers according to their skills level reveals long-term trends of declining demand for the unskilled and

[237] Republic of South Africa (2000) The Integrated Sustainable Rural Development Strategy, 17 November 2000.

[238] The merSETA Regional Sector Skills Plans (merSETA 2013) have highlighted that despite having a significant proportion of the national vehicle park, Limpopo does not have a trade test centre for the motor trades, with apprentices having to travel to Gauteng.

[239] merSETA (2012) Motor Research Project: Employment and Education and Skills Audit of the merSETA Motor Chamber.

[240] merSETA (2013) Final draft research report for MERSETA OEM chamber: Empowering people with disabilities project

semi-skilled worker category and increasing demand for highly skilled workers – changes that are being driven by technological advancements and global competitiveness pressures. These same factors, in addition to the highly unionised nature of the merSETA workforce, are furthermore driving increases in real labour remuneration per employee in the majority of the merSETA's sectors.

Calculating future demand for labour in the sector remains challenging in light of the current economic uncertainties. However, with this in mind, the merSETA has updated its labour demand projection model, which projects the demand for labour in each of the major occupations that are found in the sector, given certain assumptions. The main purpose of these projections is to provide a broad indication of the numbers of people who need to be recruited into the sector and who would need to be trained for employment in the sector. Together with the sectoral employment targets set by government through its economic development policies, these figures provide a basis for skills planning by the merSETA.

The projections emerging from this latest update of the labour demand projection model, have adjusted downward the figures for new skills demand over the medium-term future, compared to last year. According to the baseline scenario, a total of 114 190 people will be required by the sector over the period 2013 to 2018 to fill new positions and positions that become vacant as a result of retirement, death or emigration of current employees. If the negative-growth scenario were to result, overall demand would only be 82 430 over the same period, while under the positive growth scenario total demand would be 182 900 people. New job creation by the sector – a key consideration of both IPAP and the New Growth Path – varies considerably under the different scenarios, from a contraction of overall sector employment in the negative scenario to 90 440 for the positive scenario, with the figure for the baseline scenario being 25 550. Of particular importance for the merSETA in respect of supporting the development of sufficient numbers of technicians and artisans for the sector, total demand for the occupational group technicians and associate professionals is 11 710 over the period under the baseline scenario, rising to 18 820 under the positive scenario, while for skilled agricultural, forestry, fishery, craft and related trades workers total demand over the period is 20 310 under the baseline scenario, rising to 33 890 under the positive scenario.

Finally, a range of factors has a direct impact on the future demand for skills in the sector. These factors include: the rate of economic recovery and future growth; the various government policies aimed at sector support and their relative success; the global and national shifts towards greater proportions of skilled workers in the sector; variations in the regional demand for particular skills; the national and international mobility of (particularly scarce) skills within the labour market; the rate of replacement demand; the quality of skills supply; and national transformation imperatives. Together, these factors will directly affect which of the various growth scenarios developed by the merSETA sector is more likely to arise in reality. The downward revision of new demand evident in this SSP compared with last year's projections is a direct result of the negative impact of lower than expected sectoral economic growth rates based on continuing global economic challenges.

5 THE SUPPLY OF SKILLS TO THE SECTOR

5.1 INTRODUCTION

This chapter considers the supply of skills to the merSETA sector. As with the demand for skills, supply is viewed from different perspectives. At the most basic level, it is necessary to reflect again on the current stock of skills available to the sector – a group that includes those who are currently employed, as well as those that are unemployed but available to work for the sector. In light of the employment downsizing that accompanied the recent recession in all the merSETA sectors, and that continues to affect some companies, this group forms a pool of immediately available skills.

Second, the chapter looks at the flow of new skills into the sector. The education and training of professionals, artisans and technicians is particularly important to the merSETA sector. Training of these occupational groups through degree and diploma programmes, and learnerships and apprenticeships takes several years and often takes place before learners enter into permanent employment in the sector. Such a situation makes it necessary for the merSETA and its companies to have a long-term view of skills generation and to use bursaries and other incentive schemes to ensure a sufficient flow of these critically important skills into the sector. Incentivised training has the benefit that graduates with scarce skills are channelled into the sector. The merSETA sector is in competition with all other sectors that demand these skills and may find itself at a disadvantage if new graduates are not bound to the sector through bursaries and other incentive schemes.

The third section of the chapter considers the development of skills among those who are already employed within the merSETA sector. The occupational profile of these workers has been outlined in previous chapters. Training for the vast majority of the sector's workers – those who fall into the categories skilled agricultural, forestry, fishery, craft and related trades workers and plant and machinery operators and assemblers, as well as those that fall into the groups clerical and administration support workers and service and sales workers – is generally the responsibility of employers. Furthermore, as managers and supervisors are generally drawn from within the sector, training and development at this level also takes place within the workplace. For this reason, workplace based training is needed in the areas ranging from Adult Basic Education and Training (ABET) and Foundational Learning Competence (FLC), to management and soft skills, product knowledge, continuous professional development (CPD) and experiential learning amongst other things. Training related to health and safety and changes in technology is critical for all levels of employees.

The fourth section provides an overview of the merSETA's interventions to support artisan development in the sector. The section provides some details of: merSETA's Accelerated Artisan Training Programme (AATP); the merSETA as a member of the Artisan and Technician Development Technical Task Team (ATD-TTT); the merSETA pilot of the Apprenticeship Dual System of training; merSETA research in support of artisan development; and the implementation of Recognition of Prior Learning (RPL), particularly in relation to artisan training.

This is followed by a consideration of merSETA's support for other aspects of government's national social and economic development agenda. Discussed in this fifth section of the chapter is: the MOU between the merSETA and the dti in support of IPAP; the placement of unemployed graduates in the

labour market; merSETA support of the Strategic Infrastructure Projects (SIPs); the conversion of merSETA qualifications for registration with the Quality Council for Trades and Occupations (QCTO); the implementation of merSETA partnerships with the FET college sector; and the merSETA's engagement with other national policy directives.

Finally, this chapter considers the factors that influence the supply of skills to the sector, considering the various challenges with the supply of technical skills to the sector and the various initiatives to improve occupation development and quality assurance.

Importantly, a substantial proportion of merSETA research is focused on assessing the impact of its programmes, and on making relevant adjustments to improve impact into the future. Impact-related findings from recently commissioned research are discussed in the relevant sections of this chapter.

5.2 CURRENT SUPPLY

5.2.1 Current employment

The stock of skills available to the metal, automotive and plastics manufacturing sectors includes the group of people that are currently employed in addition to those that are currently unemployed but available for work. The preceding chapters of this SSP have outlined the skills levels of the people currently employed within the sector, linked to the occupational profile. Notably, the sector has relatively large proportions of employees who are technicians and associate professionals (9.9%), professionals (5.7%), and managers (9.3%).

5.2.2 Unemployment

People who are currently unemployed but were previously employed in the sector must also be considered part of the current supply of skills. The sector has shed many jobs since 2008 as a result of the economic recession, as well as some other recent factors that have served to constrain growth and profitability. As indicated in Chapter 3, the metal sector lost a substantial 75 000 jobs; the plastics sector around 2 000 jobs; while the automotive sector lost around 32 700 in total (5 000 at the automotive assemblers; 18 000 at components manufacturers; 9 000 at motor retailers; and 700 at new tyre manufacturers). In addition, labour unions have provided evidence that retrenchments in the sector are ongoing.[241] This group of recently retrenched workers forms the pool of immediately available skills that can be drawn from to meet both new- and replacement demand.

At this stage there is no information available on the current employment status of these workers specifically. It is however possible to analyse the Quarterly Labour Force Surveys (QLFS) data. The QLFS for March 2013 found 230 440 unemployed[242] workers who had previously worked in the

[241] NUMSA has provided the merSETA with some information on workers that have been retrenched from the sector between the 3rd Quarter of 2008 and the present. The data contains over one thousand names of people retrenched from about 140 companies. While majority of retrenched workers were last employed as machine operators, many indicated that their previous positions were that of artisan or assistant artisan.

[242] The official (strict) definition of unemployment was used in this calculation. That means that only unemployed people who were actively seeking employment were included.

manufacturing sector. It stands to reason that a substantial portion of them were previously employed in the merSETA sector and that they would be available for re-absorption into the sector.

In 2013 the unemployed manufacturing workers are based mainly in Gauteng (36.8%), the Western Cape (21.4%) and KwaZulu-Natal (15.5%) (Table 5-1). Unsurprisingly, this corresponds with the national geographical concentration of the merSETA (and other manufacturing) sectors.

Over the period March 2009 to March 2013 unemployment of manufacturing workers decreased by an average of 4.51% per annum (Table 5-1). Seven of the nine provinces also show an average annual reduction in the numbers of unemployed manufacturing workers over the period. The only two exceptions are Gauteng and the Western Cape, where there have been annual average increases in unemployment of 0.23% and 1.94% respectively. These same provinces however also have the bulk of unemployed manufacturing workers, with 36.8% of the 2013 total in Gauteng and 21.4% in the Western Cape. Because of the concentration of merSETA sectors within Gauteng and the Western Cape, along with employment opportunities in other sectors in these provinces, it is reasonable to assume an overall picture of increasing manufacturing employment in these provinces that is being concealed by the in-migration of unemployed manufacturing workers from other provinces who are seeking to improve their chances of finding work. Positively, the merSETA sectors in Gauteng and the Western Cape have access to the largest pool of potential workers with previous sector experience.

Table 5-1 Unemployed manufacturing workers according to province: March 2009 to March 2013

Province	2009	2010	2011	2012	2013	%	Average annual growth rate
Gauteng	83 756	93 140	77 993	87 747	84 735	36.8	0.23
Western Cape	44 820	50 175	44 956	52 731	49 342	21.4	1.94
KwaZulu-Natal	61 099	54 185	48 793	45 647	35 785	15.5	-10.15
Eastern Cape	40 696	46 248	34 910	32 920	16 518	7.2	-16.50
Free State	15 250	17 266	20 935	21 167	14 670	6.4	-0.77
Limpopo	12 677	14 162	4 573	4 478	10 280	4.5	-4.11
Mpumalanga	16 840	14 323	9 602	14 273	9 956	4.3	-9.98
North West	10 963	12 026	5 551	5 164	8 510	3.7	-4.94
Northern Cape	4 100	1 808	2 700	1 473	644	0.3	-30.94
Total	**290 200**	**303 334**	**249 954**	**265 601**	**230 440**	**100**	**-4.51**

Source: QLFS, March 2009 - 2013

The unemployed manufacturing workers are relatively young, with 74.5% under the age of 40 in 2013 (Table 5-2). The proportion is down from the figure for March 2009 when the 85.3% of unemployed manufacturing workers were younger than 40 years. While young workers have the advantage of a potentially longer service to the sector, older workers have the advantage of increased levels of sector and life experience.

Table 5-2 Unemployed manufacturing workers according to age: March 2009 to March 2013

Age Group	2009	%	2010	%	2011	%	2012	%	2013	%
15-19	6 184	2.1	2 948	2.1	9 637	3.9	1 449	0.5	5 439	2.4
20-24	65 092	22.4	53 811	22.4	36 353	14.5	43 368	16.3	39 268	17.0
25-29	79 765	27.5	63 020	27.5	65 675	26.3	60 641	22.8	42 249	18.3
30-34	59 741	20.6	66 654	20.6	48 327	19.3	54 564	20.5	53 637	23.3
35-39	36 703	12.6	43 655	12.6	36 130	14.5	40 008	15.1	31 161	13.5
40-44	15 421	5.3	25 693	5.3	20 731	8.3	23 257	8.8	23 814	10.3
45-49	13 887	4.8	19 543	4.8	11 033	4.4	17 786	6.7	16 178	7.0
50-54	6 288	2.2	13 766	2.2	12 984	5.2	17 680	6.7	10 225	4.4
55-59	5 552	1.9	10 966	1.9	7 775	3.1	6 425	2.4	7 189	3.1
60-64	1 568	0.5	2 454	0.5	0	0.0	423	0.2	437	0.2
65+	0	0.0	824	0.0	1 309	0.5	0	0.0	843	0.4
Total	**290 200**	**100**	**303 334**	**100**	**249 954**	**100**	**265 601**	**100**	**230 440**	**100**

Source: QLFS, March 2009 - 2013

The educational levels of the unemployed manufacturing workers can be seen inTable 5-3. The vast majority have Grade 12 (NQF Level 4) or lower-level qualifications. The proportion of unemployed manufacturing workers with qualifications at the NQF Level 5 or above ranges from a low of 4.7% in 2009 to a high of 6.9% in 2011. A significant proportion of potential sector workers thus have qualifications above Matric level.

Table 5-3 Unemployed manufacturing workers according to level of education: March 2009 to March 2013

NQF Level	2009	%	2010	%	2011	%	2012	%	2013	%
Below Level 1	5 0152	17.3	52 340	17.3	40 107	16.0	40 356	15.2	34 768	15.1
Level 1	21 085	7.3	28 774	9.5	34 622	13.9	23 468	8.8	19 321	8.4
Level 2	53 309	18.4	56 015	18.5	35 914	14.4	40 511	15.3	42 439	18.4
Level 3	57 333	19.8	61 101	20.1	56 248	22.5	61 291	23.1	57 283	24.9
Level 4	91 762	31.6	82 687	27.3	63 267	25.3	83 735	31.5	62 235	27.0
Level 5 and above	13 564	4.7	18 367	6.1	17 123	6.9	14 657	5.5	12 444	5.4
Unknown	2 995	1.0	4 051	1.3	2 672	1.1	1 582	0.6	1 950	0.8
Total	**290 200**	**100**	**303 334**	**100**	**249 954**	**100**	**265 601**	**100**	**230 440**	**100**

Source: QLFS, March 2009 - 2013

The previous occupations of unemployed manufacturing workers are shown in Table 5-4. In 2013 the majority had previously worked as plant and machine operators and assemblers (30.7%), elementary workers (30.4%), and craft and related trades workers (23.8%). Among the technical occupations, unemployment decreased by 7.04% for craft and related trades workers and by 3.13% for technical

and associate professionals. Unemployment among managers, professionals and plant and machine operators and assemblers in the sector however increased slightly.

Table 5-4 Unemployed manufacturing workers according to previous occupation: March 2009 to March 2013

Occupational Category	2009	2010	2011	2012	2013	%	Average annual growth rate
Legislators, senior officials and managers	4 354	7 875	5 492	1 424	5 107	2.2	3.24
Professionals	861	1 878	2 673	61	902	0.4	0.94
Technical and associate professionals	16 796	19 379	11 590	17 906	14 325	6.2	-3.13
Clerks	17 972	21 627	19 162	20 459	8 217	3.6	-14.49
Service workers and shop and market sales workers	8 352	1 643	6 466	6 631	6 336	2.7	-5.38
Skilled agricultural and fishery workers	450	1 272	949	717			
Craft and related trades workers	78 964	96 646	65 566	71 229	54 813	23.8	-7.04
Plant and machine operators and assemblers	69 225	86 691	65 308	76 143	70 745	30.7	0.44
Elementary occupations	93 226	66 321	72 749	71 031	69 995	30.4	-5.57
Total	**290 200**	**303 334**	**249 954**	**265 601**	**230 440**	**100**	**-4.51**

Source: QLFS, March 2009 – 2013

This section has considered the skills available to merSETA from the national pool of retrenched workers who were previously employed in the sector. Notably however, there is a deterioration of skills due to long-term unemployment. The technology in certain areas also advances rapidly, with the result that some skills can become obsolete over time.[243] While the impact of these factors cannot be measured, they nevertheless affect the quality of this skills reserve.

5.3 THE SUPPLY OF NEW SKILLS TO THE SECTOR

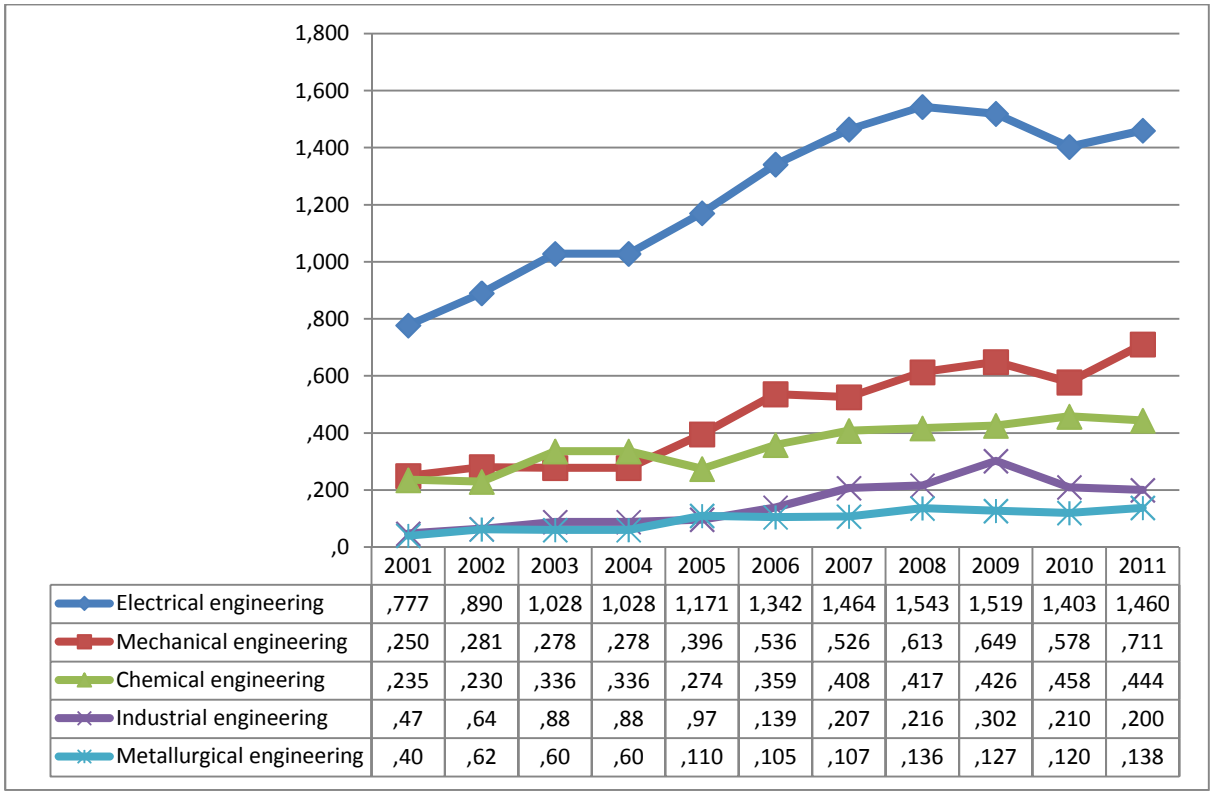
5.3.1 Higher education and training

While a range of general qualifications from the higher education and training (HET) sector in the areas of finance, accounting, human resources and Information and Computer Technology (ICT) are utilised in the merSETA sector (see also Section 4.2.2) of most relevance is the output of engineers

[243] An example of a discussion of the negative impact of 'skills atrophy' on a national economy is: Sydney Morning Herald (2013) Long term unemployed suffer 'skills atrophy', 8 June 2013, http://www.smh.com.au/national/longterm-unemployed-suffer-skills-atrophy-20130607-2nvk0.html, Accessed 29 October 2013.

and in particular electrical engineering, mechanical engineering, chemical engineering, industrial engineering, and metallurgical engineering.

Figure 5-1 shows the graduations with national diplomas in selected engineering fields from 2001 to 2011. These graduates become available to the national economy as engineering technicians in the relevant engineering disciplines. Electrical engineering has the highest output (1 460 in 2011), followed by mechanical engineering (711 in 2011) and chemical engineering (444 in 2011). Output from all fields has increased substantially over the ten-year period, although a slight drop in output was reported in all fields except chemical engineering in 2010. The average annual increase was greatest in industrial engineering (15.5%), followed by metallurgical engineering (13.2%), mechanical engineering (11.0%), chemical engineering (6.6%), and electrical engineering (6.5%).

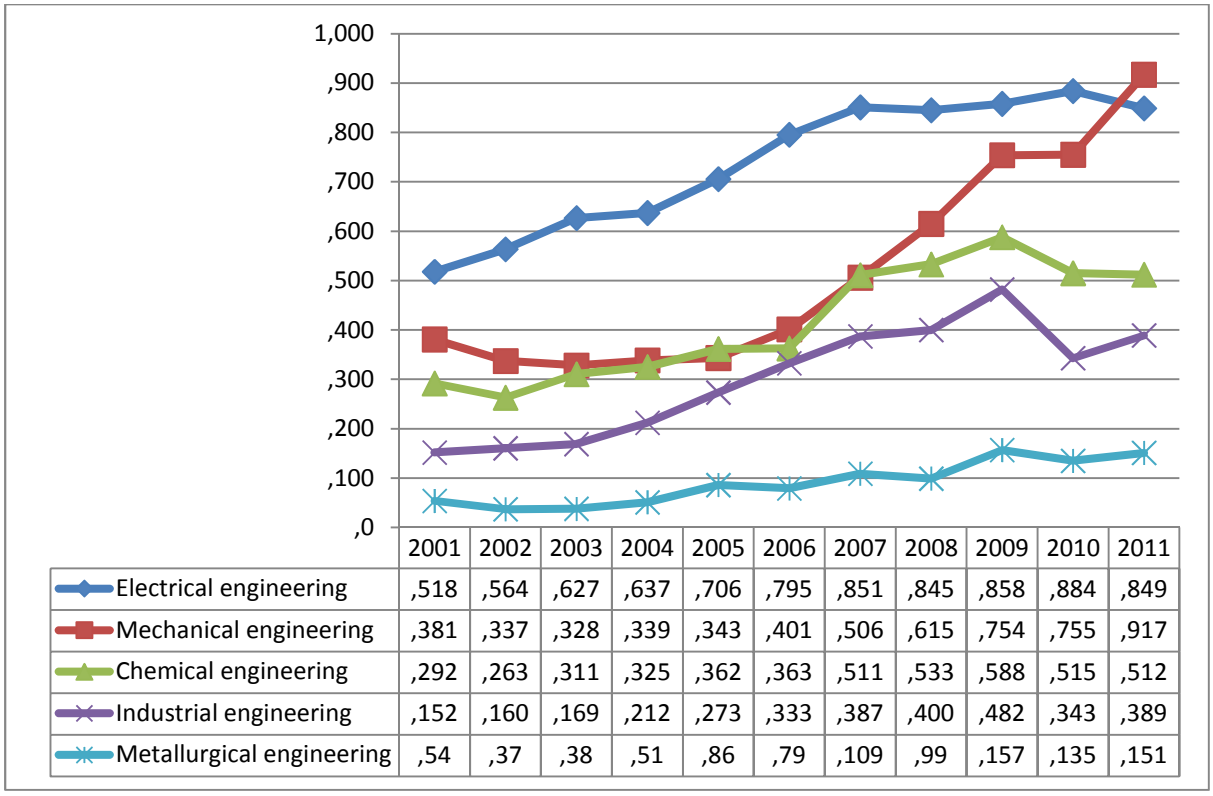


	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Electrical engineering	,777	,890	1,028	1,028	1,171	1,342	1,464	1,543	1,519	1,403	1,460
Mechanical engineering	,250	,281	,278	,278	,396	,536	,526	,613	,649	,578	,711
Chemical engineering	,235	,230	,336	,336	,274	,359	,408	,417	,426	,458	,444
Industrial engineering	,47	,64	,88	,88	,97	,139	,207	,216	,302	,210	,200
Metallurgical engineering	,40	,62	,60	,60	,110	,105	,107	,136	,127	,120	,138

Figure 5-1 Number of national diplomas awarded in selected engineering fields: 1999-2011

Source: DHET, HEMIS

Figure 5-2 shows the number of first degrees awarded in the same selected engineering fields. These graduates become available to the national economy as engineers or engineering technologists and can, after a minimum of three years' work experience (during which certain criteria must be met), register with ECSA as professional engineers or engineering technologists in their respective fields. In 2010, a slight decline in output (7% in total) was reported, which was followed by a 7% increase in 2011. Output in 2011 was the greatest in mechanical engineering (917), followed by electrical engineering (849), and chemical engineering (512). The fields that have demonstrated the highest average annual growth over the past decade are metallurgical engineering (10.8%) and industrial engineering (9.9%). The average annual growth noted over the period for chemical engineering was 5.8%, for mechanical engineering was 9.2%, and for electrical engineering was 5.1%.



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Electrical engineering	,518	,564	,627	,637	,706	,795	,851	,845	,858	,884	,849
Mechanical engineering	,381	,337	,328	,339	,343	,401	,506	,615	,754	,755	,917
Chemical engineering	,292	,263	,311	,325	,362	,363	,511	,533	,588	,515	,512
Industrial engineering	,152	,160	,169	,212	,273	,333	,387	,400	,482	,343	,389
Metallurgical engineering	,54	,37	,38	,51	,86	,79	,109	,99	,157	,135	,151

Figure 5-2 First degrees awarded in selected engineering fields: 1999-2011
Source: DHET, HEMIS

Importantly, graduates with national diplomas and first degrees from the HET system have to meet the needs of all sectors of the national economy that require these skills, and not only the needs of the merSETA sectors. Competition between sectors is strong because, despite the positive growth in output in all fields, these increases have not been sufficient to alleviate the shortages of these skills in the country. As such, direct support for the generation of these skills through incentive schemes such as bursaries plays a critical role in channelling graduates into the merSETA sector.

merSETA's Bursaries Project awarded 278 new bursaries to unemployed learners for the 2012 academic year, bringing the total number of unemployed learners currently being supported to 600. Additionally, 132 new bursaries were awarded to merSETA employees for job-specific development programmes to enhance management expertise in the sector, as well as to promote career development.[244]

A study conducted by the Human Sciences Research Council (HSRC) found that the engineering skills development pipeline is not only long, but is also being adversely affected by a number of factors. SA's poor-quality schooling system with low enrolment in the critical subject areas of maths and physical science (combined with low-quality teaching and low pass rates in these subjects) poses a fundamental challenge to growing the national pool of engineers. Engineering faculties also compete with other faculties for enrolments from a small pool of eligible school leavers, among whom Africans are still under-represented. Poor engineering throughput rates are a factor of poor school preparation, together with other issues. These include: increased engineering class sizes; the

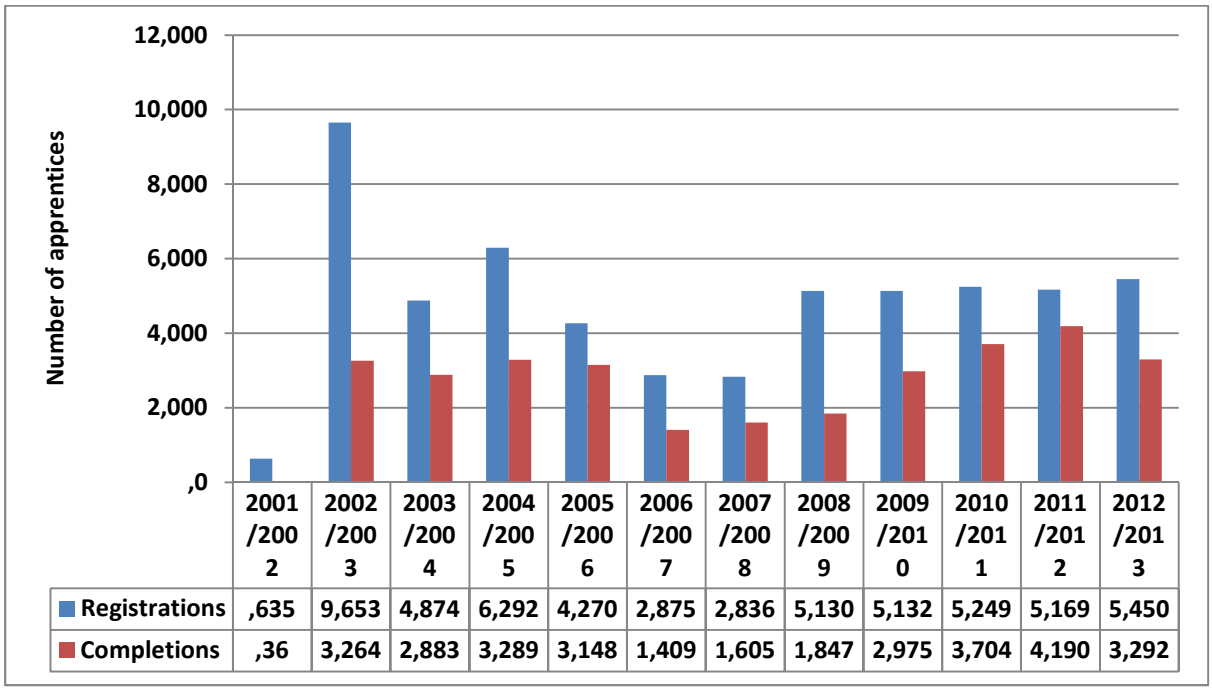
[244] merSETA (2012) merSETA Annual Report 2011/12.

difficulty some students have in accessing study finance; and limited workplace-training opportunities, which are compulsory for graduation for students from the universities of technology.[245]

5.3.2 Learnerships and apprenticeships

Since its inception in November 2001 the merSETA has registered 57 565 apprentices on apprenticeships and 52 004 learners on learnerships. In the same period, a total of 31 642 apprentices qualified as artisans in the sector and another 29 347 learners successfully completed their learnerships. The annual registration and completion figures for apprentices can be seen in Figure 5-3 and those for learners on learnerships in Figure 5-4. The beginning of the period (between 2002/3 and 2007/8) shows a generally declining trend of registrations after the initial high figure of almost 10 000. Since 2008/9 registrations have stabilised at about 5 200 per year, while completions appear to be increasing from the low of 1 409 in 2006/7 to a high of 4 190 in 2011/12. Positively, these figures suggest not only a maturation of the system, but also improved throughput rates.

Registrations in the merSETA learnership system appear to be cyclical, with peaks in 2004/5 (7 657) and 2009/10 (7 523). The reduction in registrations through the second cycle is however less severe than in the first, while learnership completions appear to be on an overall upward trend with a record number of 4 767 in 20112/13.

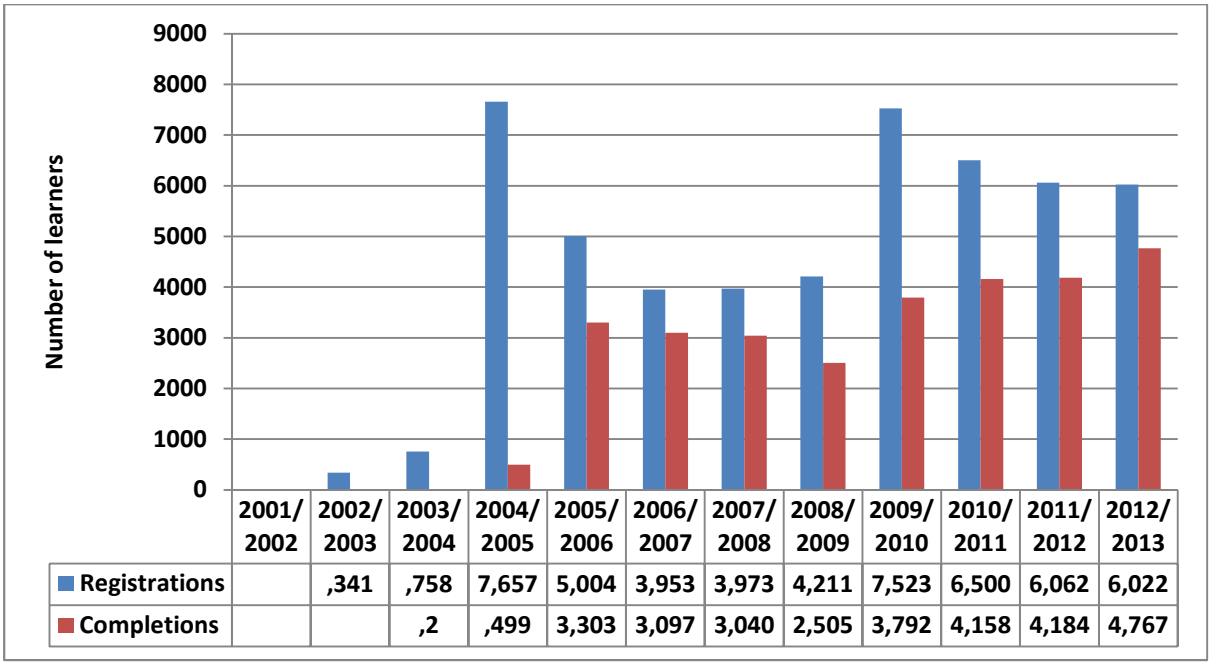


	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Registrations	,635	9,653	4,874	6,292	4,270	2,875	2,836	5,130	5,132	5,249	5,169	5,450
Completions	,36	3,264	2,883	3,289	3,148	1,409	1,605	1,847	2,975	3,704	4,190	3,292

Figure 5-3 Number of apprentices that registered and qualified in the merSETA sector: 2001/02 to 20012/13

Source: merSETA data system, 2013

[245] Du Toit R, Roodt J (2009) Engineers in a Developing Country: The profession and professional education of engineers in South Africa, HSRC Press, Pretoria, 2009.



	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013
Registrations		,341	,758	7,657	5,004	3,953	3,973	4,211	7,523	6,500	6,062	6,022
Completions			,2	,499	3,303	3,097	3,040	2,505	3,792	4,158	4,184	4,767

Figure 5-4 Number of learners that registered on learnerships and qualified in the merSETA sector: 2001/02 to 20012/13

Source: merSETA data system, 2013

From the figures cited above, it is clear that apprenticeships and learnerships form a crucial part of the supply of skills to the sector. The merSETA continues to support the uptake of these learning programmes and it continues to monitor trends in registrations and in completions.

From outside the merSETA sector, the NGP also plans to increase the number of artisans available to the SA economy as a whole through leveraging training from all SOEs. From across Eskom, Transnet, South African Airways (SAA), Denel, Safcol, Alexcor and Infraco, the aim is to have at least 20 000 people enrolled in artisan-related apprenticeships and learnerships between 2011 and 2015.[246]

5.3.3 FET colleges

Traditionally FET college programmes in engineering have been very limited and narrow in content, as they were designed to meet the demands of manual low-skills- and low-wages industries. This has resulted in challenges for universities and universities of technology in their attempts to recognise these qualifications for articulation purposes. Additionally, as the work-experience component of the training is not enforceable, employers have been reluctant to accept these students.

Despite this, FET colleges form a critical component of the current training capacity of artisans. FET colleges offer training for the NQF Level 4 National Certificate (Vocational) NC(V). One of the four routes to becoming an artisan is by doing an internship or skills programme on top of having a relevant NC(V). Promoting the increased output of such relevant NC(V) qualifications, in addition to incentivising the provision of internships in preparation for trade testing, is thus one way of increasing the supply of artisan skills for the sector into the future.

[246] EDD (2011) New Growth Path: Accord 1, National Skills Accord.

In addition, a group of FET colleges was also granted extension by the DHET in 2010 to offer the N1 to N3 (National Technical Education or NATED 'N') courses again from 2011 onwards. The original group was expanded through merSETA negotiations with the DHET in order to meet the needs of all regions.[247] These courses form the theoretical component of the apprenticeship route to becoming an artisan.

President Jacob Zuma recently highlighted the long-term importance of FET colleges in generating the skills that will assist the nation in reducing poverty and unemployment, and their short-term importance in generating the skills required to support the SIPs. As such, the support and growth of this form of education and training has become a major focus of government intervention. The DHET's Green Paper on Post-School Education set the ambitious target of increasing student enrolment in FET colleges to 4 million by 2030, in support of which an initial R2.5 billion over the period 2012 to 2015 has been set aside from SETA and National Skills Fund (NSF) funds towards the refurbishment and construction of new FET colleges.[248] In addition, the Minister of Higher Education and Training, Blade Nzimande, ahead of the release of the DHET budget, announced that students entering FET colleges who qualified for a bursary through the National Student Finance Assistance Scheme (NSFAS) would now receive financial aid that covered 100% of their study fees.[249]

Therefore, while FET colleges' contribution to meeting the skills demand for the merSETA sector has been limited in the past, the DHET is making huge efforts to change this. Through its Strategic Plan, the merSETA is supporting government's initiative. The Strategic Plan includes a directed focus on promoting the responsiveness of the FET sector to meeting the immediate skills needs of the metal, automotive and plastics industries, which will be done through: participation in the revision and development of the relevant curricula and qualifications offered by FET colleges; establishing partnerships that result in increased capacity at FET colleges; and implementing mechanisms aimed at bridging the gap between industry and academic provision. The merSETA's progress in these areas is discussed in more detail in Section 5.5 and Section 5.6 below.

5.3.4 General education and training

The output of the general education and training (GET) sector to the overall supply of skills for the merSETA sector is important in two key ways.

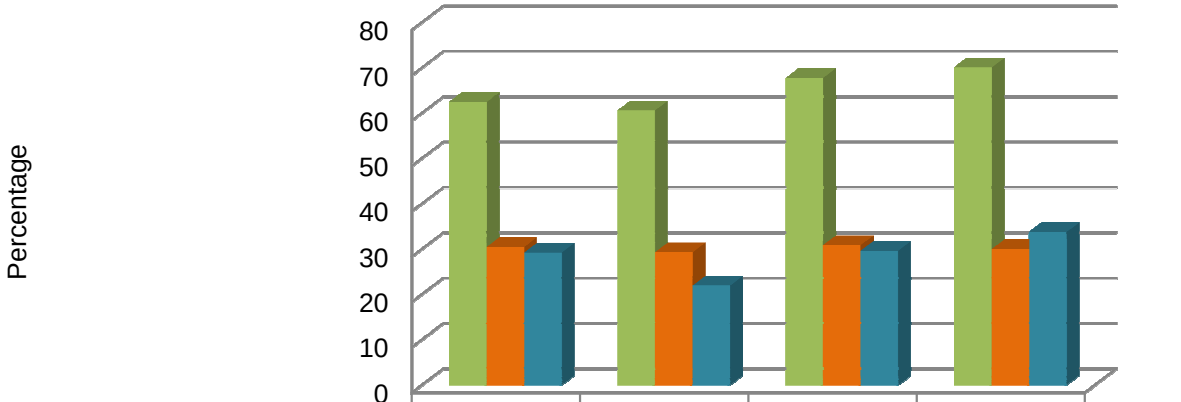
First, the number of learners graduating with maths and physical science as subjects at grades that support entry and success at higher education level in qualifications such as engineering has a direct impact on the ultimate availability of these high-level (and future management) skills for the national economy and the merSETA sector. Figure 5-5 shows the results of those who entered to write the Grade 12 exams. The overall percentage that passed rose from 63% in 2008 to 70% in 2011. Of all those who wrote the Grade 12 exam in 2012, only 30% achieved maths with 40% or more and 34% achieved physical science with 40% or more. These low percentages, combined with

[247] merSETA (2010) Achiever Newsletter, http://www.merseta.org.za/Portals/0/01_MERSETAAchieveMag(web)1.pdf, Accessed 29 September 2011.

[248] Skills Portal (2012) Zuma stresses importance of FET colleges, 4 April 2012, http://www.skillsportal.co.za/page/education/fet-colleges/1223082-Zuma-stresses-importance-of-FET-colleges, Accessed 16 July 2012.

[249] Skills Portal (2012) FET colleges tops on DHET agenda, 24 April 2012, http://www.skillsportal.co.za/page/education/fet-colleges/1243825-FET-colleges-tops-on-DHET-agenda, Accessed 16 July 2012.

the absence of any clear improvement trends for these key subjects, is concerning and a factor that limits the higher education system from increasing access to and success in many of the high-level scarce-skill occupational qualifications.



	2008	2009	2010	2011
Achieved Grade 12	63	61	68	70
Achieved Mathematics (40% and more)	31	29	31	30
Achieved Physical Sciences (40% and more)	29	22	30	34

Figure 5-5 Results of Grade 12 examination

Source: Reports on the National Senior Certificate examination results, 2009, 2010 and 2011. Department of Basic Education, SA. <http://www.education.gov.za/EMIS/StatisticalPublications/tabid/462/Default.aspx> Accessed 8 May, 2013.

Second, a sizeable proportion of the merSETA's employees enter the workforce with their highest qualification being an NQF Level 4 from the GET sector. These people take up positions in the occupational categories machine operators and assemblers, clerical support workers, and service and sales workers. As they will generally continue their skills training within the sector after they become permanently employed, the number – but more particularly the quality of Grade 12 learners passing with maths – is of importance to the sector.

In recognition of this, the merSETA's Science, Engineering and Technology (SET) Project aims at improving the Grade 12 maths, science and English performance among high school learners and, through this, the supply of these skills to the higher education sector. In 2010/11 the project was in its second year and had a total of 600 learners involved. All learners involved in the project who wrote Grade 12 in 2010 passed and 85% achieved university entrance. Among the learners there were a total of 105 distinctions. Based on the success of the original project, the programme is set to continue, with agreements having been entered into with five FET colleges and two universities in seven provinces, targeting a total of 1 440 learners and more than 20 schools. This scope includes a greater focus on non-urban regions, and aligns the programme with opportunities for learners at FET and HET levels. Efforts will also be made to align the programme more closely with company bursaries and with merSETA's planned career guidance units. The last of these represents part of an increased focus on career guidance and development, which started in 2010 and will be implemented in conjunction with the National Youth Development Agency (NYDA), the South African Qualifications Authority (SAQA), and municipalities.

5.3.5 Skills development for people living with disabilities

merSETA's project for people with disabilities has the purpose of developing a strategic plan and an implementation plan to promote training and placement for the disabled in certain occupations in the manufacturing and engineering context, and through this addressing key policy and legislative objectives and obligations. This will bring together a number of projects that are being undertaken by merSETA companies.[250]

In November 2011, the merSETA released its Programme Charter for Persons with Disabilities. The charter's objective is cross cutting and intended to assist the merSETA in achieving all eight NSDS II goals. The vision of the charter is to develop "an integrated merSETA five-year strategy and support programme to promote the skills development of people with disabilities". Importantly, merSETA's disability charter emphasizes not only training in support of increasing employment access, but also training in support of career development within the sector. Finally, the importance of a sector-wide integrated and co-ordinated approach to skills development of people living with disabilities is highlighted.

There are currently 4 680 PWD employed within the merSETA sector. Despite being a slight increase from the previous year's figure of 4 400, at 0.7% of total employment this proportion has essentially remained unchanged since 2011. The chamber with the highest percentage of people with disabilities (1.9% of total employment) is the Auto Chamber, with this figure having increased over the past year (from a figure of 1.5%) (see Section 2.5.6).

In line with the Auto Chamber's apparently higher levels of focus on employing PWD, the chamber commissioned as their 2013 project, research into matching disability with suitable employment categories in the sector, and at looking at the best way to recruit, train and deploy people living with disabilities on merSETA scarce-skills learnerships within the subsector. Phase 1 of the implementation of merSETA's Disability Charter was anticipated to be the analysis of this research. The research process however revealed that while certain occupations are more suited to certain types of disabilities than others,[251] the unique nature of all disabilities means that matching the right person to the right job should only be done after the completion of training, and cannot be undertaken before the time.[252]

While revisions to the merSETA's Disability Charter implementation plan will have to be made based on this outcome, 200 learners with disabilities have already been directly reached through the

[250] Examples include: merSETA's partnership with VWSA in a project (which has now been in operation for four years) that looks at equipping people with disabilities in Business Administration NQF Level 3, and in finding them employment once qualified; and merSETA's partnership with the PlasticsSA project through which the first group of 18 deaf students have graduated from Whisper Boat Building Academy. (merSETA Annual Report 2011/12)

[251] The report considered specifically the top six scarce skills in the Auto Chamber. Spray painting, millwright/electro-mechanician, and paintless dent removal all require physical strength, manual dexterity, good vision and good hand-eye coordination, which would exclude certain visual and physical disabilities. Electricians and automotive electricians, although not requiring physical strength, do require good vision and colour discrimination, manual dexterity, and the ability to work for long periods in cramped spaces. The other most commonly identified scarce skill, that of mechatronic technicians, does not exclude people with physical disabilities as it is a more desk-bound, intellectually challenging job, but it does require good communication skills and many years of study, and requires an aptitude for mathematics and science.

[252] merSETA (2013) Final draft research report for MERSETA OEM chamber: Empowering people with disabilities project.

project. Furthermore merSETA has entered into an agreement with Disabled People of South Africa (DPSA) to test the new framework by rolling out technical learnerships for 140 candidates.[253]

5.3.6 Regional variation in skills supply

merSETA's focus on skills supply has generally considered the flow of skills into the labour market at a national level. The more localised perspective of skills demand has however been fore-fronted by an increasing focus on the SIPs and SEZs such as Saldanha Bay with the result that skills supply must now also be considered at this level. A recent research report commissioned by merSETA highlights the regional variation in skills development opportunities in Gauteng province, the province that is considered to be the best skills development infrastructure in the country.[254] The spatial challenges encountered by particularly the poor in accessing education and training means that the issue of regional variation in skills supply thus needs to be considered more closely into the future.

5.4 TRAINING AND DEVELOPMENT OF THE CURRENT WORKFORCE

This section describes a selection of the initiatives that the merSETA has in place to train and develop the sector's current workforce. While many of these initiatives do not address the issue of 'scarce' skills directly, they however address the need for skills which industry considers as 'critical' to its continued operation.

5.4.1 Qualifications developed by the merSETA

Companies in the merSETA sector are involved in a range of training and development initiatives that focus on developing the skills of their employees. Such initiatives supplement, but also build on, the training that supplies new skills to the sector. This training and development of the current workforce forms a critical source of skills supply.

merSETA qualifications that are registered with SAQA range from NQF Level 1 to Level 5. The majority of these qualifications are attained through learnerships. The merSETA skills programmes are made up of unit standards or groups of unit standards that belong to these qualifications.

5.4.2 Management and supervisory development

Managers and supervisors in the metal, automotive and plastics manufacturing sectors need a combination of industry-specific knowledge and technical knowledge of and skills in the functional area to be managed, as well as supervisory and management skills. In most instances managers and supervisors are drawn from within the workforce (and, therefore, already have technical and functional knowledge). Further skills development happens through combinations of formal training programmes such as Masters of Business Administration (MBA) programmes as well as short courses and in-service training. The limited supply of particularly black managers means that a focus of this form of training for potential managers from previously disadvantaged backgrounds will remain critical into the foreseeable future.

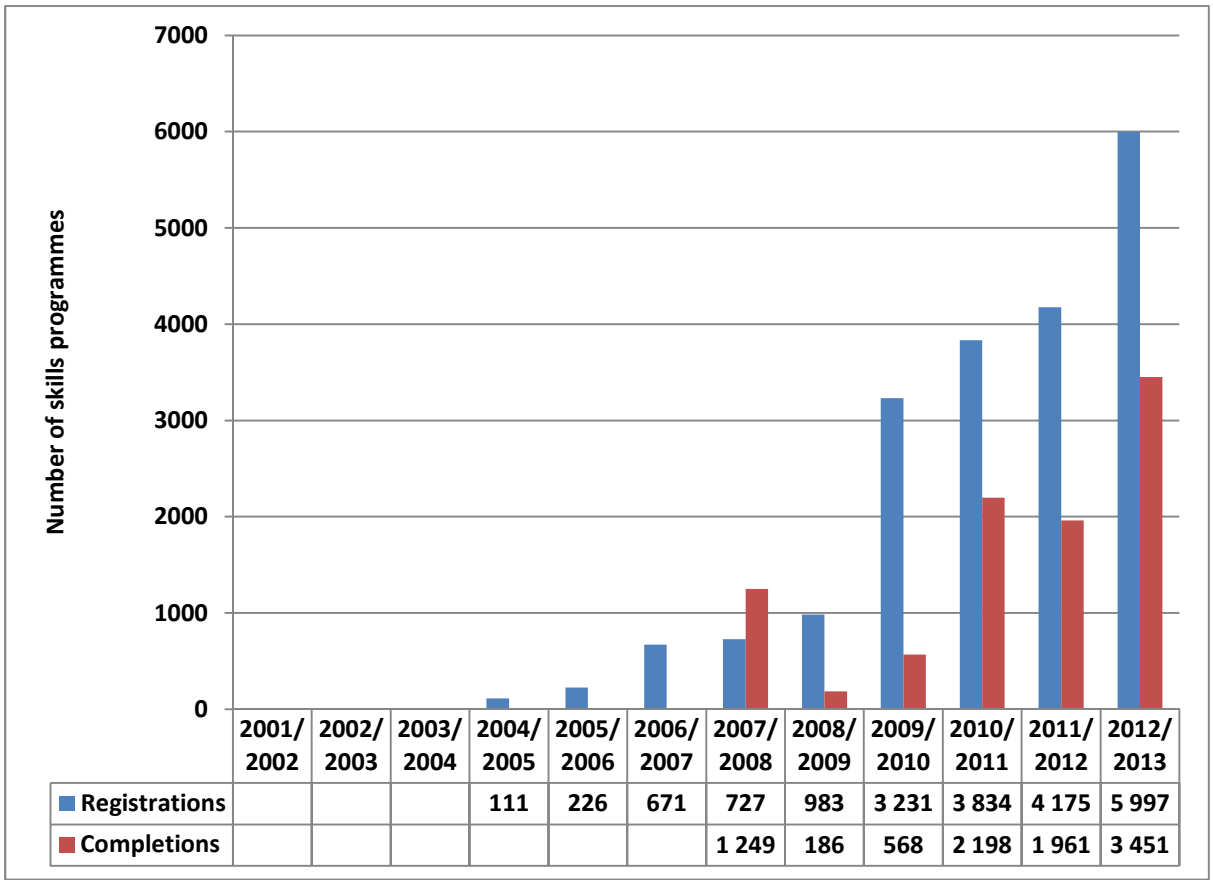
[253] merSETA (2012) merSETA Annual Report 2011/2012.

[254] Lolwana P (2013) Place Matters: Education and Employment in the Margins of Gauteng, Research in Education and Labour (REAL) Centre, University of the Witwatersrand, Johannesburg, March 2013.

5.4.3 Skills programmes

A skills programme is a structured learning programme that comprises an agreed cluster of unit standards. A skills programme may specify the sequence in which the unit standards must be achieved and the practical (workplace) experience that forms part of the programme. A completed skills programme constitutes credits towards an NQF-registered qualification**.** This means that some or all of the unit standards in the skills programme form part of the unit standards that together make up a qualification. Credits obtained during the course of a skills programme will thus constitute credits towards the qualification.

Skills programmes form an important part of the training and development of the occupational groups 'plant and machinery operators and assemblers' and 'elementary workers'. Registration in skills programmes has increased steadily, particularly since 2009/10. Similarly, completions of skills programmes are also increasing, with a total number of completions of 3 451 for 2012/13. (Figure 5-6).



	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013
Registrations				111	226	671	727	983	3 231	3 834	4 175	5 997
Completions							1 249	186	568	2 198	1 961	3 451

Figure 5-6 Skills programme registrations and completions: 2006/2007-2011/2012

Source: merSETA data system, extracted June 2013

5.4.4 ABET

The need for ABET has been stated earlier in this report, especially among the relatively large group of elementary workers within the sector.

Employers that submitted Annual Training Reports (ATRs) for the year 2011/12 reported that 3 694 workers completed ABET programmes (at different levels) in that year. This total represents 2.9% of the total number of workers within the occupational category elementary workers (128 160). Of the 3 694 workers who completed ABET, 88.2% were African, 9.7% were Coloured, 0.3% were Indian and 1.7% were white. Overall, 71.6% of those employees who completed ABET were male and 28.4% were female (Table 5-5). White and Indian workers made up only slightly smaller proportions of the employees who completed ABET training than they represent within the demographic profile of the sector's elementary workers. Female workers represent a greater proportion of ABET completions compared to their representation within the elementary workers group (28.4% compared with 16.6%). Thus ABET training is thus largely representative at a racial level, while it favours women.

Table 5-5 Employees who completed ABET: 2011/12

		African	Coloured	Indian	White	Total	
						N	%
Male		2314	271	11	48	2 644	71.6
Female		945	89	1	15	1 050	28.4
Total	**N**	**3259**	**360**	**12**	**63**	**3 694**	**100.0**
	%	**88.2**	**9.7**	**0.3**	**1.7**	**100.0**	

Source: merSETA ATR data, extracted June 2013

5.4.5 Foundational Learning Competence (FLC)

The FLC certificate is planned to replace the fundamental unit standards in maths and communications that were required by all SAQA qualifications at NQF levels 2 to 4, which for a variety of reasons were not well implemented. Aiming to achieve the NQF goals of education redress, access to qualifications, and the provision of a basis for lifelong learning, the FLC is based on evidence that language proficiency is closely aligned with success in learning in general. Thus, the FLC is intended to assist leaners in successfully engaging with occupational qualifications by teaching them how to use reading and writing to learn.

The FLC will be externally assessed by the Independent Examinations Board and, although it will not be required for entry, the successful completion of the FLC will be a requirement for attaining occupational qualifications at NQF levels 3 and 4.[255] Although few QCTO qualifications are ready for implementation, agreements have been reached with Columbus Steel and the Gauteng City Region Academy for pilot projects of FLC implementation.[256] Future monitoring of FLC certificate entry and completions (especially for learners who are enrolled for relevant artisan qualifications) will provide additional information on the potential availability of skills for the merSETA sector.

5.4.6 In-service training

In-service training is also a critical part of skills development in the merSETA sector and spans a wide array of skill areas and skill needs. It takes place through a variety of training methods – ranging from structured courses offered in the classroom to informal on-the-job training. This training is not linked to formal qualifications.

Employee attendance at short courses relates to areas spanning health and safety, soft skills, product knowledge and management training. Table 5-6 shows the demographic breakdown of merSETA short course attendees through 2011/12. More than half were African (51.8%), and the majority were male (81.2%). While the proportional representation of white workers within this group (27.1%) is higher than their overall sectoral demographic representation, this may relate to their still high representation at management level (69.6%),[257] and the fact that workers at this level may be the beneficiaries of more than one short course in the space of a year.

[255] QCTO (2012) Foundational Learning Competence.

[256] merSETA (2013) Final Status Report for merSETA Board for July 2013.

[257] SeeFigure 2-13.

Table 5-6 Employees who completed Short Courses: 2011/12

		African	Coloured	Indian	White	Total	
						N	%
Male		114 704	29 281	13 858	54 265	212 108	81.8
Female		19 521	8 041	3 608	15 935	47 105	18.2
Total	**N**	**134 225**	**37 322**	**17 466**	**70 200**	**259 213**	**100**
	%	**51.8**	**14.4**	**6.7**	**27.1**	**100**	

Source: merSETA ATR data extracted June 2013

With regard to another form of in-service training – experiential training – merSETA companies provided 2 557 individuals with opportunities in 2011/12.

Training areas include chemical engineering, analytical chemistry, polymer technology, civil engineering, electrical engineering, engineering metallurgy, metallurgy extraction, industrial engineering, mechanical engineering, process instrumentation and a range of other non-technical areas such as finance, marketing, human resources and administration. Of those who underwent experiential training in the past year, 74.9% were African and 31.6% were female (Figure 5-7).

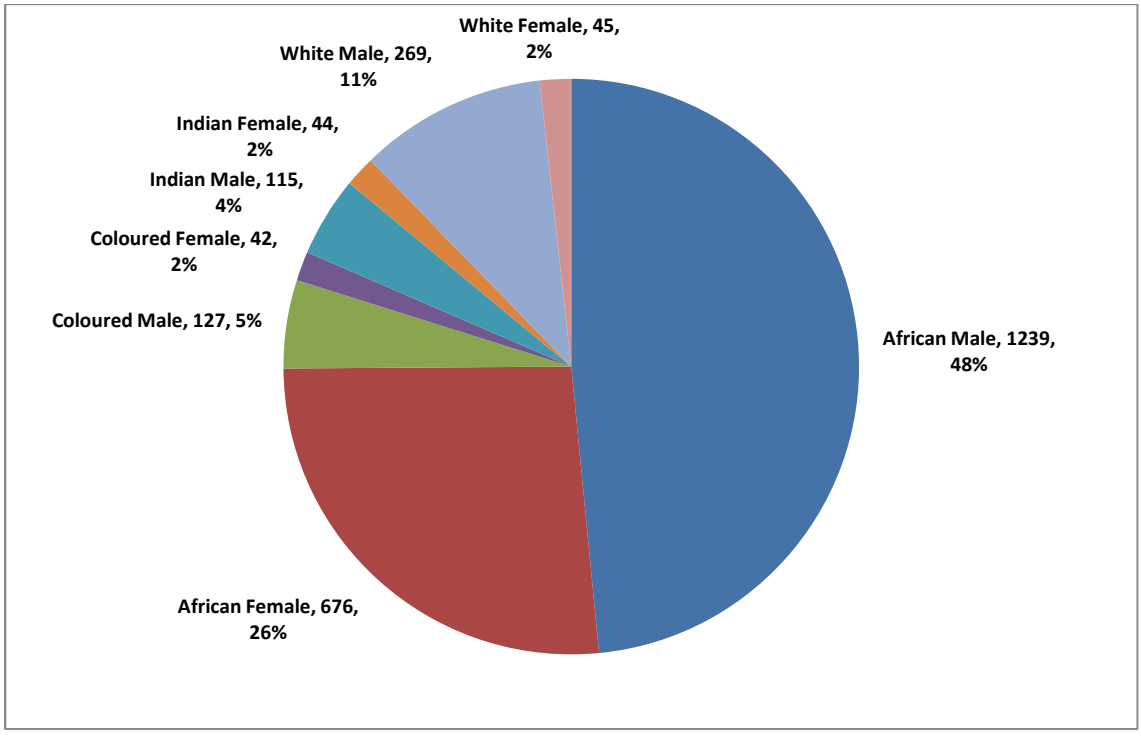


Figure 5-7 Race and gender of experiential learners, 2011/12

Source: merSETA data system, extracted June 2013.

A number of merSETA companies are involved in the provision of internships for recent graduates as a way of providing them with access to work experience and in-service training. The results of the first baseline study of internships were released in September 2013. The study points out the value of these programmes for all participants in the area of soft skills (time management, problem solving, interpersonal skills etc.), however highlights a range of inconsistencies and shortfalls in the

implementation of internships by companies. Recommendations for improving the value and reach of this form of in-service training include among others: improving the alignment between qualifications and the work conducted; increasing access of intern's to formal workplace based training; putting in place structured mentoring programmes; increasing the number of internship opportunities in small towns and rural areas; increasing efforts to recruit disabled graduates; and increasing the length of internships from one to two years.[258] The merSETA will consider these recommendations in an effort to improve the impact of this programme.

Finally, recent merSETA research into the new tyre sector highlights the importance of in-service training in this sector where insufficient relevant formal industry-specific qualifications exist and where most new employees thus require additional in-service training. Promotion to management positions in the past has also been considerably weighted towards experience within the sector rather than towards formal qualifications.[259]

5.4.7 Continuous professional development

Professional bodies undertake to monitor the mandated continuous professional development (CPD) for their professions.[260] In 2011/12, 26 864 individuals in merSETA companies took part in CPD training (Table 5-7).

Table 5-7 Employees who completed Continuous Professional Development (CPD): 2011/12

		African	Coloured	Indian	White	Total	
						N	%
Male		7 263	2 846	2 196	8 583	20 888	77.8
Female		1 712	1 342	494	2 428	5 976	22.2
Total	**N**	**8 975**	**4 188**	**2 690**	**11 011**	**26 864**	**100**
	%	**33.4**	**15.6**	**10.0**	**41.0**	**100**	

Source: merSETA ATR data, extracted June 2013

Compared to the demographic profile of the occupational group 'Professionals' (see Figure 2-8) it is clear that African and Coloured professionals are receiving focused attention in terms of professional development: Africans represent 23.6% of the total group of professionals and received 33.4% of CPD opportunities, while Coloured workers represent 8.5% of the total group of professionals and received 15.6% of CPD opportunities.

5.4.8 Summary of training spend by merSETA companies

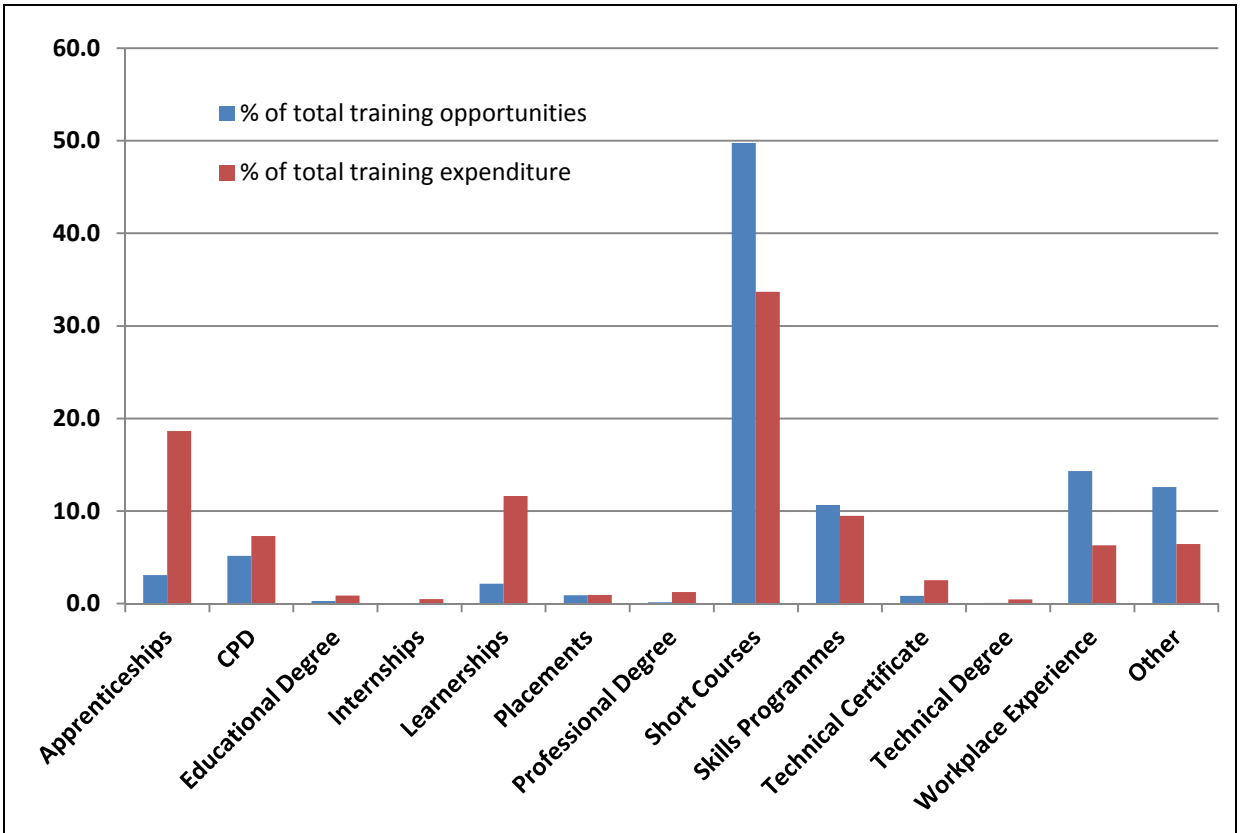
[258] SAGDA (2013) Final Report on the Internship Baseline Study, 18 September 2013.

[259] merSETA (2012) An Analysis of the South African Tyre Manufacturing Industry's Skills Demand Profile: 2009 – 2020, Final Report 30 November 2012, B&M Analysts.

[260] The latest Motor sector research suggests that there may be a need for continuous professional technical development (CPTD) for technicians in order to remain relevant and up to date. New skills are considered necessary in respect of: the green agenda; social media; technological innovation; changing population dynamics and its impact on the sector; entrepreneurship; the impact of globalization; and in specialised areas including welding, new fuel sources, supply chain and logistics; and customer relations. This is considered especially important in light of the fact that current curricula do not take these issues into account. Source: merSETA (2013) Motor Research Project: Employment and Educational and Skills Audit of the merSETA Motor Chamber.

Figure 5-8 provides a summary of the distribution of training opportunities and training spend across the various types of training in 2011/12. The largest category was "Short Courses". While often non-accredited, this form of training provides companies with a great deal of flexibility and enables them to respond quickly and easily to training that is needed to maintain or increase their productivity and competitiveness. Furthermore, short courses formed a larger proportion of the overall number of training opportunities (49.8%) than they do of the overall training expenditure (33.7%) indicating that this form of training not only reaches the largest number of merSETA employees, but also does so relatively cost-effectively.

In terms of training opportunities, the categories "Workplace Experience" and "Skills Programmes" have the next highest 'reach' at 14.3% and 10.7% respectively. In respect of training expenditure, apprenticeships, at 18.7% is the second largest category, followed by learnerships at 11.6%. Skills programmes at 9.5%, CPD at 7.3% and workplace experience at 6.3% also make up significant proportions of the overall training expenditure of companies in the sector.



	% of total training opportunities	% of total training expenditure
Apprenticeships	3.1	18.7
CPD	5.2	7.3
Educational Degree	0.3	0.9
Internships	0.0	0.5
Learnerships	2.1	11.6
Placements	0.9	1.0
Professional Degree	0.1	1.3
Short Courses	49.8	33.7
Skills Programmes	10.7	9.5

Technical Certificate	0.8	2.5
Technical Degree	0.1	0.5
Workplace Experience	14.3	6.3
Other	12.6	6.4
Total	**100.0**	**100.0**

Figure 5-8 Distribution of training opportunities and expenditure by merSETA companies2011/12

Source: merSETA ATR data, extracted June 2013

5.5 MERSETA'S SUPPORT FOR ARTISAN DEVELOPMENT

The merSETA's core focus since its foundation has been to increase the supply of skills and alleviate skills shortages in the metal, automotive and plastics manufacturing sectors. Apart from the provision of bursaries and grants, the merSETA has also: ensured that the necessary qualifications and learnerships are registered; has accredited providers; has supported the training and registration of assessors and moderators; has verified assessments and awarded qualifications; and has undertaken research to identify areas requiring focus as well as to uncover the impact of its existing and/or completed programmes.

In the discussion that follows some of the merSETA interventions in relation to artisan development are highlighted and discussed in more detail. (It is obviously not possible to provide in this document a full account of all the merSeta's interventions since its inception.)

5.5.1 The Accelerated Artisan Training Programme (AATP)

The merSETA has positioned itself as the leading SETA in respect of artisan development with its AATP. The AATP is being implemented through a funding partnership between the merSETA and the NSF. This programme was initiated with the aim of accommodating FET college graduates with N3 and N4 qualifications and accelerating their artisan training. More recently NC(V) 4 graduates have also been entering the programme. The programme utilises both learnership and apprenticeship training modes, according to the individual preferences of companies and sectors.

Aside from the quantitative objectives of the programme to address skills shortages, this initiative has become an important platform for the implementation of artisan-related research initiatives from large-scale competence diagnostics, to vocational identities, to measurement of net returns, to tracer studies. Findings are disseminated in support of strengthening the artisan development eco-system and, where necessary, making systemic changes towards sustainable improvements. In line with recent research findings that previous qualifications do not in fact impact on the length of time required to successfully complete artisan training, Phase 4, 5 and 6 of the programme have been extended in duration with training essentially no longer being 'accelerated'.[261]

Table 5-8 summarises the achievements of the AATP since its inception in 2007. By June 2013 a cumulative total of 4 247 learners had entered and 2 457 had qualified through the programme.

[261] merSETA (2012) AATP Post Trade Test Tracer Study, Final Report, 20 September 2012.

Overall, learners on the AATP have been registered against 26 different trade qualifications. Of the total number of learners on the programme to date, however, seven trades account for 82.5% of registrations and 86.9% of qualifications. As can be seen from Figure 5-9 and Figure 5-10:

- Millwrights account for 408 registrations (9.6%) and 247 qualifications (10.1%);
- Riggers account for 420 registrations (9.7%) and 178 qualifications (7.2%);
- Welders account for 797 registrations (18.8%) and 376 qualifications (15.3%);
- Boilermakers account for 631 registrations (14.9%) and 397 qualifications (16.2%);
- Fitters account for 482 registrations (11.3%) and 325 qualifications (13.2%);
- Motor Mechanics account for 383 registrations (9.0%) and 249 qualifications (10.1%); and
- Electricians account for 392 registrations (9.2%) and 362 qualifications (14.7%);

Table 5-8 Accelerated Artisan Training Programme (AATP) registrations and qualifications: 2007-June 2013

Trades	2007/8		2008/9		2009/10		2010/11		2011/12		2012/13		Apr-June 2013		Total	
	Reg	Qual	Reg	Qual	Reg	Qual	Reg	Qual	Reg	Qual	Reg	Qual	Reg**	Qual	Reg	Qual
Boilermaker	27	0	170	0	189	91	68	129	67	145	110	30	0	2	**631**	**397**
Armature Winder	0	0	0	0	4	0	0	0	0	1	0	0	0		**4**	**1**
Automotive Body Repair	0	0	10	0	0	0	7	10	0	0	0	5	0		**17**	**15**
Automotive Electrician	0	0	1	0	0	0	0	0	0	1	0	0	0		**1**	**1**
Diesel Fitter	0	0	0	0	0	0	0	0	4	0	0	0	0		**4**	**0**
Diesel Mechanic	0	0	29	0	13	0	19	23	11	6	38	20	0		**110**	**49**
Earth Moving Equipment Mechanician	0	0	17	0	0	0	0	9	0	8	0	0	0		**17**	**17**
Electrician	0	0	123	0	102	124	54	105	67	92	46	26	0	15	**392**	**362**
Electronics Equipment Mechanician	0	0	1	0	0	0	0	1	0	0	0	0	0		**1**	**1**
Fitter	63	0	102	0	132	82	45	72	74	120	66	33	0	18	**482**	**325**
Fitter & Turner	19	0	33	0	19	17	9	38	7	13	29	2	0		**116**	**70**
Forklift Mechanic	0	0	19	0	6	8	18	4	22	11	0	18	0		**65**	**41**
Instrument Mechanician	9	0	28	0	22	18	7	9	38	28	23	13	0		**127**	**68**
Millwright	22	0	127	0	102	34	61	82	47	76	49	47	0	8	**408**	**247**
Motor Mechanic	146	0	105	0	62	4	146	75	26	55	14	84	0	31	**499**	**249**
NC: Automotive Repair and Maintenance*	0	0	0	0	42	0	10	0	0	5	0	0	0		**52**	**5**
NC: Autotronics	0	0	0	0	0	0	0	0	10	0	0	0	0		**10**	**0**
NC: Mechatronics	0	0	0	0	0	0	0	0	17	0	0	0	0		**17**	**0**
Refrigeration Mason	0	0	0	0	0	0	0	0	0	0	0	0	0		**0**	**0**
Refrigeration Mechanic	0	0	0	0	0	0	0	0	5	0	9	0	0		**14**	**0**
Rigger	4	0	39	0	69	7	56	30	75	97	167	31	0	13	**410**	**178**
Roll Turner	0	0	1	0	0	0	0	1	0	0	0	0	0		**1**	**1**
Spraypainter	0	0	0	0	13	0	16	0	0	9	0	8	0		**29**	**17**
Tool Jig & Die Maker	4	0	9	0	9	3	0	13	6	5	0	1	0		**28**	**22**
Turner	6	0	8	0	1	9	0	6	0	0	0	0	0		**15**	**15**
Welder	0	0	121	0	124	40	309	99	76	171	167	59	0	7	**797**	**376**
Annual Totals	**300**	**0**	**943**	**0**	**909**	**437**	**825**	**706**	**552**	**843**	**718**	**377**	**0**	**94**	**4247**	**2457**
Cumulative Total Entries	**300**		**1243**		**2152**		**2977**		**3529**		**4247**		**4247**			
Cumulative Total Qualifications		**0**		**0**		**437**		**1143**		**1986**		**2363**		**2457**		

*Passenger and light vehicle

** New registrations start 7/2013

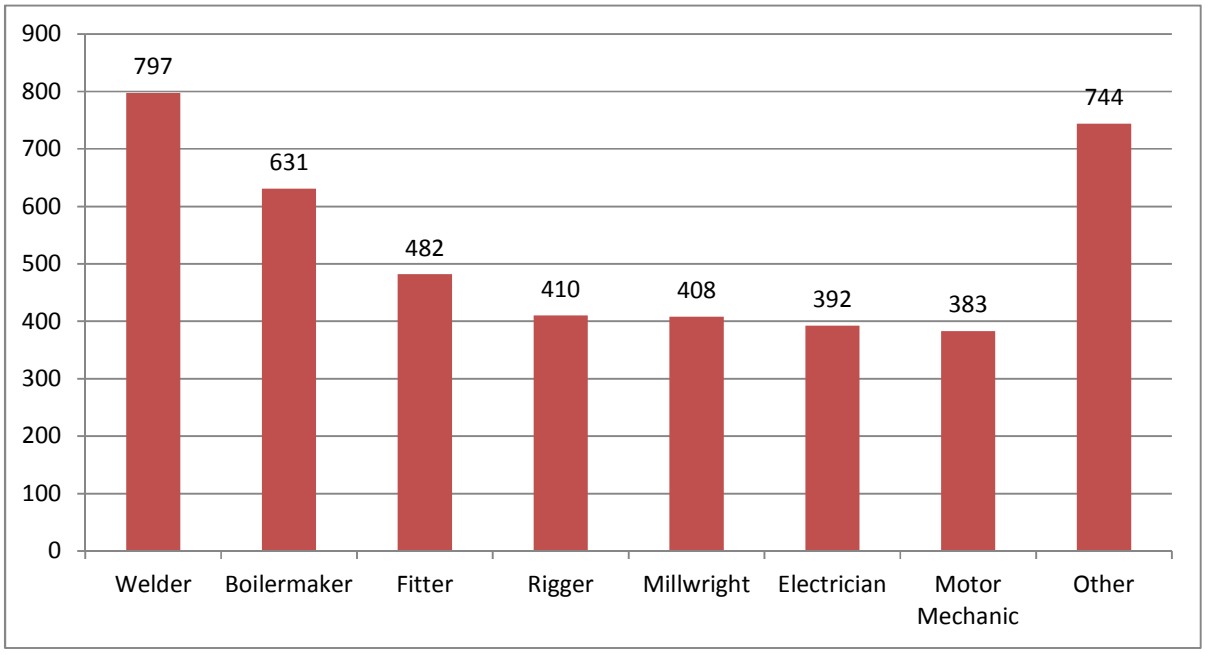


Figure 5-9 Total AATP learner registrations by trade (January 2007 to June 2013, N=4 247)

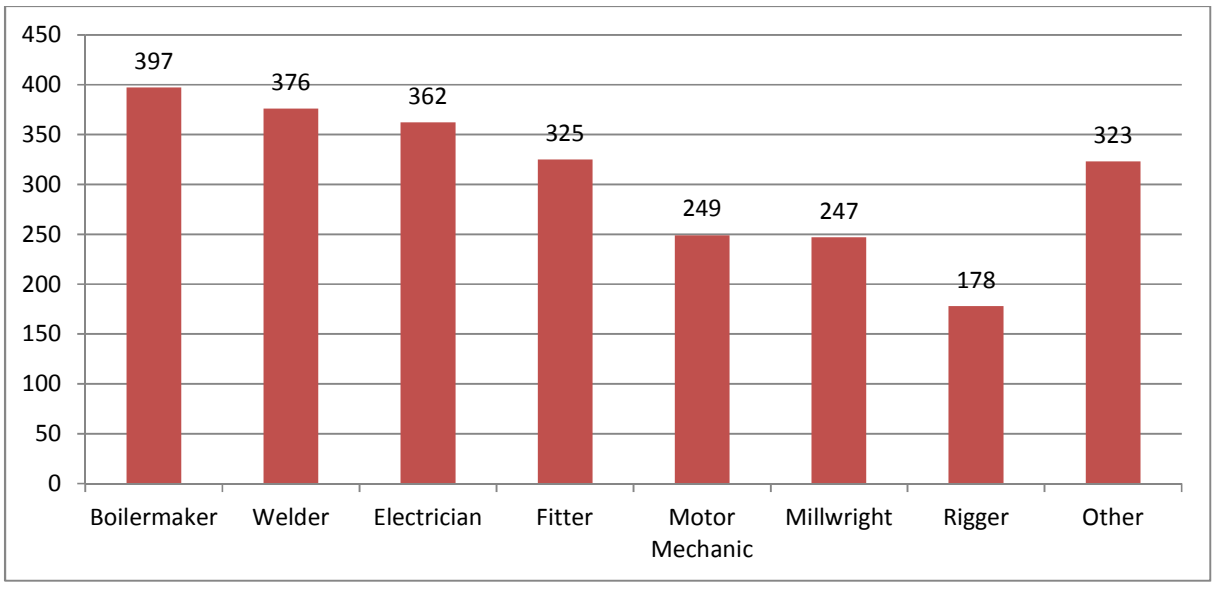


Figure 5-10 Total AATP learner qualifications by trade (January 2007 to June 2013, N=2 457)

Of the group of trades that fall into the 'other' group, the largest contributors in respect of learner registrations are for the trades: automotive body repair; instrument mechanician; fitter and turner; diesel mechanic; and forklift mechanic.

While there is an inevitable delay between learner registrations and qualifications (with no qualifications expected in the first couple of years after registration), a major discrepancy between the numbers of

registrations and qualifications is evident for the motor related qualifications. Of these motor related trades, only 51% of learners have qualified. The explanation given by industry is that these motor trades qualifications were designated competency-based modular training (CBMT) courses under the old Manpower Training Act (which is recognised by the Skills Development Act). This means that they do not qualify for RPL and that learners have to pass a trade test at each level of the qualification before moving on to the next of four levels. As a result, many learners who obtained the CBMT Level 2 qualification as a motor mechanic absconded from the programme and either applied for a Section 28 trade test or used this level 2 qualification to obtain a job in non-franchise vehicle service centres that work on vehicles outside of their warranty periods. This phenomenon has undermined not only the supply of fully qualified artisans into the sector, but has also limited individuals' job opportunities and career prospects. The official repeal of the Manpower Training Act is expected to solve this problem.

The merSETA recently evaluated the AATP using a Tracer Study Methodology. Overall Post Trade Test employment levels were 80%, with this being highest for the 2007/8 intake (89%) and lowest for the 2010/11 intake (57%). Employment levels were higher for certain trades than for others. The highest employment level was for Riggers (92%) followed by Fitters (88%) and Fitters and Turners, Millwrights and Motor Mechanics (85% each). While still high, Welders (at 70%), Electricians (at 74%) and Boilermakers (at 79%) had the lowest levels of employment. Thus the study suggests that apprenticeships in the former group of trades should be encouraged at present.[262]

The generation of large numbers of qualified artisans in the motor-related trades is seen as one of the key ways in which merSETA can promote rural development and sustainable livelihoods. As indicated in Chapter 2, the geographical distribution of the motor retail and service sector is likely to follow the geographic distribution of the vehicles in use across the country. This is considerably more equitably distributed than the manufacturing portion of merSETA operations, with KwaZulu-Natal province (a largely rural province) having the third largest vehicle park after Gauteng and the Western Cape. As such, the development of qualified motor mechanics that are able to find employment almost anywhere in the country or are able to work as self-employed entrepreneurs promotes the rural agenda.[263]

The merSETA's Strategic Plan 2011/12-2015-16 has set the sector the goal of qualifying 20 000 artisans over the period, using the AATP as a catalyst and quality-linked research platform. This is seen to be a realistic target from the perspective of interested learners and willing employers. The biggest challenge is funding, however, as employers are indicating that they are willing to do the training but that they cannot pay for it. As the generation of artisans is of utmost strategic importance for the merSETA, it becomes critical that merSETA not only finds ways accessing extra funding through partnerships,[264] also

[262] merSETA (2012) AATP Post Trade Test Tracer Study, Final Report, 20 September 2012.

[263] Information obtained through a telephonic interview with Helen Brown, manager of the merSETA's Accelerated Artisan Training Programme, 30 September 2011.

[264] Dr. Raymond Patel (2012) merSETA, interview, 6 July 2012.

focuses on improving the efficiency and sector-specific impact of the other programmes that it is funding.[265]

The Artisan and Technician Technical Task Team (ATD-TTT)

Together with government (including the NAMB) and a range of other stakeholders, the merSETA forms an integral part of the Artisan and Technician Development Technical Task Team (ATD-TTT). The ATD-TTT identified three major bottlenecks in respect of artisan development in SA and is in the process of setting in place mechanisms to address each of these.

The first major bottleneck is considered to be the lack of detailed, accurate and current data for artisan and technician trade prioritisation, workplaces and placement, which together serve to undermine scientific target setting, monitoring and evaluation. Towards the alleviation of this problem the ATD-TTT has: developed the gazetted list of 125 occupations that are trades (released on 1 July 2012); formed mini-teams tasked with identifying and recording a list of workplace opportunities by 30 September 2012; and set the target for the development of a single detailed national database of all artisans. The National Artisan Development Support Centre (NADSC) was launched in the first half of 2013 at Ekurhuleni East FET College in Kwa Thema, and a pilot project for the national artisan database has been set up there.[266]

The second major bottleneck in the development of artisans and technicians is considered to be the lack of a single guaranteed funding model for all artisan trades that is applicable to all sectors and includes a single, simple artisan learner administration and grant disbursement system.[267]

The third major bottleneck identified is the lack of an RPL system for artisans that is focused on supporting persons who are working as support workers in the engineering field to become certified artisans. Towards alleviating this long-standing problem, the ADT-TTT has developed a detailed RPL model and system, which was piloted with NSF funds for 200 candidates in December 2011 and has established of a dedicated and full-time RPL unit within the DHET at INDLELA. The full system is set to be operational by 1 April 2013, after which it will be cascaded to the provinces.[268]

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[265] In support of NSDS III, which encourages support for NGOs and co-operatives as a strategic imperative towards poverty alleviation, merSETA has been engaged in an NGO support programme over the period 2009 to 2013. An evaluation of the impact of the project was commissioned, with the related report received in October 2013. The report strongly questions the relevance for the manufacturing and engineering sector of the types of skills development provided by the NGOs. Because NGOs are not geared up for the specificity of skills interventions in the merSETA sector and often sub-contract training when it is of relevance , the report concludes that funding through NGOs is both programmatically impractical and financially unsustainable and thus recommends the discontinuation of the programme in its current form. Source: merSETA (2013) External evaluation of the merSETA NGO support programme for the period 2009 to 2013, inclusive of recommendations for future programmes, October 2013.

[266] DHET (2013) Address by the Deputy Minister of Higher Education and Training, the Honourable Mr Mduduzi Manana, BHP Billiton Skills Development Summit, Date: 6 August 2013, Venue: CSIR ICC, Pretoria, http://www.skillssummit.co.za/presentations/2013/Mr_Mduduzi_Manana_speech.pdf, Accessed 30 October 2013.

[267] It is considered that the average annual cost to train an artisan is around R100 000 per learner. Under the proposed Annual Sustained Funding Model, SETAs and the NSF are to ring-fence funds funding allocations per learner. The SETA grant per learner will be at least 41% (or R41 200 pa) while the NSF grant will be at least 5% (or R5 250 pa). Eligible companies will qualify for a tax allowance to the value of 17% of learner training costs (or R16 800 pa) while the maximum employer contribution per learner is expected to be 37% of the total training cost (or R36 750 pa).

[268] DHET (2012) SETA CEO Forum ADT Sub-Committee report back to SETA CEO Forum, 30 May 2012.

5.5.2 Pilot of the Apprenticeship Dual System of training

Also in support of artisan development, the merSETA has become an active participant in the DHET-lead Dual System Apprenticeship Pilot project (DSAP). The Dual System of training is based on the German and Swiss model of apprenticeship training and involves students spending a certain proportion of each week of the three year National Curriculum Vocational NC(V) programme at the FET College and the remainder of the week at the employer, putting this theory into practice. The benefit of this form of training is that it is considered to be a much more work-integrated way of learning, resulting in higher levels of practical problem-solving skills.[269] This pilot project will run from July 2013 to June 2016, with the first intake of apprentices in November 2013.[270]

5.5.3 Research in support of artisan development

The merSETA regularly commissions research projects in order to understand the challenges facing artisan development in more detail. These studies form part of the merSETA's system of self-assessment and of understanding the impact of its various skills development programmes:

In September 2012 the results of the AATP Post Trade Test Tracer Study were released. This study interviewed 400 artisans who had qualified through the AATP and a further 100 that qualified through the four-year apprenticeship programme (control group). Interesting findings include:[271]

- A greater proportion of CBMT apprentices pass their trade test at first sitting compared with Time-Based apprentices;
- A greater proportion of AATP artisans pass their trade test at first sitting compared with the control group;
- There is no significant difference in respect of passing the trade test at first sitting between N3, N4, N5, N6 and Matric graduates, but the proportion of N2 graduates passing their trade test at first sitting was very low;
- More CBMT artisans are permanently employed than Time-Based artisans;
- More control group artisans are permanently employed than AATP artisans;
- Limpopo, the Eastern Cape and Mpumalanga are the highest absorbers of AATP artisans; and
- Riggers, Fitters, Millwrights, Mechanics, and Fitters and Turners are more likely to be employed.

The shaping of apprenticeship competence development and related efficient funding models for vocational training has also remained a flagship research priority for artisan development. Previous research published through the University of Bremen I:BB has entered a second phase to establish a hybrid system of competence development measurement in support of industrial competitiveness and cost efficient training systems. This second phase of research includes a Doctoral Scholarship programme that aims to transfer associated knowledge into the South African TVET ecosystem.

[269] Dr. Florus Prinsloo (2012) NAMB, interview, 9 July 2012.

[270] DHET (2012) Apprenticeship Dual System Pilot Project (ADSP) Draft Workplan & Progress Report for Period July 2012 – June 2016.

[271] merSETA (2012) AATP Post Trade Test Tracer Study, 20 September 2012.

merSETA is also in the process of initiating a new dialogue with the aim of developing a sustainable, systemic and scalable artisan development plan for SA. A concept paper[272] has been drawn up which places the need for artisan development within both the local economic and social contexts, and outlines the present artisan development landscape and challenges. Using a social innovation approach, the research aims to unpack the following subsystems in an effort to understand the complexity of the challenges and develop possible solutions:

- Policy and planning subsystem;
- Administrative and institutional delivery subsystem;
- Technical support subsystem;
- Social mobilisation subsystem;
- Curriculum development subsystem;
- Teaching-learning subsystem; and
- Post-qualification subsystem.

5.5.4 Recognition of prior learning (RPL)

One of the constraints experienced in the supply of skills to the merSETA sector is the fact that many employees have been previously excluded from formal artisan training. Many have, however, developed skills through workplace experience but they do not receive formal recognition for those skills. The labour market also suffers because those people cannot take on the responsibilities of fully qualified artisans.

The merSETA recognised the need to assist these people to become qualified artisans and started with a pilot programme in the 2011/2012 financial year. The programme was rolled out in the 2012/2013 financial year and will be extended in the year to come. The programme started with the development of standards and instruments that could be used in an RPL process. Currently it is aimed at assisting candidates to compile a portfolio of evidence of their experience in a particular trade, to identify learning gaps, assisting them to fill those gaps through short courses or skills programmes so that they can apply for their trade tests.

Building on its previous RPL projects and processes, and in the context of a national focus on RPL as a transformative and developmental notion, the merSETA is in the process of embarking on a new strategic RPL project that will have three major focus areas:[273]

1. RPL advocacy, communication strategy and stakeholder and systems capacity building;
2. Implementation sub-projects scoped in relation to national developments:
    - National Artisan Moderation Body (NAMB)/merSETA collaboration in rolling out the NAMB RPL initiative;

[272] merSETA (2013) Towards a Sustainable, Systemic and Scalable Artisan Development Plan for South Africa, Concept Paper, Draft Version, June 2013.

[273] merSETA (2013) Draft Recognition of Prior Learning (RPL) Proposal Outline – April 2013.

- Artisan Innovation Development in collaboration with select FET colleges and Umalusi implementing the Dual Apprenticeship Pilots;
- Identification of a decentralised trade test centre in each of the nine RSA provinces for RPL capacity building and regional RPL support; and

3. Knowledge management and research.

The outcomes of this ambitious project will substantially further the outcomes of the RPL agenda in the manufacturing, engineering and related services sector.

5.6 MERSETA SUPPORT FOR OTHER ASPECTS OF GOVERNMENT'S DEVELOPMENT AGENDA

The interventions discussed above related relatively specifically to the critical issue of training artisans for the merSETA sector and the wider SA labour market. This section links merSETA's activities to the wider social and economic development agenda aimed at creating greater equality in terms of access to quality education and employment. In the process some additional interventions are highlighted.

5.6.1 the dti/merSETA MOU in support of IPAP

Although, broadly speaking, all the initiatives mentioned above tie in with and support Government's objectives set out in IPAP, the merSETA and the dti have recently signed a Memorandum of Understanding (MoU) which binds both parties to certain responsibilities in respect of four key areas: unemployed graduate work experience; artisan and technician development; support for enterprise incubators, small and micro enterprises and co-operatives; and the development of a skills strategy specifically to support the SEZ policy. Table 5-9 provides a detailed summary of the purpose of each of these four areas, as well as the responsibilities that are to be undertaken by the dti and merSETA respectively.

Table 5-9 Summary of the dti/merSETA MoU in support of IPAP

Area of Cooperation	Purpose	dti Responsibilities	merSETA Responsibilities
Unemployed Graduate Work Experience Programme	Provision of placement opportunities in dti-supported companies, through partnership with Productivity SA, DoL, and SA Graduate Association. The establishment of a SETA network to provide support for this through the funding and recruitment of unemployed graduates and undergraduates. For the foundry sector this will be part of experiential learning for their qualifications.	• To provide placement opportunities. • To co-fund the programme. • To cover 50 per cent of the intake for each financial year.	• To co-fund the programme. • To cover 50 per cent of the intake for each financial year. • To assist in the recruitment of unemployed graduates.
Artisan and Technician Development	Collaboration on the development and funding of internationally comparable skills support programmes and curricula in specific trades and technical specialisations that are key to achieving IPAP sector objectives. Best practice models may be supported and funding for mainstreaming in the formal education and training system. From time to time new areas may be identified for further development.	• To collaborate with its industry to identify specialised occupations relevant for IPAP. • Where appropriate to co-fund seed funding for initial development and consultation purposes. • To collaborate with merSETA in the accreditation and mainstreaming of relevant programmes. • To leverage existing incentive mechanisms to promote the provision of workplaces for skills training.	• To co-fund the dti's artisan training programmes. • To assist with the accreditation of NTI and NFTN programmes and courses, and others that may be identified from time to time.
Enterprise Incubators, Small & Micro Enterprise and Co-op Support	Provision of customised skills support to the workforces and owners of small and micro enterprises and co-operatives and incubators in receipt of dti incentives. It is intended that this support form part of the dti's pipeline of financial and non-financial support to ensure sustainable growth, and broadening the participation of historically disadvantaged groups in the manufacturing sector.	• To assist in the identification of skills needs among target groups including incubators, incubator managers, SMEs, co-operatives and Centres for Entrepreneurship (FETCs and universities) and Incubator Centre Managers. • To provide information and data on enterprises from the dti databases. • To collaborate on the standardisation and benchmarking of training courses from an industry perspective.	• To develop and fund customised skills support programmes for targeted clusters of small enterprises and co-op development. • To collaborate on the development of a customised post-school qualification for incubator managers that is benchmarked against that of competitor countries. Managers require post school training on technical issues specific to each sector, financial management training and business skills training. • To collaborate on joint proposals to the Jobs Fund and/or the NSF
Special Economic Zones (SEZ) Skills Strategy	Development of a skills development co-operation model to support local and provincial governments, SEZ boards and implementing agencies in the development and integration of customised skills development strategies in each SEZ. Saldanha Bay IDZ can be used to pilot a framework for the development and instiutionalisation of an SEZ Skills Development Strategy. A dti-lead Skills Task Team (including local and provincial governments, DHET, merSETA, local education institutions, business and labour) will develop a skills strategy for inclusion in the Master Plan of the IDZ application.	• To facilitate and organise stakeholder planning and collaboration. • To consult with relevant stakeholders on funding option and ensure that the SEZ Incentive Guidelines will include the support of skills development. • To collaborate in the development of the framework for identifying skills relevant to the sustainability and growth of SEZ programmes.	• To provide technical assistance for skills planning. • To provide Training Provider capacity-building, support and accreditation to ensure an adequate candidate learner pipeline for the skills development strategy. • To co-fund identified training interventions. • To facilitate cross-sectoral collaboration with relevant other SETAs. • To provide monitoring, support and quality assurance of training.

Source: the dti/merSETA (2012), Memorandum of Understanding

5.6.2 Placement of unemployed graduates in the labour market

One of the deficiencies in the South African labour market is the fact that there are unemployed graduates while at the same time, there are skills shortages – especially shortages of people with high-level skills. This is one of the main reasons for the inclusion of this area of co-operation in the dit/merSETA MoU as outlined above.

In addition to this, the merSETA is in the process of developing a strategy to ease the way of new graduates into the labour market. This strategy, which took shape in the 2012/2013 financial year and will be rolled out over the next few years, includes:

- The development of an employability model for graduates.
- The development of a graduate placement tracking tool.
- A national intern research programme.
- A report and recommendations on the tracking and review of skills required for interns to succeed in the labour market.
- A report and recommendations on the programmes offered by HEIs to prepare students for job readiness.
- A report and recommendations on the effectiveness of the logistical organisation and management of internships by host establishments.
- Career Guidance and advice, including work readiness support.
- Relevant and useful data on interns and host establishments.
- A minimum of 200 graduates placed per annum in the merSETA sector.

Also notable with regards to the placement of unemployed graduates in the workplace, are the changes in SETA Grant Regulations that were gazetted in December 2012 and came into effect in April 2013. Mandatory Grants will drop from the previous 50% of SDL paid by employers to 20% thereby increasing the amount available for Discretionary Grants. Into the future 80% of Discretionary Grant funding will be allocated to PIVOTAL (Professional, Vocational, Technical and Academic Learning) programmes which result in qualifications or part qualifications in identified scarce and critical skills. Preference will also be given to training undertaken by public universities, universities of technology and FET colleges. Furthermore, work-integrated learning and workplace training will form a key focus area of Discretionary Grant funding.[274]

[274] RSA (2012) The Sector Education and Training Authorities (SETAs) Grant Regulations Regarding Monies Received by a SETA and Related Matters, Government Gazette, 3 December 2012.

5.6.3 Support for the Strategic Infrastructure Projects (SIPs)

A major concern for government is that sufficient skills will be available in the SA labour market to support the SIPs. A SIPs Scarce Skills List has been disseminated to SETAs and they have been asked to indicate which of these they can contribute to developing. The correlation between this list and the Priority Skills identified by merSETA is discussed in more detail in Chapter 6 of this SSP.

While the SIPs are government-driven, the actual projects will be implemented by the private sector and awarded through a tendering process. Sufficient skills are thus needed by the SA private sector, whose scarce skill requirements directly feed into the SSP process. It is thus unsurprising that the list contains a variety of engineering, engineering technician and trade qualifications that the merSETA is already supporting.

The SIPs however also offer a significant opportunity for providing the workplace training component of many technical and trade qualifications, as well as the workplace exposure and experience that new graduates need in order to increase their future employability. In line with this, government has indicated that tenders may include an allocation of funds to cover such related training costs. SETAs, which will be providing PIVOTAL grants for similar types of skills development programmes, will have the responsibility to monitor that companies are not receiving funds from both sources for the same group of learners.

Government is also planning the development of a SIPs Skills Portal that will allow companies to advertise their skills needs, and thus assist in matching skills for unemployed graduates in particular with new employment opportunities.[275]

5.6.4 merSETA as Development Quality Partner (DQP) for the QCTO

According to the requirements of the newly operationalised QCTO, the merSETA is assisting the NAMB in the development of QCTO-aligned artisan trade qualifications and curricula. Collectively the work being done in support of this is referred to as “the merSETA Improved Qualifications Projects”. QCTO curricula, which are intended to standardise the quality of trade education, will in the future be used by all training service providers in developing their programme courseware.[276]

Through the financial year 2011/12 merSETA,[277] as DQP for the QCTO, assumed responsibility for facilitating the development of 13 new occupational qualifications.[278] It is anticipated that the first

[275] Adrienne Bird (2013) PICC, interview 1 July 2013

[276] Florus Prinsloo (2012) NAMB, interview, 9 July 2012.

[277] merSETA (2012) merSETA Annual Report 2011/12.

[278] These include: Mechatronics; Millwright; Fitter and Turner; Fitter General; Engineering Patternmaker; Foundry Moulder; Melter; Electroplater; Lift Mechanic; Lubrication Equipment Mechanic; Vehicle Damage Quantifier; Wind Turbine Service Technician; and Armature Winder.

occupational qualifications will be submitted to the QCTO for evaluation and registration in the current financial year.[279]

5.6.5 merSETA partnerships with the FET college sector

The merSETA currently has partnerships and/or projects in a total of 17 FET colleges across the country. This number is up from 11 in the past year. The focus of the majority of these projects for the merSETA is the provision of access to, and carrying the costs associated with, work-integrated learning.

The Minister of HET indicated in his 2012 budget vote speech that SETAs must open offices in all 50 public FET colleges in order to be present in specific areas as well as to provide a service to the community. merSETA will have two staff members at each of the FET colleges for which it is deemed to be the lead SETA, and will represent all SETAs through this office. The aim of these offices will be to support career guidance for young FET entrants, as well as to facilitate a seamless transition from institutional learning to work-integrated learning opportunities. The merSETA is continuing with the implementation of this mandate[280] and is designing an instrument that measures college-industry partnerships, in an effort to maximise SETA-FETC relationships.[281]

5.6.6 merSETA engagement with other national policy directives

The merSETA is actively involved in engaging government in the development and implementation of new polices related to skills and human resource development.

NSDS III aims to open up opportunities for skills training for people experiencing barriers to employment caused by various forms of physical and intellectual disability. As such, merSETA has developed a Programme Charter for Persons with Disabilities. The deliverables for Phase 1 of the charter include the identification of those forms of disabilities that could most successfully be integrated into learning and employment opportunities within the various merSETA subsectors, and the development of strategies that will facilitate the process of implementation.[282] The implementation plan for the charter will be revised based on the outcome of the research recently concluded by the merSETA's Auto Chamber (see section 5.3.5).

NSDS III encourages support for NGO and community based co-operatives as a means of addressing poverty in South Africa. As such merSETA was involved in a NGO support programme over the period 2009 to 2013. An external evaluation of the programme was recently conducted and the findings of this report will be considered in the development of future programmes with similar objectives.[283]

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[279] merSETA (2012) merSETA Annual Report 2011/12.

[280] Through 2013, merSETA established an office at the rural Lovedale FET College in the Eastern Cape. Source: merSETA (2013) Annual Performance Plan, 20 August 2013.

[281] Helen Browne (2012) merSETA.

[282] merSETA (2012) Programme Charter: Persons with Disabilities (June 2012, Version 2).

[283] merSETA (2013) External evaluation of the merSETA NGO support programme for the period 2009 to 2013, inclusive of recommendations for future programmes, October 2013.

NSDS III also places a focus on racial and gender transformation in respect of both access to training and employment. merSETA's Grants Policy document, which is updated on an annual basis and which outlines the criteria on which Discretionary Grant funding is awarded, states that firms need to consider these transformation imperatives in their proposals for funding support.[284]

As referred to in numerous places in this SSP, merSETA is acutely aware of government's rural development agenda. Despite the largely urban concentration of merSETA companies, the sector has identified the need to support the development of skills in and for the more equitably distributed motor servicing and sales subsector (see sections 4.5.4 and 4.5.9). merSETA's Retrenchment Assistance Programme (RAP) has also had a rural reach: the programme seeks to provide retrenched workers with skills that can be used to generate a livelihood in their own communities (many of which are rurally based). In addition to this, merSETA has slanted the focus of its SET project (which now includes an alignment for learners in the programme with opportunities at FET and HET levels) towards non-urban schools (see section 5.3.4). Finally, the outputs of merSETA companies form critical inputs into particularly the physical aspects of rural development projects. Thus by supporting the sustainability of the manufacturing, engineering and related services sector through the provision of relevant skills, merSETA is indirectly also supporting rural development.

In line with the King Report on Corporate Governance for South Africa 2009 (King III), which emphasises the centrality of sound environmental governance to corporate and urban sustainability, the merSETA started work on a draft Sustainable Green Skills Development Framework for the sector in 2012. Themes that are likely to be included in the draft cover: a research agenda aimed at assisting companies in reducing their carbon footprint; the inclusion of 'green' skill sets in existing and new qualifications, curricula and learning support materials; the promotion of clean and lean manufacturing, as well as waste reduction and recycling; the promotion among youth and rural communities of 'green' skills and 'green' jobs; and investigating the possibility of establishing a discretionary grant funding window for renewable energy and sustainable 'green' skills development.[285]merSETA stakeholders will have the opportunity to engaging with proposals contained in the draft framework. Related to the issue of sustainable green skills development, merSETA's Motor Chamber research project for 2012/13 identified the Green Agenda as one of the major drivers of change for the auto industry, and a factor that needs to be considered in terms of its impact on existing training curricula as well as on the requirement for new sector skills.[286]

The merSETA has also provided the DHET with a detailed response to its Green Paper on Post-School Education and Training. One of the overarching areas of concern relate to the relative lack of attention given to the role and coverage of workplace-based- and work-integrated learning, which are both critical components of occupational qualifications, particularly in technical and vocational education and training. Another area of concern raised by the merSETA is the Paper's pre-occupation with access over success, and the sector argues that this is not only a waste of valuable resources, but is socio-

[284] See Section 6.3, merSETA Grant Policy document, revision of 28 August 2013.

[285] merSETA (2012) Draft 1: Sustainable Green Skills Development.

[286] merSETA (2013) Motor Research Project: Employment and Educational and Skills Audit of the merSETA Motor Chamber.

economically unacceptable. The release of the White Paper on Post-School Education and Training, which is expected to be in later part of 2013, will reveal to what extent merSETA concerns have been addressed.[287] Despite these concerns however, merSETA has committed itself to fully supporting the DHET and the QCTO in the implementation of a more coherent post-school education and training system that is focused on employability and is informed by citizenship and lifelong learning.[288]

5.7 FACTORS THAT INFLUENCE THE SUPPLY OF SKILLS TO THE SECTOR

Now that all the various aspects of skills supply into the merSETA sector have been considered, it is necessary to include a more focused discussion on the issues facing the supply of technical skills to the sector and the quality of that supply. The first part of this section looks at the range of challenges that affect the supply of engineering skills and technical skills to the merSETA's industries. The second part considers the various initiatives for improving occupational qualification development and quality assurance.

5.7.1 Challenges with the supply of technical skills to industry

Increasing the supply of engineering skills from higher education institutions is constrained by a host of factors. Enrolments are impacted on by the relatively limited availability of eligible school leavers with good grades in maths and physical science. Added to this is the pressure to increase admission levels, which results in reduced throughput rates. These reduced rates are due not only to the fact that many school leavers are ill-prepared to deal with tertiary education standards but also to the reality that many students struggle to access adequate study finance. High dropout rates translate to the inefficient use of national human and financial resources. Additionally, many engineering faculties are struggling to maintain the current growth rates (as seen in Figure 5-1 and Figure 5-2). Increases in enrolments have not yet been accompanied by increased funding from the DHET. Within this context, the higher education system is not able to respond to massive increases in demand for engineering skills. [289, 290]

In respect of artisan training, the challenges are multifold. There are currently four different routes to becoming an artisan in SA and no indication at this stage that there will be any form of rationalisation in the near future. These routes have different levels of exposure to theory and practical knowledge and

[287] McGregor K (2013) Medium term funding boost for post school education, http://www.ru.ac.za/perspective/perspectivearticles/name,83105,en.html, Accessed 18 July 2013.

[288] merSETA (2012) The merSETA's Response to the Green Paper on Post-school Education and Training, 30 April 2012.

[289] Case J M (2006) Issues facing engineering education in South Africa, paper presented at the 3rd African Regional Conference on Engineering Education, Pretoria, September 2006, http://www.aeea.co.za/i/i//ARCEE3.pdf, Accessed 12 March 2012.

[290] ECSA is currently in the process of lobbying government to change the funding model for engineering at HET level. This is being done on two fronts. Firstly, ECSA aims to get the funding category of engineering courses changed from Level 3 to a Level 4 (the highest category of funding). Secondly, ECSA is requesting that the current funding formula, which gives the institutions 50% of the total funding subsidy per student on admission and the remainder on a successful pass, be revisited. Together these funding challenges mean that engineering departments do not have the resources to work with increasing numbers of under-prepared students, who then fail – not only blocking up the system, but also blocking access to the remainder of the subsidy. Reasons for the increasing numbers of under-prepared students arise not only from transformation pressures, but increasingly from the fact that the general school system is producing under-prepared school leavers. Engineering departments argue that while students have never before had as many 'As' in Matric, they are now unable to do basic geometry and trigonometry despite having maths as a subject. Source: Dr Oswald Franks, ECSA, telephonic interview, 12 July 2012.

result in differing quality of graduates, even within the same trade. From 2007 the N1 to N3 theoretical courses were replaced by the NC(V). Industry criticism of the NC(V) (the learnership route) has included: its inflexible nature that does not allow for part-time students; an inadequate content base for trade testing in engineering; and curricula that are not aligned to industry needs. Industry calls for the NATED programmes for artisan training to be revitalised[291] were eventually heard by the DHET with the reintroduction of these courses in early 2011.[292] These factors, together with the fact that some SA artisan qualifications are no longer recognised internationally, have called into question curriculums and current assessment and quality assurance practices. In December 2010, the Minister of Higher Education and Training admitted that the current SETA processes had "resulted in a variety of confusing approaches to artisan development".[293]

Another component to the challenge of increasing the number of artisans in training in industry is the fact that over the past few years, the rules and regulations surrounding the concept of an apprenticeship have been tightened drastically. They currently have the defined status of an employee[294] requiring a contract of employment,[295] conforming to both the Labour Relations Act and the Main Agreement[296] of the MIBCO.[297] In addition, because they are defined as learners, they require a finding from the employer based on a disciplinary sanction as well as consent from the relevant SETA, before termination or variation of the learner's contract is possible. Operationally, businesses that run apprenticeships are having great difficulty attracting learners and, once these are placed, find a general lack of motivation and commitment to the programme by learners, which results in a lack of discipline through poor time-keeping, low attendance in general, and unwillingness to learn. The effect of this

[291] Jet Education Services (2010) Document for Discussion: Challenges Facing the FET College Subsystem, FET round table, 9 April 2010, http://www.jet.org.za/events/fet-college-round-table-and-summit/reports, Accessed 10 March 2012.

[292] See for example the courses offered by Technisa, http://www.easyinfo.co.za/htm/custom/technisa/ncourses.htm, Accessed 10 March 2012.

[293] Sabinetlaw (2011) National Artisan Moderation Body Launched, 2 December 2010, http://www.sabinetlaw.co.za/education/articles/national-artisan-moderation-body-launched, Accessed 22 September 2011.

[294] Section 200A of the Labour Relations Act, 1996: Until the contrary is proved, a person who works for, or renders services to, any other person is presumed, regardless of the form of the contract, to be an employee, if any one or more of the following factors are present:

a) the manner in which the person works is subject to the control or direction of another person;

b) the person's hours of work are subject to the control or direction of another person;

c) in the case of a person who works for an organisation, the person forms part of that organisation;

d) the person has worked for that other person for an average of at least 40 hours per month over the last three months;

e) the person is economically dependent on the other person for whom he or she works or renders services;

f) the person is provided with tools of trade or work equipment by the other person; or

g) the person only works for or renders services to one person.

[295] Section 18 of the Skills Development Act, 1998.

[296] Aruna Ranchod, Director at RMI: "The Main Agreement for the Motor Industry deals with wages and conditions of employment [and] applies to learners and apprentices as it does for other employees, insofar as they do not conflict with the provisions of Chapter IV of the Skills Development Act. Specific rates of pay are stipulated in the Main Agreement in respect of Apprentices and learners."

[297] Owing to a Main Agreement, the Basic Conditions of Employment Act, 1997 does not apply.

perceived over-regulation is not greater protection for the apprentice (as was intended) but rather far fewer employment opportunities.[298]

5.7.2 Initiatives to improve occupational qualification development and quality assurance

A problem with the NQF established in 1995 was that it envisaged one framework that would include all qualifications – those at general education and higher education levels, as well as occupationally directed qualifications. Responsibility for the quality assurance of occupationally directed qualifications lay with the SETAs and other professional bodies registered as Education and Training Quality Assurance bodies (ETQAs). The progressive result has been: a variation in quality and scope of similar qualifications developed and quality assured by different SETAs; a proliferation of memoranda of understanding (MoUs) between the various SETAs as firms sought to support training in qualifications not registered with their specific SETA; an overlap of quality assurance requirements; and generally increasing levels of frustration felt by firms and training providers about bureaucratic delays and increasing costs associated with skills development and qualification accreditation.[299]

The National Qualifications Framework Act (Act 67 of 2008 with effect from December 2010) revised the original NQF in a couple of key ways. One way was by moving from eight to ten levels, and the second was by adding a third sub-framework – the Occupational Qualifications Framework (OQF) – to the existing group consisting of the General and Further Education and Training Qualifications Framework (GFETQF, overseen by Umalusi) and the Higher Education and Training Qualifications Framework (HETQF, overseen by the Council on Higher Education (CHE)).[300]

The OQF operates in parallel with the other frameworks, at all levels of the NQF, and is set to be overseen by the QCTO. The QCTO officially came into being on 1 April 2011, and is now in the early phases of its operation. [301, 302] The QCTO is responsible for establishing and maintaining NQF-registered occupational standards and qualifications and for quality assuring these standards and qualifications, as well as learning in and for the workplace.[303] As of September 2012, the QCTO has taken over the final responsibility for quality assurance from the current group of ETQAs.

The aim of the QCTO is to ensure consistency across occupational qualifications regardless of the economic sector in which the qualification was obtained or the learning route that was used. As such, it

[298] This section, along with its footnotes, was extracted from: merSETA (2012) Apprenticeships: Review and opinion on the possibility of lobbying for a change to the current rules surrounding apprenticeships in an effort to create more employment in the sector, Version 3.

[299] DHET (2011) QCTO Update: Presentation to the HET Portfolio Committee, 23 February 2011, http://www.skillzhub.co.za/articles/QCTO_Update23022011.pdf, Accessed 22 September 2011.

[300] Republic of South Africa (2008) National Qualifications Framework Act 2008, http://www.saqa.org.za/docs/legislation/acts/2010/act67.pdf, Accessed 10 March 2012.

[301] SAQA (2012) The QCTO introduces its CEO, http://www.saqa.org.za/docs/qcto/conf2012/qcto_ceo.pdf, Accessed 16 July 2012.

[302] QCTO (2013) http://www.saqa.org.za/show.asp?include=docs/qcto/index.html, Accessed 17 July 2013.

[303] DHET (2011) QCTO Update: Presentation to the HET Portfolio Committee, 23 February 2011, http://www.skillzhub.co.za/articles/QCTO_Update23022011.pdf, Accessed 22 September 2011.

is hoped that qualifications developed under the QCTO will be fit-for-purpose and meet industry's demands in respect of both scope and quality. This is to be done by using communities of expert practitioners in the development of qualifications and by introducing externally standardised assessments for each occupation. The intention of the occupational qualifications is to qualify people for a specific occupation rather than in a field of learning.[304]

While the clarification of roles and responsibilities between the QCTO and other bodies involved in the skilled development and quality assurance areas is likely to be an ongoing process over the first few years of its operationalisation, some clarity has emerged over the past year: The QCTO has officially delegated to merSETA the function of quality assurance of all NQF qualifications that are currently within its scope of coverage. merSETA currently accredits providers; monitors provision; conducts external moderation of the accredited provider's assessments; and makes recommendations on the issuing of certificates of successful learners.

The QCTO will have a substantial impact on the landscape of occupational skills development and, if successful, will improve not only the quality of trade and occupational qualifications, but also the ability of these qualifications to react to industry needs. Furthermore, if challenges related to bureaucracy and cost of training are reduced, the system may encourage greater participation of employers in workplace-based skills development initiatives.

NAMB was launched by the Minister of Higher Education and Training in December 2010. NAMB is now located at INDLELA, within the DHET. The functions of the new body are to:[305]

- Monitor the performance of accredited trade test centres;
- Moderate artisan trade tests;
- Develop, maintain and apply a national database of instruments for assessing and moderating artisan trade tests;
- Develop and maintain a national database of registered artisan trade assessors and moderators;
- Record artisan achievements;
- Attend to appeals against assessment decisions; and
- Make recommendations to the QCTO on the certification of artisans.

In respect of the trades, the NAMB has been established in order to co-ordinate artisan development and be the QCTO's Assessment Quality Partner (AQP) for these occupations. One of NAMB's first tasks was to develop the approved National List of Artisan Trades, which was published on 1 July 2012. The list includes 125 occupations, which are linked to Version 2012 of the OFO. In line with these occupations, QCTO-aligned qualifications and curricula need to be developed, which, once registered, will serve as the basis of occupational learning regardless of the learning route. merSETA has already entered 13 service level agreements to serve as the Development Quality Partner (DQP) for the

[304] NQF (2011) http://www.nqf.org.za/page/faq/qcto/index, Accessed 22 September 2011.

[305] Sabinetlaw (2011) National Artisan Moderation Body Launched, 2 December 2010, http://www.sabinetlaw.co.za/education/articles/national-artisan-moderation-body-launched, Accessed 22 September 2011.

conversion of existing qualifications into QCTO-compliant qualifications.[306] Through these agreements, 13 new occupational qualifications have been developed (as mentioned in Section 5.6.3). merSETA has also applied to be the DQP for a further six occupational qualifications.[307]

NAMB has effectively acted as the Chair for the Dual System Apprenticeship Programme Steering Committee and in the process brought together the various SETAs that could add value in testing this learning pathway through FET colleges. This process has encouraged a new level of cooperation between SETAs (including the merSETA) that has not yet been accomplished before.[308]

merSETA is thus currently actively involved in all policies and procedures being developed by the NAMB. The accreditation of Decentralised Trade Test Centres and the quality assurance responsibilities regarding trade testing and certification are being conducted by merSETA on behalf of NAMB. merSETA also serves on the steering committee of the Artisan RPL division of NAMB and the pilot for this will be implemented shortly. It appears at this stage that the expected new policies related to the functioning of the QCTO and NAMB will retain some form of partnership and/or delegation.[309]

Importantly, the introduction of the QCTO and the NAMB has no bearing on the four current routes to becoming an artisan. Thus the Apprenticeship route, Learnership route, 'NC(V) plus' route, and the RPL route will continue to operate. The only difference will be that once the new QCTO-compliant qualification is registered, all routes will be required to train towards and meet the new curriculum standards. And while the NAMB envisages that in the longer-term future all trade qualification moderators and assessors will be registered as its employees, in the shorter term the role of the SETAs in terms of training moderation and assessment is still opaque.[310]

While all these changes and initiatives are positive, the current challenge for skills development, particularly for workplace-based occupational qualifications such as apprenticeships and learnerships, is that the system is in an almost constant state of flux and many of the recent initiatives to simplify procedures and improve quality still have to be operationalised. The benefits will only become evident in the next few years. The result is that much confusion exists at industry level regarding processes and procedures and much doubt remains as to whether sufficient numbers of competent artisans can be generated.

For its part, the merSETA's Strategic Plan commits the organisation to fully supporting the QCTO.

[306] Christo Basson and Naphtaly Mokgotsane, merSETA, interview, 6 July 2012.

[307] These span: Panel Beating; Vehicle Painter; Automotive Machinist; Automotive Electrician; Ship Builder; and Rubber Production Machine Operator.

[308] Helen Brown, merSETA, input via email, 24 July 2013.

[309] Christo Basson, merSETA, input via email, 29 July 2013.

[310] Dr Florus Prinsloo, NAMB, interview, 9 July 2012.

5.8 CONCLUSIONS

Large-scale workforce downsizing occurred within the merSETA sector as a result of the economic recession in 2008 and 2009 – some a direct result of the sudden loss of demand and some as a result of exacerbation of trends related to more structural challenges facing the sector. Overall, the merSETA sectors lost an estimated 109 700 jobs at that time, with some evidence that retrenchments continue to affect the sector. Despite the fact that some of these workers have been re-absorbed into the sector since then, the QLFS of March 2013 found more than a quarter of a million unemployed workers (among whom are 14 325 technical and associate professionals) who had previously worked in the manufacturing sector. While it is acknowledged that unused skills atrophy over time and that technology (and thus the skills required to engage with it) continues to advance, unemployed workers are nevertheless and important part of the pool of skills available in the country.

In respect of the supply of new skills to the sector, there has been substantial growth in the numbers of new graduates from universities and universities of technology in engineering fields most relevant to the merSETA sectors between 2001 and 2011. Electrical engineers form the largest component of the output of first national diplomas among the relevant group of qualifications but in respect of first degrees, was overtaken in 2011 by the output of mechanical engineers. In terms of the output for national diplomas, the average annual increase was greatest in industrial engineering (15.5%) and followed by metallurgical engineering (13.2%) (albeit off very low bases), while the growth in degrees awarded over the past decade has been strongest for metallurgical engineering (10.8%) and industrial engineering (9.9%). Despite these positive growth trends, increases have not yet been sufficient to meet the needs of the national economy and future growth will have to be supported through a variety of initiatives. These include: bridging programmes to promote access and success; increased physical and teaching resources to engineering departments; and programmes that promote workplace-training opportunities for students from the universities of technology.

The output from the GET is important for the merSETA sector in two key ways: first in respect of the supply of adequate numbers of graduates with good quality maths and physical science passes as a feeder for the development of sufficient numbers of engineers and technicians (at HET level) and artisans (at FET level); and second in respect of the education levels (and thus the training potential) of the general workforce that enters the sector without previous training. In both these areas the quality of the output from GET is of concern. And while the new skills contribution of the FET sector has traditionally been very limited, government's determined focus on increasing both the quality and quantity of output from FET colleges means that this sector is likely to play an increasingly important role in skills development of the merSETA sector into the future.

merSETA's Programme Charter for Persons with Disabilities (PWD) pulls together under one umbrella all its various programmes that are aimed at developing skills among this group of people for employment within the sector. If merSETA companies are to reach national Employment Equity targets for the proportional employment of PWD then it will be important for the merSETA to encourage new sector-focused skills development among potential disabled employees, as well as re-training and accommodation strategies in order to support the retention of employees who become disabled.

The merSETA has a wide range of activities that support the training and development of the current workforce: The development of management and supervisory skills in the sector is critical, as this group of employees needs to provide the sector with leadership and direction. Employees in merSETA companies have completed 3 451 skills programmes over the 2012/2013 financial year, while a total of 3 694 workers completed ABET programmes (at different levels) over the same period. Into the future, the FLC, which will be a requirement for attaining an occupational qualification at NQF levels 3 and 4, will provide additional information on the potential availability of skills for the merSETA sector. Finally, a substantial 259 213 people at merSETA companies benefited from attending short courses in 2012/13. However, the importance of the provision of experiential training for 2 557 individuals with mainly technical qualifications, and the support for Continuous Professional Development (CPD) for 26 864 individuals cannot be under-estimated.

The merSETA's major focus in respect of new skills development and the alleviation of skills shortages is the development of artisan skills. To this end, merSETA has a wide spectrum of registered learnerships and apprenticeships in place. Uptake of these training programmes is significant and the merSETA has consistently surpassed its targets for both registrations and achievements. Furthermore, both systems appear to be showing some signs of maturing. Since its inception in November 2001 the merSETA has registered over 57 000 apprentices on apprenticeships and more than 52 000 learners on learnerships. In the same period a total of 31 000 apprentices qualified as artisans in the sector and another 29 000 learners successfully completed their learnerships.

Contributing to the high success rate in artisan development is the merSETA's AATP, which is promoting the development of artisan skills in the metal- and motor-related trades. Using this tool, the merSETA aims to qualify 20 000 artisans over the period 2011/12 to 2015/16, a figure that is considered realistic if sufficient funding can be found to support employers in this regard. Success will to a large extent, therefore, depend on the merSETA's ability to establish and maintain strategic funding partnerships in support of this goal. Also in support of its major artisan development focus is the merSETA's: critical involvement with the ATD-TTT; piloting of the Apprenticeship Dual System of artisan training; research into artisan competence levels, identity and status; and RPL.

merSETA support for other aspects of government's social and economic development agenda spans an MOU with the dti in support of IPAP; the placement of unemployed graduates in the labour market; support for SIPs; being a Development Quality Partner for the QCTO; partnerships with the FET college sector; and engagement with other national policy directives.

A number of challenges face the sector in respect of the supply of critical technical skills. The poor quality of secondary school education, particularly in maths and physical science, constrains both entry to and successes in higher education engineering qualifications. This issue also limits the extent to which workplace-based training can be used to develop employees who enter the sector directly after Grade 12. Also impacting on higher education output are factors such as insufficient physical and teaching resources to sustain the current growth rates, particularly in respect of engineers at HET level.

Factors that impact on the generation of key artisan skills include: the variable quality of artisans produced by the four different training routes and the scrapping and subsequent re-introduction of the N1 to N3 theory component of apprenticeships. It is hoped that the QCTO, working with the NAMB and all the existing SETAs – including especially the merSETA – will address these issues as it seeks to operationalise the National Occupations Pathways Framework (NOPF) element of the revised NQF.

6 SKILLS NEEDS OF THE MERSETA SECTOR

Chapter 4 described the demand for labour within the merSETA sector, while Chapter 5 provided an overview of the supply of skills to the sector. The aim of this chapter is to bring the discussion of skills demand and supply together in a more structured way.

The first part of the chapter considers the broad categories of skills development needs, as these emerge from the discussions in the previous chapters of this SSP. These broad categories include technical skills; fundamental work-readiness skills (the basic skills necessary for safe and efficient production); health and safety skills; HIV and AIDS awareness and prevention; ABET; RPL; the development of black managers; environmental skills; and the training and development of retrenched workers.

The next section presents information on specific occupations in the sector that can be regarded as scarce or critical occupations. The 2013 merSETA Scarce and Critical Skills List involved substantial industry engagement despite having its base in the quantitative analysis of the merSETA 2013 WSP vacancy data. More expansive chamber-specific priority skills lists are presented in Appendix 2.

The final section of the chapter considers the SIPs Scarce Skills List, and merSETA's intended contribution to the development merSETA-relevant skills on this list.

6.1 BROAD CATEGORIES OF SKILL DEVELOPMENT NEEDS

6.1.1 Technical skills

The work environment for the majority of employees in the merSETA sector demands a level of technical knowledge and skills. These range from the more basic technical skills required by machine operators to the advanced technical skills demanded by artisans and engineers. In addition, as technology in the areas of materials, manufacturing, logistics, CNC and CAD are continually advancing, regular updating of technical skills across all levels of employees is an ongoing skills development need for the sector.

6.1.2 Fundamental work-readiness skills

"Fundamental work-readiness skills" refers to the skills necessary to utilise acquired theoretical and practical knowledge, and skills in support of efficient and profitable production and/or service delivery for the employer within the work environment. In the US technical colleges, this group of skills is referred to as "critical core manufacturing skills" and includes both soft skills and fundamental skills. This skills group covers four key areas: fundamental productivity skills (working productively, following directions, and maintaining a safe work environment); fundamental problem-solving skills (thinking critically, applying problem-solving strategies, and applying mathematical reasoning); fundamental team skills (working cooperatively in teams, communicating clearly, and listening effectively); and fundamental adaptability skills (demonstrating integrity, demonstrating a positive attitude, and adapting

to change).[311] The need for such skills is in line with the merSETA's finding that the skills most required by industry are: "a positive attitude; solid work ethics; thinking skills related to maths and reading skills; problem-solving skills; and interpersonal and communication skills".[312]

6.1.3 Health and safety

While also part of the group of core skills for the sector, health and safety skills require specific attention. Training in this area is legislated and includes both induction courses and regular refresher courses.

6.1.4 HIV/AIDS awareness and prevention

While many organisations in the sector have instituted various interventions to curb the spread of HIV infections and to treat HIV-positive workers and those workers who are living with AIDS, infection rates in the sector are higher than in many other sectors of the national economy. As such, firms – with some assistance from the merSETA's HIV and AIDS Workplace Management Programme – need to continue to focus on awareness and prevention programmes.

6.1.5 ABET

A substantial 19.6% of the sector's employees are employed as elementary workers and are likely to have formal educational levels below NQF Level 1. A proportion of those employed as plant and machine operators and assemblers (especially older employees) are also likely to have comparatively low levels of formal education. For these groups, ABET is critical to the sector's ongoing need to raise general skills levels and support the acquisition of critical core skills and health and safety skills.

6.1.6 Recognition of prior learning (RPL)

While there are still numerous challenges to assessing the skills of all individual workers in the sector who have extensive experience but who have not had the opportunity to earn formal qualifications, one area in which RPL has now been institutionalised is the area of artisan training. The RPL route forms one of four routes through which artisans can acquire the practical knowledge needed to qualify to undertake a formal trade test. A dedicated RPL unit is being established through the NAMB at INDLELA.[313]

[311] Fox Valley Technical College (2011) http://www.fvtc.edu/public/content.aspx?ID=1620&PID=10, Accessed 26 September 2011.

[312] merSETA (2010) The impact of the 2008/9 global economic crisis on firms merSETA: A focus on employment and skills, EE Research Focus Pty (Ltd).

[313] Dr Florus Prinsloo, NAMB, interview, 9 July 2012.

6.1.7 The development of black managers

In support of transformation efforts within the sector, the development of black managers remains critical. This will necessarily entail a focus on the transformation at the professional levels of employees, as these generally feed into management positions. Support by the merSETA of increased access for and graduation of black students, particularly in engineering qualifications, is thus imperative.

6.1.8 Environmental skills

Skills that support the development and use of 'greener' technologies and the Green Agenda more broadly are likely to become increasingly important in the sector and thus need to be considered among the merSETA's skills development priorities now. The merSETA Strategic Plan has prioritised skills for sustainable development.

6.1.9 Training and development of retrenched employees

The merSETA's sectors have suffered considerable levels of employee retrenchment since the start of the economic crisis in late 2008. While many of the retrenched were permanent workers, the vast majority would have been more vulnerable casual workers, as cancellation of labour-broker contracts was one of the first ways that firms sought to cut operating costs at the start of the crisis. Many of the programmes that were undertaken by companies (either with or without merSETA or government support)[314] should become institutionalised so that employees who are forced to leave the sector have the entrepreneurial and other skills necessary for self-employment or for employment in other sectors.

6.2 SPECIFIC SCARCE SKILLS

Every year until 2011, the merSETA undertook an exercise to determine the scarce-skills requirements for each of the five chambers. This exercise was carried out partly to meet the demands of the Employment Services and Skills Analysis (ESSA) database that the Department of Home Affairs uses as a consideration in issuing foreign nationals with work permits, and partly to inform the skills development planning for the sector. However, because the magnitude of training needs within the various sectors and subsectors was the major determining factor in the development of these 'scarce-skills' lists, they did not in fact reflect genuinely 'scarce occupations' with any level of accuracy. The merSETA recognised this problem, and started addressing it in 2012.

At the same time, industry stakeholders no longer unanimously support the concept of 'scarce skills'. Various viewpoints inform this emerging picture:

In the face of very limited recovery from the economic recession, and the increasing challenges facing companies competing against rising levels of imports, the demand for new skills is dropping. For 2012 (according to the demand projection model in the SSP 2012/13) new demand was expected to be only

[314] merSETA (2010) The impact of the 2008/9 global economic crisis on firms merSETA: A focus on employment and skills, EE Research Focus Pty (Ltd).

slightly higher than replacement demand, while slight employment losses were the reality that emerged. The revised demand projections presented in this SSP suggests that new demand for 2013 will be less than one third of replacement demand. People are hanging onto their jobs and labour turnover rates are relatively low.[315] Labour unions are complaining that people with so-called 'scarce skills' who are being retrenched are not always able to find alternative employment. Unions are becoming increasingly sceptical of the waste of resources involved in 'training people for unemployment' as they see it.[316] Another facet to this argument is that because jobs are becoming increasingly specialised, it is no longer necessary for companies to have fully trained artisans but, in fact, it is more economical to have people who are trained only to do their own specific tasks – training that can generally be accomplished through short courses and skills programmes rather than full apprenticeships and learnerships.

On the other hand, ECSA argues that having sufficient technical skills at industry level is not only about being able to meet infrastructure construction deadlines (and this generally with imported engineers and artisans). Instead, skills scarcity will be alleviated when there is a solid base of high-quality artisan and engineering skills employed permanently within SA companies, as these skills form the foundation for innovation in respect of products and processes, both of which are required for economic sustainability. Supporting this argument are representatives of the plastics sector, who blame the current low levels of innovation in the industry (and the subsequent high levels of competition that the sector is facing from imported products) on the lack of adequate skills.[317]

Arguing against the trend to train only through specialised short courses, those that continue to view artisans and engineers as being scarce-skills occupations state that to provide only specialised training is to severely limit individuals' employability beyond that specific job and thus does neither the employee nor the local labour market any favours.[318]

Finally, it is important to remember that, despite the current drop in demand for many 'scarce-skill' occupations, this situation may change very suddenly if all government's planned SIPs materialise. The DHET has undertaken a basic exercise to determine the magnitude of demand for artisan and engineering skills resulting from the planned infrastructure projects.[319] This is discussed in more detail in Section 6.3 below.

The priority skills list presented in the SSP 2012/13 was not scientifically confirmed or quantified, however the majority of industry stakeholders, through their intimate knowledge of working in the various sectors, added to the list skills that their companies were struggling to find, which are difficult to train for and which are very important for the growth of the sector. Thus rather than referring to them

[315] John Wilson, SATMC, telephonic interview 29 June 2012; Abie Dunn, Nissan, telephonic interview, 28 June 2012; Roger Pitot, NAACAM, telephonic interview, 3 July 2012; Anton Hanekom, PlasticsSA, telephonic interview, 4 July 2012.

[316] Malebo Mogopodi, NUMSA, telephonic interview, 26 June 2012; Dr Dana de Villiers, MISA, telephonic interview, 2 July 2012.

[317] Dr Oswald Franks, ECSA, telephonic interview, 12 July 2012.

[318] Dr Oswald Franks, ECSA, telephonic interview, 12 July 2012.

[319] Janet Lopes, Seifsa, telephonic interview 26 June 2012.

as “scarce skills” they were called “priority skills”. Getting industry to abandon the notion of ‘priority skills’, which include skills that are deemed critical for industry functioning, but are not necessarily ‘critical’ according to the NSDS definition, proved difficult.

The Scarce and Critical Skills list presented in this SSP was determined through the following process:

- WSP 2013 data, which for the first time contains data on occupational vacancies was used and a number of filters applied to a group of variables. It is however important to note that at this stage the WSP 2013 dataset is still incomplete due to a number of extensions granted to companies. Because of this it is un-cleaned and therefore not analysed to the Chamber level. Occupations from the WSP 2013 data were included in the list of scarce skills if: 1) The total sector employment of a particular occupation was greater than 600; 2) The percentage of employing companies that reported a scarcity for a particular occupation was greater than 1.5%; 3) The number of companies reporting a scarcity was greater than 5; 4) The percentage of vacancies for a particular occupation was greater than 1.0% of total employment for that occupation; and 5) The number of vacancies was greater than 20. A total of 32 scarce skill occupations emerged through this process.
- WSP 2013 data was again considered. Of the occupations with fewer than 600 employees, a qualitative process was undertaken to highlight those where the proportion of vacancies compared with overall employment levels was high and/or the actual number of vacancies was high. This process highlighted a further four scarce skill occupations.
- This list of 36 ‘scarce’ occupations that emerged from the WSP 2013 data was compared against the 2012 Priority Skills List and a number of ‘gaps’ materialised. These related to industrial engineering and related occupations; chemical engineering and related occupations; and a range of occupations in the plastics sector.
- Because the WSP 2013 data could not be analysed to the Chamber level and it was thought that the quantitative process for the sector as a whole may hide skills scarcity in the smaller chambers, it was decided to combine the new list of 36 occupations with the 2012 Priority Skills List of 53 occupations. Due to the overlaps in the lists, the resulting 2013 Draft Priority Skills List has a total of 64 occupations.
- merSETA Chamber Representatives were then asked to obtain industry input on the draft list. This step resulted in a number of occupations being added, probably due to the confusion over the term ‘critical’. This resulted in a list of 97 occupations.
- At a meeting on 6 November 2013, all merSETA Chamber Representatives who were in attendance were asked to consolidate their chamber lists, focusing on retaining only those occupations that were truly scarce or critical according to the NSDS definition. The chamber representatives agreed that with the exception of the Plastics sector – where many of the occupations were currently listed as machine operator (OFO Level 7) and elementary (OFO Level 8) occupations – only occupations at Levels 1-6 should be considered ‘scarce’ or critical’, despite the fact that lower level occupations are vital to the functioning of industry. Furthermore, they indicated that many of the non-technical higher-level occupations could also

be dropped from the scarce and critical list. Each chamber lists was reduced significantly in this process.

- The Auto Chamber did not have a representative at the meeting of 6 November 2013. When approached with the request to consolidate their list, they indicated that all occupations were important and wanted all the occupations that had been identified as priority occupations through their chamber input processes to be included in the SSP.
- The merSETA 2013 Scarce and Critical Skills List includes an amalgamation of the scarce and critical skills lists from the Metal, Motor, New Tyre and Plastics Chambers, in addition to those occupations from the Auto Chamber priority skills list that were at OFO Level 6 and above and technical in nature, or that were non-technical but had been identified by more than just the Auto chamber as being a critical skill.
- However, in order to accommodate the Auto Chamber request it was also decided to include in this SSP each Chamber's full priority skills list (see Appendix 2). The tables in this appendix also provide information on the source of identification of the occupation: whether it emerged from the analysis of the vacancy data, or whether it was added to the list based on qualitative input from industry.

The 2013 merSETA Scarce and Critical Skills List is presented below (Table 6-1). The table is ordered according to OFO codes, and thus the order does not reflect the relative importance of the skills or occupations. Most of the skills are of a technical nature. However, a few occupations that are generally found in support functions in merSETA firms are again included in the list. The table also provides the available information on demand for these occupations over the next five years based on current occupational vacancy rates, baseline employment figures and the outputs of the merSETA demand projection model as outlined in Chapter 4.

Table 6-1 merSETA 2013 Scarce and Critical Skills with demand projections[320]

		Immediate need*	Medium term need**			Long term need**	
OFO 2012 code	**OFO 2012 description**	**Total 2013**	**Total 2014**	**Total 2015**	**Total 2016**	**Total 2017**	**Total 2018**
MANGERS							
121206	Health and Safety Manager	8	8	8	9	9	9
121905	Programme or Project Manager	42	41	42	43	44	44
132102	Production / Operations Manager (Manufacturing)	263	256	262	273	278	272
132104	Engineering Manager	82	79	81	84	85	85
PROFESSIONALS							

[320] At this stage these figures should only be taken as indicative because of acknowledged inaccuracies with the baseline data at the occupational level due to industry confusion over recent changes in the OFO. Aggregate figures for major occupational groups (as presented in the demand projection model of Chapter 4) make up for the submission of occupation-specific information under the incorrect OFO code.

214101	Industrial Engineer	70	67	69	73	75	72
214401	Mechanical Engineer	79	77	79	83	84	82
214402	Mechanical Engineering Technologist	38	37	38	41	42	39
214603	Metallurgical Engineer	7	7	7	7	7	7
214605	Metallurgist	4	4	4	5	5	5
215101	Electrical Engineer	63	28	29	30	30	31
215201	Electronics Engineer	7	7	7	8	8	8
224702	Quality Auditors	x	x	x	x	x	x
241101	Accountant (General)	66	64	65	69	70	68
242102	Organisation and Methods Analyst	11	11	11	12	12	11
243301	Sales Representative / Salesman (Industrial Products)	258	249	256	269	273	267
TECHNICIANS AND ASSOCIATE PROFESSIONALS							
311301	Electrical Engineering Technician	31	30	31	32	32	33
311401	Electronic Engineering Technician	11	10	10	11	11	11
311501	Mechanical Engineering Technician	80	77	79	83	85	82
311601	Chemical Engineering Technician	4	4	4	4	4	4
311904	Manufacturing Technician	56	54	56	58	59	58
311905	Industrial Engineering Technician	x	x	x	x	x	x
312201	Production / Operations Supervisor (Manufacturing)	162	155	160	170	173	168
313501	Metal Manufacturing Process Control Technician	88	84	87	90	90	93
313904	Integrated Manufacturing Line Technician	18	17	18	19	19	18
332302	Purchasing Officer	82	79	81	86	88	85
CLERICAL SUPPORT WORKERS							
432201	Production Coordinator/Recorder / Scheduler	215	199	206	219	223	216
SERVICE AND SALES WORKERS							
522302	Motorised Vehicle or Caravan Salesperson	85	82	84	93	97	85
522303	Automotive Parts Salesperson	160	154	157	173	179	160
SKILLED AGRICULTURAL, FISHERY, FORESTRY, CRAFT AND RELATED TRADES WORKERS							
642701	Air-conditioning and Refrigeration Mechanic	33	31	32	34	35	34
643202	Vehicle Painter	48	47	48	52	54	49
651101	Moulder	36	34	35	37	37	37
651203	Fitter-welder	38	36	38	39	40	40
651302	Boilermaker	100	95	99	103	104	105
651501	Rigger	30	28	29	30	31	31
652201	Toolmaker	91	87	90	96	99	94
652301	Metal Machinist	242	231	239	254	258	251
652302	Fitter and Turner	328	312	322	339	343	342

652404	Grinder	35	33	35	36	36	37
653101	Automotive Motor Mechanic	374	360	368	405	421	374
653103	Motorcycle Mechanic	2	2	2	3	3	2
653305	Small Engine Mechanic	1	1	1	1	1	1
653306	Diesel Mechanic	31	30	31	33	34	32
653307	Heavy Equipment Mechanic	10	10	10	10	10	11
671101	Electrician	151	144	149	156	158	158
671202	Millwright	70	67	69	72	73	73
671203	Mechatronics Technician	7	7	7	7	8	7
672104	Electronic Equipment Mechanician	5	5	5	5	5	5
672105	Instrument Mechanician	18	17	18	19	19	19
672106	Automotive Electrician/Autotronics	x	x	x	x	x	X
684904	Panelbeater	105	102	104	115	120	105
684905	Vehicle Body Builder	81	78	80	88	91	81
684906	Vehicle Trimmer	10	9	9	11	11	10
684907	Boat Builder and Repairer	24	23	23	24	24	25
PLANT AND MACHINE OPERATORS AND ASSEMBLERS							
714201	Plastic Cable Making Machine Operator	21	20	20	21	21	22
714203	Plastics Fabricator or Welder	18	17	18	20	20	19
714204	Plastics Production Machine Operator (General)	601	579	607	651	672	633
714208	Plastics Manufacturing Machine Minder	57	55	57	62	64	60
714209	Reinforced Plastics and Composite Trades Worker	7	7	7	7	8	7
ELEMENTARY WORKERS							
832902	Plastics, Composites and Rubber Factory Worker	68	65	68	74	77	71

* Annual total figure derived from the sum of current vacancies (extracted from the incomplete WSP 2013 dataset) + new + replacement demand (based on merSETA's demand projection model as outlined in Chapter 4 of this SSP).

** Annual total figure derived from the sum of new + replacement demand (based on merSETA's demand projection model as outlined in Chapter 4 of this SSP).

x Figures for these occupations could not be calculated because no baseline data (i.e. current employment in the occupation in the sector) is available. This is most probably due to the recent changes in the OFO and firms not entering the data for these occupations under the correct revised code.

Source: merSETA WSP data 2013 & merSETA 2012 SSP

According to focus groups undertaken in the motor sector in 2011, the reported shortages of motor- and motorcycle mechanics, panel beaters and diesel mechanics is the result of both absolute and relative scarcity. For many of these artisan groups, the MIBCO has fewer people registered than there are registered businesses that offer these services, despite the fact that according to MIBCO regulations, each business is required to have at least one qualified artisan in the specific field. Extreme scarcity of motorcycle mechanics has resulted in many operations using general motor mechanics instead, despite

the fact that this is against MIBCO regulations and the fact that it further reduces the availability of scarce motor mechanics for firms that specifically require their skills. Retirement rates are also high. Furthermore, career progression for experienced artisans results in a significant proportion leaving the trade every year to become, amongst other things, technical service advisors, technical sales managers, diagnostic technicians, insurance assessors and workshop foremen. The long lead times in training – generally an N2 qualification followed by between three and five years of workplace experience assessed against technical milestones achieved – present a key challenge for the sector in addressing skills shortages in these occupations.

Finally, it is important to note a serious limitation in respect of the above list of scarce and critical skills. Because the basis for identifying scarce and critical skills is the level of occupation according to the latest version of the OFO, 'emerging' occupations i.e. those that have not yet been officially defined, are missed. Such non-occupationally linked scarce skills that have been identified by merSETA relate to meeting the future needs of the Green Agenda, the anticipated demand for related occupations (at low, intermediate and high skills levels). An example is need for skills related to plastic waste sorting and recycling.

6.3 SKILLS REQUIRED IN SUPPORT OF THE SUCCESSFUL IMPLEMENTATION OF THE SIPS

The Presidential Infrastructure Coordination Commission (PICC) recently released a SIPs Scarce Skills List (version one – May 2013), which all SETAs are asked to address in their SSPs (Table 6-2). Specifically, government requires that SETAs indicate the way in which they are planning to address shortages in all the scarce skills relevant to their sector.

In the table below, occupations that have been highlighted in bold text and light grey background are the merSETA relevant occupations and are already included in merSETA's 2013 Scarce and Critical Skills List. The development of skills relevant to these occupations will thus receive merSETA's direct attention and support.

Table 6-2 Scarce Skills for the Strategic Infrastructure Projects (SIPs)

Occupational Cluster*	Critically scarce (50-100%)	Significantly scarce (20-50%)	Scarcity indicated (0-20%)
Management cluster*	121905: Programme or Project Manager (~350)	214301: Environmental Engineer (~300)	
		134901: Environmental Manager (~150)	
		121904: Contract Manager (~100)	
		241101: Accountant (~100)	
		121908: Quality Systems Manager (~100)	
Professionals and Associate Professionals	**121905: Programme or Project Manager (~350)**	132301: Construction Project Manager / Site Manager (~450)	**242102: Organisation and Methods Analyst (incl scheduler, estimator) (~100)**

	216502: Land and engineering surveyors (~550)	121904: Contract Manager (~100)	314301: Forestry Technician (~150)
	214907: Materials Engineer (~450)	214201: Civil Engineer (~1500)	
	311401: Electronic Engineering Technician (~300)	**215101: Electrical Engineer (~1100)**	
	214908: Materials Engineering Technologist (~150)	226302: Safety, Health, Environment and Quality Practitioner (~550)	
	351301: Computer Network Technician (~150)	**214401: Mechanical Engineer (~500)**	
		214904: Quantity Surveyor (~200)	
		241101: Accountant (~100)	
		671102: Electrical Installation Inspector (~150)	
		311301: Electrical Engineering Technician (~950)	
		311501: Mechanical Engineering Technician (~350)	
		311801: Draughtsperson (~350)	
		311601: Chemical Engineering Technician (~300)	
Service and clerical workers			441903: Program or Project Administrators / Assistants (~250)
			833402: Store person (~200)
Trades		641201: Bricklayer (~1700)	641502: Carpenter (~150)
		671101: Electrician (~1200)	
		671202: Millwright (~600)	
		651302: Boilermaker (~500)	
		641501: Carpenter and Joiner (~500)	
		653301: Industrial Machinery Mechanic (~450)	
		642601: Plumber (~400)	
		643101: Painter (~350)	
		642607: Pipe Fitter (~300)	
		642302: Plasterer (~250)	
		651202: Welder (~250)	
		651501: Rigger (~200)	
		2 651101: Moulder (~150)	
		651404: Structural Plater (~150)	
		651301: Sheet Metal Worker (~100)	
Plant and machine operators	734205: Grader Operator (~450)	734204: Excavator Operator (~300)	733201: Truck Driver (General) (~700)

		734201: Earthmoving Plant Operator (~250)	734213: Road Roller Operator (~250)
		734301: Crane or Hoist Operator (~200)	711405: Concrete Batching Plant Operator (~100)
Elementary and non-trade production workers		312301: Construction supervisor / clerk of works (~1050)	134916: Operations Foreman (Non-Manufacturing)
		831305: Cement and Concrete Plant Worker (~250)	831303: Earthmoving Worker (~850)
		Construction and maintenance labourers (~100)	862202: Handyperson (~850)
		641401: Concreter (~2500)	831302: Drainage, Sewerage and Storm Water Worker (~800)
		611302: Landscape Gardener (~150)	831312: Sign Erector (~200)
			641902: Scaffolder (~500)
			831310: Surveyor's Assistant (~150)

***** Whilst the OFO Major Groups have largely been followed, in certain cases occupations have been moved to other clusters to accommodate practical considerations e.g. not all occupations in Major Group 6 are listed trades in South Africa, hence the non-listed trades have been moved to the final cluster. However, in all cases, the relevant OFO number has been referenced.

Source: RSA (2013) Presidential Infrastructure Coordination Commission for the Strategic Infrastructure Projects

In addition to merSETA supporting the development of skills that have been identified by government as relevant to the SIPs, merSETA intends to provide channels through which unemployed graduates with relevant skills (but with relatively little experience) can be accessed by the private sector companies that win the tenders to undertake the SIPs projects.

6.4 CONCLUSIONS

This chapter pulls together the various broad categories of skills development needs in the merSETA sector that have been alluded to in the previous chapters of this SSP. These include technical skills, fundamental work-readiness skills (the basic skills necessary for safe and efficient production); health and safety skills; HIV and AIDS awareness and prevention; ABET; RPL; the development of black managers; environmental skills; and the training and development of retrenched workers.

In respect of the specific skills that need focused attention, merSETA's 2013 Scarce and Critical Skills List is included in this chapter. The priority skills span 59 occupations on the OFO and are mostly of a technical nature. In several instances the same occupations or skills are considered scarce by more than one merSETA chamber.

The SIPs Scarce Skills List that has been released by government includes a number of occupations that have been identified by merSETA as part of its Priority Skills List. The development of skills to match these occupations will thus receive direct support from the merSETA. Additionally, merSETA will develop ways in which employers on SIPs projects can access information about recent graduates with relevant

skills. Such platforms are necessary in order to support and facilitate the provision of skills for these important projects and for maximising employment opportunities for young people entering the sector.

7 SKILL DEVELOPMENT PRIORITIES

7.1 INTRODUCTION

The merSETA Accounting Authority is ultimately responsible for determining the strategic priorities for the sector. In August 2013, the Accounting Authority reviewed the merSETA five-year rolling strategy against: the sector imperatives as they emerged from the sectoral analysis presented in the preceding chapters of this SSP; national imperatives as highlighted in the discussion of various government policies, plans and objectives; its own current and ongoing commitments; and the available funding (see Figure 7-1.)

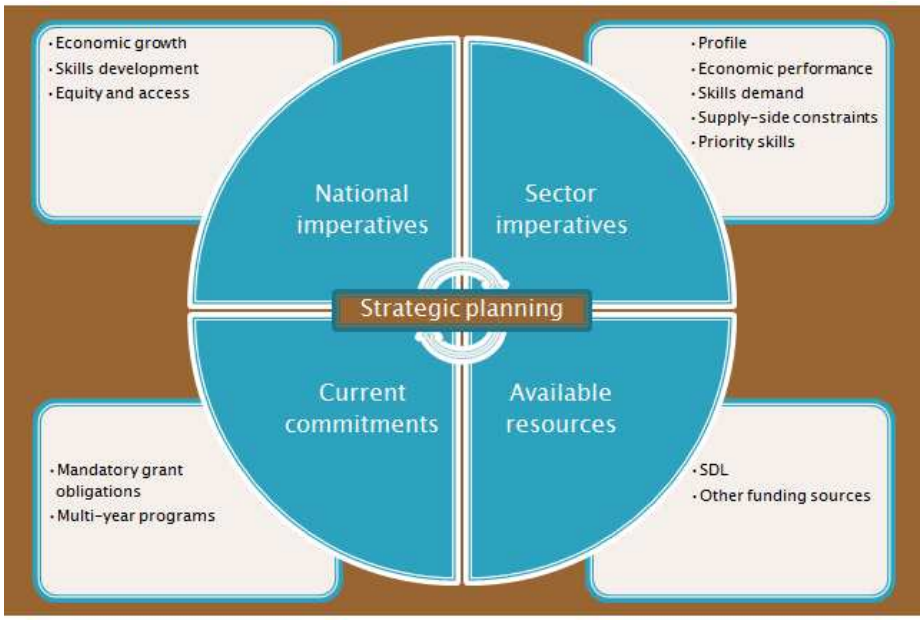

Figure 7-1 The merSETA's approach to determining skills development priorities and its strategic plan

The first section of this chapter discusses the key strategic issues that arise from the analysis undertaken for this SSP. The alignment of this SSP with specific strategies is discussed in more detail in later sections of the chapter. The discussion of key strategic issues is followed by an explanation of the merSETA's skills development priorities. These priorities provide the underlying guiding principles for the Strategic Plan and Annual Performance Plan. The priorities are cross-cutting and in most cases are addressed by various programmes simultaneously.

7.2 STRATEGIC ISSUES ARISING FROM THIS SSP

A number of strategic issues relating directly to this situation arise from the sector analysis undertaken for this SSP.

First, **successful implementation of the revised grant regulations**, in terms of the AA approved Grants Policy, with a view to ensuring funding sustainability. The merSETA will continue its focus on finding ways to access increased funding for this training.

In addition to concerns regarding the availability and sustainability of funding, the sector recognises that there is a need to increase the efficiency of its spending. Improving the efficiency and economy of skills development efforts in the sector will make it easier to raise funding from other sources.

Secondly, **improving the statistical information base** involves a major exercise linked to developing reliable contact information and related data for the 13 000 levy-paying companies in the sector, including correct allocation by SIC Code. Sector capacity-building in the use of the OFO codes, as well as developing a mechanism to quantify skills shortages, linked to WSP submissions is also a priority. Finally, developing a better understanding of levy-paying, but non-participating SME's in the sector will be done through a national survey, aimed at unlocking the potential of SMEs to participate more fully in skills development.

Third, the need for sector skills planning and implementation to **support national transformation and access** has emerged as major concern, in view of the static demographic profile of the sector across occupational levels, as discussed earlier. This includes the need for concrete strategies to increase the representation of women, and black managers and professionals in the sector. Supporting rural development, as discussed in the previous chapter, in an industry that is largely urban based, requires new understandings and linkages across sectors. In this regard, developing strategies to improve the sector's response to the national imperative around **providing increased opportunities for workplace experience** is critical.

Fourthly, a major concern for industry is that in the context of the existing economic climate, the **employment-creation capacity of the sector** (as envisaged by the various government policies) may be overstated. The AATP post-trade test tracer study found that about 20% of the AATP artisans are unemployed post-trade test – particularly in certain occupations and regions of the country. As noted earlier in the SSP, the merSETA has also registered an ongoing decrease in levy-paying companies and employment levels in the sector. Questions concerning the validity of skills demand data apply not only to the long-term total employment forecasts, but also to the distribution of skills across various occupations. In the last SSP the merSETA acknowledged that it needed to address the challenge of sector-level data collection and management as a matter of urgency. In this SSP the determination of the merSETA scarce and critical skills list has for the first time used as its foundation the number of vacancies reported by firms across the sector in their 2013 WSP submissions. The improvement of the merSETA data system, its continued validation against other data sources, and the collection of additional information where needed are issues that require continued attention from the merSETA into the foreseeable future. Closely related, is the need to **find the right balance between government and sectoral imperatives**, and understanding the supply-side infrastructure serving strategic, integrated projects (e.g. the SIPs) in order to develop an understanding of the complementary nature of such initiatives for medium and long-term sector growth.

7.3 MERSETA SKILLS DEVELOPMENT PRIORITIES LINKED TO NSDS III GOALS

The merSETA Accounting Authority has reviewed the merSETA Strategic Priorities, based on the extent to which they were aligned to the following concerns:

- Addressing strategic skills development challenges;
- Identifying opportunities for innovation in products, services, operations and business model;
- Balancing competing short and longer-term skills development needs for the sector;
- Balancing competing stakeholder needs and interests;
- Enhancing merSETA's capacity to respond to the skills development needs of the sector;
- Enhancing efficiency and effectiveness of the merSETA;
- Supporting the merSETA's rural development strategy;
- Supporting the merSETA's sustainable green skills development approach, and
- Supporting People with Disabilities.

With the exception of the last three factors which were seen as cross-cutting, the merSETA Accounting Authority agreed that the current merSETA Priorities remain relevant, and should be linked more strongly to the programme goals. Therefore, in the updated version of the Strategic Priorities, attention has been paid to incorporating rural development, sustainable green skills development, and skills development of PWD more overtly, in order to pull these elements through into the programme goals.

7.3.1 Priority 1: Develop a sector labour market intelligence (LMI) system and facilitate sector-specific research initiatives

This overarching priority for the sector is to promote and develop an institutional base for providing robust and reliable sector data. The development of an LMI is seen as a vital part of the skills planning and skills development processes necessary to give confidence to and assist in making informed planning decisions and impact considerations. An LMI consists of two vital components: a comprehensive data system and a research capability. The merSETA has developed and is in the process of implementing a comprehensive research strategy that seeks to address the following areas:

- Sector skills planning;
- Competence assessment and return on training investment;
- Sectoral and regional research into skills development needs, including sustainable green skills, SMME's and the informal economy;
- National skills development research;
- Monitoring and evaluation;
- Tracer studies and impact evaluation;
- Research and innovation capacity building, and
- Knowledge management and dissemination of research information relevant to the sector.

Focus	Develop a sector labour market intelligence (LMI) system and research function.
Key considerations	WSP and ATR data collection and analysis, sector-wide surveys, applied research, monitoring and evaluation, innovation capability.
Critical areas	Internal merSETA processes, TVET research and development (R&D) capacity development, knowledge management.
Cross-cutting issues	Rural development, sustainable green skills development, and skills development of PWD.
NSDS III goals	1. Establishing a credible institutional mechanism for skills planning.

7.3.2 Priority 2: Promote artisan development and sector-specific priority skills

There is an urgent need to develop frameworks and incentive mechanisms to promote the active involvement of relevant stakeholders in planning, governance, curriculum, qualifications development and assessment, as well as provider-employer cooperation and workplace learning for a systemic, scalable and sustainable artisan development system. This would include diversifying sources of appropriate funding for artisan development by involving all stakeholders, as well as investigating the potential of introducing informal apprenticeships, linked to the informal economy, as part of broadening the base.

The key role of the merSETA in ensuring a constant supply of artisans to the manufacturing sector and other sectors of the economy is the most critical skills development area for achieving its strategic intent. The merSETA's successes in artisan development have however come at a cost: There is a growing expectation upon the merSETA to do more and deliver more in the area of artisan development – in part as a way of responding to the economic recession, and in part as a response to the problem of youth unemployment. The time has come to seriously consider innovative approaches both to funding as well as delivering apprenticeships in a way that will simultaneously address the needs of the automotive, metal and plastics sectors, as well as the imperatives of national socio-economic development objectives and initiatives such (such as the SIPs).

The crucial role of public FET colleges cannot be ignored, and the merSETA will play a lead role in implementing the Dual System Apprenticeships Project, under the oversight of NAMB. Beyond FETC / industry partnerships, the merSETA has prioritised the need to implement joint initiatives to support this project, e.g. with the Chemical Industries Education and Training Authority (Chieta). The merSETA will also engage proactively with the sector in order to promote the sustainability of the learnership route to NQF Level 4 and to ensure that the quality of artisans produced meets with industry requirements.

Enhancing the current skills development infrastructure is critical. The relationship between FET colleges, industry training centres and industry will be strengthened through a range of projects,

programmes, incentives, and other forms of support. These include engagement with curriculum challenges and promoting the Recognition of Prior Learning (RPL). Another matter that the merSETA will attend to in the upcoming period is the development of the capacity of SMEs to offer artisan training.

Focus	Significantly increasing the development of qualified artisans.
Key considerations	Workplace interventions; FET college engagements; engagement with industry-specific providers; Financing mechanisms for formal apprenticeship systems, including PPPs; RPL.
Critical areas	Quality, supply-side capacity, R&D; Increasing the number of apprenticeships available to young people by overcoming barriers to apprenticeship in smaller industries. Improving training provision and increasing employer commitment.
Cross-cutting issues	Rural development, sustainable green skills development, and skills development of PWD.
NSDS III goals	2. Increasing access to occupationally directed programmes; 3. Promoting the growth of a public FET college system that is responsive to sector-, local-, regional- and national skills needs and priorities; 5. Encouraging better use of workplace-based skills development; 7. Increasing public sector capacity for improved service delivery and supporting the building of a developmental state; and 8. Building career and vocational guidance.

7.3.3 Priority 3: Establish and facilitate strategic partnerships

The merSETA intends to act as a key facilitator to assist the sector to engage meaningfully with a range of government- and non-governmental stakeholders in ensuring that the national skills development agenda is coordinated and adequately resourced and funded. This will involve working on the identified skills development needs, together with a wide range of entities including:

- Other SETAs ('Goods Cluster' SETAs, as well as Services Seta and AgriSETA);
- The Ministry of Economic Development;
- The Department of Trade and Industry (in particular around IPAP and the SEZ initiatives);
- The Department of Environment Affairs ('greening' of the economy and supporting creation of 'green jobs');

- The Department of Science and Technology (around sector innovation fund projects);
- The Department of Public Works;
- The provincial government departments;
- The International Labour Organisation (ILO) (around informal apprenticeships);
- National agencies and institutions – e.g. Denel, the Small Enterprise Development Agency (SEDA); and
- Employer associations, industries and sectors that are both upstream suppliers and downstream consumers of the merSETA sector's products, including the rolling stock sector.

The merSETA also intends to pursue partnerships with key higher education institutions both locally and internationally to ensure achievement of its strategic objectives. In the coming period the merSETA intends to consolidate and strengthen its network with partner institutions from the rest of sub-Saharan Africa (Namibia, Angola and Mozambique). Partnerships will also be sought with industry providers and centres of excellence.

merSETA partnerships will also actively seek to increase the levels of funding available for training and skills development in the sector. Such arrangements will include:

- Co-funding of training, with employers, provinces, the UIF and various state departments, including clusters of SETAs, and
- Improving employer buy-in through engaging industry associations on the challenges they face.

Focus	Establishing and facilitating strategic partnerships for sustainability and efficiency.
Key considerations	Further education institutions, higher education institutions, skills development agencies, other government agencies, employers; partner institutions in sub-Saharan Africa.
Critical areas	Synergy of objectives, objectives realised, identification of shared and respective interests and roles, sustainable funding, efficient spending and return on investment.
Cross-cutting issues	Rural development, sustainable green skills development, and skills development of PWD.
NSDS III goals	1. Establishing a credible institutional mechanism for skills planning; 2. Increasing access to occupationally directed programmes; 3. Promoting the growth of a public FET college system that is responsive to sector-, local-, regional- and national skills needs

	and priorities; 4. Addressing the low level of youth and adult language and numeracy skills to enable additional training; 5. Encouraging better use of workplace-based skills development; 6. Encouraging and supporting cooperatives, small enterprises, worker-initiated-, NGO-, and community training initiatives; 7. Increasing public sector capacity for improved service delivery and supporting the building of a developmental state; and 8. Building career and vocational guidance.

7.3.4 Priority 4: Increase the flow of appropriately skilled new entrants into the system

A critical priority is to ensure a steady increase in the flow of new workers who have the skills required by the sector. This involves increasing the skills available to the sector to meet its short-term needs and improving the base level of learning. Increases should be large enough to provide for the systematic eradication of the skills shortages that are currently experienced and to accommodate the expected growth of the economy and the replacement demand that currently exists in the sector. New entrants should possess the professional- and technical qualifications required by the sector and should increasingly reflect the racial and gender composition of the SA population.

Interventions linked to this priority are planned that will include Adult Education and Training, including Foundational Learning Competence (FLC) and innovative interventions for out-of-school youth and will be focused on promoting access to training and workplace experience. The sector-wide tracer study undertaken on newly qualified and post-trade test artisans supports this priority. The merSETA will also pay attention in the coming year to the development and implementation of a sector-wide strategy to significantly increase the intake of young learners into workplace experience and internship opportunities within companies in the sector. It is expected that the merSETA will continue to support programmes that focus on improving the skills supply pipeline, such as improving the pool of candidates with acceptable maths and science passes – either to enter into engineering-related apprenticeships and learnerships or to increase throughput of university engineering, technician, and technologist graduates. Additionally, the merSETA's increased focus on career guidance and development in rural areas will be closely linked to this priority.

Focus	Significantly increasing the supply and flow of candidates into the skills development system and sector.
Key considerations	Incentives and opportunities for workplace placement, building industry and company capacity to provide meaningful experience, alignment of skills

	demand and supply; tracer studies and learner tracking.
Critical areas	Responding to national development prerogatives, innovative solutions for youth not in employment, education or training (NEET) to promote employability; bridging programmes.
Cross-cutting issues	Rural development, sustainable green skills development, and skills development of PWD.
NSDS III goals	2. Increasing access to occupationally directed programmes; 3. Promoting the growth of a public FET college system that is responsive to sector-, local-, regional- and national skills needs and priorities; 4. Addressing the level of youth- and adult language and numeracy skills to enable additional training; 6. Encouraging and supporting co-operatives, small enterprises, worker-initiated-, NGO-, and community training initiatives; and 8. Building career and vocational guidance.

7.3.5 Priority 5: Develop the skills of the existing workforce

The development of existing employees in the sector is of primary importance for the development of the sector and for achieving outcomes that are consistent with decent work, equity, and sector-economic (and thus employment) growth. Without a skilled, effective and enabling workforce, development in the sector is likely to be muted. Considerable attention will be given to stregthening sector systems for the RPL through the implementation of a sector-wide capacity-building, advocacy and implementation strategy, comprising four sub-projects. Promoting equity in the workforce and company-based succession planning will also receive special attention in the coming year, as well as a more integrated to approach to addressing stakeholder capacity-building needs, in particular that of organised labour.

In this regard, the sector has identified the need to continue to develop and refine an integrated qualifications framework to identify occupational pathways for existing employees, as well as the re-skilling of retrenched workers, for reintegration and retention in the sector. In this regard implementing the findings of the Chamber Special Research Projects, and deepening that research is seen as a key enabler for this strategic priority. Funding and provisioning models, through the merSETA Grants Policy aim to accelerate progress and ensure continuity of learning and development initiatives across multiple years and levels. A key focus will be on the piloting of newly registered QCTO qualifications, linked to

RPL and to Foundational Learning Competence (FLC). The ongoing development of qualifications to promote workplace learning will continue, with the participation of industry experts and FETC lecturers.

Focus	Increasing skills of existing employees in the sector to support employment and business growth, productivity and industrial competiveness.
Key considerations	Expanding the skills base, productivity, technological development and 'greening' of the industry. Chamber Special Research Projects. Labour capacity-building.
Critical areas	Enhancing lifelong learning and supporting infrastructure for skills development, including learning programmes, curricula and materials to promote access and success. Recognition of Prior Learning.
Cross-cutting issues	Rural development, sustainable green skills development, and skills development of PWD.
NSDS III goals	1. Establishing a credible institutional mechanism for skills planning; 4. Addressing the low level of youth- and adult language and numeracy skills to enable additional training; 5. Encouraging better use of workplace-based skills development; and 8. Building career and vocational guidance.

merSETA PROGRAMMES LINKED TO ITS STRATEGIC PRIORITIES

This section seeks to more directly link the priorities that arise from this SSP to the merSETA's Strategic Plan and Annual Performance Plan.

Programme	Outcome	Programme Indicator	Link to merSETA Skills Development Priorities
1: Administration	1.1 Effective and efficient governance within the merSETA	1.1.1 Best practice in line with King III	Priority 1: Develop a sector LMI system and facilitate sector-specific research initiatives Priority 3: Establish and facilitate strategic partnerships
		1.1.2 merSETA resources aligned to effectively execute this strategy	
		1.1.3 Continuous performance improvement linked to new merSETA values	
		1.1.4 Compliance with all relevant legislation and regulations	

Programme	Outcome	Programme Indicator	Link to merSETA Skills Development Priorities
		1.1.5 Customer/stakeholder expectations met and or exceed	Priority 5: Develop the skills of the existing workforce
		1.1.6 Sound financial accountability	
		1.1.7 Communication strategy developed and implemented	
		1.1.8 Monitoring and evaluation of operations and projects	
2: Skills Planning	2.1 Effective mechanism for sector skills planning	2.1.1 Capacity for research and skills planning established	Priority 1: Develop a sector LMI system and facilitate sector-specific research initiatives
		2.1.2 Capacity building of stakeholders	Priority 5: Develop the skills of the existing workforce
		2.1.3 Grants aligned with the sector skills plan	Priority 1: Develop a sector LMI system and facilitate sector-specific research initiatives
		2.1.4 Implementation of partnerships for credible skills planning	Priority 1: Develop a sector LMI system and facilitate sector-specific research initiatives Priority 3: Establish and facilitate strategic partnerships
3: Increase access to occupationally directed programmes	3.1 Increased access to occupationally directed programmes	3.1.1 Skills development initiatives in the workplace are implemented through the effective utilisation of the levy grant system	Priority 5: Develop the skills of the existing workforce Priority 3: Establish and facilitate strategic partnerships
		3.1.2 A total of 20 000 artisans qualified over the five-year period	Priority 2: Promote artisan development and sector-specific priority skills Priority 3: Establish and facilitate strategic partnerships
		3.1.3 Comprehensive RPL programme implemented	Priority 2: Promote artisan development and sector-specific priority skills

Programme	Outcome	Programme Indicator	Link to merSETA Skills Development Priorities
		3.1.4 High-level national scarce skills need to be identified and addressed.	Priority 1:Develop a sector LMI system and facilitate sector-specific research initiatives Priority 5: Develop the skills of the existing workforce
		3.1.5 DQP Qualifications developed	Priority 4: Increase the flow of appropriately skilled new entrants into the system Priority 3: Establish and facilitate strategic partnerships
		3.1.6 Training Layoff Scheme	Priority 5: Develop the skills of the existing workforce
		3.1.7 Relevant R&D and innovation capacity is developed and implemented.	Priority 1: Develop a sector LMI system and facilitate sector-specific research initiatives Priority 5: Develop the skills of the existing workforce
4: Promoting the responsiveness of FET colleges to the intermediate skills needs of the sector	4.1 Promote the responsiveness of FET colleges to sector skills needs	4.1.1 Sector participation in the relevance of curricula and qualifications offered by FET colleges	Priority 3: Establish and facilitate strategic partnerships
		4.1.2 Established partnerships that result in increased capacity to meet industry needs throughout the country	Priority 3: Establish and facilitate strategic partnerships
		4.1.3 Mechanisms aimed at bridging the gap between industry and institutional provision	Priority 4: Increase the flow of appropriately skilled new entrants into the system Priority 3: Establish and facilitate strategic partnerships
		4.1.4 Address infrastructure needs of FET colleges	Priority 2: Promote artisan development and sector-specific priority skills Priority 3: Establish and facilitate strategic partnerships

Programme	Outcome	Programme Indicator	Link to merSETA Skills Development Priorities
		4.1.5 New ISOE approach developed	Priority 2: Promote artisan development and sector-specific priority skills Priority 3: Establish and facilitate strategic partnerships
5: Addressing the low level of youth- and adult language and numeracy skills to enable additional training	5.1 To strengthen the skills pipeline and address work readiness	5.1.1 Low levels of literacy and numeracy amongst workers and new entrants addressed	Priority 5: Develop the skills of the existing workforce
		5.1.2 Contribution towards the support and encouragement of initiatives for young learners and educators to achieve maths, science and technology results for entry into the sector	Priority 4: Increase the flow of appropriately skilled new entrants into the system
		5.1.3 Partnerships with organisations involved in youth skills development are initiated and signed	Priority 3: Establish and facilitate strategic partnerships
6: To promote workplace skills development within the sector	6.1 Improved workplace equity; enhanced workplace productivity	6.1.1 SETA stakeholders support the prioritisation of programmes geared to improving productivity	Priority 5: Develop the skills of the existing workforce
		6.1.2 Sector projects to address specific skills gaps and skills imbalances to contribute towards transforming the workplace are identified and implemented	Priority 5: Develop the skills of the existing workforce
		6.1.3 Cross-sectoral partnership projects are established to address skills needs in support of local economic development	Priority 3: Establish and facilitate strategic partnerships
		6.1.4 Wellness strategies developed	Priority 5: Develop the skills of the existing workforce
		6.1.5 A research programme to identify current and future interventions to support productivity improvements is implemented	Priority 1: Develop a sector LMI system and facilitate sector-specific research initiatives
		6.1.6 Need for workplace experience addressed	Priority 2: Promote artisan development and sector-specific priority skills Priority 4: Increase the flow of appropriately skilled new entrants into the system

Programme	Outcome	Programme Indicator	Link to merSETA Skills Development Priorities
		6.1.7 People with disabilities	Priority 4: Increase the flow of appropriately skilled new entrants into the system Priority 5: Develop the skills of the existing workforce
7: Encouraging and supporting cooperatives, small enterprises, worker-initiated-, NGO- and community training initiatives	7. 1 Encouraging and supporting cooperatives, small enterprises, worker-initiated-, NGO- and community training initiatives	7.1.1 Mechanisms and models developed to support skills development in the community-based- and small-enterprise sector through a range of partnerships, programmes, grants and incentives	Priority 3: Establish and facilitate strategic partnerships
		7.1.2 Support provided to programmes that build worker capacity identifying and meeting skills needs of their members, including RPL	
		7.1.3 Sub-sector opportunities scoped for skill development partnerships and funding	
8: Building career and vocational guidance	8.1 To position the manufacturing-and-related services industry to provide attractive pathways for personal and career development to young people	8.1.1 merSETA career gateway innovation network established to market and communicate career pathways and opportunities	Priority 4: Increase the flow of appropriately skilled new entrants into the system
		8.1.2 WorldSkills SA	Priority 3: Establish and facilitate strategic partnerships
		8.1.3 Contribution towards the support and encouragement of initiatives for young learners and educators to achieve maths, science and technology results for entry into the sector	Priority 4: Increase the flow of appropriately skilled new entrants into the system
		8.1.4 Partnerships identified and established with international-, national- and provincial career-resources agencies	Priority 3: Establish and facilitate strategic partnerships
		8.1.5 Capacity building of key stakeholders	Priority 3: Establish and facilitate strategic partnerships
		8.16 Comprehensive career development to support sector growth.	Priority 4: Increase the flow of appropriately skilled new entrants into the system

7.4 SECTORAL CONTRIBUTION TO STRATEGIC AREAS OF FOCUS FOR NSDS III

NSDS III not only includes specific goals, but is also guided by seven key development and transformational imperatives that will guide implementation and against which NSDS III (and therefore

all SETAs) will be measured. The ways in which this SSP serves to support these developments and transformational imperatives is discussed briefly in this section.

Race

All of merSETA's sectors have to comply with BB-BEE legislation and with the generic BEE Scorecard that aims to effect racial transformation of the productive economy. Owing to the high levels of multinational ownership and little leverage in this regard, transformation in respect of other areas such as management (where PDIs are still under-represented) becomes even more critical. The merSETA's strong focus on developing the skills of these people, particularly among the technical occupations (including artisans and engineers), builds the foundation for transformation of these occupational groups, and later of management levels, as managers tend to be drawn from the experienced members of the technical occupations. The merSETA is currently rolling out a management development programme for black females from intermediate-sized companies in association with the University of Pretoria, to address the skewed racial profile of managers and professionals in the sector. In addition, it has added an equity dimension to its impact section in the sector Annual Training Reports in order to encourage stronger links between skills development and equity.

As merSETA's data gathering processes become more embedded, data at the more detailed level should also highlight areas for more targeted intervention.

Class

Class is difficult to measure and at present proxy indicators (unemployment, occupational group and formal education level) are used to consider the merSETA's contribution to this aspect of equity.

A relatively larger proportion of employment within merSETA sectors is for elementary workers and machine operators and drivers, and Adult Education and Training (AET) is directed at this group. The merSETA also invests a considerable portion of its levy income into training for the unemployed.

Gender

Women are under-represented in the majority of occupational categories across the merSETA sectors (see Chapter 2). The merSETA has in the past focused on supporting women's entry into the sector and will continue to do so over the period under review. It will also continue to report on its learners in terms of their gender. The project focusing on Black females in engineering seeks to address this dimension.

Rural development

In the upcoming period, the merSETA will continue to increase its efforts to focus on rural areas. As discussed in the previous chapter, the merSETA's rural strategy is a five year strategy and the provincial partnership projects constitute the chief vehicle for implementing the strategy. Current programmes such as the Retrenchment Assistance Project (RAP) offer opportunities to impact directly on the lives of former employees in the sector while the non-urban slant of the SET project is aimed at assisting

learners from these areas to improve their chances of accessing merSETA related qualifications at FET and HET levels, and thus aiding their entry into the sector.

Although manufacturing firms within the merSETA sector are clustered into four mainly urban regions, which limits the extent to which the sector is able to make a direct contribution to government's rural development objective, the rural provinces and rural areas of provinces in which there are urban concentrations of merSETA employment are likely to have a greater proportion of employment in the subsectors motor retail, service and repairs, and metal fabrication than in the other merSETA subsectors. As such, the development of qualified motor mechanics that are able find employment almost anywhere in the country promotes the rural agenda.

A growth area in which the merSETA has become increasingly involved is the rapid expansion of the green manufacturing industry, e.g. photovoltaic and wind-farms and although prospects for large scale employment creation in these areas remain uncertain, there will nevertheless be an increasing need for maintenance technicians in the years to come. Cross-SETA linkages, for example with MQA on beneficiation and downstream supplier development, or with Energy SETA around the green agenda, or water security, or AgriSETA on strengthening black commercial farmers, for example, also provide options for meaningful supply chain partnerships for rural development that could be explored.

From a skills analysis and planning perspective, the merSETA has recognised the importance of localised external economies and company networks, whether formal or informal, and has this year for the first time conducted Provincial Sector Skills Planning. This has created a new focus on local and regional economies, which is in line with the emerging view of the OECD that skills development is a key component of local strategies aimed at creating new jobs through the facilitation of firm re-structuring to increase productivity as well through the creation of new jobs in the green economy. Again the importance of value chain cross-SETA partnerships at local level cannot be over-emphasised.

The merSETA is fortunate in that it has a well-developed infrastructure in all regions. The question is around the balance of centralised activities and regional competencies in order best to address the regional agenda. This is also true for the engagements that the merSETA has with rural-based FET colleges around lecturer capacity-building and appropriate curricula and programmes for rural development.

Age

Most learning programmes supported by the merSETA focus on the youth. Learners' ages are recorded by the merSETA.

Disability

The merSETA captures the disability status of learners that it supports across all training. The merSETA has also directly supported initiatives that aim to give people living with disabilities the skills to find employment in the sector. These initiatives are planned to continue and expand in the forthcoming period.

HIV and AIDS

The merSETA is aware of the extremely negative impact that HIV and AIDS has on the productivity (and profitability) of the sector and on the challenges that SMEs have in putting programmes in place to support workers and limit this impact. In line with current trends however, the merSETA has remodeled its HIV and AIDS Project to become a more holistic wellness-oriented programme, which also addresses the de-stigmatising objective.

7.5 SECTORAL CONTRIBUTION TO THE PRESIDENT'S OUTCOMES APPROACH TO PLANNING GOVERNMENT'S WORK

7.5.1 merSETA contribution to Presidential Outcomes for Minister of Trade and Industry

The merSETA will (if only indirectly) contribute to the outcomes of the Minister of Trade and Industry. Specific contributions will be outlined once more detail is publically available regarding these outcomes.

7.5.2 merSETA contribution to Presidential Outcomes for Minister of Higher Education and Training

The Minister of Higher Education and Training is accountable for Outcome 5 – "A skilled and capable workforce to support an inclusive growth path" that has the following five outputs and measures:

Output 1: Establish a credible institutional mechanism for skills planning

- Develop a standardised framework for the assessment of skills shortages and vacancies in the country.

merSETA contribution: In support of Output 1, the merSETA has submitted an SSP to the DHET that is based on empirical data available, and that is supported by stakeholders, including the dti. Additionally, the merSETA has recognised the urgent need to develop an LMI system that will support more detailed sector research in future and thus form the foundation of credible skills planning in the sector.

Output 2: Increase access to programmes leading to intermediate- and high-level learning

- Provide young people and adults with foundational learning qualifications and increase ABET Level 4 entrants from a baseline of 269 229 to 300 000 per year.
- Improve NC(V) success rates, prior to massification of the programme. NC(V) enrolments across Levels 2 and 3 in 2009 were 122 921, of which 8.9% achieved certification at Level 2, 9.9% at Level 3, and 21.5% at Level 4.
- Create 'second-chance' bridging programmes (leading to a matric equivalent) for the youth who do not hold a senior certificate.
- Provide a range of learning options to meet the demand of those with matric but who do not meet requirements for university entrance.

merSETA contribution: In support of Output 2, the merSETA has allocated resources to support a range of Adult Education and Training (AET) Programmes in the sector, including Foundational Learning Competence (FLC). In respect of NC(V) qualifications, the merSETA is currently engaged with the FET sector to improve the alignment of the curriculum to the needs of the metals, automotive and plastics industries, as well as the provision of workplace experience opportunities for NC(V) candidates, linked to access opportunities into apprenticeships. Finally, the current range of merSETA learnerships for both employed and unemployed learners seeks to provide learning options for those with matric but without the requirements for university entrance.

Output 3: Increase access to occupationally directed programmes in needed areas and thereby expand the availability of intermediate-level skills (with a special focus on artisan skills)

- Increase the number of learnerships to at least 20 000 annually by 2014.
- Produce at least 10 000 artisans annually by 2014.
- Put in place measures to improve the trade-test pass rate from its 2009 level of 46% to 60% by 2014.
- Increase the placement rate of learners from learnership and apprenticeship programmes, as well as learners from NC(V) programmes, who require workplace experience before they can take trade tests or other summative assessments. At least 70% of learners should have a placement every year.
- By 2011, establish a system to distinguish between learnerships up to and including Level 6 and above.
- Increase the proportion of unemployed people, as compared to employed people, entering learnerships from the current level of 60% to 70%.

MerSETA contribution: In support of Output 3, the merSETA's contribution is substantial. It has positioned itself as the leading SETA in respect of artisan development. Through the mechanisms of the AATP, the national Dual System Apprenticeships Project, and related provincial artisan development initiatives, the merSETA is aiming to support the development of 20 000 new artisans over the period 2011/12 to 2015/16. The merSETA will additionally continue to support experiential training in workplaces, particularly for engineering- and artisan-related fields.

Output 4: Increase access to high-level occupationally directed programmes in needed areas

- Increase the graduate output in engineering sciences to 15 000 per year by 2014.
- Increase the graduate output in animal and human health to over 15 000 per year by 2014.
- Increase the graduate output in natural and physical sciences to 8 000 annually by 2014.
- Increase the graduate output in teacher education to 12 000 per year by 2014.

merSETA contribution: In support of Output 4, the merSETA will continue to provide bursaries for occupationally directed studies in higher education, for employed, but more particularly for unemployed, learners. Specifically, support will be given for studies in the engineering disciplines including: industrial

engineering, mechanical engineering, metallurgical engineering, chemical engineering, mechatronics, and polymer technology.

Output 5: Research, development and innovation in human capital for a growing knowledge economy

- Increase the output of:
    - Honours graduates to 20 000 annually by 2014
    - Research masters to 4 500 annually by 2014
    - Doctoral graduates to 1 350 annually by 2014
    - Post-doctoral graduates to 100 annually by 2014.
- Provide increased support to industry/university partnerships.
- Increase investment in R&D, especially in the science, engineering and technology sector.

merSETA contribution: In support of Output 5, merSETA bursaries will continue to support engineering studies up to postgraduate level. Additionally, the merSETA is seeking to build a range of strategic partnerships that will include facilitating partnerships between industry and universities in support of skills development for R&D in the sector. This includes, for example, the partnership with the Tshwane University of Technology around establishing a Chair for Manufacturing Skills Development; a partnership with the University of Cape Town to establish a new Masters in Technology-based Entrepreneurship, that will seek to stimulate technology-based start-ups and technology-based expansions in support of employment opportunities in the manufacturing industrial sector, and a special arrangement with the University of Bremen to develop four South Africans in a PhD scholarship programme dedicated to specialised research into vocational competence diagnostics (COMET) and in-company training efficiency development (QRC).

7.6 SUPPORT OF GOVERNMENT'S MEDIUM TERM STRATEGIC FRAMEWORK (MTSF) OBJECTIVES

This section highlights the ways in which this SSP supports MTSF policy objectives, by discussing its contribution to each of the eight objectives listed in the policy document.

Objective 1: Speeding up growth and transforming the economy to create decent work and sustainable livelihoods

The metal, automotive and plastics industries are a significant contributor to both output and employment in the SA economy (see Chapters 2 and 3). Together these sectors have, however, recently seen a reduction in their overall contribution to GDP and severe employment losses. This has been the result of a combination of reduction in product and service demand due to the recent economic crisis and other structural problems in the economy that have had a negative impact on the manufacturing sector since about 2002. One of the challenges that have constrained growth is, however, the shortage of certain skills – most notably artisan skills and engineering skills. By focusing on the increased generation and quality of these skills in general, and among black people in particular, the merSETA will contribute to both economic growth and transformation of the economy.

Objective 2: Massive programme to build economic and social infrastructure

The metal sector, including the basic iron and steel production, metal fabrication and capital equipment subsectors, are critical to the process of building physical infrastructure in support of national economic and social development. The merSETA aims through its various skills development initiatives to provide these subsectors with sufficient skills in respect not only of artisans and engineers, but of all occupational groups spanning managers to elementary workers in order to support their optimal functioning. The merSETA is also an active participant in the SIPS co-ordination team under the Special Projects Directorate of the DHET, and a member of the Human Capital Development Committee for the rolling stock sector. Under a MoU with the Department of Trade and Industry, the merSETA is a key player in the skills development planning for the Saldanha SEZ.

Objective 3: Strengthening the skills and human resources base

All the work undertaken in the planning period will focus on strengthening the skills and human resources base of the sector and ultimately that of the country.

Objective 4: Improving the health profile of all South Africans

The merSETA is committed to continuing support for ongoing health and safety training. In addition, its commitment to the containment and reduction of HIV and AIDS in the industry can be seen in the assistance the merSETA provides firms through its HIV/AIDS Workplace Management Project.

Objective 5: Intensifying the fight against crime and corruption

One of the ways in which crime affects the merSETA sector is through the illegal importation of second-hand vehicles into the country and through the illegal importation and dumping of new tyres and automotive components. The merSETA will support NAAMSA's Vehicle Crime Prevention Committee and Business Against Crime, which are working to combat crimes in these areas in any way that it can. The merSETA has also responded to the Presidential call to address the scourge of drugs in townships, by developing a specific intervention for the Eldorado Park community, which can be rolled out to other areas at risk.

Objective 6: Building cohesive, caring and sustainable communities

The overwhelming proportion of jobs in the merSETA sector are formal jobs with remuneration rates that are significantly higher than the average for the total economy. Well-paid formal employment opportunities are a foundational element for building cohesive and sustainable communities. The merSETA's efforts aim to support the growth of the sector and thus also the number of such jobs available. Through a co-operation agreement with GIZ, the merSETA has become an active proponent of green skills for sustainable development, and is promoting this aim amongst sector stakeholders as part of socially responsible industrialisation.

Objective 7: Sustainable resource management and use

A key objective of the merSETA over the coming period is to improve the efficiency of money spent on training initiatives, both in terms of the reach and quality of training. In this way the merSETA aims to maximise the return on investment of the limited resources available for training and development. The merSETA strategy for sustainable green skills development referenced in the previous chapter is its flagship vehicle for promoting sustainable resource management and use.

Objective 8: Building a developmental state, including improvement of public services and the strengthening of democratic institutions

The merSETA plays an important role in the advancement of skills for the metal, automotive and plastics manufacturing sector. The merSETA's current and planned engagements with the FET college sector in particular is intended to improve the capacity and service delivery of these institutions not only for the sector but also for the general economy. Additionally, the merSETA is committed to improving its own institutional capacity, particularly in the areas required to support an LMI system that will form the basis of improved decision making and democratic processes in the sector. Coupled to this is the implementation of an enterprise-wide project to foster and support innovation in the organisation.

7.7 SUPPORT OF THE NEW GROWTH PATH, IPAP, SIPS AND THE NATIONAL SKILLS ACCORD

The New Growth Path, IPAP and SIPs

Government's New Growth Path includes support of the manufacturing sector and links this support directly to IPAP, which covers focused support of a range of manufacturing sectors, including the merSETA's metals, automotive and plastics manufacturing subsectors. IPAP (which is in turn supported by other policies such as the APDP, the Metals Beneficiation Strategy, the IDC's Jobs Scheme and the SEZ policy) aims to grow employment in these sectors, which will in turn require an adequate supply of skills to the sector. By focusing on skills development and, in particular, the development of scarce artisan- and engineering skills, the merSETA will be supporting these key national policies and strategies.

Requiring a somewhat more focused approach to artisan, technologist and engineering skills development is the latest government policy supporting the New Growth Path: government's SIPs. In this regard MerSETA believes that a cluster approach with other relevant SETAs is necessary for a more appropriate and synergistic response to the SIPs. Furthermore, merSETA believes that it will be vitally important that government provides SETAs with timely and regular feedback on the status of SIPs in order to maximise scarce resources and prevent duplication of efforts. The merSETA prepared a detailed response to the DHET's initiative to explore the role of SETAs regarding SIP skills plan assignments. The merSETA can, and is willing to, provide assistance across a wide spectrum of areas, including among other things:

- Dedicated funding;
- Focusing existing programmes on SIPs requirements;
- Sharing partnerships, existing networks and co-ordination services;
- Sharing of experience and identification of best practices; and

- Providing information – such as information on current and future skills needs.

Initiatives that are planned for the 2013/2014 financial year includes:

- An advocacy campaign consisting of articles placed in relevant journals e.g. Engineering News; mainstream press, a national conversation on artisan and engineering competency and returns on investment; and CEO to CEO meetings (to obtain inter-SETA collaboration).
- An Infrastructure Development and Artisan and Engineering Skills Roundtable that will involve more than 100 companies, relevant industry associations, organised labour, BUSA, Nedlac, SAGDA, ECSA, and regional and district Chambers of Commerce.
- Company commitments to support SIPs. The aim is to have at least 60 partnership agreements signed.

The National Skills Accord

As mentioned in Chapter 1, the National Skills Accord[321] is one of the first outcomes of social dialogue on the New Growth Path. This accord was entered into between government, business, labour and civil society and was signed in July 2011. The accord consists of eight commitments, some of which have a direct bearing on the merSETA's work, while others fall outside the merSETA's direct sphere of influence. The commitments to which the merSETA can make a direct contribution are the following:

COMMITMENT	**MERSETA RESPONSE**
Commitment one: To expand the level of training using existing facilities more fully.	More than 4000 artisans (employed + unemployed) were registered in the last financial year and more than 2100 artisans have been certified. The merSETA's Accelerated Artisan Training Programme (AATP) has been successfully implemented based on the principle of above equilibrium training. Denel, as a SOC has partnered with merSETA.
Commitment Two: To make internship and placement opportunities available within workplaces.	The merSETA placed 842 people into workplace experience in the last financial year. 100 Interns have been placed into internships in merSETA member-companies. merSETA companies that receive discretionary grants are currently required to provide work exposure to FETC lecturers.
Commitment Two: To make internship and placement opportunities available within workplaces.	merSETA has 14 partnership agreements with FET colleges throughout the country. In merSETA, AET ranges from traditional ABET to programmes delivered through community organisations to increase possible job creation and entrepreneurial activities, and increasing cooperatives as forms of ownership. The most recent project under development is to address young people at risk in Eldorado Park. RPL will be promoted as a tool towards

[321] EDD (2011) The New Growth Path: Accord 1, National Skills Accord.

	lifelong learning in all AET programmes.
Commitment Three: To set guidelines of ratio of trainees: artisans as well as across the technical vocations, in order to improve the level of training.	The merSETA is part of current deliberations led by the National Artisan Moderation Body that is working to develop a single, national standardised policy for the approval of workplaces and/or site for trade qualifications. Currently the draft policy recommends a ratio of 1:3 in the mechanical and manufacturing trades. The merSETA is committed to promoting compliance with the new NAMB guidelines on workplace approval and learner/mentor ratios.
Commitment Four: To improve the funding of training and the use of funds available for training and incentive on companies to train	With the template change in the newly promulgated Grant Regulations, the percentage of payroll spent on training will be indicated. Previous submissions did not indicate this. Over the years, merSETA has been able to exceed many of its targets due to additional training that is conducted and paid for by its member companies. The merSETA ensures that its stakeholders are kept abreast of tax incentives and rebates for training and skills development through various mechanisms including provincial skills development forums. With regard to the cost of training, the merSETA has undertaken research that points to the need for a more nuanced approached to the funding of artisan programmes, in view of variations between certain trades, as well as returns to the employer, in some cases from as early as year 2.
Commitment Five: To set annual targets for training in state-owned companies	merSETA's target for artisan training was 4000 per year for the past 2 years and will be 6000 per year for the next 3 years. Annual targets over the past 2 years have been met.
Commitment Five: To set annual targets for training in state-owned companies	A total of 842 graduates from universities of technology have been offered workplace experience this year. The merSETA has had discussions with PRASA, and serves on the SA Rail and Rolling Stock Cluster Steering Committee. The merSETA has concluded an agreement with Denel Technical Academy to train 60 apprentices.
Commitment Six: To improve SETA governance and financial management as well as	The sector has nominated suitable candidates from employer bodies and organised labour. The Chairperson of the merSETA Accounting Authority has been appointed by the Minister of Higher Education and Training in consultation with all social partners, as well as two additional ministerial

stakeholder involvement.	appointments. The merSETA has communicated this through a series of provincial/regional road shows, and will apply this from the 2013/14 skills development cycle. The direct involvement of social partners (NGOs, CBO and community organisations) in Special Projects in merSETA is increasing the pool of skills to facilitate job creation and entrepreneurial activities.

7.8 CONCLUSION

This chapter forms the conclusion of the 2013 update of the merSETA SSP for the period 2013/14 to 2018/19. The five skills development priorities identified by the merSETA represent the culmination of the sector-analysis and stakeholder-consultation processes and are intended to guide the merSETA's strategic objectives as set out in the Strategic Plan. This chapter represents the merSETA's action plan – what it will seek to implement over the NSDS III period.

The merSETA's five skills development priorities are:

- Priority 1: Develop a LMI system and facilitate sector-specific research initiatives;
- Priority 2: Promote artisan development and sector-specific priority skills;
- Priority 3: Establish and facilitate strategic partnerships;
- Priority 4: Increase the flow of appropriately skilled new entrants into the system; and
- Priority 5: Develop the skills of the existing workforce.

The implementation of these skills development priorities are, however, linked to a range of inter-related strategic issues that arise from the sector analysis, including the cross-cutting imperatives of rural development, sustainable green skills development, and skills development of PWD. It remains imperative that merSETA considers innovative methods to raise the necessary funds through strategic partnerships and to improve the efficiency of spending on training.

As in previous years, the widespread concerns at industry level that ambitious national jobs targets will not be met is evident in the ongoing challenges of the current economic context; the declines in employment evident for the manufacturing sector in general and the merSETA sector more specifically; and the downward revision of demand for new employees in the merSETA sector based on the revised demand project model in this SSP. Finally, the merSETA's skills development priorities have been developed after merSETA's responsibilities have been taken into consideration not only to the sector but also to national social- and economic-development objectives as outlined in policy and strategy documents including NSDS III, the President's Outcomes Approach to planning for government's work, the New Growth Path and the National Skills Accord, IPAP and government's MTSF. These priorities, as

well as the merSETA's strategic plan, will be revisited on an annual basis and changes will be reflected in future updates of the SSP.

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APPENDIX1

Methodology used to extrapolate WSP data to total sector

The WSPs-ARTs submitted to the merSETA for the financial year 2011/2012 represented approximately 78% of the total levies paid in the sector. As the SDL is a payroll tax levied at 1% of payroll, there is a direct relationship between the SDL paid by an organisation and its number of employees. It is also argued that organisations belonging to the same chambers will have similar wage structures and for this reason the weights are calculated per chamber.

Thus, for the purpose of establishing a sector profile the WSP data were weighted using the following formula:

$W_a = L_a / L_{aw}$

where

W_a = the weight applied to records belonging to a particular chamber

L_a – Total levies paid by organisations in the chamber in 2011/2012

L_{aw} – Total levies paid by organisations in the subsector in 2011/2012 that submitted WSPs

APPENDIX 2

merSETA Chamber-Specific Priority Skills Lists, 2013

merSETA Priority Skills: Auto Chamber, 2013

OFO 2012 code	OFO 2012 description	Identified by:	
		WSP 2013 Vacancy Data	Additional Industry Input
121908	Quality Systems Manager		x
122102	Sales Manager		x
122105	Customer Service Manager		x
214101	Industrial Engineer	x	
214401	Mechanical Engineer	x	
214605	Metallurgist		x
215101	Electrical Engineer	x	
215201	Electronics Engineer		x
241101	Accountant (General)		x
241102	Management Accountant		x
241103	Tax Practitioner		x
242302	Skills Development Facilitator / Practitioner		x
242303	Human Resource Advisor		x
242402	Occupational Instructor / Trainer		x
243103	Marketing Practitioner		x
251101	IC Systems Analyst		x
251203	Developer Programmer		x
311301	Electrical Engineering Technician	x	
311401	Electronic Engineering Technician		x
311501	Mechanical Engineering Technician	x	
311601	Chemical Engineering Technician		x
311904	Manufacturing Technician	x	
311905	Industrial Engineering Technician		x
313501	Metal Manufacturing Process Control Technician		x
332301	Retail Buyer		x
332302	Purchasing Officer		x
431301	Payroll Clerk		x
432201	Production Coordinator/Recorder / Scheduler		x
652201	Toolmaker	x	
652302	Fitter and Turner	x	
653101	Automotive Motor Mechanic	x	

653305	Small Engine Mechanic		x
671101	Electrician	x	
671202	Millwright	x	
671203	Mechatronics Technician		x
672104	Electronic Equipment Mechanician		x
672106	Automotive Electrician/Autotronics		x
721201	Electrical and Electronic Equipment Assembler		x
721901	Product Assembler		x

merSETA Priority Skills: Metal Chamber, 2013

OFO 2012 code	OFO 2012 description	Identified by:	
		WSP 2013 Vacancy Data	Additional Industry Input
214101	Industrial Engineer		x
214401	Mechanical Engineer		x
214603	Metallurgical Engineer		x
215101	Electrical Engineer		x
311702	Metallurgical or Materials Technician		x
651101	Moulder		x
651202	Welder	x	
651301	Sheet Metal Worker		x
651401	Metal Fabricator		x
652201	Toolmaker	x	
652204	Patternmaker		x
652301	Metal Machinist	x	
652302	Fitter and Turner	x	
671202	Millwright	x	
684913	Melter		x
712102	Metal Manufacturing Machine Setter and Minder	x	
718905	Engineering Production Systems Worker	x	
734301	Crane or Hoist Operator		x
832901	Metal Engineering Process Worker		x

merSETA Priority Skills: Motor Chamber, 2013

OFO 2012 code	OFO 2012 description	Identified by:	
		WSP 2013 Vacancy Data	Additional Industry Input
214101	Industrial Engineer	x	

332302	Purchasing Officer		x
522302	Motorised Vehicle or Caravan Salesperson	x	
522303	Automotive Parts Salesperson		x
643202	Vehicle Painter	x	
651203	Fitter-welder		x
652201	Toolmaker		x
652301	Metal Machinist	x	
652302	Fitter and Turner		x
653101	Automotive Motor Mechanic	x	
653103	Motorcycle Mechanic	x	
653306	Diesel Mechanic		x
672106	Automotive Electrician/Autotronics		x
684904	Panelbeater	x	
684905	Vehicle Body Builder	x	
684906	Vehicle Trimmer		x
721101	Machinery Assembler		x

merSETA Priority Skills: New Tyre Chamber, 2013.

OFO 2012 code	OFO 2012 description	Identified by:	
		WSP 2013 Vacancy Data	Additional Industry Input
121201	Personnel / Human Resource Manager		x
121202	Business Training Manager		x
132102	Production / Operations Manager (Manufacturing)	x	
134902	Laboratory Manager		x
214402	Mechanical Engineering Technologist		x
224702	Quality Auditors		x
226302	Safety, Health, Environment and Quality (SHE&Q) Practitioner		x
242102	Organisation and Methods Analyst		x
242302	Skills Development Facilitator / Practitioner		x
242402	Occupational Instructor / Trainer		x
243301	Sales Representative / Salesman (Industrial Products)	x	x
311101	Chemistry Technician		x
313904	Integrated Manufacturing Line Technician		x
432201	Production Coordinator/Recorder / Scheduler		x
524903	Sales Clerk / Officer		x
591102	Production Scheduler (Banbury -salaried position) Production coordinator/planner/officer		x
652302	Fitter and Turner	x	

652404	Grinder		x
671101	Electrician	x	
672105	Instrument Mechanician		x
714101	Rubber Production Machine Operator		x
832902	Plastics, Composites and Rubber Factory Worker		x
839301	Quality Monitors (Manufacturing & Quality)		x

merSETA Priority Skills: Plastics Chamber, 2013.

OFO 2012 code	OFO 2012 description	Identified by:	
		WSP 2013 Vacancy Data	Additional Industry Input
215201	Electronics Engineer		x
216302	Industrial Designer		x
241101	Accountant (General)		x
311904	Manufacturing Technician	x	
684907	Boat Builder and Repairer		x
714201	Plastic Cable Making Machine Operator		x
714203	Plastics Fabricator or Welder		x
714204	Plastics Production Machine Operator (General)	x	
714208	Plastics Manufacturing Machine Minder*	x	
714209	Reinforced Plastics and Composite Trades Worker		x
832902	Plastics, Composites and Rubber Factory Worker		x

*Will become a Level 6 'Setter' occupation on the next revision of the OFO

merSETA Priority Skills: Additional cross-sector skills, 2013

OFO 2012 code	OFO 2012 description	Identified by:	
		WSP 2013 Vacancy Data	Additional Industry Input
121206	Health and Safety Manager	x	
121905	Programme or Project Manager	x	
132104	Engineering Manager	x	
642701	Air-conditioning and Refrigeration Mechanic	x	
651302	Boilermaker	x	
651501	Rigger	x	
653307	Heavy Equipment Mechanic	x	

APPENDIX 3

Industry Involvement in the SSP Updating Process

Industry interviews undertaken in support of the SSP update 2012/13

Interviewee	Affiliation	Date
Dr. Oswald Franks	ECSA	12 July 2012
Mr. Anton Hanekom	PlasticsSA	4 July 2012
Mr. Nico Vermeulen	NAAMSA	12 September 2012
Mr. John Wilson	SATMC	29 June 2012
Dr. Norman Lamprecht	NAAMSA	12 July 2012
Mr. Roger Pitot	NAACAM	3 July 2012
Mr. Abie Dunn	Nissan	28 June 2012
Mr. Henk Langenhoven	SEIFSA	27 June 2012
Ms. Janet Lopes	SEIFSA	26 June 2012
Dr. Dana de Villiers	MISA	2 July 2012
Ms. Malebo Mogopodi	NUMSA	26 June 2012
Ms Adrienne Bird	PICC	1 July 2013
Dr. Florus Prinsloo	NAMB	9 July 2012
Dr. Raymond Patel	merSETA	6 July 2012
Mr. Christo Basson	merSETA	6 July 2012
Mr. Naphtaly Mokgotsane	merSETA	6 July 2012

Chamber representatives involved in the SSP update 2013/14

Industry Representative	Affiliation	Role
Mr. John Wilson	Apollo Tyres	New Tyre Chamber Representative
Mr. Abie Dunn	Sandown	Motor Chamber Representative
Ms. Lesley Lee	VWSA	Auto Chamber Representative
Ms. Kirtida Bhana	PlasticsSA	Plastics Chamber Representative
Mr. Willie Matthaie	Gijima Training	Metals Chamber Representative