RESEARCH STUDY: LABOUR AND SKILLS DEMAND AND SUPPLY

Final Research Report – Region 3

merSETA
MANUFACTURING, ENGINEERING AND RELATED SERVICES SETA

RED FLANK

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APPROVALS

Sign-off signifies acceptance of the content. Conditional signature can be made, with space provided to express conditions.

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Acronyms

AIDC EC	Automotive Industry Development Centre Eastern Cape
APDP	Automotive Production and Development Programme
AECDP	Automotive Experiential Career Development Programme
BANKSETA	Banking Sector Education and Training Authority
BMW	Bavarian Motor Works
CBU	Completely Built Unit
CET	Community Education and Training
CIDZ	Coega Industrial Development Zone
DEDT	Department of Economic Development and Tourism
DHET	Department of Higher Education and Training
DTI	Department of Trade and Industry
EC	Eastern Cape
E-coat	Electrostatic painting
E-Commerce	Electronic Commerce
ECRD	Educational Centre for Research and Development
ETDP	Electronic Data Interchange
FAW	First Automobile Group
FET	Further Education and Training
HCV	Heavy Commercial Vehicle
HRDSA	Human Resource Development Strategy for South Africa
FS	Free State
GDP	Gross Domestic Product
GM	General Motors
GP	Gauteng
IC	integrated circuit
ICT	Information and Communication Technologies
IDZ	Industrial Development Zone
IMF	International Monetary Fund
IPAP	Industrial Action Plan
Iveco	Industrial Vehicles Corporation
KWAZULU-NATAL	KwaZulu-Natal
Ktpa	Kilo-Tonnes Per Annum
LCV	Light Commercial Vehicle
LP	Limpopo
MAS	Mzabalazo Advisory Services
Maths	Mathematics
MBSA	Mercedes-Benz South Africa
MCV	Medium Commercial Vehicle
merSETA	Manufacturing, Engineering and Related Services Sector Education and Training Authority
MCEP	Manufacturing Competitiveness Enhancement Programme
MIDP	Motor Industry Development Programme
MIP	Manufacturing Investment Programme
MG cars	Morris Garages cars

MP	Mpumalanga
MSLA	Maths and Science Leadership Academy
NAACAM	National Association of Automotive Component and Allied Manufacturers (South Africa)
NAAMSA	National Association of Automobile Manufacturers of South Africa
NC	Northern Cape
NCAMA	National Certificate Automotive Manufacturing Assembly
NRCS	National Regulator for Compulsory Specification
NSA	National Skills Authority
NMMU	Nelson Mandela Metropolitan University
NQF	National Qualifications Framework
NFTN	National Foundry Technology Network
NTI	Intsimbi National Tooling Initiative
NW	North West
OEM	Original Equipment Manufacturer
PE	Port Elizabeth
PGDP	Provincial Growth and Development Plan
ROI	Returns on Investment
SAIW	Southern African Institute of Welding
SAQA	South African Qualifications Authority
SDA	Skills Development Act
SDLA	Skills Development Levies Act
SETA	Sector Education and Training Authority
SEZ	Special Economic Zone
SMME	Small, Medium and Micro Enterprise
SSP	Sector Skills Plan
STi	Service through Integrity
TASA	Toolmaking Association of South Africa
TBA	To be announced
TUT	Tshwane University of Technology
TVET	Technical and Vocational Education and Training
UDDI	Uitenhage Despatch Development Initiative
UKZN	University of Kwa-Zulu Natal
VWSA	Volkswagen South Africa
WC	Western Cape
WSU	Walter Sisulu University

1. Introduction

1.1 Document Purpose

This document presents the findings and recommendations for the Research Study ("the Study" or "the Project") commissioned by the Manufacturing, Engineering and Related Sector Education and Training Authority ("merSETA"). The Study focused on labour and skills demand and supply in the formal, SMME, cooperative and informal sector for merSETA in Region 3, comprising the Eastern Cape and Kwa-Zulu Natal ("Study: Region 3"). Redflank was commissioned to undertake the Study.

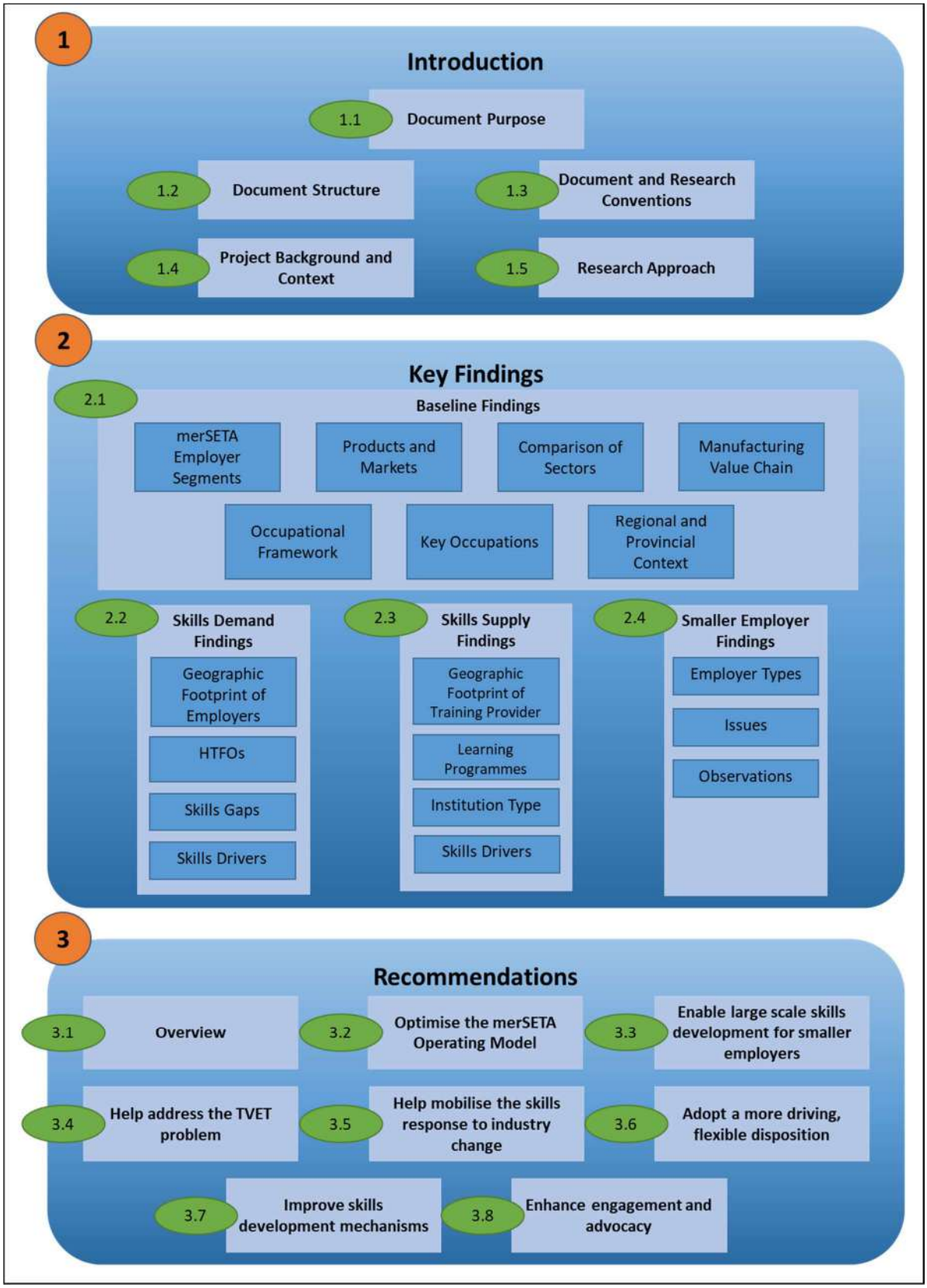
Authors Note:

Redflank was contracted to conduct the Study in Region 2 and Region 3. Whilst this Report focusses on Region 3, certain elements from Region 2 have been included for a more holistic perspective, and some lessons can be learnt from Region 2 that could apply to Region 3 and vice-versa.

1.2 Document Structure

The following schematic outlines the content presented in this Report. It depicts each of the content areas covered, in a conceptual diagram that indicates how the areas relate to each other. The figure also indicates the section (number in orange circle) and sub-section (number in green circle) within which the relevant content is located.

Figure 1: Report Structure



As can be seen from the above diagram, the body of this Report includes the Introduction (current section), Key Findings (section 2), and Recommendations and Strategic Choices (section 3). The content in these sections, most notably the latter two, is synthesised from the detailed findings. The

detailed findings for each Sector, Skills Supply and Smaller Employers can be found in the Appendices to this Report, as detailed in the table below.

Table 1: Appendix and Annexure Structure

#	Section	Description
APPENDICES		
1.	Appendix A: Baseline findings	This section sets the framework for the Report to be read against and the classifications that have been made in the Study
2.	Appendix B: Skills Demand Findings – Auto Sector	These sections provide detailed findings, per Sector, regarding the value chain, employer segments, skills gaps, key and hard-to-fill occupations, and key skills drivers
3.	Appendix C: Skills Demand Findings – New Tyre Sector	
4.	Appendix D: Skills Demand Findings – Motor Manufacturing Sector	
5.	Appendix E: Skills Demand Findings – Motor Sales and Service Sector	
6.	Appendix F: Skills Demand Findings – Metals Sector	
7.	Appendix G: Skills Demand Findings – Plastics Sector	
8.	Appendix H: Skills supply findings	This section provides detailed findings regarding skills supply dynamics per province, initiative type, institution and regional coverage of degrees and diplomas, and key skills drivers
9.	Appendix I: Smaller employer findings	This section provides insights and observations regarding challenges faced by smaller employers
ANNEXURES		
10.	Annexure 1: Key informant interviews	Summary of all interviews completed
11.	Annexure 2: OFO Code mapping	The OFO code mapping for all the manufacturing occupations as defined
12.	Annexure 3: Collated Survey Data	All survey data collected during the Study

1.3 Document and Research Study Conventions

In this document, reference is made to a number of terms. An explanation of these terms is included below.

- Mer-sectors: includes Auto, New tyre, Motor manufacturing, Motor sales and service, Plastic, Metals.
- For the purposes of the Study, the Automotive Sector, which includes Auto, Motor Sales and Service and Motor Manufacturing, has been broken down into Auto, Motor Sales and Service and Motor Manufacturing and has been reported on in this way. Each of Auto and Motor Manufacturing is therefore referred to as a "Sector" in the terminology used in this Report.
- All supporting evidence for this Report can be found in the separate Appendices. In order to keep this Report concise, and for ease of reading, the majority of in text referencing is included in the detailed Appendices.

1.4 Project Background and Context

As part of its overall research agenda, the merSETA wanted to identify strategic skills development opportunities within different enterprise segments in relation to demand and supply for labour and skills. To inform opportunities for skills development the merSETA needed to gain an understanding of the nature of business in the formal, SMME, Co-operative and informal enterprise segments of the manufacturing, engineering and related services sector so as to assess skills needs and enable relevant skills interventions for business growth. MerSETA also required an understanding of relevant economic, labour market and policy drivers impacting on skills labour and skills demand and supply so as to enable appropriate skills development interventions that will contribute to employment creation and community development.

To this end, merSETA appointed Redflank as one of the service providers to implement a regionally based research project focused on large, medium, small, cooperative and informal enterprises operating within the merSETA scope of coverage, specifically in Region 3. The Study sought to understand, explore and document key features, trends, challenges, best practice business operations and forecast skills needs in the sector with a view to identifying opportunities for skills development that will support enterprise development which in turn should spur economic growth and community development.

Fundamentally, the Project was intended to assist in further developing a sustainable skills development support strategy for these enterprise segments and contribute to merSETA's strategy and skills planning Project. Furthermore, the findings of this Study are intended to assist merSETA in identifying where to focus its effort in order make the greatest impact in the skills development space, thereby increasing many individuals' respective employability and improving company performance and allowing them to expand and employ more people.

1.5 Research Approach

Together with desktop research, project findings were informed by extensive stakeholder consultations. The stakeholders consulted and the data collection methods employed is outlined in the table below.

Table 2: Research Input Methods

#	Stakeholder Segment	Interview	Focus Group	Survey
1	Larger Employers	✓		✓
2	Smaller Employers, including cooperatives SMMEs and the informal sector	✓	✓	
3	Training Providers	✓		✓
4	Industry Associations	✓		
5	Labour Organisations and Bargaining Councils	✓		
6	Government/Developmental Organisations	✓		
7	merSETA Regional Managers	✓		

The consultations undertaken for this Study covered each of the 2 provinces, across the Region. The stakeholders consulted included key merSETA representatives (at head office and regional level), public sector organisations, training providers, industry representatives, labour, and employers (across the various Sectors, and covering the various employer types).

The number of consultations conducted are indicated in the following table.

Table 3: Number of Consultations

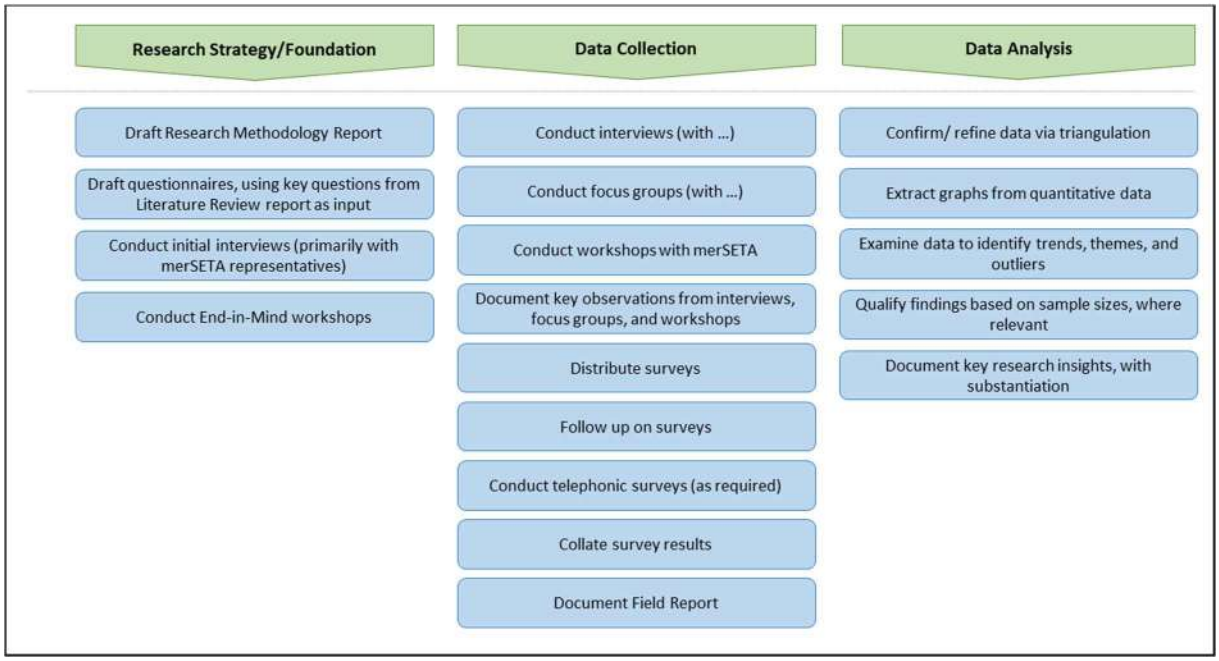
Stakeholder Type	Sector	EC	KWAZULU-NATAL
Employer	Auto	4	1
	New Tyre	5	5
	Motor Manufacturing	57	76
	Motor Sales and Service		
	Metals	31	90
	Plastics	11	18
Government Organisations		3	1
Training Providers		4	18
Industry/Labour Association		5	4
Totals		**120**	**213**
		333	

1.5.1 Data Collection Activities

The data collection and data analysis components of the Study are outlined in the following figure. This includes activities from the research strategy/foundation phase of the Study that lay the groundwork for the data collection phase.

Specific activities (in particular the conducting of interviews, focus groups, and surveys) indicated in the figure below are described further in the sections that follow.

Figure 2: Data Collection Approach



1.5.2 Interviews

Interviews were focused on achieving the following objectives:

- To establish initial views on areas of interest for this study (e.g. on key stakeholders relevant to the Auto sector), based on initial interviews ("Initial Interviews") conducted

- To obtain detailed information on specific topics, as guided by the interview instruments; through interviews conducted during the data collection stage of the study ("Core Interviews")
- To verify, clarify and extend the findings from surveys, and from focus groups; through interviews conducted during the Data Analysis stage of the study ("Follow-up Interviews")

Initial Interviews were conducted with the following stakeholders:

- merSETA Regional Managers
- Employers represented on Regional Forums

Core Interviews, conducted during the Data Collection Phase of the project, were conducted with the following stakeholders:

- Large Employers
- Small Employers
- Industry Associations
- Labour Organisations and Bargaining Councils
- Government/Developmental Organisations
- Training Providers

Interviews served as the primary data collection instrument for this Study. They were used for all stakeholder groups. Interviews were considered a suitable instrument to access the views of the majority of stakeholders consulted over the course of this study, given availability and accessibility considerations, which were expected to limit the viability of focus groups and surveys.

1.5.3 Focus Groups

Focus Groups conducted were focused on achieving the following objectives:

- To obtain information more easily sourced through groups than through other data collection methods (namely interviews and surveys)
- To verify, clarify and extend insights sourced through interviews and surveys

Focus Groups were conducted with the following stakeholder groups:

- Apprentices
- Co-ops/Informal, Small Businesses

1.5.4 Surveys

Surveys conducted were focused on achieving the following objectives:

- To source quantitative data
- To source input from larger stakeholder groups than is possible via interviews

Surveys were conducted with the following stakeholder groups:

- Employers
- Training Providers

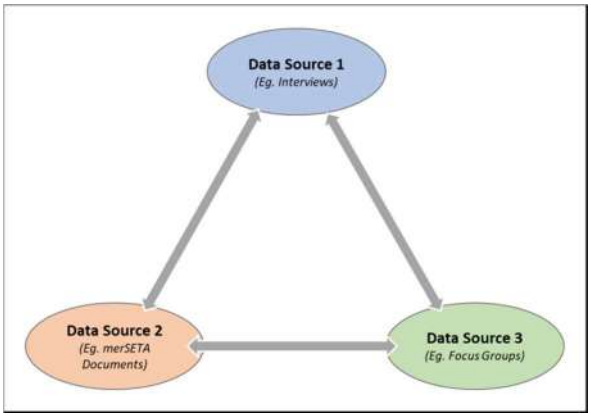
1.5.5 Data Collection Considerations

1.5.5.1 Data Triangulation and Methodological Triangulation

A key aspect of the research approach involved the cross validation and triangulation of results to ensure robust research findings. The image below describes in detail the information gathered from

any data source (for example data source 1) which was assessed and validated against any other data source (data sources 2 or 3), and vice versa to ensure findings are consistent and valid. In cases where discrepancies arose, for example a finding from an employer contradicting the findings from consultation with an industry association, further analysis was performed to determine reasons for the discrepancy. Similarly, for data sourced through different data collection methods.

Figure 3: Data Triangulation



1.5.5.2 Ethical Considerations

Below is a diagram highlighting the key ethical considerations that underpinned engagement with stakeholders during the data collection process.

Figure 4: Ethical Considerations

1.5.6 Research Limitations

The limitations surrounding the data collection was based on the following:

- the accuracy of information provided with regard to stakeholders and contact details;
- the availability of reports and information; and
- stakeholder willingness to participate in the data collection process.

2. Key Findings

This section presents a summary of the key findings for the Research Study. The Study focused on labour and skills demand and supply in the formal, SMME, cooperative and informal sector for merSETA.

2.1 Baseline Findings

Baseline findings outline the nature of the mer-sectors and provinces covered by this Study. It is intended to foster a foundational understanding of the sectors and provinces. This foundational understanding then serves as the context within which key skills demand and supply insights can be meaningfully examined.

Baseline findings focused on the sector context include the following:

- Outline of merSETA sectors and employer segments
- Mer-sector products and market
- Comparative view of mer-sector economic metric
- The generic manufacturing value chain
- The manufacturing occupational framework, within which hard to fill occupations and critical skills findings are framed
- Key occupations, by sector
- Baseline findings relating to the geographic context cover the regional and provincial perspective

The following sub-sections cover the baseline findings in more detail.

2.1.1 Outline of merSETA Sectors and Employer Segments

The chambers/ sectors that merSETA has defined for employers that fall within its scope are the following:

- Auto
- New Tyre
- Motor
- Metals
- Plastics

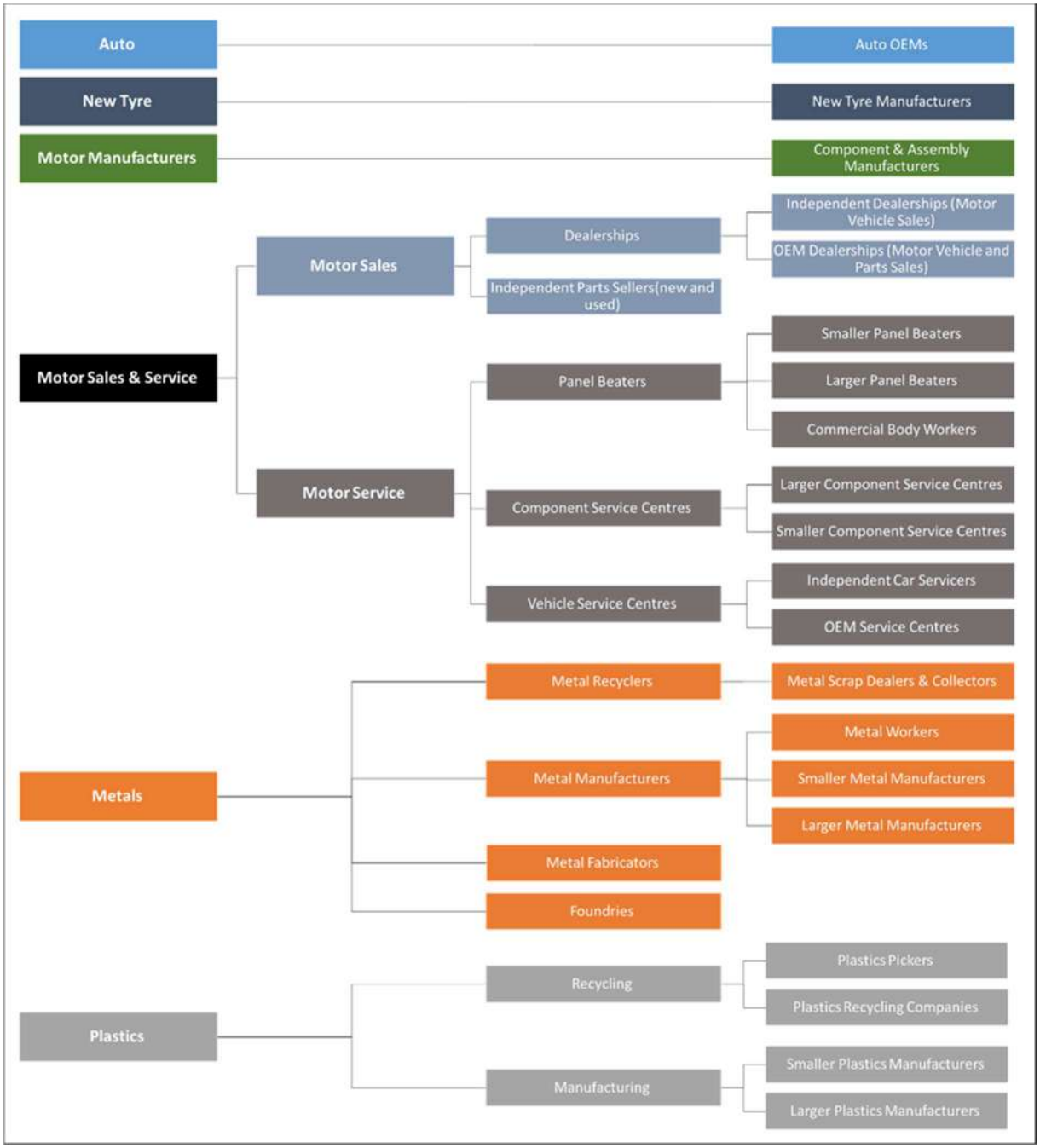
For the purposes of this Project, the Project Team has broken down the Motor Retail and Component Manufacturing Chamber into two sectors, namely; Motor Manufacturing and Motor Sales and Service (also referred to as motor retail). At times this Report will refer to Motor Sales and Motor Service separately as divisions. Motor Manufacturing has one segment, Component and Assembly Manufacturers, whilst Motor Sales and Service has seven. This approach of dividing the Motor Retail and Component Manufacturing Chamber has been employed purely as a profiling tool to enable a more focused analysis of the chamber.

The sector breakdown that is used in this report is therefore as follows:

- Auto
- New Tyre
- Motor Manufacturing
- Motor Sales and Service
- Metals
- Plastics

The following figure outlines the segmentation model used by the Project Team to classify employers for the purposes of conducting the field research ("Employer Segmentation Model") for this Study. The Employer Segmentation Model below defines employer segments based on function, nature of occupations, and industry nomenclature.

Figure 5: Employer Segmentation



The employer segments and sub-sectors outlined in the figure above are described further in the sub-sections that follow.

The Employer Segmentation Model may be used as a starting point for the segmentation model suggested in recommendation 1b to define merSETA subsectors.

2.1.1.1 Auto Sector

The Auto Sector consists of one employer segment, Auto Original Equipment Manufacturers (OEMs). Auto OEMs are manufacturers of new vehicles, most of which are passenger vehicles, for the local and export markets.

Due to the capital requirements and technical nature of producing vehicles (especially on a mass scale) there are only a handful of Auto OEMs in South Africa, all of which are international brands. South

Africa's main sites for automobile production are the Eastern Cape, specifically Port Elizabeth and East London, Gauteng, specifically Rosslyn and Silverton (Pretoria) and KwaZulu-Natal (KWAZULU-NATAL), specifically Durban. The Auto Sector has some of the largest scales of operation of all the sectors.

2.1.1.2 New Tyre Sector

The New Tyre Sector is responsible for the production of new tyres. As such, the only key employer segment is new tyre manufacturers.

With just four locally based manufacturers, there are even fewer new tyre manufacturers based in South Africa than Auto OEMs. Good Year, Bridgestone, Continental Tyres and Sumitomo Rubber are international heavyweights with production facilities in South Africa. Production of tyres is limited to 3 provinces: North West, KwaZulu-Natal and the Eastern Cape. New tyre manufacturers are not present in Region 2 (Western Cape, Free State, and Northern Cape).

2.1.1.3 Motor Manufacturing Sector

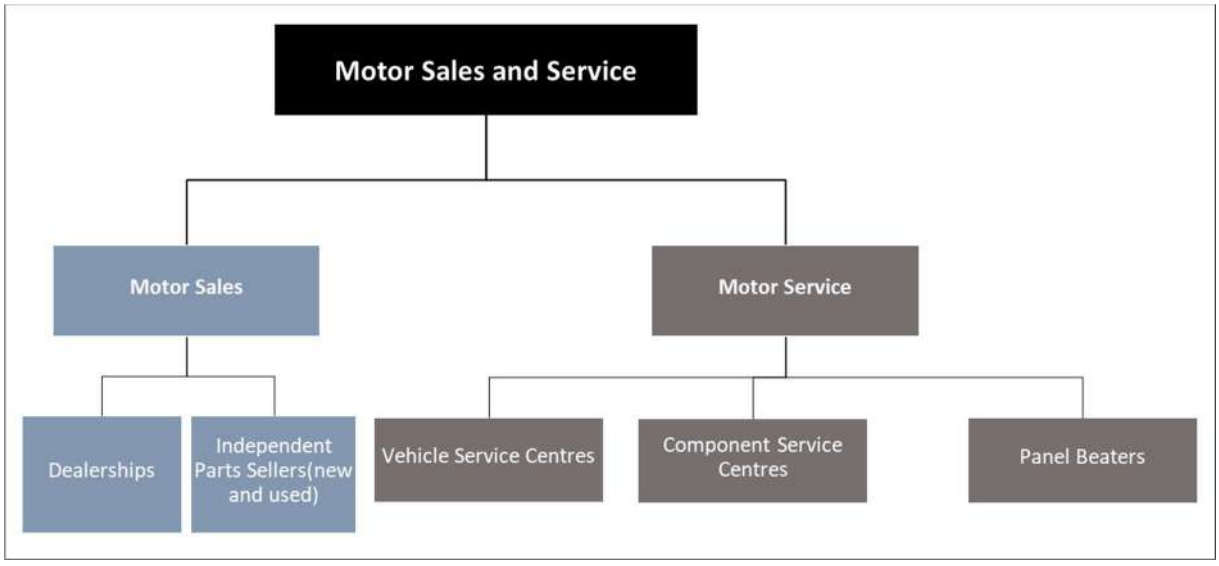
Within the Motor Manufacturing Sector, the only key employer segment is Component and Assembly Manufacturers.

These are companies that manufacture vehicle components, parts and equipment. This Sector interlinks with the Auto Sector as it supplies components used in the manufacture of vehicles (Akoojee, 2010). The Sector also interlinks to Motor Sales and Service in that the manufactured components are sold to independent parts sellers. Due to the increased resource needs and skills required to produce some components (i.e. compliance to meet the standards of Auto OEMs) major employers in this Sector tend to be larger businesses. Components that are manufactured relate to various phases of the auto value chain, from upstream manufacturing of casts, to downstream trimming.

2.1.1.4 Motor Sales and Service Sector

The Motor Sales and Services Sector includes employers who sell and/or repair and maintain vehicles. The Sector can be divided into two divisions, namely Motor Sales and Motor Service. However, as will become clearer throughout this document, the two may overlap as employers tend to be in the business of both sales and servicing.

Figure 6: Motor Sales and Service Sector Classification



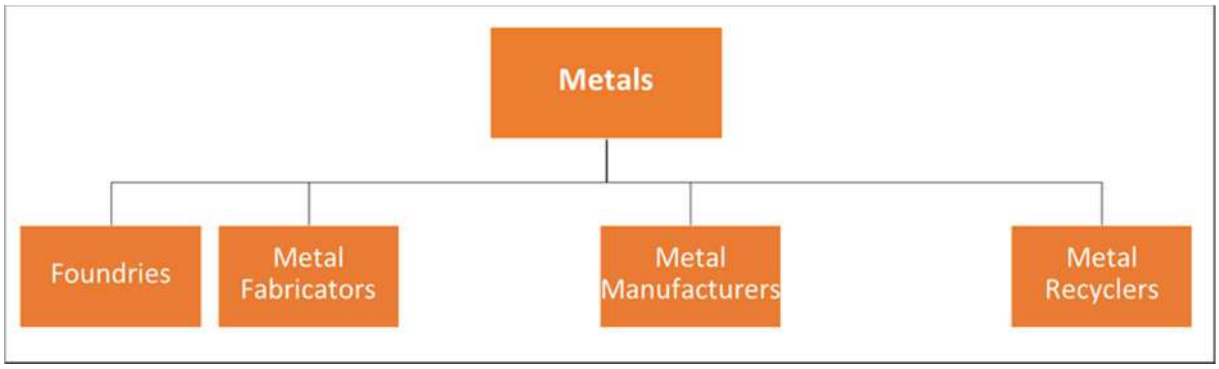
Motor Sales encompasses dealerships and independent parts sellers. Dealerships, especially OEM dealerships, tend to also double as vehicle service centres and vice versa. Motor Service has been divided into vehicle service centres, component service centres and panel beaters.

The Motor Sales and Service value chain illustrates that the Motor Sales and Service Sector is, like Motor Manufacturing, interlinked with other sectors. The Auto Sector inputs vehicles for the Motor Sales Sector and the Motor Manufacturing Sector inputs parts to parts sellers. Therefore, the Auto and Motor Manufacturing Sectors are essential to Motor Sales. Motor Sales is in turn essential to Motor Service in that vehicles sold at dealerships will need servicing and parts sold at parts sellers will be used in that servicing. In component service centres and panel beaters, the Motor Sales and Service Sector includes many small businesses. This is in stark contrast to OEM dealerships and vehicle service centres.

2.1.1.5 Metals Sector

The Metals Sector has been divided into 4 key Sub-Sectors for the purpose of this Study: foundries, metal fabricators, metal manufacturers and metal recyclers.

Figure 7: Metals Sector Classification



Foundries and metal fabricators are in the middle of the Metals value chain, but are key participants of most relevance that we will concern ourselves with. They produce the intermediate (and sometimes final) products that will be received by metal manufacturers who convert them to final products. Key markets for metal products are the auto sector and the construction industry.

Metal recyclers complete and restart the metals 'circular economy' by returning scrap metal to the beginning of the value chain and manufacturing process to be reused in the production of new products (Interview, Metals Sector, 2018).

2.1.1.6 Plastics Sector

For the Plastics value chain, the two key sub-sectors that fall within the focus areas of merSETA include Manufacturers, both small and large, and Recyclers who comprise the plastics pickers or collectors and recycling companies.

In recycling (particularly plastics pickers), the Plastics Sector is characterised by small and vulnerable businesses. This is in stark contrast to the larger plastics manufacturers.

2.1.2 Mer-sector Products and Markets

The table below indicates products offered and key markets targeted by each of the sectors. More information regarding product offerings and product innovation can be found in the detailed sector-specific sections in this Report.

Table 4: Product Offerings per Sector

Sector	Illustrative Products	Key Markets
Auto	• Passenger vehicles • Light commercial vehicles • Medium commercial vehicles • Heavy commercial vehicles • Extra heavy commercial vehicles • Buses	• Local and international markets • Consumer markets • Commercial markets
New Tyre	• Passenger vehicle tyres • Light commercial vehicle tyres • Medium commercial vehicle tyres • Heavy commercial vehicle tyres • Extra heavy commercial vehicle tyres • Bus tyres	• Local and international markets • Consumer markets • Commercial markets • Mining
Motor Manufacturing	• Engine parts • Drive transmission and Steering parts • Body and chassis • Suspension and Braking parts • Equipment • Electrical parts • Others	• OEMs, both international (e.g. Ford supplies engines to foreign factories) and local plants • Consumer markets • Commercial markets • Mining
Motor Sales and Service (Sales)	• New and used vehicles (as per auto product offerings) • New and used motor components (as per motor manufacturing product offerings)	• National and regional markets • Consumer markets • Commercial markets
Motor Sales and Service (Service)	• Comprehensive Servicing • Component-Specific Servicing	• Consumer markets • Commercial markets
Metals	• Ferrous Metals (Mild Steel, Carbon Steel, Stainless Steel, Cast Iron, Wrought Iron) ○ e.g. structural steel ○ e.g. vehicle panels ○ e.g. metal cans • Non-ferrous Metals (Aluminium, Brass, Copper, Nickel, Tin, Lead, Zinc) ○ e.g. aluminium windows ○ e.g. copper pipes ○ e.g. zinc roofing	• Construction • Automotive sector • Mining • Agriculture • Appliances • Packaging • Machinery
Plastics	• Packaging • Bottles • Carpet fibre • Signage • Pipes • Medicine container	• Components for other industries, e.g. Automotive sector, FMCG

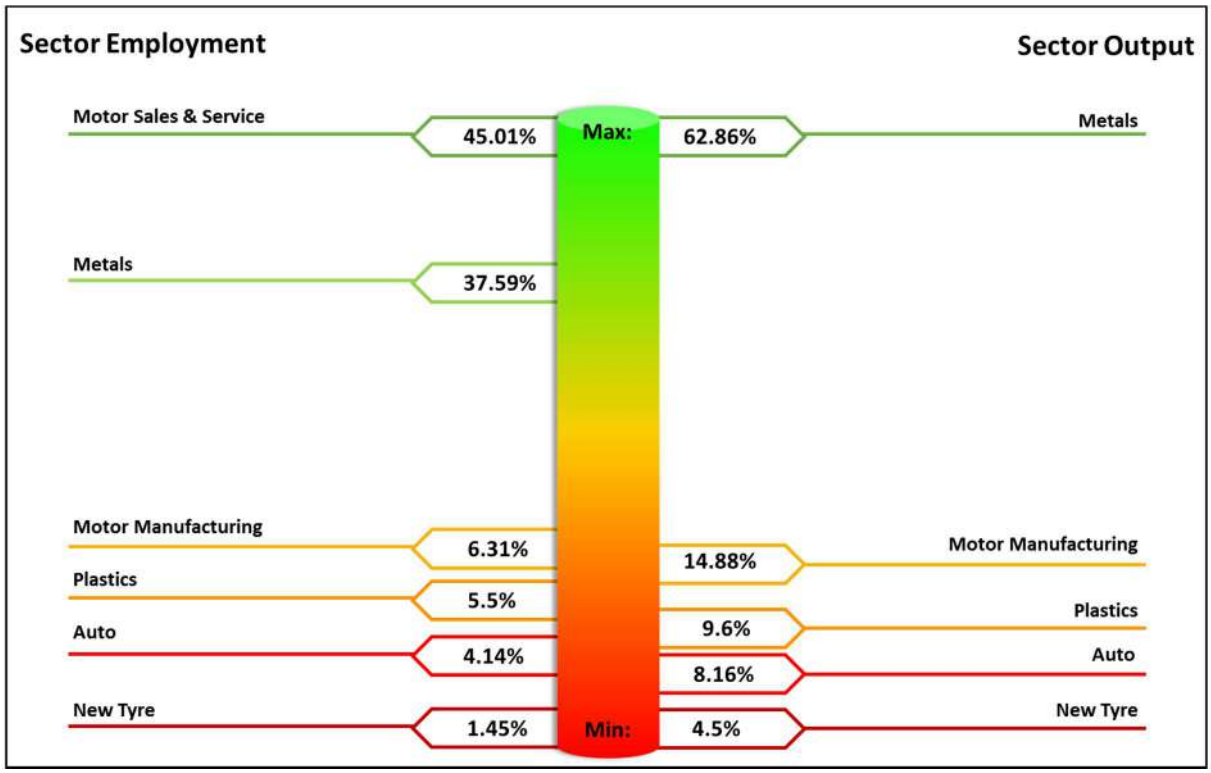
2.1.3 Comparative View of Mer-sectors

This section provides a comparative view of the mer-sectors; particularly with regard to key economic parameters. This view is intended to complement other sectoral perspectives presented in this Baseline Findings section.

2.1.3.1 Sectoral Contribution to Manufacturing Output

The following figure compares the contribution of each of the mer-sectors to total mer-sector employment and output (as measured by GDP).

Figure 8: Sectoral Contribution to Manufacturing Output



Source: Adapted from Stats SA, 2017

As indicated in the above figure, amongst the mer-sectors Motor Sales and Service and Metals are by far the leading contributors to employment. All the other sectors combined contribute less than 20%.

With regard to contribution to mer-sector GDP, metals is the leading sector, followed by motor manufacturing. The remaining sectors contribute just over 20%.

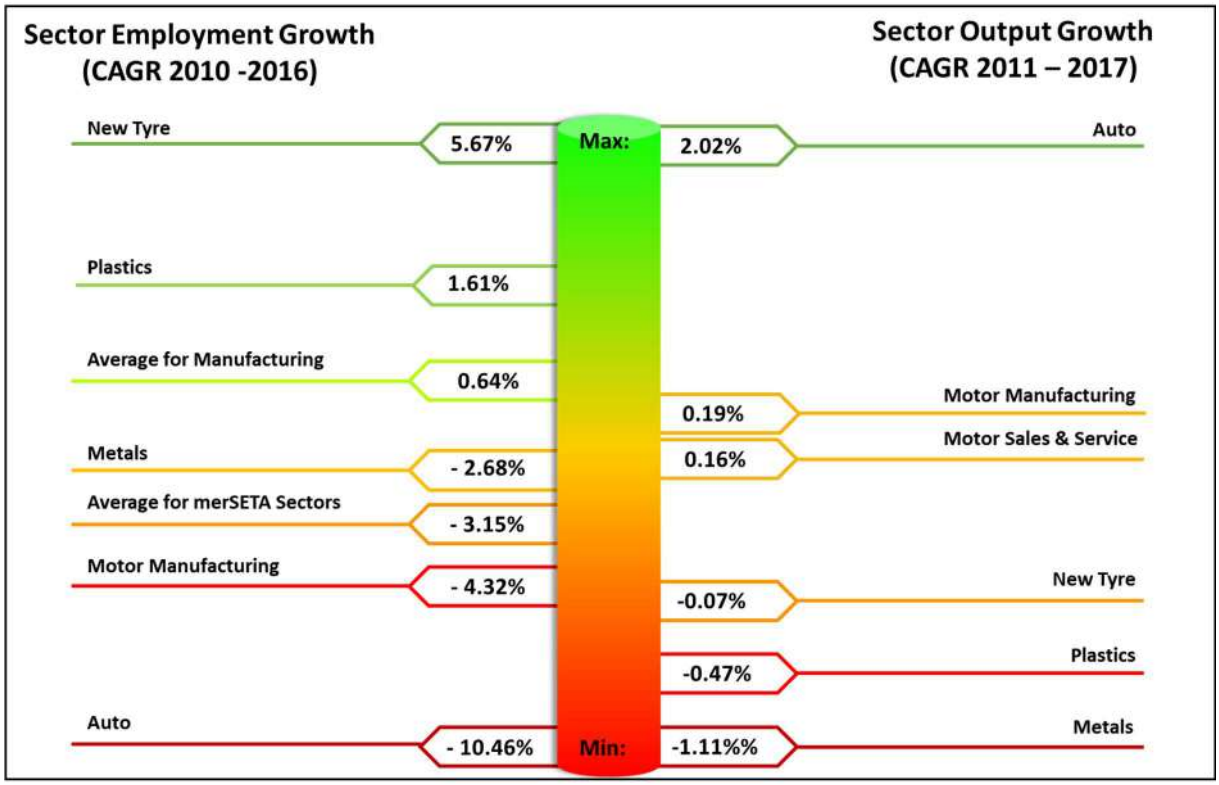
Overall, Metals is the clear leader with regard to contribution to the mer-sectors, followed by Motor Manufacturing. Motor Sales and Service deserves a special mention with regard to employment.

2.1.3.2 Relative Growth Rate of merSETA Sectors

The following figure compares the relative rate of growth in employment and output for the various mer-sectors. The figure represents the average compound annual growth rate ("CAGR") over the indicated time periods (Employment Growth: 2010 to 2016; Output Growth: 2011 to 2017).[1]

[1] CAGR is used as a measure of growth over multiple time periods. It is the growth rate that is achieved over a time period or multiple time periods.

Figure 9: Relative Growth Rate of merSETA Sectors



Source: Adapted from Stats SA, 2017

With regard to employment, as indicated in the above figure, the New Tyre and Plastics Sectors are the only sectors that are experiencing positive growth. All other sectors are shrinking in terms of employment, with Motor Manufacturing and Auto experiencing significant negative growth; -4% and -10% respectively.

With regard to growth in output, Auto is the only sector that is growing significantly. All other sectors are either experiencing marginal growth, or are shrinking.

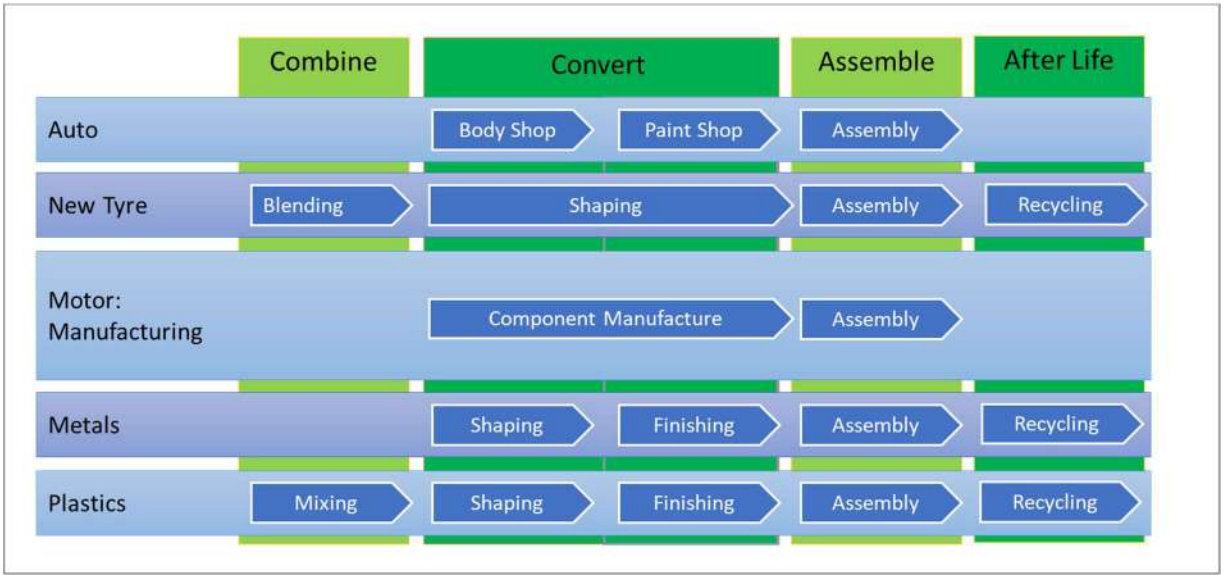
The Auto Sector is remarkable in that it has grown with regard to sector output, but has shrunk in terms of employment. This may be related to the increasing level of automation in the auto sector.

2.1.4 The Manufacturing Value Chain

The below figure depicts the generic manufacturing value chain; applicable across the mer-sectors. Sector-specific value chains have been identified and described in the sector specific sections of this Report.

The figure maps the value chains to 4 key activities undertaken during the manufacturing process, which apply to the value chains of all the mer-sectors. These activities are Combine, Convert, and Assemble. In addition, an 'After Life' component that primarily applies to Metals and Plastics has been added.

Figure 10: Key Activities in the Generic Manufacturing Value Chain



The generic value chain view above establishes the key activities involved in the production process for the Manufacturing Sectors: Combine, Convert, and Assemble and After Life. Using this view, it is possible to outline the key actors that are responsible for the core activities in the production process. This is depicted conceptually in the section that follows.

2.1.5 The Occupational Framework for Manufacturing

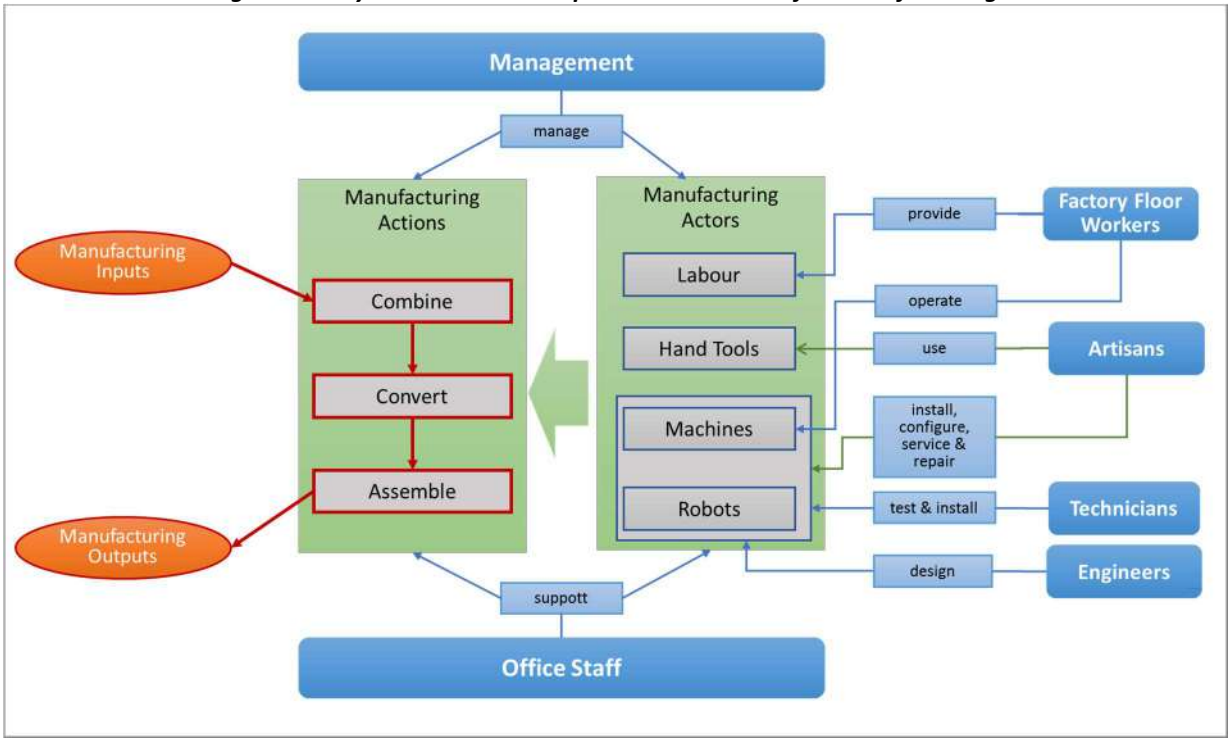
To understand the skill development needs for the various merSETA sectors, one must understand the skills required for each of the sectors and further understand what is being done, and by whom, in these sectors.

This section sets out a framework ("the Manufacturing Occupations Framework" or "the Occupations Framework for Manufacturing") as a basis for this understanding. It outlines the key activities and actors involved in a generic view of the production process (which applies to the Auto, New Tyre, Motor Manufacturing, Metals and Plastics sectors; which for ease of reference we shall refer to as the "Manufacturing Sectors"). The Motor Sales and Service process is dealt with separately.

This view has been developed based on a detailed review of value chains for the various merSETA sectors, drawing on discussions with numerous stakeholders, across the 2 provinces comprising Region 3, including more than 333 consultations.

The Occupations Framework is used to define key occupations that are then examined within the value chains for each of the merSETA sectors.

Figure 11: Key Actors in the Occupations Framework for Manufacturing



As outlined in the figure above, the Manufacturing Occupations Framework makes it possible to relate key manufacturing actors and activities to occupations. Doing this helps us understand the nature of these occupations, and the key qualifications and skills for these occupations. This approach necessarily simplifies things, but does provide a bridge in understanding between the technical side of manufacturing and the human side of the skills required to enable the manufacturing process.

The Manufacturing Occupations Framework highlights the key types of occupations involved in the manufacturing process. These apply equally to each of the Manufacturing Sectors. Practically speaking, this helps us better understand and analyse the occupations relevant to manufacturing, and the associated skills and qualifications.

In the context of the above, the following key types of occupations are the ones that need to be considered for the mer-sectors:

- Shop Floor Workers (who provide the “labour” in the schematic above)
- Artisans (who provide the “hand tools” and configure the “machines” and “robots” in the schematic above)
- Engineers and technologists (who design and install the “machines” and “robots” in the schematic above)
- Office staff and others (who provide the support function to the roles above)

This Study classifies occupations according to the above as this is the most commonly understood terminology amongst industry employers. We note that these classifications have been made by taking into account the OFO codes. How the above classifications relate to the OFO codes is covered in Annexure B.

2.1.6 Key Occupations, by Mer-sector

The below table indicates key occupations have been identified in each sector, using the Occupational Framework for Manufacturing as a point of reference.

Table 5: Occupational Roles – Auto, Metals and Motor Manufacturing Sectors

Occupational Roles	Auto	Metals	Motor Manufacturing
 Shop Floor Workers	• Cleaners • Machine operators • Trimmers • Machine minders • Assistant machine operators	• Cleaners • Machine operators • Trimmers • Machine minders • Pickers • Balers • Packers • Assistant machine operators	• Cleaners • Machine operators • Trimmers • Machine minders • Pickers • Packers • Assistant machine operators
 Artisan	• Spray painters • Fitters & turners • Welders • Electricians • Millwrights • Motor mechanics • Auto-electricians • Tool makers	• Machine programmers • Fitters and turners • Machine setters • Tool, jig and die maker • Electricians • Boilermakers • Millwrights • Patternmakers	• Spray painters • Fitters and turners • Welders • Electricians • Millwrights • Diesel Mechanics • Vehicle body builders • Boiler makers • Mechanics
 Engineers & Technologists	• Mechanical Engineers • Electrical Engineers • Mechatronic Engineers • Industrial Engineers	• Mechanical Engineers • Electrical Engineers • Industrial Engineers • Mechatronic Engineers • Process Engineers • Metallurgical Engineers	• Pattern makers • Mechanical Engineers • Electrical Engineers • Mechatronic Engineers • Metallurgists
 Office Staff & Other	• Administration • Marketing • HR • Finance • Foremen • Supervisors • Quality control managers • Maintenance	• Administration • Marketing • HR • Finance • Foremen • Supervisors • Quality control managers • Maintenance • Plant Managers	• Administration • Sales • HR • Finance • Foremen • Supervisors • Quality control managers • Maintenance • Logistics

As should be clear from the table above, and the one below, some occupations are unique to particular sectors (e.g. vehicle body builder), while other occupations apply to more than one sector (e.g. electrician).

Table 6: Occupational Roles – New Tyre, Plastics and Motor Sales and Service Sectors

Occupational Roles	New Tyre	Plastics	Motor Sales & Service
Shop Floor Workers	• Cleaners • Machine operators • Assistant machine operators • Assemblers	• Cleaners • Machine operators • Trimmers • Machine minders • Pickers • Balers • Packers • Assistant machine operators	• Cleaners • Machine operators • Trimmers • Strippers
Artisan	• Instrument mechanicians • Fitters & turners • Welders • Electricians • Strippers • Technicians	• Moulders • Mechanics • Machine setters • Patternmakers • Millwrights	• Spray painters • Radiator welders • Diagnostics specialists • Auto-electricians • Motor mechanics • Automotive body repairers • Welders • Panel beaters • Technicians • Diesel mechanics
Engineers & Technologists	• Mechanical Engineers • Mechatronic Engineers • Chemical Engineers • Industrial Engineers	• Chemical Engineers	• Mechanical Engineers • Mechatronic Engineers
Office Staff & Other	• Administration • Marketing • Sales • HR • Finance • Supervisors • Quality control managers • Maintenance • Reliability managers	• Administration • Marketing • HR • Finance • Foremen • Quality control managers	• Administration • Marketing • HR • Finance • Sales

The above tables provide a view of typical occupations relevant to each of the mer-sectors. The occupations are presented within the 4 categories of role outlined in the Occupational Framework for Manufacturing, given that these roles are used as a point of reference for this Study to elucidate skills development issues.

The occupations outlined above may be superimposed on the value chains and manufacturing processes for the various mer-sectors. This will help to understand how the occupations relate to roles in the value chain and manufacturing process, using the Occupational Framework for Manufacturing as a point of reference.

Hard to fill occupations (“HTFO”s) and skills gaps are described in sections 2.2.2 and 2.2.3.

2.1.7 The Regional and Provincial Context

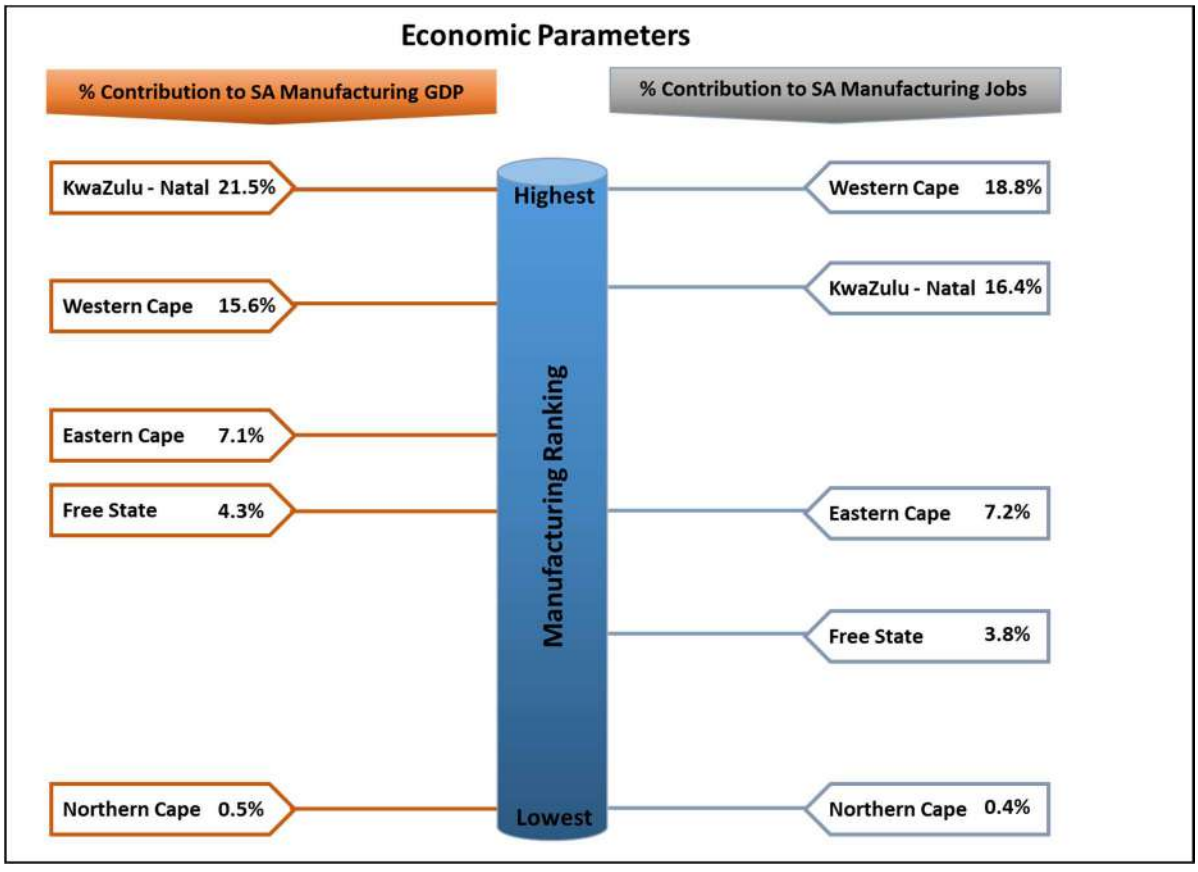
This section provides a comparative view of the provinces comprising Region 2 (Western Cape, Free State and Northern Cape) and Region 3 (Eastern Cape and KwaZulu-Natal). This geographic perspective provides the context within which demand and supply considerations are framed later in this document.

This section examines provincial contribution to South African manufacturing, manufacturing contribution to the provincial economy, and the extent of informal and rural settlements at provincial level. These dimensions are important points of reference when considering skills development for mer-sectors at provincial level.

2.1.7.1 Regional Contribution to Manufacturing

The following figure compares manufacturing amongst the 2 regions and 5 provinces, based on employment and on output.

Figure 12: Regional Contribution to Manufacturing



Source: Adapted from Stats SA, 2017

With the Eastern Cape and KWAZULU-NATAL in the top 3 of the 5 provinces, Region 3 leads Region 2 with regard to contribution to manufacturing in South Africa. The Free State and the Northern Cape contribute in the low single digit percentages to manufacturing; while the Eastern Cape is marginally better in the higher single digits percentages. Approximately 50% of the contribution to manufacturing in South Africa stems from Gauteng, North West, Mpumalanga and Limpopo (all Region 1).

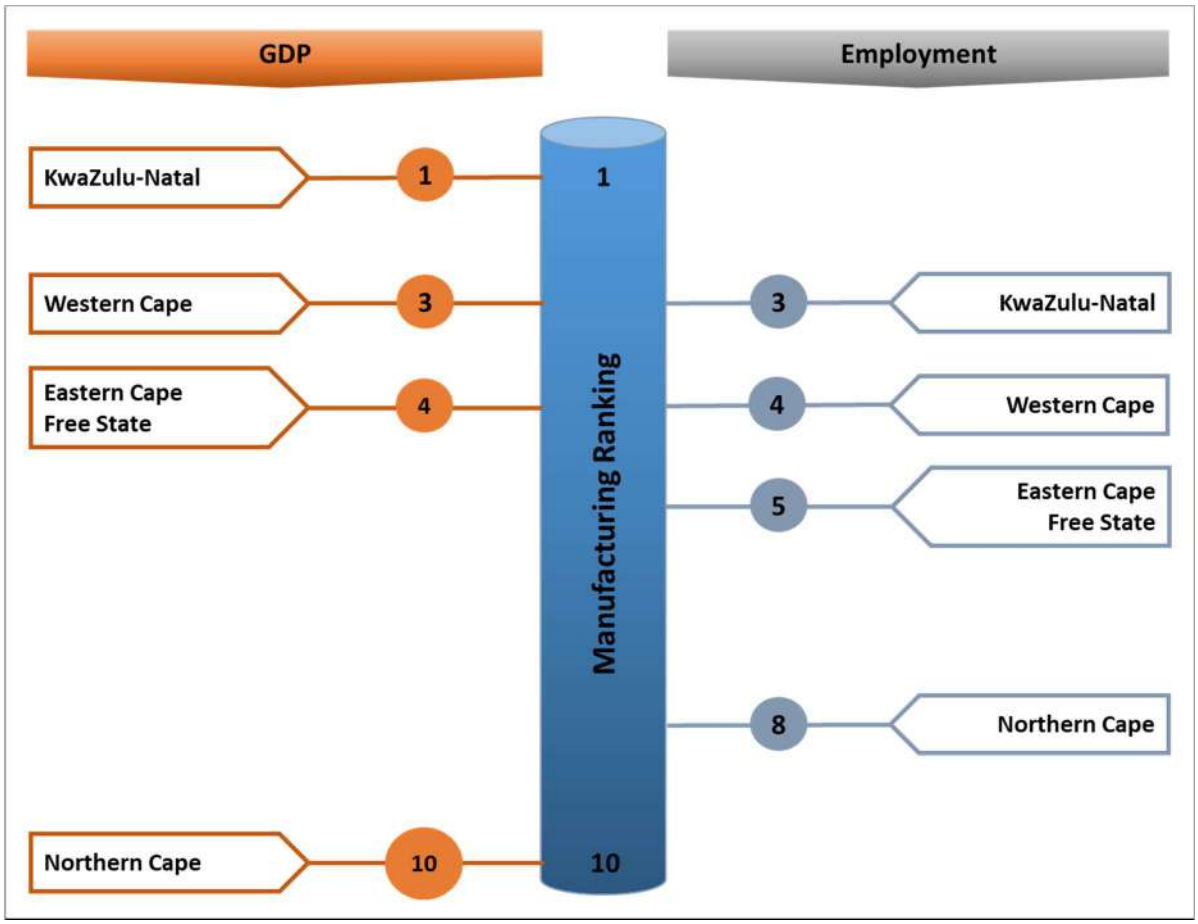
As would be expected, the metropole provinces (KwaZulu-Natal and Western Cape) are the larger contributors to both manufacturing output and employment. However, it must be borne in mind that other provinces do have areas of economic concentration that do contribute higher levels of

manufacturing output and jobs at local level, e.g. automotive related manufacturing in East London and Port Elizabeth (Interviews, Large Manufacturers, 2018).

2.1.7.2 Significance of Manufacturing at Provincial Level

The following figure outlines the significance of manufacturing within the 2 regions and 5 provinces, based on contribution to overall employment and output in the province.

Figure 13: Significance of Manufacturing at Provincial Level[2]



Source: Adapted from Stats SA, 2017

The number in the circles represents the rank (out of 10) of manufacturing amongst other sectors within the province. The ranking in the above graph is out of 10 as there are 10 main sectors in each province, those being:

- Manufacturing
- Mining and quarrying
- Electricity, gas and water
- Agriculture, forestry and fishing
- Construction
- Personal services
- Transport, storage and communication
- General government services
- Trade, catering and accommodation
- Finance, real estate and business services

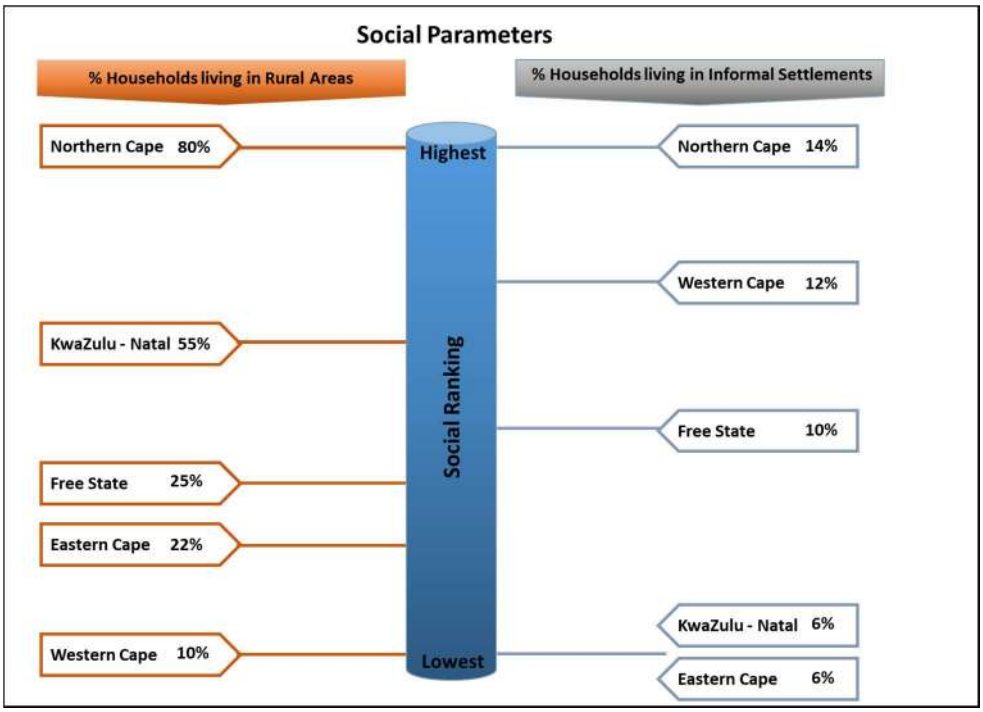
[2] Manufacturing here refers to total manufacturing and not necessarily limited to mer-sector manufacturing.

As can be seen above, the Northern Cape does not have a strong manufacturing presence, whilst KwaZulu-Natal and Western Cape have strong manufacturing presences. The presence of manufacturing the Eastern Cape and Free State is moderate. The rankings outlined above provide an indication of the relative importance that is likely to be accorded to manufacturing relative to other sectors within each of the 5 provinces.

2.1.7.3 Proportion of Informal and Rural Settlements by Region

The following figure compares the proportion of informal and rural settlements amongst the 2 regions and 5 provinces.

Figure 14: Proportion of informal and rural settlements



Source: Adapted from Stats SA, 2017

From the figure above it should be clear that the Northern Cape has the highest level of rural households and informal settlements. With more than half of its households living in rural areas, KwaZulu-Natal has the next highest rural population. Together with the Northern Cape, the Western Cape and the Free State also have double digit percentages of households living in informal settlements.

2.2 Findings: Skills Demand

This section provides summary findings on skills demand relating to:

- Geographic distribution of employers
- Hard-to-fill occupations, by province
- Skills Gaps
- Key Skills Drivers by Sector

2.2.1 Geographic Footprint of Employers

The below maps indicate the geographic distribution of employers. These maps provide a practical sense of where key employers are located; and thus assist with conceptualisation of the sector footprints. While this does not fully substitute for the perspective of employers gained from site visits, it does provide a more in-touch view of the mer-sectors.

Authors Note

The maps in this section indicate the number of employers for all provinces in South Africa. These numbers are based on the merSETA employer database. Where one of the 2 provinces in Region 3 is involved, a sample of employers are listed in a call-out box, linking to the relevant province. For non-Region 3 provinces, the province is flagged with a grey (as opposed to green) spot, with a number indicating the number of employers located in the province.

2.2.1.1.1 Auto

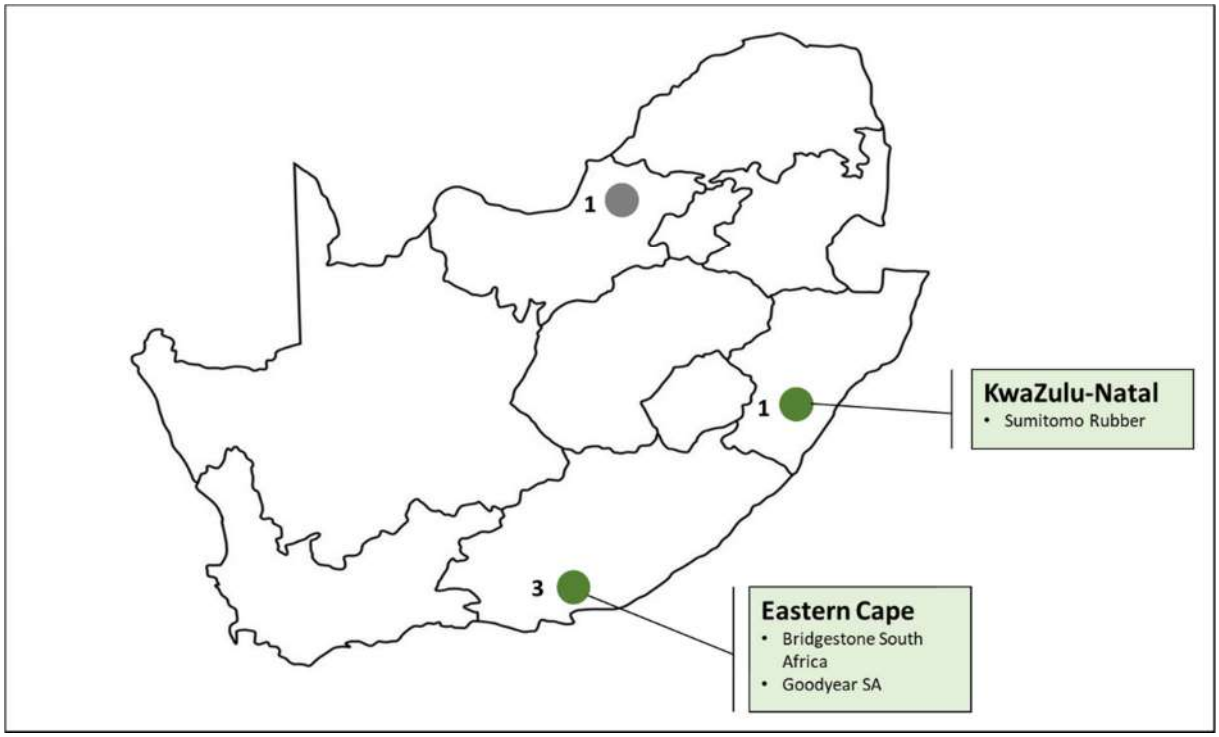
Figure 15: Geographic Footprint of the Auto Industry

Source: merSETA WSP/ATR, 2016

South Africa's main sites for automobile production are the Eastern Cape, specifically Port Elizabeth and East London, Gauteng, specifically Rosslyn (Pretoria) and KwaZulu-Natal (KwaZulu-Natal), specifically Durban. The employers shown in the figure above are those that are relevant to the regions included in this Study, namely Region 3: Eastern Cape and KwaZulu-Natal. With the exit of General Motors from South Africa, its production facility in Port Elizabeth was taken over by Isuzu.

2.2.1.1.2 New Tyre

Figure 16: Geographic Footprint of the New Tyre Industry

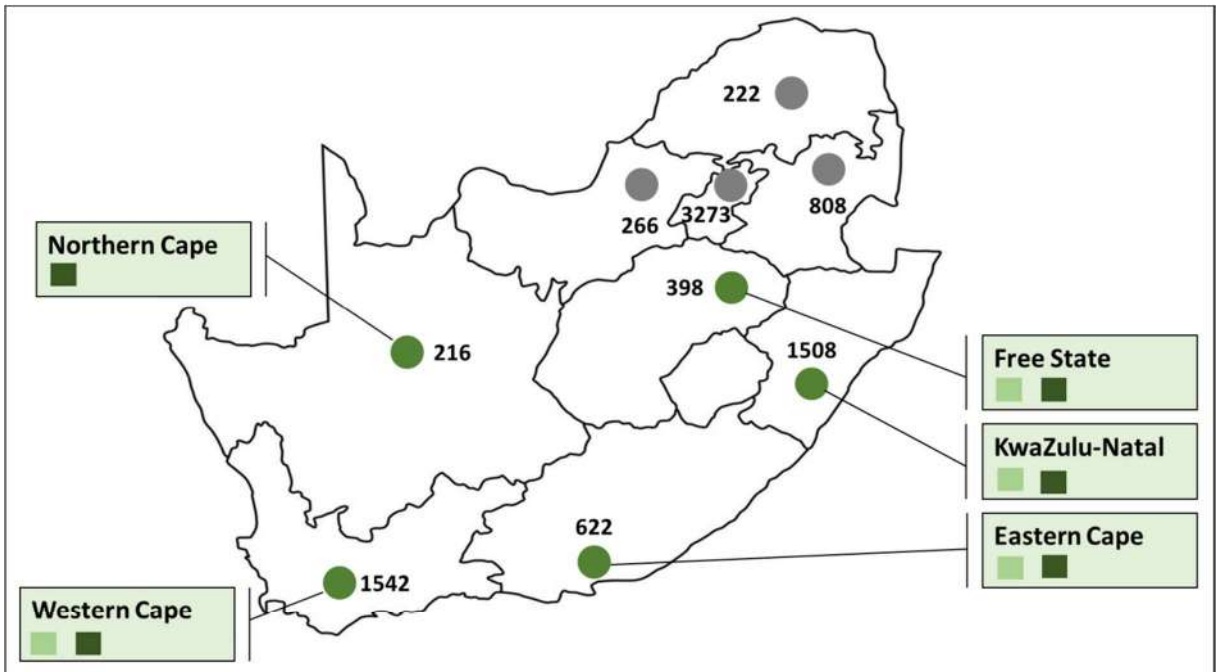


Source: merSETA WSP/ATR, 2016

The employers highlighted in the figure above are those that are relevant to the provinces for this Study (Eastern Cape and KwaZulu-Natal). Goodyear recently unveiled a new R1 billion production facility in Uitenhage, Eastern Cape.

2.2.1.1.3 Motor Manufacturing and Motor Sales and Service

Figure 17: Geographic Footprint of the Motor Manufacturing and Motor Sales and Service Sector



	Motor Manufacturing	Motor Sales & Service	
Kwa-Zulu Natal	• MultiService Engineering • Transpec • GUD Filters	• Nile Motors • Alpine Motors • Auto and General	• The Cylinder Head Centre • Wired Up Garage • Durban Central Panel Beaters
Eastern Cape	• Yenza • Schaeffler • Tenneco Ride Control	• Nissan Queenstown • Maritime Motors • OGB Used Car Spares	• Golden Panel beaters • Alex Motor Services • AutoZone East London
Western Cape	• Gear Pump Manufacturing • Atlantis Foundries • Route Holdings	• SMG: BMW • Supergroup: Mercedes • Renault	• Rianns Auto • Auto Magneto
Free State	• SA Truck Bodies	• John Williams Motors • Sovereign Motors • Lindsay Saker	• ADCO Diesel tech • Strado • Turf Panelbeater
Northern Cape		• Dent Doctor	• Victory Tyre Repairs

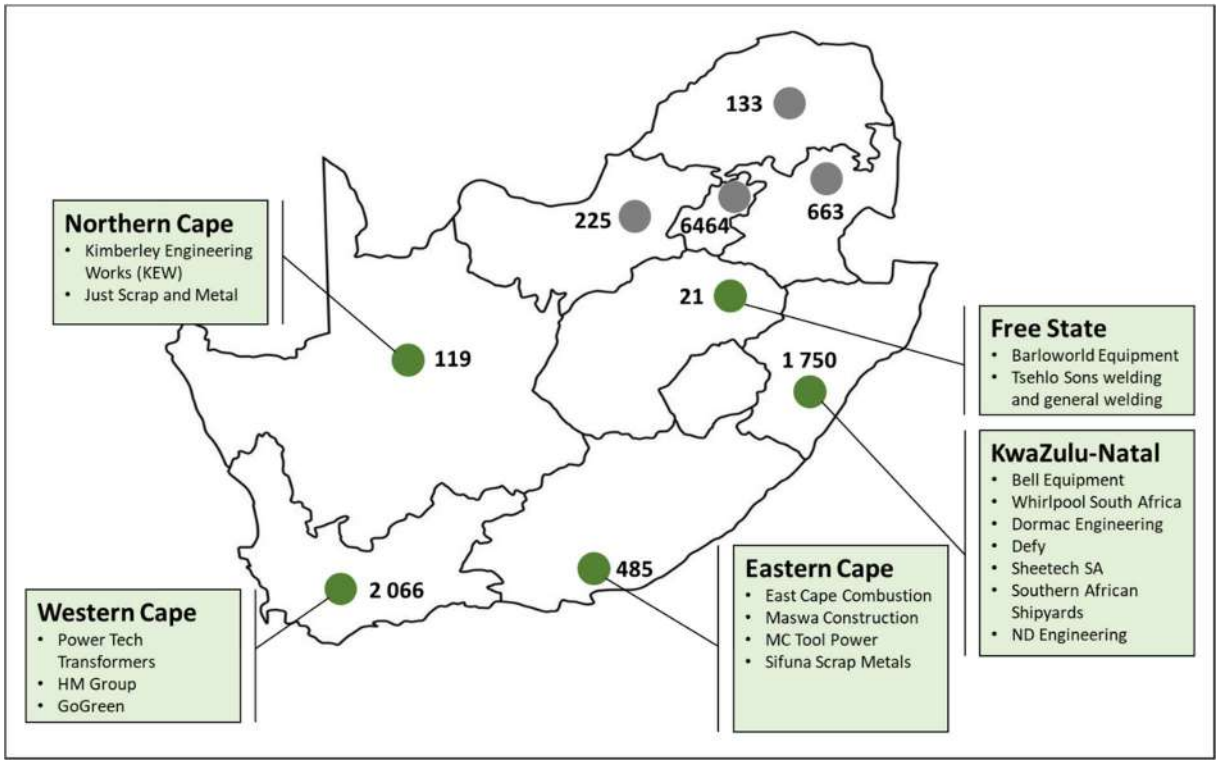
Source: merSETA WSP/ATR, 2016

The employers highlighted in the figure are those that are relevant to Regions 2 and 3. Four provinces have representative motor manufacturing companies: Eastern Cape and KwaZulu-Natal (Region 3), Western Cape and Free State (both Region 2).

Motor Sales and Service is represented in all three provinces in Region 2 and both provinces in Region 3.

2.2.1.1.4 Metals

Figure 18: Geographic Footprint of the Metals Industry

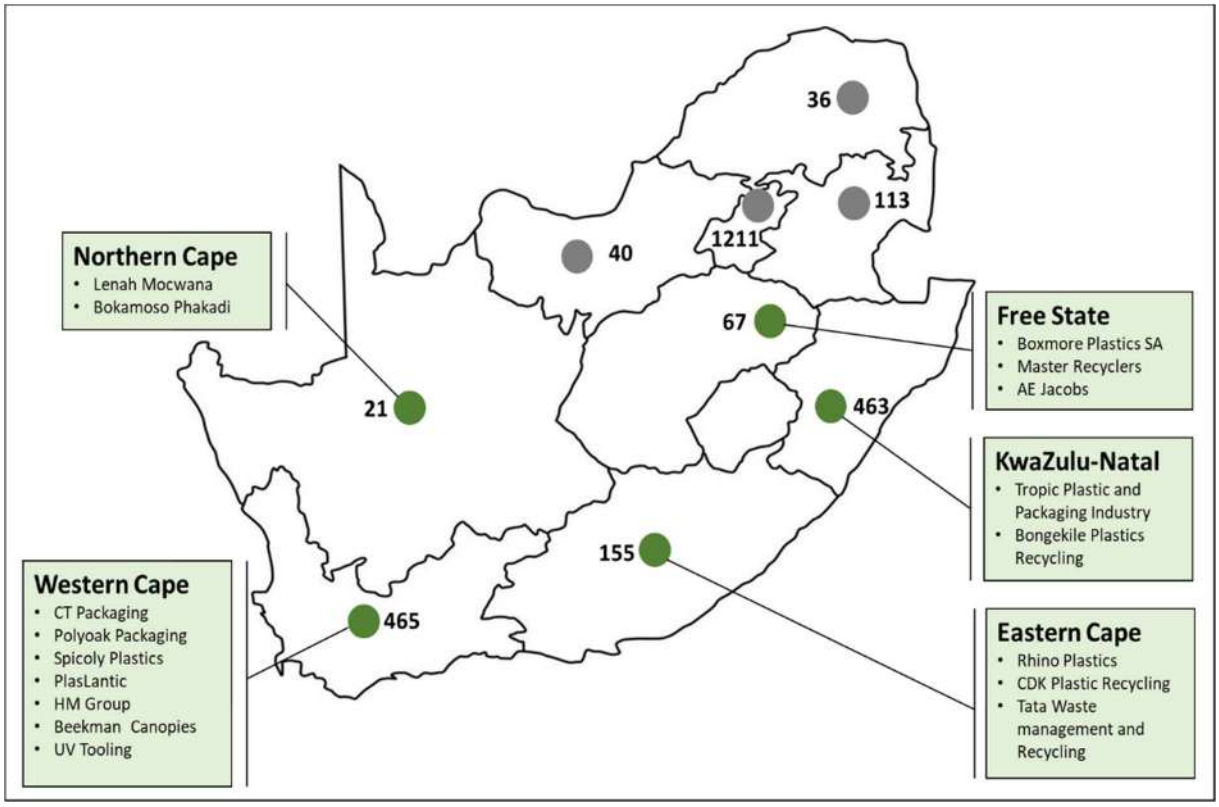


Source: merSETA WSP/ATR, 2016

South Africa's main sites for metal production and processing are the Western Cape, Gauteng and KwaZulu-Natal. All provinces have representative companies though: Eastern Cape, KwaZulu-Natal, Western Cape, Northern Cape and Free State.

2.2.1.1.5 Plastics

Figure 19: Geographic Footprint of the Plastics Industry



Source: merSETA WSP/ATR, 2016

Within Region 3 the Project Team consulted with employers in all four of the plastics sub-sectors. Of the two provinces, KwaZulu-Natal and the Eastern Cape, KwaZulu-Natal has a higher concentration of larger plastics manufacturers with established names in the industry such as Tropic Plastic and Nampak. Plastic recycling was also apparent in the region – from small recycling companies such as CDK Recycling in Port Elizabeth, to informal plastics waste pickers such as Bongekile from KwaZulu-Natal who worked as a self-employed plastics picker.

2.2.2 Hard-to-fill Occupations, by Province

A key finding from this Study is an indication of those occupations that are hard to fill ("hard to fill Occupations" or "HTFO"s). These HTFOs have been determined based on input from stakeholders through surveys as well as through interviews.

The HTFOs determined by this Study are outlined below. For ease of interpretation and use, the HTFOs are listed against occupation type (as per the Manufacturing Occupations Framework) and province.

2.2.2.1 Auto

As should be clear from the table below, certain occupations have been reported as hard to fill across provinces (e.g. diesel mechanic) while others appear to be specific to a particular province (e.g. quality manager). Other trends include certain types of occupations being harder to fill across different occupation types e.g. roles involving a combination of mechanical and electrical skills, e.g. millwright (an artisanal occupation) and mechatronic engineer (an engineering occupation).

The table below includes only the KwaZulu-Natal and Eastern Cape provinces (Region 3) as Auto employers do not have a presence in Region 2 (Western Cape, Free State, Northern Cape).

Table 7: Hard-to-Fill Occupations per Province: Auto Sector

Occupational Role	Shop Floor Workers	Artisans	Engineers and Technologists	Office Staff and Other
KwaZulu-Natal	• Automotive Machinist • Turner Machinist	• Diesel Mechanic • Fitter and Turner • Millwright • Spray Painter • Vehicle Body Builder	• Electrical Engineer • Mechanical Engineer • Mechatronic Engineer	
Eastern Cape		• Automotive Electrician • Diesel Mechanic • Electrician • Fitter and Turner • Machine Tool Setter • Motor Mechanic	• Electrical Engineer • Mechanical Engineer • Mechatronic Engineer • Metallurgical Engineer	• Quality Manager

Source: Surveys, 2018

2.2.2.2 New Tyre

The New Tyre Sector only has a presence in the Eastern Cape and KwaZulu-Natal, i.e. Region 3. Shop floor workers have not been reported as hard to fill in any of the two provinces. This is in contrast to artisans and office staff and other, which have occupations that have been reported as hard to fill in both provinces. Engineers and technologists are only reported as hard to fill in the Eastern Cape and office staff and other are hard to fill in both provinces. In general, the Eastern Cape has more hard to fill occupations than KwaZulu-Natal.

No specific occupations were mentioned as hard to fill for shop floor workers in the New Tyre Sector.

Table 8: Hard-to-Fill Occupations per Province: New Tyre Sector

Occupational Role	Artisans	Engineers and Technologists	Office Staff and Other
KwaZulu-Natal	• Instrument Mechanician		• Sales, Marketing and Development Manager
Eastern Cape[3]	• Electrician • Filter • Instrument Mechanician	• Electrical Engineer • Mechanical Engineer • Chemical Engineer • Polymer Technologist	• Supply Chain Analyst • Sales Manager • Finance Manager

Source: Surveys, 2018; Interviews, 2018

2.2.2.2.1 Motor Manufacturing

Much like the New Tyre Sector, shop floor workers are reported as less hard to fill than other occupational roles. In contrast, artisans are hard to fill in all four provinces noted in the table below. Engineers and Technologists are hard to fill in three provinces. In general, consultations in KwaZulu-Natal and the Eastern Cape revealed more hard to fill occupations than in the other provinces.

It should be noted that the table below only features those provinces and occupational roles where input could be provided by employers through interviews and surveys.

Table 9: Hard-to-Fill Occupations per Province: Motor Manufacturing Sector

Occupational Role	Shop Floor Workers	Artisans	Engineers and Technologists
KwaZulu-Natal	• Machine Operator	• Diesel Mechanic • Fitter and Turner • Millwright • Motor Mechanic • Welder • Vehicle Body Builder	• Electrical Engineer • Mechanical Engineer
Eastern Cape	• Automotive Trimmer • Machine Operator	• Automotive Electrician • Automotive Engine Fitter • Fitter and Turner • Millwright • Spray Painter • Vehicle Body Builder	• Electrical Engineer • Mechanical Engineer • Mechatronic Engineer • Metallurgical Engineer • Metallurgist

[3] No input for New Tyre, Eastern Cape could be sourced from surveys due to respondents miscategorising themselves or skipping the HTFO question. Information reflected here was sourced from interviews conducted in the province.

Occupational Role	Shop Floor Workers	Artisans	Engineers and Technologists
		• Welder	

Source: Surveys, 2018; Interviews, 2018

2.2.2.2.2 Motor Sales and Service

As should be clear from the table below, there appears to be significant alignment between the various provinces with regard to HTFOs. Of the 17 HTFOs listed, only 2 are limited to just one province. This may stem from a greater degree of homogeneity between businesses (in terms of products, operations, and production) in the sector across provinces.

Table 10: Hard-to-Fill Occupations per Province: Motor Sales and Service Sub-Sector

Occupational Role	Shop Floor Workers	Artisans	Engineers and Technologists	Office Staff and Other
KwaZulu-Natal		• Autobody Repairer • Diesel Mechanic • Motor Mechanic • Motorcycle Mechanic • Spray Painter • Tractor and Truck Mechanic	• Mechanical Engineer	
Eastern Cape	• Tyre Fitter	• Autobody Repairer • Diesel Mechanic • Motor Mechanic • Spray Painter • Vehicle Body Builder	• Diagnostics Specialist • Electrical Engineer • Mechatronic Engineer • Mechanical Engineer	• Assessment Officer for Motorcycle Mechanic • Retail Buyer • Salesperson with Technical Product Knowledge

Source: Surveys, 2018

2.2.2.2.3 Metals

Like Motor Sales and Service, Metals also demonstrates a trend of a high degree of alignment of HTFOs between provinces (see table below). For shop floor workers, manufacturing machine minders and metal engineering process workers are occupations that are hard to fill across the regions. Artisans, welders and fitters and turners are occupations that are hard to fill across both provinces, with boilermakers and sheet metal workers additionally being HTFOs across the Region.

No specific occupations were mentioned as hard to fill for engineers and technologists for the Metals Sector.

Table 11: Hard-to-Fill Occupations per Province: Metals Sector

Occupational Role	Shop Floor Workers	Artisans	Office Staff and Other
KwaZulu-Natal	• Manufacturing Machine Minder • Metal Engineering Process Worker	• Boilermaker • Electrician • Fitter and Turner • Manufacturing Machine Setter • Welder	• Production / Operations Manager (Manufacturing) • Quality Manager
Eastern Cape	• Engineering Production Systems Worker • Manufacturing Machine Minder • Metal Engineering Process Worker • Metal Polisher	• Boilermaker • Fitter and Turner • Refrigeration Mechanic • Sheet Metal Worker • Welder	• Production / Operations Manager (Manufacturing) • Quality Manager

Source: Surveys, 2018

2.2.2.2.4 Plastics

The table below outlines HTFOs for the Plastics Sector. With regard to shop floor workers the HTFOs that appear to transcend geography are the plastics production machine operator, with other occupations (e.g. rotational moulding operator) applying to fewer provinces. Tool, jig and die maker is the artisan occupation that applies across both provinces. With regard to office staff/ other occupations, both the quality manager role and the technical director role appear to be hard to fill.

Table 12: Hard-to-Fill Occupations per Province: Plastics Sector

Occupational Role	Shop Floor Workers	Artisans	Engineers and Technologists	Office Staff and Other
KwaZulu-Natal	• Plastics Production Machine Operator	• Tool, Jig and Die Maker	• Mechanical Engineer	• Technical Director • Quality Manager
Eastern Cape	• Plastics Manufacturing Machine Minder • Plastics Production Machine Operator • Rotational Moulding Operator	• Electrician • Fitter and Turner • Machine Tool Setter • Plastics Manufacturing Machine Setter • Tool, Jig and Die Maker	• Chemical Engineer • Electrical Engineer • Industrial Engineer • Manufacturing Technician • Mechanical Engineer	• Technical Director • Quality Manager

Occupational Role	Shop Floor Workers	Artisans	Engineers and Technologists	Office Staff and Other
	• Thermoforming Machine Operator		• Mechanical Engineering Technician	

Source: Surveys, 2018

2.2.3 Skills Gaps per Sector

Skills gaps are described per sector for each of the merSETA Sectors.

2.2.3.1 Auto, Metals and Motor Manufacturing Skills Gaps

The following figure indicates the different skills gaps that are experienced across the Auto, Metals and Motor Manufacturing Sectors for each occupational role.

Figure 20: Skills Gaps for the Auto, Metals and Motor Manufacturing Sectors

Occupational Roles	Auto	Metals	Motor Manufacturing
Shop Floor Workers	• Literacy • Numeracy	• Time management • Communication • Computer literacy • Literacy • Numeracy • Tool- use	• Time management • Communication • Computer literacy • Literacy • Numeracy
Artisan	• Practical artisan experience • Problem solving • Critical thinking skills • Creative thinking • Logical thinking	• Practical artisan experience • Problem solving • Critical thinking skills • Creative thinking • Logical thinking	• Practical artisan experience • Problem solving • Critical thinking skills • Creative thinking • Logical thinking • Skilled foundrymen
Engineers & Technologists	• Practical engineering experience	• Practical engineering experience • Critical thinking skills	• Practical engineering experience • Critical thinking skills
Office Staff & Other		• Management • Quality control • Finance skills • Administration skills • Business/ Entrepreneurial skills • Skilled/experienced foremen	

2.2.3.1.1 Shop Floor Workers

Skills gaps in this area generally relate to basic skills as well as various types of soft skills. Auto shop floor workers were notably lacking literacy and numeracy. This occurrence was also present within the Metals and Motor Manufacturing Sectors where computer literacy was additionally identified. One should note that there is a stark distinction between the need for ICT skills vs. computer literacy; employers expressed a desire for their shop floor staff to be able to operate basic programmes to give them access to emails and to use Microsoft Office programmes rather than to complete complex ICT functions. Soft skills such as communication and time management were also noted as lacking for shop floor workers in these two sectors.

2.2.3.1.2 Artisans

The most commonly cited skills gaps related to practical artisan experience and a few key soft skills such as problem solving, critical thinking, creative thinking and logical thinking. Stakeholders in the Motor Manufacturing Sector also noted a paucity of skilled foundry men for the casting of automotive parts.

2.2.3.1.3 Engineer and Technologists

Practical engineering experience is wanting in the Auto, Metals and Motor Manufacturing Sectors. Stakeholders noted that although the theoretical side of graduates' education was sufficient, engineers had limited practical skills and required extensive in-house or on-the-job training to meet requirements.

2.2.3.1.4 Office Staff and Other

The Auto Sector identified skills gaps in communication, leadership and finance skills. The Metals and Motor Manufacturing Sectors identified skills gaps in the same areas such as management, quality control, administrative skills, business and entrepreneurial skills, and skilled/experienced foremen.

2.2.3.2 Motor Sales and Service, New Tyre and Plastics Skills Gaps

The following figure indicates the different skills gaps that are experienced across the Motor Sales and Service, New Tyre and Plastics Sectors for each occupational role.

Figure 21: Skills Gaps for the Motor Sales and Service, New Tyre and Plastics Sectors

Occupational Roles	Motor Sales and Service	New Tyre	Plastics
Shop Floor Workers	• Communication • Computer literacy • Literacy • Numeracy	• Communication • Computer literacy • Literacy • Numeracy	• Communication • Computer literacy • Literacy • Numeracy • Trained Extrusion operators
Artisan	• Practical artisan experience • Problem solving • Critical thinking skills • Logical thinking	• Practical artisan experience • Critical thinking skills	• Practical artisan experience • Industry-specific modules • Critical thinking skills • Skilled Technicians • Machine maintenance
Engineers & Technologists		• Practical engineering experience • Critical thinking skills	• Practical chemical engineering experience • Critical thinking skills
Office Staff & Other	• Computer literacy • Communication skills • Finance skills • Customer service skills • Product & technical knowledge	• Computer literacy • Communication skills • Finance skills • Customer service skills • Product & technical knowledge	• Management • Quality control • Finance skills • Administration skills • Computer skills • Business/ Entrepreneurial skills

2.2.3.2.1 Shop Floor Workers

Skills gaps in this area generally relate to basic skills as well as various types of soft skills. The key soft skills gap experienced across all three sectors was communication – both written and verbal. Numeracy and literacy were also noted for all sectors and could be improved by ABET courses.

Computer literacy has been mentioned as a skills gaps for every sector under review. One should note that there is a stark distinction between the need for ICT skills vs. computer literacy; employers expressed desire for their shop floor staff to be able to operate basic programmes to give them access to emails and to use Microsoft Office programmes rather than to complete complex ICT functions.

The Plastics Sector explicitly noted a lack of trained extrusion operation skills in the labour market.

2.2.3.2.2 Artisans

The most commonly cited skills gaps related to practical artisan experience and a few key soft skills such as problem solving, critical thinking, creative thinking and logical thinking. Stakeholders in the Plastics Sector noted a lack of skilled technicians and machine maintenance skills. These occupations were not mentioned explicitly as hard to fill; however, the skills that come from practical experience or training were notably scarce.

2.2.3.2.3 Engineer and Technologists

Practical engineering experience is wanting in the New Tyre and Plastics Sectors. Stakeholders noted that although the theoretical side of graduates' education was sufficient, engineers had limited practical skills and required extensive in-house or on-the-job training to meet requirements. Engineers and technologists were not present in the Motor Sales and Service Sector.

2.2.3.2.4 Office Staff and Other

Computer literacy was noted as a skills gap in the Office Staff and Other occupational role for Motor Sales and Service and New Tyre, while computer skills were cited as a gap in the Plastics Sector. Within Motor Sales and Service, product and technical knowledge gaps were identified; employees involved in office roles had limited knowledge of the products and services dealt with on the shop floor or in the workshops and thus this contributed to poor customer service. Customer service skills and technical product were also expressed as lacking in the New Tyre Sector Office Staff.

Within the Plastics Sector, quality control, management and administration skills were highlighted as some of the key skills gaps.

2.2.4 Key Skills Drivers

The following table lists the change drivers, issues and opportunities that have been identified as having an impact on the demand and supply side of skills in the various mer-sectors ("Skills Drivers", as defined above). More information on these Skills Drivers can be found in the detailed sections on each sector in the Appendices.

Table 13: Summary of Skills Drivers

Sector	Skills Drivers
Auto	• Product Innovation (EVs and hybrids), *the impact that product innovation (in particular the introduction of electric vehicles and hybrids) has on required skills in the Sector* • Automation and Technology, *Increasing use of automated machinery and new technology requires an adjustment to the skills make-up* • Challenges to Market Growth *requires a different product mix, production and procurement processes- these all work towards a changed skill set*

Sector	Skills Drivers
	• Supply Chain Integration *results in pressure on manufacturers in the supply chain. This added pressure may require a different level of skill from workers* • Environmental Consideration *these considerations result in a changed production process and product mix; this results in the need for different skills*
New Tyre	• Product Innovation *the impact that product innovation has on required skills in the Sector* • Automation and Technology *increasing use of automated machinery and new technology requires an adjustment to the skills make-up* • Challenges to Market Growth *requires a different product mix, production and procurement processes - these all work towards a changed skill set* • Quality of Training and Graduates *the extent to which training institutions equip graduates with relevant skills* • Alternative Production Location *South Africa may be an attractive production location; with this will come a higher demand for skilled employees* • Environmental Considerations *new environmentally products and manufacturing processes will require different skills*
Motor Manufacturing	• Automation and Technology *Increasing use of automated machinery and new technology requires an adjustment to the skills make-up* • Challenges to Market Growth *requires a different product mix, production and procurement processes- these all work towards a changed skill set* • Supply Chain Integration *results in pressure on manufacturers in the supply chain. This added pressure may require a different level of skill.* • Product Innovation *the impact that product innovation has on required skills in the Sector* • Quality of Training and Graduates *the extent to which training institutions equip graduates with relevant skills*
Motor Sales and Service	• Product Innovation *the impact that product innovation has on required skills in the Sector* • E-Commerce in Vehicle Sales *different sales strategies will require different skill sets, for example, IT in E-commerce* • Challenges to Market Growth *requires a different product mix, production and procurement processes - these all work towards a changed skill set* • Automation and Technology *increasing use of automated machinery and new technology requires an adjustment to the skills make-up* • Quality of Training and Graduates *the extent to which training institutions equip graduates with relevant skills* • Employer Capacity to Facilitate Training *the capacity of employers to train learners and graduates - often linked to the size of the employer, with some smaller employers showing less interest in training*

Sector	Skills Drivers
Metals	• Automation and Technology *increasing use of automated machinery and new technology requires an adjustment to the skills make-up* • Production Innovation *the impact that product innovation has on required skills in the Sector* • High Input Costs *high input costs place smaller employers under pressure and limit their ability to be price competitive* • Tariffs and Imports *a lack of protection from cheaper imports in the form of tariffs may require more efficient manufacturing processes and the concomitant skills* • Specific Training and Skills Needs *there is a need to provide sector and sub-sector specific skills interventions* • Quality of Training and Graduates *the extent to which training institutions equip graduates with relevant skills*
Plastics	• Automation in the Plastics Sector *increasing use of automated machinery and new technology requires an adjustment to the skills make-up – not as prevalent in the Plastics Sector* • Innovation in the Plastics Sector vs. "the poor cousin" *there is a need to provide sector and sub-sector specific skills interventions* • Mobility of Shop Floor Workers *lack of skills prevent some employees from moving up the career ladder* • Monopolisation of the Polymer Market *lack of skills acts as a barrier to entry and prevents new entrants to the market* • Competition from lower-cost Chinese products *a lack of protection from cheaper imports in the form of tariffs may require more efficient manufacturing processes and the concomitant skills* • Recycling of plastics and environmentally friendly focus *new environmentally-friendly products and manufacturing processes will require different skills but also present potential for new Smaller Employers in the Recycling Sub-sector*

2.2.5 Conclusion

The above details geographic footprint per sector, hard to fill occupations, skills gaps per sector and the key skills drivers. These points are explored in more detail in the relevant Appendices specific to each sector.

With regard to hard to fill occupations, most hard to fill occupations in the Auto, New Tyre, Motor Sales and Service, Motor Manufacturing were found in the artisan and engineering occupational types. The Metals and Plastics Sectors showed the most hard to fill occupations, across occupational types.

Regarding key skills gaps, the Auto Sector showed the least skills gaps. This may due to the international parent company training support that is often received by Auto OEMS. This training may equip employees with needed skills, more so than HEIs courses do.

The authors encourage the reader to study the detailed key skills drivers in the relevant appendices for further information. At a summary level, skills drivers that appear to have an impact across sectors include those linked with automation, technology and product innovation (aligned with research and development), together with changing technologies and manufacturing processes to meet the demands of the "green economy."

2.3 Findings: Skills Supply

This section provides summary findings on skills supply relating to:

- Training institution geographic footprint, by province
- Learning interventions and extent of employer take-up
- Growth in learner numbers
- Skills Drivers

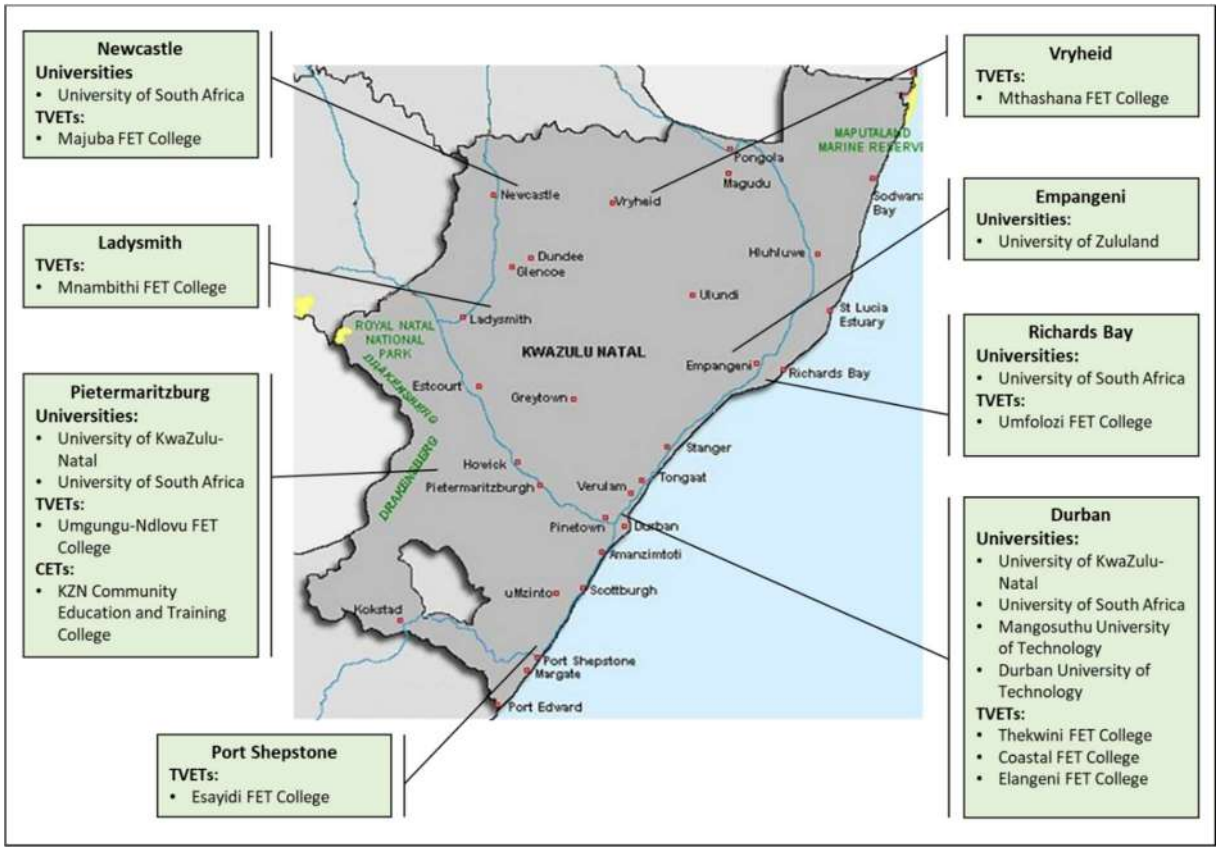
2.3.1 Geographic Footprint of Training Providers

The following 2 subsections outline the geographic footprint for Region 3.

2.3.1.1 Region 3: KwaZulu-Natal

With regard to the Post School Education and Training ("PSET") sector the following diagram illustrates the public HEIs[4], Technical Vocational Education and Training ("TVET") and Community Education and Training ("CET") located in KwaZulu-Natal. As depicted, most HEIs and TVETs are concentrated around the Durban area, with the only CET in the province situated in Pietermaritzburg.

Figure 22: Key Education and Training Institutions in KWAZULU-NATAL



Source: DHET, 2017

[4] HEI refers to Higher Education Institution, also sometimes referred to as HET (Higher Education and Training).

Employers were asked which training intervention would be most appropriate to address their skills needs, according to training intervention and occupation type. The responses are summarised in the table below.

Table 14: Training intervention - KWAZULU-NATAL

Occupational Role	Apprenticeship	Learnership	Skills Programme	RPL[5]	Degree/ Diploma	ABET
Shop Floor Worker			✓			✓
Artisan	✓	✓	✓			
Engineers and Technicians	✓		✓		✓	
Factory Management	✓		✓			
Office Staff			✓			

Source: Surveys, 2018

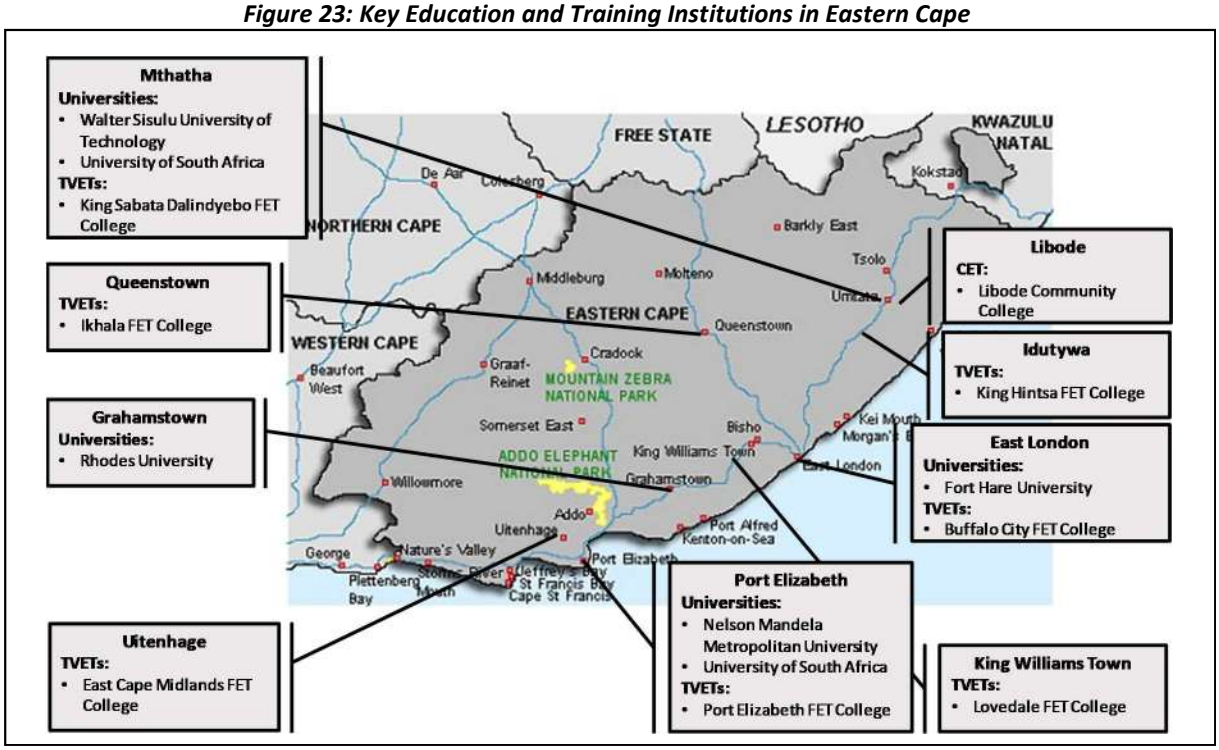
According to survey respondents based in KwaZulu-Natal, Skills Programmes appeared to be an intervention relevant to each occupational role, indicating a high perceived value by employers for a wide range of employee groups. RPL was not deemed appropriate for any occupational roles while WIL was deemed appropriate only for office staff, learnerships only for artisans and ABET only for shop floor workers. It is interesting to note that apprenticeships were viewed as relevant for management – presumably due either to a perceived need for more technical knowledge from management (potentially at lower management levels) or a lack of understanding of apprenticeships.

2.3.1.2 Region 3: Eastern Cape

With regard to PSET, the following diagram illustrates the public HEIs, TVETs and CET College located in the province. As depicted, most HEIs and TVETs are dispersed around the area, with the only CET College in the province situated in Libode.

[5] RPL may not be that popular generally as it requires time and costs the employer. Furthermore, once the employee passes the trade test, they may demand higher wages from the employer. It is therefore likely to be supported by unionists but not by employers (MerSETA, 2018).

Figure 23: Key Education and Training Institutions in Eastern Cape



Source: DHET, 2017

Employers were asked which training intervention would be most appropriate to address their skills needs, according to training intervention and occupation type. The responses are summarised in the table below.

Table 15: Appropriate training interventions – Eastern Cape

Occupational Role	Apprenticeship	Learnership	Skills Programme	RPL	Degree/ Diploma	ABET
Shop Floor Worker	✓		✓			
Artisan	✓			✓		
Engineers and Technicians	✓				✓	
Factory Management			✓	✓	✓	
Office Staff			✓		✓	

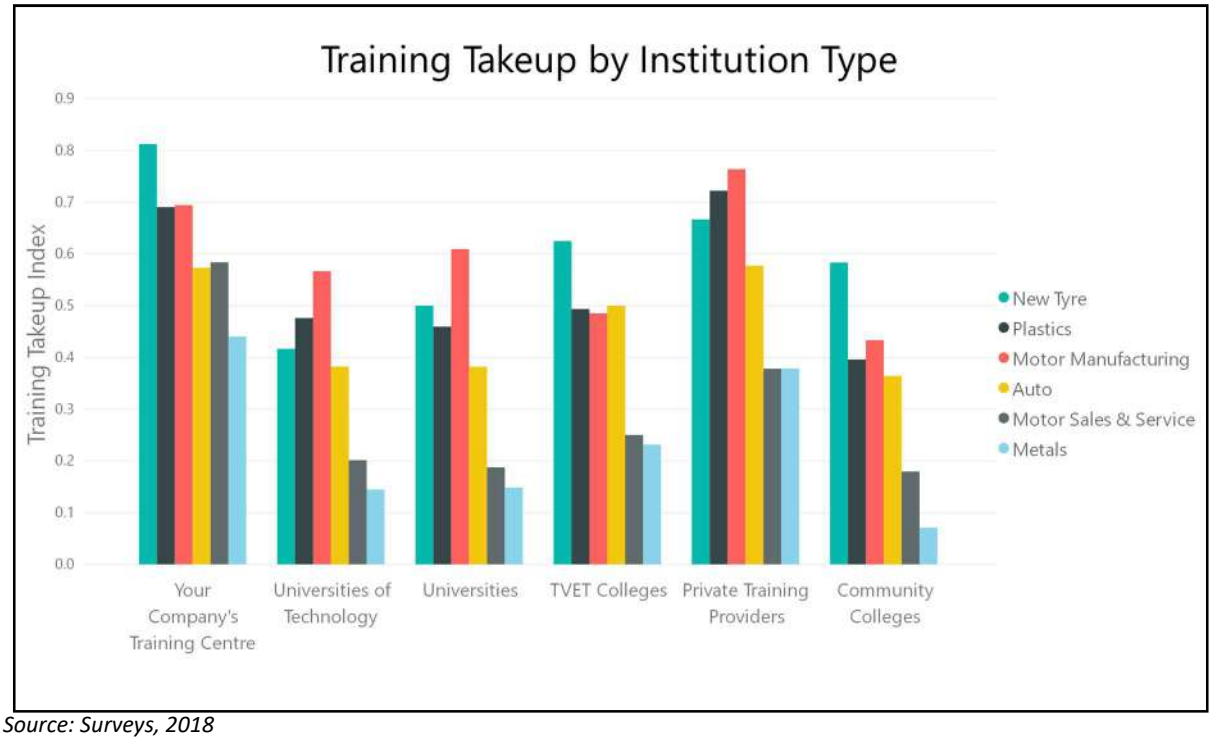
Source: Surveys, 2018

Survey respondents based in the Eastern Cape did not deem Learnerships and ABET appropriate for any occupational role, while WIL was deemed most appropriate for each occupational role with the exception of factory management. The high value placed on WIL aligns to regional comments highlighting the need for technically proficient, work-ready graduates.

2.3.1.3 Take-up of Training per Sector

The below graph indicates the degree to which employer survey respondents indicated their employees undertake training, and at which what type of institution. The below is derived from data collected from surveys and is intended to indicate where employees receive training in the different sectors.

Figure 24: Training take-up by training institution type



Source: Surveys, 2018

It is apparent that respondents from each sector have a general preference for undertaking training at their company's training centre or private training providers, rather than at TVET colleges, Universities, Universities of Technology or Community Colleges. This may be due to a lack of confidence in the quality of training of public further and higher education institutions, comparatively higher costs or the loss of productivity due to employee absence from the workplace during working hours (Interviews, 2018).

Motor manufacturing and plastics appear to favour private training providers or alternatively their company's training centre.

It would appear that there is a general trend that employees in the Motor Sales and Service and the Metals sectors experience lower levels of training that employees in other mer-sectors.

2.3.1.4 Regional Coverage of Artisan Training

Three FET Colleges (Coastal KwaZulu-Natal TVET College, Eastcape Midlands TVET College, Lovedale Public TVET College) cover the bulk of the artisan training available in region 3. Training for Electricians (not included in the table below) is offered by Coastal KWAZULU-NATAL TVET College, Eastcape Midlands TVET College, Buffalo City TVET College, Lovedale Public TVET College, Esayidi TVET College, Ingwe TVET College, King Hintsa TVET College, King Sabata TVET College, Majuba TVET College, Mnambithi TVET College, Port Elizabeth TVET College, Umfolozi TVET College and Umgungundlovu TVET College.

Table 16: Region 3 Artisan Training

		TVET Colleges		
OFO	**Occupation**	**Coastal KwaZulu-Natal TVET College**	**Eastcape Midlands TVET College**	**Lovedale Public TVET College**
643202	Vehicle Painter	✓	✓	✓

		TVET Colleges		
OFO	**Occupation**	**Coastal KwaZulu-Natal TVET College**	**Eastcape Midlands TVET College**	**Lovedale Public TVET College**
651202	Welder	✓	✓	✓
651301	Sheet Metal Worker		✓	
652201	Toolmaker	✓	✓	✓
652302	Fitter and Turner	✓	✓	
653101	Automotive Motor Mechanic	✓	✓	✓
653103	Motorcycle Mechanic	✓	✓	✓
653304	Diesel Fitter	✓	✓	✓
653306	Diesel Mechanic	✓	✓	✓
653308	Tractor Mechanic	✓	✓	✓
671202	Millwright	✓	✓	✓
672105	Instrument Mechanician	✓		✓
684904	Panel Beater	✓	✓	✓
684905	Vehicle Body Builder	✓	✓	✓
684906	Vehicle Trimmer		✓	✓

Source: SAQA, 2018

2.3.2 Learning Programmes

This section briefly describes the learning programmes for merSETA; listing key issues and opportunities. The information below is gathered from interview and survey data.

2.3.2.1 Apprenticeships

Apprenticeships are typically well received as a mechanism for producing required artisan skills in industry.

Key issues raised by stakeholders regarding apprenticeships include outdated material and the poor quality of education offered by public TVET colleges, and the poor quality of candidates that apprenticeships tend to attract, given the pervasive view that TVETs are second or third choices, as opposed to an attractive career choice for matriculants.

Stakeholders have expressed the view that some occupations need to be formalised as trades (e.g. certain specialised forms of welding), and thus be supported through apprenticeships.

The key opportunity around apprenticeships is to make this more accessible for Smaller Employers: small enterprises (e.g. panel beaters), cooperatives (particularly cooperatives of tradespeople, e.g. electricians), and informal businesses (e.g. backyard mechanics).

2.3.2.2 Skills Programmes

Skills programmes are also fairly well received. Particularly for shop floor workers, skills programmes prove a convenient and effective way of developing skills. Skills programmes are also amenable to

being of greater benefit to Smaller Employers, through improved access and relevance. Many skills programmes are used to address skills gaps amongst employees.

2.3.2.3 Learnerships

Findings indicated a widespread poor reception of the learnership programme which may threaten the access of these learners to suitable workplaces going forward. Key areas of improvement highlighted for learnerships are to allow for learnerships to be customised to better suit the needs of particular sub-sectors and issues regarding admin, time and cost intensity associated with facilitating the workplace training aspect of learnerships.

2.3.2.4 Degrees and Diplomas

There are particular engineering degrees and engineering diploma qualifications for which an insufficient number of graduates are being produced, e.g. mechatronics. There have been some complaints about the work-readiness of graduates, particularly for those companies looking to source from local universities (i.e. from within the province that the employer is located in). This is combatted, to an extent, by absorbing graduates into in-service training positions for the trainees to obtain the relevant experience to register as a 'Professional Engineer' with the Engineering Council of South Africa (ECSA).

> "We [universities] actively avoid trying to train people for the job; life-long learning is part of the engineering council's mandate. 'Technikons' train people on specific systems and platforms. We want to give our students a general view of the type of technology that's out there."
>
> "University graduates are only useful 6-12 months after being employed."
>
> "Companies are saying that they [BEng graduates] are not really useful, but we are trying to produce adaptable people; more for the innovation, research and development career path – not technicians."
>
> "We are more focused on teaching fundamentals, for instance the physical properties of energy, than we do current technology."
>
> "Grads have a cross section of knowledge, so they won't be ignorant but also not technically skilled when they land."
>
> Interview, University Training Provider, Western Cape, 2018

As a result of the adaptability of engineering degree students to problem-solving in a range of disciplines, there's a substantial outflow of technical skills from the engineering labour market when engineering degree graduates are employed in the financial or consulting sectors.

Employers also tend to use bursaries as a means of securing strong candidates early. Some employer bursary schemes appear to be supported by merSETA.

2.3.2.5 Point Based Training

Point based training, or continuous professional development, tends to be used primarily with office staff, engineers and technicians, to top up their skills beyond core qualifications. This training tends to occur outside of merSETA involvement.

2.3.3 Institution Type

This section outlines the key types of public learning institutions that provide training funded by merSETA. The last subsection describes the growth in learning numbers for the various types of learning institutions.

2.3.3.1 Technical, Vocational Education and Training (TVET) Colleges

TVET colleges reported a need for resources to be balanced with the proposed increase in enrolment of approximately 250% by 2030 (White Paper, PSET: 2013). TVETs also reported financial constraints (especially for the practical component of the Report 191 qualifications), outdated curricula and equipment and typically poor-quality lecturers - perpetuated by the absence of a qualification designed specifically for TVET college lecturers.

2.3.3.2 Universities of Technology

University of technology graduates are generally perceived as possessing a favourable combination of both technical and critical thinking skills by employers and are frequently preferred to their University graduate counterparts (depending on the depth of knowledge and level of innovation required for the role). Within engineering courses undertaken at Universities of Technology, graduates of some disciplines are reportedly in over-supply while others are in under-supply (e.g. mechatronics). Technological change may also warrant changes in course offerings or content. Universities of Technology consulted reported that they would like to have more interaction with merSETA to collaborate on skills development systems.

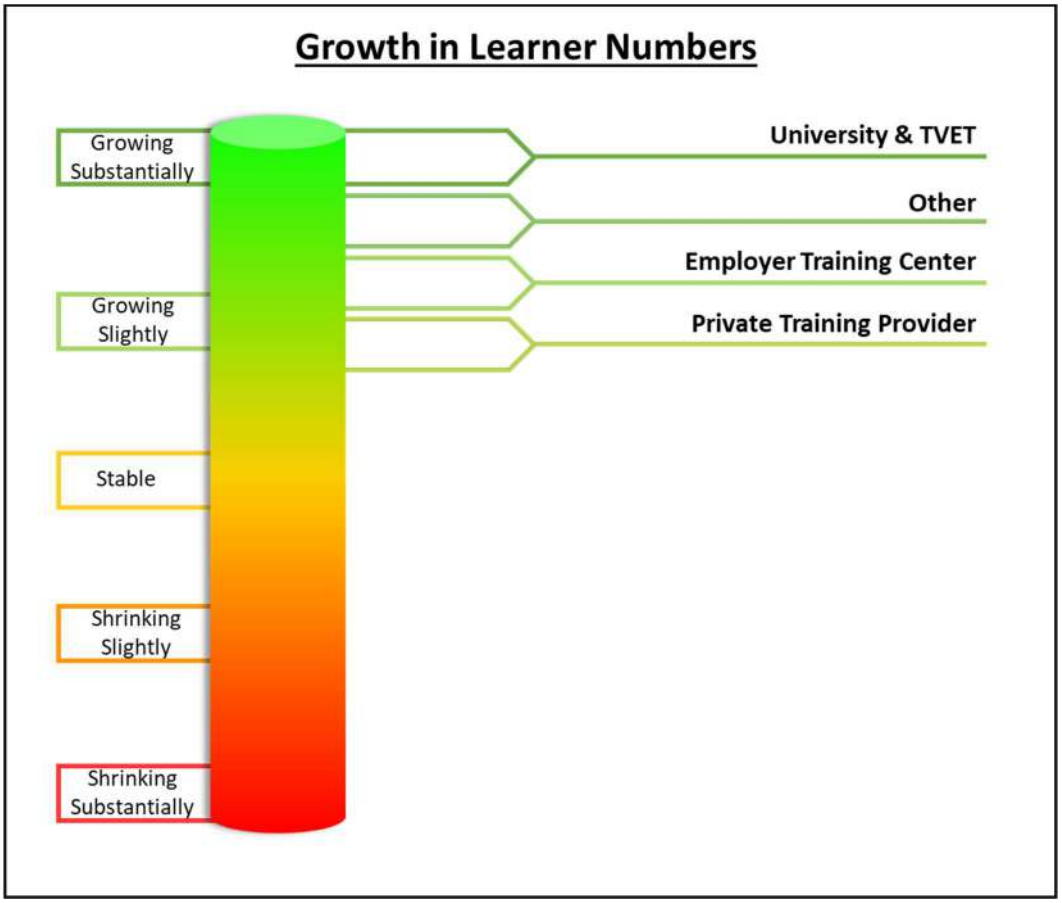
2.3.3.3 Universities

Universities reportedly operate in a “notoriously independent” fashion (Interview, University Training Provider, Western Cape, 2018) and, as such, have been perceived by certain stakeholders as possessing low responsiveness to skills challenges facing South Africa’s industrial, commercial and governmental institutions which may compromise their ability to perform industry-driven economic advancement and technical innovation to strengthen the South African economy. To combat high unemployment levels and job scarcity, some universities have incorporated entrepreneurship skills development into curricula to better prepare graduates to pursue employment outside existing enterprises. Industry-funded research has reportedly been in decline in recent years, potentially as a result of a poor economic climate.

2.3.3.4 Growth in Learner Numbers

The various training institutions were asked to what extent they have seen a growth in learner numbers. The responses are summarised in the following figure.

Figure 25: Growth in Learner Numbers



Source: Training Provider Survey, All Sectors, All Provinces, 2018

It appears that Universities and TVETs are experiencing a substantial growth in learner numbers, with other training providers achieving slight growth. These results align to the perceived drive to promote TVETs and Universities and is a sign that more people are receiving tertiary education.[6]

2.3.4 Key Skills Drivers

The below details the key skills drivers as identified during the course of this Project. This section of the Study includes industry forces that were identified at Project Inception; revised during the data collection and analyses phases. Interviewees were asked what they believed the likely impact of these forces would be, the findings of which are documented below.

Skills Development Initiative Types

Learnerships

1. Administrative, Time and Cost Burden

Stakeholders reported issues regarding admin, time and cost intensity associated with facilitating the workplace training aspect of learnerships. These issues are largely attributed to the processes involved with continuous assessment which is inherent to learnerships.

[6] The "Fees Must Fall" movement may have an effect going forward and is worth considering in the future.

2. Quality of Learners

Several workplaces expressed dissatisfaction with the quality of learners that reported for workplace training, in some cases due to a reported misalignment of expectation from learners as to the type of training they would be exposed to in the workplace setting. These comments warrant clearer communication to prospective learners about the specifics of what a learnership entails.

Apprenticeships

3. Disciplinary Issues

It was noted that at least a proportion of apprentices commence the programme primarily for reasons other than personal skills development (e.g. "a paid holiday", assurance of a stipend each month, to escape unemployment, etc.). At least some of these potentially uncooperative individuals have reportedly caused disciplinary issues for both employers and training providers.

4. Level of Automation

Increased automation in the industrial setting has reportedly resulted in an increased demand for artisans. This may involve the upskilling of shop floor workers from the production line via apprenticeships.

5. Collaboration

Collaboration between schools, training institutions, industry partners and skills coordinating bodies may have contributed to the matching of prospective artisans to workplaces to complete the practical component of an apprenticeship.

Skills Programmes

6. Administrative Burden

The majority of stakeholders expressed the view that skills programmes are working well; select stakeholders reported that they prefer skills programmes as it is less admin- intensive than alternative skills development interventions.

7. Productivity Constraints

Several employers have indicated that it would be beneficial to them to have more funding allocated to skills programmes and less to programmes which are more time-consuming and less adaptable, such as learnerships which requires comparatively more time undertaking theoretical training which would otherwise be spent performing manufacturing-related activities.

8. Programmes tailored to Industry's skills needs

The reported suitability of skills programmes to business needs is presumably due to the versatility of skills programmes; they can be tailor-made/ compiled according to specific skills gaps realised by employers, which generally differ from business to business.

Educational Institution Types

TVET Colleges

9. Resources and Funding

TVET staff reported that resources need to be carefully balanced to ensure that colleges remain operational while aiming to accommodate proposed increases in enrolment. Perpetuating the shortage of funding available for skills development at TVETs, interviewees reported an observed decline in industry-sponsored apprenticeships, often in favour of in-house training.

10. Quality of Education

Both the curriculum, designed by the Department of Higher Education and Training (DHET), and the equipment employed by TVETs are reportedly outdated, compromising the quality and industrial relevance of the learning material. The quality of TVET lecturers has also been called into question and may be attributed to inadequate skills and qualifications and a need to balance pedagogical skills and workplace experience.

11. Alignment to Industry Needs

While a degree of collaboration between academic staff and industry bodies was reported, there is a need for course material and intake levels for particular qualifications to be aligned to the needs of industry.

Universities of Technology

12. Graduate Work Readiness

Because of the focus on practical and vocational learning at universities of technology, their students are better equipped for the workplace. These students are often placed on Work Integrated Learning (WIL) Programmes, in collaboration with employers and SETAs, where they are taught skills applicable to their everyday jobs. This combination of theoretical and experiential learning has proven to be popular with employers.

13. Alignment of Intake and Course Content to Real-Time Skills Needs

In a time of skills needs misalignment and technological change, courses of study also need to change accordingly. Universities of technology need to routinely evaluate the course content of their qualifications and revise them, if needs be, according to industry trends and economic needs.

14. Funding and Support

MerSETA currently collaborates with training providers, either by funding companies that receive students and graduates to complete the practical component of a learnership/ apprenticeship, reimbursing employers for approved expenditure on staff training and paying the stipends of apprentices/ students directly. Not only has this increased the number of technical graduates who are placed at workplaces to receive practical training, it has also increased the work-readiness of students since merSETA also allocates funding to support the training initiatives at universities of technology in fields relevant to merSETA. These trained graduates are more sought after by employers because of their experience.

University

15. Industry-Driven Knowledge and Skills Supply

University staff reported low responsiveness to skills challenges facing South Africa's industrial, commercial and governmental institutions which may compromise their ability to perform industry-driven economic advancement and technical innovation to strengthen the South African economy.

16. Graduate Work Readiness

University engineering graduates reportedly lack occupational readiness immediately after graduation.

17. Resources and Funding

Although universities still report substantial industry funded research in engineering fields, there has been a general decrease in funding allocated to research and development by industry bodies. Public

funding allocated for research at universities has simultaneously decreased, resulting in an overall decline in research and development taking place in engineering faculties at South African universities.

2.4 Findings: Smaller Employers

Nelson Mandela famously said that "education is the most powerful weapon which you can use to change the world." This is no truer than in the smaller employer context. Many of these employers are likely to benefit from training both in the soft skills and technical skills space. However, not all employers are willing to receive training. It is therefore important to understand who would potentially be open to training and who would derive the most benefit.

2.4.1 The Smaller Employer Context

There are a number of different types of businesses that are included under the definition of the so-called "Smaller Employer" in terms of this Study. The types of businesses that were researched and investigated within the scope of this Study include:

- Co-operatives
- Informal sector
- SMMEs

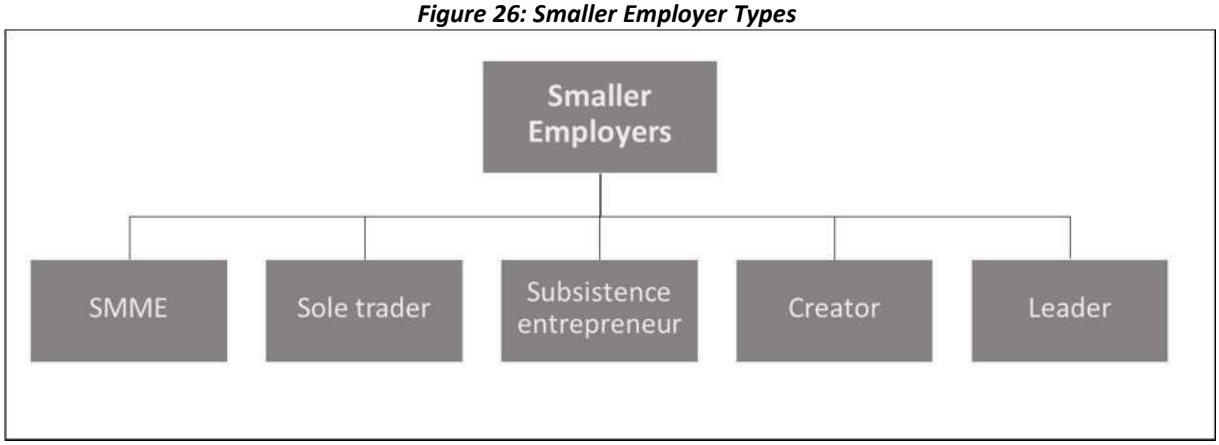
Many of the businesses that were consulted were unregistered businesses forming part of the informal economy.

The findings in this section, unless specifically stated otherwise, apply to all businesses that fall within the Smaller Employer context, as defined.

It is constructive to first understand some of the main profiles of smaller employers that we have encountered in this Study. These profiles are depicted in the diagram below. It will be apparent that these different types of employers all have different needs.

It should be noted that this is not a complete categorisation. This is a simplified model to assist in understanding the differences between different smaller employers and individuals.

Figure 26: Smaller Employer Types



2.4.1.1 SMME

The SMME is the most established type of employer/business that was encountered during this study. The challenges faced by SMMEs are well documented, these include:

- Maintaining profitability and sustainability
- Regulatory uncertainty
- Red tape burdens
- Access to funding
- Poor management skills as a result of limited access to training

(National Credit Regulator, 2011)

These challenges make it difficult to attend intensive training as many employees and owners of SMMEs often get caught-up in day-to-day activities and operations. The typical SMME often has cash flow and delivery concerns. As such, many SMMEs feel they cannot afford their employees the time off to attend training. This is not always at a conscious level but the outcome remains the same. It will be difficult to convince many SMME owners to subscribe to training for their employees.

2.4.1.2 Sole Trader

The sole trader is typically one individual with a registered business who works by themselves. Any time off taken to attend training would directly impact their bottom-line. Therefore, there is little training attended by sole traders.

2.4.1.3 Subsistence Entrepreneur

The subsistence entrepreneur is one who has identified a business opportunity to pursue in order to live day-to-day. An example would be the exhaust repairer/welder at the side of a road. This individual would often have learnt his craft by working with someone else doing the same. These skills are passed down informally with little structure. These individuals lack the means to seek out and attend training, however, they may benefit from learning additional skills and refining their current skills.

2.4.1.4 Creator

The creator would often be an individual who has invented a new product or improved on a specific manufacturing process. These individuals may not lack technical skills but may require training in softer skills like business and financial management. They would often need support in creating a sustainable business for themselves.

Examples of these individuals can be found at the SEDA Agri-processing, Mining and Tooling Incubator ("SAMTI"), as discussed in section 2.4.3.2 below.

2.4.1.5 Leader

The leader could be the owner of an SMME or be part of a social initiative. This individual would have a different perspective on training and appreciate skills development for its long-term value. Should an SMME be managed by this inspired leader, they may well seek training for their employees.

Aristotle is reported to have said that "the roots to education are bitter, but the fruits are sweet." The leader understands this and is prepared to sacrifice in the short term to reap the longer term rewards.

One owner of a small business that was interviewed indicated that he would like his employees to receive training as this would help improve their standard of living.

> "…of course [to training for his staff]…I want to give them a leg up…maybe they can become mechanics"
>
> *Interview, Smaller Employer, KZN, 2018.*

2.4.2 Challenges Faced

Consultations and desktop research have indicated that smaller employers face the following challenges in relation to skills:

- Access to funding
- Access to training interventions
- The inability to attract required skills and specific occupations
- Access to infrastructure, including access to adequate physical space/buildings to grow operations (Interview, Industry Associations, Free State, 2018)
- Poor management skills as a result of limited access to training

(National Credit Regulator, 2011)

2.4.3 How to Access Smaller Employers

The findings of this Study have indicated that accessing smaller employers is a challenge. This challenge largely stems from practical logistical constraints, i.e. smaller employers are, by their nature, difficult to locate and are scattered geographically, the issue is therefore one of scale and resource constraints that prevents one from speaking to a significant number of these businesses individually to understand their needs and requirements in terms of skills.

We propose two main mechanisms for accessing smaller businesses; through incubators and through social groups. Both these suggestions should be read against the context of civil society acting as an enabler.

2.4.3.1 Civil Society as an Enabler

Skills development is not an end in itself, but rather a means to an end. It is recognised as one of the contributing forces to alleviating unemployment (The World Bank, 2017). It is within this context that skills development should take place. Many individuals in society are in need of skills in order to help empower and uplift themselves. It is not realistic to expect one agency or institution to successfully engage with all marginalised individuals. Such an agency would be better served in acting as the spark that ignites civil society to assist these marginalised individuals to seek and find empowerment. Furthermore, it must be acknowledged that reducing unemployment through skills development is a complex task for which there is no easy solution. The drive to develop skills should be a social dialogue in which ideas and solutions are constantly developed and re-developed in order to overcome both current and new challenges. A commitment by actors in the private sphere to tackle unemployment through a focussed effort of developing skills could contribute greatly to increasing skills development and ultimately employment, and self-employment, levels.

The level of engagement from established businesses with smaller employers, according to feedback received from employers that were consulted with seems to be low. This is demonstrated in survey results. Relevant survey results are summarised in the table below.

Table 17: Summary of Engagement with Smaller Employers

	Auto	Metals	Motor Manufacturing	Motor Sales & Service	New Tyre	Plastics
Employer works with small businesses	✓			✓		
Employer works with cooperatives						
Employer works with informal businesses						

	Auto	Metals	Motor Manufacturing	Motor Sales & Service	New Tyre	Plastics
Employer could provide more opportunities for small businesses						
Employer could provide more opportunities for cooperatives						
Employer could provide more opportunities for informal businesses						

Source: Employer Surveys, 2018

In addition to the above findings, approximately 3 out of 100 employers attending merSETA's Employer Conference (2018) indicated that they engage with smaller employers and the informal sector.

The below table represents survey findings from the Training Provider survey. The information in the table indicates to what extent training providers provide training to smaller employers.

Table 18: Training Provider Engagement with Smaller Employers

	Employer Training Centre	University	TVET	Private Training Provider	Other
Training institution currently trains small businesses	✓			✓	
Training institution currently trains cooperatives	✓			✓	
Training institution currently trains informal businesses	✓	✓		✓	✓

Source: Employer Surveys, 2018

As can be seen from the above table, there is a fair level of engagement with smaller employers from a private training provider perspective. However, there appears to be little engagement from public training providers (Universities, TVETS).

These findings paint a poor picture of the level of engagement that larger employers in the industry sectors have with smaller employers. The following sections describe how engagement with smaller employers can potentially be increased.

How the above translates to a practical solution is explored in more detail below.

2.4.3.2 Incubators

Incubators, often facilitated by SEDA, provide business support to SMEs and emerging entrepreneurs. For the purposes of this Study, the SEDA Agri-processing, Mining and Tooling Incubator ("SAMTI") is used as a reference point, or case study, to illustrate how such an incubator may help address many of the challenges that smaller businesses face.

SAMTI provides support to emerging entrepreneurs and assists them in developing what might be a conceptual idea into a marketable product. SAMTI provides the following support to its incubates:

- Business skills training
- Technical training
- Commercialization

- Funding Support

2.4.3.2.1 Business Skills Training

This support is provided through SEDA. As SAMTI is an initiative by SEDA, the two enjoy a strong relationship and SEDA is able to assist where necessary to support incubates with soft skills.

2.4.3.2.2 Technical Training

SAMTI's primary role is to equip its incubates with the technical skills needed to manufacture and produce their conceptual ideas.

2.4.3.2.3 Commercialisation

SAMTI assists in commercialising the product ideas that SAMTI's incubates have. This includes providing equipment and physical premises from which to manufacture their products. In time, many incubates move on to secure their own premises and equipment.

2.4.3.2.4 Funding Support

SAMTI provides funding support to those incubates that require it. In some cases, this is instrumental in ensuring the long term success and sustainability of the incubates.

2.4.3.2.5 Impact

SAMTI's presence in the Bloemfontein, Free State region has allowed individuals access to skills development and business support opportunities that they would not otherwise have had. SAMTI is a success story in equipping individuals with the practical manufacturing and business development skills that are needed in order to create a sustainable enterprise. Furthermore, through their own success, SAMTI appears to have built up a positive reputation within the surrounding community. This has resulted in people being aware of the benefits that SAMTI can offer them, through word-of-mouth. Individuals that would not have been able to pursue their manufacturing goals are now able to raise their standard of living through the support and access to funding that SAMTI provides.

By building a sound reputation, it can be argued that SAMTI has been successful, to a degree, in creating a multiplier effect within the community. The skills that individuals gained through SAMTI's support are now being passed down from those individuals, through the established businesses and on to their employees.

2.4.3.3 Social Groups and Aggregators

Social groups can prove to be a powerful force in raising awareness of employment avenues and facilitating access to skills training opportunities. This Study has encountered a few of these groups, albeit not many. However, it will be helpful to understand how one such group operates and the impact it has made in its community.

Case Study: Social Group

Introduction: A large social grouping with a presence in Bloemfontein and Botshapelo assists individuals who show an interest in working in the motor sector. The Association was formed in 2016 in Botshapelo with approximately 10 individuals.

Products: Product offerings of its members include body repairs, mechanical repairs and spray painting in the motor sector.

Employee Profile: the Association currently has 35 to 40 members. These members range from experienced tradespeople to those just starting to learn.

Skills Needs: the members of the Association reported an apparent lack of panel beaters, auto-electricians and tyre fitters.

Training and Challenges: the Association reported that it faces a number of challenges regarding training individuals, including; a lack of equipment, adequate premises and meeting criteria for the training workshop.

merSETA involvement and way forward: merSETA currently provides funding to facilitate training that the Association does. A more active involvement from merSETA to fully understand the model and how it can be rectified may be beneficial. Furthermore, assisting the organisation to secure larger and well equipped premises would assist them in furthering the impact they can make in the community.

Interview, Industry Association, Free State, 2018

Some of the major impacts this group appears to have made have been to:

- Foster interest in the community in the trades
- Help with training
- Facilitate access to trade tests
- Boost employment and self-employment in the community

2.4.4 Observations from Smaller Employers

The Study involved in-depth consultations with smaller employers in both the informal and formal sectors. This sub-section explores some of the key observations made during consultations with these employers.

Consultations revealed that not all businesses have a need for training. The reasons for this range from some businesses feeling that the work they do is so simple that not training is required to some

business owners having the opinion that on-the-job learning is all that is required. As previously stated, some owners would like their employees to attend training in order to upskill themselves. However, some business owners are concerned that should they upskill their employees they run the risk of losing that employee.

> "If I skill them then they might go work for someone else…"
>
> *Interview, Smaller Employer, KZN, 2018.*

A predominant requirement that has been found is the need to further one's skills in a chosen field. For example, many welders that were consulted indicated that they only know how to do one type of welding. Knowing how to do other types would broaden their potential market and client base.

> "There is so many different types of welding that is done, I am only clued up with one. I feel like I need to know more, but I don't know because these can't be self-taught"
>
> *Interview, Smaller Employer, KZN, 2018.*

Many smaller employers have indicated that they do have a need for training in softer skills like business and financial management. When these businesses supply goods or a service it is important that they quote accurately so that they do not make a loss on the project.

> "I will also need financial training (costing – sometimes I make a loss because I did not quote properly). Even if it is a short course for costing to price products properly"
>
> *Interview, Smaller Employer, KZN, 2018.*

One plastics picker that was consulted with indicated that because they were lacking numeracy and literacy skills they were concerned that they were being taken advantage of by the companies that they sold their plastic waste to (Interview, Smaller Plastics Recycler, Free State, 2018). To this end, training is important to empower and uplift vulnerable members of society. It also serves as a reminder that it is not only technical skills that are lacking but softer skills as well.

3. Recommendations and Strategic Choices

This section outlines recommendations to address the issues and opportunities presented by the Key Skills Drivers identified by this Study. The recommendations build on suggestions put forward by various stakeholders consulted for this Study. The section provides an overview of the recommendations, followed by a more detailed description of each recommendation, including associated Skills Drivers.

3.1 Key National Imperatives

The following provides an overview of national key imperatives as they relate to mer-sectors, as per the NSDS III, National Development Plan ("NDP") and the National Growth Path ("NGP"), read with the Industrial Policy Action Plan ("IPAP"). This overview is provided in order to assist the reader in understanding the broader context of where the recommendations that follow fit in.

3.1.1 Skills Development Policy Context

Given the importance of skills development in South Africa, a number of government policies and strategies seek to drive change and outcomes in this area. Foremost among these is the National Skills Development Strategy III (NSDS III), currently under revision. At the time of its formulation, NSDS III sought to encompass many of the skills development goals of previously promulgated policies. Given the central role of NSDS III, and the fact that NSDS III encompassed many of the skills development goals of previously promulgated policies, this section focuses primarily on NSDS III, and key policies/ strategies effected thereafter, viz. the White Paper on Post School Education and Training, the New Growth Path (NGP), the Industrial Action Plan (IPAP), the Medium-Term Strategic Framework (MTSF) and the Human Resources Development of South Africa (HRDSA) Strategy.

NSDS III identifies the need to "increase access to high quality and relevant education and training and skills development opportunities, including workplace learning and experience, to enable effective participation in the economy and society by all South Africans and reduce inequalities" (DHET, 2010). The strategy identifies the need for a skilled and capable workforce that shares in, and contributes to, the benefits and opportunities of economic expansion and an inclusive growth path (DHET, 2010). Essentially the information gathered, and analysis thereof, is intended to efficiently and effectively guide investment to meet the skills needs of the country. NSDS III seeks to encourage and actively support the integration of workplace training with theoretical learning, and to facilitate the journey individuals make from school, college or university, or even from periods of unemployment, to sustained employment and in-work progression. Emphasis is placed on training to enable trainees to enter the formal workforce or create a livelihood for themselves. In contrast to its predecessors, NSDS III is a strategic, rather than operational, document that forgoes targets and numbers in exchange for qualitative indicators. These indicators are used to guide skills development in South Africa and ensure measurable impact is achieved over the document's 5-year life cycle (DHET, 2010). NSDS III promotes partnerships between Employers, Public Education Institutions (TVET Colleges, Universities, and Universities of Technology), Private Training Providers and SETAs. Priority is given to strengthening the relationship between Public Colleges and Universities and the SETAs, as well as with Employers (DHET, 2010).

The White Paper on Post School Education and Training ('the White Paper') identifies that neither the quality of the information produced by the PSET system, nor the quality of education and skills provision, has met the measures designed to improve skills planning. It further describes that a lack of economic, labour market and industry expertise, research capacity, data management and planning expertise limits the credibility and impact of the current sector skills planning system (DHET, 2013).

The White Paper outlines five objectives to be informed by skills planning (DHET, 2013):

- a post-school system that can assist in building a fair, equitable, non-racial, non-sexist and democratic South Africa;
- a single, coordinated post-school education and training system;
- expanded access, improved quality and increased diversity of provision;
- a stronger and more cooperative relationship between education and training institutions and the workplace;
- a post-school education and training system that is responsive to the needs of individual citizens and of Employers in both public and private sectors, as well as broader societal and developmental objectives.

The NGP is a broad framework that sets out a vision and identifies key areas where jobs can be created. The NGP aims to increase economic growth to sustainable rates of between 6% and 7% per year in order to create five million jobs by 2020, thereby reducing the unemployment rate to 15%. The NGP identifies a number of jobs drivers, led by agriculture, mining, manufacturing, tourism and other high-level services, which can create substantial employment. It proposes both sectoral interventions and a package of macro-economic and micro-economic policies designed to ensure that the economy becomes both more competitive and more employment friendly (Department of Economic Development, 2011).

IPAP is informed by the vision set out for South Africa's development provided by the NGP. It is located in the framework provided by the programmatic approach of the NGP and is one of the key pillars of the NGP. While the NGP and IPAP2 (the revised version of the IPAP) do not address skills development directly, they complement NSDS III by outlining sectors for job creation focus, by implication highlighted areas for skills development focus and integration (DTI, 2013).

The MTSF is Government's strategic plan for the 2014-2019 electoral term. It reflects the commitments made in the election manifesto of the governing party, including the commitment to implement the NDP. The MTSF sets out the actions Government will take and targets to be achieved. It also provides a framework for the other plans of national, provincial and local government. One of the targets set out is for partnerships between SETAs and Employers to be increased and fostered while interfaces between said SETAs and Employers are to be improved (South African Government, 2014).

The Human Resource Development (HRD) policy framework is based on strategies and policies aligned to educational attainment, skills development, science and technology and labour market/employment policies. The HRD approach comprises high-and intermediate-level skills strategy on the supply side, underpinned by a demand strategy that stimulates large-scale labour-absorbing employment growth supported by appropriate inputs of low-level skills training. Included in the 5 year targets are (National Department of Basic Education, 2009):

- To establish accelerated training output in the priority areas of design, engineering and artisanship that are critical to the manufacturing, construction and cultural industries;
- To increase the number of appropriately skilled people to meet the demands of the country's current and emerging economic and social development priorities;
- To improve the employment outcomes of post-school education and training programmes;
- To ensure that FETs (TVETs) and HEIs are responsive to the skills demands arising from South Africa's social and economic development imperatives;
- To accelerate the participation and graduation rates in FET (TVETs) and HEI of Learners coming from poor families or households.

3.1.2 Impact of Skills Development Initiatives in South Africa

While an analysis of the impact of South Africa's various skills development initiatives is beyond the scope of this report, the following summarises some initiatives that have been proposed in 2 key research reports, as outlined below:

1. DHET conducted an impact assessment of skills development in South Africa via SETAs using a sample of five SETAs. Up-skilling of employees in the lower occupational categories that increased support to higher education targeting future employees should be intensified for the realisation of SETA targets.
    - All enterprises across the economy need to improve their skills development programmes to enhance economic and human development rather than to just meet numeric targets seen as political obligations.
    - Training initiatives have benefitted Africans in the lower occupational categories more than in the professional and management levels. This was attributed to the fact that those levels are predominantly African-oriented. This is a significant phenomenon considering the skills shortage that exists in the country.

2. The NSDS III Progress Report measured progress against the 8 key goals of the NSDS III. Its findings are listed by goal, in the paragraphs that follow.
    - **Goal 4.1: Establishing a credible institutional mechanism for skills planning:** Progress was made in fostering collaboration in the policy and planning environment, a Skills Planning Task Team was established, a National Policy was put in place for RPL, and investigations have been launched into distance learning and addressing skills shortages through foreign qualifications.
    - **Goal 4.2: Increasing access to occupationally-directed programmes:** Supporting database, administration, Monitoring and Evaluation (M&E) and reporting systems have been developed, blockages have been identified, regulations developed, a SETA/University engagement plan implemented, and funding provided for various programmes.
    - **Goal 4.3: Promoting the growth of a public FET college system that is responsive to sector, local, regional and national skills needs and priorities:** Qualifications have been reviewed, including conversion of certain legacy qualifications, an investment plan developed for FET colleges, and a collaborative strategic planning and Annual Performance Plan (APP) system put in place.
    - **Goal 4.4: Addressing the low level of youth and adult language and numeracy skills to enable additional training:** The Workplace-Based Experience Framework was developed, the Danish Support for Education and Skills Development project implemented, and the National Student Work Readiness Programme initiated.
    - **Goal 4.5: Encouraging better use of workplace-based skills development:** The SETAs provided skills development programmes (Learnerships, Bursaries and Skills Programmes) for Employed and Unemployed Learners.
    - **Goal 4.6: Encouraging and supporting Cooperatives, Small Enterprises, worker-initiated, NGO and Community Training Initiatives:** The NSF provided funding to various relevant initiatives.
    - **Goal 4.7 Increasing Public Sector capacity for improved service delivery and supporting the building of a developmental state:** DHET commissioned research, position papers etc. in this regard.

- **Goal 4.8 Building career and vocational guidance:** DHET, together with the South African Qualifications Authority (SAQA), commissioned the development of a National Career Advice Portal (NCAP). DHET, with the assistance of SAQA, also established a Task Team to develop a National Career Development Policy.

3.1.3 Skills for the Economy

The IPAP recognises the constraint that skills deficits have on South Africa's productivity levels and ability to compete internationally. As such, there is a stated intention to develop needed skills, especially in the industrial and technological development space (IPAP, 2017).

3.1.4 Technology and Innovation

The NDP recognises the impact the science and technology have on modern production and the way goods are produced. To compete internationally, South Africa needs to harness these changing technologies to ensure we are cost competitive.

Furthermore, there is a recognised opportunity for technology to provide off-site access to training to individuals and companies. Such telephony and internet based technology can counteract the geographical and logistical barriers that many companies face that hinder their access to training.

3.1.5 Promote Labour Intensive Sectors and Sub-sectors

In order to decrease unemployment in South Africa, labour intensive industry must be developed and grow. This is recognised by the IPAP, and is evidenced by, *inter alia:*

- The National Tooling Initiative Programme ("NTIP"), supported by the Gauteng Tooling Initiative ("GTI"), in conjunction with the Toolmaking Association of South Africa ("TASA") and the Gauteng Department of Economic Development ("GDED"), launching an enterprise development programme to bring Gauteng tooling manufacturers in line with global best practice and boost their competitiveness and profitability.
- The Gauteng Foundry Training Centre was successfully launched on 18 September 2013 at the Ekurhuleni East FET. This will assist the industry in the implementation of foundry apprenticeship programmes.
- A tool maker apprenticeship course was accredited by SAQA in Nov 2013 (IPAP, 2017).

It is against this backdrop and context that the below recommendations are made.

3.2 Overview of Recommendations

The following table summarises the key recommendations, together with Skills Drivers they are intended to address.

Table 19: Key Recommendations and Skills Drivers

Key Recommendations	Skills Drivers Addressed
1. Optimise the merSETA operating model	
a. Continue and Extend Positive Practices	• Not Applicable
b. Align skills development interventions to employer type	• Employer Capacity to Facilitate Training • Specific Training and Skills Needs
c. Improve administrative effectiveness and efficiency	• Employer Capacity to Facilitate Training

Key Recommendations	Skills Drivers Addressed

2. Enable large-scale skills development for Smaller Employers	• Employer Capacity to Facilitate Training
	  ○ Some employers are concerned with remaining profitable and as such do not show a willingness to engage in skills training
	  ○ Many small employers find the administrative burden too onerous to engage with merSETA

3. Help address the TVET problem	• Quality of Training and Graduates • Specific Training and Skills Needs
4. Help mobilise the skills response to industry change	• E-Commerce in Vehicle Sales • High Input Costs • Automation in the Plastics Sector • Recycling of plastics and environmentally friendly focus • Access to funding • Access to training interventions • The inability to attract required skills and specific occupations
5. Adopt a more driving, flexible disposition	
a. Enable proactive discretionary grant funding	• Employer Capacity to Facilitate Training • Mobility of Shop Floor Workers • Access to funding • Access to training interventions
b. Lead (not lag) with strategic projects	• Product Innovation • Automation and Technology • Automation in the Plastics Sector • Innovation in the Plastics Sector vs. “the poor cousin” • Access to funding • Access to training interventions • The inability to attract required skills and specific occupations
c. Become mer-sector education and career pathing Maven	• Industry specific training and skills needs • Quality of training and graduates
d. Enable systemic change	• Tariffs and Imports • Monopolisation of the Polymer Market • Competition from lower-cost Chinese products • Access to funding
6. Improve skills development mechanisms	
a. Enable entry level and semi-skilled training	• Monopolisation of the Polymer Market
b. Address specific skills development requirements from industry	• Product Innovation • Quality of Training and Graduates
c. Foster R&D capability building for mer-sectors	• Product Innovation • Environmental Considerations • E-Commerce in Vehicle Sales

Key Recommendations	Skills Drivers Addressed
	• Automation in the Plastics Sector • Innovation in the Plastics Sector vs. "the poor cousin"
d. Help build leading edge skills and knowledge	• Product Innovation • Quality of Training and Graduates
e. Increase the scale of RPL	• Access to training interventions
f. Ready industry for next generation training delivery	• Product Innovation • Employer Capacity to Facilitate Training • Access to training interventions
7. Enhance engagement and advocacy	
a. Revamp the stakeholder engagement model	• Quality of Training and Graduates • Employer Capacity to Facilitate Training • Specific Training and Skills Needs • Innovation in the Plastics Sector vs. "the poor cousin" • Access to training interventions
b. Increase industry involvement on the SSPs	• Quality of Training and Graduates • Specific Training and Skills Needs • Innovation in the Plastics Sector vs. "the poor cousin"
c. Help advocate for technical training	• Access to funding • Access to training interventions • The inability to attract required skills and specific occupations
d. Be seen to be acting on research findings	Not applicable

These recommendations are expanded upon in sections 3.2 to 3.8 below; including linking the recommendations to related Skills Drivers outlined elsewhere in this report. For an analysis of these Skills Drivers refer to the relevant sections above.

3.3 Optimise the merSETA Operating Model

Feedback from stakeholders indicate that merSETA is operating effectively. However, there is room for improvement as highlighted in this recommendations section. merSETA should aim to continue with their practices that have proven to work well and look to improve where they can, as indicated below.

3.3.1 Continue and Extend Positive Practices

Perceptions of merSETA from those stakeholders with whom merSETA maintains close relationships are typically positive. This includes the bulk of the Larger Employers, as well as specific training providers, industry associations and government organisations. This Study recommends that merSETA ensure that the positive practices underpinning these favourable impressions of merSETA be identified, confirmed, and continued.

> "22 years working with merSETA, things are working well."
>
> Interview, Large Plastics Manufacturer, Western Cape, 2018

Positive practices highlighted in consultations with stakeholders are outlined below.

3.3.1.1 CLO Engagement Model

Stakeholders have commented favourably on their engagement with CLOs. The high touch nature of the relationship, the ability to engage on skills development with an account manager, and the accessibility of the CLOs to address issues and concerns is well received. Positive feedback on CLOs has typically been received from Larger Employers.

> "My CLO is very good, so merSETA is always there if we need it."
>
> Interview, OEM Dealership, KwaZulu-Natal, 2018

The positive aspects of the CLO engagement model should be noted and continued. Where there is an opportunity and it is appropriate to extend this engagement model, merSETA should.

3.3.1.2 Positive Impact of merSETA Learning Programmes

While feedback from stakeholders has indicated an urgent need to improve operations around the administration of learning programmes; a significant number of stakeholders positively perceive the outcomes of these learning programmes. Positive aspects that have been commented on include appropriateness of unit standards (Interview, OEM Dealership, Western Cape, 2018), the service provided by merSETA (Interview, Large Panel Beater, Northern Cape, 2018) and impact experienced from learning programmes.

> "We have placed 80% of our learners."
>
> Interview, Large Plastics Manufacturer, Western Cape, 2018

Some employers have expressed appreciation for merSETA making an attempt to meet their requirements in the face of the hurdles that it faces.

> "Really appreciative of the assistance given by merSETA. The hiccups happen but we handle one another gently."
>
> Interview, Training Provider, Northern Cape, 2018

3.3.1.3 Support Provided to the Broader Metals Sector

Stakeholders, in particular government organisations, have commented positively on the support provided by merSETA; with regard to merSETA's knowledge of the mer-sectors and the merSETA as an access point to employers.

> "We always take direction from merSETA [on what the industry needs]. They know the company's profile, we know they will be able to place the learners."
>
> Interview, Government Organisation, KwaZulu-Natal, 2018

The Larger Employers are typically complementary of merSETA's knowledge of learning programmes, typically as demonstrated through the CLOs.

> "Everything worked well, they are knowledgeable and up to date."
>
> Interview, Metal Fabricator, KwaZulu-Natal, 2018

3.3.2 Align Skills Development Interventions to Employer Type

Input from consultations clearly indicate a perception that smaller businesses and smaller sectors are less well served than larger employers and larger sectors. For instance, views of the value add from merSETA is positive when speaking to an Auto OEM. This may even extend to a larger panel beater that works closely with merSETA. However, businesses such as smaller dealerships, independent service centres, and used parts providers are typically either unaware of merSETA and/or underserved with regard to skills development.

Businesses operating in smaller sectors typically indicate that merSETA does not understand their sector well enough to serve their skills development needs.

> "merSETA should understand the industry first and then they will understand the gaps and why we need what we need."
>
> Interview, Large Metal Manufacturer, KwaZulu-Natal, 2018

It is therefore recommended that merSETA focus skills development support at sub-sector level, particularly for the metals, plastics, and the motor sales and service sectors, given the disparate nature of the sub-sectors within these sectors.

> "The SETA needs to focus on particular types of industry."
>
> Interview, Component & Assembly Manufacturer, KwaZulu-Natal, 2018

To enable the above approach it is further recommended that merSETA review/ refine the current employer segmentation model (and the associated engagement model), to ensure greater granularity of segmentation, to better understand these employers, and to avoid key employer segments potentially being neglected. The Employer Segmentation Model developed for use in the fieldwork phase of this Study (see section 3.1 for details) could be used as a starting point for this by merSETA.

This recommended action is expected to address the following Skills Drivers; outlined earlier in this Report:

- Employer Capacity to Facilitate Training
- Specific Training and Skills Needs
- Innovation in the Plastics Sector vs "the Poor Cousin"

Revision of the Employer segmentation model to better deliver against merSETA's strategic goals is suggested.

3.3.3 Improve Administrative Effectiveness and Efficiency

Comments regarding merSETA that were expressed most forcefully by stakeholders relate to poor administrative and operational effectiveness and efficiency. The Project Team noted 29 distinct comments from stakeholders in this regard.

> "You hand in learnership agreements in December and now in March they are still not registered. Trade test applications take weeks …. Responsibility and accountability does not exist, we get certifications late and with incorrect data. Certifications are never issued, we got the certificate after 3 years with the wrong date. I get no response and no indication of following up on an email."
>
> Interview, OEM Dealership, Western Cape, 2018

Based on issues raised by stakeholders relating to administrative effectiveness and efficiency, the following is recommended:

- Reduce bureaucracy and onerous documentation requirements, where possible
- Simplify processes through process reengineering and improved system support – this should result in better outcomes produced quicker, and at lower cost
- Find ways to enable Smaller Employers to meet merSETA's administrative requirements

Getting the above right will empower both merSETA staff and the stakeholders that they service.

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Access to funding
- Access to training interventions
- Employer Capacity to Facilitate Training

The remainder of this sub-section outlines the views of stakeholders on current administrative issues as well as some thinking on proposed solutions.

3.3.3.1 Delays

A key issue raised by stakeholders is the delays experienced in fulfilment of service requests by merSETA.

> "[We have] waited up to 2 years for trade test certificate. MerSETA says it will take 6 – 8 weeks."
>
> Interview, Large Metal Manufacturer, KwaZulu-Natal, 2018

3.3.3.2 Onerous Requirements

An area of frustration for stakeholders is perceived bureaucracy embedded in merSETA processes.

> "There is unnecessary red tape, there are always opportunities for training, but it comes from a lot of waste."
>
> Interview, Independent Car Servicer, Western Cape, 2018

Another cause for frustration from stakeholders is the amount of documentation required, and the manner in which the documentation needs to be submitted.

> "Cut down all of the admin. It is a problem to get funding if you don't have the correct documents. There is too much historical admin in the process (old certificates from school), which has nothing to do with improving skills."
>
> Interview, Plastics Industry Association, KwaZulu-Natal, 2018

A practical consideration for stakeholders is the level of effort required to meet merSETA administrative requirements. This is especially an issue for Smaller Employers.

> "We had to get an SDF because the paper work is so complicated that we have to pay this guy to do the paperwork and this paperwork changes every 5 minutes."
>
> Interview, Independent Car Servicer, Western Cape, 2018

3.3.3.3 Poor Responsiveness

A number of stakeholders have communicated their perception of poor responsiveness from merSETA.

> "… we haven't yet been paid any of our mandatory funding from last year. I never got my letter…not unless I ask for it."
>
> Interview, New Tyre Manufacturer, Eastern Cape, 2018

A key area for improvement appears to be long turnaround time on service requests, a demonstration of poor responsiveness in line with the observation above.

> "[merSETA needs to improve] turnaround time with regards to queries, telephonic communication, sharing information … It becomes difficult when you are waiting for things to be sent from merSETA."
>
> Interview, Large Metal Manufacturer, KwaZulu-Natal, 2018

There appears to be a perceived lack of accountability, and of working in silos, at merSETA.

> "We should be able to pick up the phone and get what we want. [Now] they lose documents and don't talk to other departments within merSETA."
>
> Interview, Metal Fabricator, KwaZulu-Natal, 2018

3.3.3.4 Process Simplicity and Organisational Rigour

Stakeholders have suggested that merSETA processes should be simpler.

> "[merSETA must look at] how can they make their [merSETA] processes simpler, less complex."
>
> Interview, New Tyre Manufacturer, Eastern Cape, 2018

There is a perception of poor organisation of work at merSETA.

> "The admin is too much to handle on our side and they are very poor with their administrative services. They lose the contracts and don't seem to know what is happening half the time."
>
> Interview, Small Component Service Centre, Free State, 2018

3.3.3.5 Negative Consequences

It is key that merSETA understand and appreciate the consequences of less than effective and efficient administration on employers and learners.

> "Members are not interested due to the lack of back up [support] from merSETA, such as delays in stipends - not paying on time. And now businesses have to take money out of their own pockets to compensate for the delay in stipends."
>
> Interview, Motor Sales & Service Industry Association, Western Cape, 2018

> "… the learners get upset when stipends are not being paid. They don't understand how complex the administration process is."
>
> Interview, Training Provider, Western Cape, 2018

Less than effective and efficient administration translate into lower take-up of merSETA's offerings.

> "Learnerships don't really work. We do get funding, but we don't really implement this due to the overhead and administration involved with implementing it."
>
> Interview, New Tyre Manufacturer, Eastern Cape, 2018

Onerous administrative requirements can translate into barriers to entry for Smaller Employers in particular.

> "We require assistance from merSETA for the paperwork required to have students employed with the SDL stipends. merSETA could try to reach out … and help with the paperwork to get them involved."
>
> Interview, Small Metal Manufacturer, Eastern Cape, 2018

3.4 Enable large-scale Skills Development for Smaller Employers

Ensure a greater degree of reach with regard to skills development for smaller businesses, in particular informal businesses and SMMEs, including

- Identification of relevant businesses
- Undertaking needs analysis per business
- Designing of customised learning programmes
- Facilitating delivery of learning programmes
- Providing administrative support

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Access to funding
- Access to training interventions
- The inability to attract required skills and specific occupations

The remainder of this sub-section outlines the views of stakeholders regarding the underlying issues and opportunities related to this recommendation as well as some thinking on proposed solutions.

3.4.1.1 The Importance of Skills Development Support for Smaller Employers

The NDP mentions a target of 11 million jobs to be created by 2030, 90% of which are expected to be delivered by small businesses (SAICA, 2015). This belief in the potential of Smaller Employers from national government is shared by other stakeholders as well.

> "There is huge potential [with smaller and informal businesses]."
>
> Interview, Government Organisation, Eastern Cape, 2018

There is a fairly pervasive perception that there is limited support for skills development for Smaller Employers.

> "MerSETA hasn't done training for small businesses in PE - only give advice."
>
> Interview, Auto OEM, Eastern Cape, 2018

3.4.1.2 Skills Development versus Survival

A key issue that needs to be overcome with regard to skills development for smaller businesses is the difficulty in freeing up time from key individuals central to the day to day functioning of these businesses.

> "One of the proposals is that if you deal with a backyard mechanic you need to give training on how to run his business and how to improve his business … you don't need to take him away from his business … if you take him away he won't have an income for his business ... you can't put him on the same training as a normal learner."
>
> Interview, Government Organisation, Eastern Cape, 2018

Loss of income due to employees attending training is another barrier to Smaller Employers making their staff available for training.

> "For us to train a guy for the first 2 years of the apprenticeship is a loss to the company. From there on it gets better but there is one thing we forgot is the amount of hours technicians spend on training. I charge R440 per hour, I am actually losing 364 000 on training."
>
> Interview, Independent Car Servicer, Western Cape, 2018

3.4.1.3 Barriers to Entry

The administrative overhead associated with merSETA funding serves as a barrier to entry for Smaller Employers.

> "As a one man show they don't have time to fill in paperwork - they make it admin intensive - this guy doesn't have a secretary."
>
> Interview, Plastics Industry Association, Western Cape, 2018

To make its offerings available to Smaller Employers merSETA will need to find a way to address the issue of access, and of ensuring the required scale of involvement from Smaller Employers to ensure commercial viability.

> "merSETA funds companies, not individuals … merSETA would like to work with groups of people, not individuals."
>
> Interview, Government Organisation, Eastern Cape, 2018

3.4.1.4 Representation and Engagement

For skills development for Smaller Employers to receive the attention it requires, it is key that Smaller Employers are represented, not just at regional level (as indicated by the comment below), but also at national level (Chamber Committees and merSETA Board).

> "Regional Committee Meetings should be attended by smaller business."
>
> Interview, Government Organisation, Free State, 2018

To better serve Smaller Employers skill development needs, it is important that merSETA's level of engagement with them be increased. This issue is addressed more substantively in the section on Communication and Engagement.

> "merSETA's involvement with training of local small businesses should be stepped up. They must communicate with small businesses …road shows… get the local people involved."
>
> Interview, Government Organisation, Eastern Cape, 2018

3.5 Help Address the TVET Problem

There is a pervasive perception that TVET Colleges do not meet the requirements of industry, particularly with regard to training for trades, e.g. the theoretical and practical components of apprenticeships. This problem appears to extend to the trade test centres as well, though not on as chronic a basis.

While addressing TVET-related issues is not completely within the ambit of merSETA's mandate, the following is recommended for consideration:

- Work with other relevant stakeholders to address the underlying drivers of poor quality of TVET artisan-related training, namely inadequate infrastructure, poor quality of lecturers, and outdated material.
- Influence the allocation of funding related to artisan training, e.g. to address the focus on funding theoretical as opposed to practical components of the training, the focus on funding the TVET component as opposed to the employer component.

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Quality of Training and Graduates
- Specific Training and Skills Needs
- Alignment to Industry needs
- Alignment of intake and Course content to real-time skills needs

The remainder of this sub-section outlines the views of stakeholders regarding the underlying issues and opportunities related to this recommendation as well as some thinking on proposed solutions.

3.5.1.1 Issues Raised Regarding TVETs and Trade Centres

A number of stakeholders have raised complaints regarding the adequacy of TVET colleges in meeting the artisan training requirements of industry.

> "Out of 100 companies I deal with, 70 say they need to retrain the guys coming out of the TVET sector."
>
> Interview, Government Organisation, Western Cape, 2018

Similar concerns to the above have been raised by employers as well.

> "Quality of colleges and TVETs is very poor"
>
> Interview, Training Provider, Free State, 2018

A common complaint with regard to TVETs is the lack of required infrastructure. This issue has been raised by employers as well as TVET colleges themselves.

> "With regard to colleges- the tools and things are not always up to scratch."
>
> Interview, Large Plastics Manufacturer, Western Cape, 2018

Another issue raised with regard to TVETs is the quality of the lecturers. Either with regard to appropriate qualifications or with regard to their relevant industry experience.

> "In addition to the learning material, you also need to turn around the lecturers, the infrastructure, and bring in more industry participation in that space."
>
> Interview, Government Organisation, KwaZulu-Natal, 2018

A key issue raised with regard to trade test centres is that some of the material they use is outdated.

> "The trade tests are ridiculously outdated. On motor, for example, the point distributor is from the 1970's. Also, it's silly to have a carburettor in the course, now everything is fuel injected. They really need to put diagnostics in."
>
> Interview, Training Provider, Free State, 2018

3.5.1.2 Inappropriately Allocated Funding

Employers have raised the issue that the keen focus on artisan training may have resulted in more of this type of training being undertaken than is required by industry.

> "The focus has been on supporting artisan training, but as an industry we don't have many trades."
>
> Interview, Plastics Industry Association, Western Cape, 2018

Linked to the above issue is the concern that government funding appears to be focused on the theoretical component of artisan training, with a lack of funding for the practical component.

> "For the ministerial programmes, they are funded by NSFAS. You have the theoretical paid for by NSFAS, practical training is funded through NSF…so 200 [students] will do the theoretical and only 20 can be funded for the practical training … Fund more people to do the practical."
>
> Interview, Training Provider, Western Cape, 2018

A suggestion put forward by employers is that funding be focused on the component of artisan training undertaken by employers; presumably to increase the likelihood of the learners being placed in jobs.

> "The grants go to the TVETs and not the employers (it should go to the employers). Colleges can't place the learners..."
>
> Interview, Large Metal Manufacturer, KwaZulu-Natal, 2018

3.6 Help Mobilise the Skills Response to Industry Change

The skills response to industry change tends to be reactive, and typically late. This concern has been raised by a number of stakeholders, including employers, industry representatives and labour.

It is recommended that merSETA contribute to a more proactive approach to addressing industry change, by coordinating the scoping of the nature and size of industry changes that may have a skills impact, e.g. the changing composition of workforces in the face of the advent of and increasing prevalence of electric cars.

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Reduction in the number of shop floor workers (together with a lesser increase in the number of Artisans) due to automation
- Loss of jobs or mass skills re-training for existing workers due to shifts in technology and product offerings i.e. change in production from ICE to Electric vehicles
- RSA as a competitive production location (e.g. recycling for Plastics, local manufacture of commercial tyres)
- Threat to RSA industry due to cheap Chinese imports
- Product and production process changes required for compliance to environmental regulations
- Future market restructuring due to shift in production from ICE to Electric vehicles, also due to the increase in alternatives to private go ownership, such as ride hailing services

- Change in skills required to service/repair Electric/ Hybrid vehicles as opposed to ICE vehicles

The remainder of this sub-section outlines the views of stakeholders regarding the underlying issues and opportunities related to this recommendation as well as some thinking on proposed solutions.

3.6.1.1 Collaboration is Key

A key component of the response to the skills challenges arising from industry changes is the need to share information between relevant stakeholders.

> "[to be ready for skills for electric cars] we need to ensure sharing of information."
>
> Interview, Auto Labour Organisation, Eastern Cape, 2018

Industry representatives have underlined the need for input from employers with regard to planning future workforce requirements.

> "Employers need to plan for and communicate the need for particular jobs."
>
> Interview, Auto Industry Association, Eastern Cape, 2018

Labour has stressed the need for employers to share their thinking on future production systems and associated skills needs.

> "[what is required is] sharing of information: strategic growth path, skills needs, production system."
>
> Interview, Auto Labour Organisation, Eastern Cape, 2018

Without active sharing of information relating to business drivers that impact skills needs (and critically, modelling of the impact of the scope and size of this impact), jobs are likely to be negatively impacted.

> "Again, that information is not shared with the union in good time. Then they come at the eleventh hour. 50 employees in body shop will not be fit to work on the new model."
>
> Interview, Auto Labour Organisation, Eastern Cape, 2018

3.7 Adopt a more Driving, Flexible Disposition

MerSETA has an opportunity to become a leader in the skills development space, with the employment benefits that are linked to this. In order to achieve, a more flexible approach, in order to activate strategic projects, may be needed. The recommendations below provide more detail.

3.7.1 Enable Proactive Discretionary Grant Funding

Feedback from stakeholders consulted suggests that there is an opportunity for greater benefit to be delivered through discretionary grants if merSETA defines areas of focus for discretionary grants. This will require merSETA to research the needs of employers and learners so that it can suggest some standard learning programmes targeted at particular employer and learner segments. This will allow merSETA to guide employers in their choice of appropriate learning programmes.

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Reduction in the number of shop floor workers (together with a lesser increase in the number of Artisans) due to automation
- Refocusing of skills programmes at sub and sub-sub sector level to better meet industry's needs

The remainder of this sub-section outlines the views of stakeholders regarding the underlying issues and opportunities related to this recommendation as well as some thinking on proposed solutions.

Employers do not always have the time and the insight to properly define what learning programmes will be most appropriate for their workforce.

> "The issue with the merSETA system is that you have to forecast how many people you are going to take on to get the grant …"
>
> Interview, Large Component Service Centre, Free State, 2018

Stakeholders have suggested that merSETA needs to work on different ways to deliver value. Better understanding stakeholder needs, and shaping more relevant, standard learning programme offerings would be one good way of addressing this suggestion.

> "merSETA needs to become more creative in how they add value - they just follow the process- that's not good enough."
>
> Interview, Plastics Industry Association, Eastern Cape, 2018

3.7.2 Lead (not lag) with Strategic Projects

Consider more proactive (as opposed to the current potentially reactive) allocation of funding to strategic projects:

a. **Drive** (skills development) through strategic projects
b. **Influence** via discretionary grant funding mix
c. **Support** through mandatory grant funding

It is the Project Team's understanding that strategic projects are pursued once funding opportunities for discretionary grants have been exhausted. Strategic projects are funded through funds left over from discretionary grant allocations. There is also a perception that strategic projects tend to repeat the objectives of discretionary grant–type interventions, and do not do enough to effect systemic change.

> "The SETAs have to think out of the box. We deal with a lot of the guys here in the regions…a lot of the strategic stuff gets referred to head office…and that's where it gets stuck."
>
> Interview, Training Provider, KwaZulu-Natal, 2018

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Product Innovation (EVs and hybrids)

- Automation and technology; increasing use of automated machinery and new technology requires an adjustment to the skills make-up
- Challenges to Market Growth
- Training needs to be sub-sector specific, particularly for Smaller Businesses
- Quality of training and graduates (educators, equipment) and outdated curricula
- Refocusing of skills programmes at sub and sub-sub sector level to better meet industry's needs
- Revision of the Employer segmentation model to better deliver against merSETA's strategic goals

3.7.3 Become mer-sector Education and Career Pathing Maven

It is recommended that merSETA position to become the de facto reference for education and career pathing knowledge for the mer-sectors. Input gained from stakeholders indicates that, as a general rule, merSETA is not perceived in this light at the moment.

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Curricula not able to keep pace with technological developments
- Future market restructuring due to shift in production from ICE to Electric vehicles
- Change in skills required to service/repair Electric/ Hybrid vehicles as opposed to ICE vehicles
- A need for industry-specific training - best addressed through Learnerships and Skills Programmes; perhaps best addressed through Company Training Centres

3.7.4 Enable Systemic Change

It is recommended that merSETA consider the extent to which it intends to, is able to, and will, effect systemic change that may require it to act outside its strict mandate. This may be done either directly or through a proxy. This is, for example, necessary to enable impact at scale for township, rural, and Smaller Employer development.

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Quality of training and graduates
- Limited ability of Smaller Employers to access needed skills
- Access to training interventions
- Access to funding
- Stigma associated with the artisanal trades

The remainder of this sub-section outlines the views of stakeholders regarding the underlying issues and opportunities related to this recommendation as well as some thinking on proposed solutions.

3.7.4.1 Funding Challenges

Systemic change is required to effectively address the big skills development challenges. For instance, traditional areas of focus for skills development funding may not address burning issues standing in the way of skills development.

> "Funding of capital projects and facilities are limited. It's an old school system, everyone is throwing money at training but where do you train these people?"
>
> Interview, Training Provider, Western Cape, 2018

Effective skills development may be frustrated by limited available appropriate funding.

> "The funding is limited. Out of 90 [students], merSETA will only pay for 2. The government is not helping to make the industry more attractive."
>
> Interview, OEM, Western Cape, 2018

3.7.4.2 The Need for an Enabling Environment

Rural skills development will require tackling some of the constraining issues, e.g. the prerequisite of an enabling and supportive business development environment.

> "In rural areas, [we] need to look at how to set up companies that can support existing business–like agriculture–otherwise how do you kick-start an economy?"
>
> Interview, Government Organisation, Free State, 2018

A systemic issue relevant to skills development is the challenge of ensuring that skills attained through training translates into employment. While placement of learners probably lie outside the ambit of responsibility of merSETA, weak placement of learners does weaken the benefit conferred through skills development initiatives.

> "… the place where we really need the assistance is what do we do with these learners."
>
> Interview, Auto OEM, Eastern Cape, 2018

Bulk training programmes may sometimes produce counterproductive outcomes. Dealing with issues such as these will require a focus on identifying the underlying systemic drivers of unwanted behaviours and outcomes.

> "Office of the premier just chooses people off the streets. When they come in here they know nothing, they don't want to be in the mechanical field."
>
> Interview, Training Provider, Free State, 2018

3.7.4.3 Potentially having to Colour Outside the Lines

Ultimately, effecting systemic change to ensure and extend merSETA's leadership role on skills development for the mer-sectors will require merSETA to extend its offerings beyond primarily the provision of funding.

> "[It] can't just be about funding."
>
> Interview, Training Provider, Free State, 2018

3.8 Improve Skills Development Mechanisms

Opportunity lies in bringing in new market entrants, thereby strengthening mer-sectors. Skills development one part in overcoming barriers to entry and assisting new entrants to be successful.

3.8.1 Enable Entry Level and Semi-skilled Training

A number of employers, particularly those associated with smaller businesses, have indicated the need to enable access to training for those that have not completed matric, e.g. through ABET. They have also raised the need to train for lower-level skills (to produce semi-skilled workers). Increased lower-level practical-type skills training is expected to increase the employability of unemployed youth; particularly with Smaller Employers.

> "People that do the ABET, quite a few people they were packers, they are now in admin positions."
>
> Interview, Large Plastics Manufacturer, Western Cape, 2018

To address the above suggestions, it is recommended that merSETA consider:

- Introducing more learning programmes focused on developing entry level shop floor worker skills, e.g. basic calculation skills for machine operators needing to configure a blow moulding machine for a specific production run
- Exploring creative ways in which to address the cost and perception issues around ABET training

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Need for basic literacy and numeracy skills
- Mobility of Shop Floor Workers; need for numeracy and literacy skills for Shop Floor Workers inhibiting their role efficacy and their career growth

The remainder of this sub-section outlines the views of stakeholders regarding the underlying issues and opportunities related to this recommendation as well as some thinking on proposed solutions.

3.8.1.1 Overcoming Barriers to Entry for Training

The view from stakeholders is that more training needs to be made available for those that do not have a matric certificate. It is postulated that this will enable employment for those that are currently unable to access training that will help build employable skills.

> "If you ask people about training and you ask for matric they throw the paper back. You need to provide training for semi-skilled...that's why you have people roaming the streets."
>
> Interview, Small Metal Manufacturer, Eastern Cape, 2018

A number of manufacturer employers have indicated a willingness to uplift their shop floor workers, but find that lack of a matric certificate precludes a number of these employees from the required training. In this case, ABET is seen as an avenue to help these shop floor workers to attain the necessary certification to access this training.

> "There is a need for ABET. In a manufacturing or factory environment people have come from the surrounding community-poor communities. Skills programmes have minimum criteria [e.g. matric]."
>
> Interview, Large Plastics Manufacturer, Western Cape, 2018

3.8.1.2 Capacitating the Semi-skilled

Smaller Employers in particular require new employees to be able to hit the ground running. They typically do not have the time to undertake on the job training. These Smaller Employers have expressed the need for basic, practical training that provides potential employees with the foundation level skills they need to be productive on entry to the workplace.

> "Put workers through another programme before they come to us to give them basic knowledge and understanding before they get to us. Theory is one thing; practical training is a lot more important."
>
> Interview, Large Panel Beater, Eastern Cape, 2018

In addition to the practical training requirement indicated above, employers have also expressed the need for some work exposure for entry level employees. Such experience provided to unemployed youth, for instance, may help them become employable in the Smaller Employer space.

> "Provide a programme that gives 'pre-workshop' experience and basic training – panel beaters prefer taking an individual with some background."
>
> Interview, Large Panel Beater, Eastern Cape, 2018

Stakeholders have suggested that gap courses may help employees build up skills incrementally.

> "No funding from MerSETA for gap courses…"
>
> Focus Group, Small Metal Manufacturer, Eastern Cape, 2018

3.8.2 Address Specific Skills Development Requirements from Industry

To address the concerns from stakeholders with regard to the availability of appropriate qualifications and course material to meet the needs of industry, the following is recommended:

- Work with other relevant stakeholders to identify outdated course material, and to remedy this content.
- Identify qualifications that need to customised to meet the needs of particular sub-sectors, and coordinate the introduction of these qualifications.
- Work with other relevant stakeholders to streamline the process for changes to curricula and the introduction of new qualifications.

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- The need for technical product knowledge and soft skills for sales people

- A need for industry-specific training - best addressed through Learnerships and Skills Programmes; perhaps best addressed through Company Training Centres
- Programmes tailored to industry's skills needs

The remainder of this sub-section outlines the views of stakeholders regarding the underlying issues and opportunities related to this recommendation as well as some thinking on proposed solutions.

3.8.2.1 Poor Quality of Learning Material

Stakeholders have expressed the concern that some of the merSETA training material is outdated.

> "MerSETA material is so outdated in some cases."
>
> Interview, Auto OEM, Eastern Cape, 2018

Numerous examples have been quoted with regard to material for trade tests, and that covered by TVETs, being extremely outdated, to the point where it loses relevance to current practices in industry.

> "The trade tests are ridiculously outdated. On motor for example, the point distributor is from the 1970's. Also, it's silly to have a carburettor in the course, now everything is fuel injected. They really need to put diagnostics in"
>
> Interview, Training Provider, Free State, 2018

The above highlights the need for coursework that is up to date. Concerns have also been raised that some of the curriculum content is not just outdated, but missing. The running of diagnostics software in the repair and servicing of cars is an apt example of this.

> "There is no support for the ECUs, for the diagnostic side of the occupation. We have no one to help us with training for this. We must train ourselves with YouTube etc."
>
> Interview, Large Panel Beater, Northern Cape, 2018

It has been pointed out that some qualifications need to be more granular. The example below relates to the motor industry. Various other examples have been quoted, e.g. welding qualifications that are specific to particular sub-sectors, e.g. ship repairs.

> "Need to develop training for aspects of artisans' work, to be more specific. The motor mechanic course is too general – it doesn't cover important parts in depth. It would help the entire industry if they focussed each item and operation"
>
> Interview, Motor Industry Association, KwaZulu-Natal, 2018

3.8.2.2 Long Lead Times for Changes to Curricula

A common complaint is the lead time required to introduce new qualifications.

> "We've been speaking to merSETA about a mechatronics trade going. It's coming but it's taking a long time."
>
> Interview, Auto OEM, Eastern Cape, 2018

3.8.3 Foster R&D Capability Building for mer-sectors

It is recommended that merSETA play a more leading role with regard to establishing and strengthening the R&D brains-trust for the mer-sectors. This could include interventions such as the following:

- Building research partnerships with educational institutions that are focused on fostering leading edge innovation in the mer-sector industries.
- Fostering research by postgraduates through targeted bursaries.
- Establishing partnerships with relevant local (e.g. CSIR) and international research and innovation institutions.

Stakeholders for certain sectors (e.g. Plastics) have indicated that not enough is being done to build industry-leading skills.

> "merSETA is no help with changing technology at all."
>
> Interview, Small Component Service Centre, Free State, 2018

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Industry-driven Knowledge and Skills Supply
- Product and production process changes required for compliance to environmental regulations

3.8.4 Help build leading edge skills and knowledge

MerSETA's positioning amongst its stakeholders could be improved substantially if it is able to contribute more to the development of leading edge skills and knowledge within the mer-sectors in South Africa. This is particularly pertinent given the technology intensive nature of the mer-sectors.

> "merSETA is extremely behind, they haven't realised what has happened. With regard to skills development, they need to understand what's happening currently. [They need] people that understand the latest technology."
>
> Interview, OEM Dealerships (Motor Vehicle and Parts Sales) / OEM Service Centre, Western Cape, 2018

The following is recommended for consideration by merSETA:

- Collaboration with organisations, both local and international, that have access to leading edge technologies, and that have developed associated skills and knowledge.
- Working with organisations (e.g. South African industry associations) that have established collaborations such as that mentioned in the point above.
- Sponsorship of employers that are pursuing the building of leading edge skills and knowledge relevant to the mer-sectors, with agreement that they propagate this in relevant sectors in South Africa.

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Sector dependant on imports for motor components - due to South Africa lagging on required technological advancement
- Industry-driven Knowledge and Skills Supply
- Product and production process changes required for compliance to environmental regulations

The remainder of this sub-section outlines the views of stakeholders regarding the underlying issues and opportunities related to this recommendation as well as some thinking on proposed solutions.

3.8.4.1 Collaboration

Collaboration with organisations that have exposure to leading developments elsewhere in the world will help merSETA keep abreast of associated emerging skills. As indicated by the comment below, there is a willingness to collaborate on such a basis from merSETA stakeholders.

> "… For example … shop stewards travelling to Germany. merSETA should say we want to be partners of this venture; when you are coming back to SA, you will form a focus group for merSETA. When shop stewards are overseas they are exposed to identify a number of issues that can benefit industry ... "
>
> Interview, Auto Labour Organisation, Eastern Cape, 2018

Opportunities for collaboration with organisations that have access to leading edge technology are being pursued by merSETA stakeholders. These organisations have expressed a willingness to partner with merSETA on these collaborations.

> "We are looking for partners overseas [on advanced manufacturing and automation]…looking at Europe and Japan and India. If we don't find ways to find that knowledge and bring it here."
>
> Interview, Plastics Industry Association, Western Cape, 2018

3.8.4.2 Conferences

Employers have also indicated a need to keep abreast of industry developments communicated through conferences such as the one mentioned below.

> "[As a manager] I would like understand plastics. Every three years in Dusseldorf the whole industry gets together with Exxon Mobil they give it the formulation. I don't need the formulation, just [need] to learn a little bit more in the industry."
>
> Interview, Small Plastics Manufacturer, Western Cape, 2018

3.8.5 Increase the Scale of RPL

It is recommended that merSETA provide more active support for Recognition of Prior Learning. By doing this merSETA will provide the opportunity for workers with artisan skills, but without the qualifications, to become more employable, earn better salaries, and take on more work.

Feedback from stakeholders indicates that the scale, and ease of take-up of RPL is not where it should be. They have also indicated that merSETA can do more in this space.

> "Most of the apprentices we work with have the experience, they just don't have the paper."
>
> Interview, Large Plastics Manufacturer, Western Cape, 2018

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Access to training interventions

The remainder of this sub-section outlines the views of stakeholders regarding the underlying issues and opportunities related to this recommendation as well as some thinking on proposed solutions.

3.8.5.1 The Need for Specialist Support

Stakeholders have stressed the need for the required specialists to support RPL.

> "We have an incredibly successful RPL programme. I have a helluva good guy that runs the RPL programme. I get 20 guys out of the industry and they mentor guys."
>
> Interview, Government Organisation, Western Cape, 2018

Lack of the required specialists can hamstring opportunities for RPL.

> "For RPL we need a specialist, we do not do it as such."
>
> Interview, Training Provider, KwaZulu-Natal, 2018

3.8.6 Ready Industry for Next Generation Training Delivery

MerSETA is encouraged to play more of a leading role with regard to developing skills and practices relating to next generation training delivery. This may include delivery of training through virtual means, use of virtual reality in training, use of expert systems, use of apps etc.

Although the use of leading technologies in training was not a topic widely raised in stakeholder consultations, some stakeholders have raised this as an area worthy of attention.

> "Educators should be supported and encouraged to introduce apps to do training and use interactive whiteboards and other technological training tools."
>
> Interview, Training Provider, Northern Cape, 2018

Other stakeholders have been more blunt in their assessment of merSETA's current technology status.

> "[It] would be nice if merSETA could have more online…they need to get with the times and not be stuck in the '90s."
>
> Interview, Large Plastics Manufacturers, Western Cape, 2018

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Unique training needs and approach to training for Smaller Employers

3.9 Enhance Engagement and Advocacy

There is an opportunity for merSETA to become more responsive to stakeholder needs by developing a deeper understanding into the different types of needs and level of engagement that different types of stakeholders require and expect.

3.9.1 Revamp the Stakeholder Engagement Model

In order to engage effectively with stakeholders that may currently be considered as neglected, merSETA needs to look into revamping the current stakeholder engagement model to allow for more effective, targeted communication and more frequent client contact.

Feedback from stakeholders indicates that there are a significant number of stakeholders that are unhappy with the nature and frequency of engagement with merSETA. As will be apparent from the details outlined below, these issues span a number of stakeholder types; with primarily just the Larger Employers that are satisfied with engagement and communication with merSETA.

> "There really is little involvement from merSETA's side and we would appreciate some contact so they can listen to the issues we are currently experiencing."
>
> Interview, Small Component Service Centre, Free State, 2018

It is proposed that both merSETA and its stakeholders will benefit from more targeted engagement. This could be achieved through an engagement model that prescribes particular communication channels and frequency based on stakeholder segment, e.g. dedicated account managers for larger employers, call centres for learners, channel partners for smaller organisations. This will require the development of a stakeholder segmentation model, which itself will require greater insights into merSETA's stakeholder base. The employer segmentation model developed by the Project Team for the fieldwork undertaken in this Study could be used as a starting point for this exercise.

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Lack of engagement with industry and other players
- Revision of the Employer segmentation model to better deliver against merSETA's strategic goals

The write-up that follows outlines some of the frustrations and suggestions from stakeholders regarding communication and engagement from merSETA.

3.9.1.1 Client Liaison Officers (CLOs)

The concept of an employer account manager (the CLO) has been generally well received by employers. Some employers have, however, requested additional engagement from CLOs.

> "One thing I would recommend is that CLOs just go have information sharing with stakeholders, what is merSETA doing. There would be a bigger uptake of employers into their programmes."
>
> Interview, Metals Labour Organisation, Western Cape, 2018

Concerns have been raised with regard to the number of CLOs available to service the merSETA employer base. Should merSETA decide to extend coverage of the account manager concept to employer segments that are currently not covered, this will require additional capacity.

> "How can we ensure that they meet the clientele? Every year we have more and more people coming on board…for the last 10 years we've had [number removed] CLOs."
>
> Interview, Government Organisation, Western Cape, 2018

3.9.1.2 Smaller Employers

Smaller Employers typically are either unaware of merSETA or have had limited to no contact from merSETA.

> "We only hear from merSETA once in every 3 years."
>
> Interview, Small Metal Manufacturer, Eastern Cape, 2018

The following comment from a government organisation indicates that access to merSETA by Smaller Employers is an issue.

> "People don't know how to access the SETAs – they need to make information available to help small clients to access it. The paperwork and bureaucracy are a nightmare. The problem is access to the SETAs. They should have a booth with some pamphlets that we can take to the client."
>
> Interview, Government Organisation, Western Cape, 2018

It has been suggested that Smaller Employers be invited to Regional Committee Meetings (Interview, Government Organisation, Free State, 2018). One stakeholder suggested that merSETA could employ interventions such as road-shows to engage with Smaller Employers.

> "The [merSETA] must communicate with small businesses … road shows … get the local people involved"
>
> Interview, Small Metal Manufacturer, Eastern Cape, 2018

3.9.1.3 Learners

A number of stakeholders have raised the need for merSETA to engage more with learners.

> "I think they must come and listen to what the apprentice thinks about this, why are we training, who is this for? The apprentice. They need to speak to the apprentice to find out what he thinks."
>
> Interview, Independent Car Servicer, Western Cape, 2018

3.9.1.4 Industry

Some stakeholders have expressed the view that merSETA is not close enough to industry. This view has typically been expressed by Smaller Employers and those businesses that are not in the upper echelons of the current merSETA employer segmentation model.

> "They [merSETA] must get to know industry to get a perspective, how can they do something when they just don't understand the mechanics of it? They need to get out of their office and see how our workshop works."
>
> Interview, Independent Car Servicer, Western Cape, 2018

3.9.1.5 Academic Institutions

Academic institutions have raised the need for more engagement with them by merSETA.

> "merSETA does have regular engagement with companies, however, at least once a year they should have engagement with the academic sector. It works both ways as well; they can also tell us what to focus us. Years back they could have told us to focus on renewables."
>
> Interview, Training Provider, KwaZulu-Natal, 2018

3.9.1.6 Communication and Responsiveness

It would appear that communication from merSETA is a significant issue requiring redress.

> "Communication and transparency [from MerSETA] is a problem."
>
> Interview, Large Plastics Manufacturer, Western Cape, 2018

A particular frustration for stakeholders is poor responsiveness from merSETA.

> "The people behind the scenes send emails and calls and no-one responds. Also, you get reluctant to call because the receptionist said stop calling we are working on it. I just need to know, where do I send the [learner] for their trade test. They have studied and don't get any response."
>
> Interview, Independent Parts Seller (new and used) / Smaller Component Service Centre, Western Cape, 2018

The issues regarding communication reported by stakeholders appear to extend into the merSETA organisation itself.

> "Arrange CLO forum at head office every quarter."
>
> Interview, Government Organisation, Free State, 2018

There have also been some complaints regarding the extent of alignment between merSETA departments, and between head office and the regions.

> "The one end doesn't know what is happening at the other end. Changes are not being filtered down to the region, no one wants to solve real problems because real problems is work."
>
> Interview, Independent Car Servicer, Western Cape, 2018

3.9.2 Increase Industry Involvement on the SSP

It is recommended that merSETA position industry as an integral part of the production of, and the signing off of, the SSP

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Lack of engagement with industry and other players

3.9.3 Help Advocate for Technical Training

Consultations with employers, industry representatives and educational institutions indicate that technical vocations can be rewarding and financially beneficial. However, it is clear that technical jobs, such as artisans and technicians are viewed as second-choice careers by school goers. This results in these careers (and the associated learning streams) not attracting the best candidates, and the industry thus falling short of its quota of required technical skills.

It is recommended that merSETA relook its approach to advocating for take-up of learning streams for artisanal and technical careers. The following is suggested:

- Addressing of the negative perception around technical occupations and training, through marketing and engagement interventions, e.g. through communicating the successes achieved by graduates from TVET colleges and universities of technology.
- Helping learners at schools make more informed choices around technical vocations by exploring the following:
    - Providing more active career guidance at schools, leveraging options such as student engagement with workers from industry.
    - Moving beyond the career expo/ career guide engagement model, closer to more interactive means of engagement.
    - Creating interactive options for learners to experience technical vocations, e.g. as described below.

> "There is not enough exposure at the high school secondary level, the younger generation associates the industry with that of grease monkey, but the industry has become very specialised with new technology - it is a whole new ball game. Once they reach matric they opt for other careers."
>
> Interview, Motor Sales & Service Industry Association, Western Cape, 2018

This recommended action is expected to address the following Skills Drivers; outlined earlier in this report:

- Access to funding
- Access to training interventions
- The inability to attract required skills and specific occupations

The remainder of this sub-section outlines the views of stakeholders regarding the underlying issues and opportunities related to this recommendation as well as some thinking on proposed solutions.

3.9.3.1 Second Choice Careers

Technically oriented occupations (together with associated training) tend to be viewed as "second choice" options as opposed to chosen careers.

> "For those that feel uncomfortable at school … this is the second chance for them in the TVET sector."
>
> Interview, Training Provider, Western Cape, 2018

The "second choice" nature of technical training will tend to attract some learners who are poorly suited to technical careers.

> "There are more dropouts on apprenticeships… most of the guys do it for the wrong reasons."
>
> Interview, Government Organisation, Western Cape, 2018

3.9.3.2 Technical Graduates Preferred by Employers

It has been pointed out, both by educational institutions and employers that graduates are from universities of technology are sometimes preferred to traditional universities. This is contrary to the conventional wisdom.

> "Tongaat Huletts used to take the engineering students from Wits … they took the 4 year engineering student and they took the WIL student, and [our] students were on top in their programme."
>
> Interview, Training Provider, KZN, 2018

3.9.3.3 Alternate School Engagement Models

Stakeholders have pointed out that merSETA needs to explore alternative means of engaging with learners at schools.

> "SETAs go to schools to do presentations, but this is not enough."
>
> Interview, Large Panel Beater, KwaZulu-Natal, 2018

Some of the suggestions put forward by stakeholders require moving significantly beyond the career expo and career guide approach.

> "We request that merSETA provides school with toolboxes."
>
> Focus Group, Training Provider, Northern Cape, 2018

Another suggestion is that career guidance be provided below grade 12 level.

> "The biggest problem is that there is no career guidance. It should be done at grade 8 level. Bring the world of work to the child (we have the technology). People shouldn't be deciding what they want to do as a career in grade 12."
>
> Interview, Metal Fabricator, KwaZulu-Natal, 2018

A number of stakeholders have pointed out the positive perception of technical careers in foreign countries.

> "China, Egypt, Germany – at school level started sensitising youngsters to trades – start small workshop, foundry, etc to show students what is actually done. Amazing to see the interest – that is how they develop the foundry engineers – all started at school level with pilots with foundry or pattern shop to help them to improve the skills and the interest … "
>
> Interview, Foundry, Northern Cape, 2018

The excitement created around technical careers, as outlined in the example above, has been created in the South African environment as well.

> "The 'Wheels in Motion' project with students to build a race car. The cars participated in Top Gear speed week. Also raced in the Kalahari speed week and hit 180km/hr. 2 of the students went on to do engineering at UJ, 2 others work in the motor industry, 2 are undergoing training at BMW."
>
> Focus Group, Training Provider, Northern Cape, 2018

3.9.4 Be Seen to be Acting on Research Findings

Comments from stakeholders indicate a concern that actions suggested by research conducted by merSETA may not materialise. It is critical that the recommendations indicated by this Study are pursued.

> "I really wish something comes out of this."
>
> Interview, Industry Association, Western Cape, 2018

It is important that concerns regarding actioning of past research outcomes are not realised with this Study.

> "There has been a lot of talking, with very little action."
>
> Interview, Labour Organisation, KwaZulu-Natal, 2018