# ANNEXURE B: SUPPLY AND DEMAND ANALYSIS

merSETA
MANUFACTURING, ENGINEERING AND RELATED SERVICES SETA

## Motor Research Project:

Employment and Educational and Skills Audit of the merSETA Motor Chamber

# Second report: Supply and demand analysis

Submitted on 15 November 2012

Contract Research & Consulting Services

BUSINESS ENTERPRISES
UNIVERSITY OF PRETORIA

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## SUPPLY AND DEMAND ANALYSIS

## 1 INTRODUCTION

This is the second interim report of the Employment and Educational and Skills Audit research project of the merSETA Motor Chamber. The first report focused on the impact study and this report is a logical continuation of the first report.

## 2 METHODOLOGY

The report has been developed by using the following methodology:

- Desktop research on skills demand and supply in the industry
- Personal visits to skills providers. A few leading providers of skills required by the automotive industry were visited and officials consulted
- Desktop research on the training offerings provided by skills providers. It was found that desktop research is valuable to obtain information on
- Training prospectuses
- Qualifications
- Short courses and other training offerings
- Desktop research of qualifications and unit standards underlying the training offerings

(Enclosed as annexures are: The Focus group Agenda, Summary of Captains of Industry; Focus Group contribution, List of current registered qualifications reviewed)

The above methodology resulted in valuable information that was integrated in this report. This methodology also resulted in the honouring of all deliverables contained in the contract entered into with Forest Dawn Properties trading as Dynamic Automotive Systems. It is clear that qualitative research is extremely important to meet the requirements of this research project. Sometimes SETAs tend to over emphasise quantitative detail. Certain quantitative detail on 2020 is not yet known and therefore assumptions should be made. Based on extensive experience across the skills development landscape, the researcher found a qualitative research methodology to be more effective.

Since merSETA believes that research should aim to answer a research question (or questions), the research questions of the entire- project can be summarized as follows:

- Does the Motor sector have sufficient skills for future requirements?

- If not what appropriate action should be taken?
- I longer term planning included in the current strategy?
- What are the longer term challenges (and opportunities) to be addressed?
- Does current learning material include key future requirements that emerged from the drivers of change research?
- If not, how will the future skills supply shortcomings be addressed?

This report is in essence of a conclusive nature and not merely a discussion and reopening of the SSP. Some information contained in the SSP was found to be relevant and valuable. Since the final report must contain a strategy, the following two key questions need to be answered:

- What is the skills demand towards the year 2020?
- To what extent are these skills supplied for the industry?

The gap between supply and demand is therefore viewed as the key focus of this report submitted as second report. At the consultative session held with senior merSETA officials and experts of industry on 15 October, the research team was requested to use the 2020 horizon as key theme of the research project. It was also found that the SSP of merSETA cover solutions to deal with the planning period up to 2016, but that a longer term perspective is lacking. It is therefore clear that much more focus should be placed on the 2020 challenges than the current situation. It should be stated that this research project does not intend at all to replace the SSP, but to focus on the longer term perspective. In essence the project is an employment and skills audit. The SSP contains very valuable information on the employment side. The term employment in the context of this research project therefore does not focus on the current employment profile of the Motor industry. Employment should therefore be viewed on strength of the following factors:

- What possible changes are foreseen in terms of employment towards 2020?
- In what respect will 2020 drivers of change affect the content of key jobs?
- Will existing skills supply methodology and practices be sufficient to cater for 2020 needs skills required in 2020?
- What changes should be made to the present skills supply chain to deliver skills required in 2020?

## 3 DEMAND ANALYSIS PERSPECTIVE

Sections 6 and 7 of the first report focused extensively on existing as well as future skills demand. As stated it was agreed not to rewrite the SSP in terms of chapters, but rather to look qualitatively at 2020 and its challenges.

Pertaining to skills demand analysis, the SSP states as follows: "Estimating future demand is based on a set of assumptions about what will unfold. Demand can be represented by the following equation:

Future Demand = Current stock + Replacement demand* + New Posts" (merSETA SSP, 2011/16). This method is acceptable from a future perspective based on existing and known positions. However, the drivers of change pertaining to factors such as further technological changes and the green agenda could imply new positions and new critical skills.

In 2008 the Department of Labour Commissioned a study titled "ON THE BRINK" SKILLS DEMAND AND SUPPLY ISSUES IN THE SOUTH AFRICAN AUTOMOTIVE COMPONENTS INDUSTRY" to be conducted by the Human Science Research Council (HSRC).

The background research on the Skills Demand within the Industry is as follows:
According to industry experts there is an expected growth trend in the components industry which will have an impact on the industry's skills demand. From 2005 there was a surge in growth for export programmes implemented at South African based OEMs with CBU exports increasing at an increasing rate with exports reaching R22 billion in 2005 compared to R17.5 billion within the previous year. The research also indicated an expectation of growth in the number of vehicles to be assembled in South Africa with an obvious direct impact on the skills demand and an expectation from overseas customers of South African OEM and components manufactures.

Other than traditional automotive skills demand, due to an increasing import and export of both CBU and components places additional demands on logistics' indicating the growing need for Logistics personnel. With the growing workforce rise growing conflicts with a direct need for labour relations specialist within the sector; and furthermore the growing need to comply with OHS1800 therefore requiring the sector to employ more Health and Safety specialists.

**Table 1: Employment levels within the industry, average monthly figures (Source: NAAMSA Annual Report 2005) – Status Quo**

| | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|
| **Vehicle Manufacturing Industry** | 32 700 | 32 370 | 31 700 | 31 800 | 33 825 |
| **Automotive Components** | 72 100 | 74 100 | 75 000 | 74 500 | 78 000 |
| **Tyre Industry** | 6 300 | 6 000 | 6 000 | 6 000 | 6 000 |
| **Motor Trade, Distribution and Servicing** | 182 000 | 185 000 | 191 000 | 194 000 | 195 000 |

**The 2010 to 2015 Projections**

**Methodology used in projection**

Firstly it was based on the SAABC employment rates between the period 2001 to 2006 as well as analysis of domestic and international factors that impact the industry's future.

Secondly it was based on the average breakdown of employment at each individual component manufacture in the SAABC to create an aggregated employment profile of the component industry

Thirdly basing the projection on the difference between employment levels in 2006 and 2010/2015 and factoring in average employee turnover rates at components manufactures per annum.

Finally using interview data from the manufacturing sub-sector of the South African automotive component industry, then a qualification profile was created for the skilled employee's categories of management, professional staff and artisans. The information was then juxtaposed against the aggregated growth in the demand for each employee category to provide an indication of skills demand in the country's automotive component industry between the period 2010 and 2015.

**The growth rate in the skills demands**

- Management 4%
- Professional staff 4%
- Supervisors 7%
- Artisans 4%
- Operators 69%
- Trainee/Apprentice 2%

- Other 10%

**Table 2: The employment demands for the period 2006 to 2010**

| | Replacement demand | New demand | Aggregated demand |
|---|---|---|---|
| **Total** | 11 370 | 7 746 | 19 116 |
| **Management** | 420 | 318 | 738 |
| **Professionals** | 471 | 294 | 765 |
| **Supervisors** | 830 | 519 | 1 349 |
| **Artisans** | 558 | 349 | 908 |
| **Product Workers** | 7 639 | 5 344 | 12 983 |
| **Apprentice/Learners** | 188 | 132 | 320 |
| **Administration/other** | 1 264 | 790 | 2 054 |

**Table 3: Employment Demand for the period 2006 to 2015**

| | Replacement demand | New demand | Aggregated demand |
|---|---|---|---|
| **Total** | 27 187 | 18 520 | 45 708 |
| **Management** | 1 004 | 759 | 1 764 |
| **Professionals** | 1 126 | 704 | 1 830 |
| **Supervisors** | 1 985 | 1 241 | 3 226 |
| **Artisans** | 1 333 | 833 | 2 167 |
| **Product Workers** | 18 266 | 12 779 | 31 045 |
| **Apprentice/Learners** | 450 | 315 | 765 |
| **Administration/other** | 3 023 | 1 889 | 4 912 |

**Table 4: Artisan skills profile for 2006, 2010 and 2015 as well as demand calculations for 2006 to 2010 and 2006 to 2015**

| | 2006 | 2010 | 2015 | Total Demand: 2006 -2010 | Total Demand: 2006 – 2015 |
|---|---|---|---|---|---|
| **Total** | 3 503 | 3 851 | 4 336 | 906 | 2 167 |
| **Electricians** | 733 | 806 | 907 | 190 | 453 |
| **Fitters and Turners** | 895 | 984 | 1 108 | 231 | 554 |
| **Tool, jig and die** | 286 | 314 | 354 | 74 | 177 |

| | | | | | |
|---|---|---|---|---|---|
| **Millwrights** | 310 | 341 | 384 | 80 | 194 |
| **Tool setters** | 99 | 109 | 123 | 26 | 61 |
| **Electronics** | 124 | 136 | 153 | 32 | 77 |
| **Unspecified** | 1 056 | 1 161 | 1 307 | 273 | 653 |

## 4 2020 DEMAND ANALYSIS

As stated, qualitative research is viewed to be more superior to quantitative research methods. The realities of 2020 are not yet known and assumptions therefore need to be made.

The future scarce skills will surely look different from those of today. It could almost be said that the drivers of change are already scarce skills. The scarce skills of the future would look something like this:

**Table 5: Assumed Future Scarce Skills**

| Scarce Skill | Application |
|---|---|
| Social Media and Mobile Technology | Using social media to increase profitability and reach a bigger market;<br>Social media used to create brand awareness;<br>Social media used as knowledge exchange platform; etc.<br>Building and launching effective social media, branding and marketing campaigns; etc. |
| Green Agenda | Using tax rebates as marketing advantage;<br>Employing techniques to adhere to green initiatives;<br>Understanding the impact of work on the environment and repercussions thereof; etc. |
| E-Learning | Employing e-learning strategies in the workplace;<br>Using e-learning to connect globally;<br>Using e-learning to close the skills gap within your company;<br>Utilise e-learning to generate and manage |

| | |
|---|---|
| | a growth path for an employee; etc. |
| Innovation and Technological Changes | Incorporating technology and innovation into the workplace;<br>How to keep abreast with innovation and technological changes;<br>Using various technologies to stay ahead of a highly competitive market;<br>Utilising technology to gain competitive edge; etc. |

Further research is required to determine the impact of these drivers of change on possible job content. It is also anticipated that totally new jobs will emerge up to 2020 that will have distinct sets of required skills.

It is therefore essential that:

- Significant jobs anticipated in 2020 be identified;
- The impact of drivers of change in each position be identified;
- Curriculum content be identified; and
- New programmes/qualifications/unit standards are created.

The following template could be successfully applied.

**Table 6: Template to Determine Skills Requirements Per Position For 2020 In The Motor Sector**

| **Position** | **Green agenda** | **Social media** | **Technological innovation** | **Ageing population** | **Growing Middle class** | **Social variables** |
|---|---|---|---|---|---|---|
| Workshop Manager | | | | | | |
| ICT specialist | | | | | | |
| Training manager | | | | | | |
| Customer relationship specialist | | | | | | |
| Millwrights | | | | | | |
| Artisans | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Multi-skilled operatives | | | | | | |

Examples of positions are given in the first column based on the assumption that these positions will still exist in 2020 with basically the same responsibility, but new challenges in the workplace

A next step would be to complete the specific anticipated skills requirements and make recommendations on learning content.

**Table 7: 2020 Learning Content Analyses**

| **Driver of change, e.g. social media** | | | |
|---|---|---|---|
| **Position** | **Impact on job** | **Specific skills required** | **Learning content required** |
| Workshop Manager | | | |
| ICT specialist | | | |
| Training manager | | | |
| Customer relationship specialist | | | |
| Millwrights | | | |
| Artisans | | | |
| Multi-skilled operatives | | | |

It is therefore clear that the demand of skills in 2020 will be totally different from now and in the past. Due to the fact that changing learning content is a lengthy process under the control of DHET, it is essential that the skills required for the 2020 landscape commence as soon as possible. merSETA should consider making a discretionary grant available to finance this essential research and development.

The QCTO poses various uncertainties that need to be clarified as soon as possible since the new Council is expected to have a major impact on the skills development landscape.

It is clear that the Motor sector is well aware of the major changes foreseen in the workplace over the longer term. This research project confirms the sincerity of the Motor chamber to prepare for a prosperous future towards 2020.

# 5 SUPPLY ANALYSIS

## 5.1. Macro Overview

It is clear that although the Motor industry is served by a large number of skills suppliers, the future skills as identified during desktop research, stakeholder consultation and an evaluation of provider offerings are not yet focused on especially those skills requirements identified for 2020.

As stated earlier in the report very few qualifications and learning material are aligned for the 2020 landscape based on a careful analysis of the anticipated environment and content of learning material. As far as the supply of skills for the 2020 challenges are concerned, very few providers whose prospectuses were studied and who were consulted, already have material aligned for the 2020 environment. Social media and the green agenda are some themes that are being considered as curriculum focus, but planning to develop modules in these areas has not yet commenced.

In consultation with private providers, such as Automotive Training Academy proposed the following solutions in terms of future skills that could be needed for 2020:

- New learning material and interventions are required in advanced skills areas such as mechatronics.
- Upgrade entrepreneurship training based on possible new opportunities for 2020
- Involve banks in entrepreneurial development. Banks can play key mentoring roles in this regard
- Expand on existing entrepreneurial opportunities in areas such as repairing window cracks
- Review the content of all material focusing on the Green agenda since existing material contains only the very basics in areas such as environmental protection
- Improve the efficiency of FET Colleges
- Enhance managerial training for the future by including learning material on the “big picture” such as the totally new landscape that could emerge up to 2020.

**Table 8: Summary of Skills Supply Institutions**

| Institution | Number | 2020 compliance |
|---|---|---|
| Fully Accredited | 619 | None |
| Previously Accredited | 75 | None |
| Programme Approval | 32 | None |
| Provisional Accreditation | 116 | None |

**Skills Supply**

**Table 9: Institutions Utilised For Sourcing Key Technical Positions**

| Institution | Key Skills Sourced | Score |
|---|---|---|
| Nelson Mandela Metro Uni. | Middle Management, Professional Staff | 33.3% |
| VW Education and Training | Artisans, training for artisans | 33 .3% |
| University of Pretoria | Top Management, Professional Staff | 25% |
| University of CT | Professional Staff | 16.7% |
| Wits | Professional Staff | 16.7% |

According to interview information the above were the preferred institutions for producing desired expertise.

Institutions avoided by firms when recruiting for key technical positions is listed below:

- Damelin College
- Intec College
- Boston
- Mangosuthu Technikon
- Walter Sisulu University

The above institutions were seen as having the least amount of credibility when it comes to technical training, therefore trainees from this institutions were most likely not to be appointed, or employers were most likely not to send their employees there for training.

**Table 10: Skills Gaps Identified During Firm Level Interviews, In Order Of Importance:**

| Type | Profession |
|---|---|
| Artisan | Electricians |
| Artisan | Fitters and Turners |
| Artisans | Millwrights |
| Management | Supervisors |
| Management, Professional Staff | Industrial Engineers |
| Management, Professional Staff | Mechanical Engineers |
| Management, Professional Staff | Production Management |
| Artisans | Electronics |

**The National Skills Accord**

The South African government and its social partners signed a National Skills Accord as a result of the engagement to commitment to the New Growth Path. Published for public consumption, its intent is to assist the shop stewards, business representatives, community activities and government officials to communicate the contents of the document to the broader audience.

The intention is to assist in implementation of initiatives to work towards creation of 5 million jobs by 2020. It has been signed on behalf of the following:

- Organised Labour, comprising of COSATU, FEDUSA and NACTU, represented by Zwelinzima Vavi, Dennis George and Manene Samela
- Business through Business Unity SA, represented by Futhi Mtoba
- Community constituents at NEDLAC, comprising of organisations of women, civic structures, youth, people with disabilities, cooperatives and the financial sector campaign, represented by Lulama Nare
- Government, by Dr Blade Nzimande, Minister of Higher Education and Training.
- For the purpose of the research report we will focus on Commitment 3, Commitment 5 and Commitment 8.

**Commitment 3**

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

Organisations that make use of artisans should employee apprentice in order to ensure that there is always a sufficient pool of skills resources to replenish their workforce by making use of target ratio of artisan to apprentice.

**Therefore the agreements were as follows:**

- Business noted the MERSETA ratio of two apprentices for every artisans
- Business also notes the Transnet ratio of 1:3:8 for engineers: technicians: artisans
- Taking account of the above, specific sectors will, by end August 2011, propose sector specific ratios, which ratios will also be included in SETA Sector Skills Plans.

**Commitment 5**

Setting annual targets for training in state-owned enterprises, for at least 20 000 persons enrolled in apprentice and learners between the years 2011 and 2015.
Annual binding targets are as follows:

**Eskom**

- Artisan trainee enrolment for the period to 2015 (including learners in the system) will be 7 000 (with an additional 400 artisan trainees subject to funding terms being concluded with the shareholder).
- In the 2011/12 financial year, an additional 1100 persons will be enrolled in scarce-skills training programmes (mainly engineering and technician training) bringing the number in the system to 4 100. Within the Eskom supply-chain over the three-year period to March 2014, a further 7 500 unemployed matriculants will be enrolled in Trade Skills Training programmes and 7 500 graduates will be given placements for work experience by companies in the supply-chain.

**Transnet**:

- Artisan trainee enrolment for the period to 2015 (including learners in the system) will be 3 400 (with an additional 2 000 artisan trainees subject to funding terms being concluded with the shareholder). In the 2011/12 financial year, an additional 1 500 persons will be enrolled in scarce-skills training programmes (mainly engineering and technician training) bringing the number in the system to 4 100.

**SAA /SAX:**

- Artisan trainee enrolment for the period to 2015 (including learners in the system) will be 875 (with an additional 100 artisan trainees subject to funding terms being concluded with the shareholder) while in the 2011/12 financial year, an additional 200 persons will be enrolled in scarce-skills training programmes (mainly for cadet pilots and learnerships) bringing the number in the system to 240.

**Denel:**

- Artisan trainee enrolment for the period to 2015 (including learners in the system) will be 600 (with an additional 350 artisan trainees subject to funding terms being concluded with the shareholder) while in the 2011/12 financial year, an additional 40 persons will be enrolled in scarce-skills training programmes bringing the number in the system to about 80.

**Safcol, Alexcor and Infraco:**

- Artisan trainee enrolment for the period to 2015 (including learners in the system) will be about 60 while in the 2011/12 financial year, an additional 70 persons will be enrolled in scarce-skills training programmes (mainly engineering and technician training) bringing the number in the system to 220.

**Commitment 8**

To improve the role and performance of the FET colleges.

This commitment is to ensure an increasing intake at FET colleges to ensure that they are the centre of focus to improve the skills development in the country. Furthermore the FET colleges will be granted the “preferred” training providers and the skills levy paid by private sectors will be steered towards the programmes that are provided through the colleges.

**Government committed to the following:**

- Government commits to improving quality of provision, enhancing the responsiveness of programmes to labour market needs, and funding the FET colleges adequately so support these initiatives. In addition, DHET commits to continue and accelerate efforts to build capacity in FET colleges, through among others improving the governance, management, expanding and improving the quality of the offerings, strengthening the curriculum etc.

- To foster close working relationships between FET colleges and business, and ensure that companies are able to support public FET colleges. It will also ensure better alignment between what colleges offer and what industry needs in a specific area.
- To this end, Business commits to:
- Develop a plan for workplace exposure for FET College lecturers, in consultation with FET colleges for lecturers to be keeping up with, and be trained in the latest technological innovations and trends. This is crucial particularly in the engineering sciences and in other scarce-skill and rapidly-changing areas.
- Support efforts of engineers on their payroll to teach, either part time or as guests, at FET colleges.
- Offer support as may be needed, to the extent possible, such as sponsoring machinery for the training laboratories in their adopted colleges.
- It must be noted that the annual commitments as per the Commitment 5 were only made with government organisations, therefore this doesn't bridge the gap between demand and supply in the auto industry.

### 5.2. Skills Supply: FET Colleges

FET (Future Education and Training) comprises vocational and occupation education and training offered at colleges also referred to as post school education and training offered to learners after leaving school even at Grade 09. The other criterion for enrolment is that the learners must be at least 16 years of age.

**Course overview**

The intention of FET colleges is to offer a variety of course to address the scares skills demand needed by employers. Course durations can be from short term certificate to a formal 3 year diploma. The Department of Higher Education has driven a strong focus in supporting FET colleges in order to encourage South African youth to utilise the opportunity of having to benefit from the practicality offered by FET method of delivery as well as the subsidised course fees and students only having to pay for 80% of the course fees.

Variety of field of studies are offered ranging from agriculture; arts and culture; business, commerce and management; education, training and development; engineering, manufacturing and technology; services; building construction and security.

**Table 11: Qualifications Type Offered Through FETs**

| **Course Type** | **National Certificate (Vocational)** |
|---|---|
| Description / Definition | NC(V) programmes are delivered under the auspices of the Department of Higher Education and Training and quality assured by Umalusi. The programmes integrate theory and practice and provide students with a broad range of knowledge and practical skills within specific industry fields. |
| Duration | 3 Years (1 year per level) |
| Qualification | Full Certificates on NQF Level 2, 3 and 4<br>NC(V) Level 4 Certificate is equivalent to National Senior Certificate (matric) |
| Admission Requirements | Grade 9 + college requirements set per programme |
| Resources | Bursaries available for financially and academically qualifying students |

It must be noted that within the **Motor/ Automotive Sector**, only National Certificate is offered by FETs under the auspice of National Higher Education and Training. Introduced only in 2007, the intention was to address the skills shortages within specific sectors. The delivery method is to provide both theory and practice, practical being offered in workplace or simulated workplace environment.

For the 3 year period 2007 to 2009, the department had set aside R600 million, for bursaries towards students at level 02 and 3 enrolled for NC(V) programmes through the Department of Education FET College Bursary Scheme. The bursary is then extended to student in Level 04 of study.

**Table 12: Engineering and Automotive Study Subjects**

| **LEVEL 02** | **LEVEL 03** | **LEVEL 04** |
|---|---|---|
| Engineering Fundamentals<br>Engineering Technology<br>Engineering Systems<br>Physical Science<br>*And an option of:*<br>Fitting and Turning<br>Automotive Repair & Maintenance | Engineering Practice<br>Maintenance<br>Material Technology<br>Engineering Graphics and Design (CAD)<br>Physical Science<br>*And an option of:*<br>Fitting and Turning | Engineering Process<br>Professional Engineering Practice<br>Applied Engineering Technology<br>Physical Science<br>*And an option of:*<br>Fitting and Turning |

| | | |
|---|---|---|
| Engineering Fabrication<br>Welding<br>Refrigeration Principles | **Automotive Repairs & Maintenance**<br>Engineering Fabrication – Sheet Metal Worker<br>Welding<br>Refrigeration Practice | **Automotive Repairs and Maintenance**<br>Engineering Fabrication Boiler making<br>Engineering Fabrication – Sheet Metal Worker<br>Welding<br>Refrigeration and Air Conditioning Repairs |
| 3 Compulsory Subject:<br>First additional language offered as a language of teaching and learning<br>Mathematics of Mathematical Literacy<br>Life Orientation | | |

**Table 13: Career opportunities available after completion of the above:**

| | | |
|---|---|---|
| Chemical Engineering | Civil Engineering | Coal Technology |
| Geology | Mechanical Engineering | Metallurgical Engineering |
| Mining Metallurgy | Petroleum Engineering | Car Manufacturing |
| Architectural Technology | Welding | Tool Making |
| Building Management | Automotive Repairing | Motor Mechanics |
| Panel Beating | Refrigeration | Air-Conditioning |

On engagement with South Gauteng West College, the following was identified:

- The curriculum for all FET colleges for NCV is based on the 1999 to 2000 syllabus
- Even though practical is provided as part of the course, the technology still lag behind compared to where the motor industry is at currently.
- There is no linkage between DoE FET Colleges and Motor Chamber bodies to provide up to date practical training
- Upon graduations students would still need to be trained by their respective employers on new technology, therefore FET College graduates are not marketable in the industry

Therefore the challenge is bridging the skills demand in the sector cannot be resolved until the above is resolved. There are about 300 FET colleges in South Africa and all of them offering the above under the same system how is it possible that they can answer to the call of scarce skills demand.

Graduates are not able to compete with University Graduates who through their institutions facilities are better equipped to enter the job market. Brands such as BMW, Nissan (Nissan Academy), VW, Toyota (Toyota Academy) having established big operations in the country, have the ability to establish their own training academies (some already have) to answer to the skills shortage in the industry.

**Review of private Training Academy: UD Trucks and Automotive Training Academy**

**1. UD Trucks**

UD Trucks Southern Africa forms part of the world's second largest truck manufacturer. They offer a variety of training programmes to answer to shortage of skills supply in order to better service their customers and increase the bottom line.
The following are on offer:

| **Learnership**<br>**National Certificate: Automotive Components: Manufacturing & Assembly** | **Learnership**<br>**Business Practice** |
|---|---|
| **Aim:** To train successors to work effectively within the automotive component and manufacturing environment<br><br>**Duration:** 8 months<br><br>**Training Content:**<br>Assembly of vehicle components<br>Basic hand skills<br>Engineering hand tools<br>Numeracy / Literacy | **Aim:** To assist the shop floor workers to understand business concepts in the work place<br><br>**Duration:** 12 months |
| **Learnership**<br>**Manufacturing, Engineering and Related** | **Engineering**<br>**Student Programme** |
| Group consists of 15 unemployed learners – all disabled learners<br><br>**Duration:** 8 months<br><br>**Training content:**<br>Hand & Measuring Tools, Production Concepts, Numeracy / Literacy, Employer/Employee relationships | **Aim:** To give students the opportunity to complete P1 & P2 on-the-job training in order to receive a National Diploma qualification in Mechanical/Industrial Engineering<br><br>**Intake:** Annually |

| **Learnership**<br>**Diesel Mechanic** |
|---|
| **Aim:** To close the gap of skills shortage in the<br>UD Trucks Network<br><br>**Duration of the training:** 24 months |

## 2. Automotive Training Academy

Automotive Training Academy's aim is to improve and ensure effective business performance through training interventions and organisational development. ATA offer Technical and Soft skills Training as well as a full Human Resources Scope as part of their tailor made solutions respective to what the client needs.

| **Technical Skills** | **Soft Skills** | | **HR Training** | |
|---|---|---|---|---|
| Body Shop Training - CO2 welding, spot welding and metal finish | Leadership and Supervisory | Microsoft Training | Recruitment & Selection | Industrial relations |
| Paint Shop Training - all aspects related to spray painting | Facilitation of Skills Act | Psychometrics Assessments | Organisational Development | Change Management |
| Fork Lift Training - operators require a valid operating certificate | Counselling, Coaching | Employee Surveys | HR management function | Retrenchment process management |
| Trim and Mechanical Training - electrical & mechanical component fitment to the body of a vehicle | Business Process Reviews | Employee Wellness Programs | Succession planning | Counselling & coaching |
| | SAP | SHE | Payroll | Leave administration |
| | Industrial Relations | Assessments | Strategic management: Development and Training | |
| | Team Building | Process Mapping and Improvements | | |
| | Problem Solving | Stress Transformation | | |
| | Train the Trainer | Time Management | | |
| | Customer Care | Emotional Intelligence | | |

The following below table qualification programme types are not offered at DoE FET Colleges for Motor/Automotive Sector learners, however should they be offered to the learners they will significantly improve their chances of accessing employment immediately after graduation.

| **Course Type** | **NATED / Report 191** |
|---|---|
| **Description / Definition** | NATED / Report 191 programmes are delivered under the auspices of the Department of Higher Education and Training and quality assured by Umalusi. The programmes consist of 18 months theoretical studies at colleges and 18 months relevant practical application in work places. Engineering studies range from N1 – N6 while Business and Utility Studies range from N4 – N6 |
| **Duration** | 1 Year for N1 – N3 Engineering Studies<br>1 Year for N4 – N6 Engineering Studies<br>3 Years (18 months theoretical studies + 18 months' workplace application) for N4 – N6 Business and Utility Studies |
| **Qualification** | N6 Diploma |
| **Admission Requirements** | Grade 9 for N1 admission<br>Grade 12 for N4 admission |
| **Resources** | Bursaries available for financially and academically qualifying students |

| **Course Type** | **National Higher Certificate** |
|---|---|
| **Description / Definition** | These are Higher Education programmes offered at colleges in partnership with Higher Education Institutions. |
| **Duration** | Specific to programme * |
| **Qualification and Part Qualification** | Specific to programme * |
| **Admission Requirements** | Grade 12 + requirements set by HE institution and college |

| Course Type | Learnerships |
|---|---|
| **Description / Definition** | This is a route to a NQF registered full qualification and is offered under the auspices of SETAs and quality assured by SETA ETQAs. |
| **Duration** | Specific to programme * |
| **Qualification** | Full qualification |
| **Admission Requirements** | Specific to programme * |

| **Course Type** | Skills Programme |
|---|---|
| **Description / Definition** | These programmes are based on a cluster of NQF registered unit standards and are offered under the auspices of SETAs and quality assured by SETA ETQAs. Skills programmes can build up to a full qualification. |
| **Duration** | Specific to programme * |
| **Qualification** | Part qualification with credit recognition towards full qualification |
| **Admission Requirements** | Specific to programme * |

| **Course Type** | NQF Full Time |
|---|---|
| **Description / Definition** | National Qualifications Framework (NQF) registered qualifications offered to full time private students under the auspices of SETAs and quality assured by SETA ETQAs. |
| **Duration** | Specific to programme * |
| **Qualification** | Full qualification on various NQF Levels |
| **Admission Requirements** | Specific to programme * |

| **Course Type** | Non Formal |
|---|---|
| **Description / Definition** | Enrichment programmes that result in an attendance certificate or programmes that are company based training against a specific demand. |
| **Duration** | Specific to programme * |
| **Admission Requirements** | Specific to programme * |

| | |
|---|---|
| **Course Type** | ABET Or AET |
| **Description / Definition** | Adult (basic) education and training programmes. |
| **Duration** | Specific to programme * |
| **Qualification and Part Qualification** | Specific to programme * |
| **Admission Requirements** | Specific to programme * |

### 5.3. Skills Supply: The Necessity for Stakeholder Partnering

It was confirmed during the data gathering and research that currently in the industry there disconnect, where employers will poach skilful artisans, FET will train artisans who will enter the job-market with irrelevant and non-aligned skill-sets, culminating in 'large employers' having to close this gap trough in-house training interventions.

Therefore the international best practice of 'partnering' between: private & public providers and industry (employers) need to be embraced. Thus some of the 'employers' need to 'adopt' and form alliances with skills providers. So that curricula & skill-sets developed are matched with actual and future industry requirements. Also 'employers' are to come to the party by creating opportunity for 'trainees' to gain 'workplace readiness orientation & experience'. *Career marketing* and orientation at school level w.r.t. relevant subject choice to register & enter scares skills programmes. Providers need to network and partner with leading local and international *Centres of Excellence*, ensuring that they have their; lecturers, learning methodologies & materials at cutting edge.

## 6. FINDINGS OF CURRENT SKILLS SUPPLY FOR 2020

The essence of this report is to determine the skills supply gap and to make recommendations to bridge the gap towards 2020.
The findings of a thorough assessment of qualifications, unit standards and learning material are set out below. Please note that it is not at this stage possible to link specific positions to specific future skills needs. Further research is required to identify skills per position.

## Green agenda

The green agenda is only covered in some qualifications and unit standards, but the focus is merely on environmental protection. It is clear from the 2020 desktop research considerable more skills are required for the entire green landscape. Learning material should also include skills topics such as:

- The Waste Act. (Act 59 of 2008). The Motor industry can be viewed as a major creator of waste. It is essential that all aspects of the Act that have an impact on the Motor industry be considered for inclusion.
- Carbon credits. This variable has a direct and major impact on the Motor industry and it is essential that learning material be adapted accordingly.
- Hybrid vehicles. This means of vehicle could have a major impact on the Motor industry and it is essential that the impact be contained in learning material.
- Gas motor vehicles. The current artisans – as found not being amply skilled for current vehicle technology therefor totally fall short regarding the requirements for Gas Vehicles. The aforementioned may result into 'new trades' (This will still unfold via cautious research: as per the Durban RMI focus group of 8th November 2012).

## Social media

No social media learning material aimed at the motor industry was found in any unit standard or learning material. Generic social media training and solutions are found on the skills market, but is essential that such be customised for the unique demands and requirements of the motor industry. The Industry relies heavily on quality information about client needs, complaints, etc. Social media is an excellent means of information gathering. For example e-mail harvesting and client information on Facebook are possible.

It was found that most leading companies have social media as an integral part of their corporate strategies. It is therefore essential that existing learning material be updated. Social media is an integral part of the information revolution around the world. It is essential that people in the Motor industry be empowered to use these media to the benefit of all stakeholders.

**Technological innovation**

The terms technology and technological were found in various unit standards, but the longer term perspective was not found in any learning material. The desktop research on technology revealed various specific 2020 themes for which learning material should be developed or customized, such as:

- Alternative Fuel Skills,
- Technology Innovation Skills,
- Hybrid drive-train technology Skills,
- Computerization/ digitation technology
- Skills to new generation vehicles,
- Robotics Skills, etc.

**Ageing population**

The ageing population on as theme was not found in any unit standard or learning material. The year 2020 and beyond will be dominated by older people who have specific requirements and tastes. From a marketing perspective, specific skills are required to serve this market and it is essential that learning material be updated or customised.

**Growing Middle class**

The growing middle class will be a major source of income for most industries. This term was not found in any learning material. From as marketing perspective, this market should be exploited and new skills sets will be required. Learning material should be adapted accordingly.

Due to the fact that cars are expensive items it can be expected that a large number of cars sold by 2020 will be purchased by members of the middle class.

**Social variables**

Of all the drivers of change, social variables are covered the most extensively. Unit standards on HIV/AIDS form an integral part of all qualifications offered to the Motor industry. This is viewed as a very positive effort to attempt to control this pandemic.

However attention is required to be given towards:

- Living Well Skills
- Other controllable deceases such as: TB / Hypertension / Diabetics
- Live skills w.r.t. – personal finance planning / etc.
- Developing a portable skillset – which can be linked to continuous employability

**The BRICS effect on Motor Industry Globalization**

With the incorporation of South Africa into the BRICS fold, a number of 'possible' invasion and foreign tans-plant/ investments in motor components and aftermarket assembly, due to: raw material local availability, labour rates, foreign trade agreements, etc. will require new distinct skill-sets, informed by real-time delivery and World-Class practices, to ensure total incorporation into global production value chains.
It is therefore clear that considerable work lies ahead to address the skills gap up to 2020.

## 7. RECOMMENDATIONS

The following recommendations are submitted for approval and implementation:

- That a study be done to determine the required skills per position anticipated for 2020. It is essential that the impact of the 2020 landscape be cascaded per key position.
- That a discretionary grant be made available to undertake curriculum development on identified 2020 requirements.
- Expanding the 'voucher system' to deal with: bridging the gap which exists w.r.t.:
- Technology features
- Relevant terminology & phrase (distinct to industry)
- Basic Computing literacy
- Basic numeracy / mathematics
- Employability skills
- Introduce and facilitate (through subsidy models) the development and forming of related 'partnerships' amongst related stakeholders.
- Secure and evaluate more information on the; role & impact of the QCTO w.r.t. current & future skills development practices in the Motor Industry. The afore to guide the involvement and appointment of 'enterprise experts & subject matter leaders' from Industry, ensuring optimal alignment between actual industry standards and published standards. Industry providers and thought leaders

consulted during this project are ideally positioned to be engaged and commissioned to create appropriate interventions for the Motor Industry.

- Based on the fact that 'skill-sets' life cycle and relevance will reduce, the necessity to research such and determine the possibility of invoking 'CTD' (Continuous Technical Development) system, which could ensure up-keeping and staying abreast with new emerging developments in the Motor industry.
- Further research be undertaken to determine the impact of the listed drivers of change on possible occupation and job content. As it is anticipated that totally new jobs will emerge up to 2020 that will have distinct sets of required skills for which no learning material exist.
- That a 2020 awareness campaign be launched in the industry to highlight the skills landscape that will change considerably. It is necessary to inform decision makers in the industry of the anticipated changes and outline their support for this skills initiative.

## 8. CONCLUSION

Finally it can be concluded that the supply and demand analysis has made a major contribution towards achieving all research deliverables. The fact that the Motor chamber of merSETA initiated this major project should be viewed as a major step forward.

A solid base has now been established to direct the implementation strategy of this research project.

## 9. NEXT STEPS

With the supply and demand research completed, the next step would be strategizing. Deliverables scheduled for compilation at a later stage, such as curricula assessment has already been completed.

The research team is currently busy with a PESTEL and SWOT analysis to direct the implementation strategy. The strategy will be expressed under the following headings:

- Priorities or focus areas
- Objectives, which are measurable deliverables to monitor the achievement of results following this major research project.
- Implementation recommendations

At the consultative session on 15 October 2012 the Final Research Report index (annexure 4) was proposed and not changes were suggested. It is clear that these headings make provision for reporting on all deliverables contained in the scope of the research assignment.

**Annexure 1:**

**Focus group agenda / questions**

Industry experts were consulted on the following key issues required to conduce the research project:

1. Do you have any contributions to the 2020 landscape
2. What impact will the QCTO have on skills supply to the motor industry?
3. What changes will occur pertaining to existing and future skills within occupations
4. Please indicate any changes to existing and Future skills requirements of occupations in terms of Scarce & Critical skills
5. What are you opinions about skills outputs from institutions?
6. Are there any other existing and future skills shortages?
7. Develop scenarios & suggest solutions to deal with skills demand for the next 5 years
8. Please list your requirements and contributions in terms of Green economy skills for the Motor Chamber
9. Feedback on interim report
10. Other key issues of importance

**Annexure 2:**

**SUMMARY OF FOCUS GROUP HELD WITH THE MOTOR CHAMBER OF merSETA ON 15 OCTOBER 2012**

The contribution by key stakeholders at the focus group consultative session on 15 October at the offices of merSETA can be summarised as follows:

**1. Do you have any contributions to the 2020 landscape**

It was agreed that merSETA relies on inputs from the industry that need to be followed up regularly. A special research project to secure information should be considered. .It was agreed that the 2020 landscape should be included in the learning material. Delegates took note of the areas already identified such as the green agenda and social media.

Hybrid vehicles will play an important role in future and associated skills should be identified and skills required be identified for inclusion in curricula. Information on changing technology should also be continuously researched. The Green agenda is viewed as very important by all participants. The energy sources should also be addressed such as alternative energy. The term telemetry technology should be included. Smart cities. Are foreseen that make provision for locating car zones at airports

Infrastructure (electric cars) reloading points will be at the roads, requiring appropriate skills.

The question How will the 2020 customer look like? should be addressed. More research is required.

A future mindset is required at decision maker level. Value webs and know how. Qualifications will have a lifespan of 2 years. Information and qualifications need to be updated more regularly. Diagnostic tools will be more electronically requiring more skills for example in the rural areas.

**2. What impact will the QCTO have on skills supply to the motor industry?**

It was agreed that the QCTO has the potential, but the system is confusing. merSETA requires more detail. It was agreed to consider Unpacking and analysing the contribution in terms of skills fragmentation and alignment to national strategies and

presidential priorities. vs skills complementation dealing with scarce skills development acceleration.

More information on the implementation of the QCTO is required. The necessity in terms if policy and implementation is required from the QCTO.

3. **What changes will occur pertaining to existing and future skills within occupations?**

Skills upgrade will become more important. CPD initiatives and policy could become more important. Top up skills required are at all levels, especially in terms of the 2020 landscape. More specialised positions, e.g. maintenance will require specialised skills. Technology will affect all positions.

4. **Please indicate any changes to existing and Future skills requirements of occupations in terms of Scarce & Critical skills**

Artisan's positions will increase in specialised knowledge. Some skills will vanish, for example spray painting could be entirely computerized. Retention of skills vs access to information becomes more important. Call centres and data sites will increase in importance.

Diagnostic and robotic skills will increase. Laser welding skills will increase vs arc and other welding techniques.

5. **What are you opinions about skills outputs from institutions?**

FET students have insufficient industry knowledge. All stakeholders should sit around the same table (DHET, providers and employers) and discuss needs and provide answers. More workplace centres of excellence to be created. Should there be any correlation between public and private learning institutions in terms of qualifications? (Common standards should be enforced)

6. **Are there any other existing and future skills shortages?**

The changing 2020 landscape was once again discussed at length with its associated skills requirements in key areas such as social media, the green agenda, the ageing population and growing middle class as primary market.

7. **Develop scenarios & suggest solutions to deal with skills demand for the next 5 Years**

Do problem needs analysis first. It was agreed that continuous 2020 research to identify emerging skills needs is very important.

8. **Please list your requirements and contributions in terms of Green economy skills for the Motor Chamber**

Knowledge and competencies on the Waste Act should be provided for. Recycling was also identified as a key competency area of the future. What to recycle should be addressed, for example 500 tonnes of rubber are left on SA roads daily. . A research project just on the green agenda might be a sensible solution to address future skills needs.

**Annexure 3:**

**List of Current Qualifications Reviewed**

| Qualification | NQF Level |
|---|---|
| Armature Winder | 2, 3 |
| Assistant Carbon Steel Welder | 3 |
| Automotive Body Repairer | Apprenticeship |
| Automotive Electrician | Apprenticeship |
| Automotive Engine Fitter | Apprenticeship |
| Automotive Machinist | Apprenticeship |
| Automotive Maintenance Assistant | 1, 2 |
| Basic Arc And Gas Welder | 1, 2 |
| Basic Raw Materials | 2, 3 |
| Basic Shielded Metal Arc Welder | 2, 3 |
| Basic Skills For The Workplace | 2, 3 |
| Basic Vehicle Spray Painter | Apprenticeship |
| Basic Welding Skills | 2 |
| Boilermaker | 2, 3, 4 |
| Certificate in manufacturing and assembly techniques | 3 |
| Communication Skills | 1, 2, 3, 4 |
| Component Assembler / Manufacture | Unknown |
| Conduct HACCP Studies & Internal Audits With A Quality & Food Safety Environment (FOODBEV) | 1 |
| Demand Creation And Supply Chain Management (FOODBEV) | Unknown |
| Diesel Fitter | Apprenticeship |
| Diesel Fuel Injection Mechanic | Apprenticeship |
| Diesel Mechanic | Apprenticeship |
| Diploma: Accounting Technician | 5 |
| Dyna Core Supervisory | 3, 4, 5 |
| Earth Moving Equipment Mechanic | 2 |
| Effective communication in the workplace | 2, 3, 4 |
| Electrician | Apprenticeship |
| Electrician (Engineering) | 2, 3, 4 |
| Electronics Equipment Mechanician | Unknown |
| Fitter | Apprenticeship |
| Fitter and Turner | Apprenticeship |
| Forklift Mechanic | 2, 3 |

| | |
|---|---|
| Further Education And Training Cert: Plastics Manufacturing | 4 |
| Further Education And Training Cert: Business Administration Services (Secretarial/Admin) | 4 |
| Further Education And Training Cert: Accounting Technician (FASSET) | 4 |
| Further Education And Training Cert: Automotive Body Repairer | 4 |
| Further Education And Training Cert: Automotive Repair And Maintenance (Commercial Vehicle) | 4 |
| Further Education And Training Cert: Automotive Repair And Maintenance (Passenger And Light Delivery Vehicles | 4 |
| Further Education And Training Cert: Automotive Sales And Support Services (Passenger Vehicle Sales) | 4 |
| Further Education And Training Cert: Automotive Sales And Support Services (Part Sales) | 4 |
| Further Education And Training Cert: Automotive Sales And Support Services (Vehicle Servicing) | 4 |
| Further Education And Training Cert: Electrical Engineering (ESETA) | 4 |
| Further Education And Training Cert: Engineering Fabrication: Manufacturing And Eng. | 4 |
| Further Education And Training Cert: Food Manufacturing Management | 4 |
| Further Education And Training Cert: Generic Management: General Management (SERVICES SETA) | 4 |
| Further Education And Training Cert: Lift Installation And Maintenance | 4 |
| Further Education and Training Cert: Manufacturing and Assembly Operations Supervision | 4 |
| Further Education And Training Cert: Mechanical Engineering: Fitting: Manuf. And Eng. | 4 |
| Further Education And Training Cert: Mechanical Engineering: Machining And Tooling | 4 |
| Further Education And Training Cert: Mechatronics (Hydraulics And Pneumatics) | 4 |
| Further Education And Training Cert: Short Term Insurance (INSETA) | 4 |
| Further Education And Training: Management (SERVICES SETA) | 4 |
| General Education And Training Certificate: Business Practice | 1 |
| General Education and Training Certificate: Hygiene and Cleaning (SERVICES SETA) | 1 |
| GETC: Domestic Services (SERVICES SETA) | 1 |
| Handling of Tools and Equipment | 2, 3 |
| HIV/AIDS Counsellor | 2 |

| | |
|---|---|
| Induction into manufacturing process | 2 |
| Instrument Mechanician | 2, 3 |
| Labour relations in a workplace | Unknown |
| Life skills | 2, 3 |
| Life skills and budgeting programme | 2, 3 |
| Lift Mechanic | 2, 3 |
| Machine Construction (e.g. Injection Moulding) | 3 |
| Machine Operations (e.g. Injection Moulding) | 3 |
| Machine Tool Setter | Unknown |
| Managerial Finance And Analytical Techniques NQF 6 (FOODBEV) | 6 |
| Managing Human Capital NQF 6 (FOODBEV) | 6 |
| Manufacture A Composite Product | 2, 3, 4 |
| Manufacturing Management Development Programme - Leadership | Unknown |
| Manufacturing Management Development Programme - Processes | Unknown |
| Millwright (Electromechanician) | 3, 4 |
| Motor Mechanic | Apprenticeship |
| Motorcycle and Scooter Mechanic | Apprenticeship |
| Moulder | 2, 3, 4, 5 |
| National Certificate : Automotive Repair And Maintenance (Passenger And Light Delivery Vehicles) NQF Level 5 | 5 |
| National Certificate : Autotronics NQF Level 4 | 4 |
| National Certificate : Foundry Operations (Floor Moulding) NQF Level 3 | 3 |
| National Certificate : Foundry Operations (Foundry Melting) | 3 |
| National Certificate : Foundry Operations (Machine Moulding) | 3 |
| National Certificate : Foundry Operations (Wooden Patternmaking) | 3 |
| National Certificate : Metals Production (Iron And Steel Manufacturing) | 3 |
| National Certificate in Autotronics | 2, 3, 5 |
| National Certificate in Engineering Fabrication:(Boilermaker) | 2 |
| National Certificate in Generic Business Administration | 3 |
| National Certificate in Management (Team Leader) | 3 |
| National Certificate in Manufacturing, Engineering and Related Activities | 1 |
| National Certificate in Mechanical Engineering (Fitting and Machining) (Fitter & Turner) | 2, 3, 4 |
| National Certificate in Mechanical Engineering (Fitting) (Fitter) | 3, 4 |
| National Certificate in Mechanical Engineering (Machining) (Turner) | 2 |
| National Certificate in Mechatronics | 4 |
| National Certificate in Metal and Engineering Manufacturing Processes | 3 |

| | |
|---|---|
| National Certificate In Metals Production (Iron Steel Manufacturing) | 2 |
| National Certificate In Plastics Manufacturing | 2, 3 |
| National Certificate in Polymer Composite Fabrication | 2, 3 |
| National Certificate in Power and Telecommunication Cable Manufacturing | 3, 4 |
| National Certificate in Thermoplastic Fabrication | 3 |
| National Certificate In Welding Application And Practice (Steel Weld) | 2 |
| National Certificate: Business Administration Services (Secretarial/Administration) | 2 |
| National Certificate: Air-Conditioning, Refrigeration And Ventilation | 2, 3 |
| National Certificate: Automotive Body Repairer | 2 |
| National Certificate: Automotive Components: Manufacturing And Assembly | 2, 3 |
| National Certificate: Automotive Repair And Maintenance (Commercial Vehicle) | 2, 3, 5 |
| National Certificate: Automotive Repair And Maintenance (Earthmoving Equipment) | 2, 3 |
| National Certificate: Automotive Repair And Maintenance (Lift Trucks) | 2 |
| National Certificate: Automotive Repair And Maintenance (Passenger And Light Delivery) | 2, 3 |
| National Certificate: Automotive Spraypainting (Spray Painter) | 2 |
| National Certificate: Autotronics | 2, 3 |
| National Certificate: Business Administration Services | 3 |
| National Cert: Business Consulting Practice (Enterprise Resource Planning) | 5 |
| National Certificate: Contact Centre Support (Service SETA) | 2 |
| National Certificate: Electrical Engineering (ESETA) | 3 |
| National Certificate: Electrical Engineering: Electrical Construction (CETA) | 2, 3 |
| National Certificate: Electronics (MICTS) | 3 |
| National Certificate: Engineering (Sheetmetal Worker) | 2 |
| National Certificate: Engineering Fabrication (Boiler Maker) | 2, 3 |
| National Certificate: Foundry Operations (Wooden Patternmaker) | 2 |
| National Certificate: Generic Management: General Management (Services Seta) | 5 |
| National Certificate: Generic Management: Motor Industry Management | 5 |
| National certificate: information technology: end user computing | 2, 3 |
| National Certificate: Information Technology: Systems Support | 5 |

| | |
|---|---|
| (MICTS) | |
| National Certificate: Manufacturing Management | 5 |
| National Certificate: Mechanical Engineering (Manufacturing And Engineering Fitter) | 2 |
| National Certificate: Mechanical Engineering: Fitting: Manufacturing And Engineering | 3 |
| National Certificate: Mechatronics | 2, 3 |
| National Certificate: Metal And Engineering Manufacturing Processes | 2 |
| National Certificate: Metals Production (Iron And Steel Manufacturing) | 2 |
| National Certificate: Plastics Manufacturing | 5 |
| National Certificate: Production Technology | 2, 3 |
| National Certificate: Quality Checking and Finishing of Manufactured Tyres | 2 |
| National Certificate: Tyre and Tyre Component Manufacturing | 2, 3 |
| National Certificate: Tyre Assembly | 3 |
| National Certificate: Tyre Repair And Maintenance (Tyre, Tube Repairing And Fitting) | 2 |
| National Certificate: Wholesale and Retail Distribution | 2 |
| National Certificate: Yacht And Boat Building | 2 |
| National Diploma: Automotive Diagnostics And Repair (Commercial Vehicle) | 5 |
| National Dipl: Automotive Diagnostics And Repair (Passenger And Light Delivery Vehicles) | 5 |
| Numeracy Skills | ABET, 1 |
| Operations Supervision Phase 3 (Effective Workplace Calculations) | 4 |
| Operations Supervision Phase 5 (Effective Industrial Relation) | 4 |
| Patternmaker | 2, 3, 4 |
| Pipe Fitter | 2, 3 |
| Polymer Composite Laminator | 2, 3, 4 |
| Principles of Supervision | 4 |
| Refractory Mason | 2, 3 |
| Refrigeration Mechanic (Commercial) | 2, 3 |
| Refrigeration Mechanic (Industrial) | 2, 3 |
| Rigger | 2 |
| Risk Management In The Sensitive Consumer Products Supply Chain (FOODBEV) | 6 |
| Roll turner | 2, 3, 4 |
| Safe Use Of Gas Cutting Tools | 2, 3 |
| Safe Use Of Workshop Tools | 2 |

| | |
|---|---|
| Safety in the workplace | 2, 3, 4 |
| Safety, health and environment business relations | 2, 3, 4 |
| Scheduling, planning and control | 4, 5 |
| Sheet Metal Worker | 2, 3, 4 |
| Spraypainter | Apprenticeship |
| Steel Erector | 3 |
| Supervisory Management - phase 2 | 4 |
| Supervisory Management Phase 1 | 3 |
| Supervisory Techniques | 2, 3, 4 |
| Tool Jig & Die Maker | 3 |
| Tractor Mechanic | Apprenticeship |
| Transformational Leadership (FOODBEV) | 6 |
| Turner | Apprenticeship |
| Turner Machinist | Apprenticeship |
| Universal Grinder | 2 |
| Vehicle Body Builder | Apprenticeship |
| Vehicle Service Person | 2, 3, 4 |
| Welder | 1, 2 |

**Annexure 4:**

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