



MICTSETA

Media, Information And
Communication Technologies
Sector Education And Training Authority

SHAPING SKILLS, PIONEERING INDUSTRIES, EMPOWERING FUTURES



SECTOR SKILLS PLAN

2024/25

FINAL SUBMISSION

01 AUGUST 2023

Foreword

In this annual update of the MICT SETA Sector Skills Plan, we have conducted rigorous research to ensure that the documented occupational shortages and skills gaps are true reflections of demand and supply in the labour market. Data on labour shortages is often a subject of debate. To this effect, a number of different stakeholders were consulted to construct a comprehensive picture of the Sector and its direction.

This year, we did a comprehensive analysis of 4IR technologies and their role in the MICT Sector to acquire deeper insights into the real skills shortages and support industry in closing those skills gaps. The more confidence we have in the Sectoral Priority Occupations, the more assured we are of the Strategic Plan. The combined efforts from all stakeholders to produce this document are gratefully acknowledged. The following deserve special mention:

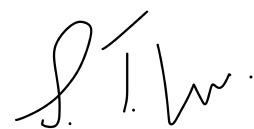
- The MICTSETA Accounting Authority members.
- MICTSETA Industry and professional bodies.
- Academic and research institutions at large.
- Organised Labour; and
- All the stakeholders who kindly participated in our interviews, surveys and focus groups.

Our thanks go to all the stakeholders whose collective wisdom has been incorporated into this document. Sharing of knowledge is a catalyst for achieving South Africa's skills development potential and economic growth.



Mr. Matome Madibana

Chief Executive Officer (CEO): MICT SETA



Mr. Simphiwe Thobela

Chairperson: MICT SETA Board

Acronyms

4IR	Fourth Industrial Revolution	MCSE	Microsoft Certified Solutions Expert
5G	Fifth-Generation Wireless Technology	MDDA	Media Development and Diversity Agency
ACASA	Association for Communication and Advertising South Africa	MICT	Media, Information and Communication Technologies
AI	Artificial Intelligence	MTSF	Medium Term Strategic Framework
AR	Augmented Reality	NAB	National Association of Broadcasters
ATR	Annual Training Report	NDP	National Development Plan
B-BBEE	Broad-Based Black Economic Empowerment	NGO	Non-Governmental Organisation
BABOK	A Guide to the Business Analysis Body of Knowledge	NGP	New Growth Path
CAGR	Compound Annual Growth Rate	NLPE	Neuro-Linguistic Programming Executive
CBO	Community- Based Organisations	NLRD	National Learner Record Database
CECS	Centre of Excellence in Cyber Security	NQF	National Qualifications Framework
CEO	Chief Executive Officer	NSI	National System of Innovation
CISCO	Commercial & Industrial Security Corporation	NSDP	National Skills Development Plan
CISSP	Certified Information Systems Security Professional	OFO	Organising Framework for Occupations
COBOL	Common Business-Oriented Language	OGS	Online Grant System
CompTIA	Computing Technology Industry Association	PC	Personal Computer
Covid-19	Corona Virus Disease 2019	PRINCE2	Projects in Controlled Environments 2
DCDT	Department of Communications & Digital Technologies	PICC	Presidential Infrastructure Coordinating Commission
DHET	Department of Higher Education	QCTO	Quality Council for Trades and Occupations
DEF	Deaf Empowerment Firm	QMR	Quarterly Monitoring Report
DPSA	Department of Public Service and Administration	SACIA	Southern African Communications Industries Association
DTT	Digital Terrestrial Television	SAP	Systems Applications and Products
EE	Employment Equity	SDF	Skills Development Facilitator
ETQA	Education and Training Quality Assurance	SDL	Skills Development Levy
FOSS	Free Open Access Software	SEDA	Small Enterprise Development Agency
GDP	Gross Domestic Product	SETA	Sector Education and Training Authority
GITOC	Government Information Technology Officers Council	SET	Science, Engineering and Technology
HEI	Higher Education Institution	SIC	Standard Industrial Classification
HEMIS	Higher Education Management Information System	SIP	Strategic Integrated Projects
HRDSSA	Human Resource Development Strategy of South Africa	SITA	State Information Technology Agency
HTFV	Hard to Fill Vacancy	SKA	Square Kilometre Array
IBM	International Business Machines	SLA	Service-Level Agreement
IIBA	International Institute of Business Analysis	SMME	Small, Medium, and Micro-enterprises
ICASA	Independent Communications Authority of South Africa	SPO	Sectoral Priority Occupations
ICT	Information and Communication Technology	SSP	Sector Skills Plan
IITPSA	Institute of Information Technology Professionals South Africa	STB	Set Top Box
IoT	Internet of Things	TIA	Technology Innovation Agency
IPAP	Industrial Policy Action Plan	TVET	Technical Vocational Education and Training
ISACA	Information Systems Audit and Control Association	USAASA	Universal Service and Access Agency of South Africa
IT	Information Technology	VOD	Video on Demand
ITA	Information Technology Association	VOIP	Voice Over Internet Protocol
M&E	Monitoring and Evaluation	VR	Virtual Reality
MANCO	Management Committee	WIL	Work Integrated Learning
MCSA	Microsoft Certified Solutions Associate	WP-PSET	White Paper on Post Schooling Education and Training
MCSA	Microsoft Certified Solutions Developer	WSP	Workplace Skills Plan

Executive Summary

The MICT Sector Skills Plan (SSP) has been developed over the period of NSDP to map out and plan for occupational skills needs in the Advertising, Film and Electronic Media, Electronics, Information Technology and Telecommunications industries. The SSP is updated each year to analyse the changes in the sector's labour market and does so against the backdrop of the economic performance of the sector and developmental agenda of the country. It sizes up the gap between the demand for and supply of skills and finally outlines strategies for dealing with the identified challenges.

Data collection tools and methods

The data collection tools used include interview questionnaires specifically designed to capture the key trends across the five sectors that exist within the MICT SETA, an integration of existing research was a priority, and therefore, tracer study findings were also incorporated in the finalization of this research document, online surveys and focus group discussions were key in validating the research findings. Furthermore, there was a review of available literature, including national policy and strategy documents, industry plans and sector performance reports. An analysis of data, including SETA employer and employee data, economic and labour market trend data accessed through StatsSA and industry reports. SETA data on grant spending and learner enrolments and completions in recent years, however it remains difficult to access the most recent HEMIS data on TVET colleges. We were able to access Higher Education Information Management System (HEMIS) data up until 2021 for TVET completions. In addition, there was continuous consultation with stakeholders in each of the sub-sectors, the SETA research team and SETA management focusing specifically on the SSP content and the update of the information. In relation to the Hard to fill vacancies, Skills gaps and PIVOTAL lists efforts have been made to triangulate findings and confirm the findings with stakeholders.

Sector Profile

In the 2022/23 fourth quarter, the transport, storage & communication, construction, and personal services were the bright spots. Transport, storage & communication made the largest positive impact, rising by 0,7% and contributing 0,1 of a percentage point to growth (Gross Domestic Product (GDP) 4th Quarter, 2022).

As of 2023, the MICT Sector is made up of 30 866 employers, this represents a 7% decrease from the 32 985 reported in the previous financial year. From the current employer base, only 8 401 employers are paying levies, this is a slight decline from 8 896 reported in the previous financial year. The research cannot pinpoint this to one factor affecting the employer base, there are several factors such as loadshedding affecting small businesses, thus, some have decided to close shop or freeze their operations. Another identified factor is the interest rate hike which has pressured small business, making it hard for them to operate as they have less flexibility to invest in long-term growth or less day to day cash flow stability.

Key Skills Change Drivers

Ten (10) 4IR technologies were studied as drivers of change in the sector, with Cloud Computing, Internet of Things (IoT), Artificial Intelligence (AI), Big Data Analytics and 5G coming up strongly as the biggest change drivers in the sector. Apparent is that technology is transversal, it plays a critical role in other sectors of the economy, examples of the blue economy or the Oceans economy”, the skills development within the MICT sector has a ripple effect in the other sectors. The MICT SETA should take the opportunity to foster sustainable partnerships which will prove conducive to its skills development mandate, It should continue to follow course with specialised skills to set up and maintain new and future technologies. Engaging in this will help balance perspectives of also catering for lower-end skills, allowing the SETA to create a qualification mix that caters for all levels of employees in the sector.

Occupational Shortages and Skills Gaps

The following is a list of the top 10 sectoral priority occupations for the MICT sector: Software developer; Computer Network and Systems Engineer; ICT Systems Analyst; Management Consultant (Business Analyst); ICT Security Specialist; Multimedia Specialist; Programmer Analyst; Developer Programmer; ICT Project Manager; and ICT Sales Representative. The predominant skills gaps in the sector include Design and Critical thinking skills, Communication skills, Leadership skills, Technical skills, Project management skills, and certified skills (CompTIA A+, Network+, MCSA, MCSE, Azure, CISCO, etc.). The MICT sector priority occupations list makes 14% of the national priority skills published by DHET in February 2022, these are 14 occupations out of the 101 occupations in the national list.

SETA Partnerships

The SETA has entered into partnerships with various institutions to advance sector development and growth. This was intentional to address the skills development challenges posed by the Fourth Industrial Revolution (4IR). The partnerships identified address the skills development challenges posed by the Fourth Industrial Revolution (4IR), hence, the MICT SETA has committed itself in these partnerships in alignment with the key principles of the NSDP, ERRP and ERRP Skills strategy. Through strategic partnerships, the SETA will continue to leverage resources, expertise, and innovative solutions to equip the workforce with the skills needed to thrive in the digital age. Transformational imperatives will continue to be a priority – these includes race, gender, geography, and people with disabilities.

SETA Monitoring and Evaluation

The MICT SETA considers itself as a reflective organisation, applying the results-based approach to M&E, which is intended to aid decision-making through credible, reliable, and useful information generated from monitoring reports. From the MICT SETA perspective, the achievement of the result-based approach may not be possible without integration of Planning, Monitoring and Evaluation. Planning helps to focus on results that matter, while M&E facilitates learning from past successes and challenges including those encountered during implementation. Therefore, the MICT SETA has dedicated efforts to establish a meaningful M&E Division in an incremental fashion which will see the staff complement steadily increasing overtime. In the main, the Division oversees the overall performance of the SETA on implementation of its programmes and initiatives as well as reporting thereof.

The Division's core functions include designing and implementing the M&E system, gathering and interpreting monitoring data for decision making and improvement in implementation. Institutionalising M&E is the epicentre to managing programme performance information at the MICT SETA.

Strategic Skills Priority Actions

The following set out the proposed broad skills development objectives for the sector:

1. Improve the trustworthiness of the data used for skills planning through data triangulation. Such systematic and in-depth research will be achieved through collaboration with industry bodies, universities, and acclaimed research institutions.
2. Better position the MICT sector to enable the 4IR through increasing access to and uptake of relevant skills development interventions, and by developing required qualifications and learning interventions. This will be achieved further through support by the SETA for the development of the skills required to research, develop, and commercialise 4IR technologies and products.
3. Set realistic targets in collaboration with industry, ensure implementation through the allocation of discretionary grants and monitor delivery of Service Level Agreement deliverables as a way of addressing sectoral occupational shortages and skills gaps. This will prioritise the development of skills that enable 4IR occupations and specialisations.
4. Identify TVETs with the potential for meaningful collaboration and enter into partnerships with them. These partnerships will recognise some of the TVETs as Centres of Specialisation, linking them with industry and ensuring that programmes offered are aligned to identified skills gaps for ease of learner placement on programmes such as WIL.
5. Scope skills development needs and priorities in rural areas, provide career and vocational guidance, support government in addressing e-governance issues and assist aspirant training providers to attain accreditation and deliver MICT SETA programmes. The SETA will support initiatives which apply technology in a manner that enables transformation of the sector, with regards to female learners, learners with disabilities and rural learners.
6. Improve provision of skills development to SMMEs, entrepreneurs and community-based organisations, particularly with regard to 4IR. This will enable the development and commercialisation of technologies and products that improve localisation and increase exports. The SETA will develop cross-sectoral partnerships and projects in the delivery of learning interventions.

7. Identify and develop occupational qualifications through the QCTO for occupations in high demand in consultation with the sector. Furthermore, the SETA will put in place mechanisms to prioritise all its qualifications and ensure increased number of accredited skills development providers offering occupational qualifications in high demand on an annual basis. Resent

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Chairperson: MICT SETA Board

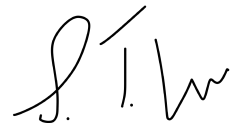


Table of Contents

Foreword.....	ii
Acronyms.....	iii
Executive Summary	iv
Table of Contents	viii
SSP Research Process and Methods.....	x
Chapter 1: Sector Profile	1
1.1 Introduction.....	1
1.2 Scope of Coverage.....	1
1.3 Key Role Players.....	2
1.4 Economic performance.....	3
1.5 Employer profile.....	10
1.6 Labour Market Profile.....	11
1.7 Conclusion	15
Chapter 2: Key Skills Change Drivers	16
2.1 Introduction.....	16
2.2 Factors Affecting Skills Demand and Supply	16
2.3 Skills Implications of Change Drivers.....	20
2.4 The transversal nature of the 4IR technologies.....	20
2.5 Policy Frameworks Affecting Skills Demand and Supply	21
2.6 Conclusion	23
Chapter 3: Occupational Shortages and Skills Gaps	24
3.1 Introduction.....	24
3.2 Sectoral Occupational Demand	24
3.3 Skills Gaps.....	27
3.4 Extent and Nature of Supply	29
3.5 Sectoral Priority Occupations	39
3.6 Conclusion	48
Chapter 4: SETA Partnerships	49
4.1 Introduction.....	49
4.2 An Analysis of Existing SETA Partnerships.....	49
4.3 Partnerships that are not working well.	55
4.4 Planned Partnerships.....	56
4.5 Conclusion	56
Chapter 5: SETA Monitoring and Evaluation	57
5.1 Introduction.....	57
5.2 Sector Skills Planning Reflections.....	57
5.3 Extent to Which Previous Strategic Priorities Were Addressed	61
5.4 Plan of Action.....	63
5.5 Conclusion	64
Chapter 6: Strategic Skills Priority Actions.....	65
6.1 Introduction.....	65
6.1.1 Key Skills Findings from Previous Chapters.....	65
6.2 Recommended Priority Actions.....	67
6.3 Measures planned in response to Change Drivers	69
6.4 Conclusion	70
Bibliography.....	71

List of Figures

Figure 1: Sector Contribution to GDP	4
Figure 2: Employers (Levy & Non-Levy Paying)	10
Figure 3: Employers (Levy Paying)	10
Figure 4: Distribution by size	11
Figure 5: Employer Distribution by Province.....	11
Figure 6: Employment in the MICT sector.....	12
Figure 7: Provincial Distribution.....	13
Figure 8: Race and Gender Profiles of Employees	13
Figure 9: Race Profile by OFO Major Group	14
Figure 10: Disability and Age Profiles of Employees.....	14
Figure 11: Occupations by OFO major Groups	15
Figure 12: 4IR Technologies as Change Drivers	17
Figure 13: Design thinking.....	29
Figure 14: Top 5 Qualifications enrolled for.....	30
Figure 15: Learnerships & Skills Programmes Enrolment 2019-2022	31
Figure 16: Learnerships & Skills Programmes Completions 2019-2021	31
Figure 17: Graduations for 2021 in public HEIs by major field of study.....	34
Figure 18: Number of students enrolled in TVET colleges, 2019 to 2021.....	35
Figure 19: MICT SETA partnership model	55
Figure 20: MICT SETA's Approach to Monitoring.....	58
Figure 21: MICT SETA adopted evaluation model.....	59

List of Tables

Table 1: Research undertaken by the SETA.....	xiii
Table 2: The MICT SETA SIC Code List.....	1
Table 3: Key Role Players.....	2
Table 4: Porter's Five Forces analysis model on MICT sector.....	7
Table 5: Sub-sector distribution of employees.....	12
Table 6: MICT sector Policy interventions.....	21
Table 7: Advertising Hard to Fill Vacancies.....	24
Table 8: Film and Electronic Media Hard to Fill Vacancies.....	25
Table 9: ICT Occupations with Hard to Fill Vacancies.....	26
Table 10: Skills gaps and the top occupations	27
Table 11: Developed 4IR Qualifications	32
Table 12: Enrolments in Private HEIs by NQF Field.....	35
Table 13: Possible Qualifications mapped to Occupations.....	38
Table 14: Top 10 Sectoral Priority Occupations List for the MICT Sector.....	41
Table 15: Partnership with TVET Colleges.....	50
Table 16: University Partnerships	51
Table 17: Special Project Partnerships.....	52
Table 18: Partnerships with SMMEs.....	53
Table 19: Partnerships with Industry Vendors to Map Qualifications.....	54
Table 20: MICT SETA's Planned Partnerships.....	56
Table 21: Data Used by Three Core Divisions.....	60
Table 22: Status of Implementation of Strategic Priority Areas for 2022/23.....	61
Table 24: Recommended Priority Actions for the 2024/25 financial year.....	67

SSP Research Process and Methods

Introduction

In working towards the 2024/25 Sector Skills Plan (SSP) the MICT SETA was guided by the Department of Higher Education and Training's 2023 SSP guidelines and requirements framework. Recognising that the research needs to be evidence informed, consultations with key industry role players were conducted to identify key trends within the subsectors, and at a strategic level the MICT SETA Accounting Authority (AA) was also consulted.

The SSP Research Process and Methods section in this document presents the research process that was followed to prepare this SSP. In summary, the research process started with a review of literature to look at the MICT sector broadly. Secondly, interviews were conducted with stakeholders and experts within each subsector including Trade Unions and Industry Associations. Questions asked in these interviews focused on the impact of the 4IR on the sector as well as the impact of loadshedding and what the SETA should be prioritising in the 2024/25 financial year. The research process also involved employer surveys, focus groups which also focused on the 4IR, the post pandemic period and the impact of loadshedding. Seeing that research should be an integrated process, findings from the 2023/24 Tracer study were also incorporated in this research to give a brief perspective on how the sector is performing in terms of employment, further assessing the relevance of the MICT SETA learning programmes (assessing causality).

Moreover, an analysis was conducted using StatsSA data and data found in industry research as well as WSP/ATR data supplied by the SETA and the Higher Education Management Information System (HEMIS) data sourced externally to provide information on the sector profile of the MICT sector and the supply of skills in the sector. Together, all of these sources were used to write a quality researched SSP.

Data collection tools and methods

The data collection tools used included: interview questionnaires specifically designed for the MICT SETA; employer surveys; and tracer studies.

The main methods of data collection for the study are: a review of available literature, including national policy and strategy documents, industry plans and sector performance reports; an analysis of data, including SETA employer and employee data, economic and labour market trend data accessed through StatsSA and industry reports, SETA data on grant spending and learner enrolments and completions in recent years, and HEMIS data on the supply of skills in the sector; interviews with industry stakeholders including employers; employer surveys; tracer studies; and focus groups.

In addition, there was continuous consultation with stakeholders in each of the sub-sectors, the SETA research team and SETA management focusing specifically on the SSP content and the update of the information in it. In relation to the Hard to fill vacancies, Skills gaps and PIVOTAL lists efforts have been made to triangulate findings and confirm the findings with stakeholders. The following data collection tools were used:

Review of Key Literature

As a first step, the current MTCT SETA SSP was reviewed. Next, the relevant policies and strategies of the country were reviewed. The aim is to ensure that the SSP is aligned with the country's key strategies, such as the Economic Reconstruction and Recovery Plan (ERRP), as well as the supporting Skills Strategy, National Skills Development Plan (NSDP), the National Development Plan (NDP) and associated Medium Term Strategic Framework (MTSF) plans, the New Growth Path (NGP), Industrial Policy Action Plan (IPAP), the White Paper on Post School Education and Training and the Human Resource Development Strategy of South Africa (HRDS-SA) amongst others.

Workplace Skills Plan (WSP) and Annual Training Report (ATR)

For the period 2023/24, the final submission for WSP and ATR data from employers was on the 31st of May 2023. The SETA for this submission utilized this most up to date data to get insight into the skills development needs and gaps identified by employers within the five sub-sectors, through the analysis trends were identified. The 2021 version of the OFO framework was utilized, meaning analysis was based on most up to date mapping of occupations. The data was important to assist in understanding the training needs, trends as well as the qualifications and skills needed in the different sub-sectors.

HEMIS

HEMIS data is sourced from the Department of Higher Education and Training (DHET). It provides information on all of the public Higher Education Institutions (HEI) in the country on enrolments and graduation rates. The SETA utilized the 2021 data as it is the most up-to-date published by DHET.

Online Employer Survey

An online employer survey was disseminated. The aim of the survey, together with getting additional data, is to strengthen the relationship the SETA has with the employers and other key role players such as professional bodies in the sector. Additionally, valuable industry information is obtained from all of the MICT sub-sectors. Questions were asked about hard to fill vacancies, skills gaps, the impact of loadshedding as well as the impact of the 4IR.

Tracer Study

In 2022, the SETA conducted a tracer study to assess the relevance and effectiveness of the learning programmes the SETA implements. The study aimed to determine the destinations of learners who have completed learnerships, internships, skills programmes, short learning programmes and bursary programmes. The purpose of the study was to understand the factors associated with employment/unemployment. To understand the intricacies of the articulation of qualifications into occupations, and to determine the nature of employment of learners who found employment.

In-Depth Interviews

Interviews were conducted with industry stakeholders in the sector. These were semi-structured interviews that allowed room for discussion on matters that are important to stakeholders. Interviews are important as the voices of key industry stakeholders are heard about important issues such as the loadshedding and the impact of 4IR and the economic performance of the sector.

Focus Groups

Focus groups are important for data validation as they offer in-depth understanding of the participants, in this case how key experts view the changes in the sector and how the MICT SETA should respond and what to prioritize in the next financial year. The SETA conducted online focus group sessions. Topics of discussion included the validation of the scarce and critical skills identified in the research, also identifying the necessary interventions needed to address skills needs and explore difficulties experienced in relation to supply of such skills. This process highlighted challenges faced by stakeholders in working with the SETA in delivering relevant occupational programmes in each of the sub-sectors.

Table 1: Research undertaken by the SETA

Topic	Nature (Design) of the Study	Objectives of Study	Data Collection Tool	Sample Size and Scope	Data Sources and Data Sets	Time Frame
2023/24 Sector Skills Plan	Qualitative	The objectives of the study were to get an understanding of key developments in the sector, gather insights regarding hard to fill vacancies, skills gaps, future skills and change drivers in the MICT sector. In addition, the focus was on the impact of the Fourth Industrial Revolution (4IR) and Covid-19 as well as how the SETA can better align its priorities to the NSDP and the ERRP. This study covered the views of various stakeholders across all the five sub-sectors of the MICT sector.	<ul style="list-style-type: none"> • Interview questionnaire • Online Surveys • Focus groups • Literature reviews 	<ul style="list-style-type: none"> • The scope of the interviews employers, industry associations, research institutions and trade unions • 35 interviews were conducted • 411 electronic questionnaires were distributed. 	<ul style="list-style-type: none"> • MICT SETA Levy Huge File • Key role players list 	2022/23
2021/22 Sub-sector Mini Research studies	Quantitative and Qualitative	The goal of these reports were to shed light greater details of the individual sub-sectors. The observation is that not all of the information generated as part of the research makes it into the SSP, which aggregates much of the subsector data into an overview of the MICT sector. These background reports therefore provide supplementary information on the subsectors in addition to details provided in the SSP.	<ul style="list-style-type: none"> • Interview questionnaire • Online Surveys • Focus groups • Literature reviews 	<ul style="list-style-type: none"> • The scope of the study was to interview key employers, professional bodies, research institutions, training providers and trade unions. • 411 electronic questionnaires were distributed. 	<ul style="list-style-type: none"> • MICT SETA Levy Huge File • MICT SETA Training Provider List • Key role players list 	2021/22
MICT SETA Tracer Study	Quantitative and Qualitative	The study aimed to determine the destinations of learners who have completed learnerships, internships, skills programmes, short learning	<ul style="list-style-type: none"> • Survey • Telephone calls • Interviews • Focus groups 	<ul style="list-style-type: none"> • The scope of the survey and telephone calls were learners who completed MICT SETA learning programmes in the 2020/21 financial year. 	<ul style="list-style-type: none"> • MICT SETA Commitment Register • MICT SETA Training Provider List 	2022/23

Topic	Nature (Design) of the Study	Objectives of Study	Data Collection Tool	Sample Size and Scope	Data Sources and Data Sets	Time Frame
		programmes and bursary programmes, amongst others.		<ul style="list-style-type: none"> The sample size reached was 699. 		

Conclusion

A mixed method of data collection was followed including quantitative and qualitative data. Provided that each method on its own has its limitations, using them all together certainly provides for a robust analysis of the MICT sector. There were two data challenges that emerged during the 2024/25 research process. These included:

- i. StatsSA does not break down data according to the sub-sectors relevant to the MICT sector. Looking at what is contained in each StatsSA sector allowed us to determine which sectors are relevant to the MICT sector.
- ii. HEMIS data for enrolments and graduation in the higher education system reflects up to 2021 enrolments. Data for 2022 onwards is not yet available, this limits the SETA in reporting the most accurate information.

Chapter 1: Sector Profile

1.1 Introduction

The Media, Information and Communication Technologies (MICT) sector continues to emerge as a dominant force in the modern era, reshaping industries, societies, and economies worldwide. This chapter discusses the sector profile of the MICT sector, looking at the size, scope of coverage, key role players, economic performance, employer, and labour market profile. Moreover, it will also provide a detailed economic outlook of the sector, detailing how in the 2024/25 financial year the sector will unfold. In profiling the five sub-sectors of the MICT sector, research data from multiple sources, including publicly available literature and data as well as MICT SETA databases, were analysed. Specific data sources include SETA employer profiles and employee data from the WSP/ATR datasets, economic and labour market trend data accessed through Statistics South Africa (StatsSA) and industry reports, employer survey data, industry interviews as well as focus groups.

1.2 Scope of Coverage

The MICT sector is made up of five sub-sectors that are interrelated but also quite distinct and identifiable, these are Advertising, Film and Electronic Media, Electronics, Information Technology and Telecommunications. The Standard Industry Classification (SIC) codes play a key role in demarcating the MICT sector. The table below illustrates this demarcation into four different sub-industries, namely: (1) manufacturing; (2) transport, storage, and communication; (3) finance, insurance, real estate, and business services; and (4) community, social and personal services.

Table 2: The MICT SETA SIC Code List

Sub-Sector	SIC Code	Main Activity Description
Advertising	88311	Activities of Advertising Agents
	88312	Sign writing and industrial and commercial artistry
	88319	Other activities - window-dressing, etc
Film and Electronic Media	96111	Motion Picture and Video Production and Distribution
	96112	Related Activities - Film and Tape Renting to Other Industries, Booking, Delivery and Storage
	96121	Motion picture projection by cinemas
	96122	Motion picture projection by drive-in cinemas
	96200	News Agency Activities
	88940	Photographic Activities
Electronics	37200	Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy
	37300	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods
	61501	Office machinery and equipment including computers
Information Technology	86100	Hardware consultancy
	86200	Software consultancy and supply
	86300	Data processing
	86400	Data base processing
	86500	Maintenance and repair of office, accounting, and computing machinery
	86900	Other Computer Related Activities
Tele-communications	75200	Telecommunication
	96130	Radio and television activities

Source: Government Notice, No. 42589, Government Gazette, 22 July 2021

1.3 Key Role Players

The MICT sector is characterised by various stakeholders that play a significant role in helping the SETA deliver on quality, innovative skills that contribute to the national economic growth. A brief description of key role players and their role in the MICT sector can be seen below:

Table 3: Key Role Players

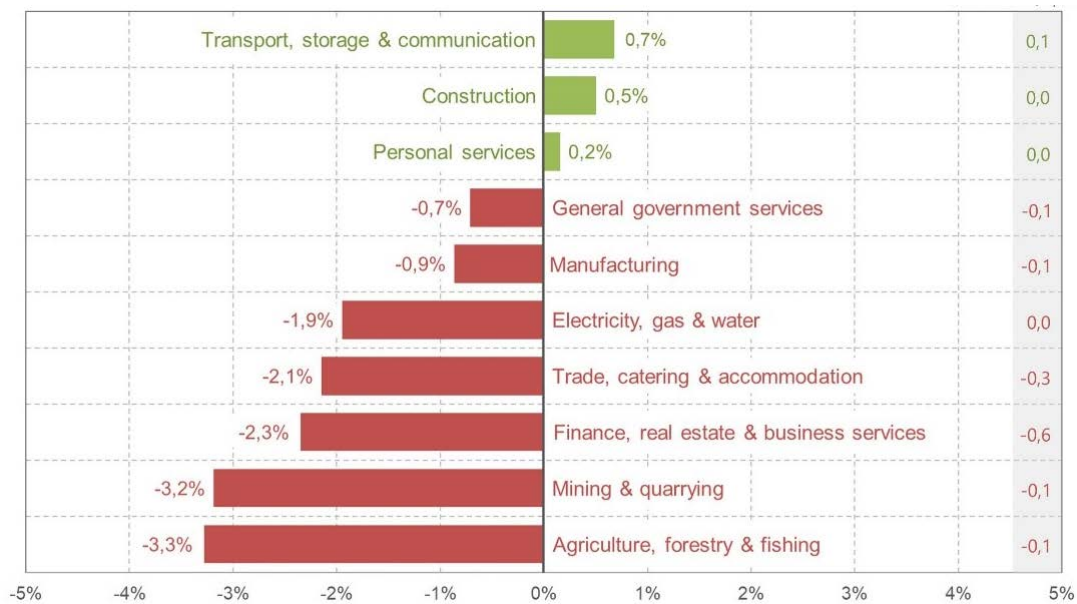
Stakeholder	Role
Oversight bodies	
Department of Higher Education and Training	
<p>The DHET plays an oversight role in the governance of the MICTSETA as legislated in the Skills Development Act. The Minister DHET oversees the performance of SETAs, and the SETA accounting authority reports to the Minister as the Executive Authority. The role of DHET in implementing NSDP outcomes is to ensure that there is development and implementation of skills development initiatives, foster collaboration with Stakeholders, ensure the quality and standards of education and training institutions in the country, monitor the progress of skills development initiatives, and evaluate their impact on the labour market and economic development. 9</p>	
Professional Bodies	
Information Technology Association (ITA):	
<p>The ITA stands at the threshold of a new era for the local ICT Industry, with its Membership and industry partners, it positions itself to play a crucial role in the growth and development of the ICT sector, as well as serving as a credible, effective channel of communication between various stakeholders. One of the functions of the ITA is lobbying and negotiating at government level on behalf of its members. Members have the opportunity of influencing the South African legislative mechanism through verbal and written submissions by the ITA. This has far-reaching effects, which go beyond its members and positively impact the ICT industry of South Africa as a whole. ITA responds to NSDP outcome 4.2 and also aligns to intervention 3 of the ERRP Skills Strategy which is about expanding the provisioning of WBL programmes that respond to the occupational shortages and skills gaps. The ITA is in partnership with the DCDT, DPSA, GITOC and SITA, these partnerships are about building an ongoing digital government skills programme, which covers foundational digital skills (such as computer user skills) and advanced skills (such as data analytics skills).</p>	
Information and Communication Technologies SMME Chamber (ICT SMME Chamber):	
<p>The ICT SMME Chamber is recognised for its importance and centrality in South Africa’s development framework. It plays a critical role in engaging with government and other ICT stakeholders, and in lobbying government on behalf of the ICT SMMEs on all matters of ICT SMME development and ICT sector transformation. It responds to NSD outcome 4.6 on entrepreneurship and cooperative development, ERRP intervention 7, as well as the ERRP skills strategy intervention 7 on Strengthening entrepreneurship development programmes.</p>	
Universal Service and Access Agency of South Africa (USAASA):	
<p>USAASA is a State-Owned Entity of government established through the Electronic Communications Act, No 36 of 2005, to ensure that “every man, woman and child whether living in the remote areas of the Kalahari or urban areas of Gauteng can be able to connect, speak, explore and study using ICT.” In providing crucial infrastructure to rural communities and educational institutions, USAASA contributes to realising NSDP outcomes 4.2 and 4.5. The role also aligns to the ERRP intervention 3 and its Skills Strategy interventions 10 which highlights the need for strengthening the PSET system to meet the medium- and long-term demands of the economy.</p>	
The Independent Communications Authority of South Africa (“ICASA”):	
<p>ICASA Plays a role of sponsoring and supporting on several educational programs to encourage students and professionals to explore the field of complex additive systems analysis. Currently, it offers several programmes such as internships; this is in response to Through its activities it responds to NSDP outcome 4.2 and both the ERRP and its Skills Strategy intervention 3. Through these programmes it offers, ICASA is committed to improving critical thinking and analytical skills in the intelligence community by design through the development of high-quality, cutting-edge training. Programmers that undergo the training after finishing are able to develop state-of-the-art products of innovation.</p>	

Stakeholder	Role
Institute of Information Technology Professionals South Africa (IITPSA):	
IITPSA actively engages with commerce, industry, and government in order to influence policy formulation on behalf of both its own members and other stakeholders. The Society also encourages the growth of professionalism and the responsible and professional use of Information and Communications Technology throughout the South African economy. The IITPSA responds to the NSDP outcome 4.2 and both the ERRP and its Skills Strategy intervention 3 and 10 by working together with other interested stakeholders to accredit university programmes with computing content at South African Universities	
Government Departments	
Department of Communications & Digital Technologies (DCDT)	
The DCDT collaborates with universities and other partners such as IITPSA, ITA, ICASA and other relevant industry professional bodies to develop ICT policies and legislations that advance the South African economy. The department has special partnerships with, amongst others, civil society organisations, particularly those that have a major interest in skills building and achieving race, gender, and disability equity. Through its activities, it responds to NSDP outcome 4.2 and both the ERRP and its Skills Strategy intervention 3 and 10.	
Educational Institutions	
Universities:	
Universities in partnership with the SETA play an important role in ensuring that learners from disadvantaged communities are afforded the same opportunities as their counterparts from affluent backgrounds. These partnerships improve the supply of skilled people in the sector and afford learners from previously disadvantaged backgrounds opportunities to acquire high-level skills critical to industry development and growth, thus creating employment for those graduates. These partnerships are in response to NSDP outcome 4.2., both the ERRP and its Skills Strategy intervention 3, 4 and 10.	
TVET Colleges:	
Technical and Vocational and Education and Training (TVET) play an important role in implementing and promoting sustainable development. They are major suppliers of workforce that is already dealing with sustainable issues. They are key role players in providing training that focuses on practical skills, they offer adaptable programmes. Their role and partnership with the SETA are in response to the NSDP outcome 7 on promoting the growth of the public college system. Moreover, the partnership role between the SETA and TVET colleges also aligns to intervention 10 of both the ERRP and its Skills Strategy.	

1.4 Economic performance

The MICT sector continues to become a key driver of economic growth, this has been the trend over the past decade. Reviewing the sector's performance, benchmarking it against the other economic sectors, in the 2022/23 fourth quarter, the transport, storage & communication, construction, and personal services were the bright spots. Transport, storage & communication made the largest positive impact, rising by 0,7% and contributing 0,1 of a percentage point to growth (Gross Domestic Product (GDP) 4th Quarter, 2022). A practical illustration for this can be seen in the figure below.

Figure 1: Sector Contribution to GDP



Source: (StatsSA, 2022)

1.4.1 Advertising

In terms of the economic outlook of the advertising subsector, the South African internet advertising revenue is expected to increase from 1.96 billion South African rand to 4.38 billion South African rand by end of 2023. Advertising as a whole is expected to rise at a CAGR of 3.4% and will see the total reach R34.9 billion by the end of 2023. Attributing to this is the rise of mobile internet, its refinement and enhancement helps drive the consumer and advertising revenue to go beyond.

The wave of the Fifth Generation (5G) network first launched in 2019 has a direct benefit for fast mobile broadband. As subscriptions reach a critical mass, the lower latency, network slicing and edge computer capabilities provide the foundation for an array of more immersive consumer experiences. Due to fast internet through 5G, growth is seen in mobile video viewing which is a critical aspect that is driving mobile video advertising revenue as platforms and publishers are able to serve more ads to more people at more times a day. Streamers are also working to re-create more of the lucrative cable TV advertising model in their streaming services. If more advertisers get on board, ad revenues could offset subscription pricing and content spend. It is no doubt that Successful advertising requires more data and better ad tech to get the right ads in front of the right eyes. It is expected that by end of 2023 there will be considerable movement and innovation in streaming advertising (Delloite, 2023).

Since South African markets tend to follow global patterns, online advertising will far outpace TV advertising in terms of growth. Consumers will go where the content is, media owners will look to invest in making sure that their platforms are as engaging as possible and offer a variety of strong content. However, a smooth transition into digital distribution requires considerable investment in technology and highly skilled developers which comes at a high cost for most companies. This effectively means that competition on quality in the news

publishing sector is diminished. Some companies are hesitant to invest in sourcing additional referrals from digital platforms, due to the lack of digital revenue sharing and the unsustainability of this approach. (Competition Commission, 2023).

1.4.2 Film and Electronic Media

In 2023, indications show that change in the media and entertainment business is likely to continue. Studios and video streamers face the reality of their own market disruption, trying to find profits in a less profitable business. They not only compete with each other for attention, time, and revenues, but with social media, user-generated content, and video games. The latter have evolved more quickly, staying close to younger demographics. South Africa in terms of entertainment and media comes close to the centre of the global grouping of countries, with the axes once again set at 4.0% CAGR growth and US\$10 billion in 2023 revenue. Moreover, it is anticipated that South Africa is set to surpass 2019 levels in 2023 in terms of box office revenue, with a revenue of 1.3bn (Motaung et al., 2022). (Motaung et al., 2022).

While the above explores the economic performance of the Film and Electronic Media, there is still a pocket that still has not been explored, which is the gaming and animation sector. Currently the South African animation sector has been recognized as being small, for that reason it is struggling to break into longer-form original content creation. There are 69 animation studios that were identified in South Africa, the majority of which were established after 2010. Only a small percentage of South African studios are producing animated films and series. The South African gaming and animation industries are relatively new (compared to countries like the USA, UK and Japan who have been involved in the gaming industry since the 1980s). There is little local investment in the animation sector, most of the content produced locally has mainly been co-production deals, commissions and publishers in the United States and Europe. Local broadcasters have not been commissioning animation products for some time now, hence, it has made it difficult to compete at international level as many of their competitors are benefiting from state subsidies. Lastly, on the aspect of gaming, Africa has been considered a desert for PC gaming, attributing to this is the preference for mobile games, which are too difficult and risky for local gaming companies to be able to generate an income (South African Cultural Observatory, 2022).

1.4.3 Information Technology

The Information Technology environment is always in constant state of flux, companies are increasingly being persuaded to invest in new technology, fuelled by the Fourth Industrial Revolution (4IR), this is so that they are up to date with the accelerated technology trends. The convergence of technology has brought many players to fore with constant efforts to bring advancements. These prominent players are entering into collaborations and expanding their footprints in developing regions to consolidate their positions in the market. Through these players, better opportunities of bandwidth availability, security cloud computing has become increasingly significant. However, highlighted by research is that top challenges for organizations of all sizes are security, managing cloud spend and a lack of resources or expertise. The global South Africa ICT market was valued at US\$ 38.69 billion in 2021 it is anticipated to grow at a compounded annual growth rate (CAGR) of 8.5% to reach a value of US\$ 58.14 billion by 2026 (Modor Intelligence Report, 2023).

1.4.4 Electronics

Furthermore, South Africa has a diverse electronics sector that ranges from electrical machinery, household appliances, and telecommunications equipment to consumer electronics. According to StatsSA, the country manufactures more than R90bn worth of electro technical equipment per year. South Africa has both world-class capabilities in the industrial electronics industry as well as in consumer electronics. The revenue in the electronics segment is projected to reach US\$2.31bn by end of 2023, with an expected annual growth rate (CAGR 2023-2027) of 15.14%, this clearly shows a projected market volume of US\$4.06bn by 2027 (Statista, 2023).

1.4.5 Telecommunications

Despite the impact of loadshedding in the country, the total sector revenue (telecommunications, broadcasting and postal) experienced a growth of 4.61% from R243.6 billion in 2021 to R254.8 billion in 2022, this was a significant increase compared to a growth of 0.3% post Covid-19 from R243 billion in 2020 to R243.6 billion in 2021. The telecommunications and broadcasting services revenue increased by 3.94% and 11.97% in 2022, respectively. However, the postal services revenue decreased by 16.26% from R6.6 billion in 2021 to R5.5 billion in 2022. Further reports from the research conducted by ICASA, indicate that the total combined telecommunications services procurement spend paid to suppliers was R166 billion in 2022, R140.6 billion (84.69%) of this amount was spent on suppliers based on their B-BBEE rating level. This indicates that there is increased promotion of B-BBEE participation in the telecommunications service's procurement, from 65.85% in 2018 to 84.69% in 2022 (The Independent Communications Authority of South Africa (ICASA), 2023).

1.4.6 Porter's Five Forces framework

Furthermore, it becomes important to assess the performance of the sector using Porter's Five Forces analysis model, the table below provides this analysis.

Table 4: Porter's Five Forces analysis model on MICT sector

Porter's five forces of Analysis	Advertising	Film and Electronic Media	Electronics, Information Technology and Telecommunications (ICT) Sub-sectors Occupations with Hard to Fill Vacancies
Threat of New Entrants:	<ul style="list-style-type: none"> While there may be some smaller or niche agencies entering the market, the presence of well-established agencies with strong client relationships, brand reputation, industry expertise, and economies of scale continue to create barriers for new entrants. Technological advancements have the possibility to create opportunities for innovative approaches and new players to disrupt the industry. 	<ul style="list-style-type: none"> The ownership of well-known franchises, successful TV shows, or film series creates a barrier for new entrants, who must invest time and resources to build their own content library and intellectual property portfolio. Compliance with regulations can be complex and costly, posing a challenge for new entrants who most often have limited resources or knowledge in navigating the regulatory landscape. 	<ul style="list-style-type: none"> The ICT sector in South Africa has a relatively high barrier to entry. Factors such as the need for significant capital investment, established distribution channels, and strong brand presence create challenges for new entrants. However, the increasing availability of technology and the growth of digital startups continues to show promising signs of new competition. Presence in the electronics sector requires significant capital investment in research and development, manufacturing facilities, equipment, and distribution channels. The high costs associated with setting up operations can act as a barrier for new entrants. Small companies continue to face challenges in developing or acquiring proprietary technologies and intellectual property that can differentiate their products and compete effectively. Consumers tend to trust well-known brands, which can make it challenging for new entrants to gain market share and establish their credibility.
Bargaining Power of Suppliers:	<ul style="list-style-type: none"> The impact of the availability of substitutes within the South African advertising market is impacting supplier bargaining power. Multiple suppliers are offering similar services, clients and agencies now have more 	<ul style="list-style-type: none"> Due to the nature of subsector, suppliers who provide unique and specialized inputs or resources that are critical to the production process sometimes have higher bargaining power. Examples of this include, suppliers of specialized camera equipment or high-quality audio equipment may have more leverage in negotiations as they are key to producing high-quality content. 	<ul style="list-style-type: none"> Suppliers in the sector play a critical role in providing hardware, software, networking equipment, and other technological components. The bargaining power of suppliers in South Africa's ICT sector continues to vary due to factors such as market concentration, the availability of alternative suppliers, and the uniqueness of the products or services offered.

Porter's five forces of Analysis	Advertising	Film and Electronic Media	Electronics, Information Technology and Telecommunications (ICT) Sub-sectors Occupations with Hard to Fill Vacancies
	options and can negotiate more favourable terms.	<ul style="list-style-type: none"> - The size and scale of production companies can also influence the bargaining power dynamic. 	
Bargaining Power of Buyers:	<ul style="list-style-type: none"> - With many options affecting buyer bargaining power in sector, the advancement of technology has provided buyers with more access to multiple suppliers or advertising channels, some are already leveraging on these options to negotiate better deals and terms. 	<ul style="list-style-type: none"> - A few large companies dominate the market, they have stronger bargaining power compared to smaller players. - The rapid evolution of technology has disrupted the traditional media landscape. Companies that have successfully adapted to digital platforms and emerging technologies have an advantage in negotiations, as they can offer unique distribution channels and reach wider audiences. 	<ul style="list-style-type: none"> - Buyers in the ICT sector have a relatively high level of bargaining power due to the presence of multiple service providers and product options. Buyers can easily switch between providers, and their purchasing decisions are often influenced by factors such as price, quality, and customer service. These dynamics put pressure on ICT companies to offer competitive pricing, innovative solutions, and exceptional customer support.
Threat of Substitute Products or Services:	<ul style="list-style-type: none"> - The rise of digital advertising platforms, such as search engines (e.g., Google), social media platforms (e.g., Facebook, Instagram), and programmatic advertising networks, has provided advertisers with alternative channels to reach their target audiences. - The growth of influencer marketing has created an alternative avenue for advertisers to promote their products or services. Influencers, with engaged and loyal followers, offer a more authentic and relatable approach to reaching specific target markets. 	<ul style="list-style-type: none"> - The rise of digital media platforms, such as streaming services (e.g., Netflix, Amazon Prime Video, Disney+), has provided consumers with a wide range of alternative content options. These platforms offer on-demand access to movies, TV shows, and other forms of entertainment, posing a threat to traditional broadcast television and cinema. - The proliferation of user-generated content platforms, like YouTube and social media platforms, allows individuals and independent creators to produce and distribute their content. 	<ul style="list-style-type: none"> - The ICT sector in South Africa faces a moderate threat of substitute products or services. The rapid pace of technological advancements introduces the potential for disruptive innovations that could replace existing technologies or services. Additionally, alternative solutions or technologies from other sectors are sometimes emerge as substitutes. However, the dependence on ICT solutions and the specialized nature of the sector limits the immediate threat of substitutes.
Intensity of Competitive Rivalry:	<ul style="list-style-type: none"> - Clients in the advertising industry have the freedom to switch agencies if they are not satisfied with the services provided. This puts pressure on agencies to 	<ul style="list-style-type: none"> - The competition between local and international content continues to intensify rivalry as companies seek to capture audience attention and advertising investments. 	<ul style="list-style-type: none"> - The market is populated by both local and international players, ranging from large multinational corporations to small and medium-sized enterprises. The competition is fuelled by factors such as price competition, product differentiation, customer

Porter's five forces of Analysis	Advertising	Film and Electronic Media	Electronics, Information Technology and Telecommunications (ICT) Sub-sectors Occupations with Hard to Fill Vacancies
	consistently deliver results and maintain strong client relationships, as losing clients to competitors can have a significant impact on their business.	– The SA film and electronic media faces challenges related to access, infrastructure, and affordability. This contributes to SA companies in the industry facing pressure in securing distribution agreements, expanding reach to different regions, and adapting to changing distribution models.	service, and technological advancements. Companies are forced to continuously innovate and differentiate themselves to gain a competitive advantage.

1.4.7 How Covid-19 has ushered the fourth Industrial Revolution (4IR)

The world is 3 years into the post pandemic period and much of the evidence cannot be deniably ignored that the pandemic has brought the opportunity for companies to re-evaluate their adoption of digital technology strategies. This transition into the digital era has evidently brought a shift in the demand for digital skills with many firms and industries seeking higher skilled employees to ensure a smooth transition towards a digitalised future. Research reveals that Covid-19 has not significantly altered the demand for skills in the manufacturing firms. Mostly, notably increases in demand have been observed for soft skills (24%), human-computer interaction skills (37%), and STEM skills (26%, all this can be attributed to the Covid-19 pandemic (Avenyo et al., 2022).

Without a doubt, digital skills have become the primary drivers of organisational competitiveness and innovation. There have been notable increases in demand for soft skills such as human-computer interaction skills, and STEM skills due to the Covid-19 pandemic. This finding is consistent across the different levels of technological intensity of firms. Research shows that due to Covid-19, priority for many firms has been to accelerate and deepen the adoption of digital technologies, overcoming barriers stifling the transition to advanced and enhanced productivity systems like lack of capital, organisation, and institutional bottlenecks. Many firms have prioritised coordinated strategies aimed at scaling up skills and human capabilities to function in the digitisation era, reskilling employees to meet the human capital demand that enables digital transformation (Avenyo et al., 2022).

1.5 Employer profile

As of 2023, the MICT Sector is made up of 30 866 employers, this represents a 7% decrease from the 32 985 reported in the previous financial year. From the current employer base, only 8 401 employers are paying levies, this is a slight decline from 8 896 reported in the previous financial year. The research cannot pinpoint this to one factor affecting the employer base, there are several factors such as loadshedding affecting small businesses, thus, some have decided to close shop or freeze their operations. Another identified factor is the interest rate hike which has pressured small business, making it hard for them to operate as they have less flexibility to invest in long-term growth or less day to day cash flow stability.

1.5.1 Sub-sector distribution

Furthermore, in terms of the data analysed the Information Technology Sub-Sector is the largest sub-sector, accounting for 55% of employers. This is followed by the electronics sub-sector with 16%, closely followed by the Telecommunications sub-sector with 15%. the Film and Electronic Media accounts 9%, declining from 11% in the previous financial year, this is the same with the advertising sub-sector accounting 6% in the 2023/24 financial year. The details of these trends will be detailed later in the research, below is a graphical illustration of this trend.

Figure 2: Employers (Levy & Non-Levy Paying)

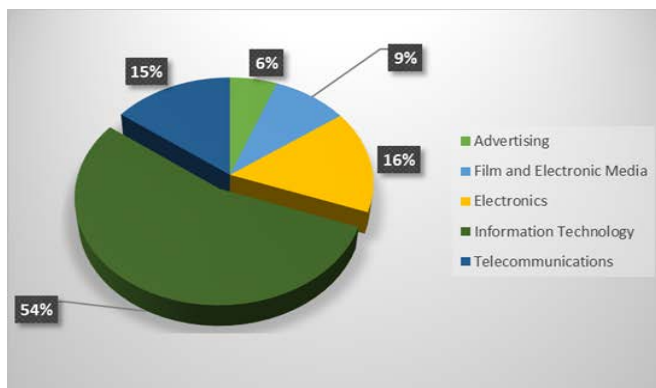
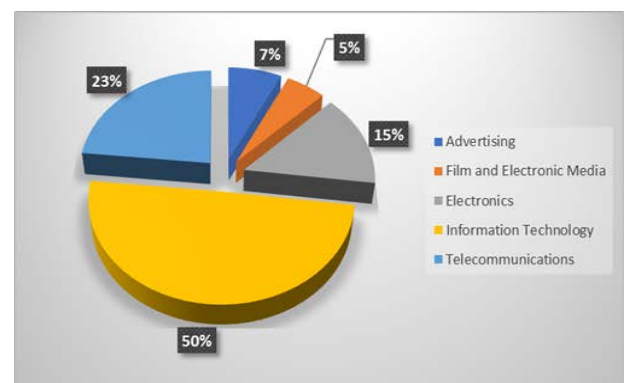


Figure 3: Employers (Levy Paying)



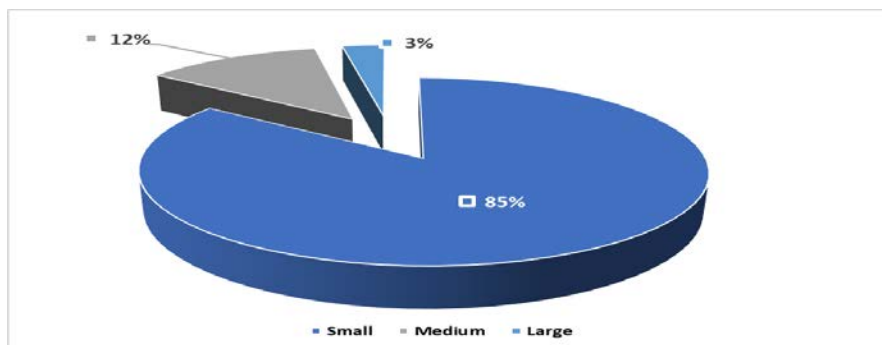
Source: MICT SETA Levy Huge File, 2023

As per the illustration above, a significant number of levy payers are located within the Information Technology (50%) sub-sector, 23% in Tele-communications, 15% Electronics, 7% advertising. Lastly, the Film and Electronic Media contributes the least with only 5%. These results have remained similar since the previous financial year.

1.5.2 Distribution by size

The vast majority (85%) of employers in the sector are small businesses employing below 50 employees, 12% medium and 3% are large businesses employing above 50 employees, this can be seen below.

Figure 4: Distribution by size

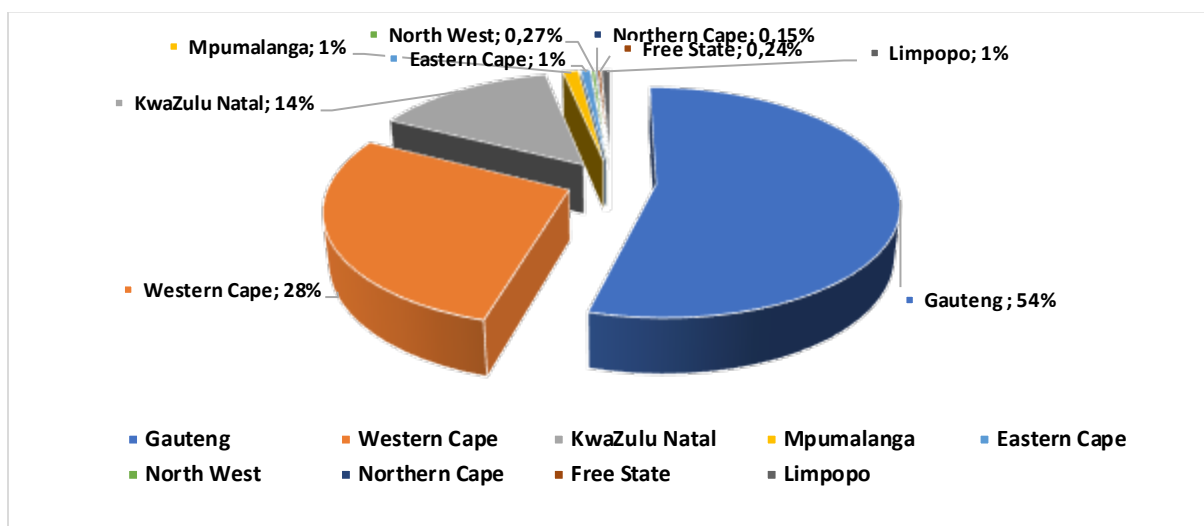


Source: MICT SETA Levy Huge File, 2023

1.5.3 Distribution by province

It is important to assess the distribution by province, figure 5 below reflects the number of employers per province. Gauteng hosts the largest proportion of employers across the five sub-sectors followed by the Western Cape with 28%. About 14% of employers are based in Kwa Zulu Natal, while 1% are in Mpumalanga, Limpopo, and the Eastern Cape. Moreover, Northwest, Northern Cape and Free state have 0% presence.

Figure 5: Employer Distribution by Province

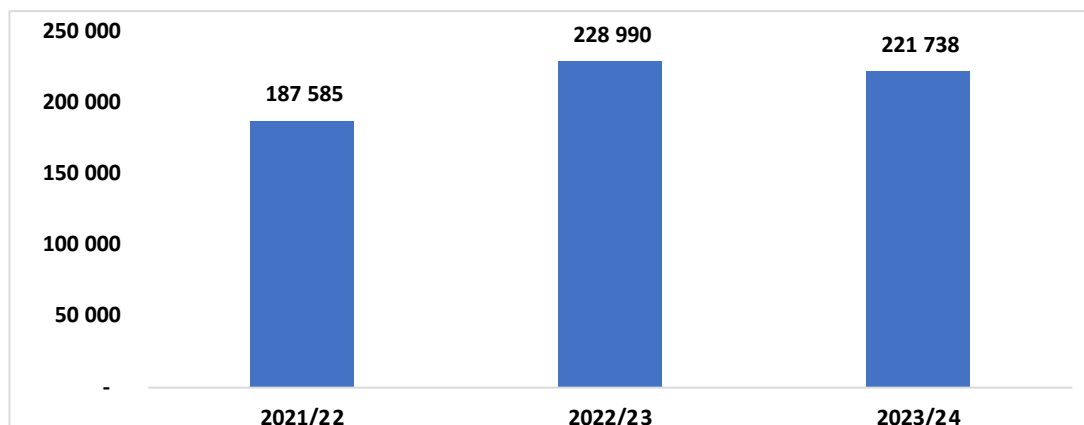


Source: MICT SETA Levy Huge File, 2023

1.6 Labour Market Profile

It is important to understand the dynamics around employment within the MICT sector; this section sheds light on the new developments in the labour market between 2021/2022, 2022/23 and 2023/24. As shown the figure below, the MICT sector experienced a slight decline in the number of employees recording 221 738 in 2023. There are several factors that can be attributed to this decline, most notably loadshedding. The country's economic growth trajectory does not look promising, the pressure is felt the most by small businesses, the high cost of alternative energy sources such as solar power or diesel-powered generators, forces small firms to halt or close shop, limiting their ability to generate revenue, hence, the restructuring or lay-offs. Even well-established ones, such as those in the telecoms are already laying of people, some planning to retrench about 15% of the workforce to ensure sustainability. Figure, 6 below shows this trend.

Figure 6: Employment in the MICT sector



Source: MICT SETA Levy Huge File, 2023

1.6.1 Sub-sector distribution of employees

The largest proportion (54%) of employees are working in the Information and Technology sub-sector, followed by 31% working in the Tele-communications, 8% in the electronics subsector. The sub-sectors with the lowest number of employees are Film, and Electronic Media accounting for 4%, and Advertising with 3%, this is reflected in the table below.

Table 5: Sub-sector distribution of employees

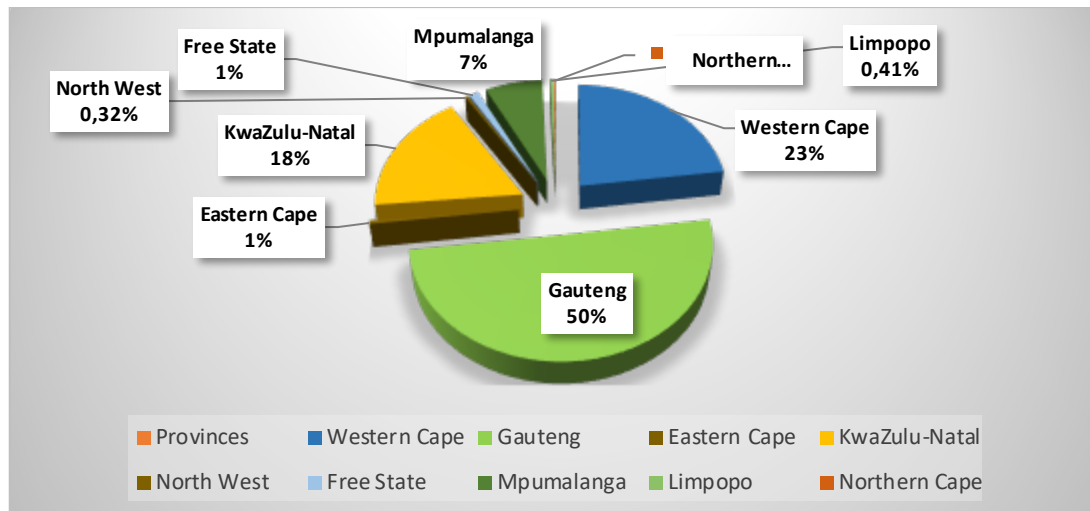
Sub-Sector	Number of employees	Number of employees in %
Advertising	7 129	3%
Film and Electronic Media	8 024	4%
Electronics	18 522	8%
Information Technology	119 692	54%
Telecommunications	68 371	31%

Source: MICT SETA Levy Huge File, 2023

1.6.2 Employee Geographic Distribution

The figure below shows the spread of all employees across the provinces. The province with the largest number of employees is Gauteng (50%), followed by the Western Cape (23%) and KwaZulu-Natal (18%). These three provinces account for the majority of employees in the sector. Moreover, Mpumalanga with (7%), the Free State accounting (1%). Provinces with least number of employees are Northern Cape, Northwest, and Limpopo each having a (0%) representation.

Figure 7: Provincial Distribution

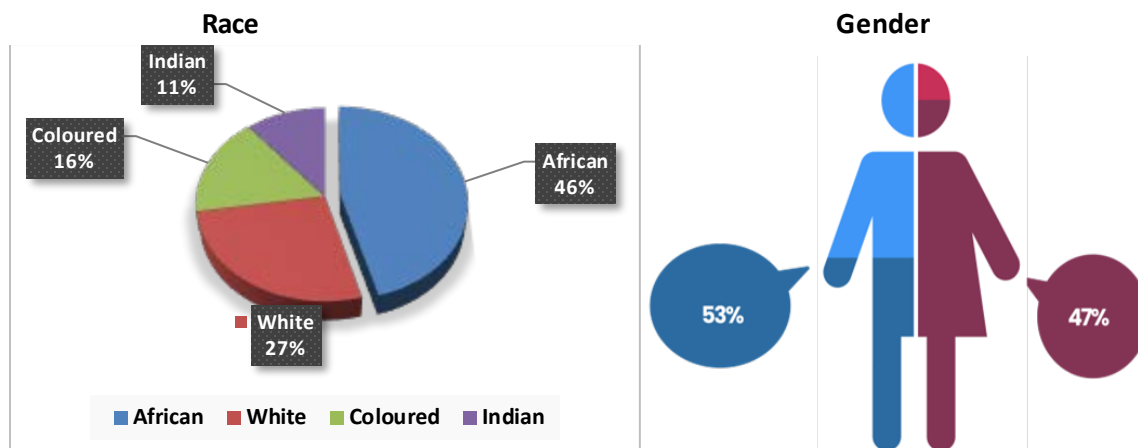


Source: MICT SETA Levy Huge File, 2023

1.6.3 Race and Gender Profiles

Due to the limitations provided by the levy database in terms of race and gender profiles, it was imperative to further explore the details using the WSP/ATR data provided by employers within the respective sub-sectors. The highest proportion of people employed in the sector are African (46%), followed by White (27%). These two race categories make up just over three quarters (73%) of the total number of employees in the MICT sector. In addition, Coloured employees account for 16%, an increase of 2% compared to the previous financial year, while Indian/Asian employees account for 11% of employees in the sector.

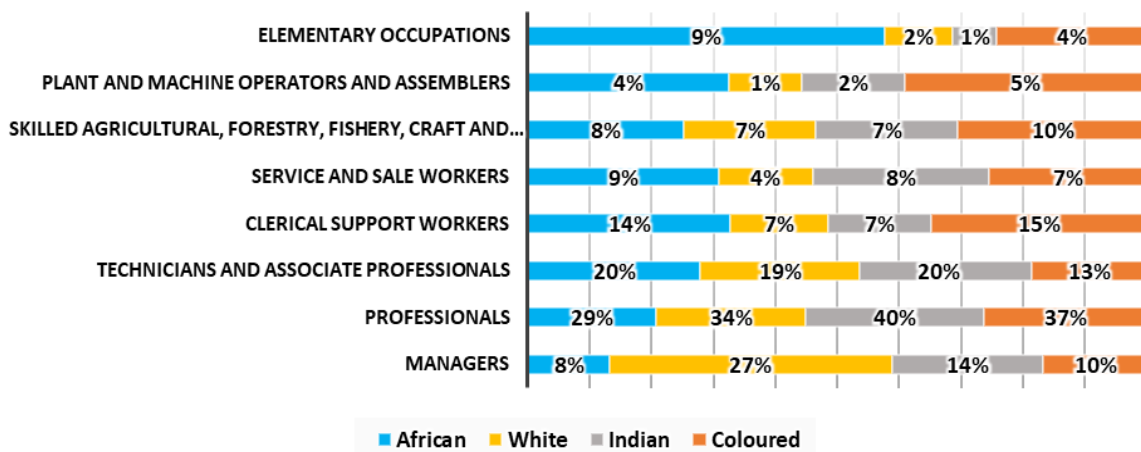
Figure 8: Race and Gender Profiles of Employees



Source: MICT SETA WSP/ATR, 2023

Furthermore, the sector continues to be dominated by more males as compared to females, with male employees accounting 53%, while females account 47%. This is in an improvement as compared to the previous financial year as the number was slightly lower. This is evidence that there is transformation in the sector. Whilst Africans make up the largest employee group by race, they still occupy relatively lower positions compared to other race groups and enjoy less representation at senior level. The figure below demonstrates that only 8% of African employees occupy managerial positions and 29% occupy professional positions (an increase of 2% from the previous financial year).

Figure 9: Race Profile by OFO Major Group



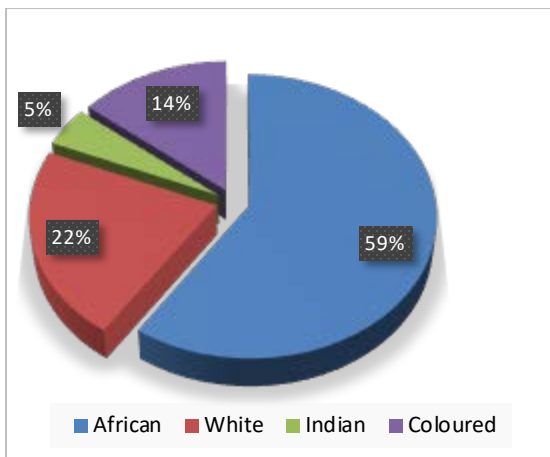
Source: MICT SETA WSP/ATR, 2023

1.6.4 Disability and Age Profiles

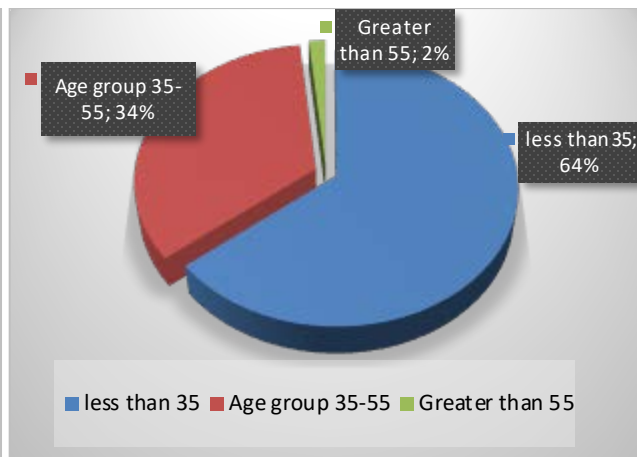
Figure 10 below shows that within the MICT sector; most of the employees with disabilities are African at 59%, this is a 2% decline from the previous financial year. This is followed by White employees (22%) and Coloured employees (14%). The Indian/Asian category only accounts for 5% of employees with disabilities within the MICT sector.

Figure 10: Disability and Age Profiles of Employees

Employees with disabilities



Employees by Age



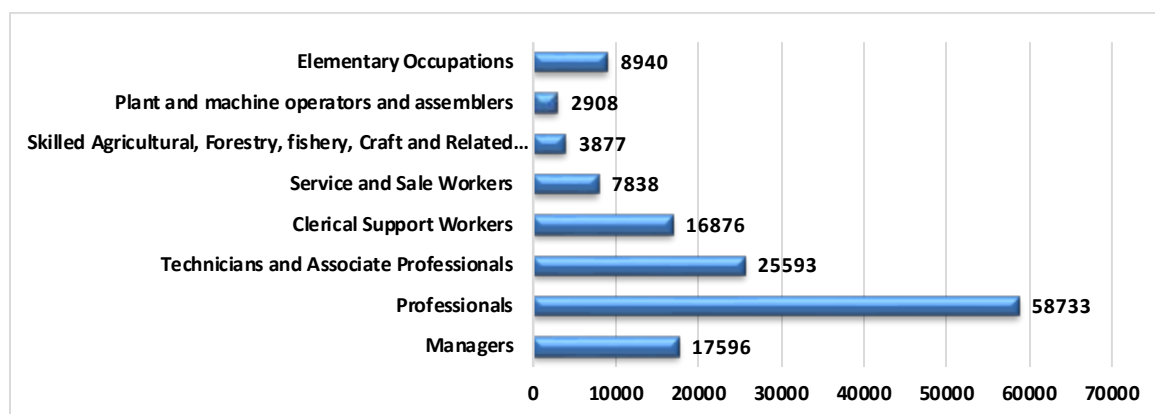
Source: MICT SETA WSP/ATR, 2023

In addition, younger employees dominate employment in the MICT sector; this has remained the same since 2021 with only 2% of people employed in the MICT sector are older than 55 years of age. The remaining are classified as follows, 65% are younger than 35 years of age, and 34% are between the ages of 35 and 55. This is a very young and balanced workforce which will contribute positively to succession planning and employment of the youth.

1.6.5 Occupational Segmentation

Understanding the occupational divide of employees in a sector is important; specifically, to determine where skills development interventions are most required. The figure below shows that Professionals continue to be a dominant occupational category in the MICT sector, this can be attributed to their specialized skills, ability to innovate, understanding of complex technologies. The ICT sector requires specialized skills and expertise in areas such as software development, data analysis, network administration, cybersecurity, artificial intelligence, therefore, more and more organizations continue to require professionals with technical knowledge and qualifications to be better equipped to handle the complex and rapidly evolving nature of the industry. Technicians and Associate Professionals, Clerical Support Workers, and Managers follow this trend of dominance in the sector. Employment within Managers, Professionals, and Associate Professionals' categories typically require a degree, diploma, or NQF level 6 qualifications as an entry. As compared to other economic sectors, which employ more people in elementary occupations, this sector, reflects the converse and could be attributed to the professional services orientation of offerings by employers in the sector, figure 11 below shows this breakdown.

Figure 11: Occupations by OFO major Groups



Source: MICT SETA WSP/ATR, 2023

1.7 Conclusion

In conclusion, this section was able to shed some light on the sector profile of the Media, Information and Communication Technologies (MICT) sector, looking at the size, scope of coverage, key role players, economic performance, employer, and labour market profile. From the above, it is clear that there is a fluctuation in the sector, the MICT SETA employer base decreased by 7% when compared to the 2022/23 financial year. The fluctuation is also noted with the number of employers that are paying levies to the MICT SETA, there was a slight decrease from 8 896 employers paying levies to 8 401. The discussion above highlighted two possible factors attributing to this change, the issue of loadshedding affecting small businesses and the interest rate hike which makes it hard for businesses to operate as there is less flexibility to invest in long-term growth or less day to day cash flow stability.

Chapter 2: Key Skills Change Drivers

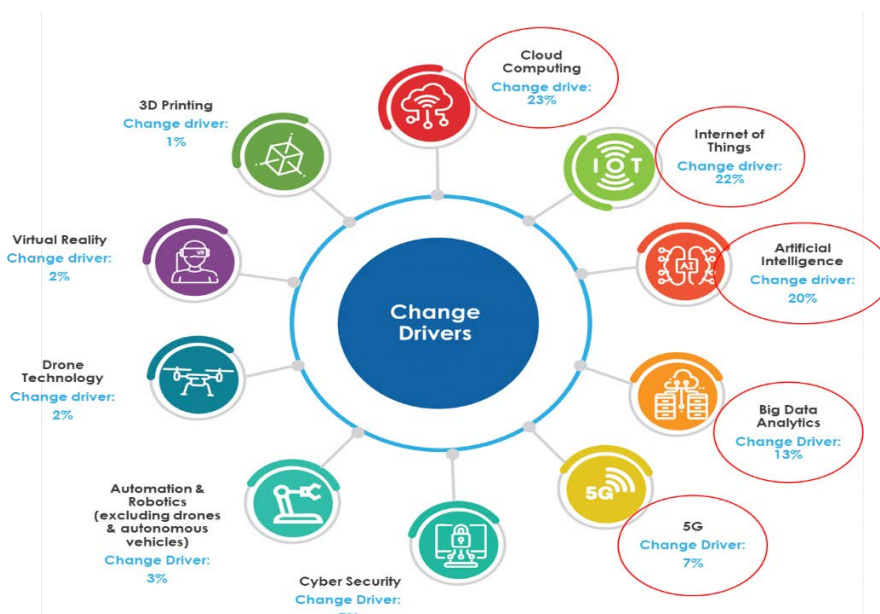
2.1 Introduction

This chapter examines the factors influencing the supply and demand of skills in the MICT sector. The chapter draws on a review of current literature, the employer survey, and interviews with various stakeholders across all sub-sectors within the MICT sector and focus groups. The aim of this chapter is to identify the skills change drivers and national policies that may impact skills demand and supply. It identifies five change drivers, outlining how these drivers may or are already impacting aspects of skills demand and supply in the MICT sector.

2.2 Factors Affecting Skills Demand and Supply

Change drivers are factors affecting change in the sector and causing it to develop in a positive or negative way. In this case, these change drivers are explored through the lenses of skills supply and demand. There are other change drivers that recognized in the sector such as the energy crisis (Loadshedding), Unstable South African economy, however, the MICT sector due to its nature and being at the forefront of technological advancements, greater attention is on the significance of 4IR change drivers more than anything else. Also noting that skills developed in this sector are not solely limited to this sector, but impact various industries, including manufacturing, healthcare, finance, agriculture, and more. It is no doubt that we live in a networked society, an era of convergence and collaboration, a multitude of technologies help instantaneous interaction to happen. This technology is used to breakdown barriers of location and time, and in so doing may lead to competitive advantage. Today is recognized as the post pandemic period, recognizing accelerated use of digital technologies, which even still today key technologies such as 5G and Cloud Computing continue to be important, as many South African companies have implemented a hybrid model of working. With South Africa striving towards being an E-Skilled economy, as outlined in the National Development Plan Vision 2030, key change drivers that affect the MICT sector and socio-economic systems are identified in this chapter. Please see figure 12 below.

Figure 12: 4IR Technologies as Change Drivers



Source: MICT SETA SSP Survey, 2023

The diagram above demonstrates the presence and influence of 4IR technologies in the MICT sector, ranked by “Change Driver”, the percentage of stakeholders who view the technology as a change driver, also stakeholders who either have projects or are developing products/interventions in the 4IR technology. Circled in red in the diagram are the five 4IR technologies which ranked highest for driving change in the sector: Cloud Computing, Internet of Things, Artificial Intelligence, Big Data Analytics, 5G. These are discussed below.

2.2.1 4IR Technologies as Change Drivers

2.2.1.1 Cloud Computing

The advent of cloud computing has altered the way of doing things, it has been understood as the interconnectedness of servers providing service in various form over the internet. It has emerged as a key driver of digital transformation in South Africa. Majority of companies have invested in cloud services, as a result of that investment, most companies are seeing massive benefits in business growth, innovation, and in particular, improved customer service. With such investments in cloud computing, the issue of skills development becomes important to explore, more importantly since the world is in the post pandemic era. In addition, more companies are becoming dependent on cloud computing services. Individuals with the skills to design and deploy such technology are in high demand and often poached not only in South Africa, but by global companies. There is clearly a shortage of these essential skills, and such became more evident in 2020 when the world was forced to adopt remote working models because of Covid-19, It is in this case that key players in the MICT sector should make efforts to invest in such essential technical skills which provide for higher order cognitive skills (Huawei, 2022).

2.2.1.2 Internet of Things (IoT)

The “Internet of Things’ (IoT) is another 4IR change driver identified in the MICT sector. It refers to a network comprised of physical objects capable of gathering and sharing electronic information. Through research published by the World Economic Forum (WEF), it has been revealed that IOT has found way to the daily lives of individuals, this became more visible on the onset of the COVID-19 pandemic where businesses and governments found themselves increasingly dependent on IoT and related technologies to ensure connectivity and the continuity of activities (World & Forum, 2023). Much of the dependency in such technology is still more evident even today as traditional meetings are now more preferred using online platforms such as zoom, Convene. From the aforementioned, it is no doubt that IoT will continue to grow as cloud computing and cloud app offerings expand in the coming years. IoT thus links virtually all of 4IR change drivers, further expanding the impact of 4IR. However, there continues to be limited recognition of emerging 4IR occupations in the OFO, thus limiting funding and formalised training opportunities in “new age” fields such as IoT. In consultations, stakeholders expressed a need for more “IoT specialists”. However, currently no such occupation exists in the strictest sense, instead IoT specialists may emerge as specialisations of existing fields such as software development and design.

2.2.1.3 Artificial Intelligence

“Artificial Intelligence” (AI) has been identified as a key change driver in the MICT sector. It refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. The term may also be applied to any machine that exhibits traits associated with a human mind such as learning and problem-solving. It has become apparent that that AI has moved into its era of deployment, this has been observed in 2022 and the beginning of 2023 with large scale AI models such ChatGPT, Stable Diffusion, Whisper, and DALL-E 2 getting attention. The proportion of companies adopting AI in 2022 has more than doubled since 2017, though it has plateaued in recent years between 50% and 60%, according to the results of McKinsey’s annual research survey. Organizations have adopted AI realizing meaningful cost decreases and revenue increases. South Africa leads the continent in AI adoption with a robust ecosystem that includes numerous technology hubs, research groups, and various. Many companies in South Africa are either integrating AI solutions into their existing operations or developing new solutions using AI (Eke et al., 2023).

Furthermore, shedding light from a skills perspective, it is no doubt that the development and deployment of AI technologies require a skilled workforce, therefore, greater efforts need to be on nurturing talent and provide people with the necessary training and opportunities. Reskilling should be one of the focus areas as outlined in the national prioriotise such as the NSDP, ERRP. Greater efforts in this regard should be linked to the understanding that the level of skill required by AI is advanced and needs to be financially and technically supported by the industry and government.

2.2.1.4 Big Data Analytics

Big data analytics has been viewed as one of the most suitable technologies to offer businesses innovation and improve businesses, in this research it has been identified as one of the change drivers in the sector, which is about managing fast-moving traditional data processing systems at ever-increasing rates. It encompasses the volume of information, the velocity or speed at which it is created and collected. It is about identifying patterns, predicting trends, and insights that can inform business decisions. Example of big data includes social media, with Facebook processing about 500+terabytes of new data every day. This data is mainly generated in terms of photo and video uploads, message exchanges, putting comments etc (Huang, 2022).

Big data analytics being a relatively new field, companies are forced to retrain their workforce in order to be able to operate and deal with the new systems for analysing sophisticated datasets. Larger companies are swiftly recruiting new graduates, increasing their budgets, offering more training opportunities to their current staff who are capable in an attempt to develop the talent they need from within, as a result this has been observed to make it difficult for smaller MICT companies to keep up with the changing labour market (Huang, 2022).

2.2.1.5 Fifth-generation wireless technology (“5G”)

The fifth-generation wireless technology (“5G”) has been identified as a key driver of network transformation in South Africa. This is due to the need to drive new intelligent automation, it has been recognised as a source that enables new and existing technologies, such as artificial intelligence (AI) and the Internet of Things (IoT), to have a transformative impact on business processes, helping drive productivity and efficiency. Research shows that 5G is already having a huge impact on Big Data by accelerating data collection with high implications for cloud storage, machine learning, artificial intelligence (AI), 3D printing and data analytics, thus providing actionable insights that can be applied in several societal and industrial applications. Governments need to find ways to mitigate the risk of being left behind as technology sweeps the rest of the world into 5G and beyond. Companies are currently struggling to attract and retain staff with scarce skills in hard-to-fill occupations (i.e., computer network and systems engineers, cybersecurity specialists, and those with cloud computing skills), and 5G is already making this task even more difficult (The Independent Communications Authority of South Africa (ICASA), 2023).

2.3 Energy: The impact of loadshedding on the MICT sector

While the above change drivers seem to be driving change from a technology perspective, without energy in the form of electricity such technologies cannot be fully adopted. Loadshedding being a factor that seems to be driving change, affecting the south African economy, the MICT sector is not immune to disruptions caused by loadshedding, especially small businesses. These persistent power interruptions compromise the survival of these surviving SMMEs. Recent observations indicate that some SMMEs are already making drastic decisions to cut costs, seek alternative energy sources, and in some instances retrench staff to reduce overheads. In a recent pulse survey on loadshedding conducted by the MICT SETA, 13% of the stakeholders indicated that their organizations have confirmed that they are

planning to retrench about 10%-20% of the staff, this is mainly for business survival. Moreover, it was also interesting to investigate how much of their organisational budget was or is being spent on back-up power, 39% of the stakeholders indicated that they spend about 30%-40% of the organisational budget, followed by 28% spending 10%-20%, 17% indicated that they spend about 50%-60%. This is a slight glance on how the energy crisis in south is affecting businesses. Even some of the big giants in the industry within the telecommunications sub-sector, they are planning to retrench about 15% of the workforce to ensure sustainability. Such decisions come after spent evaluations that such big telecoms companies spend R150 million in a single quarter to fight the effects of ongoing load-shedding, with some having reported that they had spent R 2.6 billion on batteries, generators, and security for their towers each year, on the positive side this has given a rise to employment of network engineers and cloud computing specialists for business continuity (Illidge, 2023).

2.4 Skills Implications of Change Drivers

As briefly highlighted above, research shows that technology is continuing to shift almost every job role, whether it is in a factory or behind a desk. It is evident that that change drivers affect how businesses operate and survive into the future. Thus, new ways of doing things, including skills training, are required to exploit new opportunities in the market that emerge as a result of 4IR. Research by the World Economic Forum highlights cognitive skills, Systems thinking, AI and big data to be the top 10 growing skills (Schwab & Zahidi, 2023). While it is already evident that 4IR is already invalidating traditional jobs, the opportunity is on reskilling more than anything else. However, limitations, are still recognized to be the OFO as there continues to be limited recognition of emerging 4IR occupations such as an IoT specialist within the IoT realm, cloud architect for cloud computing and AI specialist within artificial intelligence. Efforts by the SETA to counter this challenge is on strategically partnering with key role players in the sector such as the QCTO, training providers and industry in the development of new qualifications and improvement of existing qualifications to meet 4IR demands.

2.5 The transversal nature of the 4IR technologies

While the implications of 4IR technology are identified above from an MICT sector perspective, it worth recognizing that the aforementioned change drivers are also transversal in other economic sectors such as “Blue economy or the Oceans economy”. Maritime-related businesses are organising 4IR technologies such as artificial intelligence (AI), machine learning (ML), Big Data, blockchain technology, Internet of Things (IoT), robots, drones, and additive manufacturing (AM) or 3D printing to harness the wealth and services of seas and oceans. The 4IR has pushed key role players such as Universities to prioritize 4IR skills in data analysis, automation, cybersecurity, computer programming, simulation, and robotics. This is to show that the MICT SETA is not only facilitating skills development for only its sub-sectors but a range of other economic sectors as “Blue economy or the Oceans economy” (Foundation, 2021).

2.6 Policy Frameworks Affecting Skills Demand and Supply

South Africa’s development trajectory is underpinned by the National Development Plan (NDP), which challenges the country to achieve sustained levels of economic growth through to 2030. The MICT sector is an integral part of South African society and is impacted by various policy interventions, some of which are outlined in the table below.

Table 6: MICT sector Policy interventions

<i>Planning Priority</i>	<i>Skills Implications</i>	<i>Measures to support National Strategies and Plans</i>
National Development Plan (NDP)	The NDP Vision 2030 (November 2011) identifies as one of its core priorities, reducing unemployment to 6% by 2030. Other objectives include eradicating poverty and reducing inequality. In meeting the objectives of the plan, the following are identified: A larger, more effective innovation system closely aligned with firms that operate in sectors consistent with the growth strategy; support for small businesses through better coordination of relevant agencies, development of finance institutions, and public and private incubators; an expanded skills base through better education and vocational training; identify business incubation for SMEs generally and the expansion of business services in particular as priority actions for growth and development.	The MICT sector will contribute towards the National System of Innovation and will thus, play a role in supporting its effectiveness and efficiency. Additionally, the SETAs strategic plan emphasises provision of financial and non-financial support to SMMEs, NGOs, NLPs, CBOs. Partnerships with stakeholders like SEDA to encourage incubation would play a key role in achieving sustainability and growth of small businesses in the sector.
Medium Term Strategic Framework (MTSF) 2019-2024	The outcomes for 2019 - 2024 are published as annexures to the MTSF: it is premised on achieving 5 outputs leading to the achievement of ‘Outcome 5: A Skilled and Capable Workforce to Support an Inclusive Growth Path’. This is part of a comprehensive plan for implementing the NDP.	The MICT SETA is committed to implementing the 4 sub-outcomes through strategic partnerships. These outcomes are: A credible institutional mechanism for labour market and skills planning; Increase access and success in programmes leading to intermediate and high-level learning; Increase access and efficiency of high-level occupationally directed programmes in needed areas; and Increase access to occupationally directed programmes in needed areas and thereby expand the availability of intermediate level skills with a special focus on artisan skills.
White Paper on Post Schooling Education and Training (WP-PSET)	The White Paper envisages an expanded, effective, and integrated post-school system in South Africa. It is premised on achieving: Expanded access to TVET and University education; Establishment of community colleges and skills centres, to mainstream vocational education and training; Establishment of a national skills planning mechanism within DHET; A strengthened NSA to perform a Monitoring and Evaluation role in the skills system; and Opening up workplaces to give more youth access to work integrated learning opportunities. The White Paper calls for a restructuring of the skills system and an efficient skills development system where strategic plans form the foundation of the service level agreements that SETAs sign with DHET.	The MICT SETA will ensure expanded access to TVET and University education through bursaries. This will directly contribute to one of the premises of the White Paper to expand access to TVET and University education.
National Skills Development Plan (NSDP)	The NSDP is informed by and consolidates the NDP, NGP, WP-PSET and IPAP and seeks to “improve access to occupations in high demand and priority skills aligned to supporting economic growth, employment creation and social development whilst also seeking to address systemic considerations” (DHET, 2019). A call for increased emphasis on improving “both basic skills and technical skills, with a specific focus on ‘historically	In addressing the NSDP and new SETA landscape, MICT SETA has incorporated and aligned the outcomes into its Recommended Priority Actions, thus ensuring continued relevance and responsiveness to key issues. Specifically, the MICT SETA responds to the NSDP outcomes by determining and addressing occupations in high demand, strengthening TVETs, CETs and work

Planning Priority	Skills Implications	Measures to support National Strategies and Plans
	disadvantaged individuals” is made and eight outcomes are presented to this effect.	integrated learning (WIL), increasing the number of workers trained and supported and supporting SMMEs, Cooperatives and rural learners.
New Growth Path (NGP)	One of the NGP focus areas focuses on meeting the shortages in important skills for the economy and sets targets for: the training of engineers underpinned by improved science and mathematics education and expanded bridging programmes for HE courses; improved skills for workers through the provision of certificated programmes facilitated, financed and managed by SETAs; a TVET college system that produces higher graduation rates; and provision of ICT skills in schooling, adult education and public service.	The MICT SETA in line with the NGP places emphasis on the development of ICT skills, as well as the increased supply of highly skilled labour in the economy.
Industrial Policy Action Plan (IPAP)	The IPAP has identified priority sectors which it aims to support for development in the country. Projects such as a South African garment-sizing database using three-dimensional (3-D) body-scanner technology, and computer-aided design using 3-D scanner data were highlighted.	As stakeholders in the sector start to engage in these programmes, the MICT SETA would be a skills development partner, ensuring that the requisite skills are being developed.
National Integrated ICT Policy White Paper	The National Integrated ICT Policy White Paper replaces all the previous white papers on telecommunication (1996) and postal services (1998). The policy outlines the plan for the rollout of broadband services across the country and directs the allocation of spectrum to all licensed operators, new entrants and SMMEs. The White Paper also covers interventions to boost the manufacturing and software development sectors particularly through advancing affordable devices and innovative services and applications relevant to the South African context. The direct link with the MICT sector includes facilitation, upgrade of manufacturing facilities and capabilities for domestic production and growth of exports; Commercialisation of technologies; Skills development for business process outsourcing sector.	The MICT SETA seeks to support this planning priority through managing supply-side issues and infrastructure roll-out, including supporting work done in scarce resources such as spectrum and interventions to facilitate open access and rapid deployment of infrastructure. The SETA commits itself to facilitating multi-stakeholder participation in the drive for an inclusive digital economy.
Economic Reconstruction and Recovery Plan and Skills Strategy	The main skills problems outlined in the Economic Reconstruction and Recovery Plan (ERRP) are a skills mismatch in the South African labour market; the increase in the use of technology which will result in many semi-skilled and unskilled people being left behind; and there is a need to build a skills base for the economy, industries, and jobs of the future. The skills strategy was developed because of the urgency for a well-coordinated strategy of skills development to support both the management of Covid-19 pandemic and the economic and social recovery. Short-term in nature, the strategy is designed to ensure that the skills system is strengthened with its implementation. It also aims to enable the immediate rollout of skills development interventions to make sure that the ERRP is supported. The strategy will focus on interventions that allows for large numbers of youth to access opportunities in the short-term. The strategy contains ten interventions to ensure the effective implementation of the ERRP. The SETAs, including the MICT SETA, finds expression in six of the interventions.	The MICT SETA aims to support each of the six interventions which include: Intervention one: Embedding skills planning into sectoral processes; Intervention three: Increased access to programmes resulting in qualifications in priority sectors.; Intervention four: Access to targeted skills programmes; Intervention six: Supporting entrepreneurship and innovation; Intervention seven: Retraining/up-skilling of employees to preserve jobs; and Intervention ten: Strengthening the post-school education and training system. This is done through ensuring that these interventions find expression in the SETAs Key Skills Priority Actions as well as its Strategic Plan and Annual Performance Plan targets.
Presidential Youth Employment Initiative (PYEI)	The purpose of the Presidential Youth Employment Initiative (PYEI) is to address the pressing issue of youth unemployment and create employment opportunities for young people in the country. The initiative was launched by the South African government, with a focus on providing work experience, skills	In the context of the MICT sector, the MICT SETA aims to respond to this initiative through these various forms: internships for young people young people, providing them with hands-on experience and training in areas such as software

<i>Planning Priority</i>	<i>Skills Implications</i>	<i>Measures to support National Strategies and Plans</i>
	development, and support to help young people enter the job market and gain meaningful employment.	development, digital marketing, data analytics, and IT support. Moreover, developing skills development programmes that focus on equipping young people with the technical skills required in the industry. This will include coding boot camps, cybersecurity courses, or multimedia design workshops. Lastly, the focus will be on inclusion and diversity, also aligning to the transformation imperatives, creating more opportunities for underrepresented groups, including young people from marginalized backgrounds

2.7 Conclusion

The chapter was able to explore the factors that influence skills supply and demand in the MICT sector. Apparent from the discussion is that the technology in the MICT sector is always in constant state of flux, it is transversal, and it plays a critical role in other sectors of the economy, examples of the blue economy or the Oceans economy” provide a practical example of how skills development within the MICT sector has a ripple effect in the other sectors. While the drivers have been identified, the most notable one that requires a proactive approach is the issue of loadshedding as without energy in the form electricity it becomes difficult for companies to fully adopt these technologies. Moreover, this gives the MICT SETA an opportunity to shape a future that is more sustainable, inclusive, and prosperous for all sectors, of course, this does not come with challenges or risks, but greater sustainable partnerships within the sector can enable the MICT SETA to fulfil its skills development mandate. Through the SETA, skills development will continue to follow course with specialised skills to set up and maintain new and future technologies. This will be met with balanced perspectives of also catering for lower-end skills, allowing the SETA to create a qualification mix that caters for all levels of employees in the sector.

Chapter 3: Occupational Shortages and Skills Gaps

3.1 Introduction

The previous chapter examined the factors influencing the demand and supply of skills in the MICT Sector. It is no doubt that the MICT sector is evolving, the sector is changing as a result of the digital transformation, globalisation, and demographic changes, but coming up as the biggest factor is the 4IR which aligns to digital transformation. Exploring Occupational shortages and skills gaps within the context of the MICT sector becomes important, especially when there are change drivers as identified in chapter 2 which influence the demand and supply of skills. By recognizing and addressing occupational shortages and skills gaps, the sector can strive to create a workforce that is better equipped to meet the demands of a rapidly changing labour market, fostering economic growth, and improving the overall well-being of individuals. This chapter will explore the extent and nature of demand for skilled labour in the MICT Sector, it will assess the type and extent of training available to the Sector.

In order to compile the Sectoral Priority Occupations list and occupational shortages, an analysis of WSP submissions by employers was conducted. While a few limitations to the WSPs were realised, including the vagueness in descriptions of occupations, key informant interviews were conducted with key stakeholders in the industry to complement the WSP information, whereby respondents were asked to identify key hard to fill vacancies (HTFVs), skills gaps and change drivers in the Sector. To further validate the collected information, a continuous process of data collection will take place, where information will be further validated through online surveys and focus groups. The research will thus be triangulated across various sources to provide as complete and valid picture of skills demand and supply in the Sector.

3.2 Sectoral Occupational Demand

3.2.1 Advertising Sub-sector Occupations with Hard to Fill Vacancies

Using the OFO framework as a tool for uniformity in terms of reporting, the table below provides the top occupations which are hard to fill in the Advertising Sub-sector. These five vacancies have been identified by stakeholders, these include Multimedia Specialist, Digital Artist, Marketing Practitioner, Multimedia Designer and Advertising Specialist.

Table 7: Advertising Hard to Fill Vacancies

OFO Code	Occupation	Reason	Quantity Needed in Sub-sector
2021-251301	Multimedia Specialist	Lack of skilled people	324
2021-216601	Digital Artist	Equity consideration	320
2021-243103	Marketing Practitioner	Replacement demand	92
2021-216603	Multimedia Designer	Lack of skilled people	40
2021-243101	Advertising Specialist	Replacement demand	113

Stakeholders in the advertising Sector noted Multimedia Specialist as one of the most difficult occupations to find suitably qualified people for and this can be attributed to low wages resulting in highly skilled workers leaving South African employers for better-paid jobs and opportunities overseas, proving the 'brain drain' phenomenon. This can also be noted in niche

skills such as digital marketing, 3D Design as well as Graphic / Print / Packaging Design. Due to increased digitisation in the Sector, stakeholders attributed the lack of relevantly skilled candidates to the lag in digital skills training. Candidates are required to possess digital marketing skills to complement their traditional marketing expertise. Digital Marketers and Social Media Influencers are examples of emerging occupations spurred on by increased consumer of online presence caused since 2020. Advertising specialist has also been identified as one of the most in demand skill in South Africa, especially with the key role they play in tracking and assessing data, results analytics to improve and optimize marketing goals.

Furthermore, whilst there may be shortages in the sector, the ‘Gig economy’ also known as the freelance or on-demand economy has been noted as the panacea to the environment that is always in constant state of flux. These free lancers have greater flexibility in terms of the hours they work, who they work for, and how much they take on than traditional workers, typically work on contract and may be paid per project or on an hourly basis. This creates a challenge as these trends are somehow not captured in modern research if they are not in the employ or ownership of a company. Another aspect of this is that it impacts the levy system since free lancers are not directly linked to any company within the skills system.

3.2.2 Film and Electronic Media Sub-Sector Occupations with Hard to Fill Vacancies

Table 7 below illustrates the top 5 hard to fill vacancies of the Film and Electronic Media Sub-sector. As aforementioned, these are presented using the 2021 OFO codes.

Table 8: Film and Electronic Media Hard to Fill Vacancies

OFO Code	Occupation	Reason	Quantity Needed in Sub-sector
2021-265401	Director (Film, Television, Radio, or Stage)	Lack of skilled people	43
2021-352102	Camera Operator (Film, Television or Video)	Equity consideration	36
2021-265412	Media Producer	Lack of skilled people	26
2021-352103	Sound Technician	Lack of skilled people	23
2021-216601	Digital Artist	Lack of skilled people	20

The areas of scarcity for most of the Film and Electronic Media occupations exist primarily in more technical roles specific to the Sector and less on generic skills. Most of the shortages are due to a lack of skilled people, with the sound technician role evolving to the more specialist roles. This is mainly due to the significant role they play in operating audio equipment to record, enhance, mix, and amplify sound in support of television, radio, film or video productions, or stage performances. Moreover, location scouts, continue to need more people with skills of knowing how to work with voice and silence. these are practicalities to how much the role has evolved. Whilst there may be plenty of sound technicians in the Sector, few of them possess the specialist skills as described above, hence, the need for engineers/specialists.

Moreover, equity issues are also noticed at senior level, in positions such as Director (Film, Television, Radio, or Stage), most of the stakeholders highlighted the prevalence of inequality, discrimination, exploitation and exclusion. It was also noted that there is a high underrepresentation of different genders, ethnicities, ages, sexualities, disabilities in the gaming sector, attributing to this is the organizational structure of the industry that exacerbates these inequalities because of project-based contracts and an increased reliance

on informal networks for entering into and maintaining employment as well as the pervasiveness of unsociable working hours. Furthermore, for the past five years it has been observed that location has a bearing on occupational shortages. Economic hubs such as Gauteng and the Western Cape tend to have different hard to fill vacancies to less economically active areas, especially rural areas, due to rural-urban migration. Due to the advancement of technology, the sector has witnessed tremendous advancements in Computer Generated Imagery technology, allowing filmmakers to create visually stunning and realistic effects, making storytelling to be realistic to meet the expectations of today's audiences. Hence, there is now that demand for Computer Generated Imagery specialists (CGI) specialists, these in the OFO codes are recognized as digital artists.

3.2.3 Electronics, Information Technology and Telecommunications (ICT) Sub-sectors Occupations with Hard to Fill Vacancies

There are similarities between the Electronics, Telecommunications, and Information Technology sub-sectors. Consequently, these sub-sectors are addressed as one ICT sub-sector due to the overlapping nature of their occupational demands. To accommodate this amalgamation and the larger size of the ICT sub-sector, provision is made for 10 hard to fill vacancies instead of 5. Table 8 below presents the top 10 hard to fill vacancies within the ICT sub-sector over the next year.

Table 9: ICT Occupations with Hard to Fill Vacancies

OFO Code	Occupation	Reason	Quantity Needed in Sub-sector
2021-251201	Software Developer	Lack of skilled people	1435
2021-252301	Computer Network and Systems Engineer	Lack of skilled people	1070
2021-251101	ICT Systems Analyst	Lack of skilled people	1036
2021-252901	ICT Security Specialist	Lack of skilled people	270
2021-251203	Developer Programmer	Lack of skilled people	252
2021-351301	Computer Network Technician	Lack of skilled people	220
2021-352201	Telecommunications Technical Officer or Technologist	Lack of skilled people	168
2021-215201	Electronics Engineer	Lack of skilled people	156
2021-311401	Electronic Engineering Technician	Lack of skilled people	100
2021-243403	ICT Sales Representative	Lack of skilled people	115

The above table illustrates what has been observed by experts in the field, it is apparent that the most in-demand positions are in more technical roles more than anything else, it has been noted by the stakeholders that with the fast-paced uptake of these advanced technologies there is a high need for cloud engineers, data scientists and DevOps engineers' Cyber security specialists to manage the corresponding risks. However, due to the limitations of the 2021 OFO code framework these occupations are often camouflaged in OFO occupations such as software developers, ICT Security Specialist. With these skills being in south africa, big employers continue to have the advantage over small employers, they offer attractive packages such as high salaries and SMMEs struggle to keep up and that often leaves them with gaps in terms of skills. Another issue that has been identified has to do with entry requirements being set too high for entry level positions, which most often makes affects the rural youth the most to access opportunities in the metros. Making the competition worse is that the skills produced in the MICT sector are not only servicing the five MICT subsectors identified, but also the other sectors such as banking, transport (air and oceans economy) etc.

Software Developers, Developer Programmers, ICT Systems Analysts remain the top 10 occupations which continue to be hard to fill within the Sub-sectors. Clarity is always needed to distinguish Software Developer and Developer Programmer. Software Developers are more involved with and have a greater understanding of the full project scope. While, Developer Programmers have a very much specialized role than developers. In addition, coding languages such as Python, C and C++, Rust, and Perl remain key in the face of 4IR.

The telecommunications sub-sector includes both the retail side and the technical side. Network specific professionals such as Telecommunications technician and computer network and systems engineer, continue to be in demand especially with south africa being faced with loadshedding. Some network companies for business continuity and to boost the efficiency of their business have hired graduates to meet the demand for network maintenance.

Moreover, Electronics Engineers and Electronic Engineering Technicians continue to be recognized as being hard to fill in the Electronics sub-sector. The sub-sector has also experienced increased demand for ICT Sale Representatives, mainly the demand for new technology products such as 5G infrastructure, household back up power products due to loadshedding.

3.3 Skills Gaps

The MICT sector is always in constant state of flux, the rapid and widespread digitalisation has changed the nature of work, making digital skills an essential attribute for the modern workforce, too often employers report a skills mismatch between the skills they want and the skills that employees or job seekers possess. Too often while the demand for digital skills is high, the supply is low, and businesses often struggle to find talent for these roles. Skills gaps can be technical and soft, along these lines soft skills are also needed to facilitate adaptation to the fast-changing work environment. Consistently, those that are already in employment are faced with the pressure of having to constantly upgrade their skills to keep abreast of the latest technological developments (e.g., certified skills affecting IT Security Specialists and Computer Network and Systems Engineers), this is ever more prevalent with the emerging 4IR technologies. The broad categories of critical skills gaps that exist amongst employees working across the five Sub-sectors of the MICT are management and leadership skills, customer service skills and technical skills. These are further outlined in the table below by occupation (with OFO codes) and OFO Major Group.

Table 10: Skills gaps and the top occupations

Skills Gap	Lower-Level (plant operators and elementary)	Midlevel (technicians, associates, artisans, and clerical)	Senior (managers and professionals)
Management & Leadership Skills	N/A	<ul style="list-style-type: none"> • 2021-352201 Telecommunications Technical Officer or Technologist 	<ul style="list-style-type: none"> • 2021-122102 Sales Manager • 2021-243403-ICT Sales Representative
Certified skills (CompTIA A+, Network+, MCSA, MCSE, Azure, CISCO, etc.)	N/A	<ul style="list-style-type: none"> • 2021-351301-Computer Network Technician • 2021-672205-Telecommunications Technician 	<ul style="list-style-type: none"> • 2021-252901-ICT Security Specialist • 2021-251101-ICT Systems Analyst • 2021-252301-Computer Network and Systems Engineer

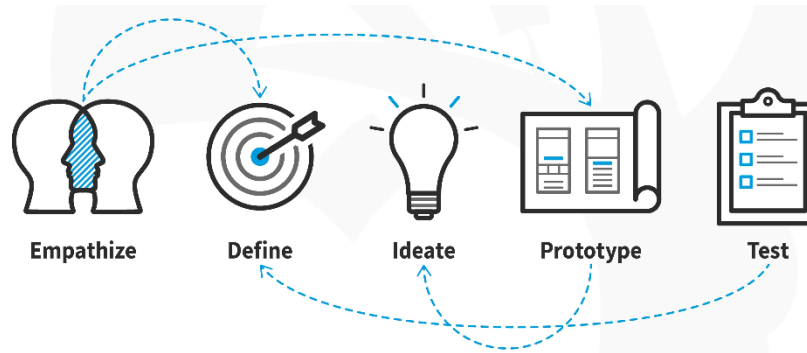
Skills Gap	Lower-Level (plant operators and elementary)	Midlevel (technicians, associates, artisans, and clerical)	Senior (managers and professionals)
Financial Management	N/A	N/A	<ul style="list-style-type: none"> • 2021-121901-Corporate General Manager • 2021-121101-Finance Manager • 2021-122101-Sales and Marketing Manager
Communication skills	N/A	N/A	<ul style="list-style-type: none"> • 2021-122102-Sales Manager • 2021-133102-ICT Project Manager • 2021-251101-ICT Systems Analyst • 2021-243401 ICT Account Manager
Customer Service	<ul style="list-style-type: none"> • 2021-862918-Electrical or Telecommunications Trades Assistant 	<ul style="list-style-type: none"> • 2021-351201-ICT Communications Assistant • 2021-672205-Telecommunications Technician 	<ul style="list-style-type: none"> • 2021-243403-ICT Sales Representative
Python (Coding language)	N/A	N/A	<ul style="list-style-type: none"> • 2021-251203-Developer Programmer • 2021-251201-Software Developer
Sales Skills	N/A	<ul style="list-style-type: none"> • 2021-333903-Sales Representative (Business Services) 	<ul style="list-style-type: none"> • 2021-122101-Sales and Marketing Manager • 2021-243403-ICT Sales Representative • 2021-243401-ICT Account Manager
Problem Solving	N/A	<ul style="list-style-type: none"> • 2021-352106-Production Assistant (Film, Television or Radio) 	<ul style="list-style-type: none"> • 2021-251203-ICT Systems Analyst • 2021-121901-Corporate General Manager
C (Coding language)	N/A	N/A	<ul style="list-style-type: none"> • 2021-251203-Developer Programmer • 2021-251201-Software Developer
Leadership	N/A	N/A	<ul style="list-style-type: none"> • 2021-133102-ICT Project Manager • 2021-121901-Corporate General Manager • 2021-122102-Sales Manager • 2021-122104 Interactive and Direct Marketing Strategist
Business Management	N/A	<ul style="list-style-type: none"> • 2021-333910-Business Support Coordinator 	<ul style="list-style-type: none"> • 2021-112101-Director (Enterprise / Organisation) • 2021-122201-Advertising and Public Relations Manager

Source: WSP/ATR Submission, 2023.

Addressing skills gaps requires a multi-faceted approach by employers, there is a need to invest in upskilling and reskilling their existing workforce to bridge the skills gaps within their organizations. The above identified skills gaps are a good indicator of the role employers within the MICT sector need to play in order to bridge the gaps, they need to focus on a combination of hard and soft skills critical to this day of technology advancement, such as investing in programming skills as Python, C and C++, Rust, and Perl. These remain key in the face of 4IR.

Furthermore, design thinking continues to be one of the modern needed skills for the most technical roles in organisations. Design and Critical Systems thinking make it possible for project managers and specialists to look at a transformation as a whole, from a systems perspective to propose a real understanding of impact of the project. Scholars in the field, highlight, Design Thinking as an innovative, creative, and human-centered process and mindset that employs collaborative multidisciplinary approach. The figure below shows this from a practical point of view.

Figure 13: Design thinking



Source: (Harvard Interaction Design Foundation, 2020)

At a senior level stakeholder have identified that most ICT managers lack the skill empathize to gain understanding of the problem they are trying to solve, which creates a problem in the prototype stage. Ideally, they should be able to analyze their observations, together with the organizational documentation to define the problems they are trying to solve, however, that is not always the case, thus, failure to ideate and prototype failure. Ideally for MICT professionals should be able to execute programmes or projects they should be able to offer solutions by breaking down a problem into small parts to analyse it, to explore it, to test the results, and to create solutions that benefit the end-user, however, this has been identified as a skills gap (Yedra et al, 2022).

The world is now at a post pandemic period and without a doubt, the South African ICT sector's response has been encouraging, most of the stakeholders engaged have confirmed the adoption of the technologies identified in chapter 2, however, a continuous blocking factor is the issue of loadshedding which is significantly delaying adoption, companies have no choice but to have leader who are able to think outside of the box for business continuity. However, as Identified above, leadership and communication skills remain a challenge for proper execution. Smaller companies are faced with the pressure to survive, hence, to keep the lights on financial management becomes a problem, the budget funds for projects get utilized for other operational segments of the company like back up power and maintenance.

3.4 Extent and Nature of Supply

This section looks at the provision of education and training of skills, with the focus specifically on MICT-accredited qualifications. It also reviews provision in higher education, TVET colleges and vendor programmes. It assesses the gaps in the supply pipeline in order to help identify where the MICT SETA can most effectively intervene.

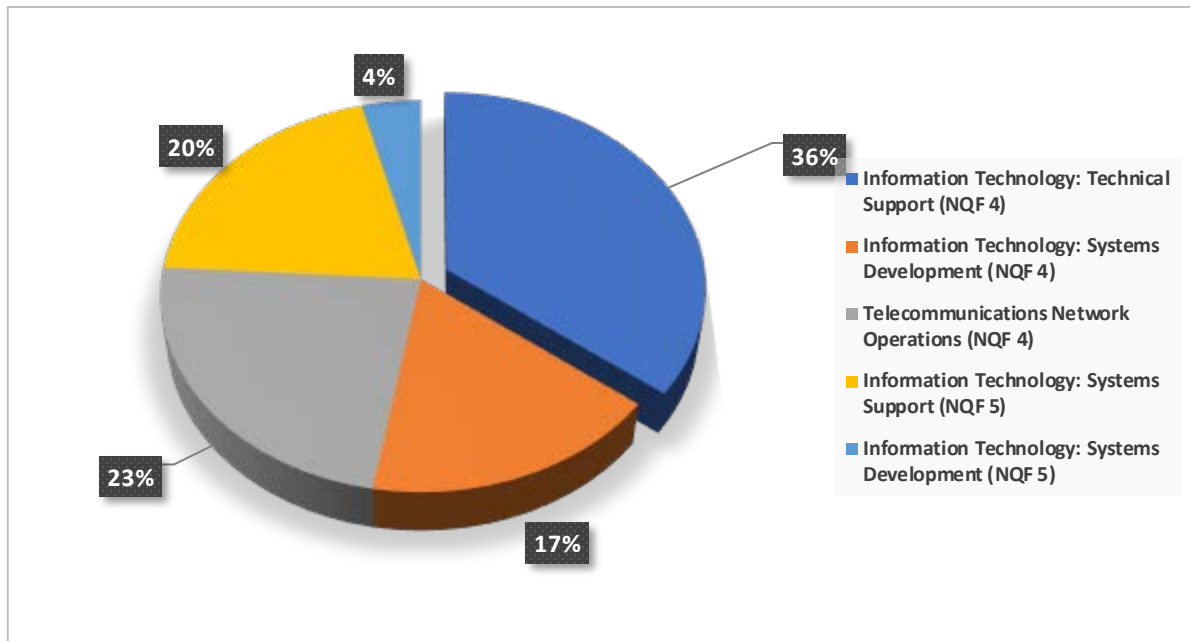
3.4.1 MICT SETA Accredited Qualifications

An analysis of the total learnerships and skills programmes population to date as reflected below indicates that a significant portion of total enrolment has been in the following five qualifications:

- Information Technology: Technical Support (NQF 4)
- Information Technology: Systems Development (NQF 4)
- Telecommunications Network Operations (NQF 4)

- Information Technology: Systems Support (NQF 5)
- Information Technology: Systems Development (NQF 5)

Figure 14: Top 5 Qualifications enrolled for



Source: MICT SETA QMR, 2022

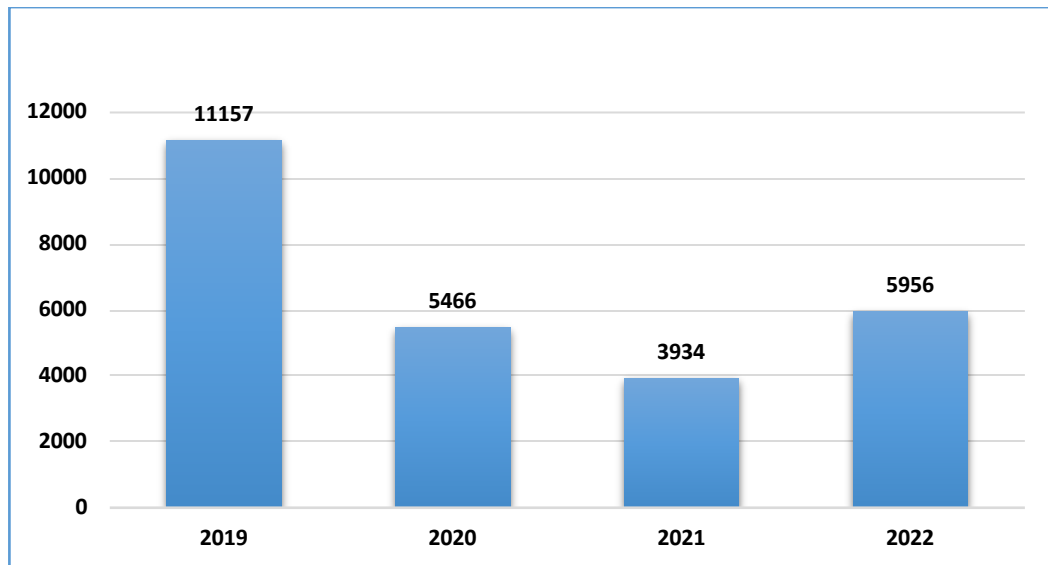
The 2022/23 qualifications data indicates that most enrolments are in the NQF level 4 qualifications as compared to NQF level 5. As illustrated, most of the interest was on information Technology; Technical Support accounting 36% of enrolments. This has been the case even in the previous years, attributing to this is the high interest by training providers to offer and market these qualifications. Appealing that did not show in the previous year’s research findings is the high enrolment in the Telecommunications Network Operations Qualification (NQF 4). this clearly shows that there is a shift in the understanding by training providers, they now seem to understand which qualifications are in demand by the sector, especially with the emergence of Cloud technology. learners trained on this qualification have the opportunity to be managing cable systems, designing networks and telecommunications systems for businesses, or even doing network security work which is essential for 4IR. The two level 5 qualifications in ICT – for Systems Support and Systems Development match the demand for occupations in high demand within the Sector. Systems Development, for example, allows for specialisation in one of the following disciplines: Procedural Programming; Object Oriented Programming; Fourth Generation Language Programming; Website development; Multimedia; Electronic Commerce.

While there has been an increase in students enrolling for NQF 5 qualifications specialising in advertising, stakeholders in the Advertising Sub-sector raised concerns over the lack of training in digital marketing. Since specialised advertising courses were mainly offered by private universities and colleges, such as Higher Certificates and Advanced Diplomas in digital content creation and marketing, there is limited access for those without financial backing to enrol in such programmes.

3.4.2 Enrolments in MICT SETA Qualifications

Furthermore, continuing to assess enrolments on MICT SETA qualifications, figure 15 shows the trend of enrolments in the last 4 years in learnerships and skills programmes. It becomes apparent that in the 2022/23 financial year there has been a slight increase as compared to the 2021/22 financial year, an increase of 2022 learner enrolments have been recognized.

Figure 15: Learnerships & Skills Programmes Enrolment 2019-2022

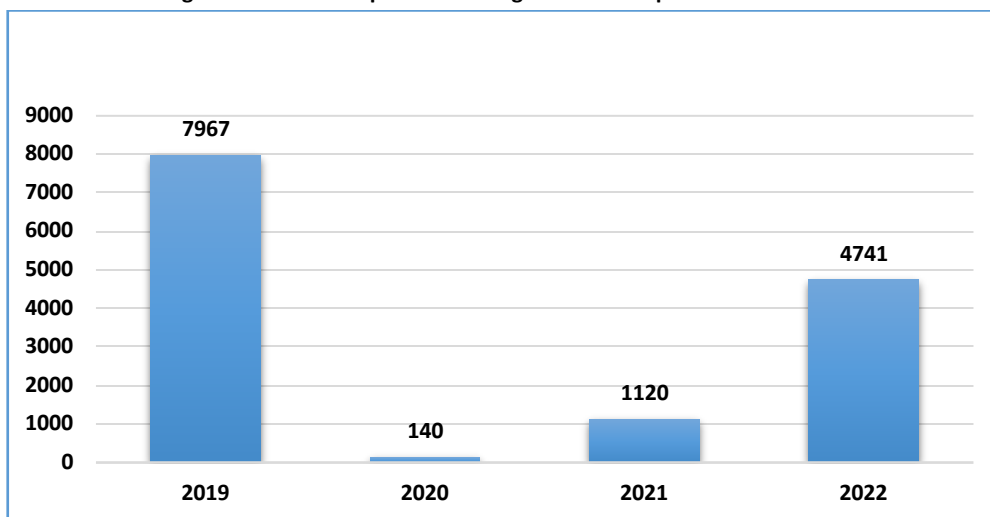


Source: MICT SETA QMR, 2022

3.4.3 Completions

While the above highlights enrolments, it is also important that light be shed on completions, Figure 16 below shows the total number of completed learnerships and skills programmes from 2019 to 2022.

Figure 16: Learnerships & Skills Programmes Completions 2019-2021



Source: MICT SETA QMR, 2022

From the above, there is significant growth in the number of completions on learnerships and skills programmes in the 2022/23 financial year. Owing to this significant jump is the improved business models by institutions having found new ways for continuous operation, such as models for e-learning and introduction of remote working policies. The drop in numbers from 2020 were mainly linked to the disruption brought about by the COVID-19 pandemic, such as the delayed academic year, however, as aforementioned significant progress has been made by institution for business continuation, hence, the significant jump in completions.

3.4.4 Equity Demographics

The NSDP seeks to promote equity. The MICT SETA programmes appear to have consistently managed to attract black women into the sector. Stakeholders in the sector confirmed that there was a rise in the number of women in learnerships, especially in ICT technical areas which were traditionally dominated by men. However, it was noted that there were very few black candidates being trained as “creatives” in both the Advertising and Film and Electronic Media Sub-sectors.

3.4.5 Developed 4IR Qualifications

The MICT SETA has developed 37 occupational qualifications that align to the demand of the 4IR, in partnership with the QCTO and other key relevant stakeholders. A number of consultative road shows were held to explain the process followed to develop these qualifications. To date, these are the qualifications that have been developed by the SETA:

Table 11: Developed 4IR Qualifications

1. Occupational Certificate: Artificial Software Developer.	15. Occupational Certificate: Blockchain.
2. Occupational Certificate: Cloud Administrator.	16. Python (Skills Programme).
3. Occupational Certificate: Cybersecurity Analyst.	17. HTML (Skills Programme).
4. Occupational Certificate: Design Thinking Innovation Lead.	18. Java (Skills Programme).
5. Occupational Certificate: Design Thinking Practitioner.	19. Java script (Skills Programme).
6. Occupational Certificate: Quality Test Automator.	20. C++ (Skills Programme).
7. Occupational Certificate: Software Developer.	21. Occupational Certificate: 3D Printing.
8. Occupational Certificate: Data Science Practitioner.	22. Occupational Certificate: Extended Reality.
9. Occupational Certificate: E-waste Operator Controller.	23. Occupational Certificate: Optical Fibre.
10. Occupational Certificate: Internet of Things.	24. Mobile Device Repairer (Part qualification).
11. Occupational Certificate: Robotic Processing Automation Developer.	25. Laptop Repairer (Part qualification).
12. Occupational Certificate: Mobile Computing Technician Devices.	26. Wearable Repairer (Part qualification).
	27. Accessories Repairer (Part qualification).
	28. Occupational Certificate: Drone Technician.
	29. Occupational Certificate: Remote Piloting Aircraft.
	30. Occupational Certificate: Remote Piloting Technician.
	31. Wearable Repairer (Part qualification).
	32. 5G Cellular Network Administrator (Skills Programme).
	33. Technopreneur (Skills Programme).
	34. Block Chain

13. Java Programmer (Skills Programme).	35. 3D Printing
14. Cybersecurity Defender (Skills Programme).	36. Extended Reality (AR & VR)
	37. Optical Fibre Network

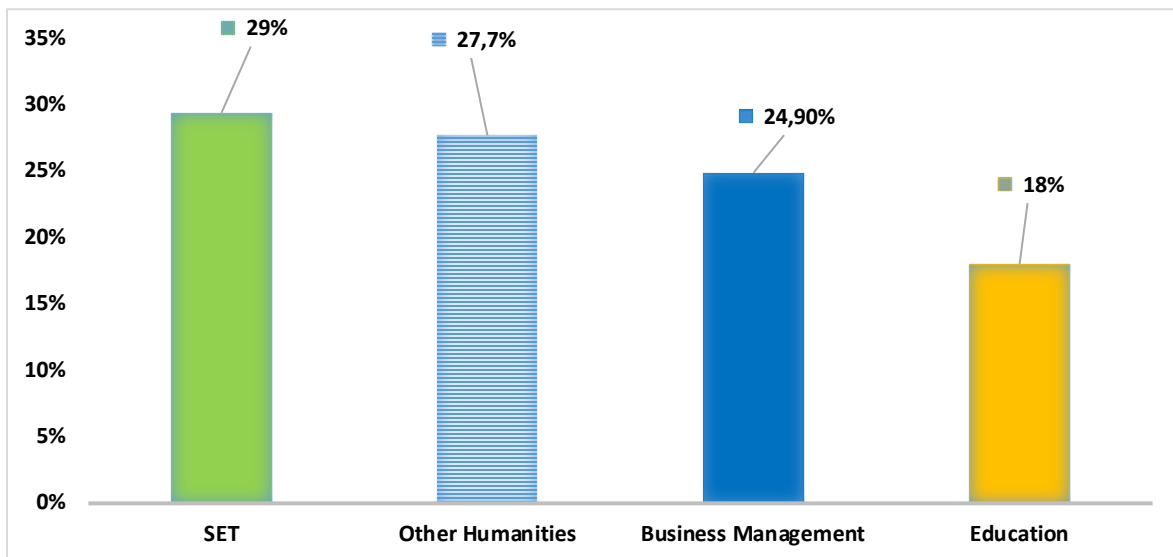
Source: MICT SETA/QCTO, 2022

3.4.6 Higher Education

The higher education system comprises 26 universities differentiated into eleven traditional, nine comprehensive and six Universities of Technology (UoTs), while the private higher education sector currently consists of 132 registered PHEIs. These universities are responsible for generating a skilled workforce and yield academics who are able to produce the research output and innovation needed to drive economic growth in the country (Department of Higher Education and Training, 2022).

Figure 17 below is an illustration of enrolments according to major field in public HEIs. Due to the limitations of the Higher Education Management Information Systems (HEMIS), the most recent data available goes up to 2021, the 2022/23 data yet to be released. The below figure clearly illustrates that SET programmes are being recognized as a priority in the face of technology advancement, hence, it accounts 29% of enrolment, followed by 27.7% in field of humanities with 24.9% in field of business management and 18% in field of education.

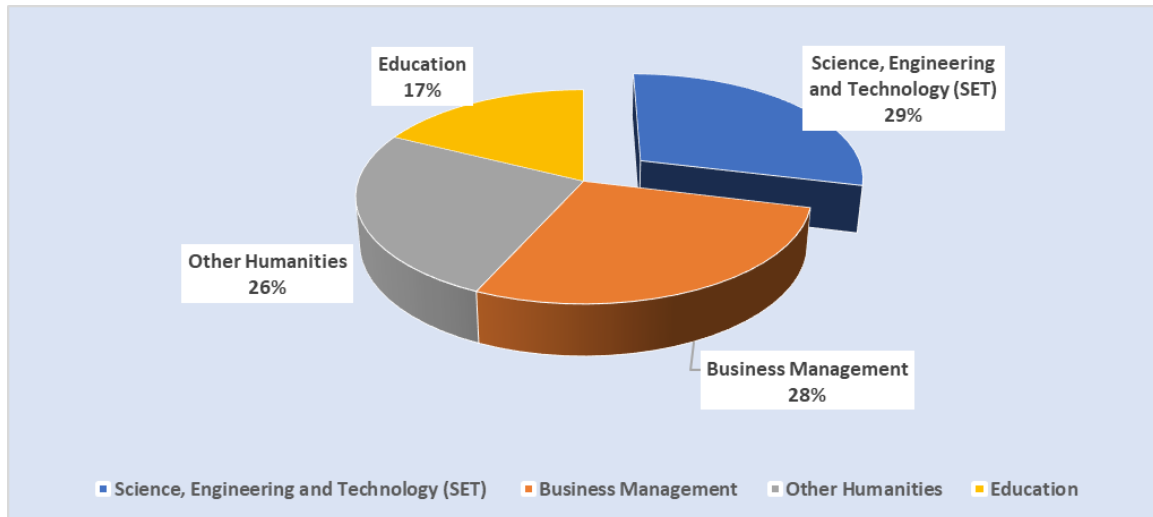
Figure 17: Proportion of students enrolled in public HEIs by major field of study, 2021



Source: 2021 HEMIS database, data extracted in November 2022.

Figure 18 below presents the graduations across major fields of study in all public higher education institutions in 2021.

Figure 18: Graduations for 2021 in public HEIs by major field of study



Source: 2021 HEMIS database, data extracted in November 2022

From the figure above, the number of graduates in 2021 was 1.9% (4 625) lower when compared with graduates reported in 2020 (237 882), and 60.4% (87 831) higher when compared with 2009 (145 426). Decreases in the number of graduates in 2021 were recorded in almost all fields of study except the Science, Engineering and Technology, where an increase of 2 701 was observed. The biggest decrease was in the Education field of study, where the number of graduates declined by 13.1% (6 208). Attributing to this decline cannot be pointed out to a single source, however, some of the stakeholders pointed out a big dark hole in the South African education system that continues to swallow many students, this hole manifests itself in the form of high dropout rates in tertiary education.

While it is important to observe enrolments in the public HEIs, the table below shows the total number of enrolments in private higher education. More than half (50.3% or 117 265) of the total number of students in PHEIs were enrolled for programmes in the field of Business, Commerce and Management Studies. The second highest enrolment was in the field of Education, Training and Development (16.2% or 37 659), followed by enrolments on programmes within the category of Physical, Mathematical, Computer and Life Sciences with 10.5% or 24 509 of the total enrolment. The enrolments that fell in the middle were Human and Social Studies (5.1% or 11 961), Law, Culture and Arts (5.0% or 11 565) and Military Science and Security (4.9% or 11 408). The lowest student enrolments were in the fields of Physical Planning and Construction (0.1% or 275), Agriculture and Nature Conservation (0.1% or 292) and Manufacturing, Engineering and Technology (0.1% or 330).

Moreover, the table below shows enrolments trend in the private HEIs, stakeholders in the sector highlight that the reason for low enrolments for qualifications in Manufacturing, Engineering and Technology is mainly attributed to the expensive fees, youth coming from disadvantaged backgrounds cannot afford such studies, and hence, the SETA through vendor programmes consistently tries to partner with key role players to bridge this gap.

Table 12: Enrolments in Private HEIs by NQF Field

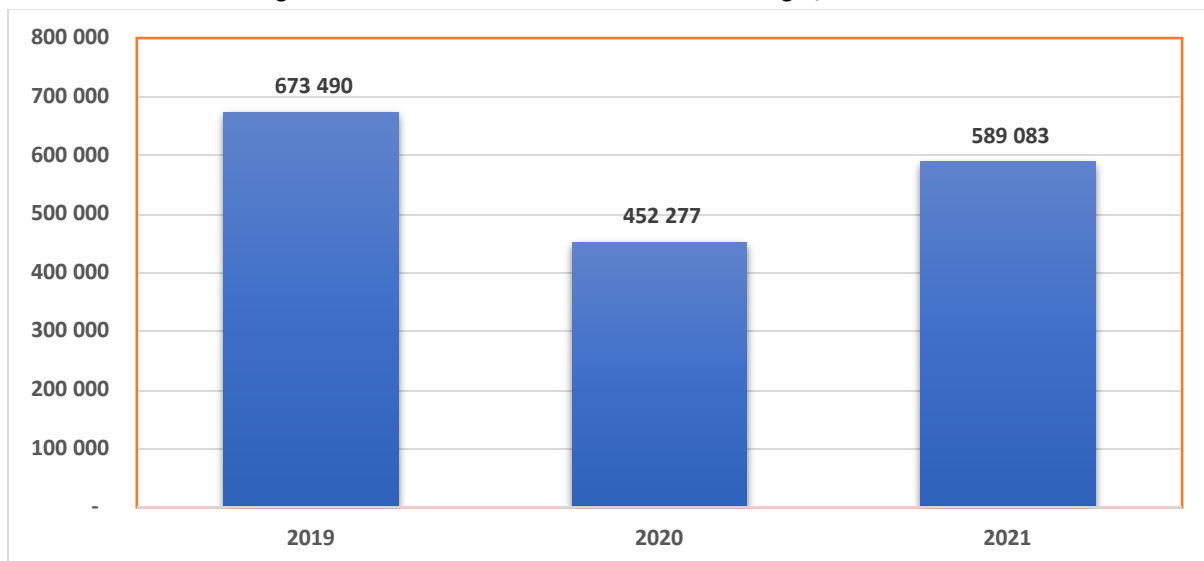
NQF field	2021
1. Agriculture and Nature Conservation	292
2. Culture and Arts	11565
3. Business, Commerce and Management Studies	117265
4. Communication Studies and Language	8179
5. Education, Training and Development	37659
6. Manufacturing, Engineering and Technology	330
7. Human and Social Studies	11961
8. Law, Military Science and Security	11401
9. Health Sciences and Social Services	4006
10. Physical, Mathematical, Computer and Life Sciences	24509
11. Services	5463
12. Physical Planning and Construction	275

Source: Annual report submitted by PHEIs to DHET for the 2021 year of reporting.

3.4.7 TVET Colleges

DHET has been promoting TVET colleges to be learning institutions of choice, this has also been supported by legislative mandates such as the NSDP, ERRP and the supporting skills strategy for the ERRP. The aforementioned legislative mandates mirror the objectives of the White Paper on Post School Education and Training, aspiring for a quality post school education which includes expanded access to public TVET colleges. In addition to increased access, the strategic objective of the public TVET colleges sector is to improve success in programmes that produce quality education at intermediate and higher levels, by providing technical and vocational qualifications. Figure 19 below depicts the total student enrolments in TVET colleges over the 3-year period ending 2021.

Figure 19: Number of students enrolled in TVET colleges, 2019 to 2021.

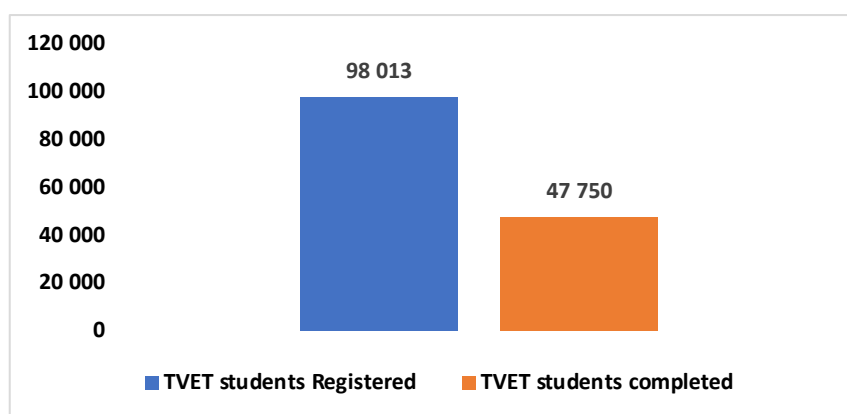


Source TVETMIS 2021, data extracted in February 2023.

As seen above, there were 589 083 students enrolled in TVET colleges, and this was a 30.2% (136 806) increase compared to 2020 (452 277). The COVID-19 pandemic caused a decrease in TVET college enrolment in 2020; however, enrolment is now beginning to improve, which explains the high increase between 2020 and 2021. The only increases in this period were recorded for Report 191 and skills programmes, where enrolment increased by 51.7% (142 042) and 71.1% (2 765) respectively.

At national level, figure 20 below shows students in TVETs that completed their qualifications. However, this is 2021/22 data as there has been little reliable information about completion rates for the 2022/23 financial year, therefore, pursuing such unaudited data would defeat the principle of reliability and confidence representation.

Figure 20: 2021 TVET completions at national level



National Examinations Database, November 2021.

3.4.8 Vendor Programmes

Vendor specific programmes provide opportunities for students to integrate disciplinary and theoretical knowledge with work, through the application and use of knowledge and skills in real and professional work contexts. These programmes are designed to meet the advancements in the applications and technologies used by companies and business units, and as a result, are most common and relevant to the ICT Sub-sector. Vendor programmes are usually short and focused programmes that are designed by software and hardware companies as an effective means to introduce new technologies or applications to both existing and new entrants in the labour market.

Vendor courses have the benefit of keeping up to date with rapidly changing technology. But for the same reason, these courses can quickly become obsolete if the product turns out to have a short shelf-life. There is also a concern that training content is focused on the vendor's products and therefore not generic enough to educate on the underlying principles. Consequently, there has been an apparent increase in the demand for customised training solutions rather than more comprehensive off-the-shelf training that covers a broader range of technology solutions.

At the same time, stakeholders in the sector reported that employers increasingly want employees to cross-certify with multiple vendors. Having multiple skills is becoming an inherent job requirement, with certified skills such as CompTIA A+, Network+, MCSA, MCSE, Azure, CISCO, etc. being the third most in-demand skills for mid-level to senior employees across the sector. These skills also rank in the top 10 skills gaps in Telecommunications across

occupational groups. To respond to the persistent demands for vendor certificates, the MICT SETA continues to map these programmes against existing NQF qualifications.

3.4.9 Assessment of Education and Training

The MICT SETA conducted a learning programmes tracer study, assessing the demographics and employment profiles of learners who participated in the SETA learning programmes over the period of 2020/21. The study sought to understand the effects of internships, learnerships, skills programmes, bursaries and short programmes on learners, employers, and training providers within the MICT sector.

The survey results indicated that the majority of learners that had participated in the MICT SETA funded learning programmes did not continue their studies after having completed their learning programmes. Furthermore, the research revealed that only 8% continued their studies on a full-time basis and 14% continued on a part-time basis, while 77% did not continue their studies. The employment rates of the learners of 2020/21 echo the general unemployment problem in South Africa, especially amongst youth, as 72% of learners are unemployed, and 10% in full-time employment and 14% in part-time employment. Of those learners that are employed, 27% say they were employed as a result of MICT SETA learning programmes (proving causality). The employers and training providers indicated that due to challenges in absorbing learners, it is important that entrepreneurship skills are included as part of the learning programmes, as only 4% of learners are self-employed. A concerning aspect of this study was that while 72% of the learners remain unemployed, 80% of the learners indicated that they have at least one dependent.

Despite this, MICT SETA's learning programmes have resulted in some learners getting employed. Of the employed learners, 27% indicated having obtained employment as a result of the MICT SETA learning programme and 20% of learners indicated having received a promotion at work after completing their learning programme. Employed learners mostly work in the formal economy, whilst entrepreneurship is higher in the informal economy. The top 4 sectors where learners are employed are Media, Advertising, and ICT (accounting for 31% of employed learners), followed by Wholesale and Retail (17%), Education (16%), and Local Government (9%). Other subsectors where learners are employed include the services sector, mining, and construction, which all employ 6% of learners each. A minority of 9% of learners work in other sectors, with each of these sectors accounting for less than 1% of employment.

When considering remuneration and company benefits, 4 out of 5 of employed learners (80%) earn less than R10 000 monthly, with the average salary being around R7 207. Approximately 3% of the learners are currently earning as much as R30 000 or more monthly. UIF is the most common company benefit, enjoyed by around 2 out of 3 employed learners (65%), followed by other benefits such as cell phone allowance. Only 19% and 15% of employed learners receive medical aid and pension/provident fund.

The 4% of learners who started businesses did not fare any better than those in employment. 61% of these businesses have only the learner themselves as the employee, with 85% have annual turnover of less than R50 000. 31% of the businesses of self-employed learners operate in the Wholesale and Retail Sector, followed by Education and the MICT sector at 15% each.

To attract and retain learners, stakeholders stress the importance of keeping programmes relevant and up to date, with special regards to 4IR, and directing additional resources towards developing appropriate occupations and qualifications. The SETA continues to respond to this demand through its SSP and revised Sectoral Priority Occupations List. Overall, it appears that while the learning interventions that are undertaken in the sector have some relevance to employers and are beneficial to workers, there is room for further improvement and refinement.

3.4.10 Qualification and Occupation Mapping

The MICT SETA initiated a process of mapping key occupations in the Sector to various qualifications and learning pathways. From this mapping exercise the MICT SETA gained intelligence and insight from the sector in terms of how to address key occupations in the sector. It is anticipated that the Sectoral Priority Occupations interventions' list identified will help address the skills shortages in the sector, as well as enable the employers in the Sector to bridge the gap between skills demand and supply. Table 13 below provides a list of possible qualifications mapped to occupations in the Sector.

Table 13: Possible Qualifications mapped to Occupations

Qualification	Career Prospects/Job Roles
BSc. or Nat. Dipl majoring in: <ul style="list-style-type: none"> - Computer Engineering - Computer Science/ Studies/ Systems - IT (Web Design & Development) - Information Systems/ Technology 	<ul style="list-style-type: none"> - Network Programmer / Analyst - Communications Analyst (Computers) - ICT Customer Support Officer - Computer Network Engineer - Computer Systems Integrator - Network Support Engineer - Network Engineer - Computer Systems / Service Engineer - Systems Engineer - Systems Integrator
B. Arts/Learnerships majoring in: <ul style="list-style-type: none"> - Acting - Drama and Performance Studies - Film and Television 	<ul style="list-style-type: none"> - Actor - Director
Master of Arts or B. Arts/Learnerships majoring in: <ul style="list-style-type: none"> - Audio-Visual Communication - Translation and Professional Writing - Creative writing 	<ul style="list-style-type: none"> - Scriptwriter - Creative Director
BTech or Nat. Dipl. majoring in: <ul style="list-style-type: none"> - Motion Picture Production - Audio-Visual Communication - Multimedia - Multimedia - Film and Television Production 	<ul style="list-style-type: none"> - Multimedia Specialist - Film and Video Editor
B.Com Honours or Nat. Dipl majoring in: <ul style="list-style-type: none"> - IT Management - Information Technology - Applied Information Systems 	<ul style="list-style-type: none"> - Chief Information Officer - ICT Project Manager - IT Manager
B.Com/BTech/Dipl. majoring in: <ul style="list-style-type: none"> - Business Management/ Management Sciences - Project Management 	<ul style="list-style-type: none"> - Management Consultant - Business Analyst - Service Solutions Project Manager

Qualification	Career Prospects/Job Roles
BTech/Nat. Dipl/Learnership majoring in: <ul style="list-style-type: none"> - Electronic Engineering - Computer Engineering - Information Technology - Computer Science 	<ul style="list-style-type: none"> - Computer Network and Systems Engineer - Developer Programmer - Software Developer - Telecommunications Technologist - Electronic Engineering Technician
BA Honours in: <ul style="list-style-type: none"> - Film and Documentaries - Media and communication - Development and communication - Digital Media Design 	<ul style="list-style-type: none"> - Editor - Director - Content producer
B.Com/Nat.Dipl/Learnership majoring in: <ul style="list-style-type: none"> - Strategic Brand Management - Digital Marketing - BA Creative Brand Communications - Marketing Management/ Communication 	<ul style="list-style-type: none"> - Brand Strategist - Brand Auditor - Digital Marketing Strategist - Copywriter - Social Media Coordinator
Diploma/Learnerships/Higher Certificates in: <ul style="list-style-type: none"> - Marketing & Advertising Communications - Art Direction Diploma - Graphic Design - Copywriting 	<ul style="list-style-type: none"> - Creative Director - Campaign Coordinator - Graphic Designer - Digital marketer

Source: DHET, the National Career Advice Portal, 2022

3.5 Sectoral Priority Occupations

The compilation of the Sectoral Priority Occupations (SPO) list follows a process that combines both analytical and qualitative inputs. This involves analysis of WSPs, employer surveys, desk-based research as well as surveys. In addition, interviews and focus groups are conducted with a number of stakeholders, which include industry bodies and professional associations, government stakeholders, trade unions and other key informants.

The quantitative analysis, occupations and specialisations flagged as hard to fill in the WSP/ATR submissions were tested for prioritisation against systemic and volumetric considerations through surveys and interviews. The step will go even further in the finalization of the August submission when these findings will be validated through focus group discussions.

The MICTSETA will continue to have a strong focus on vendor programmes as research continues to prove vendor programmes are the immediate panacea to satisfy the demands of the sector. This does not mean the SETA will not continue to prioritize getting these vendor programmes to be NQF aligned. Plans are underway way to make this a pragmatic exercise, also recognizing the importance of Recognition of Prior Learning (RPL).

The quantity to be supported by the SETA was determined using the previous year's APP target as a baseline, together complimented by extent of Sector demand as reported in the WSP/ATR submissions. Moreover, considering the role played by 4IR in the sector, the consultations with key stakeholders played an important role in unpacking the business and skills fundamental underpinning 4IR. It would be oblivious for the research not to integrate the findings identified in chapter 2 based on change drivers, the SPO list directly linked to those change drivers. Following the production of the Final SPO list, input is incorporated from deliberations at Executive Committee and Board level, and the final SPO list is signed off by the MICT SETA Board.

The limitation of the data presented is that even though it considers other sources such as employer surveys, interviews and focus groups, the input data from employer WSPs is not without challenges. Stakeholders who formed part of the validation processes reflected that the OFO codes continue to be vague and confusing, especially with occupations that are 4IR related, there is so much exclusion of these occupations. In addition, there are several overlaps in occupational descriptions.

The SETA is confident that based on the rigorous, practical, and balanced approach adopted for the determination of the MICT Sector SPO list, and that the identified priority occupations and interventions will help underpin the skills development planning and implementation required to address skills issues and opportunities in the sector, including critical areas such as 4IR.

The following table below presents the 2024/25 SPO List and the interventions planned thereof.

Table 14: Top 10 Sectoral Priority Occupations List for the MICT Sector

SETA Name	Period	Occupation Code	Occupation	Specialisation/ Alternative Title	Intervention Planned by the SETA	NQF Level	NQF Aligned	Quantity Needed	Quantity to be supported by the SETA
MICT SETA	2024/25	2021-251201	Software Developer	-Software Architect -Information Architect Software -Software Designer -Software Engineer -ICT Risk Specialist	Bursary (diploma)	6	Y	4120	3295
					Bursary (degree)	7	Y		
						8	Y		
					Internship	6	N		
						7	N		
						8	N		
					MCS D Certification	5	N		
Scrum Certification	6	N							
MICT SETA	2024/25	2021-252301	Computer Network and Systems Engineer	-Computer Systems / Service Engineer -Systems Integrator -Computer Systems Integrator -Network Engineer -Communications Analyst (Computers) -Systems Engineer -Network Support Engineer -ICT Customer Support Officer -Network Programmer / Analyst -Computer Network Engineer	Bursary (diploma)	6	Y	3762	2412
					Bursary (degree)	7	Y		
						8			
						9			
					Internship	6	N		
						7			
						8			
					CISCO Certification	5	N		
						6	N		
						7	N		
					CompTIA Network+ Certification	5	N		
MICT SETA	2024/25	2021-251101	ICT Systems Analyst	-Computer Analyst -ICT Systems Contractor -ICT Systems Coordinator	Bursary (diploma)	6	Y	2172	1442
					Bursary (degree)	7	Y		
						8	Y		

SETA Name	Period	Occupation Code	Occupation	Specialisation/ Alternative Title	Intervention Planned by the SETA	NQF Level	NQF Aligned	Quantity Needed	Quantity to be supported by the SETA
				-Capacity Planner Computing -LAN / WAN Consultant / Specialist -ICT Systems Architect -Systems Programmer -Internet Consultant / Specialist -ICT Systems Consultant -ICT Business Systems Analyst -ICT Systems Specialist -ICT Systems Advisor -ICT System Designer -ICT Systems Strategist	Internship	6	N		
						7	N		
						8	N		
					MCSA Certification	5	N		
					MCSE Certification	5	N		
						4	Y		
					Work integrated Learning	5	Y		
MICT SETA	2024/25	2021-242101	Management Consultant (Business Analyst)		Bursary (diploma)	6	Y	2981	1121
					Bursary (degree)	7	Y		
						8	Y		
					IIBA Certification (BABOK)	5	N		
						6	N		
					Work integrated Learning	4	Y		

			<ul style="list-style-type: none"> -Management Consulting Specialist -Superannuation Transitions Specialist -Technology Development Coordinator -Operations Analyst -Service Solutions Project Manager -Small Business Consultant / Mentor -Capital Expenditure Analyst -Commercial Analyst -Corporate Planner -Farm Management Consultant -Business Coach -Financial Systems Advisor -Resource Development Analyst -Purchase Advisor -Business Support Project Manager -Strategic Developer / Facilitator -Business Consultant -Management Reporting Analyst -Business Turnaround Management Consultant -Ecommerce Programme Manager 		5	Y		
2024/25				Bursary (diploma)	6	Y	748	300

SETA Name	Period	Occupation Code	Occupation	Specialisation/ Alternative Title	Intervention Planned by the SETA	NQF Level	NQF Aligned	Quantity Needed	Quantity to be supported by the SETA
MICT SET		2021-252901	ICT Security Specialist	-Internet Security Architect / Engineer / Consultant -Security Administrator -ICT Security Architect -Database Security Expert -Information Technology Security Manager	Bursary (degree)	7	Y		
						8	Y		
					Internship	6	N		
						7	N		
						8	N		
					CompTIA Security + Certification	5	N		
						6	N		
					CISSP Certification	5	N		
						6	N		
					Work integrated Learning	4	Y		
						5	Y		

SETA Name	Period	Occupation Code	Occupation	Specialisation/ Alternative Title	Intervention Planned by the SETA	NQF Level	NQF Aligned	Quantity Needed	Quantity to be supported by the SETA
MICT SETA	2024/25	2021-251301	Multimedia Specialist	<ul style="list-style-type: none"> -Digital Media Specialist -Multimedia Developer -Graphical Programmer -Computer Games Programmer -Multimedia Programmer -Animation Programmer 	Bursary (diploma)	6	Y	523	390
					Bursary (degree)	7	Y		
						8	Y		
					Internship	6	N		
7	N								
MICT SETA	2024/25	2021-243403	ICT Sales Representative	<ul style="list-style-type: none"> -Computer Consultant -Computer Software Support Consultant -Computer Systems Consultant 	Bursary (national certificate)	5	Y	95	60
					Short Programme	5	N		
					Internship	8	N		
MICT SETA	2024/25	2021-251202	Programmer Analyst		Bursary (diploma)	6	Y	925	350
					Bursary (degree)	7	Y		
						8	Y		
					Internship	6	N		
						7	N		
						8	N		
	4	Y							

SETA Name	Period	Occupation Code	Occupation	Specialisation/ Alternative Title	Intervention Planned by the SETA	NQF Level	NQF Aligned	Quantity Needed	Quantity to be supported by the SETA
				-Software Configuration / Licensing Specialist -Designer (Hardware - Digital / Software) -Architect (Applications / Call Centre / Computing / Desktop / Ecommerce) -Education Systems Coordinator -Computing (Development / Field) Engineer -Cross Enterprise Integrator -Engineer (Applications / Content / IT / Software / Systems / WAN) -Architect (Enterprise / Internet / IT / Network / Software / Unix / Web) -Database Designer	Work integrated Learning	5	Y		
MICT SETA	2024/25	2021-251203	Developer Programmer	-ICT Developer -ICT Programmer -Applications Developer	Bursary (diploma)	6	Y	451	250
					Bursary (degree)	7	Y		
					Internship	6	N		
						7	N		
MCSA Certification	5	N							
MICT SETA	2024/25	2021-133102	ICT Project Manager		Bursary (degree)	7	Y	217	150
						8	Y		
						9	Y		

SETA Name	Period	Occupation Code	Occupation	Specialisation/ Alternative Title	Intervention Planned by the SETA	NQF Level	NQF Aligned	Quantity Needed	Quantity to be supported by the SETA
				-ICT / IT / Computer Service Manager	PRINCE2 Certification	6	N		
				-ICT / IT / Computer Marketing Executive					
				-ICT / IT / Computer Support Manager					
				-Hardware Development Manager		7	N		
				-ICT Project Director					
				-ICT / IT / Computer Operations Manager					

Design thinking as discussed above affects a lot of the occupations Identified above, evidently for technologies such as AI, IoT and Cloud Computing. Design thinking condenses all these into one by empathizing to gain understanding of the problem, analyze observation to define the problems, offer solutions by breaking down a problem into small parts to analyse it, explore it and test the results to create solutions that benefit the end-user. Some of the world’s leading brands, such as Apple, Google, Samsung, and GE, have speedily adopted the Design and Critical thinking approach.

It is important to also recognize that 4IR, also covers other sub-sectors such as Film & Electronic Media which are also called to the fore by occupations such as Multimedia Specialist and their importance in virtual and augmented reality and 4D animation. To sell 4IR to consumers, ICT Sales Representative with strong product and technical knowledge will be involved across the entire spectrum of 4IR. For 4IR to exist, technologies identified above such 5G should be recognized as an enabler, the telecommunications sub-sector thus has increased input in this regard, as well as network and systems occupations such as Computer Network and Systems Engineer (Carew, 2019).

3.6 Conclusion

This chapter examined the extent and nature of demand for skilled labour in the MICT sector and explored the types and extent of training available to the sector. The identification of 4IR occupational shortages in this chapter revealed the need for a more proactive approach by the SETA to address the evolving skill demands brought about by technological advancements. By fostering collaboration, investing in education, upskilling, and promoting digital literacy the SETA and the sector can bridge the gap and ensure a well-prepared workforce for the challenges and opportunities presented by the Fourth Industrial Revolution. Moreover, bridging the gap between academia and industry will always remain crucial to addressing the occupational shortages in the 4IR landscape. Hence, close collaboration between educational institutions and industry can help align curriculum with the changing skill requirements, ensuring that graduates possess the necessary skills and knowledge to meet the demands of the job market. The following chapter discusses the SETA's partnership which align to the recommendations put forward by this chapter.

Chapter 4: SETA Partnerships

4.1 Introduction

While Chapter 3 explored the extent and nature of demand for skilled labour, the skills gaps that exist and the training available in the MICT Sector. This chapter explores the significance of partnerships within the MICT SETA, it highlights how the MICT SETA responds to the mandate of the Skills Development Act of 1998, which encourages SETAs, as agents of skills development, to establish partnerships with both the public and private sectors. Through these partnerships, the SETA responds to the NSDP outcomes and ERRP interventions which seek to ensure that South Africa has adequate, appropriate, and high-quality skills that contribute towards economic growth, employment creation and social development. This chapter presents both new and existing partnerships in the SETA. The SETA believes that by documenting such partnerships it can inspire others to embark on similar journeys and foster a broader culture of collaboration within our organization and beyond.

4.2 An Analysis of Existing SETA Partnerships

With the need to respond to the demand for skilled labour, the MICT SETA delves into various dimensions of partnerships that will contribute to the sector's skills development needs. Changes in the sector have doubt have affected how each institution should conduct its business, for the MICT SETA there has never been a more important time to focus on collaboration and partnerships that build a more inclusive and resilient response. It is in this case that the MICT SETA has entered into partnerships with various institutions to advance Sector development and growth. These partnerships are structured into the following typologies:

- Partnerships with TVET colleges
- Partnerships with Universities
- Partnerships for Special Projects
- Partnerships with SMMEs
- Partnerships with Industry Vendors

The table below illustrates existing partnerships with TVETs, and programmes supported by the MICT SETA. The SETA in its implementation aligns itself with the national priorities such as the NSDP and the ten (10) action areas of the South African Economic Reconstruction and Recovery Plan.

4.2.1 Partnerships with TVET colleges

Table 15: Partnership with TVET Colleges

Name of TVET	Term and Duration	Objectives of Partnership
Gert Sibanda	April 2023 - Mar 2024	These partnerships focus on the following programmes: Work Integrated Training, Internships. The purpose of these partnerships is to ensure that there is equitable participation of people from different backgrounds. They are about being responsive to the low to middle level skills demands of the Sector, serving as one of the many mechanisms in which education and training can become more responsive to employers, learners, and the overall socio-economic needs of the country.
Maruti TVET College	April 2023 - Mar 2024	
South West Gauteng TVET	April 2023 - Mar 2024	
Central Johannesburg TVET	April 2023 - Mar 2024	
College of Cape Town	April 2023 - Mar 2024	
Ekurhuleni West TVET	April 2023 - Mar 2024	The value lies with addressing broad Sectoral low to middle level skills issues that stimulate opportunities for job creation and poverty reduction. They contribute to the transformational gender in terms of prioritisation of race, gender, disability, and geographical location.
Goldfields TVET	April 2023 - Mar 2024	With the urgent need to respond the existing skills gaps, the SETA has partnered with the mentioned TVETs on Skills and learnership programmes. These partnerships aim aims to provide students with the opportunity to apply their learning from academic studies to relevant experiences and reciprocate learning back to their studies. The value lies in developing professional identity of students, enhance their employability through partnerships between employers and TVETs.
King Hintsa	April 2023 - Mar 2024	
Umgudlovu TVET College		
Sedibeng TVET College		
Northern TVET College		
South Cape TVET		
Northlink TVET		
Western TVET College		

Source: MICT SETA Commitment Registers, 2023/2024

The partnerships outlined above mainly support Work Integrated Learning placements, but also provide for other workplace-based learning opportunities, such as learnerships and internships. Furthermore, they respond to the NSDP Outcome 2: Linking education and workplace. The reality is that TVETs are not well placed to identify the opportunities for partnership formation. Furthermore, they may lack the resources or skills needed to facilitate the development of partnerships. As a result, the MICT SETA plays a key role in proactively initiating these partnerships

which in turn accelerates the realisation of the White Paper for Post-School Education and Training goal which states that TVETs need to enrol 700,000 to 2.5 million students by 2030. Similarly, University partnerships, as outlined below, provide parallel opportunities.

4.2.2 Partnerships with Universities

Table 16: University Partnerships

Name of University	Term and Duration	Objectives of Partnership
Cape Peninsula University of technology	April 2023 - Mar 2024	Increased access to occupationally directed programmes through bursaries, short programmes, learnerships and university placements.
Nelson Mandela University	April 2023 - Mar 2024	
University of KwaZulu Natal	April 2023 - Mar 2024	These are bursary partnerships, the objective of the partnerships with universities is to ensure that support is offered to learners from disadvantaged communities to afford them the same opportunities as their counterparts from affluent backgrounds, while at the same time exposing them to occupations and high-level skills that meet the labour market needs. These partnerships improve the supply of skilled people in the Sector and afford learners from previously disadvantaged backgrounds opportunities to acquire high level skills critical to industry development and growth, thus creating employment for those graduates.
University of Mpumalanga	April 2023 - Mar 2024	
University of Limpopo	April 2023 - Mar 2024	
Nelson Mandela University	April 2023 - Mar 2024	
University of Western Cape	April 2023 - Mar 2024	
University of Johannesburg	April 2023 - September 2024	This skills programme partnership, it is formed with the aim to equip graduates with the necessary ICT skills to navigate a digital career. Focusing on programmes such as python, java, and software development. The value lies in addressing skills development and job creation within the information and communications technology (ICT) Sector, equipping the youth with relevant skills, and making them attractive to prospective employers.
University of Free State		
University of Fort Hare		
Vaal University of Technology		

Source: MICT SETA Commitment Registers,2023/2024

The table above confirms that forging mutually beneficial ties with institutions contribute towards addressing industry occupational shortages and skills gaps. While bursaries have been the main partnering mechanism, key developmental and transformational imperatives remain at the heart of the abovementioned partnerships. Learners from previously disadvantaged backgrounds become better positioned to acquire high-level skills in programmes such as Honours, Masters and PhDs, which enables them to compete with those from more affluent backgrounds.

4.2.3 Partnerships for Special Projects

Table 17: Special Project Partnerships

Industry Vendor	Term and Duration	Objectives of Partnership	Partnership Challenges
National Skills Fund (NSF)	April 2023 - Mar 2025	This partnership is aimed at provision of new technology and innovation skillsets, particularly in relation to 4IR. This partnership is about expanding the availability of courses in areas such as artificial intelligence, data analytics, robotics, cybersecurity, and other emerging technologies. Furthermore, this partnership will ensure that programmes implemented target youth, women, people with disabilities, and other marginalized groups to ensure equitable access to training.	This is a new partnership, therefore, there are no challenges that been identified so far.

Source: MICT SETA Commitment Registers, 2023/2024

It is evident from the table above that special project partnerships are of critical importance. It is for this reason that the MICT SETA continues to implement such projects, as it promotes meaningful employment and rapid growth. The table below depicts the MICT SETA partnerships with SMMEs. Similar to special projects, SMME partnerships serve as potential catalysts for employment and sustainable growth.

4.2.4 Partnerships for with SMMEs

Table 18: Partnerships with SMMEs

SMMEs	Term and Duration	Objectives of Partnership	Partnership Challenges
143 SMMEs (please see Annexure A, attached)	April 2023 – March 2024	<p>The purpose of these partnerships is to ensure that there is equitable participation of people from different backgrounds. They are about being responsive to the low to middle level skills demands of the Sector, serving as one of the many mechanisms in which education and training can become more responsive to employers, learners, and the overall socio-economic needs of the country. The partnerships focus on Work Integrated Learning, Internships, Learnerships, Skills Programmes, and Short Programmes.</p> <p>The value lies with addressing broad Sectoral low to middle level skills issues that stimulate opportunities for job creation and poverty reduction. They contribute to the transformational gender in terms of prioritization of race, gender, disability, and geographical location</p>	<p>It has been observed that not all lead employers are able to absorb learners at the end of the learning programme, this is a challenge when pushing the principle of sustainability and impact. The scale of operations often does not permit learners to get the proper workplace exposure that they need. Some SMMEs also do not arrange the necessary host employers to host learners if they themselves do not have capacity to host the learners.</p>

MICT SETA Commitment Registers, 2023/2024

As illustrated in the table above, SMMEs are well placed as critical foundations for the development of skills and the creation of employment opportunities. SMMEs are responsible for up to 70% of formal employment (Francis, 2019). The table below highlights partnerships with industry vendors for the mapping of vendor programmes back to MICT SETA registered programmes.

Since the emergence of 4IR, the MICT Sector is witnessing a major shift in the higher education landscape. Thus, the MICT SETA understands that partnering with industry vendors who have high expertise is of paramount importance – furthermore, by partnering with vendors, the MICT SETA has the opportunity to develop meaningful relationships with them. The table below highlights partnerships with industry vendors to map qualifications.

Table 19: Partnerships with Industry Vendors to Map Qualifications

Industry Vendor	Term and Duration	Objectives of Partnership	Partnership Challenges
QCTO	April 2012 – December 2023	The objective of the partnership is to develop occupational qualifications. The value lies in the development of occupational qualifications to ensure that the system is more responsive to labour-market skills needs.	There is consistent change in the requirements for qualifications realignment and development with a lack of formal communication and capacitation on the shifts. From a quality assurance perspective, accreditation for occupational qualifications, the roles and responsibilities have not been clearly defined which impacts on the SETAs ability to plan for required resources and the accompanying budget. Moreover, this also creates a challenge as the SETA is unable to communicate the changes in requirements to stakeholders, which results in confusion and frustration.

4.2.5 Partnerships that are working successfully.

Documenting partnerships that are working well brings recognition, facilitates knowledge sharing, provides a future reference, and enables evaluation and improvement. The MICT SETA notes partnerships that are working well, a few in particular include the Digital Council. Through this partnership there was a successful implementation of the Optic Fibre Short programme which saw 25 women enrolling for the programme, 23 of them getting absorbed at end of the programme as Fibre Technicians.

Furthermore, other partnerships worth noting included the MICT SETA partnering with Phumelela consulting on 3D short programme for 25 beneficiaries, being the first co-horst after the development of the 3D qualification in Gauteng. Through this programme 11 graduate secured permanent employment. Other strategic partnerships in relation to 4IR included a partnership with M-lab implementing an IoT programme for 25 beneficiaries in the Northern Cape. The SETA continues to use a partnership model ensures successful outcomes are based on collaborative efforts between the SETA and the sector. It begins with the identification of the right partnerships, delineation of the roles and responsibilities for both parties and the maintenance of constant and open communication in order to mitigate potential risks that can impede the achievement of intended objectives. The figure below depicts the SETA partnership model.

Figure 21: MICT SETA partnership model



By providing learners with exposure to relevant training and employment opportunities, MICT SETA partnerships facilitate how learners transition into the labour market. The model that the SETA uses is to ensure that partnerships are centred around the needs of the SETA and the sector, identifying the right partnerships, outlining the roles and responsibilities of both parties, and maintaining constant and open communication in order to mitigate any issues in achieving partnership objectives

4.3 Partnerships that are not working well.

TVET colleges in rural areas are lacking in skilled lecturers, infrastructure, and alternative centres of excellence. Thus, TVET colleges may at times lack delivery capacity, which impacts negatively on the timeous implementation of programmes. The challenge with universities is often an administrative one excessive deliberation on and reviewing of SLAs may result in delays with the implementation of programmes. Partnership challenges with employers are often rooted in employers delegating to training providers who are not able to deliver on the mandate of the SETA. However, the SETA in mitigation to this, has responded to some of the key outcomes as proposed by the NSDP, specifically outcome 5 on promoting the growth of the public college system, this is also in alignment to the ERRP interventions.

4.4 Planned Partnerships

The following table highlights the SETA's planned partnerships.

Table 20: MICT SETA's Planned Partnerships

Industry Partner	Objectives of Partnership
Sci-Bono Discover Centre	This is a short programme focusing Drone Technology training for the remote Pilot License in Gauteng. The funding will be for 30 learners.
Tristar TM	This is a University/TVET Placement programme for 30 learners in Gauteng focusing on 3D Printing and Reverse Engineering, telecommunications, Fibre Optics such programmes are important, especially in the face of 4IR.
Mafikeng Digital Hub	This is a short program focusing on important skills needed by the industry which aims to fund 25 learners in Data Analytics and Artificial Intelligence.
Skills lab	This is an internship programme in Gauteng focusing on Design Thinking, this is one of the crucial programmes to bridge the skills gaps as most 4IR technologies require such critical skill. Through this partnership 30 learners will be funded.

Source: MICT SETA Commitment Registers, 2023/24

Developing relevant and high-quality skills and competencies is the foundation upon which the MICT SETA bases its partnerships on. These planned partnerships respond directly to the gaps that exist in the Sector and serve as responsive mechanisms to 4IR and priorities of the Economic Reconstruction recovery Plan.

4.5 Conclusion

The partnerships highlighted above are essential for the successful advancement of skills development. The SETA understands that these partnerships should be undertaken with priorities in mind, specifically those outlined in the NSDP, ERRP and ERRP Skills strategy, all of which have the intended goal to contribute to the NDP vision 2030. The partnerships identified above address the skills development challenges posed by the Fourth Industrial Revolution (4IR). It is no doubt that the rapid technological advancements and changing nature of work requires collaborative efforts between organizations, educational institutions, government entities, and other stakeholders, hence, the MICT SETA has committed itself in these partnerships. Through such strategic partnerships, the SETA can leverage resources, expertise, and innovative solutions to equip the workforce with the skills needed to thrive in the digital age. Transformational imperatives will continue to be a priority – these includes race, gender, geography, and people with disabilities. Through these partnerships, the SETA will continue to increase the participation of previously disadvantaged people, especially in rural areas. The partnerships highlighted above show that the MICT SETA is a reflective organisation which has learnt to prioritise quantifiable public goals and stakeholder engagement, thus ensuring transparency and long-term planning.

Chapter 5: SETA Monitoring and Evaluation

5.1 Introduction

While chapter 4 discussed partnerships, this chapter sheds light on the SETA's approach to Monitoring and Evaluation. It further reflects on the previous financial year's strategic priorities and assesses the extent to which these priorities were addressed. It also identifies the mechanisms that are in place to address priorities that were not achieved in the previous financial year. The MICT SETA considers itself as an organization with a culture of reflective thinking and learning to improve processes and systems. The SETA applies a results-based approach to Monitoring and Evaluation, which is intended to aid decision-making through credible, reliable, and useful information generated from monitoring and evaluation reports. This is an approach that has been working for years ever since the organization started embracing monitoring and evaluation. Through this approach there has been an increase in transparency and accountability allowing skills development interventions.

5.2 Sector Skills Planning Reflections

5.2.1 SETA's approach to Monitoring and Evaluation

Since the MICT SETA has dedicated M&E Division that was established in the previous financial year with a staff compliment of three (3) officials. It intends to incremental expand the Division overtime to optimally perform the M&E functions in the main, the Division oversees the overall performance of the SETA on implementation of its programmes and initiatives as well as reporting thereof. Furthermore, the reporting function is performed to respond to other special projects that the SETA must account on to the DHET to meet other national imperatives proclaimed by the Executive Authority. The M&E Division is consigned with the responsibility to design and implement management systems including business processes to collect, collate, verify, and validate performance information so as to promote accountability and transparency on delivery of skills development. For the purposes of this document, monitoring should be understood as the process of continuous and periodic surveillance of programme implementation through timely gathering of systematic information on work schedules, inputs, delivery, targeted outputs, and other variables of the programme, in order to have the desired effects and impact. Evaluation on the other hand is to be understood as the "systematic and objective assessment of an ongoing or completed project, program or policy including its design, implementation results (The National Advisory Council on Innovation (NACI), 2020).

The **CEO's Office** plays an oversight monitoring role, which goes hand in hand with the principles of risk management. The governance role played by this office is premised on the understanding that without proper risk management, the MICT SETA will not be able to achieve its goals for the future. There is thus an inter-relationship between all the divisions, with the SSP division and the M&E division working closely with the CEO's office to define measurable strategic outcomes for the SETA.

The **SSP Division** is responsible for the research and strategic planning function in the organisation. The division ensures the alignment of the three strategic documents: Sector Skills Plan, Strategic Plan, and Annual Performance Plan. The division also develops the organisational operational plan.

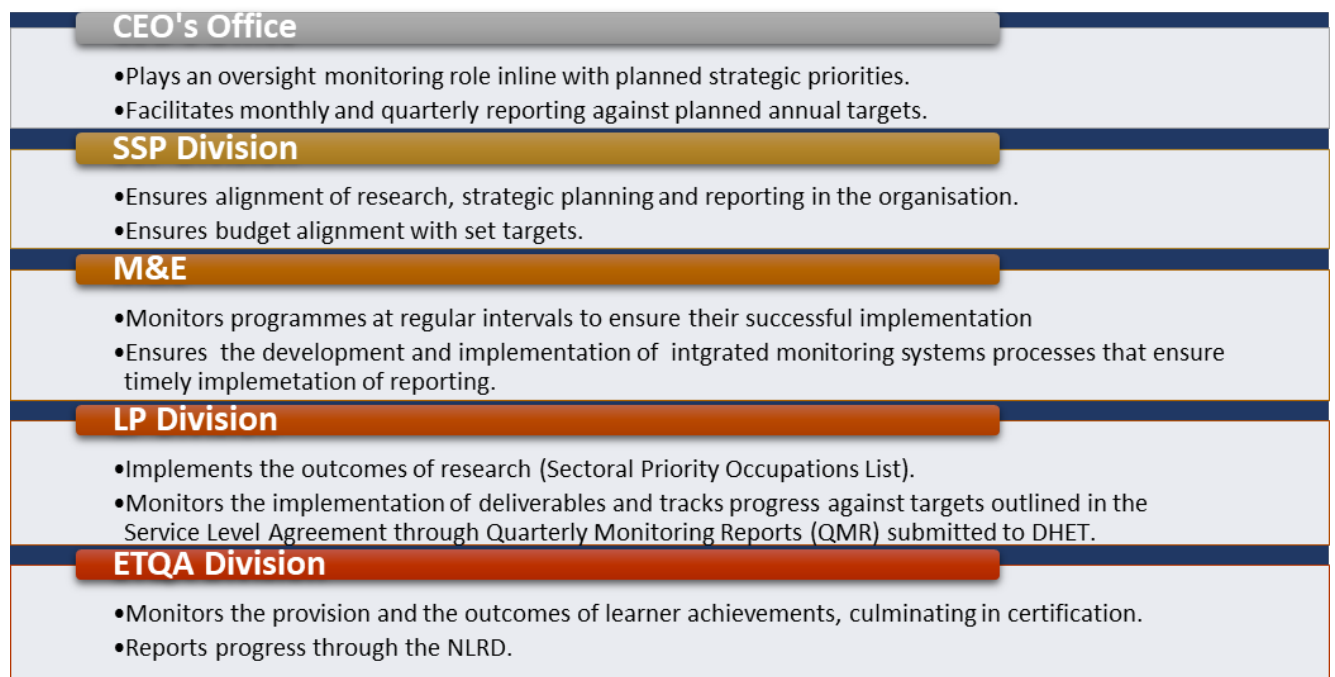
The **M&E Division** ensures a more systematic and objective approach to implementation and attainment of outcomes and the assessment of their impact, plays the role of evaluating selected programmes at regular intervals to ensure their successful implementation, and will report on lessons learnt from the rollout of the programmes. The division is also expected to measure the impact of learning programmes implementation outcomes. This is done through the annual tracer and Impact (medium to long-term) studies, which were previously done by the SSP division. Since the establishment of the M&E division this role has officially been handed over to the division.

The **LP Division** implements the outcomes of research (Sectoral Priority Occupations List). It monitors the implementation of deliverables and tracks progress against targets outlined in the Service Level Agreement through Quarterly Monitoring Reports (QMR) submitted to DHET.

The **ETQA Division** monitors the provision and the outcomes of learner achievements, culminating in certification. Other monitoring functions performed by the ETQA include monitoring of accreditation, the delivery of learning programmes, learning outcomes of learner achievements, verification processes and reporting through the NLRD.

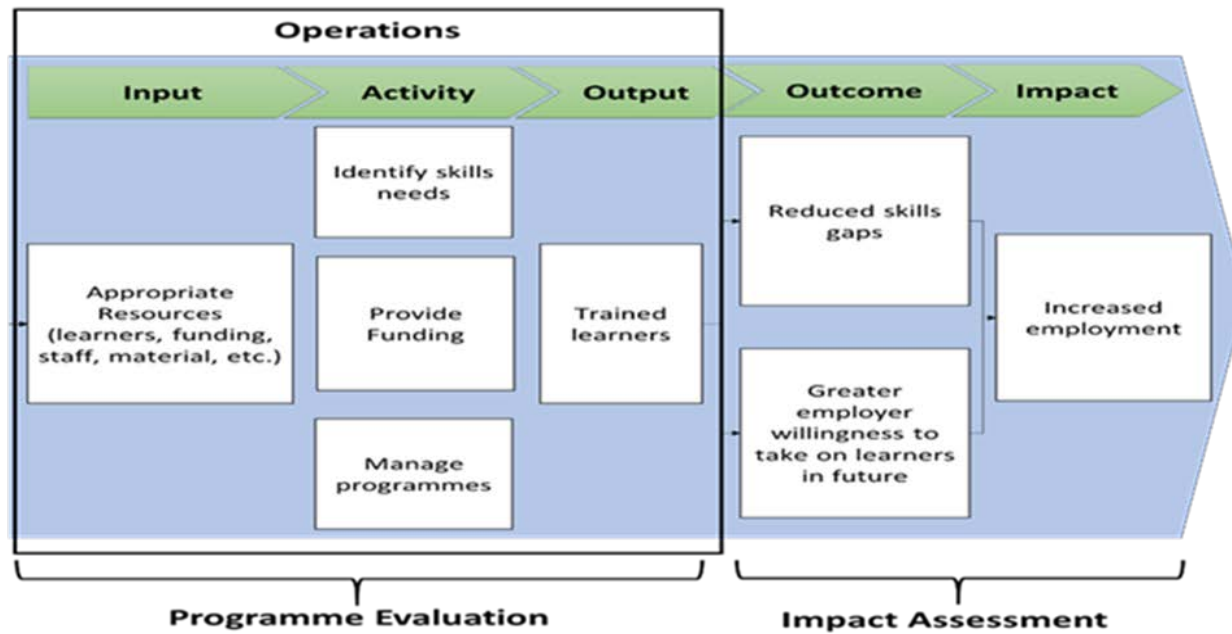
Furthermore, figure 22 below illustrates the practicality of the SETA's approach to monitoring.

Figure 22: MICT SETA's Approach to Monitoring



While the above discusses the monitoring aspect of the SETA, the below diagram sheds light on the approach of evaluation by the SETA.

Figure 23: MICT SETA adopted evaluation model.



The SETA adopts the results chain for evaluation (also referred to as the Logic Model), which describes the process whereby specific activities are conducted to convert inputs into outputs which then translate into outcomes, that result in intended impacts. In this case from a programme evaluation point of view assesses learning programmes implementation, paying attention to the defining elements contribute to the delivery of results, in a chain of causality, from inputs to impacts. Through this model products of reporting are evaluation studies such as tracer or impact studies which are critical for the organization to be as reflective as possible.

5.2.2 Monitoring and Evaluation Data to Support Research and Planning

The following table demonstrates the data used by the three core divisions and the CEO’s office:

Table 21: Data Used by Three Core Divisions

Division	Monitoring and Evaluation Data
CEO’s Office	<ul style="list-style-type: none"> • Divisional Management Committee (MANCO) reports • Risk Management Quarterly reports • Internal Audit Review Reports
Sector Skills Planning	<ul style="list-style-type: none"> • Workplace Skills Planning/Annual Training Reports (WSPs/ATRs)
M&E Division	<ul style="list-style-type: none"> • Quarterly Monitoring Reports (QMR), Fact file reports • Quarterly Performance Report (DPME) • Divisional Management Committee (MANCO) reports • Learning Programmes Impact Study reports
Learning Programmes Division	<ul style="list-style-type: none"> • Quarterly Monitoring Reports (QMR) • Learner Placement reports
Education, Training and Quality Assurance Division	<ul style="list-style-type: none"> • Quality Assurance on delivery of learning outcomes • Accreditation/Re-accreditation reports

The monitoring data that is submitted to the CEO’s office through the M&E Division by all Programmes. The SETA uses the recommendations obtained from M&E to improve the effectiveness and efficiency of its learning interventions and their implementation. More importantly, the performance data generated from the three (3) core divisions is used for strategic planning and adjustment are made where risks are identified. The data is used to identify risks, so that strategies may be conceived and executed to guard against these risks. Through data submitted, management identifies and prioritises critical risks that may have an adverse impact on the SETA.

Monitoring data from the LP and ETQA Divisions is submitted to the M&E division for verification, analysis, and reporting. Furthermore, for organizational performance and reflectiveness, the LPD submits QMR reports to the M&E division for the purpose of tracer and Impact studies. ETQA data is used in research documents such as the SSP - an example of this data is the NLRD data. These studies help the SETA to determine if the programmes implemented are producing the intended results. Learning from past implementations, the SETA prepares mitigation strategies for future implementation. Moreover, ETQA monitors the relevance of qualifications and works with the Quality Council for Trades & Occupations (QCTO) in this regard. This exercise of reporting complements the QMR produced by the LPD, as it allows the SETA to distinguish which qualifications are relevant, thus informing the SETA’s funding priorities for qualifications.

5.3 Extent to Which Previous Strategic Priorities Were Addressed

In the previous financial year, the MICT SETA had six strategic priority areas aligned to the both the NSDP and ERRP, these were aligned to the targets of the SETA's Strategic Plan and expressed in the Annual Performance Plan. The table below highlights the status of implementation of these strategic priority areas:

Table 22: Status of Implementation of Strategic Priority Areas for 2022/23

Strategic Priority	ERRP intervention	Status of Implementation
1.Support the sustainability and growth of SMMEs, Entrepreneurship, Cooperatives and community-based organizations	Intervention six: Supporting entrepreneurship and innovation.	In the 2022/23 financial year, The SETA funded 452 beneficiaries in SMMEs, Entrepreneurship, Cooperatives, and community-based organizations. This was to create skills development programmes that are accessible to the aforementioned beneficiaries. This achievement is a clear indication that there is a high demand in the sector to implement these programmes. It was noted that small companies have difficulty in meeting requirements for learning programmes implementation, the aim was to create a model in which there are key partnerships where large companies mentor and provide incubator opportunities to smaller less well-established businesses. This priority responded to the NSDP outcome 6 and intervention 6 of the ERRP, which is aimed at providing support to SMMEs. Even though there were successful areas of implementation with regards to this strategic priority, there was poor participation by the industry to train young people on entrepreneurship programmes which resulted a partial achievement of this target.
2.Ensure good corporate governance and a productive workforce.	N/A	Ensuring good corporate governance and a productive workforce remains priority for the SETA. This priority action was realized to focus on MICT SETA internal control systems and processes including digitising processes. The SETA made headway in designing a Learner Management System in collaboration with Tshwane University of Technology research chairs. Ensuring the elimination of fraud and corruption by putting in place effective fraud management plan strategies and policies as part of Risk Management. This priority has been partially achieved, with 1 irregular expenditure identified on 1 of 99 procurements. The SETA will continue to capacitate its officials on SCM related processes and procedures to ensure compliance thereof.
3.Increase and improve labour market information that accurately identifies	Intervention one: Embedding skills planning into sectoral processes	The SETA continues to ensure that the labour market information signalling the demand and supply of skills is thoroughly triangulated to improve the trustworthiness of data used for skills planning purposes. This was achieved through a systematic and in-depth research in collaboration with industry bodies, universities, and acclaimed research institutions. There were strategic career guidance initiatives implemented by the SETA in partnership with industry and various learning institutions in both the rural and urban areas. The total of 3500 career guide distribution was mainly through various online platforms. The targeted audience were unemployed learners and those already in employment seeking to progress to

Strategic Priority	ERRP intervention	Status of Implementation
occupations in high demand.		identified occupational shortages and skills gaps to ensure meaningful and sustainable Employment. The SETA has achieved this target in line with ERRP intervention one of the ERRP.
4. Increase focused skills development interventions for rural and marginalized communities to ensure inclusivity	<p>Intervention four: Access to targeted skills programmes.</p> <p>Intervention three: Increased access to programmes resulting in qualifications in priority sectors.</p>	The SETA implemented 133 rural development projects in the 2022/23 financial year, overachieving by 83 programmes. Since the implementation of the Strategy, the SETA supported 377 rural development projects. This level of achievement is attributed to the high demand by stakeholders to implement programmes in rural areas. The SETA's implementation in this aspect is linked to its rural development strategy adopted by the Board in 2022, NSDP outcome 8 and ERRP intervention four, which is aimed at increasing access to occupationally directed programmes for rural and previously disadvantaged communities (including townships).
5. Increase access to, and delivery of industry and occupationally directed priority programmes and work placements.	Intervention four: Access to targeted skills programmes	With this strategic priority action, the SETA had committed to the development of skills that enable 4IR occupations and Specialisations such as network and systems engineering and cybersecurity specialists. Through its implementation in this aspect, the SETA has successfully achieved this priority with 571 as its final reach, overachieving by 37. This can be attributed to high enrolments in the financial year and the collaboration with the industry. This implementation was also addressing the NSDP outcome 1, 2 ,8 and Intervention four of the ERRP.
6. Improve the quality of education to address programmes in high demand within the MICT sector.	Intervention one: Embedding skills planning into sectoral processes	The SETA has been successful in addressing this strategic priority, the focus being on the identification and development of occupational qualifications through the QCTO for occupations in high demand in consultation with the sector. Moreover, putting in place mechanisms to prioritise 4IR related qualifications, the SETA has identified 38 4IR qualifications with additional 5 approved by the QCTO in the 2022/23 period.
7. Enablement of the Fourth Industrial Revolution (4IR)	Intervention one: Embedding skills planning into sectoral processes	The SETA has successfully achieved this priority through a systematic and in-depth research in collaboration with industry bodies, universities, and acclaimed research institutions. Through its implementation it was able to fulfil the objective of the NSDP outcome 1, which calls for the identification and increase in the production of occupations in demand (examples of which include Cloud Architects in the Cloud Computing space and AI Specialists in the Artificial Intelligence space). Moreover, the identified and the developed 4IR qualifications are an indication that the SETA is moving towards the right direction to respond to the needs of the sector

Strategic Priority	ERRP intervention	Status of Implementation
8.Enable the growth of the public college system through sectoral partnerships in the delivery of learning interventions.	Intervention ten: Strengthening the post-school education and training system	The SETA identified TVETs with the potential for meaningful collaboration. These partnerships have recognized some of the TVETs as Centres of Specialization, linking them with industry and ensuring that programmes offered are in alignment with identified skills gaps for ease of learner placement on programmes such as WIL. To date, the SETA has established 198 partnerships with TVET, HET and CET colleges. Furthermore, 32 SETA offices were established and maintained.

The status of achievement of the priorities, is evident from the table above that the SETA committed itself to the implementation of its key strategic priority areas. The MICT SETA ensured that the above-mentioned key strategic priorities interphase with its key strategic outcomes, that all these priority areas were integrated with performance indicators and targets, enabling measuring, and reporting on their achievement on a regular basis. In essence, the key strategic priorities were captured in the Strategic Plan and Annual Performance Plan which forms the basis for implementation.

5.4 Plan of Action

5.4.1 Mechanisms that need to be in place to address key Strategic Priority Areas

M&E is important for organisations such as the MICT SETA to assess the extent to which its programmes and initiatives are yielding the intended results and impacts. Institutionalising the M&E function as a true value-add to the core business of the organisation in terms of evidence-based decision making continues to be an area of focus. The functioning of the newly designed Learner Management System will assist to strengthen data consistency, credibility, and integrity at implementation level to improve the quality of monitoring data generated. The MICT SETA, will capitalise on the benefits offered by M&E, including the SETA being able to track, analyse and report on relevant information and data throughout programmes implementation, as a result creating greater transparency and accountability. M&E framework including the Evaluation Plan is in the process of being developed, which will ensure that the SETA is clear of their roles in the M&E process, this will be complimented by capacity building workshops on the framework to ensure that it is embedded in organization. In terms of ongoing M&E processes, the existing M&E Policy is being reviewed so that it aligns with the M&E mandate and focus for SETAs.

5.4.2 Measures to ensure current priorities are achieved.

The SETA has overachieved over 61% of the planned targets in the 2022/23 financial year with few only 5% underachieved. Efforts will continue to be implemented to strengthen the partnerships and monitoring of learning programmes. The SETA will establish innovative and strategic partnerships with public institutions, centres of specialisation, SMMEs and industry at large for maximum impact on sectoral growth and sustainability. Key Priority Areas will be aligned to the Annual Performance Plan, which could translate into an SLA between the MICT SETA and DHET.

In October 2022, the SETA performed the mid-assessment of the Strategic Plan 2022-2025 to assess the extent to which the Plan is implemented, more importantly that the learning programmes it offers are relevant, efficient, and effective. The overall results showed that the impact was partially met. Since these were only partially met, remediation measures were put in place amongst others, increasing entrepreneurship and learning capacity for learners and sustaining employment after learning interventions.

5.5 Conclusion

This chapter highlighted the SETA's approach to M&E and demonstrated how data in relation to the concept is applied - this was useful in understanding how decisions are made, and to establish whether the existing M&E function contributes to decision making. Moreover, the chapter was able to shed some light on the SETA's implementation with regards to the NSDP and ERRP interventions. The M&E approach implemented by the SETA aims to provide a coherent framework for strategic planning and performance management by improving reporting and accountability. This is demonstrated by consistent improvement in performance over the years and achieving results set out in the NSDP. From the above it becomes apparent that the MICT SETA is moving in the right direction and there is clearly an alignment of its priorities to the national plans, meaning their planning is clearly well researched and practical. With the establishment of the M&E unit, the SETA is now able to fully monitor performance and enhance reporting processes to ensure accuracy and timely reporting.

Chapter 6: Strategic Skills Priority Actions

6.1 Introduction

This chapter summarises the key findings that have emerged from the research, the findings will guide how the SETA responds in the 2024/25 financial year, aligning priorities or strategic outcomes to the research evidence presented. This chapter is informed by the 5 preceding chapters, which are in turn informed by consultations and literature review. The recommended priority actions were drafted in alignment with the national priorities, mainly the NSDP, the ERRP and its supporting Skills Strategy.

6.1.1 Key Skills Findings from Previous Chapters

Chapter 1 was able to shed some light on the sector profile of the Media, Information and Communication Technologies (MICT) sector, looking at the size, scope of coverage, key role players, economic performance, employer, and labour market profile. From the above, it was clear that there is a fluctuation in the sector, the MICT SETA employer base decreased by 7% when compared to the 2022/23 financial year. The fluctuation was also noted with the number of employers that are paying levies to the MICT SETA, there was a slight decrease from 8 896 employers paying levies to 8 401. The discussion above highlighted two possible factors attributing to this change, the issue of loadshedding affecting small businesses and the interest rate hike which makes it hard for businesses to operate as there is less flexibility to invest in long-term growth or less day to day cash flow stability. The transport, storage & communication, construction, and personal services were the bright spots. Transport, storage & communication made the largest positive impact, rising by 0,7% and contributing 0,1 of a percentage point to growth.

Chapter 2 was able to explore the factors that influence skills supply and demand in the MICT sector. Thirteen 4IR technologies were studied as drivers of change in the sector, with Artificial Intelligence (AI), Cloud Computing, Big Data, 5G and the Internet of Things (IoT) coming up strongly as the biggest change drivers in the sector. From the drivers of change, the challenges, and implications for skills development, with a focus on change brought about by the fourth industrial revolution (4IR), were identified. Apparent from the discussion was that the technology in the MICT sector is always in constant state of flux, and it is transversal, it plays a critical role in other sectors of the economy, examples of the blue economy or the Oceans economy” provided a practical example of how skills development within the MICT sector has a ripple effect in the other sectors. Moreover, suggestion was the MICT SETA should take the opportunity to foster sustainable partnerships which will prove conducive to its skills development mandate. It should continue to follow course with specialised skills to set up and maintain new and future technologies. Engaging in this will help balance perspectives of also catering for lower-end skills, allowing the SETA to create a qualification mix that caters for all levels of employees in the sector.

In 3 consecutive years, **chapter 3** continues to highlight predominant skills gaps to be Communication skills, Leadership skills, Technical skills, Project management skills, and certified skills (CompTIA A+, Network+, MCSA, MCSE, Azure, CISCO, etc.). The most recent additions are Design and Critical thinking skills. The MICT sector priority occupations list makes 14% of the national priority skills published by DHET in February 2022, these are 14

occupations out of the 101 occupations in the national list. The interventions identified in the sector priority occupations list are pitched at a higher level since the sector very competitive and its internally benchmarked, most of the proposed interventions are not NQF aligned mainly because the industry favours vendor qualifications as panacea to the environment that is always in constant state of flux.

Chapter 4 highlighted essential partnerships for the successful advancement of skills development. It was made vividly clear that the MICT SETA understands that these partnerships should be undertaken with priorities in mind, specifically those outlined in the NSDP, ERRP and ERRP Skills strategy. The partnerships identified address the skills development challenges posed by the Fourth Industrial Revolution (4IR), hence, the MICT SETA has committed itself in these partnerships. Through strategic partnerships, the SETA will continue to leverage resources, expertise, and innovative solutions to equip the workforce with the skills needed to thrive in the digital age. Transformational imperatives will continue to be a priority – these includes race, gender, geography, and people with disabilities.

Chapter 5 explored the SETA's M&E approach and articulated the functions of the various divisions of the SETA in M&E. Although all three core divisions play, to some extent, a monitoring function, the M&E unit will continue to collaborate on evaluations both from a performance perspective and from a research perspective. M&E is also intrinsically linked to Risk Management as handled by the Office of the CEO. A plan of action was also presented on how the SETA intends to achieve its priorities.

6.2 Recommended Priority Actions

The following sets out the proposed broad skills development objectives for the sector. These areas are intended to include efforts made broadly by MICT sector stakeholders.

Table 23: Recommended Priority Actions for the 2024/25 financial year

MICT SETA 2024/25 Outcomes/Priority Areas	NSDP Outcomes	ERRP Interventions	ERRP Skills Interventions	Strategy	Description of MICT SETA 2024/25 Outcomes/Priority Areas
Credible labour market information that accurately identifies occupations in high demand.	Outcome 1: Identify and increase production of occupations in high demand	Intervention one: Embedding skills planning into sectoral processes.	Intervention 8: Embed skills planning in economic planning processes and vice versa		The MICT SETA will ensure that the labour market information signalling the demand and supply of skills is thoroughly triangulated in order to improve the trustworthiness of data used for skills planning purposes. Of equal importance will be the management and dissemination of research outcomes on occupations in high demand and incremental building of career guidance in partnership with industry and various learning institutions. The idea is for skills planning to incorporate issues pertaining to skills supply and demand, and for skills planning to be demand-led and responsive to the needs of the economy. In this way, skills are part of a package of industrial interventions, together with incentives, trade agreements and other interventions, instead of a separate or parallel “add on”. Furthermore, in response to the change brought about by 4IR, the SETA will provide support to enable the Sector to play a key role in the development of technologies and products related to 4IR.
Enablement of the Fourth Industrial Revolution (4IR).	Outcome 8: Support career development services				
Increased access to, and delivery on occupationally directed priority programmes that link education and the workplace.	Outcome 2: Linking education and the workplace	Intervention four: Access to targeted skills programmes	Intervention 2: Enable the provision of targeted skills programmes		The SETA will set realistic targets in collaboration with industry, ensure implementation through the allocation of discretionary grants and monitor delivery of Service Level Agreement deliverables as a way of addressing sectoral occupational shortages and skills gaps. This will prioritise the development of skills that enable 4IR occupations and specialisations such as network and systems engineering and cybersecurity specialists.

	Outcome 7: Encourage and support worker-initiated training			
Support initiatives that prioritize the provision of agile, flexible and demand-led skills development programmes, retraining/ Upskilling being a priority	Outcome 3: Improving the level of skills in the South African workforce	Intervention seven: Retraining/up-skilling of employees to preserve jobs.	Intervention 1: Expand the provisioning of short skills programmes	The SETA through this priority/outcome, will focus on the provisioning of short skills programmes that respond directly to the skills gaps identified in this research. The emphasis is on those that are driven by industry, rather than supply driven. Through this priority the SETA will ensure that there is provision of agile, flexible and demand-led skills development programmes, special focus will be on employed persons who require reskilling and or/upskilling, new entrants to the labour market who may require work readiness, foundational, digital and other types of short skills programmes to improve their chances of employment (including self-employment and Other unemployed persons whose chances of employment (employability) need to be improved (including for self-employment).
Increased and focused skills development for rural and marginalised communities to ensure inclusivity through technology skills development.	Outcome 4: Increase access to occupationally directed programmes	Intervention four: Access to targeted skills programmes Intervention three: Increased access to programmes resulting in qualifications in priority sectors.	Intervention 3: Expand the provisioning of WBL opportunities Intervention 4: Increase enrolments in qualification-based programmes that respond to the occupational shortages identified in this strategy	The MICT SETA's rural strategy, linked to NSDP outcome 8, is aimed at increasing access to occupationally directed programmes for rural and previously disadvantaged communities (including townships). The MICT SETA strategy aims to respond to the President's Youth Employment Service, which is known as the "YES initiative". It aims to address the most pressing socio-economic challenges in the country, particularly around poverty and unemployment among the youth. This priority intends to scope the skills development needs and priorities of rural communities, provide career and vocational guidance.
Support growth of the public college system through sectoral partnerships in the delivery of learning interventions.	Outcome 5: Support the growth of the public college system	Intervention ten: Strengthening the post-school education and training system	Intervention 10: Strengthen the PSET system	The SETA will identify TVETs with the potential for meaningful collaboration and enter into partnerships with them. These partnerships will recognise some of the TVETs as Centres of Specialisation, linking them with industry and ensuring that programmes offered are aligned to identify skills gaps for ease of learner placement on programmes such as WIL. Furthermore, the SETA will award bursaries to college lecturers and training opportunities on curriculum related studies to college managers for their continuous development and for them to be adept with industry technological advancements. The SETA will continue to establish

				offices in TVET colleges to ensure accessibility and reach, ensuring that those TVETs are duly accredited to offer the SETA's high-demand occupational qualifications. In all this, the development of skills that enable 4IR occupations and specialisations will be the main focus.
Support for SMMEs, Entrepreneurship and community-based organisations, particularly in relation to 4IR cross-sectoral partnerships and projects for sustainable growth.	Outcome 6: Skills development support for entrepreneurship and cooperative development	Intervention six: Supporting entrepreneurship and innovation.	Intervention 7: Strengthen entrepreneurship development programmes	The SETA through this priority/Outcome will focus on the need to provide the skills required for entrepreneurship development in ways that enable entry-level entrepreneurial activities (private and social) through to higher-end enterprises that rely on innovative research and development. Moreover, the focus will be on the skills required to grow income-generating opportunities in local economies through the establishment of private as well as social enterprises. In developing interventions for SMMEs and community-based organisations, the SETA will make considerations such as: the ability of an SMME to obtain funding for skills development.

6.3 Measures planned in response to Change Drivers

The ultimate goal of the MICT SETA is to ensure that all its implementation eventually contribute to the achievement of NDP outcomes regarding skills development. To achieve this, the SETA will proactively plan and implement measures in response to change drivers directly, positioning itself for success amidst uncertainty and disruptions. Through partnerships, the SETA will build resilience, drive innovation, and capitalize on emerging opportunities. All this will be in alignment with its priorities linked to the NSDP, ERRP and its Skills strategy as illustrated in table 24, most importantly, the focus will be on the skills required to grow income-generating opportunities in local economies through the establishment of private as well as social enterprises. The below illustrates the SETA's efforts in response to the change drivers:

1. The MICT SETA through partnerships with various stakeholders will continue to ensure that skills development occurs in all the corners of all provinces in South Africa, research will be the foundation of all interventions, the research will truly guide the SETA to make evidence informed decisions around skills development. The SETA's strategic plan will emphasise on the provision of financial and non-financial support to SMMEs, NGOs, NLPEs, and CBOs. Partnerships with stakeholders like SEDA to encourage incubation would play a key role in achieving sustainability and growth of small businesses in the sector.

2. The Skills strategy contains ten interventions to ensure the effective implementation of the ERRP. The SETAs, including the MICT SETA, finds expression in six of the interventions. The MICT SETA plans to directly contribute to each of these interventions including:
 - Intervention one: Embedding skills planning into sectoral processes.
 - Intervention three: Increased access to programmes resulting in qualifications in priority sectors.
 - Intervention four: Access to targeted skills programmes
 - Intervention six: Supporting entrepreneurship and innovation.
 - Intervention seven: Retraining/up-skilling of employees to preserve jobs.
 - Intervention ten: Strengthening the post-school education and training system.

These interventions are further supported by the 7 interventions of the ERRP support strategy out of the 10 proposed, table 23 above details on these and how they align to the MICT SETA 2024/25 priority actions. Through both the NSDP and the ERRP priorities adopted, the MICT SETA will introduce and/or emphasise unit standards on soft skills and business management skills for all courses. This is expected to improve learners' employability and entrepreneurship skills.

3. The MICT SETA in collaboration with QCTO and SAQA will continue to develop and realign qualifications to be 4IR aligned and be future forecasting.

6.4 Conclusion

The MICT SETA will continue to strive towards the continuous improvement of planning and implementation efforts, as well as the constant monitoring of sector-related changes and developments. From the above it is evident that no legislative framework or mandate can be implemented without each affecting another, all these plans align to each other as they have the overall goal of contributing to the NDP. The MICT SETA priorities in the 2024/25 financial year will continue to be aligned to the key national priorities, such as the response to NSDP, ERRP and its supporting Skills Strategy, also making 4IR interventions a priority. The priority actions identified in this research find expression in the MICT SETA Strategic Plan and Annual Performance Plan and will serve as a guide for the SETA in support of national and sectoral objectives in the best possible manner.

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