nmisa
National Metrology Institute of South Africa

ANNUAL PERFORMANCE PLAN

2025/26–2027/28

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ABBREVIATIONS AND ACRONYMS

AfCFTA	Africa Continental Free Trade Area
AFRIMETS	Intra-Africa Metrology System
AMD	Applied Metrology Division
APP	Annual Performance Plan
ARI	African Reference Institute
BIPM	International Bureau of Weights and Measures
CC	Consultative Committee
CEO	Chief Executive Officer
CGPM	General Conference on Weights and Measures
CIPM	International Committee for Weights and Measures
CMC	Calibration and Measurement Capabilities
CMM	Chemical, Materials and Medical Metrology
CRM	Certified Reference Material
CSIR	Council for Scientific and Industrial Research
DCC	Digital Calibration Certificate
EHS	Environment, Health and Safety
EXCO	Executive Committee
ERP	Enterprise Resource Planning
GDP	Gross Domestic Product
HR	Human Resources
ICASA	Independent Communications Authority of South Africa
ILC	Interlaboratory Comparison
IPK	International Prototype Kilogramme
IPP	Independent Power Producer
ISO	International Organization for Standardisation
KCDB	Key Comparison Database
KPI	Key Performance Indicator
LED	Light Emitting Diode
MOU	Memorandum of Understanding

MRA	Mutual Recognition Arrangement
NIST	National Institute of Standards and Technology
NMI	National Metrology Institute
NMISA	National Metrology Institute of South Africa
NMS	National Measurement Standards
NRCS	National Regulator for Compulsory Specifications
OH&S	Occupational Health and Safety
PEM	Physical and Electrical Metrology
PFMA	Public Finance Management Act
PPP	Private-Public Partnership
PSD	Particle Size Distribution
PTS	Proficiency Testing Schemes
R&D	Research and Development
SADC	Southern African Development Community
SADCMET	SADC Cooperation in Measurement Traceability
SANAS	South African National Accreditation System
SANS	South African National Standards
SBDG	Strategy, Business Development and Governance
SHEQ	Safety, Health, Environment and Quality
SI	International System of Units
SKA	Square Kilometre Array
SME	Small and Medium Enterprises
SOE	State-Owned Enterprises
STEM	Science, Technology, Engineering, Mathematics
TC-QS	Technical Committee for Quality
the dtic	Department of Trade & Industry and competition
TI	Technical Infrastructure

FOREWORD BY THE MINISTER

The National Metrology Institute of South Africa (NMISA) has prepared its Annual Performance Plan 2025/26–2027/28, which I now submit to Parliament, as required by the legislation.

Decarbonisation is a priority for South Africa as the country transitions to a low-carbon economy. This transition is closely linked to the value addition of critical minerals such as platinum, manganese, vanadium, and lithium, which are essential for clean energy technologies like electric vehicles and renewable energy systems. Accurate measurement and analysis of these minerals, facilitated by advanced metrology, ensure that their extraction and processing meet environmental standards and efficiency benchmarks.

Metrology plays a key role in verifying the quality and sustainability of these minerals, thereby supporting their global acceptance and integration into green technologies. NMISA contributes to the local characterisation of critical minerals by offering high-accuracy analytical techniques and primary methods traceable to National Measurement standards.

Diversification aims to reduce reliance on a few key industries and foster resilience and long-term prosperity. Metrology ensures reliable measurements across sectors. By providing internationally equivalent measurement services and training, NMISA helps local manufacturers optimise production and ensure product quality. This is particularly important for the manufacturing industry, where precision and consistency are vital for competitiveness and meeting global market demands.

As we enter the next 3-year period, our commitment to decarbonisation, diversification, and digitalisation will guide our efforts to build a sustainable economy for South Africa. By leveraging our rich mineral resources and advanced metrological capabilities, we can drive economic growth while meeting global environmental standards. NMISA's role in providing high-accuracy measurement services and supporting local industries is essential for ensuring the quality and competitiveness of South African products internationally.

Together, we will harness these opportunities to create a resilient, diversified, and digitally advanced economy that benefits all South Africans.

Mr Parks Tau, MP
Minister of Trade, Industry and Competition

31 March 2025

“Demonstration of international equivalence of the National Measurement Standards is crucial in providing the necessary quality assurance to South Africa’s trading partners, regionally and internationally, and is essential in negating technical barriers to trade.”

FOREWORD BY THE CHAIRPERSON

As the custodian of our nation’s measurement standards, NMISA is dedicated to ensuring accuracy, reliability, and excellence in all its activities. This Annual Performance Plan outlines the Institute’s strategic priorities and commitments, which are essential to its continued success and progress.

Financial stability and sustainable growth are key objectives for the organisation. Through careful planning and prudent management, NMISA aims to secure the resources necessary to support key projects and expand its measurement capabilities to meet specific market needs, including measurement services for energy efficient lighting, minerals beneficiation, green industrialisation, food safety, and digital metrology technologies.

Excellence in client service is fundamental to NMISA’s operations. The Institute remains committed to understanding and exceeding the expectations of its clients by providing accurate, timely, and innovative measurement solutions. This dedication to client satisfaction drives continuous improvement efforts. NMISA recognises the importance of extending its reach beyond the main metropolitan areas. By expanding its service footprint nationally, NMISA aims to ensure that its high-accuracy measurement services are accessible to a broader range of clients, contributing to rural and district development and inclusive economic growth. The Institute is working towards further extending its reach within Special Economic Zones (SEZs) and Industrial Parks. By obtaining internationally recognised measurement services from NMISA, companies can enhance the competitiveness of their products in the global market.

Enhancing operational efficiency is fundamental in achieving the set performance targets. NMISA further streamline its processes, apply digital technologies to develop novel solutions (such as digital calibration certificates), and adopt best practices to enhance service delivery. By doing so, NMISA aims to maximise its impact while optimising resource utilisation.

NMISA delivers its mandate through a highly qualified workforce with specialist knowledge and skills. The Institute is dedicated to attracting, developing, and retaining highly skilled professionals who are passionate about metrology. By fostering a culture of continuous learning and professional development, NMISA ensures that its employees remain knowledgeable on scientific and technological advancements related to metrology. International collaboration with scientific peers within the organs of the international metrology system is a key aspect realising and maintaining National Measurement Standards that are internationally equivalent and recognised.

South Africa's responsibilities under the Metre Convention treaty, are delivered by NMISA, as mandated by the Measurement Units and Measurement Standards Act (Act 18 of 2006). This is a scientific mandate, which is the foundation of the Institute. As such, NMISA is committed to advancing the science of measurement (metrology) and maintaining the highest standards of accuracy and reliability. Our work underpins the integrity of measurements across various sectors, contributing to the advancement of science, industry, and society.

Small, Medium, and Micro Enterprises (SMMEs) are the backbone of the economy. In collaboration with **the dtic**, NMISA is committed to empowering these enterprises with the knowledge and skills they need for quality assurance. Through targeted training and consultancy services delivered by the NMISA Training Centre, the Institute will continue to assist SMMEs in achieving excellence in their operations, contributing to their growth and sustainability.

In conclusion, the Annual Performance Plan 2025/26 – 2027/28 reflects NMISA's strategic vision and commitment to excellence in metrology. Together, we will continue to uphold the highest standards of measurement, support our clients, and contribute to the advancement of our nation.

Dr Precious Motshwene
Accounting Authority
31 January 2025

> **"Accurate measurement is essential for driving innovation and fostering economic growth, as it supports the development of new technologies and maintains global competitiveness."**

EXECUTIVE SUMMARY BY THE ACTING CEO

NMISA, in support of South Africa's constituted 7th Democratic Administration as a Government of National Unity, stands at the cusp of new measurement challenges to continue ensuring that all measurements are accurate, traceable, and meet international standards. A country's national measurement institute is the backbone of mitigating against non-compliance with products entering the market.

The Institute has been prioritising the diversification of products and services and expanding into new markets to increase sales revenue and remain financially sustainable in response to significant reductions in its allocated grant. This approach has only been partially effective, and it is necessary to ensure that sufficient resources remain dedicated to the realisation and maintenance of the National Measurement Standards as mandated. The opportunity to return to the foundational principles of a National Measurement Institute is welcomed.

The dtic Master Plans shaped the focus of the measurement outputs in support of priority sectors identified and in turn supported through projects designed to provide traceable measurements that assist businesses to demonstrate the quality and reliability of their products for both domestic and international markets. Focus areas included materials analysis (intrinsic and failure), 3D printing capabilities for manufacturing, measurement capabilities for energy-efficient lighting, bespoke reference gas mixtures for air quality monitoring, medical gasses and energy gasses, radiation dosimetry for cancer treatment and monitoring of occupational radiation exposure, chemical analysis of toxic and nutritional elements in food and toxic elements in environmental samples, reference materials and proficiency testing schemes for locally and regionally produced food and feed, calibration services for evidential breath alcohol analysers and speed measurement equipment for traffic law enforcement, and high accuracy time reference signals for the South African Radio Astronomy Observatory (SARAO), among others.

These applied metrology services complement the primary calibration services offered in the fields of temperature, DC low frequency, radio frequency, fibre optics, mass and related quantities, dimensional measurements, and photometry, providing traceability to the International System of Units (SI).

Research projects underway in collaboration with universities and leading national metrology institutes include the development of a Kibble Balance to realise the kilogram following the redefinition of the SI and a study related to the development of quantum metrology capabilities. This remains a flagship project for South Africa as a developing nation as it is the first instrument to redefine the kilogram based on a fundamental physical constant, specifically the Planck constant, rather than a physical object.

The 2025/26 APP is building on the foundation established by implementing an applied metrology focus for its client base but with a refocus on the importance of providing South Africa with the scientific metrology base of maintaining and developing the National Measurement Standards that provide for product compliance and quality measurement traceability.

NMISA will continue to increase the efficiency of its service delivery and diversify its market sector impact. An important objective is to develop and retain a workforce that is capable of utilising world-class infrastructure to deliver specialised measurement products and services. NMISA will continue to develop the skills of its interns to expand its internal resources and to deliver young metrologists who are market ready on completion of their training. The Institute is also prioritising engagement in contract research to complement and expand its knowledge base and offer innovative solutions to our clients.

NMISA will achieve its goals and position the organisation for success in the coming years if recognised for its mandated role in providing for the fundamental basis of traceability as designated. We look forward to working with our stakeholders to make this vision a reality.

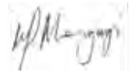
Dr Jayne de Vos
Acting Accounting Officer

31 January 2025

OFFICIAL SIGN-OFF

It is hereby certified that this Annual Performance Plan:

- Was developed by the management of the National Metrology Institute of South Africa (NMISA) under the guidance of the Board and the Board Chair, who has since resigned from the NMISA board;
- Takes into account all the relevant policies, legislation, and other mandates for which NMISA is responsible; and
- Accurately reflects the impact, outcomes, and outputs that NMISA will endeavour to achieve given the resources made available in the budget for 2025/26–2027/28.



Mrs Penny Mangany
Acting Director Applied Metrology Division
Acting Director: Physical and Electrical Metrology

Mr Mogau Sehlapelo
Chief Financial Officer

Mr Teboho Mthombeni
Director Corporate Services

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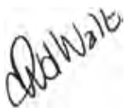
Approved by:



Ms Natasha van der Walt
Director Strategy, Business Development and Governance

Mr Parks Tau, MP
Executive Authority

PART A
NMISA MANDATE

A1 MANDATE

NMISA was established and is fulfilling its legal mandate under the Measurement Units and Measurement Standards Act, Act No. 18 of 2006.

- To provide for the use of measurement units of the International System of Units (SI).
- To designate other measurement units for use and to provide for the designation of the National Measurement Standards (NMS), and to develop, keep, maintain, and disseminate the NMS (reference measurements, reference standards and reference materials).

A2 VISION

To enable regional and global market access for our clients and enhance the quality of life for all South Africans, through internationally accepted measurement systems.

A3 MISSION

To consistently deliver outstanding innovative and internationally accepted measurement systems that support regional and international trade, and people's quality of life, and enable the protection of the environment.

A4 VALUES

- **Forward thinking**
  - Evolving and adapting with new technologies to deliver innovative measurement solutions for niche markets.
- **Trustworthy**
  - Inspiring confidence in stakeholders that our commitments are consistently met and that their satisfaction is our priority.
- **Knowledge sharing**
  - Achieving more through networking, collaboration and partnerships to build a better future together.
- **Accountability**
  - Acting ethically and responsibly in all aspects of work and taking ownership of our actions and their outcomes.
- **Respect**
  - Embracing diversity and different perspectives, with consideration for our social and physical environment.

A5 UPDATES TO THE RELEVANT LEGISLATIVE AND POLICY MANDATES

A5.1 CONSTITUTIONAL MANDATE

The National Metrology Institute of South Africa (NMISA) does not have an explicit mandate in the Constitution of South Africa. Instead, its establishment and functions are governed by the Measurement Units and Measurement Standards Act, Act No. 18 of 2006. NMISA has a legislative mandate derived from this Act, which provides for the use of measurement units of the International System of Units (SI), the designation of national measurement units and standards, and the establishment of NMISA. Specifically, Section 8 of the Act establishes NMISA as a juristic person, and Section 9 outlines its functions, including maintaining national measurement standards and ensuring their international comparability.

A5.2 APPLICABLE ACTS

ACT	PURPOSE
Measurement Units and Measurement Standards Act, (Act No. 18 of 2006)	• To provide for the use of measurement units of the International System of Units and certain other measurement units; • To provide for the designation of national measurement units and standards • To provide for the keeping and maintenance of National Measurement Standards and units • To provide for the establishment and functions of the National Metrology Institute • To provide for the repeal of certain laws; and • To provide for matters connected therewith.
Legal Metrology Act, (Act No. 9 of 2014)	The Legal Metrology Act provides for the administration and maintenance of legal metrology technical regulations to promote fair trade, for public health and safety, the protection of the environment and to provide for matters connected therewith. NMISA has extensive metrology laboratories, standards, and equipment, together with a solid base of scientific metrology skills, knowledge, and capacity to support legal metrology in health, safety, and environment measurements.
Public Finance Management Act (PFMA), (Act No.1 of 1999 as amended)	To regulate financial management in the national government and provincial governments; to ensure that all revenue, expenditure, assets and liabilities of those governments are managed efficiently and effectively; to provide for the responsibilities of persons entrusted with financial management in those governments; and to provide for matters connected therewith. NMISA is an extension to government and therefore prescribes to the PFMA.
Hazardous substances Act, (Act No. 15 of 1973), Regulation No. R. 247, 26 February 1993	NMISA provides measurement traceability and calibration of equipment used for monitoring of ionising radiation.
The Civil Aviation Act, (Act No. 13 of 2009)	NMISA provides measurement traceability to the civil aviation industry as well as measurement training courses for aviation technicians. NMISA supplies traceability for their measurements as used in the aircraft, barometers, pressure, torque and dimensional.
The Foodstuffs, Cosmetics and Disinfectant Act, (Act No. 54 of 1972 as amended)	NMISA value assigns elements in food matrices and provides proficiency testing schemes (PTS) in support of food safety and food labelling as required and published by the Department of Health regulations relating to hazardous contaminants in foodstuffs and the labelling and advertising of foodstuffs.
National Road Traffic Act, (Act No. 93 of 1996)	NMISA supports section 59 of the Act in that it offers speed measurement calibrations including calibration to the new specification.
Air Quality Act, (Act No. 39 of 2004)	NMISA supports the Act through the provision of reference gas mixtures for air pollution and environmental monitoring.
Road Traffic Management Corporation Act, (Act No. 20 of 1999)	The Act is supported through the calibration of breathalysers for law enforcement.
Occupational Health and Safety Act, (Act No. 85 of 1993 – regulations)	The Act is supported through calibration of noise, illuminance, and air monitoring devices.

A5.3 LEGISLATIVE FRAMEWORK

The legislative framework applicable to NMISA as a schedule 3A entity is as follows:

FRAMEWORK	PURPOSE
King Code	Provides a benchmark of best practices and accountability standards for organisations.
Frameworks for Managing Programme Performance Information	Sets out the planning processes as mandated in Section 215 and 216 of the Constitution of South Africa; Strategic plans and Annual Performance Plans.
National Treasury Regulations	Provide guidance to NMISA on matters of compliance and good governance in an evolving economy.
ISO 45001: 2018	Requires calibration of measurement and monitoring equipment used by accredited approved inspection authorities to evaluate organisational health and safety performance in the workplaces.
ISO 14001: 2015	The use of calibrated measuring equipment for measuring key characteristics of operations that can have significant environmental impact.

A5.4 UPDATES TO THE RELEVANT COURT RULINGS

A court case relating to speed prosecution was the case in the Free State (Magisterial District of Bloemfontein) of the State vs Mr Mphande, which was concluded in January 2022. Mr Mphande was accused of driving at a speed of 156 km/h, which is in excess of the general speed limit of 100 km/h which applied to that road, at a distance of 222,4 meters. The state could not prove specifically that the high-speed measuring instrument used to measure the vehicle's speed and calibrated by a commercial calibration laboratory(s), provided accurate and reliable results.

The court ruling pertaining to speed measuring devices highlights the importance of being traceable to the National Measurement Standard to distance (length) and time, and the required input from NMISA that has a significant impact on service delivery for traffic law enforcement. It also highlights the importance of including NMISA at various TI forums namely, NRCS for type approval and calibration, SANAS for accreditation as all speed calibration facilities must be accredited, and SABS for the calibration procedures and technical guidelines. Furthermore, it informs the need for collaboration with the RTMC.

A5.5 UPDATES TO INSTITUTIONAL POLICIES AND STRATEGIES

The NMISA Strategy Plan for 2025/26 to 2029/30 reflects the international, regional, and national environments as these relate to the execution of the mandate of NMISA. The strategic goals for the period are outlined in the following section.

PART B

NMISA STRATEGIC FOCUS

B1 UPDATED SITUATIONAL ANALYSIS

The Technical Infrastructure entities collectively play a vital role in quality assurance and international acceptance of locally produced products. Metrology specifically plays a key role in enabling effective functioning of laws and regulations. It provides the scientific foundation for measurement methods and traceable results, as applied, for example, to traffic law enforcement, such as breath and blood alcohol testing, speed measurement, and load testing of heavy vehicles.

Effective regulation requires that metrology aspects be addressed within the terms of the regulation, and the strategic objectives have been structured to enable and support said regulations as outlined below.

Strategic objective 1:	Ensure regional, continental, and international comparability of the South African measurement infrastructure to support economic growth and to enhance the quality of life for all.
Strategic objective 2:	Improve financial stability and ensure sustainable growth.
Strategic objective 3:	Maintain fast and efficient service delivery to clients.
Strategic objective 4:	Develop and retain a capable workforce that is able to utilise world-class infrastructure to deliver specialised and innovative measurement solutions.
Strategic objective 5:	Effectively engage and collaborate with stakeholders to develop and strengthen mutually beneficial relationships in fulfilment of the NMISA mandate.

B2 PERFORMANCE DELIVERY ENVIRONMENT (EXTERNAL)

B2.1 SOUTH AFRICA, A SIGNATORY OF THE METRE CONVENTION TREATY

An international treaty to “ensure the international unification and improvement of the metric system” was signed on 20 May 1875, by 17 countries. Commonly known as the Metre Convention, it established the International Bureau of Weights and Measures (BIPM). The BIPM is an intergovernmental organisation responsible for harmonising measurement systems worldwide. In 1921, the treaty was extended to include electrical and other physical measurements. Since then, the BIPM’s goal has been to facilitate the standardisation of measurements globally by enabling Member States to collaborate on matters related to measurement science.

South Africa became the 40th signatory to the Metre Convention treaty in August 1964. At the time, the fundamental importance of metrology to industrialisation was recognised, as evidenced by the following statement by the then President of the CSIR, Dr S.M. Naudé:

“It is no accident that in the past those countries which have given the closest attention to physical standards of measurement, Great Brittain, Germany [and] the United States, have also been the leaders in industrial development.”

On 20 May 2025, the world will celebrate the 150th anniversary of the Metre Convention treaty. The theme for the event is encapsulated in the words of philosopher and mathematician Nicolas de Condorcet, who described the metric system as being "*for all people, for all time*". This system, defined in a logical and abstract mathematical manner, was implemented in the late 18th century.

Since then, NMISA (including its predecessors under the CSIR before 2006) has been ensuring that South Africa meets its obligations under this treaty. NMISA is mandated to realise and maintain the NMS for South Africa by the National Measurement Units and Measurement Standards Act, Act 18 of 2006. The Institute ensures that South Africa's NMS are demonstrated to be equivalent to those realised by other National Metrology Institutes and are internationally accepted.

"Measured once, accepted everywhere".

In principle, measurements made according to internationally recognised standards should be accepted globally without the need for re-measurement. This concept is crucial in trade and regulatory compliance, ensuring that products and services meet the same standards worldwide and reducing technical barriers to trade. It is supported by frameworks such as the CIPM Mutual Recognition Arrangement (MRA) and the OIML Certification System (OIML-CS), which facilitate the mutual recognition of measurement standards and certifications across different countries.

B2.2 HARMONISATION OF AFRICAN MEASUREMENT SYSTEMS FOR INTER-CONTINENTAL AND INTERNATIONAL TRADE

In collaboration with **the dtic**, NMISA ensures that the interests of South Africa, SADC, and, broadly speaking, Africa, are represented at the international bodies that enact the Metre Convention Treaty. These include the BIPM, which operates under the supervision of the International Committee for Weights and Measures (CIPM) and the authority of the International Conference on Weights and Measures (CGPM). The CIPM Presidency is currently held by Dr. Wynand Louw from South Africa, a NMISA Board Member, until March 2027. NMISA holds full membership in nine of the ten CIPM Consultative Committees, which bring together the world's leading experts in their specified fields to advise on scientific and technical matters. These memberships provide crucial links to the international measurement system and contribute to developing Africa's metrology infrastructure. This robust metrology system is essential for the successful implementation of regional and continental free-trade agreements, promoting regional integration.

Regionally, NMISA is the primary provider of traceability to the SI for sub-Saharan Africa. In support of the AfCFTA, the Africa Reference Institute (ARI) of NMISA serves as a hub, offering measurement solutions and services to stakeholders across the continent. Demonstrating that local and uniquely African products and services are internationally equivalent eliminates the need to import substitutes, enhancing the continent's self-sustainable development.

Accurate measurements are the foundation of fair trade and economic growth. They ensure that transactions are transparent and equitable, fostering trust and cooperation in the global marketplace.

B2.3 INTERNATIONAL CUTTING-EDGE METROLOGICAL RESEARCH: SHAPING THE FUTURE OF MEASUREMENT

Every great scientific breakthrough begins with accurate measurement.

Towards Global Digital Transformation for Metrology and the International Quality Infrastructure

The SI Digital Framework is an initiative to modernise the International System of Units (SI) for the digital age. It involves creating digital identifiers for SI units and constants, ensuring measurement data is Findable, Accessible, Interoperable, and Reusable (FAIR). This framework also includes standards for digital certificates and metadata to maintain the authenticity and traceability of measurements, and the use of digital twins - virtual models of physical objects, systems, or processes that mirror their real-world counterparts in real-time. Digital twins help in predicting performance, identifying issues before they occur, and optimising operations. The goal is to support accurate and reliable measurements in an increasingly digital and interconnected world, making them both accessible to humans and machine-readable. The cornerstone of the SI Digital Framework is the SI Reference Point, which has been developed. In addition, the first three digital services have been released for beta-testing. This was undertaken as part of the BIPM's Work Programme in Digital Transformation with contributions from seconding NMIs.

NMISA is conducting a feasibility study to develop digital calibration certificates (DCCs). DCCs are part of the effort to modernise metrology by making calibration data machine-readable and easily accessible. They ensure that calibration results are stored, authenticated, and interpreted uniformly, supporting the goals of the SI Digital Framework to enhance the accuracy, traceability, and interoperability of measurement data.

Enhancing Timekeeping: Progress Towards the New Definition of the Second

The definition of the second is being updated to improve timekeeping accuracy. Currently based on caesium atom vibrations, the second could be more accurately defined using optical clocks, which offer greater accuracy. These clocks are so precise they would lose only one second in billions of years. Updating the definition will enhance global time synchronisation, benefiting the global positioning system (GPS), telecommunications, and financial networks.

The CIPM Consultative Committee for Time and Frequency (CCTF) is working on this update. A proposal for the new definition is expected to be presented at the General Conference on Weights and Measures (CGPM) in 2026. If approved, the new definition could be ratified by 2030.

South African Standard Time is realised by NMISA according to the current definition based on caesium frequency transitions. Over the past five years, the Institute has improved its time realization accuracy from 5,000 ns to below 10 ns relative to Coordinated Universal Time (UTC). NMISA has been providing a high-accuracy time reference signal to the South African MeerKAT radio telescope, a precursor to the Square Kilometre Array (SKA) telescope, which will be integrated into the mid-frequency component of SKA Phase 1. The SKA telescope requires high-accuracy time synchronisation to ensure that signals from different antennas are accurately aligned when combined, which is essential for producing high-resolution images. In August 2024, the first SKA-Mid dish tested its synchronisation with the MeerKAT telescope.

More Accurate Surface Ozone Measurements to be Implemented World-Wide from 1 January 2025

Starting 1 January 2025, a more accurate method for measuring surface ozone will be implemented globally. This involves adopting a revised absorption cross-section value for ozone, 1,23 % lower than the previous value used since 1961. The new value, determined through extensive research, reduces uncertainty and enhances measurement accuracy. International standards and regulations are being updated to incorporate this method, ensuring a smooth transition. Standard Reference Photometers and other ozone monitoring instruments will be recalibrated to reflect the new value, ensuring consistency and reliability. This new standard will provide more accurate data on surface ozone levels, essential for environmental monitoring and public health.

NMISA is collaborating with local regulatory bodies and other stakeholders to ensure a smooth transition to this revised method in South Africa.

The Kibble Balance: Paving the Way for Accurate and Stable Mass Standards

The research and development of a primary standard Kibble Balance were decisive in redefining the kilogram in 2019. Previously, the kilogram was defined by a physical object, the International Prototype of the Kilogram (IPK). The Kibble Balance enables the kilogram to be defined by fundamental physical constants, specifically the Planck constant, making the definition more stable and universally accessible. Using the Kibble Balance, countries worldwide can achieve consistent and comparable mass measurements. This global standardisation is essential for international trade, scientific research, and technological development.

NMISA collaborates with the National Physical Laboratory (NPL) in the United Kingdom (UK) to develop and construct a desktop Kibble balance. By participating in this project, NMISA contributes to global scientific advancement. As the future primary standard for mass, the Kibble balance will enhance measurement accuracy across various local sectors, including manufacturing, health, and environmental monitoring. In addition, the project offers valuable opportunities for African scientists, engineers, and technicians to acquire expertise in precision measurement techniques, metrology, and state-of-the-art technology, thereby strengthening local scientific capabilities.

B2.4 ASPECTS OF THE LOCAL CALIBRATION SERVICES MARKET

Aligned with worldwide movements, the regional calibration services industry is expanding and embracing emerging technological advancements. According to a recent report by 6Wresearch, the South Africa Calibration Services Market is set for substantial growth, with an anticipated Compound Annual Growth Rate (CAGR) of 9,6 % during the forecast period from 2024 to 2030.[1] This growth is primarily driven by technological advancements and the increasing demand for precise measurements across various industries, including manufacturing, aerospace, automotive, and healthcare. South Africa's industrialisation and adoption of advanced technologies further contribute to the expansion of the calibration services market.

Additionally, the rise of Industry 4.0 has intensified the need for accurate calibration services. Both local and international players are actively participating in this market, striving to provide high-quality services at competitive prices. On a broader scale, the Africa Calibration Services Market is also expected to grow, projected to achieve a CAGR of 5,3 % during the same period. Globally, the calibration services market reached a value of US$ 5,9 billion in 2023 and is estimated to reach US$ 9,0 billion by 2032, exhibiting a growth rate of 4,7 % during 2024–2032. Stringent regulations and rigorous quality standards within sectors like healthcare, automotive, and aerospace necessitate the utilisation of calibration services. The increasing demands from these sectors, particularly in healthcare, drive the need for calibration services provided by SANAS-accredited laboratories. Key players in the South African calibration services market offer calibration (and sometimes repair) services for a diverse array of instruments, including those related to electrical, temperature, pressure, flow, and mass.

In recent years, larger companies across various industries have increasingly outsourced their measurement instrumentation maintenance, including calibration services, to commercial calibration laboratories. This strategic decision aims to reduce costs and enhance accuracy. Additionally, innovative calibration techniques, such as mobile calibration laboratories and remote services utilising digital technologies, present new growth opportunities for the market. However, the high cost associated with calibration equipment and services remains a significant challenge for the calibration services market. The calibration process is also time-intensive and relies on skilled professionals. This holds especially true in emerging markets, where experienced experts are essential in providing complex, high-quality calibration services.

A global characteristic particular to field of metrology is that many companies underestimate the importance of calibration services, resulting in underutilisation of this critical aspect within the industrial ecosystem. Organisations often hesitate to invest in services they don't fully comprehend, resulting in reduced demand for calibration services even when they are necessary.

B2.5 CONTRIBUTION TO NATIONAL PRIORITIES

To promote a just and lasting socio-economic progression in South Africa, essential national objectives have been defined in the National Development Plan (NDP). It aims to create a prosperous society over the next 20 years, emphasising priorities such as reducing poverty, unemployment, and inequality. The NDP informs the Medium-Term Strategic Framework (MTSF), which aligns government policies and actions with its goals. **the dtic** defined its priorities to stimulate inclusive economic growth through a set of output targets to which its entities contribute.

1 6Wresearch Report, July 2023, South Africa Calibration Services Market: Size and Share 2030

NMISA strategically aligns its activities to support **the dtic's** output targets. These targets encompass a range of initiatives, including measurement services in special economic zones (SEZs), products and services for local manufacturers to enhance production efficiency and meet export quality standards, implementation of the AfCFTA by demonstrating equivalence of the NMS realised by member countries, red-tape reduction for improved service delivery through digitalisation, quality assurance training for small, medium and micro enterprises (SMMEs), awareness campaigns beyond metropolitan areas, Science, Technology, Engineering and Mathematics (STEM) internship opportunities, and support for green hydrogen commercialisation and climate initiatives.

B2.6 ECONOMIC INTEGRITY AND THE ROLE OF MEASUREMENT INFRASTRUCTURE IN SOUTH AFRICA

A National Metrology Institute is an integral part of a nation's economy by enhancing global competitiveness for businesses, ensuring consumer protection through fair trade practices, and providing a robust foundation for scientific research and innovation. This infrastructure is essential for addressing future societal challenges and fostering sustainable economic growth.

NMISA has a very specific role as the body in South Africa responsible for providing the use of measurement units and standards in accordance with the Measurement Units and Measurement Standards Act. Without a measurement infrastructure, it would be tedious and costly for the country to manufacture products to local and international specifications and tolerances, and to ensure the integrity of commodities both locally and for the export market. Competitive manufacturing relies on accurate, internationally comparable measurements, which are achieved through the establishment of 'traceability' of the measurement results to the SI or internationally agreed references. This local capability enables trade, component manufacturing, legal acceptance of measurement results for law enforcement, reliable measurement data for environmental monitoring, food safety, improved medical diagnosis and treatments through accurate measurement, and consumer protection.

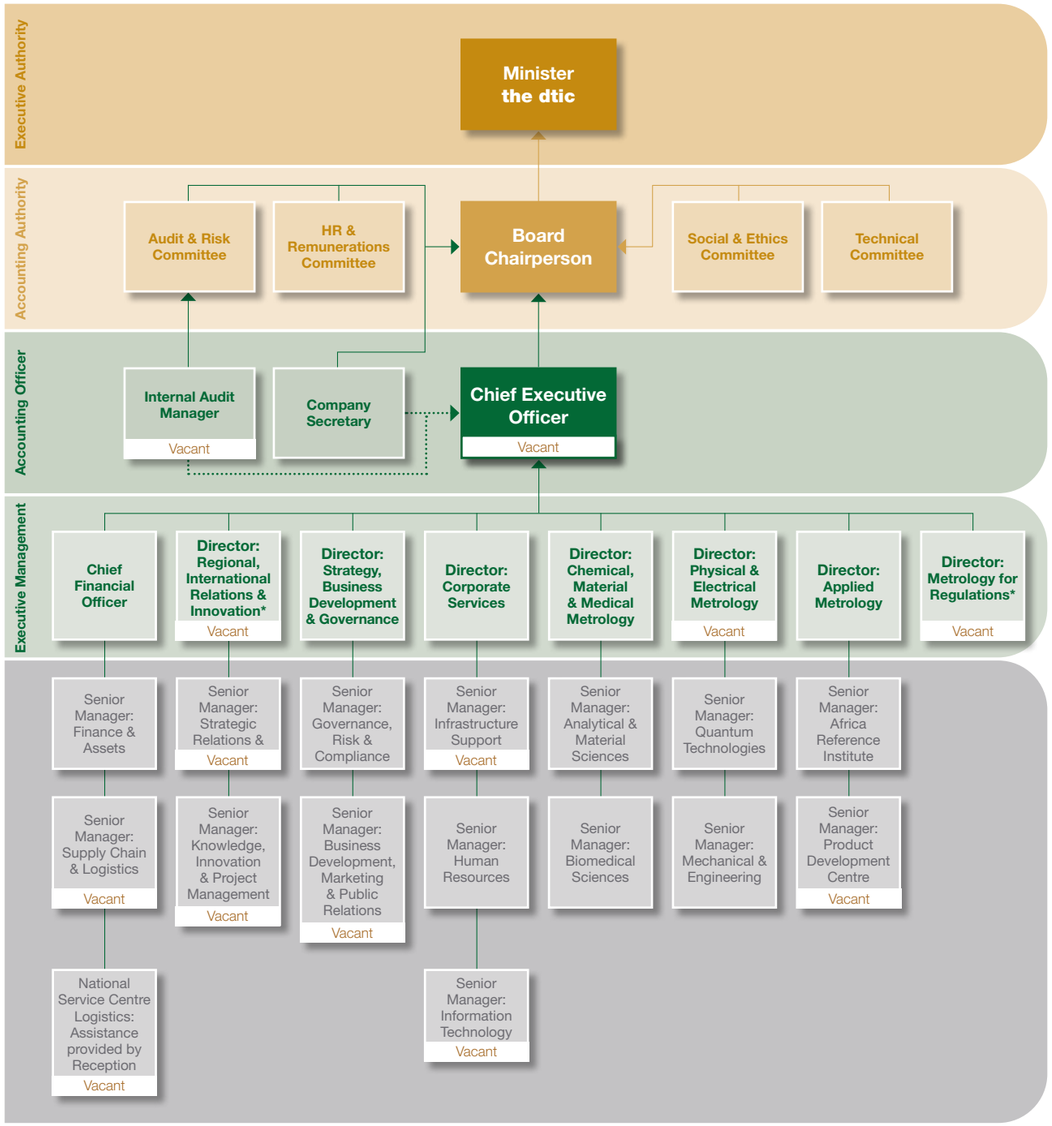
B3 ORGANISATIONAL DELIVERY ENVIRONMENT (INTERNAL)

B3.1 SKILLS DEVELOPMENT IN STEM FIELDS RELATED TO MEASUREMENT SCIENCE

NMISA requires a continuous supply of well-trained, broadly experienced employees to meet its current and future strategic objectives. Training and technical skills development for young scientists are essential needs, as metrology skills are scarce in the job market, particularly among young black professionals. To address this, a Training and Development Plan has been drafted to help each measurement scientist, whether experienced or new, improve their skills. This plan aims to establish a pipeline of young scientists specialising in measurement science through bursary programs, onsite training in metrology, and internships. These young professionals are equipped with industry-relevant skills and, where possible, are offered permanent positions.

B3.2 ORGANISATIONAL STRUCTURE

NMISA is a Schedule 3A public entity, managed by a chief executive officer (CEO), supported by an executive management team, and governed by the NMISA Board. The organisational structure comprises the governance structure and the functional structure shown the figure that follows.



**The organisational structure is currently under review by the NMISA Board*

B3.3 QUALITY MANAGEMENT

NMISA adheres to a total quality management system managed by the Safety, Health, Environment and Quality (SHEQ) Office. In collaboration with the technical units, this office coordinates all matters relating to the accreditation of technical competencies, health and safety of staff, and the environment.

A total of 24 laboratories are accredited to ISO/IEC 17025:2017 by the South African National Accreditation System (SANAS). In addition, two laboratories are accredited against ISO 17034 to produce certified reference materials. Accreditation to ISO/IEC 17043 (for conducting PTS) has been attained for those laboratories providing proficiency testing schemes (PTS).

NMISA maintains more than 523 (on 30 October 2024) Calibration and Measurement Capabilities (CMCs) published in the international Key Comparison Database (KCDB – BIPM Appendix C). The CMCs have been accepted internationally through a peer-review process, which includes SANAS accreditation of those parameters as a prerequisite. Over 90,5 % of NMISA's services are linked to the CMCs, and thus are internationally accepted. This database of all internationally recognised measurement capabilities can be accessed at: www.bipm.org/kcdb/. NMISA services that are accredited and for which CMCs are published in the international Key Comparison Database, are internationally peer reviewed by AFRIMETS TC-QS and international technical experts every five years.

NMISA has further achieved certification of its occupational health and safety (OH&S) management system and its environmental management system (EMS), guided by ISO 14001 and ISO 45001.

Scientists and engineers from NMISA act as technical assessors for competence assessments of local and regional laboratories as part of accreditation bodies (SANAS, SADCAS, MAURITAS) and International Laboratory Accreditation Cooperation (ILAC) processes. NMISA personnel act as technical experts on technical and advisory committees for other **dtic** technical infrastructure organisations such as SANAS Special Technical Committees (STC's) and SABS/ISO Technical Committees.

B.4 STAKEHOLDER ANALYSIS

As one of **the dtic's** Technical Infrastructure (TI) entities, NMISA is not only the link between the international measurement system and the South African measurement system, but in the vertical integration that allows for South Africa to have a credible national measurement system to facilitate and ensure trade, commerce, manufacturing, services, consumer, and environmental protection. The measurement activities of NMISA are, therefore, essential in ensuring the success of the other TIs. The combined functions of metrology, standardisation and regulation, conformity assessment, and accreditation provide for quality assurance of products and services used by local consumers. As such, an effective TI is a key requirement for effective free-trade agreements between countries or economic trading blocks and feeds into the interaction with the other stakeholders. A summary of the shareholder and stakeholder interactions follows.

Summary of NMISA shareholder and stakeholder interactions

STAKEHOLDERS	ATTRIBUTES	INFLUENCE	INTEREST	LINKAGES WITH OTHER STAKEHOLDERS
National Government	Contributing agency to the implementation of the National Development Plan. Trade agreement negotiation (including AfCFTA) Contributing to drafting and implementing regulatory policies and frameworks	High	High	Key player in legislative and regulatory environment
the dtic	Shareholder	High	High	Provide input in terms of master plans and economic recovery
NMISA Board of Directors	Independent control oversight body	High	High	Control and oversight
Consultative Forum	Independent advisory body	High	High	Consultative advisory body
The BIPM	Acts in matters of world metrology	High	High	Concerned with measurement standards & the demonstration of equivalence between National Measurement Standards
Experts (local and international)	Provide expertise in the field of metrology	High	High	Metrology matter experts
Academia	Key producers of knowledge, research, new skills, and capabilities	Low	High	Collaborations for generation of knowledge and dissemination of the curriculum on the revised SI
AGSA/external auditors	Tasked with responsibility of oversight accountability and governance	High	High	Audit for compliance with legislation
Clients	Inform NMISA of the development and maintenance of the NMS for purposes of trade; contributes to the sustainability of NMISA Obtain measurement services from NMISA to enhance their ability to compete in local and export markets	High	High	Quality infrastructure through the provision of measurement traceability to support trade (imports and exports) **The dtic** strategic interventions for economic growth (5,4 % increase in GDP)
Suppliers	Enterprise development and contribution to NMISA Black Economic Empowerment	High	Low	Provision of services and equipment required for development of measurement standards, reference materials and methods
Technical Infrastructure (TI) Entities (SABS, NRCS, SANAS)	Metrology, standardisation, conformity assessment and accreditation are key elements of quality assurance of products	High	High	The TI entities support **the dtic** in ensuring fair trade and reducing technical barriers to trade both internationally and locally
Consumers	Confidence in local products in terms of health and safety, and fair trade	High	Medium	Reliant on effective regulation to ensure environmental protection, human health and safety, and consumer protection

PART C

MEASURING OUR PERFORMANCE

C1 NMISA PERFORMANCE INDICATORS

In light of recent budget adjustments, NMISA has strategically reduced its performance targets to align with the new financial constraints. The primary focus remains on maintaining core capabilities in accordance with the mandate, to ensure operational stability and efficiency. Concurrently, the Institute will focus on increasing revenue by exploring more diverse and niche markets, utilising its strengths to take on new opportunities and drive sustainable growth. This balanced strategy will help navigate the current economic challenges and help position NMISA for future success.

OUTCOME	KPI #	OUTCOME INDICATOR		BASELINE	2025/26	2026/27	2027/28	2028/29	2029/30	FIVE-YEAR TARGET
Ensure regional, continental, and international comparability of the South African measurement infrastructure to support economic growth and to enhance the quality of life for all	1	Realisation and maintenance of 6 SI Base units		SI base units: 5 realised and 1 maintained	SI base units: 5 realised and 1 maintained	SI base units: 5 realised and 1 maintained	SI base units: 5 realised and 1 maintained	SI base units: 5 realised and 1 maintained	Realisation of 6 SI Base units	Realisation of 6 SI Base units
	2	Percentage of metrological services offered covered by Calibration and Measurement Capabilities (CMCs)		86 %	80 %	80 %	80 %	80 %	80 %	80 %
	3	New and improved NMS and reference materials and reference methods		2	2	2	2	2	2	10
	4	Participate in ILCs and PTS		20	10	10	10	10	10	50
Improve financial stability and ensure sustainable growth	5	Achieve the annual real revenue growth rate (adjusted for inflation)		≥ 5 % of real revenue growth by year-end	≥ 5 %	≥ 5 %	≥ 5 %	≥ 5 %	≥ 5 %	Maintain ≥ 5 % growth annually
	6	Maintain visibility of NMISA in South Africa and the region		Maintain AVE ≥ R1m. Increase social Media following ≥ 10 %	AVE ≥ R 500k	AVE ≥ R 500k	AVE ≥ R 500k	AVE ≥ R 500k	AVE ≥ R 500k	Maintain AVE ≥ R 500k
Maintain fast and efficient service delivery to clients	7	Client Satisfaction Score (not absence of complaints)		≥ 70 % (≥ 3,5 on a 5-point scale)	≥ 70 %	≥ 70 %	≥ 70 %	≥ 70 %	≥ 70 %	≥ 70 %
	8	Customer satisfaction rate for training courses presented		≥ 70 % (≥ 3,5 on a 5-point scale)	≥ 70 %	≥ 70 %	≥ 70 %	≥ 70 %	≥ 70 %	≥ 70 %
Develop and retain a capable workforce that is able to utilise world-class infrastructure to deliver specialised and innovative measurement solutions	9	Staff turn-over rate		≤ 7 %	≤ 7 %	≤ 6 %	≤ 6 %	≤ 6 %	≤ 5 %	≤ 5 % (Achieved by year 5)
	10	Number of in-service trainees and interns hosted		6	6	13	15	18	20	72
	11	Number of new collaborative agreements led by NMISA		1	1	1	2	2	2	8
Effectively engage and collaborate with stakeholders to develop and strengthen mutually beneficial relationships in fulfilment of the NMISA mandate	12	Percentage of active service/collaboration agreements		≥ 70 %	≥ 70 %	≥ 75 %	≥ 80 %	≥ 80 %	≥ 80 %	≥ 80 %

C2 NMISA PROGRAMMES

The development, maintenance and dissemination of the NMS is co-ordinated through a dedicated programme at NMISA. This programme contributes to government key priorities and the national outcomes. Further to this, NMISA has aligned its key activities to the National Development Plan. Its activities have been grouped into two main programmes:

- Administration Programme; and
- Applied Metrology Programme (realisation, maintenance and development of the NMS).

The following sections describe these programmes in more detail. Initiatives under these programmes were tabulated to highlight the focus areas and purpose. It demonstrates how the NMS translate into commercial services offerings which impact the local economy.

C2.1 ADMINISTRATION PROGRAMME

The Administration Programme provides for overall management, administration, and operation of the organisation and leads strategy development and implementation, including business development, manages stakeholder relationships, guides corporate governance, and provides operational support services (such as information technology, legal contracting, coordination of quality management activities, and marketing), and financial and human resource management.

SUB-INITIATIVES:

1. Finance and Supply Chain
2. Human Resources, Facilities, and Information Technology Services
3. Strategy, Business Development and Governance

PURPOSE:

Provide strategic leadership management and support services to the entity for financial, human, social and environmental sustainability of the organisation.

STRATEGIC FOCUS:	
1	Strategic budgeting, cost containment, cash flow management, accurate record keeping and compliance with the PFMA and treasury regulations.
2	Managing stakeholder relations, promoting client service, identifying business opportunities, managing risks, providing legal contracting support services, leading total quality management, ensuring that the organisation's strategy and annual performance plans are aligned with that of **the dtic**, and that performance is monitored and reported in compliance with the MTEF.
3	Maintaining fit-for-purpose IT and business systems (including enterprise resource management, client service management, and strategic planning systems), enabling operational efficiency and providing for IT risk management and security.
4	Maintain the NMISA facilities and laboratory infrastructure within specifications to ensure occupational health and safety, functionality, efficiency, and continued accreditation and certification against the applicable standards.
5	Developing and implementing strategies for attracting, retaining, developing, and managing talented individuals from diverse backgrounds who contribute to the organisation's success

EXPLANATION OF PLANNED PERFORMANCE:

Aligning people to processes and systems to drive organisational performance and therefore inculcate a culture conducive to an effective and efficient working environment which delivers ethically.

C2.2 DISSEMINATION OF MEASUREMENT SERVICES AND PRODUCTS (APPLIED METROLOGY)

To realise the objectives of the programmes, NMISA delivers its products and services through calibration, reference measurement and certification of reference materials, measurements, testing and analysis as well as training and consultancy.

Calibration:

Delivering direct traceability to the NMS, NMISA serves the accredited calibration and testing laboratories by performing calibration to the highest accuracy (smallest uncertainty). Calibration is also provided directly to the industry, mostly in cases where the service is not provided by commercial accredited calibration laboratories, or when the desired accuracy can only be provided by NMISA, or where a new or niche service is required.

Reference measurement and certification of reference materials:

NMISA provides reference measurement and analysis according to its calibration range and services. In addition, NMISA has established the capability to value assign chemical samples and gas mixtures for customers, including purity assignment. This capability allows NMISA to produce certified (pure) reference materials (CRMs) as standards or calibration solutions for quality control purposes, and primary reference gas mixtures that are internationally recognised and accepted.

Measurements, testing and analysis:

NMISA offers advanced measurement services to industry. This includes method development for clients to assist with problem-solving, analytical services for research projects, specialised testing services to industry, and development of specific measurement solutions for clients on contract.

Training and consultancy:

NMISA provides expertise in measurement science through training and consultancy, supporting the quality infrastructure both locally and on the rest of the continent. The expertise provided contributes to the national priorities of building a capable state and enhancing economic transformation.

To grow the economy and support the AfCFTA, barriers to trade and entry into markets must be reduced. Mutual acceptance of measurement results between trading partners remains a key enabler for securing a share in both local and international markets. Knowledge transfer in the field of measurement science (metrology) as well as quality assurance in general, is therefore important skills development objectives for local and regional companies, but especially for small, medium, and micro enterprises. To this end, the NMISA Training Centre has developed a suite of training courses, which are offered either in physical lectures (often including practical training in NMISA laboratories) or online. Onsite training at the client's premises is also offered and has been successfully delivered to several countries in Asia, Eastern Europe, as well as in Africa.

Initiatives under the programmes were tabulated to highlight the focus areas and purpose. Product and service offerings reference links to specific NMS and where applicable, research and development projects. It demonstrates how the NMS translate into commercial services offerings which impact the local economy. NMISA's activities support and contribute to key social, economic and environmental needs. Accordingly, the market sectors served by the programmes are as follows:

Africa Reference Institute

Law enforcement

Health and safety

Energy efficiency

Manufacturing

Strategic research

Digital economy

Mining and environmental monitoring

Food and agriculture

C2.2.1 AFRICA REFERENCE INSTITUTE

CONFORMITY ASSESSMENT SUPPORT, TRAINING AND KNOWLEDGE SERVICES

PURPOSE:

To function as an African resource centre with authoritative expertise dedicated to providing thought leadership on measurement technologies on the continent, access to advanced measurement technologies and reliable application information, in those fields critical to economic growth and social development on the African continent. Its services include reference measurements and analysis, consultation, and specialist advice, as well as education and training. It aims to assist government entities by supporting the development of policies and regulations with impartial, reliable data. Recognising the need to enhance the ability of local producers to compete in international markets, the ARI assists companies in improving the performance of their products, gain efficiencies in production and develop reputable African brands. This is to enhance the ability of local producers to compete in the international market. The Reference Institute aims to play a key role in maintaining and enhancing a reliable African measurement framework linked to the international system of measurement. Its mission is to enhance sustainable development on the African continent.

STRATEGIC FOCUS:	
1	**Training, and Knowledge Services** Providing training courses, programmes, and consultancy services aimed at improving the standards, and performance of calibration and testing laboratories locally and in Africa by providing apposite training in the relevant fields of chemical metrology, physical metrology, and engineering related to metrology. Capacity building and hands-on training will be provided with specific focus on the training requirements of SMMEs.
2	**Conformity Assessment Support through Calibration and Reference Measurements** The Industry Calibration and Reference Measurement Centres' will provide multi-functional calibration and reference measurement services, aimed at addressing a wide range of industry calibration problems and ensuring accurate measurement for those sectors requiring traceability for conformity assessment purposes, especially SMEs and SADC region. These will include PTS, Inter-laboratory Comparisons, and provision of reference materials to address a wide range of contaminants and/or target analytes in aqueous, gas and complex matrices.
3	**Support and Systems Development Centre** To provide maintenance and improvement of the NMS, current research projects and applied metrology calibration services toward new measurement standards and solutions to industry sectors as identified through the various programmes. The centre will provide services that will also be offered to various external clients and will further expand its services as a strategic high-technology enabler.

EXPLANATION OF PLANNED PERFORMANCE:

The ARI provides the mechanism to drive measurement excellence for NMISA supported by the technical divisions.

C2.2.2 LAW ENFORCEMENT

FORENSIC METROLOGY, ROAD SAFETY, CONSUMER PROTECTION

PURPOSE:

Law enforcement agencies need reliable measurement results to determine whether a law has been transgressed, for example accurate measurement of the speed at which a vehicle is travelling to determine if the speed limit is being adhered to, or blood alcohol analysis by a laboratory to determine whether the level of alcohol in a driver's blood was within the legal limit for driving. These agencies are dependent on accurate, independently verified measurement results provided by NMISA to withstand legal scrutiny in court proceedings. Similarly, to protect the consumer, regulators such as the NRCS rely on measurement results traceable to the NMS maintained by NMISA to test whether consumer goods offered on the market meet the requirements of compulsory specifications.

STRATEGIC FOCUS:	
1	Provide illicit drug, pesticide and other environmental reference materials and reference solutions for use in local testing laboratories; forensic support (UV illumination for biological and chemical evidence, ballistics, arson, counterfeit detection).
2	Calibration and measurement services for radar (laser) speed trapping, speed-trapping equipment (lidar) and speed guns for traffic departments; and alternative methods for evidential breath alcohol testing.
3	Certified reference materials for detecting food fraud and for food and drug authenticity testing by public and private laboratories
4	Occupational regulation compliance (gas detection monitors; noise, radiation, and radiation meters; heat stress monitors, light meters) for local manufacturers.
5	Nuclear forensics, which is the examination of nuclear and other radioactive materials using analytical techniques to determine the origin and history of this material in the context of law enforcement investigations or the assessment of nuclear security vulnerabilities.

LINKS TO REALISATION, MAINTENANCE AND DEVELOPMENT OF NMS:

Organic Chemistry, Gas Metrology, Photometry & Radiometry, Dosimetry, Radioactivity, Temperature Metrology

EXPLANATION OF PLANNED PERFORMANCE:

1. Certified reference materials provide forensic laboratories with a means to verify and demonstrate their capability to perform blood alcohol testing services.
2. Measurement and calibration services for evidential breathalyser alcohol testing and speed measurement devices supports reliable law enforcement on South Africa roads, improving the safety of all road users.
3. A lack of comparable measurement results produced between the food testing laboratories raises doubts about the accuracy of the food label content. This in turn affects decisions made by the consumer and dietary health practitioners.
4. Accurate measurement of the occupational conditions and working environments of factory workers enables compliance to OH&S regulations as well as the means to act against non-compliant producers.
5. Nuclear forensics requires the highest levels of accuracy and traceability, as the information may be used in criminal prosecutions. Radionuclide metrology provides the measurement infrastructure to give confidence in measurements of the radionuclides of interest, including alphaparticle emitting isotopes in order to derive as much information as possible about suspect items in transport containers.

C2.2.3 HEALTH AND SAFETY

MEDICAL INSTRUMENTS AND NUCLEAR TECHNOLOGY DEVICES, HEALTHCARE, RADIATION SAFETY, AND ACCREDITED LABORATORIES

PURPOSE:

The programme aims to support medical manufactures, radiopharmaceutical producers, end users, regulators, and accreditation bodies with measurement traceability for medical and ionising radiation detection devices. Partnerships with government and the Department of Health ensures demonstrated accuracy of measurement capabilities in the health sector, which is key to patient safety and quality assurance. The Programme collaborates with relevant stakeholders to identify gaps and needs in measurement science and applications in the medical and nuclear fields, and to develop relevant metrology techniques, measurement traceability and facilities. The programme consolidates medical and nuclear metrology traceability services for accredited laboratories, hospitals, nuclear power stations, and all nuclear technology reliant industries.

STRATEGIC FOCUS:	
1	Support the national network of health laboratories with multidisciplinary measurement services that are traceable to the SI system, to ensure accuracy and international traceability of measurement results from the laboratory to the patient, contributing to quality healthcare while reducing the costs associated with misdiagnosing and incorrect treatment which could incur hospitals being sued.
2	Provides reference measurements and calibration to regulators to enable regulatory compliance related to ionising radiation safety and environmental radiation monitoring.
3	Offer consolidated measurement solutions to hospitals, nuclear medicine practices, mining and other medical treatment centres. Provision of metrological traceability to distributors and suppliers of medical and nuclear technology devices, to establish the quality, safety, and regulatory compliance of medical and nuclear related equipment.

LINKS TO REALISATION, MAINTENANCE AND DEVELOPMENT OF NMS:

Dosimetry, Radioactivity, Temperature & Humidity, Vibration, Flow, Pressure, Photometry and Radiometry Metrology

EXPLANATION OF PLANNED PERFORMANCE:

NMISA enables more accurate safer usage of advanced nuclear technologies in the health sector for cancer care through dosimetry and/or comprehensive radiation oncology audits.

Metrological support through traceable measurements in diagnostic radiology and radionuclide metrology services ensures safe and accurate imaging and diagnosis, contributing to patient safety. Measurement capabilities in radiation protection and low radioactivity analysis support personnel and environmental safety, leading to safe use of medical and nuclear technology in the country. Focus on the expansion of the audit programme to include a more comprehensive audit in radiotherapy will ensure that the whole radiotherapy process is audited, from diagnosis to treatment and every step in between, leading to improved patient care. This will involve all key stakeholders which include professional bodies and the regulatory body.

C2.2.4 ENERGY EFFICIENCY

ENERGY EFFICIENT LIGHTING, LIQUID NATURAL GAS, RENEWABLE ENERGY

PURPOSE:

To develop and provide the underpinning measurement solutions needed to facilitate and support energy efficient lighting (LEDs), energy conversion processes (renewables and other alternative sources), and smart grids in support of the improvement of electrical energy efficiency. The Just Energy Transition Investment Plan (JET IP) for South Africa emphasises energy efficiency as an essential component of the country's transition to a low-carbon economy. It highlights the need for modernising infrastructure to support energy-efficient technologies and practices.

STRATEGIC FOCUS:	
1	Measurement solutions for characterisation and verification of energy efficient lighting (LEDs) to support the lighting industry (manufacturers) and the NRCS. A fully operational, accredited measurement facility for energy efficient lighting to be established, achieved through securing grant funding.
2	Measurement solutions as may be needed to address smart grid (ESKOM), independent power producers (IPPs), weather stations as well as municipalities' measurement requirements.
3	Measurement solutions related to energy gases and other energy sources (renewable energy IPPs and municipalities)
4	Reference materials in support of the energy sector. Value assignment of samples for gas to power industry.

LINKS TO REALISATION, MAINTENANCE AND DEVELOPMENT OF NMS:

NMS for LEDs, DC Low Frequency Metrology, Gas Analysis, Temperature Metrology

EXPLANATION OF PLANNED PERFORMANCE:

Provision of photometric and energy efficiency testing/verification of LEDs against NMISA's LED NMS will ensure that LED lamps and luminaires are within the allowable energy efficiency levels and comply with relevant compulsory standards (funding dependent).

Characterisation of power quality devices (e.g. for harmonics) to provide support to IPPs and ESKOM towards compliance with the grid code for connecting to the national grid promotes grid stability and ultimately a reliable and energy-efficient grid.

Provision of reference measurements for energy gases, which can lead to efficient gas plant operations and improved energy efficiency with relevant considerations to prevent negative environmental effects.

C2.2.5 MANUFACTURING

MATERIAL CHARACTERISATION, ADVANCED MATERIAL DEVELOPMENT, MATERIALS PROPERTY TESTING

PURPOSE:

This programme provides measurement solutions to various materials-based industries and research institutions at a rapid turn-around time. New and improving product development, quality control, environmental effects and failure analysis are key service requests from these market sectors, which is expected to increase over the next few years. The consolidation of NMISA's materials characterisation services, including the recently installed metal 3D printer, and CT scanner, combined with advanced surface and microstructure techniques, provide fit-for-purpose topography and tomography measurement solutions for a multitude of industrial applications. Industrial activities that will benefit from NMISA's consolidated characterisation services include the determination of the quality of galvanised steel automotive components, purity analysis in support of quality of metals for export, niche particulate matter size distribution of particles emitted during manufacturing and mining, 3D tomography and mechanical properties of materials produced by additive manufacturing and traditional manufacturing routes, characterisation of advanced materials, mineral content distribution for the mining and local infrastructure projects.

STRATEGIC FOCUS:	
1	Elemental composition analysis of stainless-steel metal base and coatings used in the manufacturing of automotive parts.
2	Characterisation (including fingerprinting) services for the beneficiation efforts of metals (e.g. nickel, steel), polymers and energy storage materials (including batteries for electric vehicles).
3	Automated particulate matter size and composition analysis of trapped particles formed during mining operations and materials production.
4	Optoelectronic, microstructural, and chemical analysis of advanced materials produced through advanced manufacturing routes and industrialisation/upscaling of nano-manufacturing.
5	Characterisation of the mineral content of powders used in local infrastructure projects.
6	3D tomography and mechanical properties of materials produced by additive manufacturing and traditional manufacturing routes.

LINKS TO REALISATION, MAINTENANCE AND DEVELOPMENT OF NMS:

Materials Science, Photometry and Length Metrology, Dosimetry

EXPLANATION OF PLANNED PERFORMANCE:

Currently, the analyses of materials extend across numerous local sectors, but the planned performance is also dependent on service offerings to an international market. On the local front, support is provided to the automotive manufacturing, advanced materials, railway, maritime transport and manufacturing, and food packaging sectors where failure analyses, identification of elements in bulk or nanomaterial, quality control, structure and surface characterisation for quality control and product development contributes to the gross domestic product (GDP). International participation in comparative testing ensures relevance of the local service offering. Local characterisation of critical minerals, through the provision of high-accuracy analytical techniques and primary methods, contributes to improving and demonstrating product quality for export purposes. This supports the objectives of capacity building and innovation outlined in **the dtic**/DMRP Regional Critical Minerals (RCM) Strategy Framework.

C2.2.6 STRATEGIC RESEARCH

REVISION OF THE SI

PURPOSE:

Develop and implement the realisation of the new SI units to enable NMISA (as well as other NMIs on the African continent) to link its NMS to the international measurement system following the redefinition of the international system of units in 2019. International equivalence of measurement results is a necessary condition for global trade and international acceptance of local measurement data for universal reporting and application.

STRATEGIC FOCUS:	
1	Realisation of the kilogram through the Kibble balance.
2	Validation of new National Measurement Standards for voltage, current and gravimetry.

LINKS TO REALISATION, MAINTENANCE AND DEVELOPMENT OF NMS:
DC Low Frequency Metrology (voltage and current)

EXPLANATION OF PLANNED PERFORMANCE:

The Kibble balance delivery is expected in 2029 and will become the national standard for mass in 2031. Thereafter, all mass measurements performed in South Africa will have to demonstrate traceability to this standard to proof accuracy.

C2.2.7 DIGITAL ECONOMY

TELECOMMUNICATIONS METROLOGY, QUANTUM OPTICAL METROLOGY, STANDARD FREQUENCIES AND TIME SIGNALS, 4TH INDUSTRIAL REVOLUTION – METROLOGY INITIATIVE

PURPOSE:

These projects all focus on applying metrology knowledge through enabling digital technologies into usable solutions for clients and/or to develop digital solutions to increase operational efficiency and/or improve client experiences. The focus areas, their purposes and application in industry are:

1. Providing reference high-accuracy time and frequency signals for SARAO (SKA) as part of its time distribution infrastructure, which enables the SKA telescope to make synchronous observations with antennas at diverse locations.
2. Developing a metrology framework for digital technologies through technology demonstrators with applications in energy distribution and manufacturing.
3. Invest in the digital transformation of metrology in line with global developments to support industrial digitalisation.

STRATEGIC FOCUS:	
1	Collaboration with SKAO on the implementation of a time reference signal from NMISA to the SKA site. Develop a concept for the Africa Time Network and establish such a network if viability is established.
2	Perform a 4IR and metrology technology study with recommendations for implementation.
3	Develop and implement digital calibration certificates (DCCs)

LINKS TO REALISATION, MAINTENANCE AND DEVELOPMENT OF NMS:
Fibre Optics, Time and Frequency Metrology

EXPLANATION OF PLANNED PERFORMANCE:

A time reference signal from NMISA to the SKA site would contribute internationally recognised local expertise and infrastructure to a key international scientific project, enabling sustainable growth in local expertise.

The expertise gained through systems design and analysis of large data sets would stimulate the development of 4IR technologies at NMISA.

NMISA, with the relevant regulators, drives the implementation of a DCC in the region. It is an electronic document that captures the calibration data of measuring instruments in a standardised, machine-readable format. Designed to meet international standards, DCCs enable easier sharing and global acceptance of calibration data and are of specific importance to the manufacturing industry. Transitioning from paper-based to digital certificates reduces paper consumption and storage requirements, promoting environmental sustainability and more eco-friendly practices.

C2.2.8 ENVIRONMENTAL MONITORING AND MINING

MINING, ENVIRONMENTAL MONITORING, WASTE MANAGEMENT

PURPOSE:

To develop the standards and reference methods needed to provide reference values, testing and analysis services for monitoring the baseline levels of various toxic environmental contaminants in South Africa and the region. Provision of services to enable mining and manufacturing companies (as well as regulators) to verify their compliance with environmental standards and regulations to ensure that air, water and soil conditions remain safe and free of harmful pollutants to protect human health.

To develop new or improve existing measurement capabilities to assist South African Industries (particularly manufacturing and agriculture) in reducing, quantifying and/or validating their carbon footprint.

STRATEGIC FOCUS:	
1	Reference measurements of emissions from manufacturing, agriculture, maritime and mining sectors in support of better air quality in South Africa and safeguarding the environment.
2	Reference measurements in support of the food industry through value assignment of organic and inorganic toxicants in food matrices to comply with export regulations, especially for fish exports.
3	Testing and analysis of various chemical composition; toxic elements and organic contaminants in environmental samples, soils, sludges, and mine tailings.
4	Provision of reference materials for environmental monitoring and value assignment of environmental samples.
5	Promote reliable reporting of emission measurements through the provision of primary reference gas mixtures for air pollution monitoring sector that are internationally equivalent and traceable to the SI unit.
6	Analysis of environmental and food samples for radionuclides in support of the nuclear energy sector.
7	Support the mining sector by providing various measurement solutions that are traceable to the SI units that promote safety in the workplace.
8	Develop new or improve existing measurement capabilities delivered for green industrialisation, including green hydrogen and other energy sources that reduce the carbon footprint.

LINKS TO REALISATION, MAINTENANCE AND DEVELOPMENT OF NMS:

NMS: Gas Analysis, Organic and Inorganic Chemistry, Radioactivity, Dosimetry

EXPLANATION OF PLANNED PERFORMANCE:

1. The provision of reference materials for emission monitoring enables compliance with legislation and ensure reliable reporting of emission measurement into the South African Air Quality Information System. To provide reliable emission data to ensure that industries emitting above-set minimum emission thresholds are held accountable to improve the quality of life for all.
2. Provide reference measurements in food and environmental samples to support food safety and comply to export requirements.
3. Promoting responsible environmental monitoring, through availability of reference materials such as primary reference gas mixtures, radioactivity measurements and the capacity to measure analytically challenging organic pollutants such as dioxins and polychlorinated biphenyls.
4. Assist industry with measurement in the realm of plastics to ensure sustainability and increase the ease for doing environmentally responsible business within the African continent.
5. Metrology provides the equipment and measurement standards needed to assess the quality of hydrogen, ensuring it is free from contaminants that could affect its performance in fuel cells or other applications, which is necessary for commercialisation.
6. NMISA produces certified primary reference gas mixtures, which are used by regulators and manufacturers to monitor greenhouse gas emissions.
7. Measurement data is only accepted internationally if the accuracy can be demonstrated by traceability to internationally accepted National Measurement Standards.

C2.2.9 AGRICULTURE AND FOOD

DEVELOPMENT OF REFERENCE METHODS, REFERENCE MATERIALS, AND THE COORDINATION OF PTS FOR FOOD AND FEED

PURPOSE:

NMISA provides quality assurance services that empowers food and agricultural testing laboratories to deliver accurate results. These results confirm food safety and quality according to regulatory requirements and so enables fair trade and protection of public health. With the introduction of the AfCFTA, the risk to the food supply chain will be increased through frictionless trade between countries, necessitating the strengthening of local and regional testing capabilities. An established quality infrastructure must be maintained to ensure mutual recognition of measurement results produced on the continent, to promote intra- and extra-African trade. NMISA therefore produces proudly (South) African reference measurements, reference materials and PTS for Africa-relevant and indigenous commodities, towards replacing costly imports and to contribute towards economic sustainability of critical food testing services.

STRATEGIC FOCUS:	
1	Reference measurement for new product development in agricultural production/processing to support the activities in 2 and 3.
2	Production and stability monitoring of African-relevant reference materials according to international standard requirements.
3	Developing and running PTS and capacity building programmes to ensure maintenance of the South African quality infrastructure, and support trade within the AfCFTA. PT materials are also sold as quality control materials afterwards.

LINKS TO REALISATION, MAINTENANCE AND DEVELOPMENT OF NMS:

NMS: Organic Chemistry, Material Science

EXPLANATION OF PLANNED PERFORMANCE:

1. These services allow laboratories to independently confirm the accuracy of their test results, demonstrating competence to regulators and clients, thereby ensuring regulatory compliance for food safety and quality. Reference measurements are also delivered as testing and training services through the ARI, contributing to scientific capacity building and analytical support for food producers.
2. Material production selection is based on 1) food safety and quality parameters that experience the most technical barriers to trade; i.e. suffer most border rejections or impact public health, by not meeting regulatory requirements, or 2) where no CRMs exist for indigenous African foods. Use of these new materials will allow products to be tested, to allow safe market entry for consumption and compliance with the relevant regulations.
3. Proficiency testing schemes are selected based on public and private client requests, these are needed to comply with food safety and quality regulations and ISO/IEC 17025 accreditation requirements. The PTS also contribute to building scientific capacity within the AfCFTA and are delivered to food monitoring and inspection laboratories across Africa. Successful participation in PTS provides independent evidence of the laboratories' measurement capability to routinely provide accurate results, these are critical for regulatory compliance to ensure public health and safety.

C3 PROGRAMME BUDGETS

Programme budgets and outputs are shown for the Medium-Term Expenditure Framework period, i.e. 2025/26 to 2027/8. The project details with specific deliverables and dates are available in the programme business plans for 2025/26.

C3.1 PROGRAMME RESOURCE CONSIDERATIONS

NMISA CONSOLIDATED BUDGET ESTIMATES 2025/26 – 2027/28			
	2025/26 R'000	2026/27 R'000	2027/28 R'000
		7 % (average growth rate)	5 % (average growth rate)
Revenue	**194 388**	**204 584**	**214 197**
Transfers received	165 099	170 722	178 442
Rendering of service	23 289	29 862	31 355
Investment income	6 000	4 000	4 400
Expenditure	**194 388**	**204 584**	**214 197**
Administrative and operating expenditure	59 548	58 259	63 310
Employee cost	115 478	125 037	128 140
Computer services	11 162	11 748	12 536
Repairs and maintenance	7 290	8 640	9 270
Audit fees	1 000	900	941

C3.2 EXPENDITURE ESTIMATES

STATEMENT OF FINANCIAL PERFORMANCE	AUDITED OUTCOME	AUDITED OUTCOME	AUDITED OUTCOME		APPROVED BUDGET	AVERAGE GROWTH RATE (%)	EXPENDITURE/ TOTAL: AVERAGE (%)	MEDIUM-TERM ESTIMATE			AVERAGE GROWTH RATE (%)	EXPENDITURE/ TOTAL: AVERAGE (%)
R thousand	2021/22	2022/23	2023/24		2024/25	2021/22-2024/25		2025/26	2026/27	2027/28	2024/25 - 2027/28	
Revenue												
Tax revenue	-	-	-		-	-	-	-	-	-	-	-
Non-tax revenue	**27 241**	**31 659**	**40 383**		**28 680**	**1,7 %**	**14,5 %**	**29 289**	**33 862**	**35 755**	**15,6 %**	**15,1 %**
Sale of goods and services other than capital assets	18 701	24 653	28 444		24 680	9,7 %	11,0 %	23 289	29 862	31 355	6,4 %	11,9 %
Sales of goods and services produced by entity	18 701	24 653	28 444		24 680	9,7 %	11,0 %	23 289	29 862	31 355	6,4 %	11,9 %
of which:												
Administrative fees	-	-	-		-	-	-	-	-	-	-	-
Sales by market establishment	18 701	24 653	28 444		24 680	9,7 %	11,0 %	23 289	29 862	31 355	6,4 %	11,9 %
Other sales	-	-	-		-	-	-	-	-	-	-	-
Sales of scrap, waste, arms and other used current goods	-	-	-		-	-	-	-	-	-	-	-
Other non-tax revenue	8 540	7 006	11 939		4 000	-22,3 %	3,5 %	6 000	4 000	4 400	-33.3%	0.5%
Transfers received	**261 716**	**195 704**	**152 722**		**177 312**	**-12,2 %**	**85,5 %**	**165 099**	**170 722**	**178 442**	**3.4 %**	**84,2 %**
Total revenue	**288 957**	**227 363**	**193 105**		**205 992**	**-10,7 %**	**100,0 %**	**194 388**	**204 584**	**214 197**	**5.2 %**	**100,0 %**
Expenses												
Current expenses	**253 542**	**256 748**	**251 820**		**202 492**	**-7,2 %**	**100,0 %**	**194 388**	**204 584**	**214 197**	**5.2 %**	**100,0 %**
Compensation of employees	133 068	127 404	116 136		128 140	-1,3 %	52,9 %	115 478	125 037	128 140	-	59.4 %
Goods and services	76 736	79 086	78 791		74 352	-1,0 %	32,3 %	78 910	79 547	86 057	0.8 %	40.6 %
Depreciation	43 733	50 258	56 893		-	-100,0 %	14,9 %	-	-	-	-	-
Interest, dividends and rent on land	5	-	-		-	-100,0 %	-	-	-	-	-	-
Transfers and subsidies	-	-	-		-	-	-	-	-	-	-	-
Total expenses	**253 542**	**256 748**	**251 820**		**202 492**	**-7,2 %**	**100,0 %**	**194 388**	**204 584**	**214 197**	**1,9 %**	**100,0 %**
Surplus/(Deficit)	**35 415**	**(29 385)**	**(58 715)**		**3 500**	**-53,8 %**		**-**	**-**	**-**	**-100,0 %**	

C3.3 OUTCOMES, OUTPUTS, PERFORMANCE INDICATORS AND TARGETS

C3.3.1 Programme Performance Indicators 2025/26 to 2027/28

IMPACT/OUTCOME	OUTPUT	OUTCOME INDICATOR		ACTUAL PERFORMANCE			ESTIMATED PERFORMANCE	MEDIUM-TERM TARGETS		
				2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
Programme 1: Administration										
Improve financial stability and ensure sustainable growth	Creating awareness of NMISA's products and services in support of quality assurance in the manufacturing, mining, and related industries, to increase uptake	Maintain visibility of NMISA in South Africa and the region		49 % increase in visibility	8 % increase in visibility	34 % increase in visibility	Maintain AVE ≥ R1m Increase social Media following ≥ 10 %	AVE ≥ R500k	AVE ≥ R500k	AVE ≥ R500k
Develop and retain a capable workforce	Provide for the measurement needs of South Africa and the region	Staff turn-over rate		New KPI	New KPI	New KPI	≤ 7 %	≤ 7 %	≤ 6 %	≤ 5 %
		Number of in-service trainees and interns hosted		15	31	34	6	6	13	15
Effectively engage and collaborate with stakeholders to develop and strengthen mutually beneficial relationships in fulfilment of the NMISA mandate	Provide for the measurement needs of South Africa and the region	Percentage of active service/collaboration agreements		New KPI	New KPI	New KPI	≥ 70 %	≥ 70 %	≥ 75 %	≥ 80 %
Programme 2: Programme 2: Metrology Programme (realisation, maintenance and development of the National Measurement Standards)										
Ensure regional, continental, and international comparability of the South African measurement infrastructure	Implementation of the revised SI	Annual realisation and maintenance of 6 SI Base units		6 SI units realised	6 SI units realised	6 SI units realised	5 SI units realised and 1 SI unit maintained	5 SI units realised and 1 SI unit maintained	5 SI units realised and 1 SI unit maintained	5 SI units realised and 1 SI unit maintained
	Linking the national and regional measurement system internationally	Percentage of metrological services offered covered by Calibration and Measurement Capabilities (CMCs)		80 %	90,5 %	91 %	86 %	80 %	80 %	80 %
	Implementation of the revised SI	New and improved NMS and reference materials and reference methods		25	28	23	2	2	2	2
	Support the implementation of the AfCFTA agreement through active participation in the activities of RMOs	Participate in ILCs and PTS		23 (ILCs and PTS organised and completed)	25 (ILCs and PTS organised and completed)	23 (ILCs and PTS organised and completed)	20 (ILCs and PTS organised and completed)	10 (ILCs and PTS organised and completed)	10 (ILCs and PTS organised and completed)	10 (ILCs and PTS organised and completed)
Improve financial stability and ensure sustainable growth	Sustained revenue growth	Achieve the annual real revenue growth rate (adjusted for inflation)		R14 203 999	R18 706 997	R24 653 025	R 24 680 000	≥ 5 %	≥ 5 %	≥ 5 %
Maintain fast and efficient service delivery to clients	Cultivating a customer-centric focus which prioritises the needs and satisfaction of our clients in all aspects of our interaction and service.	Client Satisfaction Score		Revised KPI	Revised KPI	Revised KPI	≥ 70 % (≥ 3,5 on a 5-point scale)	≥ 70 %	≥ 70 %	≥ 70 %
		Customer satisfaction rate for training courses presented		New KPI	New KPI	New KPI	≥ 70 % (≥ 3,5 on a 5-point scale)	≥ 70 %	≥ 70 %	≥ 70 %
Develop and retain a capable workforce that is able to utilise world-class infrastructure to deliver specialised and innovative measurement solutions	Provide for the measurement needs of South Africa and the region	Number of new collaborative agreements led by NMISA		New KPI	New KPI	New KPI	1	1	1	2

C3.3.2 Quarterly Targets 2025/26

OUTPUT	PERFORMANCE MEASURE OR OUTCOME INDICATOR	ANNUAL TARGET 2024/25 (BASELINE)		ANNUAL TARGET 2025/26	1ST QUARTER MILESTONE	2ND QUARTER MILESTONE	3RD QUARTER MILESTONE	4TH QUARTER MILESTONE
Programme 1: Administration								
Sustained revenue growth	KPI 6. Maintain visibility of NMISA in South Africa and the region	Maintain AVE ≥ R1m Increase social Media following ≥ 10 %		Maintain AVE ≥ R500k	AVE ≥ R500k	AVE ≥ R500k	AVE ≥ R500k	AVE ≥ R500k
Retain a capable workforce	KPI 9. Staff turn-over rate	7 %		≤ 7 %	≤ 13 %	≤ 11 %	≤ 9 %	≤ 7 %
	KPI 10. Number of in-service trainees and interns hosted	6		6 (non-cumulative)	2	4	6	6
Develop and strengthen mutually beneficial stakeholder relationships	KPI 12. Percentage of active service/collaboration agreements	≥ 70 %		≥ 70 %	-	-	-	≥ 70 %

OUTPUT	PERFORMANCE MEASURE OR OUTCOME INDICATOR	ANNUAL TARGET 2024/25 (BASELINE)		ANNUAL TARGET 2025/26	1ST QUARTER MILESTONE	2ND QUARTER MILESTONE	3RD QUARTER MILESTONE	4TH QUARTER MILESTONE
Programme 2: Metrology Programme (realisation, maintenance and development of the National Measurement Standards)								
Ensure regional, continental, and international comparability of the South African measurement infrastructure	KPI 1. Annual realisation and maintenance of 6 base SI units	6 SI base units realised annually		Realisation of 5 SI base units and maintenance of 1 SI base unit	-	-	-	5 SI base units realised, 1 SI base unit maintained
	KPI 2. Percentage of metrological services offered covered by Calibration and Measurement Capabilities (CMCs)	86 %		80 %	-	-	-	80 %
	KPI 3. New and improved NMS and reference materials and reference methods	2		2	-	-	-	2
	KPI 4.Participate in ILCs and PTs	20		10	-	5	-	5
Improve Financial stability and ensure sustainable growth	KPI 5. Achieve the annual real revenue growth rate (adjusted for inflation)	≥ 5 % of real revenue growth by year-end		≥ 5 % of real revenue growth by year-end	15 % of annual revenue target achieved	35 % of annual revenue target achieved	55 % of annual revenue target achieved	100 % of revenue target achieved
Maintain fast and efficient service delivery to clients	KPI 7. Client satisfaction score	≥ 70 % (≥ 3,5 on a 5-point scale)		≥ 70 %	≥ 70 %	≥ 70 %	≥ 70 %	≥ 70 %
	KPI 8. Customer satisfaction rate for training courses presented	≥ 70 % (≥ 3,5 on a 5-point scale)		≥ 70 %	≥ 70 %	≥ 70 %	≥ 70 %	≥ 70 %
Develop and retain a capable workforce	KPI 11. Number of new collaborative agreements led by NMISA	1		1	-	-	-	1

C4 THE NMISA CONTRIBUTION TO THE DTIC STRATEGIC INTERVENTIONS

NMISA is a key enabler for industrialisation. Today, as South Africa is building a new model of inclusive economic growth, driven by **the dtic**, the existing modern metrology infrastructure developed by NMISA over many years is well-integrated over all local economic sectors, with well-established networks on the continent and internationally equivalent measurement capabilities. In conjunction with all TI entities, metrology forms one of the foundations of strategies to increase the country's productive capacity and trade.

A local manufacturer cannot compete successfully with high-quality imported products unless it considers the accuracy, reliability, and speed of production, in addition to operating costs. Reliable measurement, as the basis of real-time data for instant decisions in production lines, is indispensable to efficient, high-technology manufacturing. Conformance to product specifications is demonstrated through measurement results that are demonstrated to be accurate. In South Africa, it requires traceability to the NMS maintained by NMISA.

Transitioning to a green economy is also dependent on an effective quality infrastructure. The certified reference materials, gas mixtures, PTS and reference analysis provided by NMISA underpin environmental monitoring by enabling local testing laboratories to demonstrate the accuracy of their results from tests performed on food, feed, water, soil, and air samples. It also enables regulation and prosecution of polluting agencies.

All aspects of modern life are underpinned by metrology: food safety and nutritional content; time, navigation, and accurate positioning; telecommunication; national power supply; medical diagnosis and treatment; safe transport; environmental impact and protection; renewable energy; research and innovation; agriculture; manufacturing; trade; consumer protection; etc. Metrology support for regulators and the consolidation of measurement services for SOEs responsible for these sectors are strategic objectives for NMISA. The institute uses active contractual agreements with other public entities that ensure effective support services, as a key performance measure.

An initiative to enhance metrology support to municipalities resulted in agreements with several metropolitans to obtain measurement traceability for equipment used in traffic law enforcement, including evidential breathalysers and speed-measuring equipment. These services allow the traffic departments of these municipalities to successfully prosecute traffic offenders, thereby enhancing road safety.

Public hospitals in the provinces obtain certified reference gas mixtures for medical gases, as well as measurement traceability for oncology treatment from NMISA. Research commissioned by the Competition Commission in the report *Measuring concentration and participation in the South African Economy: Levels and trends*, emphasised the need for structural reforms to reduce economic concentration in certain sectors of the economy and to allow for inclusive growth and enhanced localisation. Prominent levels of concentration by dominant firms make it difficult for SMMEs to enter and stay in the market or to transition into medium or large firms. NMISA supports SMMEs operating at all levels of the value chain: from basic measurements supporting traditional trade (mass and volume) to sophisticated measurement systems supporting leading-edge research and enhancements.

The Department of Trade, Industry and Competition (dtic) has requested that all entities, including NMISA, align their Strategic Plans, Annual Performance Plans (APPs), and Operational Plans with the Blue-Sky Interventions, Outcomes, and Indicators. This report presents a thorough analysis of the NMISA APP (2025/26–2027/28) in relation to these interventions, identifies alignment areas, and provides recommendations where gaps or partial alignment exist.

NMISA's Role in Combating Illicit Trade

NMISA contributes to national efforts against illicit trade by enabling the scientific verification of product authenticity, quality, and compliance through traceable measurements and certified reference materials. In sectors where counterfeit or substandard goods are prevalent such as food, medical, and industrial materials, NMISA provides reference materials and

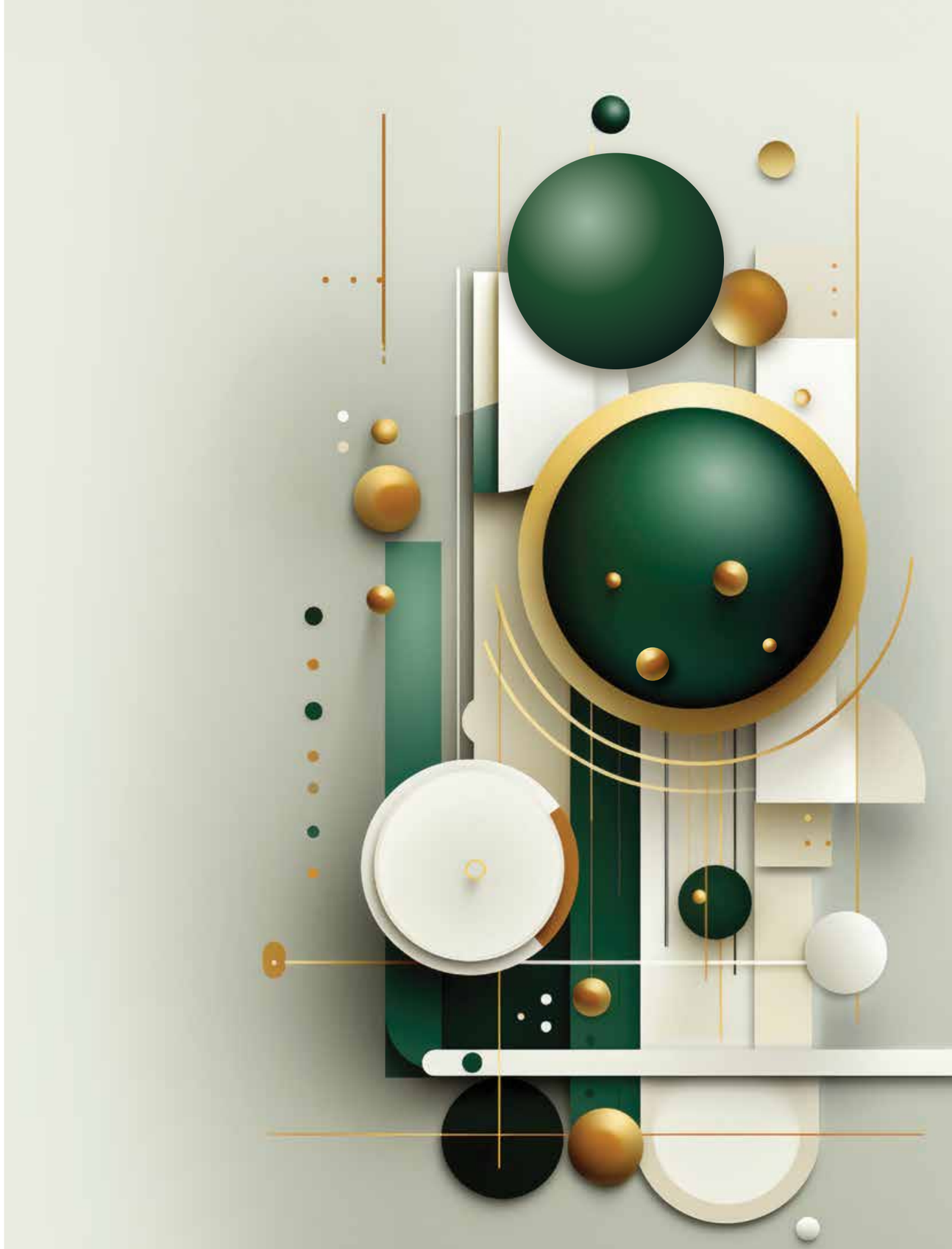
calibration services that allow regulators and laboratories to confirm whether products meet declared specifications. This includes the production of reference materials for food composition, contaminants, and additives, as well as standards used in clinical and medical testing. These capabilities support regulators like NRCS, health inspectors, and customs authorities in identifying mislabelled, fake, or unsafe imports. NMISA also provides chemical metrology services for high-risk product categories such as batteries and industrial materials, enabling detection of substitution, misclassification, or fraud. These services are grounded in NMISA's responsibility to maintain the **National Measurement Standards (NMS)**, which ensures that all measurements used in trade, regulation, and enforcement are accurate, traceable, and internationally recognised.

C4.1 NMISA CONTRIBUTION TO THE DTIC BLUE SKY INTERVENTIONS

Alignment Matrix Summary

Below is a summary of the alignment between the Blue Sky Interventions and the NMISA APP:

BLUE SKY FOCUS AREA	RELEVANT NMISA APP ACTIVITY	ALIGNMENT LEVEL	NOTES
Energy and Electricity	Energy efficiency metrology (LEDs), reference gases for energy sector, support to IPPs and Eskom	High	Supports tariff reduction, alternative energy sourcing, and infrastructure support objectives.
Digital Infrastructure and AI	Feasibility study for Digital Calibration Certificates (DCCs), SI Digital Framework participation	High	Direct alignment with digital transformation of Technical Infrastructure (TI).
Red Tape Reduction	Process digitisation, client satisfaction KPIs, ERP implementation, improved turnaround times	Moderate-High	Enables administrative streamlining and service delivery enhancements.
Access to Finance	Indirect focus via revenue growth strategies and diversified income	Low-Moderate	APP does not directly reference DFI engagement or financial unlocking mechanisms.
Market Access (Domestic and Export)	Support for export readiness through accredited services, SEZ involvement, AfCFTA contributions	High	Strong linkage to international trade, compliance, and regional development.
Illicit Trade and Border Control	Calibration for breathalysers, speed guns; metrology support to NRCS, SABS, RTMC	High	Measurement accuracy directly supports legal enforcement and anti-illicit trade efforts.
Workforce Readiness and Skills	Internship and HCD programmes, Training Centre delivery, public STEM education	High	Aligns fully with national skills development targets and job creation priorities.
Localisation and B-BBEE	Support to SMMEs, B-BBEE-compliant procurement, regional training delivery	Moderate-High	Enhanced by technical support to local producers; additional formal mechanisms could be explored.
Green Economy and Just Energy Transition	Metrology services for energy gases, LED testing, engagement with IPPs and municipalities	High	Substantively supports Just Energy Transition Investment Plan (JET IP) implementation.
Regional Integration and AfCFTA	Africa Reference Institute, leadership in AFRIMETS, support for harmonised African measurement systems	High	Anchors NMISA's role in enabling regional trade through standardisation and traceability.



C4.2 DIRECT CONTRIBUTION TO THE DTIC BLUE SKY INTERVENTIONS

DTIC OUTCOMES	NMISA OUTPUTS	OUTPUT INDICATORS		ANNUAL TARGETS MTEF PERIOD 2025/26	2026/27	2027/28	2028/29	2029/30	5-YEAR TARGET
Market Concentration and Economic Inclusion									
Reduced market concentration by ensuring that economic opportunities are accessible to a broader range of businesses, particularly focusing on the empowerment of historically disadvantaged groups	Support **the dtic** objective of increasing the share of SMMEs in the economy, by providing support services to SMMEs to enhance their ability to compete in the local market.	D01: Number of SMMEs receiving technical support, training, or measurement services from NMISA annually		20	20	20	25	25	**110**
Workforce Readiness and Skills for the Economy									
Ring-fencing funding programmes i.e. internship, and apprenticeships to increase practical work experience.	Advance national goals for youth employment and skills development by securing funding and partnerships to train in-service interns or trainees annually, to deliver work-place ready, young professionals at the end of their terms, as part of NMISA's Human Capital Development (HCD) Programme.	D02: Number of in-service interns or trainees hosted annually through NMISA's HCD Programme *(same as NMISA KPI 10)*		6	13	15	18	20	**72**
Red Tape Reduction									
Streamlined operations to reduce costs, improve time management, and enhance the overall effectiveness of service delivery	Support national efforts to reduce regulatory burdens and improve the ease of doing business by delivering new or enhanced digital metrology solutions annually.	D03: Number of new/improved digital solutions implemented annually to increase operational efficiency and/or improve client experiences		1	1	1	1	1	**5**
		D04: Develop and implement digital calibration certificates (DCCs)		Funding secured to initiate the development of DCCs	NMISA DCC prototype system designed and built	NMISA DCC prototype system demonstrated to at least 2 potential clients	Commercialisation of the DCC	DCCs developed and implemented in South Africa	**DCCs developed and implemented in South Africa**

C4.3 SUPPORTING CONTRIBUTIONS TO THE DTIC BLUE SKY INTERVENTIONS

DTIC OUTCOMES	NMISA OUTPUTS	OUTPUT INDICATORS		ANNUAL TARGETS MTEF PERIOD 2025/26	2026/27	2027/28	2028/29	2029/30	5-YEAR TARGET
Green Economy									
R3 trillion invested in green industrialisation	Support the implementation of the Just Energy Transition Investment Plan (JET IP) to position South Africa as an attractive investment destination in the green economy, by developing and delivering new or enhanced internationally benchmarked measurement capabilities annually.	D05: Number of new or improved measurement capabilities established and operationalised to support climate-related trade measures, energy efficiency standards, or green industrialisation initiatives. *(included in NMISA KPI 3)*		1	1	1	1	1	**5**
	Collaborate with the dtic and investment partners to integrate metrology services into national industrial policy instruments.	D06: Metrology support services to be integrated (as part of the larger Technical Infrastructure framework) in the Masterplans during each review.		NMISA to participate in **the dtic** review of the Sugar Master Plan	NMISA to participate in **the dtic** reviews of the RCTLF and Poultry Master Plans	NMISA to participate in the review and/or drafting of Master Plans as scheduled by **the dtic**	NMISA to participate in the review and/or drafting of Master Plans as scheduled by **the dtic**	NMISA to participate in the review and/or drafting of Master Plans as scheduled by **the dtic**	**Metrological aspects considered in all Master Plans reviewed and/ or drafted during the period**
Increased Tourism									
Arrival of 15 million international tourists	Conduct an increased number of high-impact international events hosted by NMISA to facilitate knowledge exchange and showcase South Africa's technical capabilities in measurement science.	D07: Number of international delegates hosted at NMISA-organised or co-hosted events per financial year.		20	40	30	120	10	**220**
Industrial Parks and Special Economic Zones (SEZ) Impact									
Competitive and compliant industrial parks (and SEZs) for development of local industries	Advance the transformation and competitiveness of Industrial Parks and SEZ-linked enterprises by delivering measurement and/or training services to new companies or SOEs annually located within SEZs, Industrial Parks, or outside major metropolitan areas. This will enable compliance with regulatory and performance standards, supporting decentralised industrial growth under the District Development Model.	D08: Number of new SOEs or companies within SEZs, Industrial Parks, or outside metropolitan areas supported annually through NMISA services.		5	7	7	7	9	**35**
Exports for Global Markets									
Strengthen industrial policy sectors to boost production capabilities and enhance the competitiveness of South African industries in international markets	Support the implementation of the AfCFTA agreement by providing metrology services and products to African countries, contributing to harmonisation of metrology systems for enhanced trade facilitation and industrial cooperation across the continent.	D09: Number of African countries contracting NMISA's metrology services and products annually.		5	7	10	11	12	**12**
		D10: Number of ILCs and PTS organised and completed within AFRIMETS. *(included in NMISA KPI 4)*		3	3	3	3	3	**15**

C4.4 METROLOGY SUPPORTING INDUSTRIAL POLICY

INDUSTRIAL POLICY					
DECARBONISATION		**DIVERSIFICATION**		**DIGITALISATION**	
Critical Minerals VC:	**NMISA Impact**	**Industrial Sector:**	**NMISA Impact**	**Digital Economy:**	**NMISA Impact**
Battery & vehicles, metals Renewable Energy Green Hydrogen	Providing Primary Reference Gas Mixtures for greenhouse gas emissions and other pollutants helps industries comply with environmental regulations. Offering measurement traceability for renewable energy sources helps optimising their performance and integration into the energy grid. Supporting sustainable manufacturing with reliable measurement services contributes to implementation of greener industrial practices.	Agro-processing Cannabis & Hemp Chemicals, personal care, plastics Clothing, textile Oil & Gas Localisation	Emerging producers of cannabis/hemp/ essential oils gain faster and less costly access to markets by optimising their processes and demonstrating product quality through accurate measurement and knowledge about quality assurance requirements. Accurate and consistent measurements are essential for maintaining product quality and safety. Measurement traceability, linked to internationally recognised measurement standards, reduces errors and ensures reliability. Local manufacturers sourcing metrology services locally, instead of obtaining them from overseas (OEMs), can benefit from improved accessibility, reduced costs, and enhanced technical support.	Digital infrastructure Ecommerce Digital skills	Digital Calibration Certificates (DCCs) transform calibration by providing secure, tamper-proof electronic documentation through digital signatures and encryption. This enhances data integrity and simplifies the calibration process with efficient electronic storage and sharing. Industries like pharmaceuticals, food and beverage, and chemicals benefit most from DCCs, supporting their stringent standards and operational efficiency.
Steel & Aluminium	To maintain the measurement capabilities and NMS required to accurately characterise the composition of metals like steel and aluminium is to ensure that these metals meet stringent quality standards required by industries such as automotive, construction, and aerospace.	Tourism Global Business Services (GBS)	NMISA collaborates with a vast network of regional and international bodies dedicated to the harmonisation of the NMS realised by different countries under the Metre Convention treaty. It is well positioned to host international committee meetings, workshops, and conferences, which would attract international visitors to South Africa, contributing to increased tourism. A reliable ICT infrastructure, including advanced telecommunication networks, is essential for high-quality global business services. Accurate measurements (metrology) maintain signal strength and quality, minimising data loss and distortion. This ensures high-speed, reliable communication for applications like streaming, cloud services, and IoT. The accuracy of these measurements is achieved by ensuring they are traceable to the NMS for fibre optics and radiofrequency established by NMISA.	Aerospace & Defence Pharmaceuticals Electrotech	Accurate and consistent measurements are essential for maintaining product quality and safety. Measurement traceability, linked to internationally recognised measurement standards, reduces errors and ensures reliability.

C5 UPDATED KEY RISKS

RISK NAME	EXISTING CONTROLS	CORRECTIVE ACTION PLANS
Reputational Risks	Failure to uphold NMISA Governance Objectives (Failure to deliver on organisational mandate)	1. Review and align the NMISA Organisational Structure with its Strategic Plan, ensuring the maintenance of clear governance structures. 2. Develop, digitise, and implement the NMISA Governance Framework. 3. Finalise the implementation of the Risk Management Framework. 4. Promote a culture of integrity and ethics through training and awareness campaigns. 5. Conduct a comprehensive review of organisational policies and procedures to identify and address any gaps.
	Misalignment between stated organisational values and actual behaviours (Organisational Culture)	1. Ensure that the NMISA values are communicated regularly and consistently across all levels of the organisation. 2. Embed core values into everyday operations. 3. Regularly assess alignment between the NMISA values and organisational culture.
Financial Risks	Financial Sustainability	1. Enhance cost control measures, optimising operational efficiency through process improvements and/or digitalisation. 2. Identify and pursue additional revenue sources through contract research collaborations and strategic partnerships. 3. Enhance stakeholder relationships and ensure transparent communication with the shareholder and other funding bodies to secure ongoing, effective support. 4. Regularly engage with clients and ensure efficient service delivery. 5. Align the Marketing Strategy with the newly developed 5-year Strategic Plan to effectively reach and attract new clients from diverse market sectors. 6. Prioritise allocation of resources to projects and initiatives that align with the performance management targets and have the highest impact on achieving the five NMISA Strategic Objectives to continuously deliver on the NMISA mandate within the allocated budget. 7. Align outcomes with **the dtic** Strategic Interventions to demonstrate the economic impact of the NMISA mandate within the budget constraints.
Compliance	Non-compliance with legislative regulatory frameworks	1. Conduct a comprehensive compliance and legal risk assessment. 2. Implement internal training programmes and raise awareness on compliance management. 3. Enhance legal compliance through executive training programmes.

RISK NAME	EXISTING CONTROLS	CORRECTIVE ACTION PLANS
People's Risks	High Staff Turnover	1. Review and update key HR policies, including the Remuneration Policy, and Performance Management and Development System (PMDS) Policy. 2. Optimise workforce management by appointing temporary employees (funding dependent), considering lateral transfers, and aligning the organisational structure with the new 5-year Strategic Plan. 3. Address employee feedback by analysing exit reports and creating action plans to resolve common reasons for leaving. 4. Enhance managerial effectiveness through targeted training for proper induction and onboarding.
Cybersecurity	Cyber insecurity	1. Assemble a Cybersecurity Team to assist in implementing a comprehensive cybersecurity programme that significantly reduces the risk of data breaches. 2. Network Penetration Tests to be conducted to assess the security posture of the IT infrastructure and web applications and to identify and remediate vulnerabilities that could be exploited by malicious actors.
Business Continuity/ Organisational Resilience	Service Continuity Risk (in the context of Community Unrest, Natural Disasters, Epidemics, Cyber Attacks)	1. Finalise and implement the existing Business Continuity Plan (BCP). 2. Implement robust communication strategies by setting up multiple communication channels and finalising a Crisis Communication Plan. 3. Conduct regular training and drills by educating employees on emergency response procedures and testing the effectiveness of response plans to improve readiness. 4. Ensure that the organisation allocates sufficient resources to maintain an effective business continuity plan.
Health and Safety	Compromised safety and wellbeing of employees	1. Corrective plans identified during audits to be cleared timeously by the responsible sections, considering OHS hazards, risks, and mitigation measures. 2. Maintain certification to SANS/ISO 45001: Occupational Health and Safety Management System Standard.
Fraud and Corruption	Fraud and corruption	1. Provide ethics management training for all management personnel. 2. Conduct a thorough analysis of the declarations of interest completed by Board Members and Management. 3. Conduct Fraud Risk Assessments at operational level. 4. Enhance and implement the existing Fraud Prevention Plan and Strategy. 5. Enforce effective consequence management in accordance with the Disciplinary Policy.
Infrastructure	Adverse laboratory and environmental conditions	1. Fill the Facilities Manager vacant position. 2. Conduct a root cause analysis of the challenges within Facilities/Infrastructure. 3. Re-negotiate the lease agreement to include maintenance, property management, and access control.

C6 FRAUD PREVENTION PLAN

NMISA follows a zero-tolerance approach towards fraud and corruption and strives towards maintaining the highest standards of prevention, detection, and remediation. All NMISA employees are expected to be responsible and accountable for ensuring resilient, forceful, and effective fraud control. NMISA is committed to minimising the incidence of fraud through the development, implementation, and regular review of fraud prevention, detection, and responsive activities, as well as through periodic risk assessment exercises.

NMISA's fraud prevention objectives are as follows:

- Prevention: Ensuring that the risk is prevented and/or avoided judiciously.
- Detection: Ensuring that the risk of fraud is discovered when it occurs, and preventative measures are put in place.
- Response: Ensuring that corrective action is taken, and the harm caused by fraud, corruption or misconduct is addressed.

NMISA's fraud prevention plan includes:

- Identify fraud risks, review NMISA's operations, and update the Fraud Prevention Policy every two years or earlier if necessary.
- Provide fraud awareness training to all staff.
- Communicate how suspected instances of fraud may be reported.
- Assign responsibility for an instant response to the occurrence.
- Investigate alleged or suspected instances of fraud and corruption using qualified personnel and professionals with experience in investigative techniques.
- Take appropriate action to deal with instances of actual, suspected, or alleged fraud and corruption, including prosecution of persons and/or organisations for fraud offences where and when appropriate.
- Ensure protection of whistle blowers.
- Use all avenues to recover funds or property lost through fraudulent activity.
- Ensure the dealings with the media in terms of reported and/or alleged cases are prompt and precise.
- Preserve evidence and report to the proper authorities.

C7 MATERIALITY AND SIGNIFICANT FRAMEWORK

C7.1 INTRODUCTION

In terms of Treasury Regulation 28.3.1, Accounting Authorities must "For purpose of "material [sections 50(1), 55(2) and 66(1) (c) of the Act] and "significant" [section 54(2) of the Act], develop and agree a framework of acceptable levels of materiality and significance with the relevant executive authority".

NMISA is required by law to operate within the PFMA and its accompanying Treasury Regulations as a Schedule 3A public entity, the above-mentioned sections of the Act are therefore very significant for operational and reporting purposes.

C7.2 ASSESSMENT AND DETERMINATION OF MATERIALITY

The materiality of transactions will be assessed from both quantity and quality points of view. Therefore, both the amount (quantity) and nature (quality) of information need to be considered in setting and determining whether the event/matter is material or not.

C7.2.1 Quantitative Materiality

BASIS	GUIDELINE	% USED	RAND VALUE PER 2024/25 ANNUAL REPORT	MATERIALITY AMOUNT
Total Revenue	0,5 % – 1 %	0,5 %	R 227 362 668	R 1 136 813
Total Assets	1 % – 2 %	1 %	R 680 063 062	R 6 800 631

The basis selected for materiality is total revenue, considering Accounting Authority limits, audit risk, prior years audit findings and professional judgement.

C7.2.2 Qualitative Materiality

Qualitative characteristics that are used by management to assess the materiality of an item include the following:

- Public accountability
- Compliance with legislation
- Disclosure requirements
- Reporting requirements in terms of Section 5 of the Auditor General's Act
- Sensitive situations, including irregularities, illegal and questionable transactions
- Importance of information for users.

Management determines the qualitative materiality in line with the quantitative materiality.

C7.3 ASSESSMENT AND DETERMINATION OF SIGNIFICANCE

Quantitative and qualitative factors

Although significance may contain quantitative elements, it may require more qualitative considerations in comparison to materiality. This in turn requires professional judgment and regard for the specific transaction in the context of the entity's business as a whole.

Nature of transaction

In setting a monetary value for significance, it may be practicable to differentiate between the following two types of transactions:

- ***Transactions that are operational in nature, i.e. part of the entity's normal, everyday business.***

  For those transactions that are operational in nature, a higher significance level is set as these transactions are approved within a very specific framework, i.e. the entity's corporate plan, strategic plan and/or annual budget.

  Significance level

  For a transaction of this nature that is R8 000 000 and above, the organisation will submit the relevant particulars of the transaction to the Accounting Authority for approval.

  The organisation will also submit a procurement plan for all procurement that is R1 000 000 and above to the Accounting Authority for approval.

- ***Transactions that are strategic in nature, i.e. outside the entity's normal, everyday business, or transactions that are non-routine or that would impact the business or financial position of the entity as a whole.***

For those transactions that are strategic in nature, a lower significance level is set considering the strategic impact thereof.

Therefore, any transaction, which in the accounting authority's opinion may in any way influence the decisions or actions of the executive authority or the legislature to which the entity is accountable should be seen as significant.

For those transactions that are strategic in nature the entity will calculate separate materiality/significance figures based on:

- the nature of the account balance;
- the nature of the transaction; and
- the aspect of the financial statements being considered.

C7.4 FRAMEWORK OF ACCEPTABLE LEVELS OF MATERIALITY AND SIGNIFICANCE

Materiality and significance levels will be influenced by considerations such as legal and regulatory requirements.

NMISA Materiality and Significance Framework in terms of the Public Finance Management Act and accompanying Treasury Regulations, is detailed in the table below:

MATERIAL		
Section 50(1)	The Accounting Authority of a public entity must – on request, disclose to the executive authority responsible for the public entity or the legislature to which the public entity is accountable, all material facts, including those reasonably discoverable, which in any way influence the decision or actions of the executive authority or that legislature.	Quantitative – 0.5 % of total revenue Acquisition of assets as listed and approved on the published capital list.
Section 55(2)	The annual report and financial statements must: 1. Fairly present the state of affairs of the public entity, its business, its financial results, its performance against predetermined objectives and its financial position as at the end of the financial year concerned. 2. The annual report and financial statement must include particulars of: • Any material losses through criminal conduct and any irregular expenditure and fruitless and wasteful expenditure that occurred during the financial year. • Any criminal or disciplinary steps taken as a consequence of such losses or irregular expenditure or fruitless and wasteful expenditure. • Any losses recovered or written off. • Any financial assistance received from the state and commitments made by the state on its behalf. • Any other matters that may be prescribed. 3. Include the financial statements of any subsidiaries.	Quantitative – 0.5 % of total revenue. Any value or qualitative aspect would be considered material. All such transactions will be considered material and discussed with the Executive Authority.
Section 66(1)	An institution to which the PFMA applies may not borrow money or issue a guarantee, indemnity or security, or enter into any other transaction that bind or may bind that institution or the Revenue Fund to any future commitment, unless such borrowing, guarantee, indemnity, security or other transaction is authorized the PFMA; and In the case of public entities, is also authorized by other legislation not in conflict with the PFMA.	All events/transactions will require disclosure – 100 % compliance.
SIGNIFICANT		
Section 54(2)	Before a public entity concludes any of the following transactions, the Accounting Authority for the public entity must promptly and in writing inform the relevant treasury of the transaction and submit relevant particulars of the transaction to its Executive Authority for approval of the transaction: • Establishment or participation in the establishment of a company. • Participation in a significant partnership, trust, unincorporated joint venture or similar arrangements. • Acquisition or disposal of a significant shareholding in a company. • Acquisition or disposal of a significant asset. • Commencement or cessation of a significant business activity. • A significant change in the nature or extent of its interest in a significant partnership, trust, unincorporated joint venture or similar arrangement.	All events/transactions will require disclosure – 100 % compliance.

C8 INFRASTRUCTURE PROJECTS

The NMS and other standards are continually reviewed to ensure that these still meet the needs of the South African industry. Stakeholder engagement takes place in accordance with a Stakeholder Engagement Plan aligned with the key market sectors served by NMISA, as well as through participation in national interest forums. Efforts to remain relevant to the increasing needs of the public and private sectors need to be complemented by addressing NMISA's aging infrastructure challenges.

NMISA's headquarters are located on the CSIR's Scientia Campus. It still occupies the metrology laboratories, as when the CSIR National Metrology Laboratory, the forerunner of NMISA, took occupation of the site in the 1960s. With no major building infrastructure investment in its history, NMISA became a tenant of the premises in 2007. Aging laboratory infrastructure continues to hamper NMISA's ability to keep up with the demands of modern measurement technologies in the development of new NMS and maintenance and/or improvement of the existing NMS to levels required by industry.

Although a new building could not be procured during the previous 5-year MTEF period, **the dtic** recapitalisation funds were allocated to address the following urgent needs in lieu of a holistic metrology institute overhaul:

- Procurement of equipment for the modernisation of NMISA to ensure the organisation can keep up with modern technological advances and continues delivering on its mandate while shortening the traceability chain for South Africa and the continent.
- Human capital development to ensure that metrologists are trained on the equipment associated with the technology acquired. NMISA relies heavily on its human capital, and this will be even more pronounced with its modernisation.

Addressing these ensures that NMISA remains able to provide traceability to the SI system in South Africa, facilitating trade and reducing barriers to trade, especially with the implementation of the AfCFTA.

No major infrastructure improvements are being budgeted for in the current reporting period.

A review of the total floor space occupied by NMISA will be undertaken to investigate the possibility of reducing the rental fee, as a cost saving measure.

C9 PUBLIC-PRIVATE PARTNERSHIPS

NMISA is currently not undertaking or managing any public-private partnerships.

PART D

TECHNICAL INDICATOR DESCRIPTIONS

D1 INDICATOR PROFILES

A summary of performance indicators developed for NMISA appears in Section C3.2 with a more detailed overview in the following sections:

Performance indicators

NUMBER	INDICATOR DESCRIPTION	STRATEGIC OBJECTIVE
1	Realisation and maintenance of 6 SI Base units	Ensure regional, continental, and international comparability of the South African measurement infrastructure to support economic growth and to enhance the quality of life for all
2	Percentage of metrological services offered covered by Calibration and Measurement Capabilities (CMCs)	
3	New and improved NMS and reference materials and reference methods	
4	Participate in ILCs and PTS	
5	Achieve the annual real revenue growth rate (adjusted for inflation)	Improve financial stability and ensure sustainable growth
6	Maintain visibility of NMISA in South Africa and the region	
7	Client Satisfaction Score (not absence of complaints)	Maintain fast and efficient service delivery to clients
8	Customer satisfaction rate for training courses presented	
9	Staff turn-over rate	Develop and retain a capable workforce that is able to utilise world-class infrastructure to deliver specialised and innovative measurement solutions
10	Number of in-service trainees and interns hosted	
11	Number of new collaborative agreements led by NMISA	
12	Percentage of active service/collaboration agreements	Effectively engage and collaborate with stakeholders to develop and strengthen mutually beneficial relationships in fulfilment of the NMISA mandate

D1.1 NMISA TECHNICAL INDICATOR DESCRIPTIONS

Indicators were defined according to the *Revised Framework for Strategic Plans and Annual Performance Plans* document, published by the Department of Planning Monitoring and Evaluation.

KPI 1: REALISATION OF THE SI BASE UNITS	
Indicator title (Output)	**Realisation and maintenance of the SI Base units**
Definition	As stipulated in the Measurement Units and Measurement Standards Act (No. 18 of 2006), NMISA must provide for the use of the SI measurement units (and other measurement units), and the designation of the units. In addition, NMISA must realise, maintain and disseminate the National Measurement Standards and ensure that these are internationally equivalent and accepted. The SI base units realised by NMISA includes that for Mass (kilogram), Time (second), Length (metre), Temperature (Kelvin), and Current (Ampere). Traceability for Luminous Intensity is imported, and the scale is maintained between calibration intervals. New primary realisation methods are to be phased in as these are developed.
Source/collection of data	Gazetted NMS. New development and/or realisations of SI units performed annually. Maintenance of SI units reported quarterly. Certificates of Calibration from other NMIs.
Method of calculation	Simple count
Means of verification	Gazetted NMS, supporting plans and reports
Assumption	Equivalence to international standards, implementation of the Revised International System of Units (SI) as captured in the gazetted NMS.
Disaggregation	None
Spatial transformation	NA
Calculation type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	The South African National Measurement Standards as published in the Government Gazette must be realised and maintained as provided for in the Measurement Units and Measurement Standards Act (No. 18 of 2006).
Indicator responsibility	Physical and Electrical Metrology Division

KPI 2: PERCENTAGE OF METROLOGICAL SERVICES OFFERED COVERED BY CALIBRATION AND MEASUREMENT CAPABILITIES (CMCS)	
Indicator title (Output)	**Percentage of Metrological services utilised by clients covered by calibration and measurement capabilities (CMCs)**
Definition	To determine the percentage of services offered by NMISA, that are covered by CMCs in the KCDB. A measurement capability claim that has been reviewed and accepted by international peers, and then published in the BIPM international metrology database (KCDB, Appendix C), provides stakeholders with confidence that a claimed measurement capability is internationally accepted and internationally equivalent.
Source/collection of data	SHEQ report showing the number of CMCs in Appendix C of the international (BIPM) key comparison database (KCDB), published at www.bipm.org, NMISA scopes of accreditation and calibration certificates.
Method of calculation	Number of services linked to the official number of active CMCs published in the KCDB for South Africa as of 31 March (screen print and date); simple calculation.
Means of verification	Official records of the Schedules of Accreditation and CMCs.
Assumption	Published CMCs have been accepted through the regional and international peer review processes and are therefore internationally accepted. The list of CMCs maintained in the KCDB database are those required and utilised by industry through measurement products and services offered.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	Calibration and Measurement Capabilities that meet stakeholders' needs
Indicator responsibility	Technical Divisions and SHEQ

KPI 3: NEW AND IMPROVED NMS, REFERENCE MATERIALS AND REFERENCE METHODS IN RESPONSE TO LOCAL INDUSTRIAL REQUIREMENTS	
Indicator title (Output)	**New and improved NMS and reference materials and reference methods**
Definition	The number of new and improved NMS, reference methods and reference materials developed. NMISA will develop and/or improve NMS for clients or industry, mainly on contract. The NMS do not necessarily increase each year, the organisation maintains and applies what has already been developed.
Source/collection of data	New NMS, improved NMS and/or procedure/method validation report; reference materials, measurements register and validation report/procedure.
Method of calculation	Simple count
Means of verification	Verification/validation report, procedures, NMI report, measurement register
Assumption	Implementation of the revised SI including NMISA adhering to legislative requirements.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	Does not necessarily increase from year to year. This indicator is in response to periodic industry requirements for CRMs and reference methods to be developed and for NMS to be improved (expansion of NMISA offerings, extending the range).
Indicator responsibility	Technical divisions

KPI 4: PARTICIPATE IN INTER-LABORATORY COMPARISONS (ILCS) AND PROFICIENCY TESTING SCHEMES (PTSS)	
Indicator title (Output)	**Participation in ILCs and PTSs**
Definition	Interlaboratory comparisons (ILCs) or Proficiency Testing Scheme (PTS) initiated, administered, or participated in by NMISA to demonstrate international equivalence of its National Measurement Standards and/or to assist African NMIs to link their standards to the international measurement system, and/or to enable national or regional laboratories to establish confidence in the accuracy of their measurement capabilities and/or dosimetry audits provided to hospitals and other healthcare facilities. The ILCs, PTS and dosimetry (and comprehensive) audits may run over several financial years.
Source/collection of data	Project plans, progress reports and/or final reports (draft A, B and final report). Successful participation is confirmed in the final report.
Method of calculation	Simple count of ILCs, PTSs and dosimetry audits concluded during the period.
Means of verification	Submission of project plans, progress reports, hospital audit results and/or draft A, B and final reports.
Assumption	Accuracy and confidence in measurement results for South Africa and the region.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative year end
Reporting cycle	Quarterly
Desired performance	International equivalence of the NMISA NMS successfully demonstrated. Regional measurement system linked to the international measurement system. The measurement capabilities of local and/or regional commercial laboratories validated. Harmonisation of national, regional and International Measurement Standards and capabilities facilitates trade.
Indicator responsibility	Technical divisions

KPI 5: INCOME GENERATED FROM ALL SERVICES, SALES OF PRODUCTS AND OTHER KNOWLEDGE DISSEMINATION ACTIVITIES	
Indicator title	**Achieve the annual real revenue growth rate (adjusted for inflation)**
Definition	Percentage growth in real revenue from the prior budgeted and approved year-end value, generated from all external income sources, excluding interest and adjusted for inflation. External income (revenue) is generated through all products and services (including calibration, measurement, testing, PTSs, reference values, certified measurement standards or mixtures, training, collaborative research and development, donor projects, consultation services, etc.).
Source of data	A report of income is downloadable from NMISA financial system and provided by Finance.
Method of calculation/ Assessment	Revenue is determined in line with GRAP The annual target for the real revenue growth rate (RRGR) is calculated from the nominal revenue growth rate (NRGR) and BER average inflation rate forecast for the year: For example (2024/25) The Bureau for Economic Research (BER) forecast the following average inflation rates for South Africa for the next period: 2024: 4,78 % 2025: 4,50 % 2026: 4,50 % 2027: 4,50 % A nominal revenue growth rate of 10 % therefore results in a real revenue growth rate of 5 % at an inflation rate of 4,78 %. A 10 % increase in the baseline revenue (budgeted and approved 2024/25 value) provides the revenue target for 2025/26, distributed over the financial year as per quarterly targets.
Means of verification	Finance report submitted every quarter
Assumptions	Measurement traceability to industry through calibration, measurement services, analysis, consultation, research grants and donor projects.
Disaggregation	None
Spatial transformation	None
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Meet and/or exceed annual financial revenue target for sustainability
Indicator responsibility	Technical Divisions and SBDG

KPI 6: MAINTAIN MARKET VISIBILITY	
Indicator title (Output)	**Maintain visibility of NMISA in South Africa and the region**
Definition	Ensure market visibility to amplify awareness of NMISA's metrology services, building on brand awareness and fostering trust and credibility within industries.
Source/collection of data	Calculations based on statistical report from external provider and social media statistics.
Method of calculation	Using Advertising Value Equivalence calculations done by a contracted service provider who list the total amount of print, online and broadcast media (not including paid advertising) for publication. Using social media analytical statistics to show increase in following.
Means of verification	Advertising Value Equivalence reports and social media statistics
Assumption	Increased visibility of the organisation
Disaggregation	Not applicable
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Maintain an AVE visibility of above R1mil per annum. Increase the following on social media platforms by 10 % annually.
Indicator responsibility	Strategy, Business Development and Governance (SBG) Division

KPI 7: CLIENT SATISFACTION SCORE	
Indicator title (Output)	**Client satisfaction score (not absence of compliants)**
Definition	Average satisfaction rating on a 5-point scale of the Client Satisfaction Survey against all surveys completed, calculated as a percentage. To provide industry with confidence in the quality of NMISA's service and the perceived commitment to meeting their needs.
Source/collection of data	Report on the review of Client Satisfaction Surveys received, taken from the quality system (Customer Action Requests).
Method of calculation	(Average client satisfaction rating/5) x 100
Means of verification	Completed client satisfaction surveys
Assumption	Clients accurately reflect their satisfaction with NMISA services on the surveys and that dissatisfied clients express their dissatisfaction by completing the survey. All clients were offered an opportunity to complete the survey after the service.
Disaggregation	None
Spatial transformation	None
Calculation type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	NMISA aims to exceed the expectations of all clients. Zero customer complaints are ideal; any customer complaints received to be timeously addressed and cleared satisfactorily
Indicator responsibility	SHEQ

KPI 8: CUSTOMER SATISFACTION RATE FOR TRAINING COURSES PRESENTED	
Indicator title (Output)	**Training courses that meet client requirements**
Definition	Percentage of courses with an average score of 3.5 or higher.
Source/collection of data	Course satisfaction survey ratings (training course evaluation form)
Method of calculation	Each course will receive an average score based on individual scoring. A percentage of the average scores =/>3 will be calculated over total courses.
Means of verification	Independent satisfaction survey traceable to each attendee (training candidate).
Assumption	All trainees complete survey
Disaggregation	None
Spatial transformation	None
Calculation type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	Increased number of clients (and maintaining existing clients)
Indicator responsibility	ARI Training Centre/Technical Divisions/SHEQ

KPI 9: INVEST IN TALENT TO DEVELOP, MAINTAIN, AND RETAIN KEY SKILLS	
Indicator title (Output)	**Staff turn-over rate**
Definition	The primary resource needed to execute our mandate is predicated upon highly skilled scientists, engineers, physicists and managerial/support skills. Investment in highly trained technical skills to upskill the talent in the field of accurate measurement (metrology). Practical training will ensure knowledge transfer (industry, commercial laboratories, regional NMIs and internally) to provide measurement support and to attract new talent and retain existing key skills.
Source/collection of data	HR records of resignations and appointments
Method of calculation	Turn-over rate for a specific period is calculated using the following formula: $\textit{Staff turn-over rate (\%)} = \left[\frac{\textit{Number of Separations}}{\textit{Average number of employees}} \right] \times 100$ Where: • The average number of employees for the specific period is calculated by adding the number of permanent employees at the start of the period and the number of permanent employees at the end of the period and dividing by 2. • The number of separations is the total number of permanent staff members that have left the organisation during that period. • The period of interest is a quarter (3 months).
Means of verification	Signed resignation letters
Assumption	A higher turnover rate than the given target indicates that the staff retention plan needs to be reviewed.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	Talent maintained, developed and applying the knowledge gained to the benefit of NMISA.
Indicator responsibility	Corporate Services (Human Resources) and Division Directors

KPI 10: NUMBER OF INTERNS AND IN-SERVICE TRAINEES HOSTED	
Indicator title (Output)	**Number of in-service trainees and interns hosted**
Definition	Number of interns (minimum 3 months) and in-service trainees (work integrated learning) period as described by the academic institution, hosted. External funding to be sourced to fund expenses. NMISA to provide work experience for graduates in line with their studies and improve their employability. The aim is to build pipeline of skilled and competent professionals to address current and future skills needs and transform the organisation.
Source/collection of data	Internship contracts, training/work plans, certificates
Method of calculation	Simple count (total number of interns and in-service trainees hosted/trained during the financial year)
Means of verification	Appointment contracts
Assumption	A skilled, competent, and transformed workforce.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	Well-trained interns who can be placed in NMISA or other organisations.
Indicator responsibility	Corporate Services (Human Resources) and Division Directors

KPI 11: NUMBER OF NEW COLLABORATIVE AGREEMENTS LED BY NMISA	
Indicator title (Output)	**Number of new collaborative agreements led by NMISA**
Definition	The number of new collaborative agreements with academic institutes, public and private entities, regional and international bodies, led by NMISA staff members as project leaders.
Source/collection of data	Signed agreements and approved project plans/charters
Method of calculation	Simple count (each staff member can only be counted once)
Means of verification	Signed agreements and approved project plans/charters
Assumption	Staff with specialised skills can attract contracts to deliver innovative measurement solutions to clients.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Annual
Desired performance	Contract agreements with clients are successfully delivered
Indicator responsibility	Technical Divisions

KPI 12: PERCENTAGE OF ACTIVE SERVICE AND COLLABORATIVE AGREEMENTS	
Indicator title (Output)	**Percentage of active service/collaborative multi-year agreements**
Definition	The number of collaborative or service agreements with clients and other stakeholders for multi-year services that are successfully delivering outputs against the total number of agreements.
Source/collection of data	Financial reports on invoiced services against contracts, and/or project reports with evidence of achieved outcomes.
Method of calculation	Simple count (percentage of the number of active agreements to the total number of agreements)
Means of verification	Signed contracts/SLAs/MOUs/CMS reports on client services/financial reports/project reports/ evidence of delivery.
Assumption	Once an agreement is signed by both parties, work commences in accordance to plan to deliver outputs for mutual benefit.
Disaggregation	Not applicable
Spatial transformation	Not applicable
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	Successful completion of all agreements and enhanced prospects for follow-up agreements and long-term partnerships.
Indicator responsibility	SBG Division in collaboration with Technical Divisions

D1.2 NMISA CONTRIBUTIONS TO THE DTIC STRATEGIC INTERVENTIONS

KPI D01: NUMBER OF SMMES SERVED BY NMISA	
Indicator title (Output)	**Number of SMMEs served by NMISA**
Definition	Number of SMMEs receiving technical support, training, or measurement services from NMISA annually.
Source/collection of data	Sales revenue data from the financial system and/or laboratory records of client services and/or Training Centre records of participants in training courses
Method of calculation	Simple count
Means of verification	Sales revenue records, attendance registers for training courses
Assumption	Measurement traceability and knowledge about metrology empowers SMMEs to improve their products and services
Disaggregation	None
Spatial transformation	NA
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	Increasing numbers of SMMEs benefitting from NMISA's products and services
Indicator responsibility	SBG Division, Technical Divisions, Training Centre

KPI D02: Number of in-service interns or trainees hosted annually through NMISA's HCD Programme is the same as NMISA KPI 10 on page 69.

KPI D03: NUMBER OF NEW/ IMPROVED DIGITAL SOLUTIONS IMPLEMENTED ANNUALLY	
Indicator title (Output)	**Number of new/improved digital solutions implemented annually**
Definition	Number of new/improved digital solutions implemented annually to increase operational efficiency and/or improve client experiences.
Source/collection of data	Official project reports
Method of calculation	Simple count
Means of verification	Physical verification of systems and/or laboratory equipment records
Assumption	New or improved digital systems improve operational efficiency and/or client experiences
Disaggregation	None
Spatial transformation	NA
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	Continuous improvement of the NMISA operational systems to the benefit of its clients
Indicator responsibility	Technical Divisions, System Design Group

KPI D04: DEVELOP AND IMPLEMENT DIGITAL CALIBRATION CERTIFICATES (DCCs)	
Indicator title (Output)	**Develop and implement digital calibration certificates (DCCs)**
Definition	Digital Calibration Certificates developed and implemented in South Africa.
Source/collection of data	Official project reports
Method of calculation	Confirmation of deliverables achieved in accordance with the project plan
Means of verification	Physical verification of systems and/or scientific project records
Assumption	Converting to Digital Calibration Certificates enables significant process improvements in the field of metrology
Disaggregation	None
Spatial transformation	NA
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	Digital Calibration Certificate implemented in South Africa within the next 5 years
Indicator responsibility	Technical Divisions, System Design Group

KPI D05: Number of new or improved measurement capabilities established and operationalised to support climate-related trade measures, energy efficiency standards, or green industrialisation initiatives is included in NMISA KPI 3 on page 66.

KPI D06: METROLOGY SUPPORT SERVICES TO BE INTEGRATED IN THE MASTERPLANS DURING EACH REVIEW	
Indicator title (Output)	**Metrology support services to be integrated in the Masterplans during each review**
Definition	Metrology support services to be integrated (as part of the larger Technical Infrastructure framework) in the Masterplans during each review.
Source/collection of data	Records of submissions to **the dtic**, records of meetings related to the review of the Masterplans
Method of calculation	Confirmation of deliverables achieved in accordance with the supporting records/data.
Means of verification	Verification of supporting records/data
Assumption	Metrology services constitute part of the support provided by the dtic and its entities to various industrial sectors.
Disaggregation	None
Spatial transformation	NA
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	Metrology to be integrated into all the Masterplans reviewed.
Indicator responsibility	SBG Division, Technical Divisions

KPI D07: NUMBER OF INTERNATIONAL DELEGATES HOSTED AT NMISA-ORGANISED OR CO-HOSTED EVENTS	
Indicator title (Output)	**Number of international delegates hosted at NMISA-organised or co-hosted events**
Definition	Number of international delegates hosted at NMISA-organised or co-hosted events per financial year.
Source/collection of data	Attendance records of international events hosted or co-hosted by NMISA.
Method of calculation	Simple count
Means of verification	Attendance registers signed by international delegates at NMISA events.
Assumption	International delegates attending physical events at NMISA contribute to the total number of tourists visiting South Africa annually.
Disaggregation	None
Spatial transformation	NA
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	NMISA to showcase South Africa's technical capabilities in measurement science to an international audience.
Indicator responsibility	SBG Division, Technical Divisions

KPI D08: NUMBER OF NEW SOES OR COMPANIES WITHIN SEZS, INDUSTRIAL PARKS, OR OUTSIDE METROPOLITAN AREAS SUPPORTED ANNUALLY THROUGH NMISA SERVICES	
Indicator title (Output)	**Number of outreach activities conducted in Special Economic Zones (SEZs) and/or outside main metropolitan areas.**
Definition	Number of outreach activities and interactions planned in SEZs and/or outside the metropolitan areas to promote national economic growth and exports. The main metropolitan areas are defined as: • City of Cape Town Metropolitan (Western Cape) • City of Johannesburg Metropolitan (Gauteng) • City of Ekurhuleni Metropolitan (Gauteng) • City of Tshwane Metropolitan (Gauteng) • City of eThekwini Metropolitan (KwaZulu-Natal).
Source/collection of data	Official (signed in case of physical meetings) attendance list of participants attending the meetings or signed register of interest at event booths.
Method of calculation	Simple count (registers)
Means of verification	Attendance registers (including electronic attendance list in case of online meetings) or event registers at booths.
Assumption	Creating awareness of metrology and accurate measurements amongst SEZs outside the main metropolitan areas will lead to increased take-up of NMISA products and services.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Increased take-up of NMISA projects and services within the SEZs established by **the dtic** and outside the main metropolitan areas.
Indicator responsibility	SBG Division, Technical Divisions

KPI D09: NUMBER OF AFRICAN COUNTRIES CONTRACTING NMISA'S METROLOGY SERVICES AND PRODUCTS	
Indicator title (Output)	**Number of African countries contracting NMISA's metrology services and products annually**
Definition	Number of African countries contracting NMISA's metrology services and products annually.
Source/collection of data	Sales revenue data from the financial system and/or laboratory records of client services and/or Training Centre records of participants in training courses.
Method of calculation	Simple count
Means of verification	Sales revenue records, service contracts, collaboration agreements and/or attendance registers for training courses
Assumption	A representative from an African country who receives training from NMISA, as well as services delivered to any African company or organisation, contributes to the count of African countries that contract NMISA for products and/or services.
Disaggregation	None
Spatial transformation	NA
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	NMISA to be contributing to harmonisation of metrology systems for enhanced trade facilitation and industrial cooperation across the continent through measurement services linked to the international measurement system.
Indicator responsibility	SBG Division, Technical Divisions, Training Centre

KPI D10: Number of ILCs and PTS organised and completed within AFRIMETS is included in NMISA KPI 4 on page 66.

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