



# REVISED ANNUAL PERFORMANCE PLAN 2024/25-2026/27



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**ABBREVIATIONS AND ACRONYMS**

AfCFTA	Africa Continental Free Trade Area
AFRIMETS	Intra-Africa Metrology System
AGSA	Auditor-General of South Africa
APP	Annual Performance Plan
ARI	Africa 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
CRM	Certified Reference Material
CSIR	Council for Scientific and Industrial Research
DCC	Digital Calibration Certificate
ERP	Enterprise Resource Planning
HR	Human Resources
ILC	Interlaboratory Comparison
IPP	Independent Power Producer
ISO	International Organization for Standardization
IT	Information Technology
KCDB	Key Comparison Database
KPI	Key Performance Indicator
LED	Light Emitting Diode
MAURITAS	Mauritius Accreditation Service
MOU	Memorandum of Understanding
MTEF	Medium-Term Expenditure Framework
MTSF	Medium-Term Strategic Framework
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
PFMA	Public Finance Management Act
PMDS	Performance Management and Development System
POPI	Protection of Personal Information
PTS	Proficiency Testing Schemes
RCTLF	Retail-Clothing, Textile, Footwear and Leather
SABS	South African Bureau of Standards
SADC	Southern African Development Community
SADCAS	Southern African Development Community Accreditation Services
SADCMET	SADC Cooperation in Measurement Traceability
SANAS	South African National Accreditation System
SARAO	South African Radio Astronomy Observatory
SETA	Sector Education and Training Authority
SEZ	Special Economic Zones
SHEQ	Safety, Health, Environment and Quality
SI	International System of Units
SKA	Square Kilometre Array
SMME	Small, Medium and Micro Enterprises
SOE	State-Owned Enterprises
STEM	Science, Technology, Engineering, Mathematics
<b>the dtic</b>	Department of Trade, Industry and Competition
TI	Technical Infrastructure
TQMS	Total Quality Management System



## FOREWORD BY THE MINISTER

The Public Finance Management Act requires that every public entity prepares a Strategic Plan setting out the overall strategy for the 5-year period covering the state's Medium-term Strategic Framework (MTSF). Every year, an Annual Performance Plan (APP) is prepared, which converts the overall strategy to key annual targets. These documents are then provided for approval to the Executive Authority and budgets are aligned to these plans. The National Metrology Institute of South Africa (NMISA) has prepared its Revised Annual Performance Plan 2025–2027, which I now submit to Parliament, as required by the legislation.

**The dtic** localisation project is about rebuilding the foundations of manufacturing to strengthen industrial capacity that can supply both the domestic and export markets. Demonstrated measurement traceability to internationally recognised reference standards is a crucial requirement when supplying products on the international market. As described in its Annual Performance Plan, NMISA continuously maintains all the National Measurement Standards that are required by the local manufacturing industry and disseminate these through reference measurements, calibrations, consultations and specialised measurement solutions. The main services that these market sectors need are failure analysis, quality control, evaluation of its impact on the environment, and innovative solutions for new and improved manufacturing processes. In accordance with its mandate and within the technical infrastructure, NMISA plays a key role in enabling trade for the local manufacturing industry.

Supporting SMMEs, particularly those owned by historically disadvantaged individuals, promotes economic transformation and helps reduce inequality. NMISA's calibration, reference analysis, and other measurement services ensure that SMMEs' measurement equipment or standards adhere to international standards, thereby enhancing product quality and reliability. This improvement can improve customer trust and open up new market opportunities. The NMISA Training Centre offers tailored training programmes that provide SMME employees with vital skills and knowledge, increasing their productivity and efficiency. This is especially important in the essential oil and cannabis industries. According

to the National Cannabis Master Plan, the cannabis industry has the potential to create up to 25 000 jobs and generate around R28 billion. NMISA's services help emerging producers demonstrate the quality of their products, enabling them to compete effectively in the market.

As the implementation of the African Continental Free Trade Agreement (AfCFTA) gains momentum with twelve countries, including South Africa, that have finalised their legal modalities to enable trade to commence in thousands of product lines, many market sectors must adhere to specified performance and safety standards. Demonstration of compliance requires measurement traceability to National Measurement Standards recognised within the continental measurement system. NMISA has committed to delivering training related to the science of measurement and its applications, which is required for the development of African and South African industries, through the Training Centre under the African Reference Institute of NMISA. This is crucial for the AfCFTA as the training provided ensures that professionals are proficient in the relevant standards and can effectively comply. It also contributes to the ability of the African region's experts to embrace new measuring methods and technologies, enabling innovations in a wide range of industries.

As a public entity committed to serving its clients, NMISA recognises the critical importance of effective service delivery, which is one of the priority outcomes for **the dtic**. By leveraging technology, empowering its workforce, engaging stakeholders, and actively reaching out to underserved areas outside the main metropolitan areas, NMISA aims to elevate its contribution to the creation of a more equitable and prosperous nation for all.

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

31 October 2024



“ **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

NMISA was established by the South African Government under the Measurement Units and Measurement Standards Act to link South Africa to the International System of Units (SI). 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. As part of the South African quality infrastructure, NMISA keeps, develops, maintains, disseminates the National Measurement Standards, maintains and develops primary methods for chemical analysis, provides reference materials and standards, and designates measurement units for use.

The NMISA Strategic Plan for the MTSF Period 2024/25 to 2028/29 consists of four core elements, namely the fulfilment of its mandate, efficient service delivery, collaboration with stakeholders, and a workforce that can deliver specialised measurement solutions. Specific emphasis is placed on realising revenue from more diverse market sectors, developing measurement solutions through contract research, and maintaining high operational efficiencies while exceeding client expectations.

During this period, the NMISA Training Centre, established under the Africa Reference Institute in 2023, will further expand its suite of courses provided to local and international markets. The past year has seen significant growth in international consultation agreements to provide training and consultancy services at the client’s premises.

The mining, manufacturing and transport industries will continue to benefit from NMISA’s materials characterisation services, which includes 3D printing technologies combined with advanced surface and microstructure techniques. Services offered include materials characterisation for the beneficiation efforts of metals, polymers and energy storage materials.

NMISA provides reference values, testing and analysis services for monitoring the baseline levels of various toxic environmental contaminants in South Africa and the region. These services enable mining and manufacturing companies to verify their compliance with environmental standards and assist regulations in ensuring that air, water and soil conditions remain safe and free of harmful pollutants to protect human health.

The energy sector relies on measurement traceability from NMISA, which supports the adoption of energy efficient lighting (LEDs), energy conversion processes (renewables and other alternative sources), grid stability and accurate metering of electrical services. NMISA participates in **the dtic** initiatives that support the green hydrogen strategy plan for South Africa, specifically concerning the development of standards and measurement traceability for testing services, in collaboration with the technical infrastructure (TI) entities.

Food safety and quality according to regulatory requirements enable fair trade and protection of public health. This is a high priority on the African continent due to the high trade volumes in agricultural products driven by high population growth. Increased food trade is anticipated under the African Continental Free Trade Area (AfCFTA). NMISA therefore produces proudly (South) African reference measurements, reference materials and Proficiency Testing Schemes (PTS) for Africa-relevant and indigenous commodities, to empower food and agricultural testing laboratories to deliver accurate results.

Medical manufactures, radiopharmaceutical producers, regulators, accreditation bodies and others obtain measurement traceability for medical and ionising radiation detection devices from NMISA. These services aim to ensure accuracy and international traceability of measurement results from the laboratory to the patient, contributing to patient safety and quality healthcare locally.

New technological innovations are accelerating globally, finding new applications, shaping markets, and driving economic change. High-quality data, based on measurement standards, build confidence in data and new technologies. During this period, NMISA will be investigating the local requirements for metrology frameworks for emerging technologies (such as quantum metrology and digital technologies) in collaboration with the relevant stakeholders with the aim of determining the feasibility of developing specific metrology capabilities.

The NMISA Board is looking forward to serving the South African industry’s measurement needs, bringing NMISA’s capacity, skills, and networks to support **the dtic** in working towards economic recovery, ensuring prosperity and quality of life for all our people.

**Dr Precious Motshwene**  
Accounting Authority

31 October 2024



“ **Accurate measurements and a globally accepted system of measuring units are indispensable for business innovation, localisation, fair trade in goods and services, scientific and technological development and ultimately for economic prosperity.** ”

## EXECUTIVE SUMMARY BY THE ACTING CEO

In accordance with the planning processes of the South African Government, NMISA presents its Revised Annual Performance Plan (APP) for the years 2024/25 to 2026/27. NMISA directly and indirectly contributes to **the dtic** priorities of economic recovery through industrialisation, localisation, and trade. Accurate measurements and a globally accepted system of measuring units are indispensable for business innovation, localisation, fair trade in goods and services, scientific and technological development and ultimately for economic prosperity.

Over the past years, the Institute has prioritised the consolidation of metrological services in accordance with the specific needs of the key market sectors served. These include materials analysis and 3D printing capabilities for manufacturing, measurement capabilities for energy-efficient lighting, 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 routine calibration services offered in the fields of temperature, DC low frequency, radio frequency, fibre optics, mass and related quantities, dimensional measurements, and photometry.

Research projects underway in collaboration with universities and peer 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 APP focuses on expanding the existing client base of NMISA by implementing strategies such as identifying its niche in the different markets served, offering excellent client service, partnering with key stakeholders, and diversifying into niche markets. NMISA aims to continue increasing the efficiency of its service delivery and to contain costs while ensuring financial sustainability in the face of decreasing fiscal funds. 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. In addition, 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.

I believe that these strategies will help NMISA achieve its goals and position the organisation for success in the coming years. We look forward to working with our stakeholders to make this vision a reality.

**Dr Jayne de Vos**  
Acting Accounting Officer

31 October 2024

## OFFICIAL SIGN-OFF

It is hereby certified that this Revised 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 2024/25–2026/27.

**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

**Dr Jayne de Vos**

Acting Accounting Officer

**Dr Jeseelan Pillay**

Director Chemical, Materials and Medical Metrology

**Dr Precious Motshwene**

Accounting Authority

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 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

The SI is continuously improved internationally, and the latest revision of the SI came into effect on 20 May 2019, World Metrology Day. In accordance with the Measurement Units and National Measurement Standards Act, new updates are gazetted. NMISA is responsible for maintaining the measurement units in accordance with the revised SI and ensuring that all international developments in units are appropriately legislated.

The Department of Trade, Industry and Competition (the dtic) has initiated a revision of the Measurement Act to align it with the latest international and local best practice. The main aspects to be addressed include: the role of NMISA in providing measurement services and traceability to government departments; measurement facilities (police forensics, Department of Health forensic laboratories, Department of Transport law enforcement agencies, etc.); the provision of metrology shared services to state-owned enterprises (SOEs) for better alignment with the Legal Metrology Act.

### A5.1 APPLICABLE ACTS

ACT	PURPOSE
Measurement Units and Measurement Standards Act, (Act No. 18 of 2006)	<ul style="list-style-type: none"> <li>To provide for the use of measurement units of the SI and certain other measurement units;</li> <li>To provide for the designation of national measurement units and standards;</li> <li>To provide for the keeping and maintenance of NMS and units;</li> <li>To provide for the establishment and functions of the National Metrology Institute (NMI);</li> <li>To provide for the repeal of certain laws; and</li> <li>To provide for matters connected therewith.</li> </ul>
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. Calibration services are provided in the following fields: pressure, torque and dimensional metrology.
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.

### A5.2 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.

### A5.3 UPDATES TO THE RELEVANT COURT RULINGS

A recent 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 applying 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 commercial calibration laboratories, provided accurate and reliable results.

The court ruling pertaining to speed measuring devices highlights the importance of being traceable to the NMS 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, for example the National Regulator for Compulsory Specifications (NRCS), for type approval and calibration, the South African National Accreditation System (SANAS) for accreditation as all speed calibration facilities must be accredited, and the South African Bureau of Standards (SABS) for the calibration procedures and technical guidelines. Furthermore, it informs the need for collaboration with the Road Traffic Management Corporation.

### A5.4 UPDATES TO INSTITUTIONAL POLICIES AND STRATEGIES

The NMISA Strategic Plan for 2024/25–2028/29 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

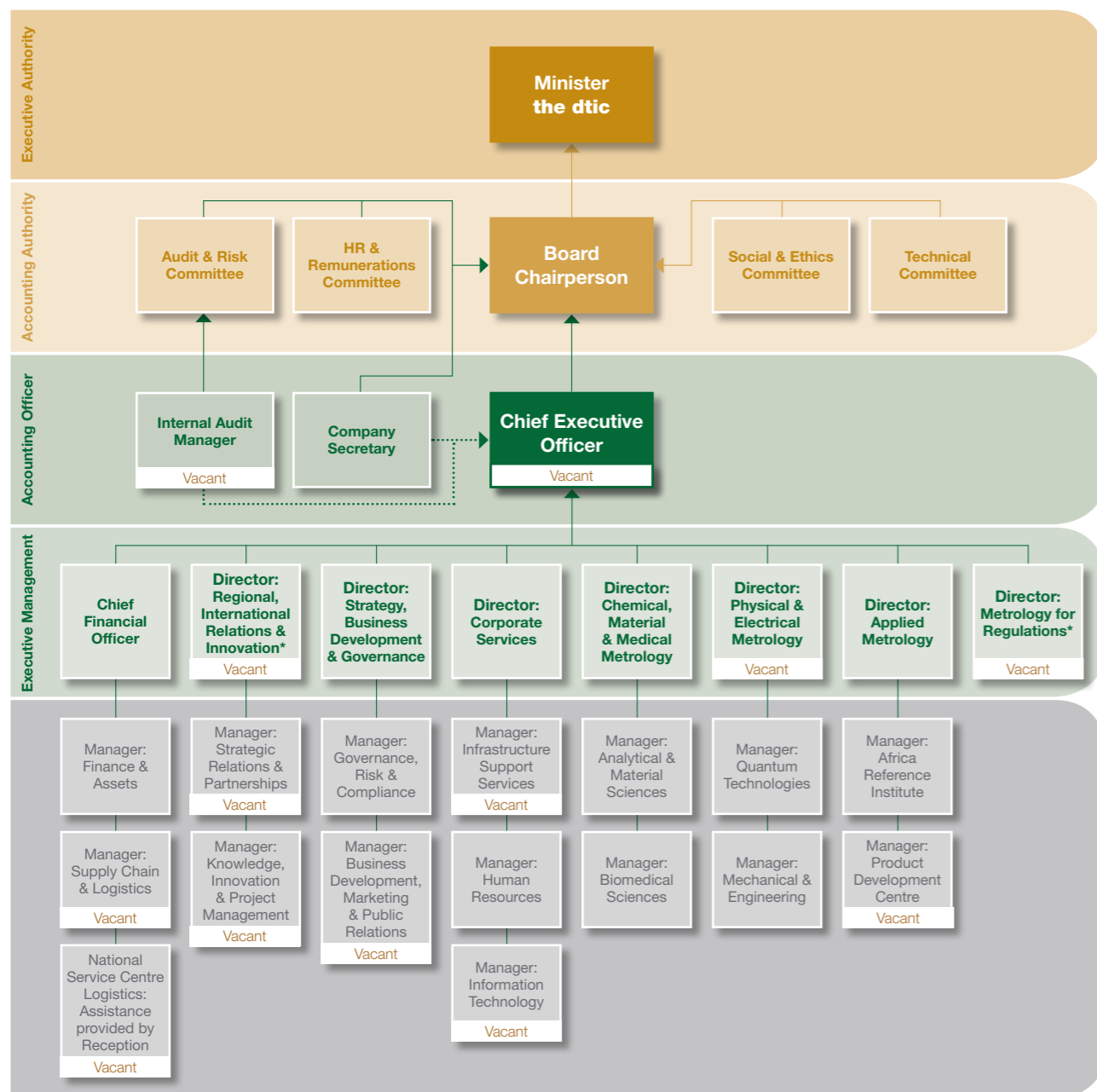
The TI entities collectively play a vital role in quality assurance and international acceptance of locally produced products. Metrology specifically plays a key role in enabling the effective functioning of laws and regulations. It provides the scientific foundation for measurement methods and traceable 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 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 in the following figure.



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

## B3 PERFORMANCE DELIVERY ENVIRONMENT (EXTERNAL)

NMISA performs research and development activities to deliver outcomes such as new and improved NMS or measurement methods, new certified reference materials (CRMs), and novel measurement solutions to industry. Operational processes within the programmes, and across the organisation, are governed by the quality management system to ensure organisational effectiveness.

### B3.1 ORGANISATIONAL EFFECTIVENESS

An overview of the technical divisions and constituent laboratories or units is given below.

TECHNICAL DIVISION	LABORATORIES/UNITS
<b>Chemical, Medical and Material Science Division</b>	<p><b>Analytical and Material Science:</b></p> <ul style="list-style-type: none"> <li>Inorganic Analysis</li> <li>Organic Analysis</li> <li>Gas Analysis</li> <li>Materials Characterisation</li> </ul> <p><b>Bio-medical Science:</b></p> <ul style="list-style-type: none"> <li>Radioactivity Standards</li> <li>Dosimetry Standards</li> <li>Audit Programme</li> </ul>
<b>Physical and Electrical Metrology Division</b>	<p><b>Quantum Technologies:</b></p> <ul style="list-style-type: none"> <li>DC Low Frequency and Radio Frequency</li> <li>Photometry and Radiometry</li> <li>Temperature and Humidity</li> <li>Time Frequency and Fiber Optics</li> </ul> <p><b>Mechanical and Engineering:</b></p> <ul style="list-style-type: none"> <li>Length, Dimensional and Coordinate Metrology</li> <li>Mass, Volume and Density</li> <li>Pressure and Vacuum</li> <li>Flow</li> <li>Vibration</li> <li>Acoustics</li> <li>Force and Torque</li> </ul>
<b>Applied Metrology Division</b>	<p><b>Africa Reference Institute:</b></p> <ul style="list-style-type: none"> <li>NMISA Training Centre</li> <li>Industrial Metrology Laboratory</li> <li>Reference Measurement Laboratory</li> </ul> <p><b>Product Development Centre (under development):</b></p> <ul style="list-style-type: none"> <li>Systems Support and Development Centre</li> <li>Production of Standards and Reference Materials</li> </ul>

### B3.2 QUALITY INFRASTRUCTURE

NMISA adheres to a total quality management system (TQMS) 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 20 laboratories are accredited to ISO/IEC 17025:2017 by SANAS. In addition, two laboratories are accredited against ISO 17034 to produce CRMs. Accreditation to ISO/IEC 17043 (for conducting PTS) has been attained for those laboratories providing PTS. NMISA services that are accredited and for which calibration and measurement capabilities (CMCs) are published in the international Key Comparison Database (KCDB), are internationally peer reviewed by AFRIMETS Technical Committee for Quality 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, guided by ISO 14001 and ISO 45001.

NMISA maintains more than 530 CMCs published in the international 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 % of NMISA's services are linked to the CMCs and are thus internationally accepted. This database of all internationally recognised measurement capabilities can be accessed at: [www.bipm.org/kcdb/](http://www.bipm.org/kcdb/).

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 processes. NMISA personnel act as technical experts on technical and advisory committees for other **dtic** TI organisations such as SANAS Special Technical Committees and SABS/ISO Technical Committees.

## B4 ORGANISATIONAL DELIVERY ENVIRONMENT (INTERNAL)

The trade of goods and services around the world is crucial not only to the global economy but also to domestic economic growth, productivity, and investment opportunities. For clients to consider trade to be fair and to benefit from it, measurements taken in different parts of the world must be accurate, equivalent to each other, and accepted by each country. Important decisions (economic, environmental, social, and medical) are based on measurement results.

### B4.1 THE NATIONAL MANDATE

NMISA has a very specific role in this context as the body in South Africa responsible to provide for the use of measurement units and measurement standards in accordance with the Act: without a measurement infrastructure it is difficult for the country to manufacture to local and international specifications and tolerances, and to ensure the integrity of commodities, locally and for the export market. Competitive manufacturing relies on accurate, internationally comparable measurement that is achieved through the establishment of 'traceability' of the measurement result 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.

### B4.2 ADVANCED MEASUREMENT CAPABILITIES

Through its recapitalisation programme, NMISA increased its scope of measurement capabilities to include measurement services for new and rapidly developing technologies, such as nanotechnology, optical techniques, and material sciences, among others. Service offerings through the utilisation of these technologies are dependent on the development of new measurement methods and measurement standards. This investment positioned NMISA to offer a suite of specialised measurement services. In the case of local automotive manufacturers, the suite of services includes surface analysis

of materials; high-accuracy dimensional measurements on components within small tolerances; compliance to regulations for automotive gas emissions; internal fibre optic communication networks; and the optical, thermal, and electrical properties of materials, among others.

In the absence of a local measurement infrastructure that is internationally recognised and accepted, local (automotive) manufacturers must import measurement traceability from their original equipment manufacturers at additional cost and time delays. A country without an appropriate metrology infrastructure would not be an attractive investment option for multinational manufacturing companies. By investing in the local metrology infrastructure, **the dtic** did not only establish the measurement systems and associated laboratory infrastructure, but also invested in the development of the scientific skills needed in young professionals locally to provide and sustain the service. Continued and sustained investment is needed to support, keep, and maintain the infrastructure to deliver on the mandate for the country.

### B4.3 INTERNATIONAL AND REGIONAL PARTICIPATION

Regionally, NMISA is the main provider of traceability to the SI for sub-Saharan Africa. In support of the Africa Continental Free Trade Area (AfCFTA), the Africa Reference Institute (ARI) of NMISA serves as a hub for offering measurement solutions and services to stakeholders on the African continent. Local and uniquely African products and services that are demonstrated to be internationally equivalent, eliminate the need for importing substitute products from overseas, thereby enhancing the continent's self-sustainable development.

In collaboration with **the dtic**, NMISA ensures that the interests of South Africa, SADC, and Africa are represented at the International Bureau of Weights and Measures (BIPM) – the intergovernmental organisation responsible for providing the basis for a single, coherent system of measurements throughout the world – under the supervision of the International Committee for Weights and Measures (CIPM), itself under the authority of the highest international decision-making body in metrology, the General Conference on Weights and Measures (CGPM).

The CIPM has established 10 Consultative Committees (CCs) to oversee and arrange for regular international comparison of the NMS realised by its member countries. The CCs bring together the world's best scientists in their specified fields as advisers on scientific and technical matters and directs the technical programmes at the headquarters. NMISA holds full membership of 9 of the 10 CCs (membership is bestowed based on the primary realisation of the units of the SI and continued technical competency). Further to this, at the most recent CGPM (November 2022), NMISA's position as the presidency of the CIPM was reinstated.

As the only NMI in Africa with membership of 9 CCs, NMISA provides an important link to the international measurement system for Africa and plays a leading role in the development of the metrology infrastructure in Africa and disseminated through participation in the Intra-Africa Metrology System (AFRIMETS), especially in support of South Africa's immediate neighbours in SADC. The importance of a sound metrology system (the backbone of technical regulations) is crucial for successful implementation of regional and continental free-trade agreements. This role is emphasised in **the dtic**'s strategic goals and South Africa's contribution towards mutual acceptance of measurement and testing results in the region (regional integration).

### B4.4 SKILLS DEVELOPMENT IN STEM FIELDS RELATED TO MEASUREMENT SCIENCE

NMISA needs an ongoing supply of well-trained, broadly experienced employees that meet the requirements of the current and future organisational strategy and objectives. Training and technical skills development of young scientists remains a critical need since metrology skills are not readily available in the job market, especially among young black professionals. A Training and Development Plan has been drafted to assist each measurement scientist, whether experienced or new in the field, in improving their skills and to establish a pipeline of young scientists specialising in measurement science through the bursary programme, onsite training in metrology, and internships. These young professionals are provided with skills suited to the industry and, where possible, are appointed permanently.

## B5 STAKEHOLDER ANALYSIS

As one of **the dtic**'s TI entities, NMISA is not only the link between the international measurement system and the South African measurement system, but also 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, pivotal 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
<b>National Government</b>	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
<b>the dtic</b>	Shareholder	High	High	Provide input in terms of master plans and economic recovery  Control and oversight
<b>NMISA Board of Directors</b>	Independent control oversight body	High	High	Control and oversight
<b>Consultative Forum</b>	Independent advisory body	High	High	Consultative advisory body
<b>The BIPM</b>	Acts in matters of world metrology	High	High	Concerned with measurement standards and the demonstration of equivalence between NMS
<b>Experts (local and international)</b>	Provide expertise in the field of metrology	High	High	Metrology matter experts
<b>Academia</b>	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
<b>AGSA/external auditors</b>	Tasked with the responsibility of oversight accountability and governance	High	High	Audit for compliance with legislation
<b>Clients</b>	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 its ability to compete in local and export markets	High	High	Quality infrastructure through the provision of measurement traceability to support trade (imports and exports)  <b>The dtic</b> joint KPIs for a capable South Africa
<b>Suppliers</b>	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
<b>TI entities (SABS, NRCS, SANAS)</b>	Metrology, standardisation, conformity assessment and accreditation are key elements of quality assurance of products	High	High	The TI entities supports <b>the dtic</b> in ensuring fair trade and reducing technical barriers to trade both internationally and locally
<b>Consumers</b>	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

NMISA adopted a balanced scorecard approach to set and measure performance targets. The scorecard addresses the maintenance of the NMS and the administrative support required to ensure that the organisation achieves its strategic objectives.

OUTCOME	KPI #	OUTCOME INDICATOR		BASELINE	2024/25	2025/26	2026/27
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	Annual realisation of 6 SI base units		6 SI base units realised annually	Realisation of 6 SI base units	Realisation of 6 SI base units	Realisation of 6 SI base units
	2	Percentage of metrological services offered covered by CMCs		85 %	86 %	87 %	88 %
	3	New and improved NMS and reference materials and reference methods		13	2	2	2
	4	ILCs and PTS initiated, administered, or participated in by NMISA		20	20	20	20
Improve financial stability and ensure sustainable growth	5	Achieve the annual real revenue growth rate <i>[adjusted for inflation]</i>		Revised KPI	≥ 5 %	≥ 5 %	≥ 5 %
	6	Diversification of revenue streams: % revenue earned in new categories of sources		New KPI	5 %	10 %	15 %
	7	Maintain visibility of NMISA in South Africa and the region		R2 606 023 AVE Social Media: Total number of followers: 9 042	Maintain AVE ≥ R1m Increase social media following ≥ 10 %	Maintain AVE ≥ R1m Increase social media following ≥ 10 %	Maintain AVE ≥ R1m Increase social media following ≥ 10 %
	8	Percentage of new clients serviced		New KPI	5 %	7 %	10 %
Maintain fast and efficient service delivery to clients	9	Client Satisfaction Score [not absence of complaints]		Revised KPI	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)
	10	Meeting target turnaround times for products and services		New KPI	80 %	85 %	90 %
	11	Client satisfaction rate for training courses presented		New KPI	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)
	12	Client retention rate		New KPI	70 %	73 %	75 %
	13	Percentage of clients served in geographical areas outside main metros		New KPI	3 %	5 %	10 %
	14	% of audit non-conformances cleared within target dates		New KPI	100 %	100 %	100 %
	15	Number of case studies submitted to <b>the dtic</b>		20	8	8	8
Develop and retain a capable workforce that is able to utilise world-class infrastructure to deliver specialised and innovative measurement solutions	16	Staff turn-over rate		New KPI	≤ 7 %	≤ 6 %	≤ 5 %
	17	Number of in-service trainees and interns hosted		5-year achievement of 105	6	6	6
	18	Number of staff leading new external collaborative agreements		New KPI	1	1	2
Effectively engage and collaborate with stakeholders to develop and strengthen mutually beneficial relationships in fulfilment of the NMISA mandate	19	New collaboration or service agreements with private, non-profit, or public entities		20	2	2	2
	20	% of active service/collaboration agreements		New KPI	≥ 70 %	≥ 75 %	≥ 80 %
	21	Number of outreach activities to entities within SEZs and outside main metropolitan areas		New KPI	2	2	2

## C2 NMISA PROGRAMMES

The development, maintenance and dissemination of the NMS are co-ordinated through dedicated programmes at NMISA. These sector-based programmes contribute to government key priorities and the national outcomes. Further to this, NMISA has aligned its key activities to the Re-imagined Industrial Strategy, the Master Plans, the Economic Reconstruction and Recovery Plan, and the National System of Innovation goals. Its activities have been grouped into two main programmes:

- Administration Programme; and
- Applied Measurement Services and Products (linked to the 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.

### 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 its financial, human, social, and environmental sustainability.

#### 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 Medium-Term Expenditure Framework (MTEF).
- 3 Maintaining fit-for-purpose information technology (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 OH&S, 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 clients, 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, are 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.

NMISA's activities support and contribute to key social, economic, and environmental needs. Accordingly, the programmes are as follows:



## 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 ARI 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 the rest of 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 in collaboration with the reference calibration and measurement centres.
- 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 SMMEs and the 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**  
The mechanical and electronics workshop and software design engineers will 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:

Through its centres, the ARI will provide 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 the 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; alternative methods for evidential breath alcohol testing; measurement traceability for testing services related to vehicle roadworthiness (numberplate visibility, window tint levels, vehicle load) and road signals (emergency warning lights, traffic lights).
- 3 CRMs 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) 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 and Radiometry, Dosimetry, Radioactivity, Temperature Metrology

#### EXPLANATION OF PLANNED PERFORMANCE:

1. CRMs 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 support reliable law enforcement on South African 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 alpha particle-emitting isotopes 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 ensure 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 Provide 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 and 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 the safe use of medical and nuclear technology in the country. A 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.

#### STRATEGIC FOCUS:

- |   |   |
|---|---|
| 1 | Measurement solutions for characterisation and verification of energy efficient lighting (LEDs) to support the lighting industry (manufacturers) and the NRCS.                  |
| 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.

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 newly 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 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, and 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 services for the beneficiation efforts of metals (e.g. nickel, steel), polymers and energy storage materials.   |
| 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, 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. International participation in comparative testing ensures relevance of the local service offering. Furthermore, the planned accreditation of the particle size distribution laboratory promises additional value to mining and minerals and other sectors wherein environmental monitoring is applicable.



## 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 SI 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 NMS 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 2025 and will become the national standard for mass in 2027. Thereafter, all mass measurements performed in South Africa will have to demonstrate traceability to this standard to prove accuracy.



## C2.2.7 DIGITAL ECONOMY TELECOMMUNICATIONS METROLOGY, QUANTUM OPTICAL METROLOGY, STANDARD FREQUENCIES AND TIME SIGNALS, 4<sup>TH</sup> INDUSTRIAL REVOLUTION – METROLOGY INITIATIVE

### PURPOSE:

The term 'digital economy' refers to the use of information technologies in the production of goods and services. NMISA has a well-established science, engineering, and IT base. The projects in this programme all focus on applying metrology knowledge through enabling technologies into usable solutions for clients. The focus areas, their purposes and application in industry are:

1. Providing reference high-accuracy time and frequency signals for SARA0 (SKA) as part of its time distribution infrastructure, which enables the SKA telescope to make synchronous observations with antennas at diverse locations. It includes investigation into the feasibility of an Africa Time Network – an anticipated collaborative effort between African NMIs for establishing an inter-Africa time network as a key component of a modern ICT infrastructure on the continent.
2. Developing a metrology framework for digital technologies through technology demonstrators with applications in energy distribution and manufacturing.

### STRATEGIC FOCUS:

- 1 Collaboration with the Square Kilometre Array Observatory 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.

### 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.



## 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.

### STRATEGIC FOCUS:

- 1 Reference measurements of emissions from manufacturing, agriculture, 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 regulation.
- 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 the 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.

### 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 with 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 of doing environmentally responsible business within the African continent.



## C2.2.9 AGRICULTURE AND FOOD

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

#### PURPOSE:

This programme 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. This programme 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  
 Development Projects: Food contaminants, Food labelling, Mycotoxins

#### 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. PTS 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 MTEF period, i.e. 2024/25 to 2026/27. The project details with specific deliverables and dates are available in the programme business plans for 2024/25.

### C3.1 PROGRAMME RESOURCE CONSIDERATIONS

#### 2024/25 to 2026/27 Budget Estimates

NMISA CONSOLIDATED BUDGET 2024/25–2026/27			
	2024/25	2025/26	2026/27
	R'000	R'000	R'000
		-5 % (average growth rate)	4 % (average growth rate)
<b>Revenue</b>	<b>205 992</b>	<b>196 247</b>	<b>204 585</b>
Transfers received	177 312	165 099	170 722
Rendering of service	24 680	27 148	29 863
Investment income	4 000	4 000	4 000
<b>Expenditure</b>	<b>205 992</b>	<b>196 247</b>	<b>204 585</b>
Administrative and operating expenditure	55 174	55 749	58 508
Employee cost	127 140	119 512	119 512
Computer services	11 552	12 014	12 567
Repairs and maintenance	7 778	8 073	8 444
Audit fees	848	899	940
Capital expenditure	3 500	-	4 614

### C3.2 EXPENDITURE ESTIMATES

STATEMENT OF FINANCIAL PERFORMANCE	AUDITED	AUDITED	AUDITED	APPROVED	AVERAGE	EXPENDITURE/	MEDIUM-TERM ESTIMATE			AVERAGE	EXPENDITURE/
	OUTCOME	OUTCOME	OUTCOME		BUDGET	GROWTH	TOTAL:	2024/25	2025/26	2026/27	GROWTH
R thousand	2020/21	2021/22	2022/23	2023/24	(%)	AVERAGE	2024/25	2025/26	2026/27	(%)	AVERAGE
						(%)					(%)
<b>Revenue</b>											
Tax revenue	-	-	-	-	-	-	-	-	-	-	-
Non-tax revenue	23 689	27 241	31 659	34 736	13.6 %	12.9 %	28 680	31 148	33 863	-0.8 %	16.2 %
Sale of goods and services other than capital assets	14 833	18 701	24 653	22 436	14.8 %	8.8 %	24 680	27 148	29 863	10.0 %	13.1 %
Sales of goods and services produced by entity of which:	14 833	18 701	24 653	22 436	14.8 %	8.8 %	24 680	27 148	29 863	10.0 %	13.1 %
Administrative fees	-	-	-	-	-	-	-	-	-	-	-
Sales by market establishment	14 833	18 701	24 653	22 436	14.8 %	8.8 %	24 680	27 148	29 863	10.0 %	13.1 %
Other sales	-	-	-	-	-	-	-	-	-	-	-
Sales of scrap, waste, arms and other used current goods	-	-	-	-	-	-	-	-	-	-	-
Other non-tax revenue	8 856	8 540	7 006	12 300	11.6 %	4.0 %	4 000	4 000	4 000	-31.2 %	3.1 %
Transfers received	223 331	261 716	195 704	152 722	-11.9 %	87.1 %	177 312	165 099	170 722	3.8 %	83.8 %
<b>Total revenue</b>	<b>247 020</b>	<b>288 957</b>	<b>227 363</b>	<b>187 458</b>	<b>-8.8 %</b>	<b>100.0 %</b>	<b>205 992</b>	<b>196 247</b>	<b>204 585</b>	<b>3.0 %</b>	<b>100.0 %</b>
<b>Expenses</b>											
Current expenses	239 551	253 542	256 748	187 458	-7.8 %	100.0 %	205 992	196 247	204 585	3.0 %	100.0 %
Compensation of employees	131 570	133 068	127 404	121 980	-2.5 %	55.5 %	127 140	119 512	119 512	-0.7 %	61.5 %
Goods and services	66 654	76 736	79 086	65 478	-0.6 %	31.0 %	78 852	76 735	85 073	9.1 %	38.5 %
Depreciation	41 114	43 733	50 258	-	-100.0 %	13.5 %	-	-	-	-	-
Interest, dividends and rent on land	213	5	-	-	-100.0 %	-	-	-	-	-	-
Transfers and subsidies	-	-	-	-	-	-	-	-	-	-	-
<b>Total expenses</b>	<b>239 551</b>	<b>253 542</b>	<b>256 748</b>	<b>187 458</b>	<b>-7.8 %</b>	<b>100.0 %</b>	<b>205 992</b>	<b>196 247</b>	<b>204 585</b>	<b>3.0 %</b>	<b>100.0 %</b>
<b>Surplus/(Deficit)</b>	<b>7 469</b>	<b>35 415</b>	<b>(29 385)</b>	<b>-</b>	<b>-100.0 %</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	

### C3.3 OUTCOMES, OUTPUTS, PERFORMANCE INDICATORS AND TARGETS

NMISA has aligned its key performance indicators to support the strategic thrusts of the organisation and business model.

#### C3.3.1 Programme Performance Indicators 2025/27

IMPACT/OUTCOME	OUTPUT	OUTCOME INDICATOR	ACTUAL PERFORMANCE			ESTIMATED PERFORMANCE	MEDIUM-TERM TARGETS			
			2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	
<b>Programme 1: Administration</b>										
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	10 % increase in visibility	Maintain AVE ≥ R1m. Increase social media following ≥ 10 %	Maintain AVE ≥ R1m. Increase social media following ≥ 10 %	Maintain AVE ≥ R1m. Increase social media following ≥ 10 %
Maintain fast and efficient service delivery to clients	Case studies of stakeholders impacted by products or services delivered by NMISA	Number of case studies submitted to <b>the dtic</b>		New KPI	New KPI	New KPI	15	8	8	8
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	New KPI	≤ 7 %	≤ 6 %	≤ 5 %
		Number of in-service trainees and interns hosted		15	31	34	19	6	6	6
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	New collaboration or service agreements with private, non-profit, or public entities		New KPI	New KPI	New KPI	New KPI	2	2	2
		% of active service/collaboration agreements		New KPI	New KPI	New KPI	New KPI	≥ 70 %	≥ 75 %	≥ 80 %
	Collaboration firms within SEZs for the provision of measurement services	Number of outreach activities to entities within SEZs and outside main metropolitan areas		New KPI	New KPI	New KPI	New KPI	2	2	2
<b>Programme 2: Dissemination of Measurement Services and Products for Industry, SOEs and Regulatory Support (Applied Metrology)</b>										
Ensure regional, continental, and international comparability of the South African measurement infrastructure	Implementation of the revised SI	Annual realisation of 6 SI base units		6 SI units realised	6 SI units realised	6 SI units realised	6 SI units realised	6 SI units realised	6 SI units realised	6 SI units realised
	Linking the national and regional measurement system internationally	Percentage of metrological services offered covered by CMCs		80 %	90.52 %	91 %	86 %	87 %	88 %	89 %
	Implementation of the revised SI	New and improved NMS and reference materials and reference methods		25	28	23	20	2	2	2
	Support the implementation of the AfCFTA agreement through active participation in the activities of regional metrology organisations	ILCs and PTS initiated, administered, or participated in by NMISA		23 (ILCs and PTS organised and completed)	25 (ILCs and PTS organised and completed)	23 (ILCs and PTS organised and completed)	22 (ILCs and PTS organised and completed)	20 (ILCs and PTS organised and completed)	20 (ILCs and PTS organised and completed)	20 (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 653 025.01	R30 000 000	≥ 5 %	≥ 5 %	≥ 5 %
		Diversification of revenue streams: % revenue earned in new categories of sources		New KPI	New KPI	New KPI	New KPI	5 %	10 %	15 %
		Percentage of new clients serviced		New KPI	New KPI	New KPI	New KPI	5 %	7 %	10 %
Maintain fast and efficient service delivery to clients	Cultivating a client-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	Revised KPI	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)
		Meeting target turnaround times for products and services		New KPI	New KPI	New KPI	New KPI	80 %	85 %	90 %
		Client satisfaction score for training courses presented		New KPI	New KPI	New KPI	New KPI	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)
		Client retention rate (over 2 years)		New KPI	New KPI	New KPI	New KPI	70 %	73 %	75 %
	Extend the reach of the national measurement system to increase support to districts outside the 5 main metros	Percentage of clients served in geographical areas outside main metros		New KPI	New KPI	New KPI	New KPI	3 %	5 %	10 %
	Proactively eliminating non-compliance and enhancing governance, fostering a culture of accountability and adherence to regulatory standards	% of audit non-conformances cleared within target dates		New KPI	New KPI	New KPI	New KPI	8	8	8
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 staff leading new external collaborative agreements		New KPI	New KPI	New KPI	New KPI	1	1	2

C3.3.2 Quarterly Targets 2024/25

OUTPUT	PERFORMANCE MEASURE OR OUTCOME INDICATOR	BASELINE	ANNUAL TARGET 2024/25		1 <sup>ST</sup> QUARTER MILESTONE	2 <sup>ND</sup> QUARTER MILESTONE	3 <sup>RD</sup> QUARTER MILESTONE	4 <sup>TH</sup> QUARTER MILESTONE
<b>Programme 1: Administration</b>								
Sustained revenue growth	KPI 7. Maintain visibility of NMISA in South Africa and the region	R2 606 023 AVE Social Media: Total number of followers: 9 042	Maintain AVE ≥ R1m. Increase social media following ≥ 10 %		AVE – SM followers: 2.5 % increase	AVE – SM followers: 2.5 % increase	AVE – SM followers: 2.5 % increase	AVE ≥ R1m SM followers: 2.5 % increase
	KPI 15. Number of case studies submitted to <b>the dtic</b>	20	8		2	2	2	2
Retain a capable workforce	KPI 16. Staff turn-over rate	8 %	≤ 7 %		≤ 9 %	≤ 8 %	≤ 7 %	≤ 7 %
	KPI 17. Number of in-service trainees and interns hosted	19	6 (non-cumulative)		3	6	6	6
Develop and strengthen mutually beneficial stakeholder relationships	KPI 19. New collaboration or service agreements with private, non-profit, or public entities	20	2		-	-	-	2
	KPI 20. Percentage of active service/collaboration agreements	New KPI	≥ 70 %		-	-	-	≥ 70 %
	KPI 21. Number of outreach activities to entities within SEZs and outside main metropolitan areas	New KPI	2		-	1	-	1
<b>Programme 2: Dissemination of Measurement Services and Products for Industry, SOEs and Regulatory Support (Applied Metrology)</b>								
Ensure regional, continental, and international comparability of the South African measurement infrastructure	KPI 1. Annual realisation of 6 base SI units	6 SI base units realised annually	Realisation of 6 SI base units		-	-	-	6
	KPI 2. Percentage of metrological services offered covered by CMCs	85 %	86 %		-	-	-	86 %
	KPI 3. New and improved NMS and reference materials and reference methods	13	2		-	-	-	2
	KPI 4. ILCs and PTS initiated, administered, or participated in by NMISA	Revised KPI	20		-	-	-	20
Improve financial stability and ensure sustainable growth	KPI 5. Achieve the annual real revenue growth rate (adjusted for inflation)	Revised KPI	≥ 5 % of real revenue growth by year-end		15 % of annual revenue target achieved	40 % of annual revenue target achieved	75 % of annual revenue target achieved	100 % of revenue target achieved
	KPI 6. Diversification of revenue streams: % revenue earned in new categories of sources	New KPI	5 %		-	-	-	5 %
	KPI 8. Percentage of new clients serviced	New KPI	5 %		-	-	-	5 %

OUTPUT	PERFORMANCE MEASURE OR OUTCOME INDICATOR	BASELINE	ANNUAL TARGET 2024/25	1 <sup>ST</sup> QUARTER MILESTONE	2 <sup>ND</sup> QUARTER MILESTONE	3 <sup>RD</sup> QUARTER MILESTONE	4 <sup>TH</sup> QUARTER MILESTONE
Maintain fast and efficient service delivery to clients	KPI 9. Client Satisfaction Score	Revised KPI	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)
	KPI 10. Meeting target turnaround times for products and services	New KPI	80 %	70 %	70 %	75 %	80 %
	KPI 11. Client satisfaction score for training courses presented	New KPI	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)	≥ 70 % (≥ 3.5 on a 5-point scale)
	KPI 12. Client retention (over 2 years)	New KPI	70 %	-	-	-	70 %
	KPI 13. Percentage of clients served in geographical areas outside main metros	New KPI	3 %	-	-	-	3 %
	KPI 14. % of audit non-conformances cleared within target dates	New KPI	100 %	100 %	100 %	100 %	100 %
Develop and retain a capable workforce	KPI 18. Number of staff leading new external collaborative agreements	New KPI	1	-	-	-	1



## C4 NMISA CONTRIBUTION TO THE DTIC CORE OUTPUTS FOR THE 5,4% GROWTH PLAN

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 proven 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 CRMs, 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.



#### C4.1 NMISA CONTRIBUTION TO THE DTIC STRATEGIC INTERVENTIONS

DTIC STRATEGIC INTERVENTIONS	NMISA OUTPUTS	OUTPUT INDICATORS		ANNUAL TARGETS					5-YEAR TARGET
				MTEF PERIOD					
				2024/25	2025/26	2026/27	2027/28	2028/29	
<b>DTIC Core Outcome: Increased employment opportunities (10 million jobs created)</b>									
<b>Job training programmes</b>	Create at least 45 sustainable jobs by securing the funding to employ additional scientists and/or engineers in fields relevant to metrology and its applications.  <i>(Can be increased to account for additional support staff urgently needed.)</i>	Number of scientists and/or engineers permanently appointed		Secure the funding to appoint scientists and/or engineers beyond the current budget allowance	8	10	12	15	45
<b>DTIC Core Outcome: Increased infrastructure investment (R3 trillion invested)</b>									
<b>Support Infrastructure Investment</b>	Support the implementation of the Just Energy Transition Investment Plan (JET-IP) by providing precise measurement services for carbon emissions to assist South African Industries (particularly manufacturing and agriculture) in reducing, quantifying and/or validating their carbon footprint. This will ensure compliance with climate-related trade measures, such as the carbon border adjustment mechanism (CBAM), which makes South Africa more attractive for foreign investment.	Support energy-efficiency standards and/or regulations for lighting products by establishing a fully operational, accredited measurement facility for energy efficient lighting, achieved through securing grant funding.  <i>(Measurement science and technology support for energy efficient technologies to aid Minimum Energy Performance Standards (MEPS))</i>		Secure the necessary financial resources to establish measurement services for energy efficient lighting products (LEDs)	Establish and resource a measurement facility for energy efficient lighting products (LEDs)	Implement a total quality management system in preparation for accreditation	Achieve SANAS accreditation and offer accredited measurement services to industry	Expand the measurement services to African countries to lock out inferior quality lighting products and boost intra Africa trade	New accredited measurement services for LED lighting products established to lock out inferior quality lighting products
<b>Greening the Economy</b>		New/improved measurement capabilities delivered for green industrialisation, including green hydrogen and other energy sources that reduce the carbon footprint  <i>(Measurement traceability provided for greening of coal extraction, greenhouse gas emissions, and cleaner hydrogen production)</i>		Secure collaboration agreement(s) to support development of measurement capabilities for green industrialisation	3	4	5	5	17
<b>Beneficiation of Critical Minerals</b>	Support the dtic/DMRP Regional Critical Minerals (RCM) Strategy Framework	Number of service/research collaboration agreements (of value ≥R100k) with key clients / stakeholders to enhance the local characterisation of critical minerals by providing high-accuracy analytical techniques and primary methods. Specific targets will be defined in more detail as these agreements are established.  <i>(Measurement traceability for gold fingerprinting, platinum group minerals (quality control for export), electric vehicle (EV) battery composition)</i>		Secure 1 service/research collaboration agreement	Secure 2 service/research collaboration agreements  Delivering services that include reference measurements, failure analysis and assessment of content integrity.	Secure 3 service/research collaboration agreements providing value addition through high-accuracy characterisation of critical minerals	Maintain 3 existing and securing 1 new service/research collaboration agreements providing value addition through high-accuracy characterisation of critical minerals	Maintain 4 existing and securing 1 new service/research collaboration agreements providing value addition through high-accuracy characterisation of critical minerals	Maintain 5 active service/research collaboration agreements providing high accuracy analytical services as specified to key stakeholders identified in Year 1–4

DTIC STRATEGIC INTERVENTIONS	NMISA OUTPUTS	OUTPUT INDICATORS		ANNUAL TARGETS					5-YEAR TARGET
				MTEF PERIOD					
				2024/25	2025/26	2026/27	2027/28	2028/29	
<b>Strengthen Masterplans</b>	NMISA to work with <b>the dtic</b> to partner with investors (through an incentive scheme) to provide (measurement solutions) metrological services locally.	Integrate metrology support services (as part of the larger Technical Infrastructure framework) during each Masterplan review		Participate in <b>the dtic</b> review of the Cannabis Masterplan	NMISA to participate in <b>the dtic</b> review of the Sugar Masterplan	NMISA to participate in <b>the dtic</b> reviews of the RCTLF and Poultry Masterplans	NMISA to participate in the review and/or drafting of Masterplans as scheduled by <b>the dtic</b>	NMISA to participate in the review and/or drafting of Masterplans as scheduled by <b>the dtic</b>	Metrological aspects considered in all Masterplans reviewed and/or drafted during the period
<b>Core Outcome: Increased Support for SMMEs (255 000 SMMEs Supported)</b>									
Support Government Procurement of Locally Manufactured Goods and Services	Support <b>the dtic</b> objective of increasing localisation by 30% in both public and private sectors, by providing support services to SMMEs to enhance their ability to compete in the local market	Number of SMMEs trained or supported by measurement services offered by NMISA		15	20	25	25	25	110
<b>Core Outcome: Increased Tourism (Arrival of 15 million international tourists)</b>									
Export Focus	Support the implementation of the AfCFTA to increase SA exports to the rest of the continent by hosting events for the purpose of facilitating harmonisation of metrology systems	Number of international visitors hosted		10	20	40	30	120 (international conference)	220
<b>Core Outcome: Increased Opportunities to Gain Work Experience (2,1 million people to gain work experience)</b>									
Job Training Programs (Opportunities for youth)	Sustain and enhance NMISA's Human Capital Development (HCD) Programme by securing funding to host interns, thereby providing work experience to young graduates	Number of in-service interns or trainees hosted		6	13	15	18	20	72
<b>Core Outcome: Increase Support to Subsistence Farmers (441 000 subsistence farmers supported)</b>									
Job Training Programs (Opportunities for SMMEs)	Emerging producers of essential oils, cannabis products, and other commodities supported with measurement and/or training services to enhance the quality of their products	Number of emerging producers supported with measurement and/or training services		5	7	10	13	15	50
<b>Core Outcome: 200 Industrial Parks and District Development Model Transformation</b>									
Increase Investment in Underserved Areas	Provide measurement and/or training services to firms/SOEs within SEZs, enabling them to meet the performance and safety requirements of standards and regulations, which is essential for competing in the market	Number of new SOEs and/or companies within SEZs and/or in Industrial Parks serviced by NMISA <i>(included in NMISA KPI 18)</i>		5	7	7	7	9	35
<b>Core Outcome: Increased Exports (1 trillion exports)</b>									
Export Focus	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	Number of African countries contracting NMISA's metrology services and products annually		5	7	10	11	12	12
		Number of ILCs and PTS organised and completed within AFRIMETS		2	4	4	6	6	22
		Percentage of metrological services offered by NMISA that have been reviewed and approved within the CIPM Mutual Recognition Arrangement and published as Calibration and Measurement Capabilities (CMCs) in the international BIPM Key Comparison Database (KCDB)		87%	88%	89%	89%	90%	90%
<b>Core Outcome: Reduction of Red Tape</b>									
Investment in Innovation and Commercialisation of Technologies	Invest in the digital transformation of metrology in line with global developments to support industrial digitalisation	Number of new/improved digital solutions implemented to increase operational efficiency and/or improve client experiences		1	2	2	2	3	10
		Develop and implement digital calibration certificates (DCCs)		A feasibility study for the development of Digital Calibration Certificates concluded	Funding secured to initiate the development of Digital Calibration Certificates	NMISA Digital Calibration Certificate prototype system designed and built	NMISA Digital Calibration Certificate prototype system demonstrated to 2 potential clients	Commercialisation of the Digital Calibration Certificate	Digital Calibration Certificates developed and implemented in South Africa
		Implement a government backed credit system for funding that can be redeemed for services. This digital platform will provide SMMEs with easy, affordable access to metrology and other quality assurance services, resources, and tools to help them meet global quality and measurement standards.		Garner stakeholder support for a SMME credit system	Complete a feasibility study for the development of a SMME credit system	Develop a concept design	Demonstrate proof of concept	Roll out a beta version for testing	Launch a beta version of a digital credit system for SMMEs to redeem quality assurance services

## C5 UPDATED KEY RISKS

RISK NAME	EXISTING CONTROLS	RESIDUAL RATING	CORRECTIVE ACTION PLANS
<b>Ineffective Governance Processes</b>	<ol style="list-style-type: none"> <li>Awareness processes in place – i.e. Policies are uploaded on SharePoint for staff to access.</li> <li>Internal audit reviews.</li> <li>Policies tabled at different structures, i.e. SMC and Audit Committee review of policies before approval.</li> <li>Regular review and benchmarking to best practice and prescripts.</li> <li>Performance agreements/contracts signed with all employees annually.</li> <li>Approved organisational structure.</li> <li>Organisational policies in place.</li> </ol>	15	<ol style="list-style-type: none"> <li>Corporate Governance Framework required to address all policy, organisational structure and governance issues of the organisation.</li> <li>Board Evaluation/Peer-evaluation to be carried out.</li> <li>Review and update policies due for renewal.</li> </ol>
<b>Fraud and Corruption</b>	<ol style="list-style-type: none"> <li>Fraud Prevention and Anti-Corruption Policy.</li> <li>Fraud awareness campaigns conducted annually.</li> <li>Hotline facility.</li> <li>Code of Conduct for both staff and governance structures.</li> <li>Annual Declaration of Interests conducted for all employees.</li> <li>HR procedures (i.e. vetting and background checks on all recruitments).</li> <li>Disciplinary Policy.</li> </ol>	20	<ol style="list-style-type: none"> <li>Training staff on NMISA Ethics Policy and Procedures.</li> <li>Detailed analysis of the Declarations Of Interest by Board Members and Management.</li> <li>Conduct fraud risk assessments on an operational level.</li> <li>Develop a Fraud Prevention Plan.</li> </ol>
<b>Non-compliance with Key Legislation</b>	<ol style="list-style-type: none"> <li>NMISA Compliance Universe.</li> </ol>	16	<ol style="list-style-type: none"> <li>Develop a Compliance Framework for NMISA.</li> <li>Conduct a compliance risk assessment.</li> <li>Develop the POPI policy and manual.</li> <li>Conducting internal training and awareness on compliance management.</li> </ol>
<b>High Staff Turnover</b>	<ol style="list-style-type: none"> <li>Remuneration Policy and Strategy.</li> <li>Staff Retention Strategy and Draft Succession Plan.</li> <li>Performance Management Procedure.</li> <li>Delegation of Authority.</li> <li>Recruitment Policy and Recruitment Plan.</li> </ol>	25	<ol style="list-style-type: none"> <li>Review the Remuneration Policy and Strategy.</li> <li>Present the reviewed staff retention strategy and the succession plan and/or strategy for approval.</li> <li>Plan to provide non-financial incentives to be developed.</li> <li>Develop PMDS Policy.</li> <li>Review Delegation of Authority to address extraordinary circumstances, e.g. the organisation does not have a Board, nor a CEO/Acting CEO.</li> <li>Appoint temporary employees to help alleviate the workload and consider lateral transfer of staff as far as possible.</li> <li>Completion of the Workplace Skills Plan Reports to allow NMISA to access the skills levy paid to the relevant SETA for training of key personnel in relevant and critical courses.</li> <li>Review of the organisational structure in line with the 2024/25–2028/29 Strategic Plan (Work study).</li> </ol>

RISK NAME	EXISTING CONTROLS	RESIDUAL RATING	CORRECTIVE ACTION PLANS
<b>Financial Sustainability – Continuous cuts in grant allocation</b>	<ol style="list-style-type: none"> <li>Lobbying stakeholders at various conferences.</li> <li>NMISA Stakeholder Engagement Plan.</li> </ol>	15	<ol style="list-style-type: none"> <li>Alignment and demonstration of economic impact of mandate to relevant <b>dtic</b> output targets within the budget constraints.</li> <li>Board to engage with <b>the dtic</b> regarding the impact of the budget cuts on the financial sustainability of NMISA and the impact thereof.</li> <li>Increased diversification of income sources, including research grants, donor funding, contract research agreements with private companies, government departments, academia, science councils, and tenders, etc.</li> <li>Client Satisfaction Survey undertaken to retain existing clients for services and products offered – comparison of services received from NMISA and other service providers.</li> <li>Review and prioritise CMCs in accordance with industrial requirements for resource allocation.</li> <li>Increase earned media and digital marketing activities to meet the organisation's target for visibility in the market – boost public appearances.</li> <li>Measures in place on cutting rental, water and electricity expenses.</li> <li>Alignment of current Revenue Generation Strategy and Marketing Strategy with the newly developed overall 5-Year Strategy.</li> </ol>
<b>Cyberattacks</b>	<ol style="list-style-type: none"> <li>Technology and Information Policy.</li> <li>ICT standard operating procedures.</li> <li>Licence support agreement for FortiGate Firewall.</li> <li>Intrusion and detection system (endpoint and servers).</li> <li>IT Steering Committee.</li> <li>Internal audit reviews/assurance (review of security).</li> <li>Awareness and training conducted annually (i.e. KnowB4 awareness training).</li> </ol>	12	<ol style="list-style-type: none"> <li>Set up demilitarised zones to contain and protect against infection.</li> <li>Implement National Institute of Standards and Technology cyber security framework.</li> <li>Train the Security Incident Response Team to manage security incidents.</li> <li>Develop a POPIA Roadmap for IT.</li> <li>Continuous monitoring of IT systems; review and improvement will be implemented in the financial year to ensure these are unassailable.</li> <li>Upgrade systems to ensure they are unassailable.</li> </ol>
<b>Changing Political Landscape</b>	<ol style="list-style-type: none"> <li>NMISA Act.</li> <li>Fully Constituted Board.</li> </ol>	12	<ol style="list-style-type: none"> <li>Enhance the Stakeholder Engagement Plan to enable the organisation to maintain positive relationships with key stakeholders.</li> <li>Establish a team that will be responsible for monitoring political developments.</li> </ol>
<b>Interruption to operations and client services</b>	<ol style="list-style-type: none"> <li>Business Continuity Management (BCM) Policy.</li> <li>Disaster Recovery Team.</li> <li>Risk Management Policy and Framework.</li> <li>Sectional Business Continuity Plans.</li> </ol>	12	<ol style="list-style-type: none"> <li>Conduct BCM Testing.</li> <li>Compile the BCM Strategy.</li> <li>Conduct the BCP Risk Assessment.</li> </ol>

## 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 should 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 that 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 2022/23 ANNUAL REPORT	MATERIALITY AMOUNT
Total Revenue	0,5 %-1 %	0,5 %	R227 362 668	R1 136 813
Total Assets	1 %-2 %	1 %	R680 063 062	R6 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 PFMA and accompanying Treasury Regulations, is detailed in the following table:

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 authorised by the PFMA; and in the case of public entities, is also authorised 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 five-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.



# 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	Annual realisation 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 utilised by clients are covered by CMCs	
3	New and improved NMS and reference materials and reference methods	
4	ILCs and PTS initiated, administered, or participated in by NMISA	
5	Real annual revenue growth rate achieved	Improve financial stability and ensure sustainable growth
6	Diversification of revenue streams: % revenue earned in new categories of sources	
7	Maintain visibility of NMISA in South Africa and the region	
8	Percentage of new clients served	
9	Client Satisfaction Score (not absence of complaints)	Maintain fast and efficient service delivery to clients
10	Meeting target turnaround times for products and services	
11	Client satisfaction score for training courses presented	
12	Client retention rate (over 2 years)	
13	Percentage of clients served in geographical areas outside of the main metros	
14	% of audit non-conformances raised that were cleared within the target dates	
15	Number of case studies submitted to <b>the dtic</b>	
16	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
17	Number of in-service trainees hosted	
18	Number of staff leading collaborative agreements	Effectively engage and collaborate with stakeholders to develop and strengthen mutually beneficial relationships in fulfilment of the NMISA mandate
19	New collaboration or service agreements with private, non-profit, or public entities	
20	Percentage of active service/collaboration agreements	
21	Number of outreach activities to entities within SEZs and outside main metropolitan areas	

## D1.1 DETAILED INDICATOR DESCRIPTIONS

Indicators were defined according to the *Revised Framework for Strategic Plans and Annual Performance Plans* document, published by National Treasury.

KPI 1: REALISATION OF THE SI BASE UNITS	
Indicator title (Output)	Realisation of the SI Base units
<b>Definition</b>	As stipulated in the Measurement Units and Measurement Standards Act, (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 NMS and ensure that these are internationally equivalent and accepted. The SI base units realised by NMISA include that for mass (kilogram), time (second), length (metre), temperature (kelvin), luminous intensity (candela) and current (ampere). New primary realisation methods are to be phased in as these are developed.
<b>Source/collection of data</b>	Gazetted NMS. New development and/or realisations of SI units performed annually. Maintenance of SI units reported quarterly.
<b>Method of calculation</b>	Simple count
<b>Means of verification</b>	Gazetted NMS, supporting plans and reports
<b>Assumption</b>	Equivalence to international standards, Implementation of the Revised SI as captured in the gazetted NMS.
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	Not applicable
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	The South African NMS as published in the Government Gazette must be realised and maintained as provided for in the Measurement Units and Measurement Standards Act, (Act No. 18 of 2006).
<b>Indicator responsibility</b>	Physical and Electrical Metrology Division

KPI 2: PERCENTAGE OF METROLOGICAL SERVICES COVERED BY CALIBRATION AND MEASUREMENT CAPABILITIES (CMCS)	
Indicator title (Output)	Percentage of Metrological services utilised by clients covered by CMCs
<b>Definition</b>	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.
<b>Source/collection of data</b>	SHEQ report showing the number of CMCs in Appendix C of the international BIPM KCDB, published at <a href="http://www.bipm.org">www.bipm.org</a> , NMISA scopes of accreditation and calibration certificates.
<b>Method of calculation</b>	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.
<b>Means of verification</b>	Official records of the Schedules of Accreditation and CMCs.
<b>Assumption</b>	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.
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	Not applicable
<b>Calculation type</b>	Cumulative
<b>Reporting cycle</b>	Annually
<b>Desired performance</b>	CMCs that meet stakeholders' needs.
<b>Indicator responsibility</b>	Technical divisions and SHEQ

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

KPI 4: INTER-LABORATORY COMPARISONS (ILCS) AND PROFICIENCY TESTING SCHEMES (PTS) INITIATED, ADMINISTERED, OR PARTICIPATED IN BY NMISA	
<b>Indicator title (Output)</b>	<b>ILCs and PTS initiated, administered, or participated in by NMISA</b>
<b>Definition</b>	ILCs or PTS initiated, administered, or participated in by NMISA to demonstrate international equivalence of its NMS 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.
<b>Source/collection of data</b>	Project plans, progress reports and/or final reports (draft A, B and final report). Successful participation is confirmed in the final report.
<b>Method of calculation</b>	Simple count of ILCs, PTSs, and dosimetry audits concluded during the period.
<b>Means of verification</b>	Submission of project plans, progress reports, hospital audit results and/or draft A, B and final reports.
<b>Assumption</b>	Accuracy and confidence in measurement results for South Africa and the region.
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	Not applicable
<b>Calculation type</b>	Cumulative year end
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	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.
<b>Indicator responsibility</b>	Technical divisions

KPI 5: INCOME GENERATED FROM ALL SERVICES, SALES OF PRODUCTS AND OTHER KNOWLEDGE DISSEMINATION ACTIVITIES	
<b>Indicator title</b>	<b>Real annual revenue growth rate achieved</b>
<b>Definition</b>	Percentage growth in real revenue from the prior 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.).
<b>Source of data</b>	A report of income is downloadable from NMISA's financial system and provided by Finance.
<b>Method of calculation/Assessment</b>	Revenue is determined in line with Generally Recognised Accounting Practice.  The annual target for the real revenue growth rate (RRGR) is calculated from the nominal revenue growth rate (NRGR) and Bureau for Economic Research (BER) average inflation rate forecast for the year:  $RRGR = \left[ \frac{NRGR + 1}{Inflation + 1} \right] - 1$ <p>For example (2024/25):</p> $RRGR_{2024} = \left[ \frac{0.10 + 1}{0.0478 + 1} \right] - 1 = 5 \%$ The BER forecasts 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 (year-end 2023/24 value) provides the revenue target for 2024/25, distributed over the financial year as per quarterly targets.
<b>Means of verification</b>	Finance report submitted every quarter
<b>Assumptions</b>	Measurement traceability to industry through calibration, measurement services, analysis, consultation, research grants and donor projects
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	None
<b>Calculation type</b>	Cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	Meet and/or exceed annual financial revenue target for sustainability
<b>Indicator responsibility</b>	Technical divisions and Strategy, Business Development and Governance (SBDG)



KPI 6: DIVERSIFICATION OF REVENUE STREAMS: PERCENTAGE REVENUE EARNED IN NEW CATEGORIES OF SOURCES	
<b>Indicator title (Output)</b>	<b>Percentage of revenue earned in new categories of sources</b>
<b>Definition</b>	The percentage of total revenue earned from new categories of sources, which includes a new market/sector, new donors, new public sponsor, new private sponsor of measurement research and development, products or services.
<b>Source/collection of data</b>	Database of invoiced revenue.
<b>Method of calculation</b>	Percentage of revenue earned from new categories of sources to total revenue earned. A new source of revenue is defined as a source from which NMISA has not earned revenue over the past 3 financial years.
<b>Means of verification</b>	Financial report on invoiced revenue
<b>Assumption</b>	Diversification of revenue sources reduces the financial sustainability risk
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	Not applicable
<b>Calculation type</b>	Cumulative year end
<b>Reporting cycle</b>	Annually
<b>Desired performance</b>	Increase to at least a quarter of total earnings over 5 years
<b>Indicator responsibility</b>	SBDG division

KPI 7: MAINTAIN MARKET VISIBILITY	
<b>Indicator title (Output)</b>	<b>Maintain visibility of NMISA in South Africa and the region</b>
<b>Definition</b>	Ensure market visibility to amplify awareness of NMISA's metrology services, building on brand awareness and fostering trust and credibility within industries.
<b>Source/collection of data</b>	Calculations based on statistical report from external provider and social media statistics.
<b>Method of calculation</b>	Using Advertising Value Equivalence calculations done by a contracted service provider who lists 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.
<b>Means of verification</b>	Advertising Value Equivalence reports and social media statistics.
<b>Assumption</b>	Increased visibility of the organisation.
<b>Disaggregation</b>	Not applicable
<b>Spatial transformation</b>	Not applicable
<b>Calculation type</b>	Cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	Maintain an AVE visibility of above R1 million per annum. Increase the following on social media platforms by 10 % annually.
<b>Indicator responsibility</b>	SBDG division

KPI 8: PERCENTAGE OF NEW CLIENTS SERVED	
<b>Indicator title (Output)</b>	<b>Percentage of new private, non-profit companies or public entities serviced by NMISA</b>
<b>Definition</b>	Expanding market reach by providing products and services to new clients.
<b>Source/collection of data</b>	Service level agreements/contracts/contracts through Customer Management System (accepted quotations, once off or for one year or more)/bid acceptance letter/response to unsolicited bids/ financial reports on revenue invoiced.  A new client is defined as a client that has not used NMISA services within the past 3 financial years.
<b>Method of calculation</b>	Simple count
<b>Means of verification</b>	Signed contracts/SLAs/financial reports
<b>Assumption</b>	NMISA sustainability
<b>Disaggregation</b>	Non-government excluding foreign governments
<b>Spatial transformation</b>	Not applicable
<b>Calculation type</b>	Cumulative
<b>Reporting cycle</b>	Annually
<b>Desired performance</b>	Increased revenue generation
<b>Indicator responsibility</b>	SBDG division in collaboration with technical divisions

KPI 9: CLIENT SATISFACTION SCORE	
<b>Indicator title (Output)</b>	<b>Percentage client satisfaction</b>
<b>Definition</b>	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.
<b>Source/collection of data</b>	Report on the review of Client Satisfaction Surveys received, taken from the quality system (Client Action Requests).
<b>Method of calculation</b>	(Average client satisfaction rating / 5) x 100
<b>Means of verification</b>	Completed client satisfaction surveys.
<b>Assumption</b>	Clients accurately express their satisfaction or dissatisfaction on the survey. All clients were offered an opportunity to complete the survey after the service.
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	None
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	NMISA aims to exceed the expectations of all clients. Zero client complaints are ideal; any client complaints received to be timeously addressed and cleared satisfactorily.
<b>Indicator responsibility</b>	SHEQ

KPI 10: MEETING TARGET TURNAROUND TIMES (TAT) FOR PRODUCTS AND SERVICES	
<b>Indicator title (Output)</b>	<b>The percentage of total services offered that meet the target turnaround time</b>
<b>Definition</b>	Number of services that achieved TAT reported as percentage of total services delivered
<b>Source/collection of data</b>	ERP-CMS system for date purchase order received and date that job is completed.
<b>Method of calculation</b>	Target number of services (historical baseline) and TAT for each service.
<b>Means of verification</b>	Purchase order, jobs completed (report/certificate), client invoices.
<b>Assumption</b>	All jobs captured on ERP system with correct dates.
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	None
<b>Calculation type</b>	Linked to revenue
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	Increased number of clients (and maintaining existing clients).
<b>Indicator responsibility</b>	Technical divisions/SHEQ

KPI 11: CLIENT SATISFACTION RATE FOR TRAINING COURSES PRESENTED	
<b>Indicator title (Output)</b>	<b>Training courses that meet client requirements</b>
<b>Definition</b>	Percentage of courses with an average score of 3.5 or higher.
<b>Source/collection of data</b>	Course satisfaction survey ratings (training course evaluation form).
<b>Method of calculation</b>	Each course will receive an average score based on individual scoring. A percentage of the average scores will be calculated over total courses.
<b>Means of verification</b>	Independent satisfaction survey traceable to each attendee (training candidate).
<b>Assumption</b>	All trainees complete survey.
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	None
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	Increased number of clients (and maintaining existing clients).
<b>Indicator responsibility</b>	ARI Training Centre/technical divisions/SHEQ

KPI 12: CLIENT RETENTION RATE	
<b>Indicator title (Output)</b>	<b>Client retention rate</b>
<b>Definition</b>	Percentage of returning clients during the period to the total number of clients serviced during the same period. A returning client is defined as a client that has used any of the services offered by NMISA at least once in the past 2 years. The re-calibration interval for instruments applied by some clients is 2 years.
<b>Source/collection of data</b>	Financial reports on clients invoiced and/or purchase orders received for scheduled services or products.
<b>Method of calculation</b>	Simple count
<b>Means of verification</b>	Repeat orders for products/services over the past two years versus total number of orders.
<b>Assumption</b>	No client applies re-calibration intervals longer than 2 years.
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	Not applicable
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Annually
<b>Desired performance</b>	All clients to be retained as loyal users of NMISA products and services in the long term.
<b>Indicator responsibility</b>	SBDG division

KPI 13: PERCENTAGE OF CLIENTS FROM GEOGRAPHICAL AREAS OUTSIDE THE MAIN METROPOLITAN AREAS SERVED	
<b>Indicator title (Output)</b>	<b>Percentage of clients from geographical areas outside the main metropolitan areas served</b>
<b>Definition</b>	Number of clients from geographical areas outside the following main metropolitans served: <ul style="list-style-type: none"> <li>• City of Cape Town Metropolitan (Western Cape)</li> <li>• City of Johannesburg Metropolitan (Gauteng)</li> <li>• City of Tshwane Metropolitan (Gauteng)</li> <li>• City of eThekweni Metropolitan (KwaZulu-Natal)</li> </ul> to the total number of clients served.
<b>Source/collection of data</b>	Finance report on invoiced revenue.
<b>Method of calculation</b>	Simple count
<b>Means of verification</b>	Client address (from Customer Management System)
<b>Assumption</b>	Expanding the national reach of NMISA and supporting <b>the dtic</b> priorities for economic growth.
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	Not applicable
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Annually
<b>Desired performance</b>	Clients from all geographical areas served.
<b>Indicator responsibility</b>	SBDG division

KPI 14: PERCENTAGE OF AUDIT NON-CONFORMANCES RAISED CLEARED WITHIN THE TARGET DATES	
<b>Indicator title (Output)</b>	<b>Percentage of audit non-conformances cleared within the target dates</b>
<b>Definition</b>	All non-conformances raised through internal audits (including self-audits) and external audits cleared within the set target dates. Findings related to identified improvements that are funding dependant are excluded.
<b>Source/collection of data</b>	Quality Management System (QMS) and/or ERP
<b>Method of calculation</b>	Percentage of total number of non-conformances cleared within the set target dates to the total number of non-conformances due within the period.
<b>Means of verification</b>	Evidence of clearance on the TQMS and/or ERP.
<b>Assumption</b>	Realistic target dates for clearance of audit non-conformances are set.
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	Not applicable
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	Sustained operational efficiency through timely clearance of audit non-conformances.
<b>Indicator responsibility</b>	SHEQ, technical divisions, support divisions

KPI 15: NUMBER OF CASE STUDIES SUBMITTED TO THE DTIC	
<b>Indicator title (Output)</b>	<b>Number of case studies submitted to the dtic</b>
<b>Definition</b>	Case studies with client testimonies about the impact that NMISA services had on their business drafted in accordance with <b>the dtic</b> guidelines and submitted.
<b>Source/collection of data</b>	Completed service testimony forms received from clients and case studies submitted to <b>the dtic</b> .
<b>Method of calculation</b>	Simple count
<b>Means of verification</b>	Confirmation of receipt from <b>the dtic</b> /evidence of submission to <b>the dtic</b> .
<b>Assumption</b>	The services provided by NMISA enable its clients to contribute to economic growth and/or make a positive impact on the quality of life of all the people of South Africa (and the continent).
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	Not applicable
<b>Calculation type</b>	Cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	The case studies demonstrate that NMISA makes a significant contribution to the economy and the quality of life of people.
<b>Indicator responsibility</b>	Technical divisions, SBDG division

KPI 16: INVEST IN TALENT TO DEVELOP, MAINTAIN, AND RETAIN KEY SKILLS	
<b>Indicator title (Output)</b>	<b>Staff turnover rate</b>
<b>Definition</b>	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.
<b>Source/collection of data</b>	Human Resources records of resignations and appointments.
<b>Method of calculation</b>	Percentage of permanent employees that vacated positions during the year to the total number of permanent employees.
<b>Means of verification</b>	Signed resignation letters
<b>Assumption</b>	A higher turnover rate than the given target indicates that the staff retention plan must be reviewed.
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	Not applicable
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	Talent maintained, developed and applying the knowledge gained to the benefit of NMISA.
<b>Indicator responsibility</b>	Corporate Services (Human Resources) and division directors

KPI 17: NUMBER OF INTERNS AND IN-SERVICE TRAINEES HOSTED	
<b>Indicator title (Output)</b>	<b>Number of interns and in-service trainees hosted</b>
<b>Definition</b>	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 a pipeline of skilled and competent professionals to address current and future skills needs and transform the organisation.
<b>Source/collection of data</b>	Internship contracts, training/work plans, certificates
<b>Method of calculation</b>	Simple count (total number of interns and in-service trainees hosted/trained during the financial year).
<b>Means of verification</b>	Appointment contracts
<b>Assumption</b>	A skilled, competent, and transformed workforce.
<b>Disaggregation</b>	None
<b>Spatial transformation</b>	Not applicable
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	Well-trained interns who can be placed in NMISA or other organisations.
<b>Indicator responsibility</b>	Corporate Services (Human Resources) and division directors

KPI 18: NUMBER OF NMISA STAFF MEMBERS LEADING COLLABORATIVE AGREEMENTS	
Indicator title (Output)	Number of NMISA staff members leading collaborative agreements
Definition	The number of NMISA staff members who act as project leaders on collaborative agreements with academic institutes, public and private entities, regional and international bodies.
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 19: NEW COLLABORATION OR SERVICE AGREEMENTS WITH PRIVATE, NON-PROFIT OR PUBLIC ENTITIES	
Indicator title (Output)	Number of private, non-profit companies or public entities serviced by NMISA on multi-year contracts and agreements
Definition	The number of new collaborative or service agreements entered with clients and other stakeholders for multi-year services.
Source/collection of data	Service level agreements/professional service agreements/contracts/contracts through CMS (accepted quotations for more than one year)/bid acceptance letter/response to unsolicited bids/MOUs/MOAs/and other agreements.
Method of calculation	Simple count
Means of verification	Signed contracts/SLAs/MOUs and CMS reports on client services.
Assumption	Collaborative or service agreements establish partnerships for longer term secured sales and mutual benefit.
Disaggregation	Not applicable
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	Increased revenue generation
Indicator responsibility	SBDG division in collaboration with technical divisions.

KPI 20: PERCENTAGE OF ACTIVE SERVICE AND COLLABORATIVE AGREEMENTS	
Indicator title (Output)	Percentage of active service and 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 and 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 with a 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	SBDG division in collaboration with technical divisions.

KPI 21: NUMBER OF OUTREACH ACTIVITIES TO ENTITIES WITHIN SEZs AND/OR OUTSIDE THE MAIN METROPOLITAN AREAS	
Indicator title (Output)	Number of outreach activities conducted in 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: <ul style="list-style-type: none"> <li>• City of Cape Town Metropolitan (Western Cape)</li> <li>• City of Johannesburg Metropolitan (Gauteng)</li> <li>• City of Tshwane Metropolitan (Gauteng)</li> <li>• City of eThekweni Metropolitan (KwaZulu-Natal).</li> </ul>
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 among SEZs outside the main metropolitan areas will lead to increased uptake of NMISA products and services.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Increased uptake of NMISA projects and services within the SEZs established by the dtic and outside the main metropolitan areas.
Indicator responsibility	SBDG division, technical divisions





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